

**TETRA TECH**

February 18, 2021

Dylan Rose-Coss
Environmental Specialist
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Closure Report
EOG Resources
Vaca Ridge 30 Federal #001
Unit Letter K, Section 30, Township 24 South, Range 34 East
Lea County, New Mexico.**

Mr. Rose-Coss;

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources (EOG) to assess and remediate a release that occurred at Vaca Ridge 30 Federal #001 (Site) (API No. 30-025-28873). The release footprint is located in the Public Land Survey System (PLSS) Unit Letter K, Section 30, Township 24 South, Range 34 East, in Lea County, New Mexico (Site). The site coordinates are 32.186286°, -103.510587°, as shown Figures 1 and 2.

BACKGROUND

According to the State of New Mexico, historically there are two C-141 Initial Reports associated with the Site. The first release was discovered on August 31, 2014 and was due to a produced water overflow causing the release of 10 barrels (bbls.) of produced water. During immediate response actions, 6 bbls. of free fluids were recovered within the secondary containment. The initial C-141 report form was submitted to the New Mexico Oil Conservation District (NMOCD) on September 09, 2014. The release was subsequently assigned the Remediation Permit (RP) number 1RP-3315 and the Incident ID NTO1425244502.

In addition, a second C-141 was found related to an additional release discovered on April 24, 2016. The release consisted of 750 bbls. of fluid affecting the pad area. During immediate response, 700 bbls. of free fluid were recovered by vac trucks. The initial C-141 report form was submitted to the New Mexico Oil Conservation District (NMOCD) on April 26, 2016. The release was subsequently assigned the Remediation Permit (RP) number 1RP-4261 and the Incident ID NJXK1611755817.

Tetra Tech

901 West Wall St, Suite 100, Midland, TX 79701

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com

**TETRA TECH**

SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. The site is located 428-feet from a watercourse, a blue line shown on the NFHL map. The site is in a low karst potential area. The nearest well is listed in the USGS National Water Information Database website in Section 7, approximately 3.35 miles north of the site, and has a reported depth to groundwater of 63 feet below ground surface (bgs.). The site characterization data is shown in Appendix A.

REGULATORY

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the site characterization, the proposed RRAL for TPH is 100 mg/kg (GRO+DRO+MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 600 mg/kg.

SOIL ASSESSMENT AND ANALYTICAL RESULTS

On April 28, 2020, Tetra Tech personnel were onsite on behalf of EOG to conduct soil sampling and evaluate the release area. A total of fourteen (14) trenches (T-1 through T-14) were installed to total depths ranging from 0-1' and 7-8' below surface. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, samples analyzed showed benzene, total BTEX, and TPH concentrations above the laboratory reporting limits. TPH concentrations were detected in T-11, T-12, and T-14, ranging in depths 3'-5' below surface. Benzene and total BTEX concentrations were detected in T-14, at 3'-4' below surface. Elevated chloride concentrations were detected as well. The areas of T-4 through T-6 and T-11 through T-12, showed chloride concentrations above the RRALs that were vertically defined at total depths ranging from 2'-3' and 6'-7' below surface. The areas of AH-1 and AH-2 showed chloride highs of 13,900 mg/kg and 3,500 mg/kg at 0-1', which declined with depth to below the RRALs at 2-2.5' and 3-3.5' below surface, respectively.

REMEDIATION AND RECLAMATION ACTIVITIES

Based on the results of the soil assessment, Tetra Tech personnel were onsite between June 1st – 25th, 2020 to supervise the remediation and reclamation activities as well as to collect confirmation samples. The impacted areas were excavated to total depths ranging from 4.0'-7.5' below surface, as shown on Figure 4 and highlighted (green) on Table 1.

**TETRA TECH**

Confirmation bottom hole and sidewall samples were collected every 200 square feet, as approved by the NMOCD. A total of 132 bottom hole samples (Bottom Hole 1 through Bottom Hole 132) and 53 sidewall samples (NSW-1 through NSW-13, WSW-1 through WSW-13, SSW-1 through SSW-13, ESW-1 through ESW-14) were collected to ensure proper removal of the impacted soils. The samples were submitted to the laboratory to be analyzed for TPH method 8015 extended, BTEX method 8021B, and Chloride by EPA Method 300.0. The sampling results are summarized in Table 2. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The excavation depths, and sample locations are shown in Figure 4.

Referring to Table 1, all of the final confirmation samples collected showed benzene, total BTEX, and TPH concentrations below the RRALs. Additionally, all final samples showed chloride concentrations below the 600 mg/kg threshold.

Approximately 5,020 cubic yards of material was excavated and transported offsite for proper disposal. The areas were then backfilled with clean material to surface grade.

Conclusion

Based on the laboratory results and remediation activities performed, EOG requests closure of this spill issue. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

A handwritten signature in blue ink that reads 'Clair Gonzales'.

Clair Gonzales
Project Manager

cc: James Kennedy – EOG
Todd Wells - EOG

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

HOBBS OCD

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	EOG Resources	Contact	Reggie Phillips
Address	5509 Champions Drive Midland, TX 79706	Telephone No.	(432) 686-3747
Facility Name	Vaca Ridge 30 Federal Com 30	Facility Type	Salt water disposal

Surface Owner	Bureau of Land Management	Mineral Owner	Bureau of Land Management	API No.	30-025-28873
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	30	24S	34E	1980	South	1980	West	Lea

Latitude 32.186336 Longitude -103.510983

NATURE OF RELEASE

Type of Release	Crude Oil	Volume of Release	10 barrels (bbls)	Volume Recovered	6 bbls
Source of Release	Over flow of tank	Date and Hour of Occurrence	8/31/14, hour unknown	Date and Hour of Discovery	8/31/2014 at 1445
Was Immediate Notice Given?	☐ Yes ☒ No ☐ Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A water leg was found to be plugged causing the flow of produced water to back up and overflow. The plugged water leg is in the process of being repaired as of 9/8/2014.

Describe Area Affected and Cleanup Action Taken.*

Produced water that was released remained within secondary containment and did not leave the site. A vacuum truck was used to recover approximately 6 of the 10 bbls of fluid released from within the secondary containment. Future assessment of soil impacts will be completed. Soil samples will be collected to delineate both the vertical and horizontal extent of the impact.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: <i>Zane Kurtz</i>		OIL CONSERVATION DIVISION	
Printed Name: Zane Kurtz		Approved by Environmental Specialist:	
Title: Sr. Safety and Environmental Rep., EOG Resources		Approval Date: 9-9-14	Expiration Date: 11-9-14
E-mail Address: Zane_Kurtz@eogresources.com		Conditions of Approval:	
Date: 09/09/2014 Phone: 432-425-2023		Site Samples required, Delivered & remediates area as per NMOCD guide. Submit Final C-141 by 11-9-14	
		Attached ☐ 1RP-3315	

* Attach Additional Sheets If Necessary

SEP 09 2014

ogrid 7377
N7014 25 24 4502
P7014 25 24 4629

Incident ID	NT01425244502
District RP	1RP-3315
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>63</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Incident ID	NT01425244502
District RP	1RP-3315
Facility ID	
Application ID	

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

Printed Name: _____ James Kennedy _____ Title: _____ Environmental Specialist _____

Signature: _____ *James F. Kennedy* _____ Date: _____ 2/18/2021 _____

email: _____ James.Kennedy@eogresources.com _____ Telephone: _____ 432-848-9146 _____

OCD Only

Received by: _____ Date: _____

Incident ID	NT01425244502
District RP	1RP-3315
Facility ID	
Application ID	

Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate OCD 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: James Kennedy Title: Environmental Specialist
Signature: James F. Kennedy Date: 2/18/2021
email: James.Kennedy@cogresources.com Telephone: 432-848-9146

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Bradford Billings Date: 01/24/2022
Printed Name: Bradford Billings Title: E. Spec. A

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

By JKeyes at 3:34 pm, Apr 26, 2016

Form C-141
Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action**OPERATOR**☒ Initial Report ☐ Final Report

Name of Company	EOG Resources, Inc.	Contact	Zane Kurtz
Address	5509 Champions Drive, Midland, TX 79706	Telephone No.	432-425-2023
Facility Name	Vaca Ridge 30 SWD #1	Facility Type	Salt Water Disposal
Surface Owner	BLM	Mineral Owner	BLM
		API No.	30-025-28873

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	30	24S	34E	1980'	South	1980'	West	Lea

Latitude 32.186336 Longitude -103.51098

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	750	Volume Recovered	700
Source of Release	Swedge on discharge water line	Date and Hour of Occurrence	4-24-2016	Date and Hour of Discovery	1200
Was Immediate Notice Given?	☐ Yes ☒ No ☐ Not Required				
By Whom?	NA				
Was a Watercourse Reached?	☐ Yes ☒ No				

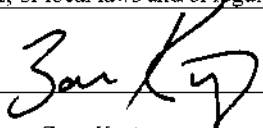
If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*

The release stayed on the pad. All fluids were recovered immediately by vac trucks except for an estimated 50 bbls. Third Party consultant will go out and delineate horizontal and vertical extent, then prepare work plan for remediation. Remediation will likely consist of dig and hauling the contaminated soils.

Describe Area Affected and Cleanup Action Taken.*

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Zane Kurtz	Approved by Environmental Specialist: 	
Title: Sr. Environmental Rep, EOG Resources, Inc.	Approval Date: 04/26/2016	Expiration Date: 06/26/2016
E-mail Address: zane_kurtz@cogresources.com	Conditions of Approval:	Attached ☐
Date: 4-26-2016 Phone: 432-425-2023	Discrete samples only. Delineate and remediate per NMOCD guidelines. Ensure BLM concurrence/approval.	IRP 4261

* Attach Additional Sheets If Necessary

nJXK1611755817
pJXK1611755960

Incident ID	NJXK1611755817
District RP	1RP-4261
Facility ID	
Application ID	

Site Assessment/Characterization

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Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
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Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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- ☒ 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.

Incident ID	NJXK1611755817
District RP	1RP-4261
Facility ID	
Application ID	

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Printed Name: _____ James Kennedy _____ Title: _____ Environmental Specialist _____

Signature: _____ *James F. Kennedy* _____ Date: _____ 2/18/2021 _____

email: _____ James.Kennedy@eogresources.com _____ Telephone: _____ 432-848-9146 _____

OCD Only

Received by: _____ Date: _____

Incident ID	NJXK1611755817
District RP	1RP-4261
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Closure

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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: James Kennedy Title: Environmental Specialist
Signature: James F. Kennedy Date: 2/18/2021
email: James.Kennedy@eogresources.com Telephone: 432-848-9146

OCD Only

Received by: _____ Date: _____

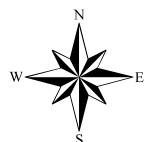
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

Closure Approved by: Bradford Billings Date: 01/24/2022
Printed Name: Bradford Billings Title: E. Spec. A

Figures



SITE LOCATION



0 10,416.5 20,833

Approximate Scale in Feet



STATE LOCATOR MAP

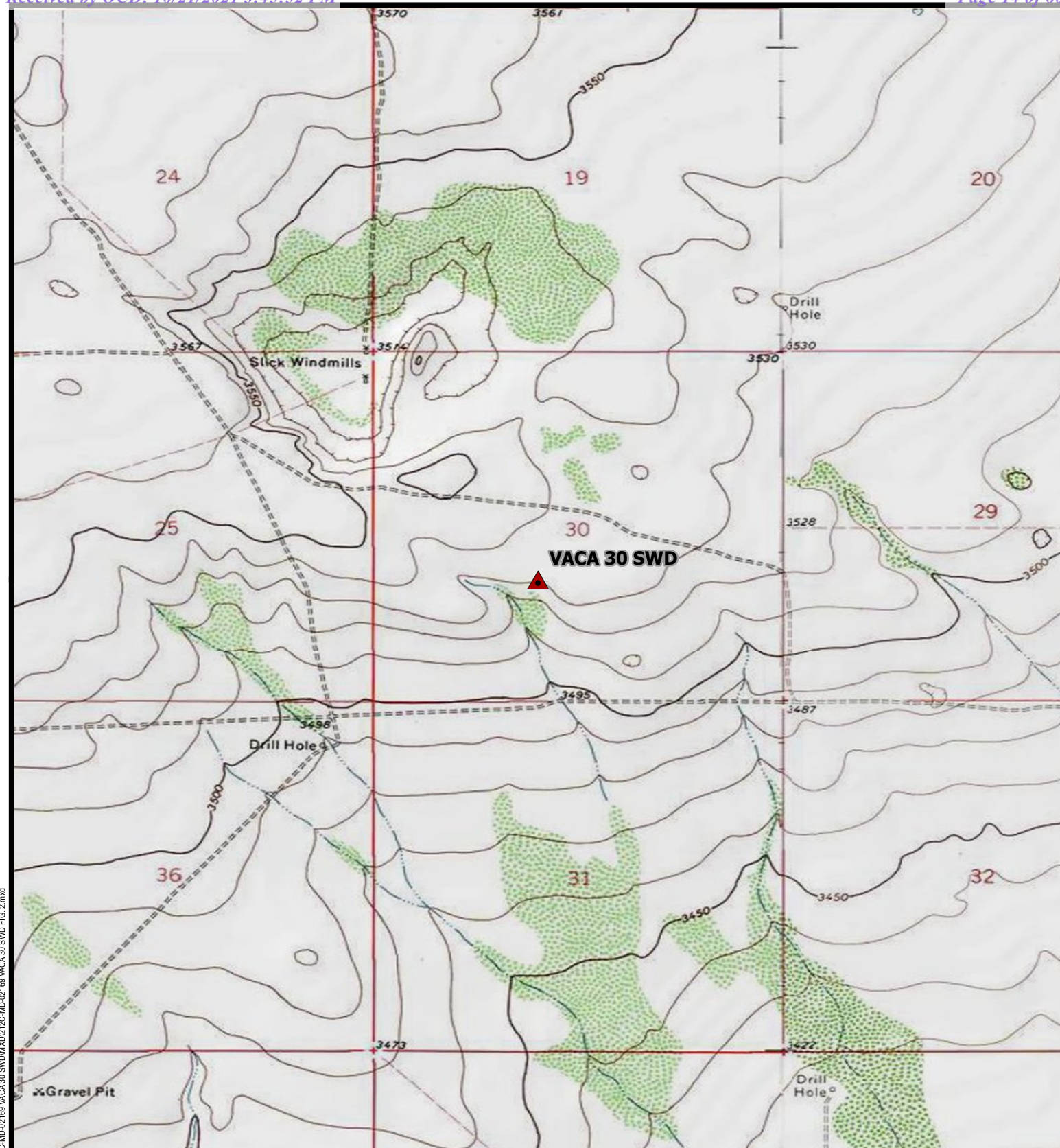
OVERVIEW MAP

VACA 30 SWD

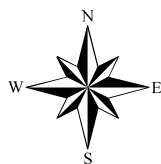
Property Located at coordinates 32.186286°,-103.510587°
LEA COUNTY, NEW MEXICO

Project #: 212C-MD-02169
Date: 06-25-2020
Drawn By: MLM

FIGURE
1



 SITE LOCATION



0 1,000 2,000
Approximate Scale in Feet

TOPOGRAPHIC MAP

VACA 30 SWD

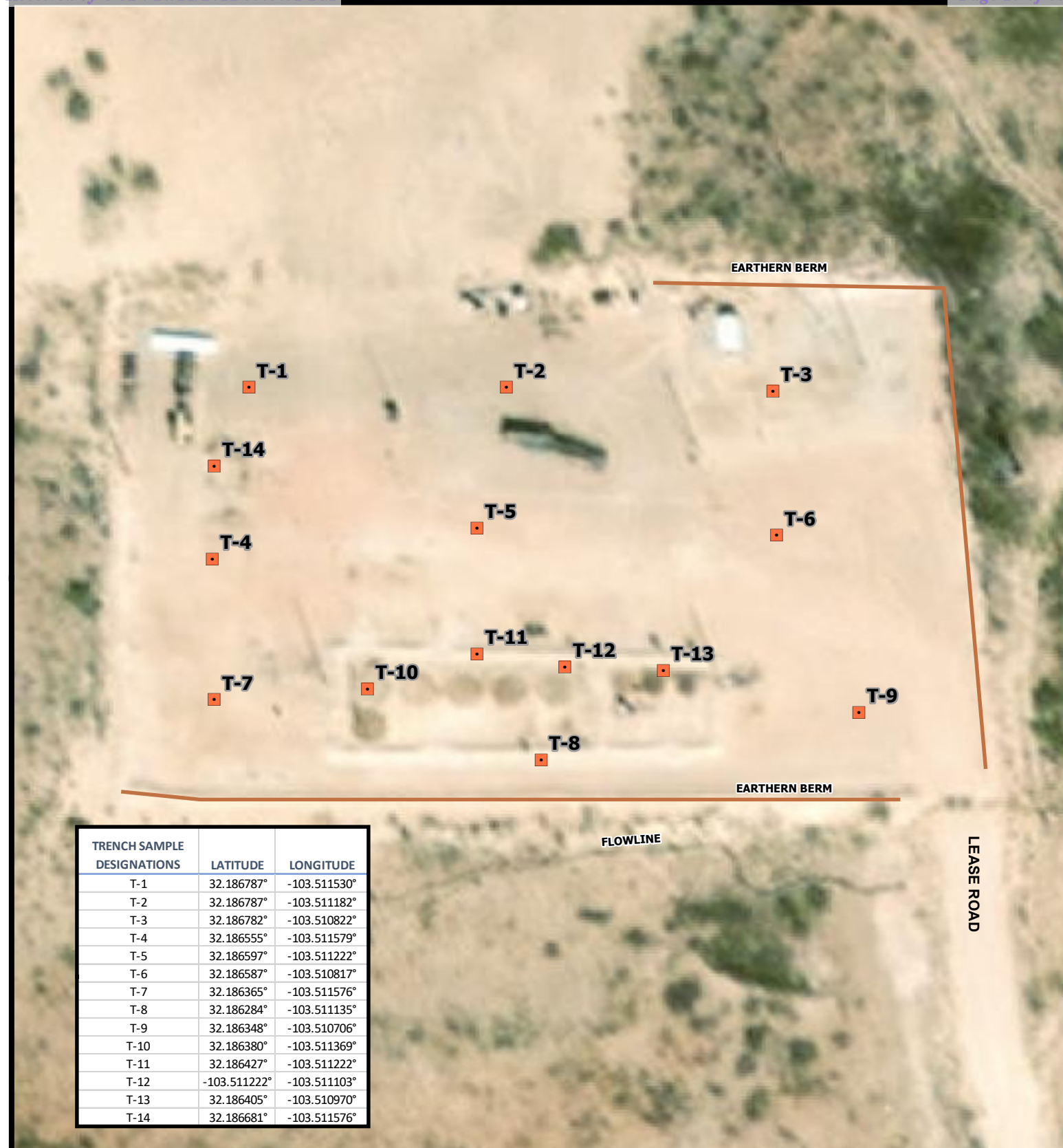
Property Located at coordinates 32.186286°,-103.510587°
LEA COUNTY, NEW MEXICO



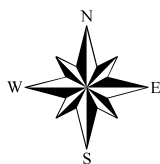
TETRA TECH
901 W Wall St Ste. 100,
Midland, TX 79701
(432) 682-4559

Project #: 212C-MD-02169
Date: 06-25-2020
Drawn By: MLM

FIGURE
2



■ TRENCH SAMPLE LOCATIONS



0 32.5 65
Approximate Scale in Feet

SPILL ASSESSMENT MAP

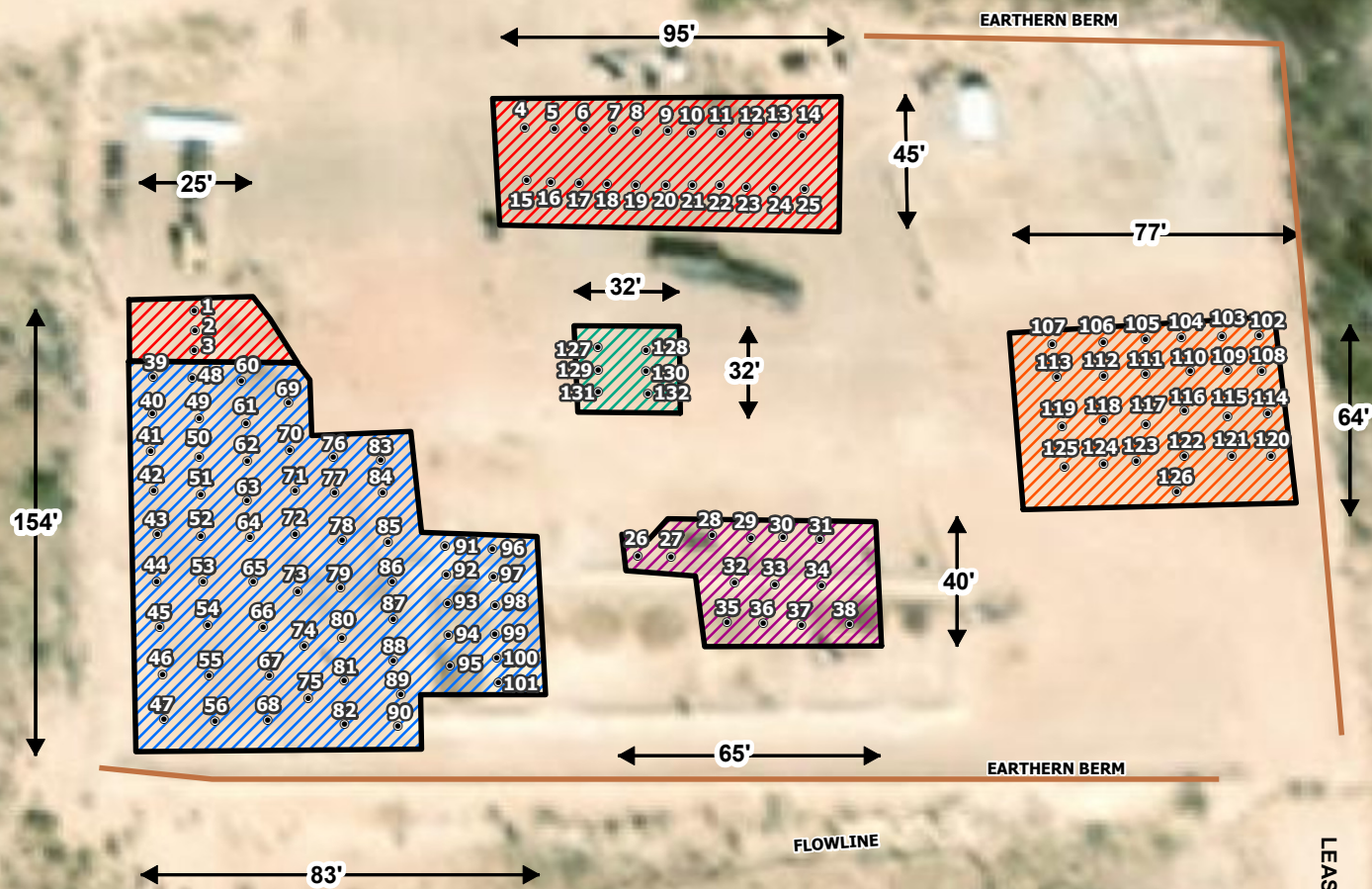
VACA 30 SWD

Property Located at coordinates 32.186286°,-103.510587°
LEA COUNTY, NEW MEXICO



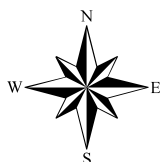
Project #: 212C-MD-02169
Date: 06-25-2020
Drawn By: MLM

FIGURE
3



● BOTTOM HOLE SAMPLE LOCATIONS

- 4.0' EXCAVATED AREAS
- 4.5' EXCAVATED AREAS
- 5.0' EXCAVATED AREAS
- 6.0' EXCAVATED AREAS
- 7.5' EXCAVATED AREAS



0 32.5 65
Approximate Scale in Feet

EXCAVATION AREA & DEPTH MAP

VACA 30 SWD

Property Located at coordinates 32.186286°,-103.510587°
LEA COUNTY, NEW MEXICO



TETRA TECH
901 W Wall St Ste. 100,
Midland, TX 79701
(432) 682-4559

Project #: 212C-MD-02169
Date: 06-25-2020
Drawn By: MLM

FIGURE
4

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Tables

Table 1
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (in)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
T-1	4/28/2020	0-1	-	X		<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	44.6
	"	1-2	-	X		<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	148
T-2	4/28/2020	0-1	-	X		-	-	-	-	-	-	-	-	-	-
	"	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	"	2-3	-	X		<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	28.5
	"	3-4	-	X		<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	151
T-3	4/28/2020	0-1	-	X		<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	33.8
	"	1-2	-	X		<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	27.3
T-4	4/28/2020	0-1	-	X		-	-	-	-	-	-	-	-	-	-
	"	1-2	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	2,410
	"	2-3	-	X		<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	555
T-5	4/28/2020	0-1	-	X		-	-	-	-	-	-	-	-	-	-
	"	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	"	2-3	-	X		-	-	-	-	-	-	-	-	-	-
	"	3-4	-	X		-	-	-	-	-	-	-	-	-	-
	"	4-5	-	X		-	-	-	-	-	-	-	-	-	-
	4/30/2020	5.5	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	632
	"	5.5-6.5	-	X		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	121
T-6	4/28/2020	0-1	-	X		-	-	-	-	-	-	-	-	-	-
	"	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	"	2-3	-	X		-	-	-	-	-	-	-	-	-	-
	"	3-4	-	X		-	-	-	-	-	-	-	-	-	-
	"	4-5	-	X		-	-	-	-	-	-	-	-	-	-
	4/30/2020	6-7	-	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	904
	"	7-8	-	X		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	311
T-7	4/28/2020	0-1	-	X		-	-	-	-	-	-	-	-	-	-
	"	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	"	2-3	-	X		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	234
	"	3-4	-	X		<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	188

Table 1
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (in)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
T-8	4/28/2020	0-1	-	X		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	171
	"	1-2	-	X		<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	278
T-9	4/28/2020	0-1	-	X		<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	9.72
	"	1-2	-	X		<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	7.00
T-10	4/29/2020	0-1	-	X		-	-	-	-	-	-	-	-	-	-
	"	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	"	2-3	-	X		-	-	-	-	-	-	-	-	-	-
	4/30/2020	3-4	-	X		<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	582
	"	4-4.5	-	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	549
T-11	4/29/2020	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	4/30/2020	3	-	X		<50.0	129	<50.0	129	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	1,720
	"	4	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	328
T-12	4/29/2020	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	"	2-3	-	X		-	-	-	-	-	-	-	-	-	-
	"	3-4	-	X		-	-	-	-	-	-	-	-	-	-
	4/30/2020	5	-	X		<49.8	66.8	<49.8	66.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	1,560
	"	5.5	-	X		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	337
T-13	4/29/2020	1-2	-	X		<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	13.8
	"	2-3	-	X		<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	16.0
T-14	4/29/2020	1-2	-	X		-	-	-	-	-	-	-	-	-	-
	"	2-3	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	26.1
	"	3-4	-	X		<49.8	488	215	703	0.0375	0.0230	<0.0199	<0.0199	0.0605	352

(-)

Not Analyzed



Proposed Excavation

Table 2
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total						
BH-1	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	50.0
BH-2	6/11/2020	-	5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	52.8
BH-3	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	132
BH-4	6/11/2020	-	5'	-	X	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	854
	6/25/2020	-	5.5	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	221
BH-5	6/11/2020	-	5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	443
BH-6	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	213
BH-7	6/11/2020	-	5'	-	X	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	765
	6/25/2020	-	5.5	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	235
BH-8	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	520
BH-9	6/11/2020	-	5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	528
BH-10	6/11/2020	-	5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	375
BH-11	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	120
BH-12	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	141
BH-13	6/11/2020	-	5'	-	-	<49.9	64.4	<49.9	64.4	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	533
BH-14	6/11/2020	-	5'	-	X	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	992
	6/25/2020	-	5.5	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	231
BH-15	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	350
BH-16	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	420
BH-17	6/11/2020	-	5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	460
BH-18	6/11/2020	-	5'	-	X	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	619
	6/25/2020	-	5.5	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	277
BH-19	6/11/2020	-	5'	-	X	<49.9	68.6	<49.9	68.6	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	641
	6/25/2020	-	5.5	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	228
BH-20	6/11/2020	-	5'	-	X	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	703
	6/25/2020	-	5.5	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	234
BH-21	6/11/2020	-	5'	-	X	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	826
	6/25/2020	-	5.5	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	223
BH-22	6/11/2020	-	5'	-	-	<50.0	76.8	<50.0	76.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	489
BH-23	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	337
BH-24	6/11/2020	-	5'	-	-	<49.9	55.5	<49.9	55.5	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	370
BH-25	6/11/2020	-	5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	360
BH-26	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	141
BH-27	6/11/2020	-	6'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	507
BH-28	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	45.0
BH-29	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	507
BH-30	6/11/2020	-	6'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	63.0
BH-31	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	57.4

Table 2
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total						
BH-32	6/11/2020	-	6'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	48.5
BH-33	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	169
BH-34	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	153
BH-35	6/11/2020	-	6'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	58.4
BH-36	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	574
BH-37	6/11/2020	-	6'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	45.8
BH-38	6/11/2020	-	6'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	208
BH-39	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	21.2
BH-40	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	12.9
BH-41	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	12.8
BH-42	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	12.6
BH-43	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	12.9
BH-44	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	12.8
BH-45	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	12.2
BH-46	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	12.3
BH-47	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	13.3
BH-48	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	14.1
BH-49	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	13.5
BH-50	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	13.2
BH-51	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	42.0
BH-52	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	42.8
BH-53	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	44.4
BH-54	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	13.2
BH-55	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	7.70
BH-56	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	40.0
BH-57	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	14.1
BH-58	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.000998	<0.000998	13.1
BH-59	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.000994	<0.000994	45.7
BH-60	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00100	<0.00100	48.4
BH-61	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.000996	<0.000996	13.5
BH-62	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.000998	<0.000998	13.6
BH-63	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00100	<0.00100	12.8
BH-64	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00101	<0.00101	12.4
BH-65	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.000996	<0.000996	13.7
BH-66	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.000990	<0.000990	12.6
BH-67	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.000998	<0.000998	28.0

Table 2
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total						
BH-68	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.000992	<0.000992	15.0
BH-69	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.000992	<0.000992	13.0
BH-70	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00100	<0.00100	13.5
BH-71	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00101	<0.00101	12.4
BH-72	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.000994	<0.000994	11.3
BH-73	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.000992	<0.000992	9.88
BH-74	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.000990	<0.000990	44.3
BH-75	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00100	<0.00100	9.69
BH-76	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00100	<0.00100	13.6
BH-77	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.000998	<0.000998	9.82
BH-78	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.000998	<0.000998	45.9
BH-79	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.000992	<0.000992	20.1
BH-80	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.000994	<0.000994	49.0
BH-81	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.000990	<0.000990	23.4
BH-82	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00100	<0.00100	11.0
BH-83	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00100	<0.00100	12.5
BH-84	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.000996	<0.000996	11.3
BH-85	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.000998	<0.000998	18.8
BH-86	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.000992	<0.000992	12.1
BH-87	6/11/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.000990	<0.000990	14.3
BH-88	6/11/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.000996	<0.000996	17.6
BH-89	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00100	<0.00100	17.0
BH-90	6/11/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00101	<0.00101	39.6
BH-91	6/16/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	33.7
BH-92	6/16/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	20.3
BH-93	6/16/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	32.0
BH-94	6/16/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	14.9
BH-95	6/16/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	67.6
BH-96	6/16/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	27.4
BH-97	6/16/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	29.2
BH-98	6/16/2020	-	4.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	24.4
BH-99	6/16/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	18.2
BH-100	6/16/2020	-	4.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	22.9
BH-101	6/16/2020	-	4.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	22.1
BH-102	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	10.9
BH-103	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	16.9
BH-104	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	79.2
BH-105	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	10.4

Table 2
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total						
BH-106	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	11.9
BH-107	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	8.95
BH-108	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	67.6
BH-109	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	82.4
BH-110	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	9.26
BH-111	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	17.2
BH-112	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	13.5
BH-113	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	8.71
BH-114	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	9.50
BH-115	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	42.9
BH-116	6/16/2020	-	7.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	56.2
BH-117	6/16/2020	-	7.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	76.1
BH-118	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	18.5
BH-119	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	9.58
BH-120	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	95.7
BH-121	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	19.6
BH-122	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	14.1
BH-123	6/16/2020	-	7.5'	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	75.6
BH-124	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	87.6
BH-125	6/16/2020	-	7.5'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	97.2
BH-126	6/16/2020	-	7.5'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	70.3
BH-127	6/16/2020	-	4'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	54.1
BH-128	6/16/2020	-	4'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	12.4
BH-129	6/16/2020	-	4'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	15.4
BH-130	6/16/2020	-	4'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	102
BH-131	6/16/2020	-	4'	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	97.8
BH-132	6/16/2020	-	4'	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	45.2
N1SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	21.8
N2SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	81.7
N3SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	25.3
N4SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	53.1
N5SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	28.4
N6SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	42.2
N7SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	81.1
N8SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	25.5
N9SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	14.9
N10SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	69.8
N11SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	27.6
N12SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	15.3

Table 2
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total						
N13SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	23.1
E1SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	9.33
E2SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	9.88
E3SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	14.1
E4SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	34.2
E5SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	9.78
E6SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	61.4
E7SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	63.3
E8SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	8.96
E9SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	8.49
E10SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	82.1
E11SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	19.1
E12SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	22.4
E13SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	10.1
E14SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	24.4
S1SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	26.6
S2SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	120
S3SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	31.0
S4SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	32.4
S5SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	25.5
S6SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	45.5
S7SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	47.8
S8SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	54.8
S9SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	59.3
S10SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	89.7
S11SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	72.9
S12SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	23.9
S13SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	23.4
W1SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	17.9
W2SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	8.38
W3SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	25.8
W4SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	61.6
W5SW	6/16/2020	-	-	-	-	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	9.25
W6SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	89.9
W7SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	11.6
W8SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	9.92
W9SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	78.8
W10SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	39.4
W11SW	6/16/2020	-	-	-	-	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	20.4
W12SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	11.6

Table 2
EOG Resources
Vaca 30 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total						
W13SW	6/16/2020	-	-	-	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	67.6

(-) Not Analyzed
Excavation Depths

Photos

EOG Resources
Vaca 30 SWD
Lea County, New Mexico



TETRA TECH



View of Remediation Activities – View West



View of Remediation Activities – View South

EOG Resources
Vaca 30 SWD
Lea County, New Mexico



TETRA TECH



View of Remediation Activities – View Southwest



View of Remediation Activities – View Southeast

EOG Resources
Vaca 30 SWD
Lea County, New Mexico



View of Remediation Activities – View Southwest



View of Remediation Activities – View West

EOG Resources
Vaca 30 SWD
Lea County, New Mexico



TETRA TECH



View of Remediation Activities – View Southeast



View of Remediation Activities – View Southeast

Appendix A

Karst Potential

Vaca Ridge 30 Fed #1

Legend

- Feature 1
- High
- Low
- Madera Ridge 25 Fed #1
- Medium

Vaca Ridge 30 Fed 1

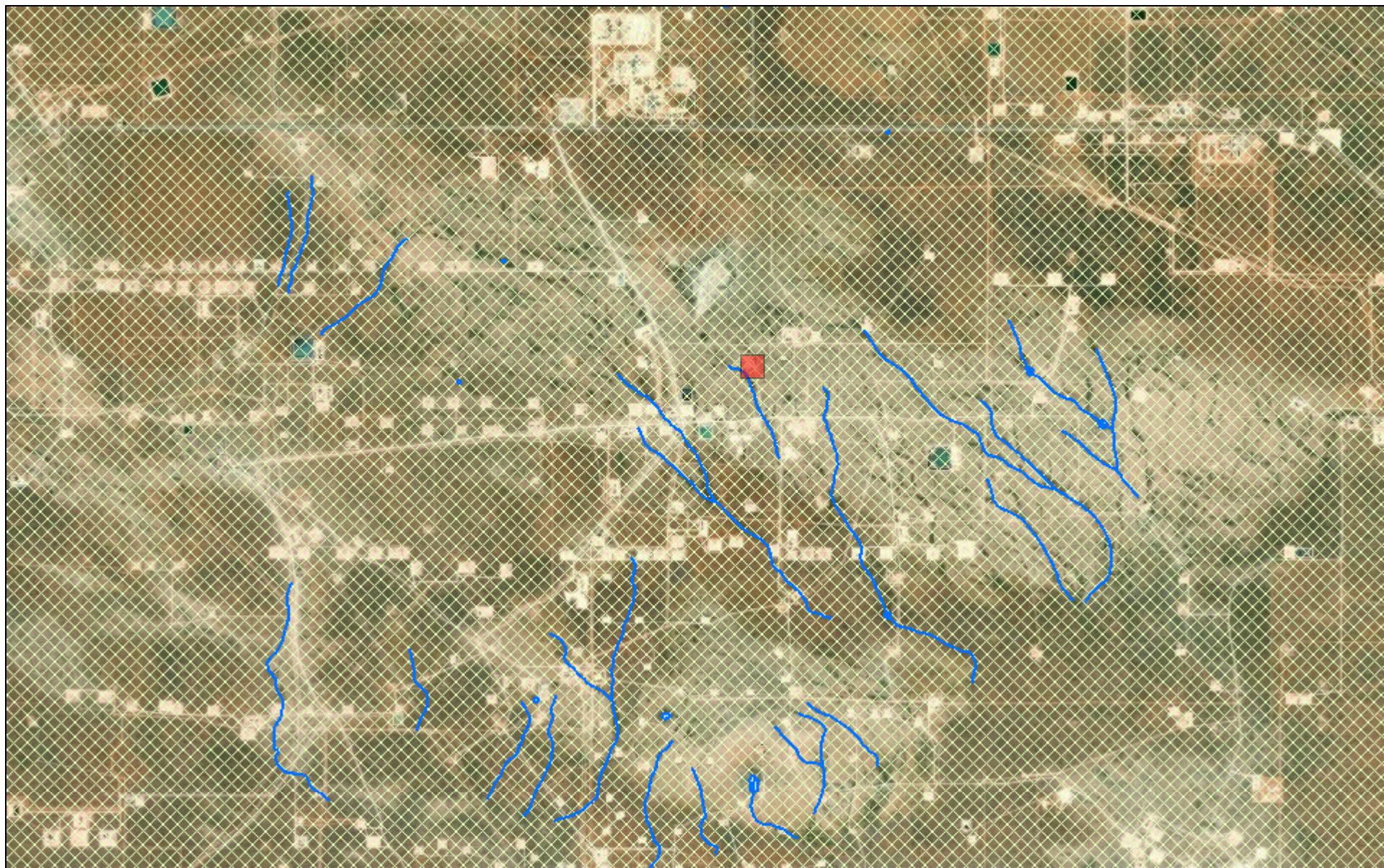
Ja



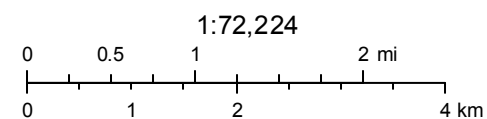
10 mi

Google Earth

New Mexico NFHL Data



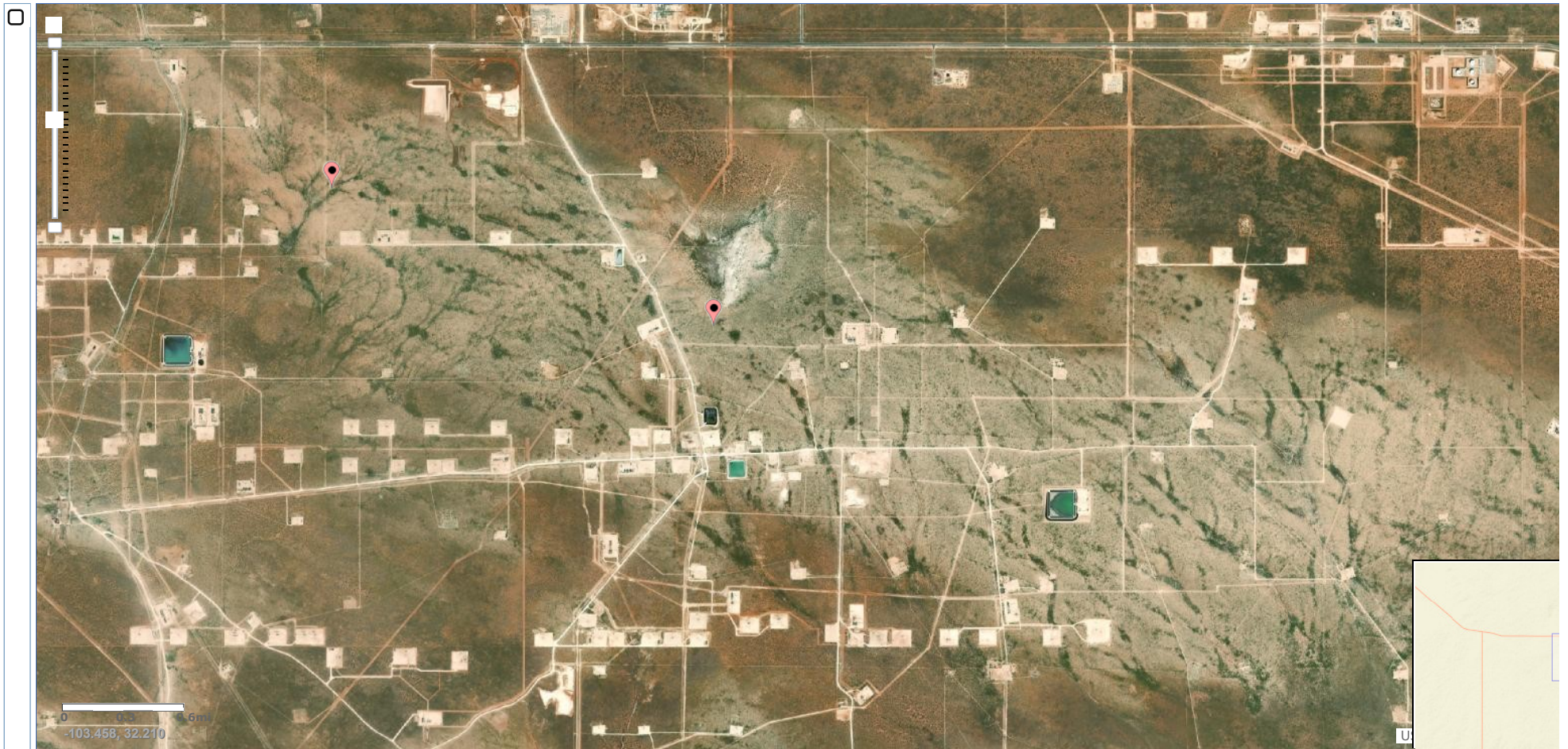
January 28, 2021



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



National Water Information System: Mapper



Site Information



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater Geographic Area: New Mexico GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs

site_no list = 321403103300301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 321403103300301 24S.34E.07.22222

Lea County, New Mexico

Latitude 32°14'03", Longitude 103°30'03" NAD27

Land-surface elevation 3,606 feet above NAVD88

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

Output formats

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

Date	Time	Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	Water-level accuracy	Status	Method of measurement	Measuring agency	Source of measurement	Water-level approval status
1970-12-08		D	72.19			2	R	U		U	A
1976-01-16		D	85.84			2		U		U	A
1981-03-19		D	82.95			2		U		U	A
1986-03-06		D	79.31			2		U		U	A
1991-05-30		D	74.56			2		U		U	A
1996-03-13		D	64.12			2		S		U	A
2001-02-28		D	63.38			2		S		U	A
2006-02-07	08:40 MST	m	63.00			2		S	USGS	S	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	R	Site had been pumped recently.
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	S	Measured by personnel of reporting agency.
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.



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 Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02373	CUB	LE		4	1	32	24S	34E		641979	3560916*	600		
C 02386	CUB	LE		4	1	2	04	24S	34E	643962	3569290*	575	475	100
C 02387	CUB	LE				1	11	24S	34E	646513	3567613*	62	40	22
C 02397	CUB	LE		4	1	2	04	24S	34E	643962	3569290*	575	475	100
C 03932 POD13	CUB	LE		4	2	3	15	24S	34E	645314	3565203	90		
C 03932 POD3	CUB	LE		4	3	2	05	24S	34E	642442	3568787	100		
C 03932 POD8	CUB	LE		4	2	4	07	24S	34E	641120	3566769	72		
C 03943 POD1	CUB	LE		2	4	2	21	24S	34E	644523	3564266	610	431	179
C 04014 POD1	CUB	LE		1	1	3	06	24S	34E	639811	3568638	91	81	10
C 04282 POD1	C	LE		1	2	1	05	24S	34E	641662	3569541	574	390	184

Average Depth to Water: **315 feet**

Minimum Depth: **40 feet**

Maximum Depth: **475 feet**

Record Count: 10

Basin/County Search:

County: Lea

PLSS Search:

Township: 24S

Range: 34E

*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.

7/23/20 9:45 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Appendix B



Certificate of Analysis Summary 660426

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co.NM

Date Received in Lab: Fri 05.01.2020 10:45

Report Date: 05.12.2020 15:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	660426-001	660426-002	660426-005	660426-006	660426-007	660426-008
	<i>Field Id:</i>	T-1 0-1'	T-1 1'-2'	T-2 2'-3'	T-2 3'-4'	T-3 0-1'	T-3 1'-2'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.28.2020 00:00	04.28.2020 00:00	04.28.2020 00:00	04.28.2020 00:00	04.28.2020 00:00	04.28.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	05.08.2020 15:00	05.08.2020 15:00	05.08.2020 15:00	05.08.2020 15:00	05.08.2020 15:00	05.08.2020 15:00
	<i>Analyzed:</i>	05.09.2020 10:31	05.09.2020 10:51	05.09.2020 11:12	05.09.2020 11:32	05.09.2020 11:52	05.09.2020 12:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198
Toluene		<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198
Ethylbenzene		<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198
m,p-Xylenes		<0.00397 0.00397	<0.00396 0.00396	<0.00399 0.00399	<0.00397 0.00397	<0.00397 0.00397	<0.00397 0.00397
o-Xylene		<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198
Total Xylenes		<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198
Total BTEX		<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	05.03.2020 12:25	05.03.2020 12:25	05.03.2020 12:45	05.03.2020 12:25	05.03.2020 12:45	05.03.2020 12:45
	<i>Analyzed:</i>	05.04.2020 12:05	05.04.2020 13:41	05.03.2020 19:19	05.04.2020 15:10	05.03.2020 19:40	05.03.2020 19:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		44.6 5.03	148 4.96	28.5 5.02	151 25.0	33.8 4.97	27.3 5.03
TPH By SW8015 Mod	<i>Extracted:</i>	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00
	<i>Analyzed:</i>	05.01.2020 22:01	05.01.2020 23:07	05.01.2020 23:29	05.01.2020 23:50	05.02.2020 00:12	05.02.2020 00:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 660426

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co.NM

Date Received in Lab: Fri 05.01.2020 10:45

Report Date: 05.12.2020 15:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	660426-010	660426-011	660426-017	660426-018	660426-024	660426-025
	<i>Field Id:</i>	T-4 1'-2'	T-4 2'-3'	T-5 5.5'	T-5 5.5'-6.5'	T-6 6'-7'	T-6 7'-8'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.28.2020 00:00	04.28.2020 00:00	04.28.2020 00:00	04.28.2020 00:00	04.30.2020 00:00	04.30.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	05.08.2020 15:00	05.08.2020 15:00	05.08.2020 15:00	05.08.2020 15:00	05.08.2020 12:00	05.08.2020 12:00
	<i>Analyzed:</i>	05.09.2020 12:33	05.09.2020 12:54	05.09.2020 13:14	05.09.2020 13:34	05.08.2020 17:05	05.08.2020 17:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00398 0.00398	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45
	<i>Analyzed:</i>	05.03.2020 19:54	05.03.2020 20:00	05.03.2020 20:21	05.03.2020 20:28	05.03.2020 20:35	05.03.2020 20:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2410 25.2	555 4.99	632 4.95	121 4.98	904 25.2	311 5.01
TPH By SW8015 Mod	<i>Extracted:</i>	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00
	<i>Analyzed:</i>	05.02.2020 00:56	05.02.2020 01:18	05.02.2020 01:40	05.02.2020 02:02	05.02.2020 02:46	05.02.2020 03:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total TPH		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 660426

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co.NM

Date Received in Lab: Fri 05.01.2020 10:45

Report Date: 05.12.2020 15:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	660426-028	660426-029	660426-030	660426-031	660426-032	660426-033
	<i>Field Id:</i>	T-7 2'-3'	T-7 3'-4'	T-8 0-1'	T-8 1'-2'	T-9 0-1'	T-9 1'-2'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.29.2020 00:00	04.30.2020 00:00	04.29.2020 00:00	04.30.2020 00:00	04.28.2020 00:00	04.28.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	05.08.2020 12:00	05.08.2020 12:00	05.08.2020 12:00	05.08.2020 12:00	05.08.2020 12:00	05.08.2020 12:00
	<i>Analyzed:</i>	05.08.2020 17:46	05.08.2020 18:06	05.08.2020 18:27	05.08.2020 18:47	05.08.2020 19:07	05.08.2020 19:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398	<0.00400 0.00400	<0.00397 0.00397	<0.00403 0.00403
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45
	<i>Analyzed:</i>	05.03.2020 20:48	05.03.2020 20:55	05.03.2020 21:16	05.03.2020 21:23	05.03.2020 21:43	05.03.2020 21:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		234 5.04	188 5.00	171 4.96	278 4.98	9.72 4.98	7.00 4.97
TPH By SW8015 Mod	<i>Extracted:</i>	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00
	<i>Analyzed:</i>	05.02.2020 03:30	05.02.2020 03:52	05.02.2020 04:14	05.02.2020 04:36	05.02.2020 04:57	05.02.2020 05:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9
Total TPH		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 660426

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co.NM

Date Received in Lab: Fri 05.01.2020 10:45

Report Date: 05.12.2020 15:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	660426-036	660426-037	660426-039	660426-040	660426-044	660426-045
	<i>Field Id:</i>	T-10 3'-4'	T-10 4'-4.5'	T-11 3'	T-11 4'	T-12 5'	T-12 5.5'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	04.30.2020 00:00	04.30.2020 00:00	04.30.2020 00:00	04.30.2020 00:00	04.30.2020 00:00	04.30.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	05.08.2020 12:00	05.08.2020 12:00	05.11.2020 08:00	05.08.2020 12:00	05.08.2020 12:00	05.08.2020 12:00
	<i>Analyzed:</i>	05.08.2020 19:48	05.08.2020 21:10	05.11.2020 11:33	05.08.2020 21:30	05.08.2020 21:51	05.08.2020 22:11
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199
m,p-Xylenes		<0.00404 0.00404	<0.00399 0.00399	<0.00399 0.00399	<0.00398 0.00398	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 12:45	05.03.2020 14:15
	<i>Analyzed:</i>	05.03.2020 21:57	05.03.2020 22:04	05.03.2020 22:11	05.03.2020 22:17	05.03.2020 22:24	05.04.2020 13:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		582 5.03	549 5.02	1720 24.8	328 4.97	1560 25.0	337 X 4.99
TPH By SW8015 Mod	<i>Extracted:</i>	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00
	<i>Analyzed:</i>	05.02.2020 05:41	05.02.2020 06:03	05.01.2020 22:01	05.01.2020 23:07	05.01.2020 23:29	05.01.2020 23:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		<49.8 49.8	<50.0 50.0	129 50.0	<49.9 49.9	66.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total TPH		<49.8 49.8	<50.0 50.0	129 50.0	<49.9 49.9	66.8 49.8	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 660426

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co.NM

Date Received in Lab: Fri 05.01.2020 10:45

Report Date: 05.12.2020 15:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	660426-046	660426-047	660426-049	660426-050		
	<i>Field Id:</i>	T-13 1'-2'	T-13 2'-3'	T-14 2'-3'	T-14 3'-4'		
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	04.29.2020 00:00	04.29.2020 00:00	04.29.2020 00:00	04.29.2020 00:00		
BTEX by EPA 8021B	<i>Extracted:</i>	05.08.2020 12:00	05.08.2020 12:00	05.08.2020 12:00	05.09.2020 16:00		
	<i>Analyzed:</i>	05.08.2020 22:32	05.08.2020 22:52	05.08.2020 23:12	05.10.2020 20:01		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	0.0375 0.0199		
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	0.0230 0.0199		
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.0199 0.0199		
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398	<0.0398 0.0398		
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.0199 0.0199		
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.0199 0.0199		
Total BTEX		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	0.0605 0.0199		
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	05.03.2020 14:15	05.03.2020 14:15	05.03.2020 14:15	05.03.2020 14:15		
	<i>Analyzed:</i>	05.04.2020 13:30	05.04.2020 13:35	05.04.2020 13:40	05.04.2020 13:46		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		13.8 4.96	16.0 5.02	26.1 5.05	352 4.99		
TPH By SW8015 Mod	<i>Extracted:</i>	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00	05.01.2020 16:00		
	<i>Analyzed:</i>	05.02.2020 00:12	05.02.2020 00:34	05.02.2020 00:56	05.02.2020 01:18		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.8 49.8		
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	488 49.8		
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	215 49.8		
Total TPH		<50.0 50.0	<49.8 49.8	<49.9 49.9	703 49.8		

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Jessica Kramer
Project Manager



Analytical Report 660426

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Vaca 30 SWD

212C-MD-02169

05.12.2020

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.12.2020

Project Manager: **Mike Carmona**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: XENCO Report No(s): **660426**

Vaca 30 SWD

Project Address: Lea Co.NM

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 660426. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 660426 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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Sample Cross Reference 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 0-1'	S	04.28.2020 00:00		660426-001
T-1 1'-2'	S	04.28.2020 00:00		660426-002
T-2 2'-3'	S	04.28.2020 00:00		660426-005
T-2 3'-4'	S	04.28.2020 00:00		660426-006
T-3 0-1'	S	04.28.2020 00:00		660426-007
T-3 1'-2'	S	04.28.2020 00:00		660426-008
T-4 1'-2'	S	04.28.2020 00:00		660426-010
T-4 2'-3'	S	04.28.2020 00:00		660426-011
T-5 5.5'	S	04.28.2020 00:00		660426-017
T-5 5.5'-6.5'	S	04.28.2020 00:00		660426-018
T-6 6'-7'	S	04.30.2020 00:00		660426-024
T-6 7'-8'	S	04.30.2020 00:00		660426-025
T-7 2'-3'	S	04.29.2020 00:00		660426-028
T-7 3'-4'	S	04.30.2020 00:00		660426-029
T-8 0-1'	S	04.29.2020 00:00		660426-030
T-8 1'-2'	S	04.30.2020 00:00		660426-031
T-9 0-1'	S	04.28.2020 00:00		660426-032
T-9 1'-2'	S	04.28.2020 00:00		660426-033
T-10 3'-4'	S	04.30.2020 00:00		660426-036
T-10 4'-4.5'	S	04.30.2020 00:00		660426-037
T-11 3'	S	04.30.2020 00:00		660426-039
T-11 4'	S	04.30.2020 00:00		660426-040
T-12 5'	S	04.30.2020 00:00		660426-044
T-12 5.5'	S	04.30.2020 00:00		660426-045
T-13 1'-2'	S	04.29.2020 00:00		660426-046
T-13 2'-3'	S	04.29.2020 00:00		660426-047
T-14 2'-3'	S	04.29.2020 00:00		660426-049
T-14 3'-4'	S	04.29.2020 00:00		660426-050
T-2 0-1'	S	04.28.2020 00:00		Not Analyzed
T-2 1'-2'	S	04.28.2020 00:00		Not Analyzed
T-4 0-1'	S	04.28.2020 00:00		Not Analyzed
T-5 0-1'	S	04.28.2020 00:00		Not Analyzed
T-5 1'-2'	S	04.28.2020 00:00		Not Analyzed
T-5 2'-3'	S	04.28.2020 00:00		Not Analyzed
T-5 3'-4'	S	04.28.2020 00:00		Not Analyzed
T-5 4'-5'	S	04.28.2020 00:00		Not Analyzed
T-6 0-1'	S	04.28.2020 00:00		Not Analyzed
T-6 1'-2'	S	04.28.2020 00:00		Not Analyzed
T-6 2'-3'	S	04.28.2020 00:00		Not Analyzed
T-6 3'-4'	S	04.28.2020 00:00		Not Analyzed
T-6 4'-5'	S	04.28.2020 00:00		Not Analyzed
T-7 0-1'	S	04.28.2020 00:00		Not Analyzed
T-7 1'-2'	S	04.29.2020 00:00		Not Analyzed

**Sample Cross Reference 660426****Tetra Tech- Midland, Midland, TX**

Vaca 30 SWD

T-10 1'-2'	S	04.29.2020 00:00	Not Analyzed
T-10 2'-3'	S	04.29.2020 00:00	Not Analyzed
T-11 1'-2'	S	04.29.2020 00:00	Not Analyzed
T-12 1'-2'	S	04.29.2020 00:00	Not Analyzed
T-12 2'-3'	S	04.29.2020 00:00	Not Analyzed
T-12 3'-4'	S	04.29.2020 00:00	Not Analyzed
T-14 1'-2'	S	04.29.2020 00:00	Not Analyzed

**CASE NARRATIVE****Client Name: Tetra Tech- Midland****Project Name: Vaca 30 SWD**

Project ID: 212C-MD-02169
Work Order Number(s): 660426

Report Date: 05.12.2020
Date Received: 05.01.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3125124 Inorganic Anions by EPA 300/300.1

Lab Sample ID 660426-045 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 660426-045, -046, -047, -049, -050.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3125562 BTEX by EPA 8021B

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

Samples affected are: 660426-050.

Surrogate 4-Bromofluorobenzene recovered below QC limits. Samples affected are: 7703069-1-BLK. Due to matrix, initial run for sample 050 was performed of a dilution of 10X.

Batch: LBA-3125618 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Samples affected are: 7703120-1-BLK, 660467-010 S.



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-1 0-1'**
Lab Sample Id: 660426-001

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:25

Basis: Wet Weight

Seq Number: 3125096

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.6	5.03	mg/kg	05.04.2020 12:05		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.01.2020 22:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.01.2020 22:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.01.2020 22:01	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.01.2020 22:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	05.01.2020 22:01	
o-Terphenyl	84-15-1	101	%	70-130	05.01.2020 22:01	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-1 0-1'**
Lab Sample Id: 660426-001

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.09.2020 10:31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.09.2020 10:31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.09.2020 10:31	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.09.2020 10:31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.09.2020 10:31	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.09.2020 10:31	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.09.2020 10:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.09.2020 10:31		
1,4-Difluorobenzene	540-36-3	105	%	70-130	05.09.2020 10:31		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-1 1'-2'
Lab Sample Id: 660426-002

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:25

Basis: Wet Weight

Seq Number: 3125096

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	148	4.96	mg/kg	05.04.2020 13:41		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	05.01.2020 23:07	
o-Terphenyl	84-15-1	109	%	70-130	05.01.2020 23:07	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-1 1'-2'
Lab Sample Id: 660426-002

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.09.2020 10:51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.09.2020 10:51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.09.2020 10:51	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	05.09.2020 10:51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.09.2020 10:51	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.09.2020 10:51	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.09.2020 10:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	05.09.2020 10:51		
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.09.2020 10:51		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-2 2'-3'
Lab Sample Id: 660426-005

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.5	5.02	mg/kg	05.03.2020 19:19		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.01.2020 23:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.01.2020 23:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.01.2020 23:29	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.01.2020 23:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	05.01.2020 23:29	
o-Terphenyl	84-15-1	106	%	70-130	05.01.2020 23:29	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-2 2'-3'
Lab Sample Id: 660426-005

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.2020 11:12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.2020 11:12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.2020 11:12	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.09.2020 11:12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.2020 11:12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.2020 11:12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.2020 11:12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.09.2020 11:12		
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.09.2020 11:12		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-2 3'-4'
Lab Sample Id: 660426-006

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:25

Basis: Wet Weight

Seq Number: 3125096

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	151	25.0	mg/kg	05.04.2020 15:10		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.01.2020 23:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.01.2020 23:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.01.2020 23:50	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.01.2020 23:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	05.01.2020 23:50	
o-Terphenyl	84-15-1	105	%	70-130	05.01.2020 23:50	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-2 3'-4'
Lab Sample Id: 660426-006

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.09.2020 11:32	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.09.2020 11:32	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.09.2020 11:32	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.09.2020 11:32	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.09.2020 11:32	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.09.2020 11:32	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.09.2020 11:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.09.2020 11:32		
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.09.2020 11:32		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-3 0-1'**
Lab Sample Id: 660426-007

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.8	4.97	mg/kg	05.03.2020 19:40		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	05.02.2020 00:12	
o-Terphenyl	84-15-1	104	%	70-130	05.02.2020 00:12	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-3 0-1'**
Lab Sample Id: 660426-007

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.09.2020 11:52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.09.2020 11:52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.09.2020 11:52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.09.2020 11:52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.09.2020 11:52	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.09.2020 11:52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.09.2020 11:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.09.2020 11:52		
4-Bromofluorobenzene	460-00-4	121	%	70-130	05.09.2020 11:52		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-3 1'-2'
Lab Sample Id: 660426-008

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.3	5.03	mg/kg	05.03.2020 19:47		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 00:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 00:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 00:34	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 00:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	05.02.2020 00:34	
o-Terphenyl	84-15-1	104	%	70-130	05.02.2020 00:34	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-3 1'-2'
Lab Sample Id: 660426-008

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.09.2020 12:13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.09.2020 12:13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.09.2020 12:13	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.09.2020 12:13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.09.2020 12:13	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.09.2020 12:13	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.09.2020 12:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.09.2020 12:13	
1,4-Difluorobenzene	540-36-3	112	%	70-130	05.09.2020 12:13	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-4 1'-2'
Lab Sample Id: 660426-010

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2410	25.2	mg/kg	05.03.2020 19:54		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	05.02.2020 00:56	
o-Terphenyl	84-15-1	102	%	70-130	05.02.2020 00:56	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-4 1'-2'
Lab Sample Id: 660426-010

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.09.2020 12:33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.09.2020 12:33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.09.2020 12:33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.09.2020 12:33	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.09.2020 12:33	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.09.2020 12:33	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.09.2020 12:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	05.09.2020 12:33		
1,4-Difluorobenzene	540-36-3	107	%	70-130	05.09.2020 12:33		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-4 2'-3'
Lab Sample Id: 660426-011

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	555	4.99	mg/kg	05.03.2020 20:00		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.02.2020 01:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.02.2020 01:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.02.2020 01:18	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.02.2020 01:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	05.02.2020 01:18	
o-Terphenyl	84-15-1	104	%	70-130	05.02.2020 01:18	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-4 2'-3'
Lab Sample Id: 660426-011

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.09.2020 12:54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.09.2020 12:54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.09.2020 12:54	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.09.2020 12:54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.09.2020 12:54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.09.2020 12:54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.09.2020 12:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	05.09.2020 12:54	
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.09.2020 12:54	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-5 5.5'
Lab Sample Id: 660426-017

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	632	4.95	mg/kg	05.03.2020 20:21		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.02.2020 01:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.02.2020 01:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.02.2020 01:40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.02.2020 01:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	05.02.2020 01:40	
o-Terphenyl	84-15-1	101	%	70-130	05.02.2020 01:40	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-5 5.5'
Lab Sample Id: 660426-017

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.09.2020 13:14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.09.2020 13:14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.09.2020 13:14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.09.2020 13:14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.09.2020 13:14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.09.2020 13:14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.09.2020 13:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	05.09.2020 13:14		
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.09.2020 13:14		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-5 5.5'-6.5'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-018

Date Collected: 04.28.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	121	4.98	mg/kg	05.03.2020 20:28		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 02:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 02:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 02:02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 02:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	05.02.2020 02:02	
o-Terphenyl	84-15-1	105	%	70-130	05.02.2020 02:02	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-5 5.5'-6.5'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-018

Date Collected: 04.28.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 15:00

Basis: Wet Weight

Seq Number: 3125554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.09.2020 13:34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.09.2020 13:34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.09.2020 13:34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.09.2020 13:34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.09.2020 13:34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.09.2020 13:34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.09.2020 13:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	05.09.2020 13:34		
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.09.2020 13:34		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-6 6'-7'
Lab Sample Id: 660426-024

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	904	25.2	mg/kg	05.03.2020 20:35		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 02:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 02:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 02:46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 02:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	05.02.2020 02:46	
o-Terphenyl	84-15-1	108	%	70-130	05.02.2020 02:46	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-6 6'-7'
Lab Sample Id: 660426-024

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.08.2020 17:05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.08.2020 17:05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.08.2020 17:05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.08.2020 17:05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.08.2020 17:05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.08.2020 17:05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.08.2020 17:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.08.2020 17:05		
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.08.2020 17:05		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-6 7'-8'
Lab Sample Id: 660426-025

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	311	5.01	mg/kg	05.03.2020 20:42		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 03:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 03:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 03:08	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 03:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	05.02.2020 03:08	
o-Terphenyl	84-15-1	106	%	70-130	05.02.2020 03:08	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-6 7'-8'
Lab Sample Id: 660426-025

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.08.2020 17:26	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.08.2020 17:26	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.08.2020 17:26	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.08.2020 17:26	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.08.2020 17:26	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.08.2020 17:26	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.08.2020 17:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.08.2020 17:26		
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.08.2020 17:26		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-7 2'-3'
Lab Sample Id: 660426-028

Matrix: Soil
Date Collected: 04.29.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	234	5.04	mg/kg	05.03.2020 20:48		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 03:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 03:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 03:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 03:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	05.02.2020 03:30	
o-Terphenyl	84-15-1	110	%	70-130	05.02.2020 03:30	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-7 2'-3'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-028

Date Collected: 04.29.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.08.2020 17:46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.08.2020 17:46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.08.2020 17:46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.08.2020 17:46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.08.2020 17:46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.08.2020 17:46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.08.2020 17:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	05.08.2020 17:46		
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.08.2020 17:46		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-7 3'-4'
Lab Sample Id: 660426-029

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	188	5.00	mg/kg	05.03.2020 20:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.02.2020 03:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.02.2020 03:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.02.2020 03:52	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.02.2020 03:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	05.02.2020 03:52	
o-Terphenyl	84-15-1	104	%	70-130	05.02.2020 03:52	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-7 3'-4'
Lab Sample Id: 660426-029

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.08.2020 18:06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.08.2020 18:06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.08.2020 18:06	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.08.2020 18:06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.08.2020 18:06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.08.2020 18:06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.08.2020 18:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.08.2020 18:06		
1,4-Difluorobenzene	540-36-3	112	%	70-130	05.08.2020 18:06		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-8 0-1'**
Lab Sample Id: 660426-030

Matrix: Soil
Date Collected: 04.29.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	171	4.96	mg/kg	05.03.2020 21:16		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 04:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 04:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 04:14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 04:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	05.02.2020 04:14	
o-Terphenyl	84-15-1	105	%	70-130	05.02.2020 04:14	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-8 0-1'**
Lab Sample Id: 660426-030

Matrix: Soil
Date Collected: 04.29.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.08.2020 18:27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.08.2020 18:27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.08.2020 18:27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.08.2020 18:27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.08.2020 18:27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.08.2020 18:27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.08.2020 18:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	05.08.2020 18:27		
1,4-Difluorobenzene	540-36-3	106	%	70-130	05.08.2020 18:27		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-8 1'-2'
Lab Sample Id: 660426-031

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	278	4.98	mg/kg	05.03.2020 21:23		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.02.2020 04:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.02.2020 04:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.02.2020 04:36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.02.2020 04:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	05.02.2020 04:36	
o-Terphenyl	84-15-1	106	%	70-130	05.02.2020 04:36	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-8 1'-2'
Lab Sample Id: 660426-031

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.08.2020 18:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.08.2020 18:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.08.2020 18:47	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.08.2020 18:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.08.2020 18:47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.08.2020 18:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.08.2020 18:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	05.08.2020 18:47	
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.08.2020 18:47	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-9 0-1'**
Lab Sample Id: 660426-032

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.72	4.98	mg/kg	05.03.2020 21:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.02.2020 04:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.02.2020 04:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.02.2020 04:57	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.02.2020 04:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	05.02.2020 04:57	
o-Terphenyl	84-15-1	107	%	70-130	05.02.2020 04:57	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-9 0-1'**
Lab Sample Id: 660426-032

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.08.2020 19:07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.08.2020 19:07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.08.2020 19:07	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.08.2020 19:07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.08.2020 19:07	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.08.2020 19:07	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.08.2020 19:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.08.2020 19:07		
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.08.2020 19:07		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-9 1'-2'
Lab Sample Id: 660426-033

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.00	4.97	mg/kg	05.03.2020 21:50		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.02.2020 05:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.02.2020 05:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.02.2020 05:19	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.02.2020 05:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	05.02.2020 05:19	
o-Terphenyl	84-15-1	103	%	70-130	05.02.2020 05:19	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-9 1'-2'
Lab Sample Id: 660426-033

Matrix: Soil
Date Collected: 04.28.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.08.2020 19:28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.08.2020 19:28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.08.2020 19:28	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.08.2020 19:28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.08.2020 19:28	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.08.2020 19:28	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.08.2020 19:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.08.2020 19:28	
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.08.2020 19:28	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-10 3'-4'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-036

Date Collected: 04.30.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	582	5.03	mg/kg	05.03.2020 21:57		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.02.2020 05:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.02.2020 05:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.02.2020 05:41	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.02.2020 05:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	05.02.2020 05:41	
o-Terphenyl	84-15-1	108	%	70-130	05.02.2020 05:41	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-10 3'-4'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-036

Date Collected: 04.30.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.08.2020 19:48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.08.2020 19:48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.08.2020 19:48	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.08.2020 19:48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.08.2020 19:48	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.08.2020 19:48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.08.2020 19:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.08.2020 19:48		
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.08.2020 19:48		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-10 4'-4.5'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-037

Date Collected: 04.30.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 12:45

Basis: Wet Weight

Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	549	5.02	mg/kg	05.03.2020 22:04		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124873

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 06:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 06:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 06:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 06:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	05.02.2020 06:03	
o-Terphenyl	84-15-1	103	%	70-130	05.02.2020 06:03	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-10 4'-4.5'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-037

Date Collected: 04.30.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.08.2020 21:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.08.2020 21:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.08.2020 21:10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.08.2020 21:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.08.2020 21:10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.08.2020 21:10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.08.2020 21:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	05.08.2020 21:10		
1,4-Difluorobenzene	540-36-3	105	%	70-130	05.08.2020 21:10		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-11 3'** Matrix: Soil Date Received: 05.01.2020 10:45
 Lab Sample Id: 660426-039 Date Collected: 04.30.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.03.2020 12:45 Basis: Wet Weight
 Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1720	24.8	mg/kg	05.03.2020 22:11		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 05.01.2020 16:00 Basis: Wet Weight
 Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.01.2020 22:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	129	50.0	mg/kg	05.01.2020 22:01		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.01.2020 22:01	U	1
Total TPH	PHC635	129	50.0	mg/kg	05.01.2020 22:01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-130	05.01.2020 22:01	
o-Terphenyl	84-15-1	113	%	70-130	05.01.2020 22:01	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-11 3'
Lab Sample Id: 660426-039

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.11.2020 08:00

Basis: Wet Weight

Seq Number: 3125618

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.11.2020 11:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.11.2020 11:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.11.2020 11:33	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.11.2020 11:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.11.2020 11:33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.11.2020 11:33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.11.2020 11:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.11.2020 11:33		
4-Bromofluorobenzene	460-00-4	91	%	70-130	05.11.2020 11:33		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-11 4'** Matrix: Soil Date Received: 05.01.2020 10:45
 Lab Sample Id: 660426-040 Date Collected: 04.30.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.03.2020 12:45 Basis: Wet Weight
 Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	328	4.97	mg/kg	05.03.2020 22:17		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 05.01.2020 16:00 Basis: Wet Weight
 Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.01.2020 23:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	05.01.2020 23:07	
o-Terphenyl	84-15-1	107	%	70-130	05.01.2020 23:07	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **T-11 4'**
Lab Sample Id: 660426-040

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.08.2020 21:30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.08.2020 21:30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.08.2020 21:30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.08.2020 21:30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.08.2020 21:30	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.08.2020 21:30	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.08.2020 21:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.08.2020 21:30		
1,4-Difluorobenzene	540-36-3	110	%	70-130	05.08.2020 21:30		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-12 5' Matrix: Soil Date Received: 05.01.2020 10:45
 Lab Sample Id: 660426-044 Date Collected: 04.30.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.03.2020 12:45 Basis: Wet Weight
 Seq Number: 3125098

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1560	25.0	mg/kg	05.03.2020 22:24		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 05.01.2020 16:00 Basis: Wet Weight
 Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.01.2020 23:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	66.8	49.8	mg/kg	05.01.2020 23:29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.01.2020 23:29	U	1
Total TPH	PHC635	66.8	49.8	mg/kg	05.01.2020 23:29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	05.01.2020 23:29	
o-Terphenyl	84-15-1	108	%	70-130	05.01.2020 23:29	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-12 5'
Lab Sample Id: 660426-044

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.08.2020 21:51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.08.2020 21:51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.08.2020 21:51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.08.2020 21:51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.08.2020 21:51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.08.2020 21:51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.08.2020 21:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	05.08.2020 21:51		
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.08.2020 21:51		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-12 5.5'
Lab Sample Id: 660426-045

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 14:15

Basis: Wet Weight

Seq Number: 3125124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	337	4.99	mg/kg	05.04.2020 13:14	X	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.01.2020 23:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.01.2020 23:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.01.2020 23:50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.01.2020 23:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	05.01.2020 23:50	
o-Terphenyl	84-15-1	108	%	70-130	05.01.2020 23:50	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-12 5.5'
Lab Sample Id: 660426-045

Matrix: Soil
Date Collected: 04.30.2020 00:00

Date Received: 05.01.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.08.2020 22:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.08.2020 22:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.08.2020 22:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.08.2020 22:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.08.2020 22:11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.08.2020 22:11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.08.2020 22:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.08.2020 22:11		
1,4-Difluorobenzene	540-36-3	111	%	70-130	05.08.2020 22:11		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-13 1'-2'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-046

Date Collected: 04.29.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 14:15

Basis: Wet Weight

Seq Number: 3125124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.8	4.96	mg/kg	05.04.2020 13:30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.02.2020 00:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	05.02.2020 00:12	
o-Terphenyl	84-15-1	107	%	70-130	05.02.2020 00:12	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-13 1'-2'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-046

Date Collected: 04.29.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.08.2020 22:32	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.08.2020 22:32	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.08.2020 22:32	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.08.2020 22:32	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.08.2020 22:32	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.08.2020 22:32	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.08.2020 22:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	05.08.2020 22:32	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.08.2020 22:32	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-13 2'-3'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-047

Date Collected: 04.29.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 14:15

Basis: Wet Weight

Seq Number: 3125124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.0	5.02	mg/kg	05.04.2020 13:35		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.02.2020 00:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.02.2020 00:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.02.2020 00:34	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.02.2020 00:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-130	05.02.2020 00:34	
o-Terphenyl	84-15-1	112	%	70-130	05.02.2020 00:34	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-13 2'-3'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-047

Date Collected: 04.29.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.08.2020 22:52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.08.2020 22:52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.08.2020 22:52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.08.2020 22:52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.08.2020 22:52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.08.2020 22:52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.08.2020 22:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	05.08.2020 22:52		
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.08.2020 22:52		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-14 2'-3'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-049

Date Collected: 04.29.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 14:15

Basis: Wet Weight

Seq Number: 3125124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.1	5.05	mg/kg	05.04.2020 13:40		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.02.2020 00:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	05.02.2020 00:56	
o-Terphenyl	84-15-1	108	%	70-130	05.02.2020 00:56	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-14 2'-3'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-049

Date Collected: 04.29.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.08.2020 12:00

Basis: Wet Weight

Seq Number: 3125496

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.08.2020 23:12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.08.2020 23:12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.08.2020 23:12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.08.2020 23:12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.08.2020 23:12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.08.2020 23:12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.08.2020 23:12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	05.08.2020 23:12		
1,4-Difluorobenzene	540-36-3	109	%	70-130	05.08.2020 23:12		



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-14 3'-4'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-050

Date Collected: 04.29.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 05.03.2020 14:15

Basis: Wet Weight

Seq Number: 3125124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	352	4.99	mg/kg	05.04.2020 13:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 05.01.2020 16:00

Basis: Wet Weight

Seq Number: 3124876

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.02.2020 01:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	488	49.8	mg/kg	05.02.2020 01:18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	215	49.8	mg/kg	05.02.2020 01:18		1
Total TPH	PHC635	703	49.8	mg/kg	05.02.2020 01:18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	05.02.2020 01:18	
o-Terphenyl	84-15-1	105	%	70-130	05.02.2020 01:18	



Certificate of Analytical Results 660426

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: T-14 3'-4'

Matrix: Soil

Date Received: 05.01.2020 10:45

Lab Sample Id: 660426-050

Date Collected: 04.29.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 05.09.2020 16:00

Basis: Wet Weight

Seq Number: 3125562

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0375	0.0199	mg/kg	05.10.2020 20:01		10
Toluene	108-88-3	0.0230	0.0199	mg/kg	05.10.2020 20:01		10
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	05.10.2020 20:01	U	10
m,p-Xylenes	179601-23-1	<0.0398	0.0398	mg/kg	05.10.2020 20:01	U	10
o-Xylene	95-47-6	<0.0199	0.0199	mg/kg	05.10.2020 20:01	U	10
Total Xylenes	1330-20-7	<0.0199	0.0199	mg/kg	05.10.2020 20:01	U	10
Total BTEX		0.0605	0.0199	mg/kg	05.10.2020 20:01		10
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	67	%	70-130	05.10.2020 20:01	***	
4-Bromofluorobenzene	460-00-4	135	%	70-130	05.10.2020 20:01	**	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125096

Matrix: Solid

Prep Method: E300P

Date Prep: 05.03.2020

MB Sample Id: 7702596-1-BLK

LCS Sample Id: 7702596-1-BKS

LCSD Sample Id: 7702596-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	272	109	271	108	90-110	0	20	mg/kg	05.04.2020 11:52	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125098

Matrix: Solid

Prep Method: E300P

Date Prep: 05.03.2020

MB Sample Id: 7702599-1-BLK

LCS Sample Id: 7702599-1-BKS

LCSD Sample Id: 7702599-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	268	107	90-110	0	20	mg/kg	05.03.2020 19:06	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125124

Matrix: Solid

Prep Method: E300P

Date Prep: 05.03.2020

MB Sample Id: 7702602-1-BLK

LCS Sample Id: 7702602-1-BKS

LCSD Sample Id: 7702602-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	273	109	90-110	10	20	mg/kg	05.04.2020 13:03	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125096

Matrix: Soil

Prep Method: E300P

Date Prep: 05.03.2020

Parent Sample Id: 660426-001

MS Sample Id: 660426-001 S

MSD Sample Id: 660426-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	44.6	252	307	104	309	105	90-110	1	20	mg/kg	05.04.2020 12:12	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125096

Matrix: Soil

Prep Method: E300P

Date Prep: 05.03.2020

Parent Sample Id: 660426-002

MS Sample Id: 660426-002 S

MSD Sample Id: 660426-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	148	248	409	105	409	105	90-110	0	20	mg/kg	05.04.2020 13:48	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125098

Matrix: Soil

Prep Method: E300P

Date Prep: 05.03.2020

Parent Sample Id: 660426-005

MS Sample Id: 660426-005 S

MSD Sample Id: 660426-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.5	251	294	106	294	106	90-110	0	20	mg/kg	05.03.2020 19:26	

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125098

Matrix: Soil

Prep Method: E300P

Date Prep: 05.03.2020

Parent Sample Id: 660426-029

MS Sample Id: 660426-029 S

MSD Sample Id: 660426-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	188	250	439	100	439	100	90-110	0	20	mg/kg	05.03.2020 21:02	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125124

Matrix: Soil

Prep Method: E300P

Date Prep: 05.03.2020

Parent Sample Id: 660167-006

MS Sample Id: 660167-006 S

MSD Sample Id: 660167-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	73.7	250	297	89	344	108	90-110	15	20	mg/kg	05.04.2020 14:33	X

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3125124

Matrix: Soil

Prep Method: E300P

Date Prep: 05.03.2020

Parent Sample Id: 660426-045

MS Sample Id: 660426-045 S

MSD Sample Id: 660426-045 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	337	250	590	101	520	73	90-110	13	20	mg/kg	05.04.2020 13:19	X

Analytical Method: TPH By SW8015 Mod

Seq Number: 3124873

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.01.2020

MB Sample Id: 7702564-1-BLK

LCS Sample Id: 7702564-1-BKS

LCSD Sample Id: 7702564-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1020	102	1040	104	70-130	2	20	mg/kg	05.01.2020 21:17	
Diesel Range Organics (DRO)	<50.0	1000	1150	115	1150	115	70-130	0	20	mg/kg	05.01.2020 21:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		96		96		70-130	%	05.01.2020 21:17
o-Terphenyl	101		103		105		70-130	%	05.01.2020 21:17

Analytical Method: TPH By SW8015 Mod

Seq Number: 3124876

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.01.2020

MB Sample Id: 7702565-1-BLK

LCS Sample Id: 7702565-1-BKS

LCSD Sample Id: 7702565-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1120	112	1090	109	70-130	3	20	mg/kg	05.01.2020 21:17	
Diesel Range Organics (DRO)	<50.0	1000	1190	119	1170	117	70-130	2	20	mg/kg	05.01.2020 21:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		115		124		70-130	%	05.01.2020 21:17
o-Terphenyl	109		114		111		70-130	%	05.01.2020 21:17

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3124873

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.01.2020

MB Sample Id: 7702564-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

05.01.2020 20:56

Flag

Analytical Method: TPH By SW8015 Mod

Seq Number: 3124876

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.01.2020

MB Sample Id: 7702565-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

05.01.2020 20:56

Flag

Analytical Method: TPH By SW8015 Mod

Seq Number: 3124873

Matrix: Soil

Prep Method: SW8015P

Date Prep: 05.01.2020

Parent Sample Id: 660426-001

MS Sample Id: 660426-001 S

MSD Sample Id: 660426-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<49.9

Spike
Amount

997

MS
Result

1140

MS
%Rec

114

MSD
Result

1130

MSD
%Rec

113

Limits

70-130

%RPD

1

RPD
Limit

20

Units

mg/kg

Analysis
Date

05.01.2020 22:23

Flag

Diesel Range Organics (DRO)

<49.9

997

1230

123

1230

123

70-130

0

20

mg/kg

05.01.2020 22:23

Surrogate

1-Chlorooctane

MS
%Rec

103

MS
FlagMSD
%Rec

103

MSD
Flag

Limits

70-130

Units

%

Analysis
Date

05.01.2020 22:23

o-Terphenyl

105

110

70-130

%

05.01.2020 22:23

Analytical Method: TPH By SW8015 Mod

Seq Number: 3124876

Matrix: Soil

Prep Method: SW8015P

Date Prep: 05.01.2020

Parent Sample Id: 660426-039

MS Sample Id: 660426-039 S

MSD Sample Id: 660426-039 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<49.9

Spike
Amount

997

MS
Result

1140

MS
%Rec

114

MSD
Result

1160

MSD
%Rec

116

Limits

70-130

%RPD

2

RPD
Limit

20

Units

mg/kg

Analysis
Date

05.01.2020 22:23

Flag

Diesel Range Organics (DRO)

129

997

1290

116

1300

117

70-130

1

20

mg/kg

05.01.2020 22:23

Surrogate

1-Chlorooctane

MS
%Rec

109

MS
FlagMSD
%Rec

110

MSD
Flag

Limits

70-130

Units

%

Analysis
Date

05.01.2020 22:23

o-Terphenyl

111

111

70-130

%

05.01.2020 22:23

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125496

Matrix: Solid

Prep Method: SW5035A

Date Prep: 05.08.2020

MB Sample Id: 7703002-1-BLK

LCS Sample Id: 7703002-1-BKS

LCSD Sample Id: 7703002-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0852	85	0.0812	81	70-130	5	35	mg/kg	05.08.2020 14:43	
Toluene	<0.00200	0.100	0.0853	85	0.0813	81	70-130	5	35	mg/kg	05.08.2020 14:43	
Ethylbenzene	<0.00200	0.100	0.0900	90	0.0848	85	70-130	6	35	mg/kg	05.08.2020 14:43	
m,p-Xylenes	<0.00400	0.200	0.175	88	0.164	82	70-130	6	35	mg/kg	05.08.2020 14:43	
o-Xylene	<0.00200	0.100	0.0910	91	0.0855	86	70-130	6	35	mg/kg	05.08.2020 14:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		102		102		70-130	%	05.08.2020 14:43
4-Bromofluorobenzene	95		103		99		70-130	%	05.08.2020 14:43

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125554

Matrix: Solid

Prep Method: SW5035A

Date Prep: 05.08.2020

MB Sample Id: 7703050-1-BLK

LCS Sample Id: 7703050-1-BKS

LCSD Sample Id: 7703050-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0826	83	0.0811	81	70-130	2	35	mg/kg	05.09.2020 01:49	
Toluene	<0.00200	0.100	0.0807	81	0.0805	81	70-130	0	35	mg/kg	05.09.2020 01:49	
Ethylbenzene	<0.00200	0.100	0.0830	83	0.0826	83	70-130	0	35	mg/kg	05.09.2020 01:49	
m,p-Xylenes	<0.00400	0.200	0.159	80	0.160	80	70-130	1	35	mg/kg	05.09.2020 01:49	
o-Xylene	<0.00200	0.100	0.0844	84	0.0846	85	70-130	0	35	mg/kg	05.09.2020 01:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		102		70-130	%	05.09.2020 01:49
4-Bromofluorobenzene	94		100		102		70-130	%	05.09.2020 01:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125562

Matrix: Solid

Prep Method: SW5035A

Date Prep: 05.09.2020

MB Sample Id: 7703069-1-BLK

LCS Sample Id: 7703069-1-BKS

LCSD Sample Id: 7703069-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.0967	97	70-130	5	35	mg/kg	05.10.2020 10:42	
Toluene	<0.00200	0.100	0.101	101	0.0956	96	70-130	5	35	mg/kg	05.10.2020 10:42	
Ethylbenzene	<0.00200	0.100	0.104	104	0.0987	99	70-130	5	35	mg/kg	05.10.2020 10:42	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.189	95	70-130	6	35	mg/kg	05.10.2020 10:42	
o-Xylene	<0.00200	0.100	0.0957	96	0.0915	92	70-130	4	35	mg/kg	05.10.2020 10:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		106		102		70-130	%	05.10.2020 10:42
4-Bromofluorobenzene	54	**	100		100		70-130	%	05.10.2020 10:42

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125618

Matrix: Solid

Prep Method: SW5035A

Date Prep: 05.11.2020

MB Sample Id: 7703120-1-BLK

LCS Sample Id: 7703120-1-BKS

LCSD Sample Id: 7703120-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.110	110	70-130	1	35	mg/kg	05.11.2020 09:14	
Toluene	<0.00200	0.100	0.105	105	0.0987	99	70-130	6	35	mg/kg	05.11.2020 09:14	
Ethylbenzene	<0.00200	0.100	0.107	107	0.100	100	70-130	7	35	mg/kg	05.11.2020 09:14	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.189	95	70-130	9	35	mg/kg	05.11.2020 09:14	
o-Xylene	<0.00200	0.100	0.100	100	0.0924	92	70-130	8	35	mg/kg	05.11.2020 09:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		105		103		70-130	%	05.11.2020 09:14
4-Bromofluorobenzene	55	**	103		104		70-130	%	05.11.2020 09:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125496

Matrix: Soil

Prep Method: SW5035A

Date Prep: 05.08.2020

Parent Sample Id: 660426-024

MS Sample Id: 660426-024 S

MSD Sample Id: 660426-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0912	91	0.0858	85	70-130	6	35	mg/kg	05.08.2020 15:24	
Toluene	<0.00200	0.0998	0.0899	90	0.0825	82	70-130	9	35	mg/kg	05.08.2020 15:24	
Ethylbenzene	<0.00200	0.0998	0.0952	95	0.0859	85	70-130	10	35	mg/kg	05.08.2020 15:24	
m,p-Xylenes	<0.00399	0.200	0.186	93	0.167	83	70-130	11	35	mg/kg	05.08.2020 15:24	
o-Xylene	<0.00200	0.0998	0.0956	96	0.0864	86	70-130	10	35	mg/kg	05.08.2020 15:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	05.08.2020 15:24
4-Bromofluorobenzene	104		99		70-130	%	05.08.2020 15:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125554

Matrix: Soil

Prep Method: SW5035A

Date Prep: 05.08.2020

Parent Sample Id: 660369-002

MS Sample Id: 660369-002 S

MSD Sample Id: 660369-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.00347	3	0.00332	3	70-130	4	35	mg/kg	05.09.2020 02:30	X
Toluene	<0.00199	0.0994	0.00395	4	0.00352	4	70-130	12	35	mg/kg	05.09.2020 02:30	X
Ethylbenzene	<0.00199	0.0994	0.00375	4	0.00309	3	70-130	19	35	mg/kg	05.09.2020 02:30	X
m,p-Xylenes	<0.00398	0.199	0.00654	3	0.00591	3	70-130	10	35	mg/kg	05.09.2020 02:30	X
o-Xylene	<0.00199	0.0994	0.00358	4	0.00329	3	70-130	8	35	mg/kg	05.09.2020 02:30	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		111		70-130	%	05.09.2020 02:30
4-Bromofluorobenzene	113		111		70-130	%	05.09.2020 02:30

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125562

Parent Sample Id: 660420-013

Matrix: Soil

MS Sample Id: 660420-013 S

Prep Method: SW5035A

Date Prep: 05.09.2020

MSD Sample Id: 660420-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0987	100	0.109	109	70-130	10	35	mg/kg	05.10.2020 11:22	
Toluene	<0.00198	0.0990	0.108	109	0.107	107	70-130	1	35	mg/kg	05.10.2020 11:22	
Ethylbenzene	<0.00198	0.0990	0.116	117	0.110	110	70-130	5	35	mg/kg	05.10.2020 11:22	
m,p-Xylenes	<0.00396	0.198	0.222	112	0.210	106	70-130	6	35	mg/kg	05.10.2020 11:22	
o-Xylene	<0.00198	0.0990	0.104	105	0.0991	99	70-130	5	35	mg/kg	05.10.2020 11:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		106		70-130	%	05.10.2020 11:22
4-Bromofluorobenzene	102		103		70-130	%	05.10.2020 11:22

Analytical Method: BTEX by EPA 8021B

Seq Number: 3125618

Parent Sample Id: 660467-010

Matrix: Soil

MS Sample Id: 660467-010 S

Prep Method: SW5035A

Date Prep: 05.11.2020

MSD Sample Id: 660467-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.106	106	0.112	113	70-130	6	35	mg/kg	05.11.2020 09:55	
Toluene	<0.00199	0.0996	0.0761	76	0.105	106	70-130	32	35	mg/kg	05.11.2020 09:55	
Ethylbenzene	<0.00199	0.0996	0.0631	63	0.106	107	70-130	51	35	mg/kg	05.11.2020 09:55	XF
m,p-Xylenes	<0.00398	0.199	0.108	54	0.202	102	70-130	61	35	mg/kg	05.11.2020 09:55	XF
o-Xylene	<0.00199	0.0996	0.0541	54	0.0990	100	70-130	59	35	mg/kg	05.11.2020 09:55	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		106		70-130	%	05.11.2020 09:55
4-Bromofluorobenzene	59	**	108		70-130	%	05.11.2020 09:55

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

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

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

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

Analysis Request of Chain of Custody Record

660420



Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	EOG	Site Manager:	Mike Carmona
Project Name:	Vaca 30 SWD		
Project Location: (county, state)	Lea Co. NM	Project #:	212C-MD-02169
Invoice to:	James Kennedy		
Receiving Laboratory:		Sampler Signature:	Adrian Garcia
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS		FILTERED (Y/N)	BTX 8021B	BTX 8260B / 624	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	PCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCBs 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate	TDS	General Water Chemistry (see attached list)	Anion/Cation Balance		Hold
		YEAR: 2020		WATER	SOIL	HCL	HNO ₃	ICE	None																									
		DATE	TIME																															
	T-1 0-1'	4/28/2020		X			X			1	N	X		X																				
	T-1 1'-2'	4/28/2020		X			X			1	N	X		X														X						
	T-2 0-1'	4/28/2020		X			X			1	N																							X
	T-2 1'-2'	4/28/2020		X			X			1	N																							X
	T-2 2'-3'	4/28/2020		X			X			1	N	X		X														X						
	T-2 3'-4'	4/28/2020		X			X			1	N	X		X														X						
	T-3 0-1'	4/28/2020		X			X			1	N	X		X														X						
	T-3 1'-2'	4/28/2020		X			X			1	N	X		X														X						
	T-4 0-1'	4/28/2020		X			X			1	N																							
	T-4 1'-2'	4/28/2020		X			X			1	N	X		X														X						

3:35 AM

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	5/1			5/1	10:55
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY	REMARKS:
Sample Temperature 09/04 -0.3/09	☒ STANDARD
	☐ RUSH: Same Day 24 hr 48 hr 72 hr
	☐ Rush Charges Authorized
	☐ Special Report Limits or TRRP Report
(Circle) HAND DELIVERED FEDEX UPS Tracking #:	

ORIGINAL COPY

Analysis Request of Chain of Custody Record

660426



Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	EOG	Site Manager:	Mike Carmona
Project Name:	Vaca 30 SWD		
Project Location: (county, state)	Lea Co. NM	Project #:	212C-MD-02169
Invoice to:	James Kennedy		
Receiving Laboratory:		Sampler Signature:	Adrian Garcia
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS FILTERED (Y/N)		BTX 8021B	BTEX	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba C	TCLP Metals Ag As Ba C	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 6220	GC/MS Semi. Vol. 8270	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry	Anion/Cation Balance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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	5/1/20	10:45
Received by:	Date:	Time:
Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

0.10.4

REMARKS:

☒ STANDARD

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:



WAGHSLB

ANALYSIS REQUEST
(Circle or Specify Method No.)

Released to Imaging: 1/24/2022 10:23:35 AM

(Circle) HAND DELIVERED PEDEX UPS Tracking #:

Analysis Request of Chain of Custody Record

1040426



Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	EOG	Site Manager:	Mike Carmona
Project Name:	Vaca 30 SWD		
Project Location: (county, state)	Lea Co. NM	Project #:	212C-MD-02169
Invoice to:	James Kennedy		
Receiving Laboratory:	Sampler Signature: Adrian Garcia		
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS		FILTERED (Y/N)	BTX 8021B	BTEX 8260B / 624	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Sulfate	TDS	General Water Chemistry (see attached list)	Anion/Cation Balance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</
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LAB USE ONLY	REMARKS:
Sample Temperature	☒ STANDARD
0-910.4	☐ RUSH: Same Day 24 hr 48 hr 72 hr
	☐ Rush Charges Authorized
	☐ Special Report Limits or TRRP Report

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Analysis Request of Chain of Custody Record

040426



Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	EOG	Site Manager:	Mike Carmona
Project Name:	Vaca 30 SWD		
Project Location: (county, state)	Lea Co. NM	Project #:	212C-MD-02169
Invoice to:	James Kennedy		
Receiving Laboratory:		Sampler Signature:	Adrian Garcia
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS		FILTERED (Y/N)	BTEX 8021B	BTEX 8260B / 62424	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DR)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 62424	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY	REMARKS:
Sample Temperature 0.910.4	☒ STANDARD
	☐ RUSH: Same Day 24 hr 48 hr 72 hr
	☐ Rush Charges Authorized
	☐ Special Report Limits or TRRP Report

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 05.01.2020 10.45.00 AM

Work Order #: 660426

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R9

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 05.01.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.04.2020



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	664315-001 Bottom Hole #1 (5' BEB)	664315-002 Bottom Hole #2 (5' BEB)	664315-003 Bottom Hole #3 (5' BEB)	664315-004 Bottom Hole #4 (5' BEB)	664315-005 Bottom Hole #5 (5' BEB)	664315-006 Bottom Hole #6 (5' BEB)
BTEX by EPA 8021B	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	06.15.2020 11:00 06.15.2020 16:49 mg/kg RL	06.15.2020 11:00 06.15.2020 17:09 mg/kg RL	06.15.2020 11:00 06.15.2020 17:30 mg/kg RL	06.15.2020 11:00 06.15.2020 17:50 mg/kg RL	06.15.2020 11:00 06.15.2020 18:11 mg/kg RL	06.15.2020 11:00 06.15.2020 18:31 mg/kg RL
Benzene		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	<0.00397 0.00397	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	06.12.2020 14:30 06.12.2020 16:35 mg/kg RL	06.12.2020 14:30 06.12.2020 16:40 mg/kg RL	06.12.2020 14:30 06.12.2020 16:45 mg/kg RL	06.12.2020 14:30 06.12.2020 16:50 mg/kg RL	06.12.2020 14:30 06.12.2020 16:55 mg/kg RL	06.12.2020 14:30 06.12.2020 17:00 mg/kg RL
Chloride		50.0 5.04	52.8 4.98	132 4.97	854 50.2	443 24.8	213 4.96
TPH By SW8015 Mod	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	06.12.2020 12:00 06.12.2020 13:38 mg/kg RL	06.12.2020 12:00 06.12.2020 14:42 mg/kg RL	06.12.2020 12:00 06.12.2020 15:03 mg/kg RL	06.12.2020 12:00 06.12.2020 15:24 mg/kg RL	06.12.2020 12:00 06.12.2020 15:45 mg/kg RL	06.12.2020 12:00 06.12.2020 16:06 mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total TPH		<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-007	664315-008	664315-009	664315-010	664315-011	664315-012
	Field Id:	Bottom Hole #7 (5' BEB)	Bottom Hole #8 (5' BEB)	Bottom Hole #9 (5' BEB)	Bottom Hole #10 (5' BEB)	Bottom Hole #11 (5' BEB)	Bottom Hole #12 (5' BEB)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.15.2020 11:00	06.15.2020 11:00	06.15.2020 11:00	06.15.2020 11:00	06.15.2020 11:00	06.15.2020 11:00
	Analyzed:	06.15.2020 18:52	06.15.2020 19:33	06.15.2020 19:53	06.15.2020 20:14	06.15.2020 20:34	06.15.2020 20:55
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00396 0.00396	<0.00401 0.00401	<0.00402 0.00402	<0.00397 0.00397	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 14:30	06.12.2020 14:30	06.12.2020 14:30	06.12.2020 14:30	06.12.2020 14:30	06.12.2020 14:30
	Analyzed:	06.12.2020 17:15	06.12.2020 17:20	06.12.2020 17:36	06.12.2020 17:41	06.12.2020 17:46	06.12.2020 17:51
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		765 49.9	520 49.8	528 24.9	375 25.2	120 4.99	141 4.99
TPH By SW8015 Mod	Extracted:	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00
	Analyzed:	06.12.2020 16:28	06.12.2020 16:49	06.12.2020 17:10	06.12.2020 17:31	06.12.2020 18:14	06.12.2020 18:35
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-013	664315-014	664315-015	664315-016	664315-017	664315-018
	Field Id:	Bottom Hole #13 (5' BEB)	Bottom Hole #14 (5' BEB)	Bottom Hole #15 (5' BEB)	Bottom Hole #16 (5' BEB)	Bottom Hole #17 (5' BEB)	Bottom Hole #18 (5' BEB)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.15.2020 11:00	06.15.2020 11:00	06.15.2020 11:00	06.15.2020 11:00	06.15.2020 11:00	06.16.2020 08:00
	Analyzed:	06.15.2020 21:15	06.15.2020 21:36	06.15.2020 21:56	06.15.2020 22:17	06.15.2020 22:37	06.16.2020 21:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 14:30	06.12.2020 14:30	06.12.2020 14:30	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20
	Analyzed:	06.12.2020 17:56	06.12.2020 18:01	06.12.2020 18:06	06.12.2020 17:55	06.12.2020 18:13	06.12.2020 18:20
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		533 24.8	992 50.0	350 49.9	420 X 24.9	460 25.3	711 49.8
Chloride		533 24.8	992 50.0	350 49.9	420 X 24.9	460 25.3	711 49.8
TPH By SW8015 Mod	Extracted:	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00
	Analyzed:	06.12.2020 18:56	06.12.2020 19:17	06.12.2020 19:38	06.12.2020 19:59	06.12.2020 20:20	06.12.2020 20:41
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-019	664315-020	664315-021	664315-022	664315-023	664315-024
	Field Id:	Bottom Hole #19 (5' BEB)	Bottom Hole #20 (5' BEB)	Bottom Hole #21 (5' BEB)	Bottom Hole #22 (5' BEB)	Bottom Hole #23 (5' BEB)	Bottom Hole #24 (5' BEB)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00
	Analyzed:	06.16.2020 21:48	06.16.2020 22:08	06.16.2020 22:29	06.16.2020 22:49	06.16.2020 23:09	06.16.2020 23:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401	<0.00397 0.00397	<0.00399 0.00399	<0.00401 0.00401	<0.00397 0.00397
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20
	Analyzed:	06.12.2020 18:26	06.12.2020 18:32	06.12.2020 18:50	06.12.2020 18:56	06.12.2020 19:03	06.12.2020 19:09
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		641 25.0	703 50.3	890 49.5	489 25.0	337 25.0	370 25.1
Chloride		641 25.0	703 50.3	890 49.5	489 25.0	337 25.0	370 25.1
TPH By SW8015 Mod	Extracted:	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00
	Analyzed:	06.12.2020 21:02	06.12.2020 21:23	06.12.2020 23:07	06.13.2020 00:09	06.13.2020 00:30	06.13.2020 00:51
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		68.6 49.9	<49.9 49.9	<50.0 50.0	76.8 50.0	<50.0 50.0	55.5 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		68.6 49.9	<49.9 49.9	<50.0 50.0	76.8 50.0	<50.0 50.0	55.5 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-025	664315-026	664315-027	664315-028	664315-029	664315-030
	Field Id:	Bottom Hole #25 (5' BEB)	Bottom Hole #26 (6' BEB)	Bottom Hole #27 (6' BEB)	Bottom Hole #28 (6' BEB)	Bottom Hole #29 (6' BEB)	Bottom Hole #30 (6' BEB)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00
	Analyzed:	06.16.2020 23:50	06.17.2020 00:10	06.17.2020 00:31	06.17.2020 01:52	06.17.2020 02:13	06.17.2020 02:33
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199
Benzene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00396 0.00396	<0.00402 0.00402	<0.00401 0.00401	<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20
	Analyzed:	06.12.2020 19:15	06.12.2020 19:21	06.12.2020 19:40	06.12.2020 19:46	06.12.2020 20:04	06.12.2020 20:10
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		360 25.3	141 4.99	507 49.6	45.0 4.99	507 50.4	63.0 4.97
Chloride		360 25.3	141 4.99	507 49.6	45.0 4.99	507 50.4	63.0 4.97
TPH By SW8015 Mod	Extracted:	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00
	Analyzed:	06.13.2020 01:11	06.13.2020 01:33	06.13.2020 01:53	06.13.2020 02:15	06.13.2020 02:36	06.13.2020 02:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-031	664315-032	664315-033	664315-034	664315-035	664315-036
	Field Id:	Bottom Hole #31 (6' BEB)	Bottom Hole #32 (6' BEB)	Bottom Hole #33 (6' BEB)	Bottom Hole #34 (6' BEB)	Bottom Hole #35 (6' BEB)	Bottom Hole #36 (6' BEB)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00	06.16.2020 08:00
	Analyzed:	06.17.2020 02:53	06.17.2020 03:14	06.17.2020 03:34	06.17.2020 03:54	06.17.2020 04:15	06.17.2020 04:35
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00397 0.00397	<0.00399 0.00399	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:20	06.12.2020 15:45
	Analyzed:	06.12.2020 20:16	06.12.2020 20:23	06.12.2020 20:29	06.12.2020 20:35	06.12.2020 20:41	06.12.2020 18:52
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		57.4 4.99	48.5 4.95	169 4.95	153 4.95	58.4 5.01	574 49.6
TPH By SW8015 Mod	Extracted:	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00
	Analyzed:	06.13.2020 03:39	06.13.2020 04:00	06.13.2020 04:22	06.13.2020 04:43	06.13.2020 05:04	06.13.2020 05:25
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664315-037	664315-038	664315-039	664315-040	664315-041	664315-042
	<i>Field Id:</i>	Bottom Hole #37 (6' BEB	Bottom Hole #38 (6' BEB	Bottom Hole #39 (4.5' BE	Bottom Hole #40 (4.5' BE	Bottom Hole #41 (4.5' BE	Bottom Hole #42 (4.5' BE
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.16.2020 08:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00
	<i>Analyzed:</i>	06.17.2020 04:55	06.17.2020 08:19	06.17.2020 08:39	06.17.2020 08:59	06.17.2020 09:20	06.17.2020 09:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00397 0.00397	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45
	<i>Analyzed:</i>	06.12.2020 18:36	06.12.2020 18:57	06.12.2020 19:02	06.12.2020 19:07	06.12.2020 19:22	06.12.2020 19:27
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		45.8 5.00	208 4.98	21.2 5.00	12.9 5.04	12.8 4.98	12.6 5.02
TPH By SW8015 Mod	<i>Extracted:</i>	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 12:00	06.12.2020 16:00	06.12.2020 16:00
	<i>Analyzed:</i>	06.13.2020 05:46	06.13.2020 06:07	06.13.2020 06:27	06.13.2020 06:48	06.12.2020 23:07	06.13.2020 00:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8
Total TPH		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-043	664315-044	664315-045	664315-046	664315-047	664315-048
	Field Id:	Bottom Hole #43 (4.5' BE	Bottom Hole #44 (4.5' BE	Bottom Hole #45 (4.5' BE	Bottom Hole #46 (4.5' BE	Bottom Hole #47 (4.5' BE	Bottom Hole #48 (4.5' BE
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00
	Analyzed:	06.17.2020 10:00	06.17.2020 10:21	06.17.2020 10:41	06.17.2020 11:02	06.17.2020 11:22	06.17.2020 12:46
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Benzene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00397 0.00397	<0.00402 0.00402	<0.00401 0.00401	<0.00397 0.00397	<0.00396 0.00396	<0.00399 0.00399
o-Xylene		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Total Xylenes		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Total BTEX		<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45
	Analyzed:	06.12.2020 19:32	06.12.2020 19:37	06.12.2020 19:42	06.12.2020 19:47	06.12.2020 20:02	06.12.2020 20:08
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		12.9 5.00	12.8 4.97	12.2 4.99	12.3 5.05	13.3 5.02	14.1 4.96
		12.9 5.00	12.8 4.97	12.2 4.99	12.3 5.05	13.3 5.02	14.1 4.96
Chloride		12.9 5.00	12.8 4.97	12.2 4.99	12.3 5.05	13.3 5.02	14.1 4.96
TPH By SW8015 Mod	Extracted:	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00
	Analyzed:	06.13.2020 00:30	06.13.2020 00:51	06.13.2020 01:11	06.13.2020 01:33	06.13.2020 01:53	06.13.2020 02:15
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9
		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-049	664315-050	664315-051	664315-052	664315-053	664315-054
	Field Id:	Bottom Hole #49 (4.5' BE	Bottom Hole #50 (4.5' BE	Bottom Hole #51 (4.5' BE	Bottom Hole #52 (4.5' BE	Bottom Hole #53 (4.5' BE	Bottom Hole #54 (4.5' BE
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00
	Analyzed:	06.17.2020 13:07	06.17.2020 13:28	06.17.2020 13:50	06.17.2020 14:12	06.17.2020 14:33	06.17.2020 14:53
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00397 0.00397	<0.00401 0.00401	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45	06.12.2020 15:45
	Analyzed:	06.12.2020 20:23	06.12.2020 20:28	06.12.2020 20:33	06.12.2020 20:38	06.12.2020 20:43	06.12.2020 20:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		13.5 5.00	13.2 4.98	42.0 4.98	42.8 5.00	44.4 4.96	13.2 4.95
Chloride							
TPH By SW8015 Mod	Extracted:	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00
	Analyzed:	06.13.2020 02:36	06.13.2020 02:57	06.13.2020 03:39	06.13.2020 04:00	06.13.2020 04:22	06.13.2020 04:43
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
		<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9
Total TPH		<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-055	664315-056	664315-057	664315-058	664315-059	664315-060
	Field Id:	Bottom Hole #55 (4.5' BE	Bottom Hole #56 (4.5' BE	Bottom Hole #57 (4.5' BE	Bottom Hole #58 (4.5' BE	Bottom Hole #59 (4.5' BE	Bottom Hole #60 (4.5' BE
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.16.2020 17:00	06.16.2020 17:00	06.16.2020 17:00	06.17.2020 08:00	06.17.2020 08:00	06.17.2020 08:00
	Analyzed:	06.17.2020 15:14	06.17.2020 15:36	06.17.2020 15:58	06.17.2020 10:43	06.17.2020 11:04	06.17.2020 11:24
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00401 0.00401	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.000998 0.000998	<0.000994 0.000994	<0.00100 0.00100
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.000998 0.000998	<0.000994 0.000994	<0.00100 0.00100
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.000998 0.000998	<0.000994 0.000994	<0.00100 0.00100
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 15:45	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10
	Analyzed:	06.12.2020 20:53	06.12.2020 21:24	06.12.2020 21:39	06.12.2020 21:44	06.12.2020 21:49	06.12.2020 21:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		7.70 5.03	40.0 4.95	14.1 5.03	13.1 4.96	45.7 4.99	48.4 5.01
Chloride							
TPH By SW8015 Mod	Extracted:	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00
	Analyzed:	06.13.2020 05:04	06.13.2020 05:25	06.13.2020 05:46	06.13.2020 06:07	06.13.2020 06:27	06.13.2020 06:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664315-061	664315-062	664315-063	664315-064	664315-065	664315-066
	<i>Field Id:</i>	Bottom Hole #61 (4.5' BE	Bottom Hole #62 (4.5' BE	Bottom Hole #63 (4.5' BE	Bottom Hole #64 (4.5' BE	Bottom Hole #65 (4.5' BE	Bottom Hole #66 (4.5' BE
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.17.2020 08:00	06.17.2020 08:00	06.17.2020 08:00	06.17.2020 08:00	06.17.2020 08:00	06.17.2020 08:00
	<i>Analyzed:</i>	06.17.2020 11:45	06.17.2020 12:05	06.17.2020 12:26	06.17.2020 12:47	06.17.2020 13:07	06.17.2020 13:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00401 0.00401	<0.00402 0.00402	<0.00398 0.00398	<0.00396 0.00396
o-Xylene		<0.000996 0.000996	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996	<0.000990 0.000990
Total Xylenes		<0.000996 0.000996	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996	<0.000990 0.000990
Total BTEX		<0.000996 0.000996	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.000996 0.000996	<0.000990 0.000990
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10
	<i>Analyzed:</i>	06.12.2020 22:09	06.12.2020 22:14	06.12.2020 22:19	06.12.2020 22:24	06.12.2020 22:29	06.12.2020 22:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13.5 4.95	13.6 5.04	12.8 4.99	12.4 4.98	13.7 5.02	12.6 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00
	<i>Analyzed:</i>	06.13.2020 12:27	06.13.2020 13:32	06.13.2020 13:53	06.13.2020 14:14	06.13.2020 14:36	06.13.2020 14:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-067	664315-068	664315-069	664315-070	664315-071	664315-072
	Field Id:	Bottom Hole #67 (4.5' BE	Bottom Hole #68 (4.5' BE	Bottom Hole #69 (4.5' BE	Bottom Hole #70 (4.5' BE	Bottom Hole #71 (4.5' BE	Bottom Hole #72 (4.5' BE
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.17.2020 08:00	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.18.2020 15:00	06.17.2020 17:00
	Analyzed:	06.17.2020 13:49	06.18.2020 13:26	06.18.2020 13:47	06.18.2020 14:07	06.19.2020 04:45	06.18.2020 14:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199
	Toluene	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00397 0.00397	<0.00397 0.00397	<0.00402 0.00402	<0.00403 0.00403	<0.00398 0.00398
o-Xylene		<0.000998 0.000998	<0.000992 0.000992	<0.000992 0.000992	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994
Total Xylenes		<0.000998 0.000998	<0.000992 0.000992	<0.000992 0.000992	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994
Total BTEX		<0.000998 0.000998	<0.000992 0.000992	<0.000992 0.000992	<0.00100 0.00100	<0.00101 0.00101	<0.000994 0.000994
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10
	Analyzed:	06.12.2020 22:50	06.12.2020 22:55	06.12.2020 23:10	06.12.2020 23:15	06.12.2020 23:20	06.12.2020 23:25
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	28.0 4.95	15.0 5.02	13.0 4.98	13.5 5.00	12.4 5.04	11.3 4.99
TPH By SW8015 Mod	Extracted:	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00
	Analyzed:	06.13.2020 15:19	06.13.2020 15:41	06.13.2020 16:03	06.13.2020 16:24	06.13.2020 17:07	06.13.2020 17:28
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Gasoline Range Hydrocarbons (GRO)	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9
	Diesel Range Organics (DRO)	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9
Total TPH		<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-073	664315-074	664315-075	664315-076	664315-077	664315-078
	Field Id:	Bottom Hole #73 (4.5' BE	Bottom Hole #74 (4.5' BE	Bottom Hole #75 (4.5' BE	Bottom Hole #76 (4.5' BE	Bottom Hole #77 (4.5' BE	Bottom Hole #78 (4.5' BE
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.18.2020 15:00
	Analyzed:	06.18.2020 15:19	06.18.2020 15:39	06.18.2020 16:00	06.18.2020 16:20	06.18.2020 16:45	06.19.2020 00:18
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00397 0.00397	<0.00396 0.00396	<0.00402 0.00402	<0.00401 0.00401	<0.00399 0.00399	<0.00399 0.00399
o-Xylene		<0.000992 0.000992	<0.000990 0.000990	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.000998 0.000998
Total Xylenes		<0.000992 0.000992	<0.000990 0.000990	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.000998 0.000998
Total BTEX		<0.000992 0.000992	<0.000990 0.000990	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.000998 0.000998
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:10	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15
	Analyzed:	06.12.2020 23:30	06.12.2020 23:35	06.12.2020 23:40	06.13.2020 00:11	06.13.2020 00:26	06.13.2020 00:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		9.88 4.96	44.3 4.97	9.69 4.98	13.6 4.95	9.82 4.98	45.9 5.00
TPH By SW8015 Mod	Extracted:	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00	06.13.2020 12:00
	Analyzed:	06.13.2020 17:49	06.13.2020 18:11	06.13.2020 18:32	06.13.2020 18:53	06.13.2020 19:14	06.13.2020 19:36
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8
Total TPH		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<49.8 49.8

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-079	664315-080	664315-081	664315-082	664315-083	664315-084
	Field Id:	Bottom Hole #79 (4.5' BE	Bottom Hole #80 (4.5' BE	Bottom Hole #81 (4.5' BE	Bottom Hole #82 (4.5' BE	Bottom Hole #83 (4.5' BE	Bottom Hole #84 (4.5' BE
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00
	Analyzed:	06.18.2020 18:29	06.18.2020 18:50	06.18.2020 19:10	06.18.2020 19:31	06.18.2020 19:51	06.18.2020 20:12
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
	Toluene	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00396 0.00396	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.000992 0.000992	<0.000994 0.000994	<0.000990 0.000990	<0.00100 0.00100	<0.00100 0.00100	<0.000996 0.000996
Total Xylenes		<0.000992 0.000992	<0.000994 0.000994	<0.000990 0.000990	<0.00100 0.00100	<0.00100 0.00100	<0.000996 0.000996
Total BTEX		<0.000992 0.000992	<0.000994 0.000994	<0.000990 0.000990	<0.00100 0.00100	<0.00100 0.00100	<0.000996 0.000996
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15
	Analyzed:	06.13.2020 00:36	06.13.2020 00:41	06.13.2020 00:56	06.13.2020 01:01	06.13.2020 01:06	06.13.2020 01:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	20.1 5.03	49.0 4.96	23.4 4.99	11.0 4.97	12.5 5.04	11.3 4.98
TPH By SW8015 Mod	Extracted:	06.13.2020 12:00	06.13.2020 12:00	06.12.2020 17:00	06.12.2020 17:00	06.12.2020 17:00	06.12.2020 16:00
	Analyzed:	06.13.2020 19:57	06.13.2020 20:18	06.13.2020 03:20	06.13.2020 04:15	06.13.2020 04:33	06.12.2020 19:17
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Gasoline Range Hydrocarbons (GRO)	<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
	Diesel Range Organics (DRO)	<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<50.0 50.0	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664315

Tetra Tech- Midland, Midland, TX

Project Name: EOG - Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co NM

Date Received in Lab: Fri 06.12.2020 10:58

Report Date: 06.19.2020 14:46

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664315-085	664315-086	664315-087	664315-088	664315-089	664315-090
	Field Id:	Bottom Hole #85 (4.5' BE	Bottom Hole #86 (4.5' BE	Bottom Hole #87 (4.5' BE	Bottom Hole #88 (4.5' BE	Bottom Hole #89 (4.5' BE	Bottom Hole #90 (4.5' BE
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00	06.11.2020 00:00
BTEX by EPA 8021B	Extracted:	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.17.2020 17:00	06.18.2020 15:00	06.18.2020 15:00
	Analyzed:	06.18.2020 20:32	06.18.2020 20:52	06.18.2020 21:13	06.18.2020 18:09	06.19.2020 00:39	06.19.2020 00:59
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
	Toluene	<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00399 0.00399	<0.00397 0.00397	<0.00396 0.00396	<0.00398 0.00398	<0.00401 0.00401	<0.00403 0.00403
o-Xylene		<0.000998 0.000998	<0.000992 0.000992	<0.000990 0.000990	<0.000996 0.000996	<0.00100 0.00100	<0.00101 0.00101
Total Xylenes		<0.000998 0.000998	<0.000992 0.000992	<0.000990 0.000990	<0.000996 0.000996	<0.00100 0.00100	<0.00101 0.00101
Total BTEX		<0.000998 0.000998	<0.000992 0.000992	<0.000990 0.000990	<0.000996 0.000996	<0.00100 0.00100	<0.00101 0.00101
Inorganic Anions by EPA 300/300.1	Extracted:	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15	06.12.2020 16:15
	Analyzed:	06.13.2020 01:16	06.13.2020 01:21	06.13.2020 01:37	06.13.2020 01:42	06.13.2020 01:57	06.13.2020 02:02
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride	18.8 5.00	12.1 4.95	14.3 5.02	17.6 4.98	17.0 5.00	39.6 5.03
TPH By SW8015 Mod	Extracted:	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00	06.12.2020 16:00
	Analyzed:	06.12.2020 19:38	06.12.2020 19:59	06.12.2020 20:20	06.12.2020 20:41	06.12.2020 21:02	06.12.2020 21:23
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Gasoline Range Hydrocarbons (GRO)	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
	Diesel Range Organics (DRO)	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Analytical Report 664315

for

Tetra Tech- Midland

Project Manager: Mike Carmona

EOG - Vaca 30 SWD

212C-MD-02169

06.19.2020

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-34), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



06.19.2020

Project Manager: **Mike Carmona**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: XENCO Report No(s): **664315**

EOG - Vaca 30 SWD

Project Address: Lea Co NM

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 664315. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 664315 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bottom Hole #1 (5' BEB)	S	06.11.2020 00:00		664315-001
Bottom Hole #2 (5' BEB)	S	06.11.2020 00:00		664315-002
Bottom Hole #3 (5' BEB)	S	06.11.2020 00:00		664315-003
Bottom Hole #4 (5' BEB)	S	06.11.2020 00:00		664315-004
Bottom Hole #5 (5' BEB)	S	06.11.2020 00:00		664315-005
Bottom Hole #6 (5' BEB)	S	06.11.2020 00:00		664315-006
Bottom Hole #7 (5' BEB)	S	06.11.2020 00:00		664315-007
Bottom Hole #8 (5' BEB)	S	06.11.2020 00:00		664315-008
Bottom Hole #9 (5' BEB)	S	06.11.2020 00:00		664315-009
Bottom Hole #10 (5' BEB)	S	06.11.2020 00:00		664315-010
Bottom Hole #11 (5' BEB)	S	06.11.2020 00:00		664315-011
Bottom Hole #12 (5' BEB)	S	06.11.2020 00:00		664315-012
Bottom Hole #13 (5' BEB)	S	06.11.2020 00:00		664315-013
Bottom Hole #14 (5' BEB)	S	06.11.2020 00:00		664315-014
Bottom Hole #15 (5' BEB)	S	06.11.2020 00:00		664315-015
Bottom Hole #16 (5' BEB)	S	06.11.2020 00:00		664315-016
Bottom Hole #17 (5' BEB)	S	06.11.2020 00:00		664315-017
Bottom Hole #18 (5' BEB)	S	06.11.2020 00:00		664315-018
Bottom Hole #19 (5' BEB)	S	06.11.2020 00:00		664315-019
Bottom Hole #20 (5' BEB)	S	06.11.2020 00:00		664315-020
Bottom Hole #21 (5' BEB)	S	06.11.2020 00:00		664315-021
Bottom Hole #22 (5' BEB)	S	06.11.2020 00:00		664315-022
Bottom Hole #23 (5' BEB)	S	06.11.2020 00:00		664315-023
Bottom Hole #24 (5' BEB)	S	06.11.2020 00:00		664315-024
Bottom Hole #25 (5' BEB)	S	06.11.2020 00:00		664315-025
Bottom Hole #26 (6' BEB)	S	06.11.2020 00:00		664315-026
Bottom Hole #27 (6' BEB)	S	06.11.2020 00:00		664315-027
Bottom Hole #28 (6' BEB)	S	06.11.2020 00:00		664315-028
Bottom Hole #29 (6' BEB)	S	06.11.2020 00:00		664315-029
Bottom Hole #30 (6' BEB)	S	06.11.2020 00:00		664315-030
Bottom Hole #31 (6' BEB)	S	06.11.2020 00:00		664315-031
Bottom Hole #32 (6' BEB)	S	06.11.2020 00:00		664315-032
Bottom Hole #33 (6' BEB)	S	06.11.2020 00:00		664315-033
Bottom Hole #34 (6' BEB)	S	06.11.2020 00:00		664315-034
Bottom Hole #35 (6' BEB)	S	06.11.2020 00:00		664315-035
Bottom Hole #36 (6' BEB)	S	06.11.2020 00:00		664315-036
Bottom Hole #37 (6' BEB)	S	06.11.2020 00:00		664315-037
Bottom Hole #38 (6' BEB)	S	06.11.2020 00:00		664315-038
Bottom Hole #39 (4.5' BEB)	S	06.11.2020 00:00		664315-039
Bottom Hole #40 (4.5' BEB)	S	06.11.2020 00:00		664315-040
Bottom Hole #41 (4.5' BEB)	S	06.11.2020 00:00		664315-041
Bottom Hole #42 (4.5' BEB)	S	06.11.2020 00:00		664315-042
Bottom Hole #43 (4.5' BEB)	S	06.11.2020 00:00		664315-043



Sample Cross Reference 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Bottom Hole #44 (4.5' BEB)	S	06.11.2020 00:00	664315-044
Bottom Hole #45 (4.5' BEB)	S	06.11.2020 00:00	664315-045
Bottom Hole #46 (4.5' BEB)	S	06.11.2020 00:00	664315-046
Bottom Hole #47 (4.5' BEB)	S	06.11.2020 00:00	664315-047
Bottom Hole #48 (4.5' BEB)	S	06.11.2020 00:00	664315-048
Bottom Hole #49 (4.5' BEB)	S	06.11.2020 00:00	664315-049
Bottom Hole #50 (4.5' BEB)	S	06.11.2020 00:00	664315-050
Bottom Hole #51 (4.5' BEB)	S	06.11.2020 00:00	664315-051
Bottom Hole #52 (4.5' BEB)	S	06.11.2020 00:00	664315-052
Bottom Hole #53 (4.5' BEB)	S	06.11.2020 00:00	664315-053
Bottom Hole #54 (4.5' BEB)	S	06.11.2020 00:00	664315-054
Bottom Hole #55 (4.5' BEB)	S	06.11.2020 00:00	664315-055
Bottom Hole #56 (4.5' BEB)	S	06.11.2020 00:00	664315-056
Bottom Hole #57 (4.5' BEB)	S	06.11.2020 00:00	664315-057
Bottom Hole #58 (4.5' BEB)	S	06.11.2020 00:00	664315-058
Bottom Hole #59 (4.5' BEB)	S	06.11.2020 00:00	664315-059
Bottom Hole #60 (4.5' BEB)	S	06.11.2020 00:00	664315-060
Bottom Hole #61 (4.5' BEB)	S	06.11.2020 00:00	664315-061
Bottom Hole #62 (4.5' BEB)	S	06.11.2020 00:00	664315-062
Bottom Hole #63 (4.5' BEB)	S	06.11.2020 00:00	664315-063
Bottom Hole #64 (4.5' BEB)	S	06.11.2020 00:00	664315-064
Bottom Hole #65 (4.5' BEB)	S	06.11.2020 00:00	664315-065
Bottom Hole #66 (4.5' BEB)	S	06.11.2020 00:00	664315-066
Bottom Hole #67 (4.5' BEB)	S	06.11.2020 00:00	664315-067
Bottom Hole #68 (4.5' BEB)	S	06.11.2020 00:00	664315-068
Bottom Hole #69 (4.5' BEB)	S	06.11.2020 00:00	664315-069
Bottom Hole #70 (4.5' BEB)	S	06.11.2020 00:00	664315-070
Bottom Hole #71 (4.5' BEB)	S	06.11.2020 00:00	664315-071
Bottom Hole #72 (4.5' BEB)	S	06.11.2020 00:00	664315-072
Bottom Hole #73 (4.5' BEB)	S	06.11.2020 00:00	664315-073
Bottom Hole #74 (4.5' BEB)	S	06.11.2020 00:00	664315-074
Bottom Hole #75 (4.5' BEB)	S	06.11.2020 00:00	664315-075
Bottom Hole #76 (4.5' BEB)	S	06.11.2020 00:00	664315-076
Bottom Hole #77 (4.5' BEB)	S	06.11.2020 00:00	664315-077
Bottom Hole #78 (4.5' BEB)	S	06.11.2020 00:00	664315-078
Bottom Hole #79 (4.5' BEB)	S	06.11.2020 00:00	664315-079
Bottom Hole #80 (4.5' BEB)	S	06.11.2020 00:00	664315-080
Bottom Hole #81 (4.5' BEB)	S	06.11.2020 00:00	664315-081
Bottom Hole #82 (4.5' BEB)	S	06.11.2020 00:00	664315-082
Bottom Hole #83 (4.5' BEB)	S	06.11.2020 00:00	664315-083
Bottom Hole #84 (4.5' BEB)	S	06.11.2020 00:00	664315-084
Bottom Hole #85 (4.5' BEB)	S	06.11.2020 00:00	664315-085
Bottom Hole #86 (4.5' BEB)	S	06.11.2020 00:00	664315-086
Bottom Hole #87 (4.5' BEB)	S	06.11.2020 00:00	664315-087



Sample Cross Reference 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Bottom Hole #88 (4.5' BEB)	S	06.11.2020 00:00	664315-088
Bottom Hole #89 (4.5' BEB)	S	06.11.2020 00:00	664315-089
Bottom Hole #90 (4.5' BEB)	S	06.11.2020 00:00	664315-090

**CASE NARRATIVE****Client Name: Tetra Tech- Midland****Project Name: EOG - Vaca 30 SWD**

Project ID: 212C-MD-02169
Work Order Number(s): 664315

Report Date: 06.19.2020
Date Received: 06.12.2020

Sample receipt non conformances and comments:**Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3128886 Inorganic Anions by EPA 300/300.1

Lab Sample ID 664315-026 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 664315-016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3129183 BTEX by EPA 8021B

Lab Sample ID 664315-018 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 664315-018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037.

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

Batch: LBA-3129259 BTEX by EPA 8021B

Lab Sample ID 664315-038 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes recovered below QC limits in the Matrix Spike Duplicate. Benzene recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 664315-038, -039, -040, -041, -042, -043, -044, -045, -046, -047, -048, -049, -050, -051, -052, -053, -054, -055, -056, -057.

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

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected. Samples affected are: 664315-045, 664315-046, 664315-057, 664315-056, 664315-054.

Batch: LBA-3129378 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected. Samples affected are: 664315-072.



CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: EOG - Vaca 30 SWD

Project ID: 212C-MD-02169
Work Order Number(s): 664315

Report Date: 06.19.2020
Date Received: 06.12.2020

Batch: LBA-3129395 BTEX by EPA 8021B

Lab Sample ID 664315-078 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 664315-071, -078, -089, -090.

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



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #1 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-001

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.0	5.04	mg/kg	06.12.2020 16:35		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 13:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 13:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 13:38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 13:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.12.2020 13:38	
o-Terphenyl	84-15-1	94	%	70-130	06.12.2020 13:38	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #1 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-001

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.15.2020 16:49	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.15.2020 16:49	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.15.2020 16:49	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.15.2020 16:49	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.15.2020 16:49	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.15.2020 16:49	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.15.2020 16:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	06.15.2020 16:49		
1,4-Difluorobenzene	540-36-3	107	%	70-130	06.15.2020 16:49		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #2 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-002

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.8	4.98	mg/kg	06.12.2020 16:40		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.12.2020 14:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.12.2020 14:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.12.2020 14:42	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.12.2020 14:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.12.2020 14:42	
o-Terphenyl	84-15-1	91	%	70-130	06.12.2020 14:42	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #2 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-002

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.15.2020 17:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.15.2020 17:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.15.2020 17:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.15.2020 17:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.15.2020 17:09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.15.2020 17:09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.15.2020 17:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.15.2020 17:09		
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.15.2020 17:09		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #3 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-003

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	132	4.97	mg/kg	06.12.2020 16:45		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 15:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 15:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 15:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 15:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.12.2020 15:03	
o-Terphenyl	84-15-1	90	%	70-130	06.12.2020 15:03	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #3 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-003

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.15.2020 17:30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.15.2020 17:30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.15.2020 17:30	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.15.2020 17:30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.15.2020 17:30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.15.2020 17:30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.15.2020 17:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	06.15.2020 17:30		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.15.2020 17:30		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #4 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-004

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	854	50.2	mg/kg	06.12.2020 16:50		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 15:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.12.2020 15:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 15:24	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.12.2020 15:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.12.2020 15:24	
o-Terphenyl	84-15-1	87	%	70-130	06.12.2020 15:24	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #4 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-004

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.15.2020 17:50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.15.2020 17:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.15.2020 17:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.15.2020 17:50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.15.2020 17:50	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.15.2020 17:50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.15.2020 17:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	06.15.2020 17:50		
4-Bromofluorobenzene	460-00-4	100	%	70-130	06.15.2020 17:50		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #5 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-005

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	443	24.8	mg/kg	06.12.2020 16:55		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.12.2020 15:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.12.2020 15:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.12.2020 15:45	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.12.2020 15:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.12.2020 15:45	
o-Terphenyl	84-15-1	93	%	70-130	06.12.2020 15:45	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #5 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-005

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.15.2020 18:11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.15.2020 18:11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.15.2020 18:11	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.15.2020 18:11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.15.2020 18:11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.15.2020 18:11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.15.2020 18:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.15.2020 18:11		
1,4-Difluorobenzene	540-36-3	105	%	70-130	06.15.2020 18:11		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #6 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-006

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	213	4.96	mg/kg	06.12.2020 17:00		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 16:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 16:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 16:06	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 16:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.12.2020 16:06	
o-Terphenyl	84-15-1	93	%	70-130	06.12.2020 16:06	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #6 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-006

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.15.2020 18:31	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.15.2020 18:31	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.15.2020 18:31	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.15.2020 18:31	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.15.2020 18:31	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.15.2020 18:31	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.15.2020 18:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	06.15.2020 18:31		
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.15.2020 18:31		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #7 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-007

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	765	49.9	mg/kg	06.12.2020 17:15		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 16:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.12.2020 16:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 16:28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.12.2020 16:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.12.2020 16:28	
o-Terphenyl	84-15-1	88	%	70-130	06.12.2020 16:28	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #7 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-007

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.15.2020 18:52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.15.2020 18:52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.15.2020 18:52	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.15.2020 18:52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.15.2020 18:52	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.15.2020 18:52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.15.2020 18:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.15.2020 18:52		
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.15.2020 18:52		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #8 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-008

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	520	49.8	mg/kg	06.12.2020 17:20		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 16:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 16:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 16:49	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 16:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	06.12.2020 16:49	
o-Terphenyl	84-15-1	88	%	70-130	06.12.2020 16:49	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #8 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-008

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.15.2020 19:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.15.2020 19:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.15.2020 19:33	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.15.2020 19:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.15.2020 19:33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.15.2020 19:33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.15.2020 19:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	06.15.2020 19:33		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.15.2020 19:33		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #9 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-009

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	528	24.9	mg/kg	06.12.2020 17:36		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 17:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.12.2020 17:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 17:10	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.12.2020 17:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.12.2020 17:10	
o-Terphenyl	84-15-1	85	%	70-130	06.12.2020 17:10	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #9 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-009

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.15.2020 19:53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.15.2020 19:53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.15.2020 19:53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.15.2020 19:53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.15.2020 19:53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.15.2020 19:53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.15.2020 19:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.15.2020 19:53		
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.15.2020 19:53		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #10 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-010

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	375	25.2	mg/kg	06.12.2020 17:41		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.12.2020 17:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.12.2020 17:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.12.2020 17:31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.12.2020 17:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	06.12.2020 17:31	
o-Terphenyl	84-15-1	83	%	70-130	06.12.2020 17:31	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #10 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-010

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.15.2020 20:14	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.15.2020 20:14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.15.2020 20:14	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.15.2020 20:14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.15.2020 20:14	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.15.2020 20:14	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.15.2020 20:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.15.2020 20:14		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.15.2020 20:14		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #11 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-011

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	4.99	mg/kg	06.12.2020 17:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 18:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 18:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 18:14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 18:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.12.2020 18:14	
o-Terphenyl	84-15-1	92	%	70-130	06.12.2020 18:14	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #11 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-011

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.15.2020 20:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.15.2020 20:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.15.2020 20:34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.15.2020 20:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.15.2020 20:34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.15.2020 20:34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.15.2020 20:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.15.2020 20:34		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.15.2020 20:34		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #12 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-012

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	141	4.99	mg/kg	06.12.2020 17:51		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 18:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 18:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 18:35	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 18:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.12.2020 18:35	
o-Terphenyl	84-15-1	96	%	70-130	06.12.2020 18:35	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #12 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-012

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.15.2020 20:55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.15.2020 20:55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.15.2020 20:55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.15.2020 20:55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.15.2020 20:55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.15.2020 20:55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.15.2020 20:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.15.2020 20:55		
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.15.2020 20:55		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #13 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-013

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	533	24.8	mg/kg	06.12.2020 17:56		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 18:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	64.4	49.9	mg/kg	06.12.2020 18:56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 18:56	U	1
Total TPH	PHC635	64.4	49.9	mg/kg	06.12.2020 18:56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.12.2020 18:56	
o-Terphenyl	84-15-1	95	%	70-130	06.12.2020 18:56	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #13 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-013

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.15.2020 21:15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.15.2020 21:15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.15.2020 21:15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.15.2020 21:15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.15.2020 21:15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.15.2020 21:15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.15.2020 21:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.15.2020 21:15		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.15.2020 21:15		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #14 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-014

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	992	50.0	mg/kg	06.12.2020 18:01		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.12.2020 19:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.12.2020 19:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.12.2020 19:17	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.12.2020 19:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.12.2020 19:17	
o-Terphenyl	84-15-1	92	%	70-130	06.12.2020 19:17	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #14 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-014

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.15.2020 21:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.15.2020 21:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.15.2020 21:36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.15.2020 21:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.15.2020 21:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.15.2020 21:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.15.2020 21:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.15.2020 21:36		
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.15.2020 21:36		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #15 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-015

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.12.2020 14:30

Basis: Wet Weight

Seq Number: 3128885

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	350	49.9	mg/kg	06.12.2020 18:06		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.12.2020 19:38	
o-Terphenyl	84-15-1	94	%	70-130	06.12.2020 19:38	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #15 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-015

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.15.2020 21:56	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.15.2020 21:56	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.15.2020 21:56	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.15.2020 21:56	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.15.2020 21:56	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.15.2020 21:56	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.15.2020 21:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.15.2020 21:56		
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.15.2020 21:56		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #16 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-016

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	420	24.9	mg/kg	06.12.2020 17:55	X	5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 19:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 19:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 19:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 19:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.12.2020 19:59	
o-Terphenyl	84-15-1	92	%	70-130	06.12.2020 19:59	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #16 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-016

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.15.2020 22:17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.15.2020 22:17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.15.2020 22:17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.15.2020 22:17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.15.2020 22:17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.15.2020 22:17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.15.2020 22:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.15.2020 22:17		
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.15.2020 22:17		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #17 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-017

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	460	25.3	mg/kg	06.12.2020 18:13		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.12.2020 20:20	
o-Terphenyl	84-15-1	93	%	70-130	06.12.2020 20:20	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #17 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-017

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.15.2020 11:00

Basis: Wet Weight

Seq Number: 3129080

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.15.2020 22:37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.15.2020 22:37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.15.2020 22:37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.15.2020 22:37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.15.2020 22:37	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.15.2020 22:37	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.15.2020 22:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.15.2020 22:37		
1,4-Difluorobenzene	540-36-3	104	%	70-130	06.15.2020 22:37		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #18 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-018

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	711	49.8	mg/kg	06.12.2020 18:20		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 20:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 20:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 20:41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 20:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.12.2020 20:41	
o-Terphenyl	84-15-1	92	%	70-130	06.12.2020 20:41	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #18 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-018

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.16.2020 21:27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.16.2020 21:27	UX	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.16.2020 21:27	UX	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.16.2020 21:27	UX	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.16.2020 21:27	UX	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.16.2020 21:27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.16.2020 21:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.16.2020 21:27		
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.16.2020 21:27		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #19 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-019

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	641	25.0	mg/kg	06.12.2020 18:26		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 21:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	68.6	49.9	mg/kg	06.12.2020 21:02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 21:02	U	1
Total TPH	PHC635	68.6	49.9	mg/kg	06.12.2020 21:02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.12.2020 21:02	
o-Terphenyl	84-15-1	94	%	70-130	06.12.2020 21:02	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #19 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-019

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.16.2020 21:48	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.16.2020 21:48	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.16.2020 21:48	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.16.2020 21:48	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.16.2020 21:48	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.16.2020 21:48	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.16.2020 21:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.16.2020 21:48		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.16.2020 21:48		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #20 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-020

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	703	50.3	mg/kg	06.12.2020 18:32		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128927

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 21:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.12.2020 21:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 21:23	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.12.2020 21:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.12.2020 21:23	
o-Terphenyl	84-15-1	92	%	70-130	06.12.2020 21:23	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #20 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-020

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.16.2020 22:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.16.2020 22:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.16.2020 22:08	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.16.2020 22:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.16.2020 22:08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.16.2020 22:08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.16.2020 22:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.16.2020 22:08		
1,4-Difluorobenzene	540-36-3	88	%	70-130	06.16.2020 22:08		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #21 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-021

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	890	49.5	mg/kg	06.12.2020 18:50		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.12.2020 23:07	
o-Terphenyl	84-15-1	92	%	70-130	06.12.2020 23:07	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #21 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-021

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.16.2020 22:29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.16.2020 22:29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.16.2020 22:29	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.16.2020 22:29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.16.2020 22:29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.16.2020 22:29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.16.2020 22:29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.16.2020 22:29		
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.16.2020 22:29		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #22 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-022

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	489	25.0	mg/kg	06.12.2020 18:56		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 00:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	76.8	50.0	mg/kg	06.13.2020 00:09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 00:09	U	1
Total TPH	PHC635	76.8	50.0	mg/kg	06.13.2020 00:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.13.2020 00:09	
o-Terphenyl	84-15-1	92	%	70-130	06.13.2020 00:09	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #22 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-022

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.16.2020 22:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.16.2020 22:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.16.2020 22:49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.16.2020 22:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.16.2020 22:49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.16.2020 22:49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.16.2020 22:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.16.2020 22:49		
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.16.2020 22:49		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #23 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-023

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	337	25.0	mg/kg	06.12.2020 19:03		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.13.2020 00:30	
o-Terphenyl	84-15-1	94	%	70-130	06.13.2020 00:30	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #23 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-023

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.16.2020 23:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.16.2020 23:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.16.2020 23:09	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.16.2020 23:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.16.2020 23:09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.16.2020 23:09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.16.2020 23:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	122	%	70-130	06.16.2020 23:09		
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.16.2020 23:09		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #24 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-024

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	370	25.1	mg/kg	06.12.2020 19:09		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 00:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	55.5	49.9	mg/kg	06.13.2020 00:51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 00:51	U	1
Total TPH	PHC635	55.5	49.9	mg/kg	06.13.2020 00:51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.13.2020 00:51	
o-Terphenyl	84-15-1	92	%	70-130	06.13.2020 00:51	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #24 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-024

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.16.2020 23:30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.16.2020 23:30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.16.2020 23:30	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.16.2020 23:30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.16.2020 23:30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.16.2020 23:30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.16.2020 23:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.16.2020 23:30		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.16.2020 23:30		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #25 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-025

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	360	25.3	mg/kg	06.12.2020 19:15		5

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 01:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 01:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 01:11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 01:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.13.2020 01:11	
o-Terphenyl	84-15-1	88	%	70-130	06.13.2020 01:11	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #25 (5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-025

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.16.2020 23:50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.16.2020 23:50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.16.2020 23:50	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.16.2020 23:50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.16.2020 23:50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.16.2020 23:50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.16.2020 23:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.16.2020 23:50		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.16.2020 23:50		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #26 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-026

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	141	4.99	mg/kg	06.12.2020 19:21		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.13.2020 01:33	
o-Terphenyl	84-15-1	97	%	70-130	06.13.2020 01:33	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #26 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-026

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.2020 00:10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.2020 00:10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.2020 00:10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.2020 00:10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.2020 00:10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.2020 00:10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.2020 00:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	06.17.2020 00:10		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.17.2020 00:10		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #27 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-027

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	507	49.6	mg/kg	06.12.2020 19:40		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 01:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 01:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 01:53	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 01:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.13.2020 01:53	
o-Terphenyl	84-15-1	94	%	70-130	06.13.2020 01:53	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #27 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-027

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 00:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 00:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 00:31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.2020 00:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 00:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 00:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 00:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 00:31		
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.17.2020 00:31		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #28 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-028

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.0	4.99	mg/kg	06.12.2020 19:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 02:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 02:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 02:15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 02:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.13.2020 02:15	
o-Terphenyl	84-15-1	97	%	70-130	06.13.2020 02:15	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #28 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-028

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 01:52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 01:52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 01:52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.17.2020 01:52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.2020 01:52	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.2020 01:52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.2020 01:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 01:52		
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.17.2020 01:52		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #29 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-029

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	507	50.4	mg/kg	06.12.2020 20:04		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 02:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 02:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 02:36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 02:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.13.2020 02:36	
o-Terphenyl	84-15-1	94	%	70-130	06.13.2020 02:36	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #29 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-029

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 02:13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 02:13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 02:13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 02:13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 02:13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 02:13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 02:13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.17.2020 02:13		
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.17.2020 02:13		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #30 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-030

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	63.0	4.97	mg/kg	06.12.2020 20:10		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 02:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 02:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 02:57	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 02:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	06.13.2020 02:57	
o-Terphenyl	84-15-1	99	%	70-130	06.13.2020 02:57	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #30 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-030

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 02:33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 02:33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 02:33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 02:33	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 02:33	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 02:33	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 02:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.17.2020 02:33		
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.17.2020 02:33		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #31 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-031

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	57.4	4.99	mg/kg	06.12.2020 20:16		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 03:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 03:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 03:39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 03:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.13.2020 03:39	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 03:39	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #31 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-031

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 02:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 02:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 02:53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 02:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 02:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 02:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 02:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.17.2020 02:53	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.17.2020 02:53	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #32 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-032

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.5	4.95	mg/kg	06.12.2020 20:23		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 04:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 04:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 04:00	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 04:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.13.2020 04:00	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 04:00	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #32 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-032

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 03:14	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 03:14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 03:14	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.17.2020 03:14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.2020 03:14	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.2020 03:14	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.2020 03:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.17.2020 03:14		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.17.2020 03:14		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #33 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-033

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	169	4.95	mg/kg	06.12.2020 20:29		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.13.2020 04:22	
o-Terphenyl	84-15-1	97	%	70-130	06.13.2020 04:22	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #33 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-033

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 03:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 03:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 03:34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 03:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 03:34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 03:34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 03:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.17.2020 03:34		
4-Bromofluorobenzene	460-00-4	122	%	70-130	06.17.2020 03:34		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #34 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-034

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	153	4.95	mg/kg	06.12.2020 20:35		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 04:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 04:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 04:43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 04:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.13.2020 04:43	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 04:43	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #34 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-034

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 03:54	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 03:54	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 03:54	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 03:54	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 03:54	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 03:54	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 03:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	129	%	70-130	06.17.2020 03:54		
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.17.2020 03:54		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #35 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-035

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:20

Basis: Wet Weight

Seq Number: 3128886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.4	5.01	mg/kg	06.12.2020 20:41		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 05:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 05:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 05:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 05:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.13.2020 05:04	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 05:04	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #35 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-035

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 04:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 04:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 04:15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 04:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 04:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 04:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 04:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.17.2020 04:15		
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 04:15		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #36 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-036

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	574	49.6	mg/kg	06.12.2020 18:52		10

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 05:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 05:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 05:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 05:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	06.13.2020 05:25	
o-Terphenyl	84-15-1	99	%	70-130	06.13.2020 05:25	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #36 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-036

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 04:35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 04:35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 04:35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 04:35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 04:35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 04:35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 04:35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 04:35		
4-Bromofluorobenzene	460-00-4	124	%	70-130	06.17.2020 04:35		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #37 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-037

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.8	5.00	mg/kg	06.12.2020 18:36		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.13.2020 05:46	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 05:46	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #37 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-037

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 08:00

Basis: Wet Weight

Seq Number: 3129183

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.2020 04:55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.2020 04:55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.2020 04:55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.2020 04:55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.2020 04:55	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.2020 04:55	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.2020 04:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.17.2020 04:55		
4-Bromofluorobenzene	460-00-4	120	%	70-130	06.17.2020 04:55		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #38 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-038

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	208	4.98	mg/kg	06.12.2020 18:57		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 06:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 06:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 06:07	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 06:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.13.2020 06:07	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 06:07	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #38 (6' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-038

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 08:19	UX	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 08:19	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 08:19	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.17.2020 08:19	UX	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.2020 08:19	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.2020 08:19	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.2020 08:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	87	%	70-130	06.17.2020 08:19		
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.17.2020 08:19		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #39 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-039

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.2	5.00	mg/kg	06.12.2020 19:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	06.13.2020 06:27	
o-Terphenyl	84-15-1	100	%	70-130	06.13.2020 06:27	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #39 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-039

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.2020 08:39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.2020 08:39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.2020 08:39	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.2020 08:39	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.2020 08:39	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.2020 08:39	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.2020 08:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.17.2020 08:39		
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.17.2020 08:39		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #40 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-040

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.9	5.04	mg/kg	06.12.2020 19:07		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 12:00

Basis: Wet Weight

Seq Number: 3128934

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	06.13.2020 06:48	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 06:48	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #40 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-040

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 08:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 08:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 08:59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.2020 08:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 08:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 08:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 08:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.17.2020 08:59		
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.17.2020 08:59		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #41 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-041

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.8	4.98	mg/kg	06.12.2020 19:22		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 23:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	06.12.2020 23:07	
o-Terphenyl	84-15-1	98	%	70-130	06.12.2020 23:07	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #41 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-041

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 09:20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 09:20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 09:20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 09:20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 09:20	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 09:20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 09:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	129	%	70-130	06.17.2020 09:20		
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 09:20		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #42 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-042

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.6	5.02	mg/kg	06.12.2020 19:27		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 00:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 00:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 00:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 00:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	06.13.2020 00:09	
o-Terphenyl	84-15-1	94	%	70-130	06.13.2020 00:09	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #42 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-042

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 09:40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 09:40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 09:40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 09:40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 09:40	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 09:40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 09:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 09:40		
4-Bromofluorobenzene	460-00-4	125	%	70-130	06.17.2020 09:40		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #43 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-043

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.9	5.00	mg/kg	06.12.2020 19:32		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 00:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	06.13.2020 00:30	
o-Terphenyl	84-15-1	97	%	70-130	06.13.2020 00:30	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #43 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-043

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 10:00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 10:00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 10:00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.17.2020 10:00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.2020 10:00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.2020 10:00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.2020 10:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.17.2020 10:00		
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.17.2020 10:00		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #44 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-044

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.8	4.97	mg/kg	06.12.2020 19:37		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 00:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 00:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 00:51	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 00:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	06.13.2020 00:51	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 00:51	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #44 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-044

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.2020 10:21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.2020 10:21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.2020 10:21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.2020 10:21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.2020 10:21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.2020 10:21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.2020 10:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	127	%	70-130	06.17.2020 10:21		
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 10:21		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #45 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-045

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.2	4.99	mg/kg	06.12.2020 19:42		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 01:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 01:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 01:11	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 01:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	06.13.2020 01:11	
o-Terphenyl	84-15-1	95	%	70-130	06.13.2020 01:11	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #45 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-045

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 10:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 10:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 10:41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.2020 10:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 10:41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 10:41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 10:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	134	%	70-130	06.17.2020 10:41	**	
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.17.2020 10:41		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #46 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-046

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.3	5.05	mg/kg	06.12.2020 19:47		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 01:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	06.13.2020 01:33	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 01:33	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #46 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-046

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 11:02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 11:02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 11:02	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.17.2020 11:02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.2020 11:02	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.2020 11:02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.2020 11:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.17.2020 11:02		
4-Bromofluorobenzene	460-00-4	132	%	70-130	06.17.2020 11:02	**	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #47 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-047

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.3	5.02	mg/kg	06.12.2020 20:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 01:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 01:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 01:53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 01:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	06.13.2020 01:53	
o-Terphenyl	84-15-1	99	%	70-130	06.13.2020 01:53	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #47 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-047

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 11:22	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 11:22	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 11:22	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.17.2020 11:22	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.2020 11:22	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.2020 11:22	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.2020 11:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.17.2020 11:22		
1,4-Difluorobenzene	540-36-3	88	%	70-130	06.17.2020 11:22		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #48 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-048

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.1	4.96	mg/kg	06.12.2020 20:08		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 02:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 02:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 02:15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 02:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	06.13.2020 02:15	
o-Terphenyl	84-15-1	100	%	70-130	06.13.2020 02:15	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #48 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-048

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 12:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 12:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 12:46	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 12:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 12:46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 12:46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 12:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.17.2020 12:46		
1,4-Difluorobenzene	540-36-3	87	%	70-130	06.17.2020 12:46		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #49 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-049

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	5.00	mg/kg	06.12.2020 20:23		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 02:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 02:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 02:36	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 02:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	06.13.2020 02:36	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 02:36	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #49 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-049

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 13:07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	06.17.2020 13:07		
4-Bromofluorobenzene	460-00-4	114	%	70-130	06.17.2020 13:07		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #50 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-050

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.2	4.98	mg/kg	06.12.2020 20:28		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 02:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 02:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 02:57	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 02:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	06.13.2020 02:57	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 02:57	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #50 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-050

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 13:28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 13:28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 13:28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 13:28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 13:28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 13:28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 13:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	06.17.2020 13:28		
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.17.2020 13:28		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #51 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-051

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.0	4.98	mg/kg	06.12.2020 20:33		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 03:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 03:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 03:39	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 03:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	06.13.2020 03:39	
o-Terphenyl	84-15-1	99	%	70-130	06.13.2020 03:39	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #51 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-051

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 13:50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 13:50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 13:50	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.17.2020 13:50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.17.2020 13:50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.17.2020 13:50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.17.2020 13:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	06.17.2020 13:50		
4-Bromofluorobenzene	460-00-4	119	%	70-130	06.17.2020 13:50		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #52 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-052

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.8	5.00	mg/kg	06.12.2020 20:38		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 04:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 04:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 04:00	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 04:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	06.13.2020 04:00	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 04:00	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #52 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-052

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 14:12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 14:12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 14:12	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.2020 14:12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 14:12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 14:12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 14:12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.17.2020 14:12		
1,4-Difluorobenzene	540-36-3	88	%	70-130	06.17.2020 14:12		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #53 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-053

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.4	4.96	mg/kg	06.12.2020 20:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 04:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-130	06.13.2020 04:22	
o-Terphenyl	84-15-1	103	%	70-130	06.13.2020 04:22	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #53 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-053

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.2020 14:33	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.2020 14:33	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.2020 14:33	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.2020 14:33	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.17.2020 14:33	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.17.2020 14:33	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.17.2020 14:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.17.2020 14:33		
1,4-Difluorobenzene	540-36-3	85	%	70-130	06.17.2020 14:33		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #54 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-054

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.2	4.95	mg/kg	06.12.2020 20:48		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 04:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 04:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 04:43	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 04:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	06.13.2020 04:43	
o-Terphenyl	84-15-1	101	%	70-130	06.13.2020 04:43	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #54 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-054

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 14:53	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 14:53	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 14:53	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 14:53	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 14:53	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 14:53	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 14:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	132	%	70-130	06.17.2020 14:53	**	
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.17.2020 14:53		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #55 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-055

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 15:45

Basis: Wet Weight

Seq Number: 3128888

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.70	5.03	mg/kg	06.12.2020 20:53		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 05:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 05:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 05:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 05:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	06.13.2020 05:04	
o-Terphenyl	84-15-1	100	%	70-130	06.13.2020 05:04	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #55 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-055

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 15:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 15:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 15:14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 15:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 15:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 15:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 15:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	88	%	70-130	06.17.2020 15:14		
4-Bromofluorobenzene	460-00-4	129	%	70-130	06.17.2020 15:14		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #56 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-056

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	40.0	4.95	mg/kg	06.12.2020 21:24		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 05:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 05:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 05:25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 05:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-130	06.13.2020 05:25	
o-Terphenyl	84-15-1	101	%	70-130	06.13.2020 05:25	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #56 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-056

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 15:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 15:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 15:36	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.2020 15:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.17.2020 15:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.17.2020 15:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.17.2020 15:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	140	%	70-130	06.17.2020 15:36	**	
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.17.2020 15:36		



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #57 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-057

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.1	5.03	mg/kg	06.12.2020 21:39		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 05:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	06.13.2020 05:46	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 05:46	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #57 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-057

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.16.2020 17:00

Basis: Wet Weight

Seq Number: 3129259

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 15:58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 15:58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 15:58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 15:58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.17.2020 15:58	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.17.2020 15:58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.17.2020 15:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	134	%	70-130	06.17.2020 15:58	**	
1,4-Difluorobenzene	540-36-3	87	%	70-130	06.17.2020 15:58		



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #58 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-058

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.1	4.96	mg/kg	06.12.2020 21:44		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 06:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 06:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 06:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 06:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	06.13.2020 06:07	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 06:07	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #58 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-058

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 10:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 10:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 10:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 10:43	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	06.17.2020 10:43	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	06.17.2020 10:43	U	1
Total BTEX		<0.000998	0.000998	mg/kg	06.17.2020 10:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.17.2020 10:43	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #59 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-059

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.7	4.99	mg/kg	06.12.2020 21:49		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 06:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	06.13.2020 06:27	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 06:27	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #59 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-059

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 11:04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 11:04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 11:04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 11:04	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	06.17.2020 11:04	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	06.17.2020 11:04	U	1
Total BTEX		<0.000994	0.000994	mg/kg	06.17.2020 11:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.17.2020 11:04	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #60 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-060

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.4	5.01	mg/kg	06.12.2020 21:54		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128939

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 06:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	06.13.2020 06:48	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 06:48	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #60 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-060

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 11:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 11:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 11:24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.2020 11:24	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.17.2020 11:24	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.17.2020 11:24	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.17.2020 11:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	06.17.2020 11:24	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #61 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-061

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	4.95	mg/kg	06.12.2020 22:09		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 12:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 12:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 12:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 12:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	06.13.2020 12:27	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 12:27	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #61 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-061

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 11:45	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 11:45	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 11:45	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 11:45	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	06.17.2020 11:45	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	06.17.2020 11:45	U	1
Total BTEX		<0.000996	0.000996	mg/kg	06.17.2020 11:45	U	1

Surrogate

4-Bromofluorobenzene

Cas Number

460-00-4

% Recovery

107

Units

%

Limits

70-130

Analysis Date

06.17.2020 11:45

Flag



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #62 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-062

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.6	5.04	mg/kg	06.12.2020 22:14		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 13:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 13:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 13:32	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 13:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	06.13.2020 13:32	
o-Terphenyl	84-15-1	98	%	70-130	06.13.2020 13:32	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #62 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-062

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 12:05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 12:05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 12:05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 12:05	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	06.17.2020 12:05	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	06.17.2020 12:05	U	1
Total BTEX		<0.000998	0.000998	mg/kg	06.17.2020 12:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.17.2020 12:05	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #63 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-063

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.8	4.99	mg/kg	06.12.2020 22:19		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 13:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 13:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 13:53	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 13:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	06.13.2020 13:53	
o-Terphenyl	84-15-1	97	%	70-130	06.13.2020 13:53	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #63 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-063

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 12:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 12:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 12:26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.17.2020 12:26	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.17.2020 12:26	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.17.2020 12:26	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.17.2020 12:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.17.2020 12:26	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #64 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-064

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	4.98	mg/kg	06.12.2020 22:24		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 14:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 14:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 14:14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 14:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-130	06.13.2020 14:14	
o-Terphenyl	84-15-1	101	%	70-130	06.13.2020 14:14	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #64 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-064

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.17.2020 12:47	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.17.2020 12:47	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.17.2020 12:47	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.17.2020 12:47	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	06.17.2020 12:47	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	06.17.2020 12:47	U	1
Total BTEX		<0.00101	0.00101	mg/kg	06.17.2020 12:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	06.17.2020 12:47	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #65 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-065

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.7	5.02	mg/kg	06.12.2020 22:29		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 14:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 14:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 14:36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 14:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	06.13.2020 14:36	
o-Terphenyl	84-15-1	100	%	70-130	06.13.2020 14:36	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #65 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-065

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.17.2020 13:07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.17.2020 13:07	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	06.17.2020 13:07	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	06.17.2020 13:07	U	1
Total BTEX		<0.000996	0.000996	mg/kg	06.17.2020 13:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.17.2020 13:07	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #66 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-066

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.6	5.00	mg/kg	06.12.2020 22:34		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 14:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 14:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 14:58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 14:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	06.13.2020 14:58	
o-Terphenyl	84-15-1	99	%	70-130	06.13.2020 14:58	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #66 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-066

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.17.2020 13:28	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.17.2020 13:28	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.17.2020 13:28	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.17.2020 13:28	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.17.2020 13:28	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.17.2020 13:28	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.17.2020 13:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.17.2020 13:28	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #67 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-067

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.0	4.95	mg/kg	06.12.2020 22:50		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 15:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 15:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 15:19	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 15:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	06.13.2020 15:19	
o-Terphenyl	84-15-1	100	%	70-130	06.13.2020 15:19	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #67 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-067

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 08:00

Basis: Wet Weight

Seq Number: 3129343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.17.2020 13:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.17.2020 13:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.17.2020 13:49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.17.2020 13:49	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	06.17.2020 13:49	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	06.17.2020 13:49	U	1
Total BTEX		<0.000998	0.000998	mg/kg	06.17.2020 13:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.17.2020 13:49	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #68 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-068

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.0	5.02	mg/kg	06.12.2020 22:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 15:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 15:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 15:41	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 15:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	06.13.2020 15:41	
o-Terphenyl	84-15-1	99	%	70-130	06.13.2020 15:41	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #68 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-068

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 13:26	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 13:26	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 13:26	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.18.2020 13:26	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.18.2020 13:26	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.18.2020 13:26	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.18.2020 13:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.18.2020 13:26	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #69 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-069

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.0	4.98	mg/kg	06.12.2020 23:10		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 16:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 16:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 16:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 16:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	06.13.2020 16:03	
o-Terphenyl	84-15-1	95	%	70-130	06.13.2020 16:03	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #69 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-069

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 13:47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 13:47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 13:47	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.18.2020 13:47	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.18.2020 13:47	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.18.2020 13:47	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.18.2020 13:47	U	1

Surrogate

4-Bromofluorobenzene

Cas Number

460-00-4

% Recovery

105

Units

%

Limits

70-130

Analysis Date

06.18.2020 13:47

Flag



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #70 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-070

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	5.00	mg/kg	06.12.2020 23:15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 16:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 16:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 16:24	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 16:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	06.13.2020 16:24	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 16:24	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #70 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-070

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.18.2020 14:07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.18.2020 14:07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.18.2020 14:07	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.18.2020 14:07	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.18.2020 14:07	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.18.2020 14:07	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.18.2020 14:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	06.18.2020 14:07	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #71 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-071

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	5.04	mg/kg	06.12.2020 23:20		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 17:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 17:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 17:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 17:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	06.13.2020 17:07	
o-Terphenyl	84-15-1	87	%	70-130	06.13.2020 17:07	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #71 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-071

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.18.2020 15:00

Basis: Wet Weight

Seq Number: 3129395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.19.2020 04:45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.19.2020 04:45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.19.2020 04:45	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.19.2020 04:45	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	06.19.2020 04:45	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	06.19.2020 04:45	U	1
Total BTEX		<0.00101	0.00101	mg/kg	06.19.2020 04:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.19.2020 04:45	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #72 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-072

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	4.99	mg/kg	06.12.2020 23:25		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 17:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 17:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 17:28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 17:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.13.2020 17:28	
o-Terphenyl	84-15-1	86	%	70-130	06.13.2020 17:28	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #72 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-072

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.18.2020 14:48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.18.2020 14:48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.18.2020 14:48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.18.2020 14:48	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	06.18.2020 14:48	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	06.18.2020 14:48	U	1
Total BTEX		<0.000994	0.000994	mg/kg	06.18.2020 14:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	0	%	70-130	06.18.2020 14:48	**



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #73 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-073

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.88	4.96	mg/kg	06.12.2020 23:30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 17:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 17:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 17:49	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 17:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.13.2020 17:49	
o-Terphenyl	84-15-1	86	%	70-130	06.13.2020 17:49	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #73 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-073

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 15:19	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 15:19	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 15:19	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.18.2020 15:19	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.18.2020 15:19	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.18.2020 15:19	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.18.2020 15:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.18.2020 15:19	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #74 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-074

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.3	4.97	mg/kg	06.12.2020 23:35		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 18:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 18:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 18:11	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 18:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	06.13.2020 18:11	
o-Terphenyl	84-15-1	97	%	70-130	06.13.2020 18:11	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #74 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-074

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 15:39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 15:39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 15:39	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.18.2020 15:39	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.18.2020 15:39	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.18.2020 15:39	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.18.2020 15:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.18.2020 15:39	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #75 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-075

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:10

Basis: Wet Weight

Seq Number: 3128892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.69	4.98	mg/kg	06.12.2020 23:40		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 18:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 18:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 18:32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 18:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	06.13.2020 18:32	
o-Terphenyl	84-15-1	88	%	70-130	06.13.2020 18:32	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #75 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-075

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.18.2020 16:00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.18.2020 16:00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.18.2020 16:00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.18.2020 16:00	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.18.2020 16:00	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.18.2020 16:00	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.18.2020 16:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.18.2020 16:00	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #76 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-076

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.6	4.95	mg/kg	06.13.2020 00:11		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 18:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 18:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 18:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 18:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	06.13.2020 18:53	
o-Terphenyl	84-15-1	90	%	70-130	06.13.2020 18:53	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #76 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-076

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.18.2020 16:20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.18.2020 16:20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.18.2020 16:20	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.18.2020 16:20	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.18.2020 16:20	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.18.2020 16:20	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.18.2020 16:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	06.18.2020 16:20	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #77 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-077

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.82	4.98	mg/kg	06.13.2020 00:26		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 19:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 19:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 19:14	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 19:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	06.13.2020 19:14	
o-Terphenyl	84-15-1	89	%	70-130	06.13.2020 19:14	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #77 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-077

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.18.2020 16:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.18.2020 16:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.18.2020 16:45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.18.2020 16:45	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	06.18.2020 16:45	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	06.18.2020 16:45	U	1
Total BTEX		<0.000998	0.000998	mg/kg	06.18.2020 16:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.18.2020 16:45	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #78 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-078

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.9	5.00	mg/kg	06.13.2020 00:31		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.13.2020 19:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.13.2020 19:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.13.2020 19:36	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.13.2020 19:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	06.13.2020 19:36	
o-Terphenyl	84-15-1	96	%	70-130	06.13.2020 19:36	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #78 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-078

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.18.2020 15:00

Basis: Wet Weight

Seq Number: 3129395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.2020 00:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.2020 00:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.2020 00:18	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.19.2020 00:18	UX	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	06.19.2020 00:18	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	06.19.2020 00:18	U	1
Total BTEX		<0.000998	0.000998	mg/kg	06.19.2020 00:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	06.19.2020 00:18	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #79 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-079

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.1	5.03	mg/kg	06.13.2020 00:36		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 19:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 19:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 19:57	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 19:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.13.2020 19:57	
o-Terphenyl	84-15-1	82	%	70-130	06.13.2020 19:57	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #79 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-079

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 18:29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 18:29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 18:29	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.18.2020 18:29	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.18.2020 18:29	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.18.2020 18:29	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.18.2020 18:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.18.2020 18:29	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #80 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-080

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	49.0	4.96	mg/kg	06.13.2020 00:41		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.13.2020 12:00

Basis: Wet Weight

Seq Number: 3128947

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 20:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 20:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 20:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 20:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	06.13.2020 20:18	
o-Terphenyl	84-15-1	90	%	70-130	06.13.2020 20:18	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #80 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-080

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.18.2020 18:50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.18.2020 18:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.18.2020 18:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.18.2020 18:50	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	06.18.2020 18:50	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	06.18.2020 18:50	U	1
Total BTEX		<0.000994	0.000994	mg/kg	06.18.2020 18:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.18.2020 18:50	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #81 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-081

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.4	4.99	mg/kg	06.13.2020 00:56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 17:00

Basis: Wet Weight

Seq Number: 3128926

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 03:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 03:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 03:20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 03:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-130	06.13.2020 03:20	
o-Terphenyl	84-15-1	100	%	70-130	06.13.2020 03:20	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #81 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-081

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 19:10	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 19:10	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 19:10	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.18.2020 19:10	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.18.2020 19:10	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.18.2020 19:10	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.18.2020 19:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.18.2020 19:10	



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Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #82 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-082

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.0	4.97	mg/kg	06.13.2020 01:01		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 17:00

Basis: Wet Weight

Seq Number: 3128926

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.13.2020 04:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.13.2020 04:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.13.2020 04:15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.13.2020 04:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-130	06.13.2020 04:15	
o-Terphenyl	84-15-1	97	%	70-130	06.13.2020 04:15	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #82 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-082

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.18.2020 19:31	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.18.2020 19:31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.18.2020 19:31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.18.2020 19:31	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.18.2020 19:31	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.18.2020 19:31	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.18.2020 19:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.18.2020 19:31	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #83 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-083

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.5	5.04	mg/kg	06.13.2020 01:06		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 17:00

Basis: Wet Weight

Seq Number: 3128926

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.13.2020 04:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.13.2020 04:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.13.2020 04:33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.13.2020 04:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-130	06.13.2020 04:33	
o-Terphenyl	84-15-1	99	%	70-130	06.13.2020 04:33	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #83 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-083

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.18.2020 19:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.18.2020 19:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.18.2020 19:51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.18.2020 19:51	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.18.2020 19:51	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.18.2020 19:51	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.18.2020 19:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.18.2020 19:51	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #84 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-084

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	4.98	mg/kg	06.13.2020 01:11		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 19:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 19:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 19:17	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 19:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	06.12.2020 19:17	
o-Terphenyl	84-15-1	92	%	70-130	06.12.2020 19:17	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #84 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-084

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.18.2020 20:12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.18.2020 20:12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.18.2020 20:12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.18.2020 20:12	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	06.18.2020 20:12	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	06.18.2020 20:12	U	1
Total BTEX		<0.000996	0.000996	mg/kg	06.18.2020 20:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.18.2020 20:12	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #85 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-085

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.8	5.00	mg/kg	06.13.2020 01:16		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 19:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	06.12.2020 19:38	
o-Terphenyl	84-15-1	90	%	70-130	06.12.2020 19:38	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #85 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-085

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.18.2020 20:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.18.2020 20:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.18.2020 20:32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.18.2020 20:32	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	06.18.2020 20:32	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	06.18.2020 20:32	U	1
Total BTEX		<0.000998	0.000998	mg/kg	06.18.2020 20:32	U	1

Surrogate

4-Bromofluorobenzene

Cas Number

460-00-4

% Recovery

112

Units

%

Limits

70-130

Analysis Date

06.18.2020 20:32

Flag



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #86 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-086

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.1	4.95	mg/kg	06.13.2020 01:21		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 19:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.12.2020 19:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 19:59	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.12.2020 19:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	06.12.2020 19:59	
o-Terphenyl	84-15-1	94	%	70-130	06.12.2020 19:59	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #86 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-086

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 20:52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 20:52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 20:52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.18.2020 20:52	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.18.2020 20:52	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.18.2020 20:52	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.18.2020 20:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	06.18.2020 20:52	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #87 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-087

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.3	5.02	mg/kg	06.13.2020 01:37		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.12.2020 20:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	06.12.2020 20:20	
o-Terphenyl	84-15-1	88	%	70-130	06.12.2020 20:20	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #87 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-087

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.18.2020 21:13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.18.2020 21:13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.18.2020 21:13	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.18.2020 21:13	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.18.2020 21:13	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.18.2020 21:13	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.18.2020 21:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.18.2020 21:13	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #88 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-088

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.6	4.98	mg/kg	06.13.2020 01:42		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.12.2020 20:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.12.2020 20:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.12.2020 20:41	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.12.2020 20:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	06.12.2020 20:41	
o-Terphenyl	84-15-1	90	%	70-130	06.12.2020 20:41	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #88 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-088

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: AMF

% Moisture:

Analyst: AMF

Date Prep: 06.17.2020 17:00

Basis: Wet Weight

Seq Number: 3129378

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.18.2020 18:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.18.2020 18:09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.18.2020 18:09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.18.2020 18:09	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	06.18.2020 18:09	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	06.18.2020 18:09	U	1
Total BTEX		<0.000996	0.000996	mg/kg	06.18.2020 18:09	U	1

Surrogate

4-Bromofluorobenzene

Cas Number

460-00-4

% Recovery

109

Units

%

Limits

70-130

Analysis Date

06.18.2020 18:09

Flag



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #89 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-089

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.0	5.00	mg/kg	06.13.2020 01:57		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 21:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 21:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 21:02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 21:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.12.2020 21:02	
o-Terphenyl	84-15-1	87	%	70-130	06.12.2020 21:02	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #89 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-089

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.18.2020 15:00

Basis: Wet Weight

Seq Number: 3129395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.2020 00:39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.2020 00:39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.2020 00:39	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.19.2020 00:39	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.19.2020 00:39	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.19.2020 00:39	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.19.2020 00:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	06.19.2020 00:39	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #90 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-090

Date Collected: 06.11.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.12.2020 16:15

Basis: Wet Weight

Seq Number: 3128895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	39.6	5.03	mg/kg	06.13.2020 02:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.12.2020 16:00

Basis: Wet Weight

Seq Number: 3128937

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.12.2020 21:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.12.2020 21:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.12.2020 21:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.12.2020 21:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	06.12.2020 21:23	
o-Terphenyl	84-15-1	98	%	70-130	06.12.2020 21:23	



Certificate of Analytical Results 664315

Tetra Tech- Midland, Midland, TX

EOG - Vaca 30 SWD

Sample Id: **Bottom Hole #90 (4.5' BEB)**

Matrix: Soil

Date Received: 06.12.2020 10:58

Lab Sample Id: 664315-090

Date Collected: 06.11.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.18.2020 15:00

Basis: Wet Weight

Seq Number: 3129395

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.19.2020 00:59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.19.2020 00:59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.19.2020 00:59	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.19.2020 00:59	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	06.19.2020 00:59	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	06.19.2020 00:59	U	1
Total BTEX		<0.00101	0.00101	mg/kg	06.19.2020 00:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.19.2020 00:59	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128885

Matrix: Solid

Prep Method: E300P

Date Prep: 06.12.2020

MB Sample Id: 7705357-1-BLK

LCS Sample Id: 7705357-1-BKS

LCSD Sample Id: 7705357-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	242	97	241	96	90-110	0	20	mg/kg	06.12.2020 15:39	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128886

Matrix: Solid

Prep Method: E300P

Date Prep: 06.12.2020

MB Sample Id: 7705365-1-BLK

LCS Sample Id: 7705365-1-BKS

LCSD Sample Id: 7705365-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	259	104	90-110	1	20	mg/kg	06.12.2020 17:43	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128888

Matrix: Solid

Prep Method: E300P

Date Prep: 06.12.2020

MB Sample Id: 7705367-1-BLK

LCS Sample Id: 7705367-1-BKS

LCSD Sample Id: 7705367-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	249	100	90-110	2	20	mg/kg	06.12.2020 18:26	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128892

Matrix: Solid

Prep Method: E300P

Date Prep: 06.12.2020

MB Sample Id: 7705368-1-BLK

LCS Sample Id: 7705368-1-BKS

LCSD Sample Id: 7705368-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	235	94	241	96	90-110	3	20	mg/kg	06.12.2020 21:13	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128895

Matrix: Solid

Prep Method: E300P

Date Prep: 06.12.2020

MB Sample Id: 7705369-1-BLK

LCS Sample Id: 7705369-1-BKS

LCSD Sample Id: 7705369-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	240	96	231	92	90-110	4	20	mg/kg	06.13.2020 00:00	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128885

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664295-009

MS Sample Id: 664295-009 S

MSD Sample Id: 664295-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.47	249	254	98	254	98	90-110	0	20	mg/kg	06.12.2020 15:54	

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

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

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

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128885

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-006

MS Sample Id: 664315-006 S

MSD Sample Id: 664315-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	213	248	447	94	440	92	90-110	2	20	mg/kg	06.12.2020 17:05	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128886

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-016

MS Sample Id: 664315-016 S

MSD Sample Id: 664315-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	420	1250	1810	111	1760	107	90-110	3	20	mg/kg	06.12.2020 18:01	X

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128886

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-026

MS Sample Id: 664315-026 S

MSD Sample Id: 664315-026 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	250	412	108	404	105	90-110	2	20	mg/kg	06.12.2020 19:27	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128888

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-037

MS Sample Id: 664315-037 S

MSD Sample Id: 664315-037 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	45.8	250	289	97	296	100	90-110	2	20	mg/kg	06.12.2020 18:42	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128888

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-046

MS Sample Id: 664315-046 S

MSD Sample Id: 664315-046 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.3	253	259	98	260	98	90-110	0	20	mg/kg	06.12.2020 19:52	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128892

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-056

MS Sample Id: 664315-056 S

MSD Sample Id: 664315-056 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	40.0	248	290	101	283	98	90-110	2	20	mg/kg	06.12.2020 21:29	

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

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

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

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128892

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-066

MS Sample Id: 664315-066 S

MSD Sample Id: 664315-066 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.6	250	284	109	281	107	90-110	1	20	mg/kg	06.12.2020 22:39	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128895

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-076

MS Sample Id: 664315-076 S

MSD Sample Id: 664315-076 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.6	248	255	97	256	98	90-110	0	20	mg/kg	06.13.2020 00:16	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3128895

Matrix: Soil

Prep Method: E300P

Date Prep: 06.12.2020

Parent Sample Id: 664315-086

MS Sample Id: 664315-086 S

MSD Sample Id: 664315-086 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.1	248	256	98	256	98	90-110	0	20	mg/kg	06.13.2020 01:26	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128927

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.12.2020

MB Sample Id: 7705412-1-BLK

LCS Sample Id: 7705412-1-BKS

LCSD Sample Id: 7705412-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	834	83	826	83	70-130	1	20	mg/kg	06.12.2020 12:37	
Diesel Range Organics (DRO)	<50.0	1000	918	92	889	89	70-130	3	20	mg/kg	06.12.2020 12:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	81		102		99		70-130	%	06.12.2020 12:37
o-Terphenyl	91		98		97		70-130	%	06.12.2020 12:37

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128934

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.12.2020

MB Sample Id: 7705413-1-BLK

LCS Sample Id: 7705413-1-BKS

LCSD Sample Id: 7705413-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	968	97	985	99	70-130	2	20	mg/kg	06.12.2020 22:25	
Diesel Range Organics (DRO)	<50.0	1000	986	99	995	100	70-130	1	20	mg/kg	06.12.2020 22:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		110		111		70-130	%	06.12.2020 22:25
o-Terphenyl	93		106		107		70-130	%	06.12.2020 22:25

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

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

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

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128937

MB Sample Id: 7705414-1-BLK

Matrix: Solid

LCS Sample Id: 7705414-1-BKS

Prep Method: SW8015P

Date Prep: 06.12.2020

LCSD Sample Id: 7705414-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	861	86	849	85	70-130	1	20	mg/kg	06.12.2020 12:37	
Diesel Range Organics (DRO)	<50.0	1000	856	86	833	83	70-130	3	20	mg/kg	06.12.2020 12:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		94		90		70-130	%	06.12.2020 12:37
o-Terphenyl	95		88		94		70-130	%	06.12.2020 12:37

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128939

MB Sample Id: 7705417-1-BLK

Matrix: Solid

LCS Sample Id: 7705417-1-BKS

Prep Method: SW8015P

Date Prep: 06.12.2020

LCSD Sample Id: 7705417-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	946	95	902	90	70-130	5	20	mg/kg	06.12.2020 22:25	
Diesel Range Organics (DRO)	<50.0	1000	920	92	920	92	70-130	0	20	mg/kg	06.12.2020 22:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		98		100		70-130	%	06.12.2020 22:25
o-Terphenyl	98		90		91		70-130	%	06.12.2020 22:25

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128926

MB Sample Id: 7705407-1-BLK

Matrix: Solid

LCS Sample Id: 7705407-1-BKS

Prep Method: SW8015P

Date Prep: 06.12.2020

LCSD Sample Id: 7705407-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	977	98	1140	114	70-130	15	20	mg/kg	06.13.2020 02:43	
Diesel Range Organics (DRO)	<50.0	1000	951	95	1090	109	70-130	14	20	mg/kg	06.13.2020 02:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		125		130		70-130	%	06.13.2020 02:43
o-Terphenyl	110		114		127		70-130	%	06.13.2020 02:43

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

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

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

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128947

MB Sample Id: 7705429-1-BLK

Matrix: Solid

LCS Sample Id: 7705429-1-BKS

Prep Method: SW8015P

Date Prep: 06.13.2020

LCSD Sample Id: 7705429-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1040	104	950	95	70-130	9	20	mg/kg	06.13.2020 11:45	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	929	93	70-130	14	20	mg/kg	06.13.2020 11:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		114		97		70-130	%	06.13.2020 11:45
o-Terphenyl	100		105		88		70-130	%	06.13.2020 11:45

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128927

Matrix: Solid

MB Sample Id: 7705412-1-BLK

Prep Method: SW8015P

Date Prep: 06.12.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.12.2020 12:16	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128934

Matrix: Solid

MB Sample Id: 7705413-1-BLK

Prep Method: SW8015P

Date Prep: 06.12.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.12.2020 22:05	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128937

Matrix: Solid

MB Sample Id: 7705414-1-BLK

Prep Method: SW8015P

Date Prep: 06.12.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.12.2020 12:16	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128939

Matrix: Solid

MB Sample Id: 7705417-1-BLK

Prep Method: SW8015P

Date Prep: 06.12.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.12.2020 22:05	

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

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

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

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



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EOG - Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128926

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.12.2020

MB Sample Id: 7705407-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.13.2020 02:24	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128947

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.13.2020

MB Sample Id: 7705429-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.13.2020 11:24	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128927

Matrix: Soil

Prep Method: SW8015P

Date Prep: 06.12.2020

Parent Sample Id: 664315-001

MS Sample Id: 664315-001 S

MSD Sample Id: 664315-001 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	896	90	909	91	70-130	1	20	mg/kg	06.12.2020 13:59	
Diesel Range Organics (DRO)	<49.9	997	922	92	947	95	70-130	3	20	mg/kg	06.12.2020 13:59	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		90		70-130	%	06.12.2020 13:59
o-Terphenyl	83		85		70-130	%	06.12.2020 13:59

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128934

Matrix: Soil

Prep Method: SW8015P

Date Prep: 06.12.2020

Parent Sample Id: 664315-021

MS Sample Id: 664315-021 S

MSD Sample Id: 664315-021 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	822	82	803	81	70-130	2	20	mg/kg	06.12.2020 23:28	
Diesel Range Organics (DRO)	<49.9	997	856	86	863	87	70-130	1	20	mg/kg	06.12.2020 23:28	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		86		70-130	%	06.12.2020 23:28
o-Terphenyl	80		80		70-130	%	06.12.2020 23:28

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

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

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

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



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EOG - Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128937

Parent Sample Id: 664295-001

Matrix: Soil

MS Sample Id: 664295-001 S

Prep Method: SW8015P

Date Prep: 06.12.2020

MSD Sample Id: 664295-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	879	88	878	88	70-130	0	20	mg/kg	06.12.2020 13:59	
Diesel Range Organics (DRO)	<49.8	996	935	94	928	93	70-130	1	20	mg/kg	06.12.2020 13:59	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		96		70-130	%	06.12.2020 13:59
o-Terphenyl	88		88		70-130	%	06.12.2020 13:59

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128939

Parent Sample Id: 664315-041

Matrix: Soil

MS Sample Id: 664315-041 S

Prep Method: SW8015P

Date Prep: 06.12.2020

MSD Sample Id: 664315-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	950	95	974	97	70-130	2	20	mg/kg	06.12.2020 23:28	
Diesel Range Organics (DRO)	<49.9	997	941	94	965	97	70-130	3	20	mg/kg	06.12.2020 23:28	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		103		70-130	%	06.12.2020 23:28
o-Terphenyl	95		96		70-130	%	06.12.2020 23:28

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128926

Parent Sample Id: 664315-081

Matrix: Soil

MS Sample Id: 664315-081 S

Prep Method: SW8015P

Date Prep: 06.12.2020

MSD Sample Id: 664315-081 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	990	99	995	100	70-130	1	20	mg/kg	06.13.2020 03:38	
Diesel Range Organics (DRO)	<49.9	998	996	100	1000	100	70-130	0	20	mg/kg	06.13.2020 03:38	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		120		70-130	%	06.13.2020 03:38
o-Terphenyl	104		105		70-130	%	06.13.2020 03:38

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

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

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

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



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EOG - Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3128947

Parent Sample Id: 664315-061

Matrix: Soil

MS Sample Id: 664315-061 S

Prep Method: SW8015P

Date Prep: 06.13.2020

MSD Sample Id: 664315-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	868	87	906	91	70-130	4	20	mg/kg	06.13.2020 12:49	
Diesel Range Organics (DRO)	<49.9	998	935	94	958	96	70-130	2	20	mg/kg	06.13.2020 12:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		111		70-130	%	06.13.2020 12:49
o-Terphenyl	101		103		70-130	%	06.13.2020 12:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129080

MB Sample Id: 7705520-1-BLK

Matrix: Solid

LCS Sample Id: 7705520-1-BKS

Prep Method: SW5035A

Date Prep: 06.15.2020

LCSD Sample Id: 7705520-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.114	114	0.115	115	70-130	1	35	mg/kg	06.15.2020 13:44	
Toluene	<0.00200	0.100	0.0972	97	0.0985	99	70-130	1	35	mg/kg	06.15.2020 13:44	
Ethylbenzene	<0.00200	0.100	0.0964	96	0.0981	98	70-130	2	35	mg/kg	06.15.2020 13:44	
m,p-Xylenes	<0.00400	0.200	0.181	91	0.187	94	70-130	3	35	mg/kg	06.15.2020 13:44	
o-Xylene	<0.00200	0.100	0.0889	89	0.0946	95	70-130	6	35	mg/kg	06.15.2020 13:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		93		99		70-130	%	06.15.2020 13:44
4-Bromofluorobenzene	91		81		97		70-130	%	06.15.2020 13:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129183

MB Sample Id: 7705588-1-BLK

Matrix: Solid

LCS Sample Id: 7705588-1-BKS

Prep Method: SW5035A

Date Prep: 06.16.2020

LCSD Sample Id: 7705588-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.101	101	70-130	9	35	mg/kg	06.16.2020 19:04	
Toluene	<0.00200	0.100	0.104	104	0.0955	96	70-130	9	35	mg/kg	06.16.2020 19:04	
Ethylbenzene	<0.00200	0.100	0.106	106	0.0974	97	70-130	8	35	mg/kg	06.16.2020 19:04	
m,p-Xylenes	<0.00400	0.200	0.217	109	0.198	99	70-130	9	35	mg/kg	06.16.2020 19:04	
o-Xylene	<0.00200	0.100	0.107	107	0.0970	97	70-130	10	35	mg/kg	06.16.2020 19:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		95		95		70-130	%	06.16.2020 19:04
4-Bromofluorobenzene	114		112		112		70-130	%	06.16.2020 19:04

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

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

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

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129259

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.16.2020

MB Sample Id: 7705635-1-BLK

LCS Sample Id: 7705635-1-BKS

LCSD Sample Id: 7705635-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.106	106	70-130	3	35	mg/kg	06.17.2020 05:56	
Toluene	<0.00200	0.100	0.0967	97	0.0993	99	70-130	3	35	mg/kg	06.17.2020 05:56	
Ethylbenzene	<0.00200	0.100	0.0983	98	0.100	100	70-130	2	35	mg/kg	06.17.2020 05:56	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.204	102	70-130	2	35	mg/kg	06.17.2020 05:56	
o-Xylene	<0.00200	0.100	0.0998	100	0.101	101	70-130	1	35	mg/kg	06.17.2020 05:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		94		96		70-130	%	06.17.2020 05:56
4-Bromofluorobenzene	117		118		120		70-130	%	06.17.2020 05:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129343

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.17.2020

MB Sample Id: 7705663-1-BLK

LCS Sample Id: 7705663-1-BKS

LCSD Sample Id: 7705663-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.103	103	70-130	2	35	mg/kg	06.17.2020 08:40	
Toluene	<0.00200	0.100	0.0968	97	0.103	103	70-130	6	35	mg/kg	06.17.2020 08:40	
Ethylbenzene	<0.00200	0.100	0.101	101	0.105	105	70-130	4	35	mg/kg	06.17.2020 08:40	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.211	106	70-130	2	35	mg/kg	06.17.2020 08:40	
o-Xylene	<0.00200	0.100	0.101	101	0.104	104	70-130	3	35	mg/kg	06.17.2020 08:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		100		102		70-130	%	06.17.2020 08:40

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129378

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.17.2020

MB Sample Id: 7705737-1-BLK

LCS Sample Id: 7705737-1-BKS

LCSD Sample Id: 7705737-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0943	94	0.103	103	70-130	9	35	mg/kg	06.18.2020 11:23	
Toluene	<0.00200	0.100	0.0900	90	0.103	103	70-130	13	35	mg/kg	06.18.2020 11:23	
Ethylbenzene	<0.00200	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	06.18.2020 11:23	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.209	105	70-130	0	35	mg/kg	06.18.2020 11:23	
o-Xylene	<0.00200	0.100	0.103	103	0.104	104	70-130	1	35	mg/kg	06.18.2020 11:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		104		100		70-130	%	06.18.2020 11:23

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

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

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

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



Tetra Tech- Midland
EOG - Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129395

MB Sample Id: 7705768-1-BLK

Matrix: Solid

LCS Sample Id: 7705768-1-BKS

Prep Method: SW5035A

Date Prep: 06.18.2020

LCSD Sample Id: 7705768-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.100	100	0.103	103	70-130	3	35	mg/kg	06.18.2020 22:15	
Toluene	<0.00200	0.100	0.0978	98	0.0965	97	70-130	1	35	mg/kg	06.18.2020 22:15	
Ethylbenzene	<0.00200	0.100	0.0971	97	0.100	100	70-130	3	35	mg/kg	06.18.2020 22:15	
m,p-Xylenes	<0.00400	0.200	0.192	96	0.198	99	70-130	3	35	mg/kg	06.18.2020 22:15	
o-Xylene	<0.00200	0.100	0.0980	98	0.101	101	70-130	3	35	mg/kg	06.18.2020 22:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		100		100		70-130	%	06.18.2020 22:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129080

Parent Sample Id: 664314-001

Matrix: Soil

MS Sample Id: 664314-001 S

Prep Method: SW5035A

Date Prep: 06.15.2020

MSD Sample Id: 664314-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0683	68	0.0757	76	70-130	10	35	mg/kg	06.15.2020 14:25	X
Toluene	<0.00200	0.0998	0.0512	51	0.0495	50	70-130	3	35	mg/kg	06.15.2020 14:25	X
Ethylbenzene	<0.00200	0.0998	0.0396	40	0.0401	40	70-130	1	35	mg/kg	06.15.2020 14:25	X
m,p-Xylenes	0.0128	0.200	0.0746	31	0.0719	30	70-130	4	35	mg/kg	06.15.2020 14:25	X
o-Xylene	<0.00200	0.0998	0.0357	36	0.0324	33	70-130	10	35	mg/kg	06.15.2020 14:25	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		105		70-130	%	06.15.2020 14:25
4-Bromofluorobenzene	93		72		70-130	%	06.15.2020 14:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129183

Parent Sample Id: 664315-018

Matrix: Soil

MS Sample Id: 664315-018 S

Prep Method: SW5035A

Date Prep: 06.16.2020

MSD Sample Id: 664315-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0784	79	0.0804	81	70-130	3	35	mg/kg	06.16.2020 19:45	
Toluene	<0.00198	0.0992	0.0601	61	0.0626	63	70-130	4	35	mg/kg	06.16.2020 19:45	X
Ethylbenzene	<0.00198	0.0992	0.0505	51	0.0494	50	70-130	2	35	mg/kg	06.16.2020 19:45	X
m,p-Xylenes	<0.00397	0.198	0.100	51	0.0969	49	70-130	3	35	mg/kg	06.16.2020 19:45	X
o-Xylene	<0.00198	0.0992	0.0552	56	0.0544	55	70-130	1	35	mg/kg	06.16.2020 19:45	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		95		70-130	%	06.16.2020 19:45
4-Bromofluorobenzene	116		119		70-130	%	06.16.2020 19:45

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

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

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

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129259

Parent Sample Id: 664315-038

Matrix: Soil

MS Sample Id: 664315-038 S

Prep Method: SW5035A

Date Prep: 06.16.2020

MSD Sample Id: 664315-038 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.128	128	0.131	132	70-130	2	35	mg/kg	06.17.2020 06:37	X
Toluene	<0.00200	0.0998	0.110	110	0.109	109	70-130	1	35	mg/kg	06.17.2020 06:37	
Ethylbenzene	<0.00200	0.0998	0.0919	92	0.0915	92	70-130	0	35	mg/kg	06.17.2020 06:37	
m,p-Xylenes	<0.00399	0.200	0.153	77	0.136	68	70-130	12	35	mg/kg	06.17.2020 06:37	X
o-Xylene	<0.00200	0.0998	0.125	125	0.125	126	70-130	0	35	mg/kg	06.17.2020 06:37	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		95		70-130	%	06.17.2020 06:37
4-Bromofluorobenzene	123		123		70-130	%	06.17.2020 06:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129343

Parent Sample Id: 664315-058

Matrix: Soil

MS Sample Id: 664315-058 S

Prep Method: SW5035A

Date Prep: 06.17.2020

MSD Sample Id: 664315-058 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0966	97	0.0980	98	70-130	1	35	mg/kg	06.17.2020 09:21	
Toluene	<0.00198	0.0992	0.0925	93	0.0915	92	70-130	1	35	mg/kg	06.17.2020 09:21	
Ethylbenzene	<0.00198	0.0992	0.0916	92	0.0951	95	70-130	4	35	mg/kg	06.17.2020 09:21	
m,p-Xylenes	<0.00397	0.198	0.185	93	0.192	96	70-130	4	35	mg/kg	06.17.2020 09:21	
o-Xylene	<0.00198	0.0992	0.0917	92	0.0953	96	70-130	4	35	mg/kg	06.17.2020 09:21	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		103		70-130	%	06.17.2020 09:21

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129378

Parent Sample Id: 664315-068

Matrix: Soil

MS Sample Id: 664315-068 S

Prep Method: SW5035A

Date Prep: 06.17.2020

MSD Sample Id: 664315-068 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0790	79	0.0849	85	70-130	7	35	mg/kg	06.18.2020 12:04	
Toluene	<0.00200	0.0998	0.0745	75	0.0825	83	70-130	10	35	mg/kg	06.18.2020 12:04	
Ethylbenzene	<0.00200	0.0998	0.0772	77	0.0849	85	70-130	10	35	mg/kg	06.18.2020 12:04	
m,p-Xylenes	<0.00399	0.200	0.156	78	0.172	86	70-130	10	35	mg/kg	06.18.2020 12:04	
o-Xylene	<0.00200	0.0998	0.0789	79	0.0864	87	70-130	9	35	mg/kg	06.18.2020 12:04	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		103		70-130	%	06.18.2020 12:04

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

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

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

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



Tetra Tech- Midland

EOG - Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129395

Parent Sample Id: 664315-078

Matrix: Soil

MS Sample Id: 664315-078 S

Prep Method: SW5035A

Date Prep: 06.18.2020

MSD Sample Id: 664315-078 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0832	84	0.0874	87	70-130	5	35	mg/kg	06.18.2020 22:56	
Toluene	<0.00198	0.0992	0.0754	76	0.0820	82	70-130	8	35	mg/kg	06.18.2020 22:56	
Ethylbenzene	<0.00198	0.0992	0.0705	71	0.0817	82	70-130	15	35	mg/kg	06.18.2020 22:56	
m,p-Xylenes	<0.00397	0.198	0.136	69	0.158	79	70-130	15	35	mg/kg	06.18.2020 22:56	X
o-Xylene	<0.00198	0.0992	0.0723	73	0.0825	83	70-130	13	35	mg/kg	06.18.2020 22:56	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
4-Bromofluorobenzene			101		102		70-130			%	06.18.2020 22:56	

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

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

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

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

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

U04315

Page 2 of 4

Client Name: EOG		Site Manager: Mike Carmona									
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169									
Project Location: Lea Co, NM		Project #: 212C-MD-02169									
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring									
Receiving Laboratory: Xenco		Comments:									
LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)		
		YEAR: 2020	DATE	TIME	WATER	SOIL	HCL			HNO ₃	ICE
	Bottom Hole #11 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #12 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #13 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #14 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #15 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #16 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #17 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #18 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #19 (5' BEB)	6/11/2020			X			X		1 N	
	Bottom Hole #20 (5' BEB)	6/11/2020			X			X		1 N	
Relinquished by: <i>Mike Carmona</i>		Date: 6/12/20	Time: 1058	Received by: <i>James</i>		Date: 6/12	Time: 1050				
Relinquished by:		Date:	Time:	Received by:		Date:	Time:				
Relinquished by:		Date:	Time:	Received by:		Date:	Time:				

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB USE ONLY	BTEX 8021B	BTEX 8260B
	TPH TX1005 (Ex to C35)	
	TPH 8015M (GFO - DRO - ORO - MRO)	
	PAH 8270C	
	Total Metals Ag As Ba Cd Cr Pb Se Hg	
	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
	TCLP Volatiles	
	TCLP Semi Volatiles	
	RCI	
	GC/MS Vol. 8260B / 624	
	GC/MS Semi. Vol. 8270C/625	
	PCB's 8082 / 608	
	NORM	
	PLM (Asbestos)	
	Chloride	
Chloride Sulfate TDS		
General Water Chemistry (see attached list)		
Anion/Cation Balance		
Hold		

REMARKS:

☐ STANDARD

☒ RUSH: Same Day 24 hr 48 hr **72 hr**

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

Sample Temperature: 0.7/03

(Circle) **MAND DELIVERED** FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901W Wall Street, Ste 100
 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

0604315

Page 3 of 4

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None				
										YEAR: 2020			
	Bottom Hole #21 (5' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #22 (5' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #23 (5' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #24 (5' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #25 (5' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #26 (6' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #27 (6' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #28 (6' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #29 (6' BET)	6/11/2020		X		X						1 N	
	Bottom Hole #30 (6' BET)	6/11/2020		X		X						1 N	

LAB USE ONLY	REMARKS:
☐ STANDARD	
☒ RUSH: Same Day 24 hr 48 hr 72 hr	
☐ Rush Charges Authorized	
☐ Special Report Limits or TRRP Report	

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

 BTEX 8021B BTEX 8260B
 TPH TX1005 (Ext to C35)
 TPH 8015M (GRO - DRO - ORO - MRO)
 PAH 8270C
 Total Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Volatiles
 TCLP Semi Volatiles
 RCI
 GC/MS Vol. 8260B / 624
 GC/MS Semi. Vol. 8270C/625
 PCB's 8082 / 608
 NORM
 PLM (Asbestos)
 Chloride
 Chloride Sulfate TDS
 General Water Chemistry (see attached list)
 Anion/Cation Balance

0.7/03

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

901W. Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

604315

Page 4 of 7

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co., NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None			
												YEAR: 2020
	Bottom Hole # 31 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 32 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 33 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 34 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 35 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 36 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 37 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 38 (6' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 39 (4.5' BCB)	6/11/2020		X				X			1 N	
	Bottom Hole # 40 (4.5' BCB)	6/11/2020		X				X			1 N	

LAB USE ONLY	REMARKS:
☐ STANDARD	
☒ RUSH: Same Day 24 hr 48 hr 72 hr	
☐ Rush Charges Authorized	
☐ Special Report Limits or TRRP Report	

ORIGINAL COPY

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B
TPH TX1005 (Exp to C35)	
TPH 8015M (GFO - DRO - ORO - MRO)	
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles	
TCLP Semi Volatiles	
RCI	
GC/MS Vol. 8260B / 624	
GC/MS Semi. Vol. 8270C/625	
PCB's 8082 / 608	
NORM	
PLM (Asbestos)	
Chloride	
Chloride Sulfate TDS	
General Water Chemistry (see attached list)	
Anion/Cation Balance	
Hold	

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901W Wall Street, Ste 100
 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

2064315

Page 5 of 4

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vacca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM (county, state)		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None				
										YEAR: 2020			
	Bottom Hole # 41 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 42 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 43 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 44 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 45 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 46 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 47 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 48 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 49 (4.5' BEB)	6/11/2020		X				X				1 N	
	Bottom Hole # 50 (4.5' BEB)	6/11/2020		X				X				1 N	

Relinquished by: <i>Cal T...</i>	Date: 6/12/20	Time: 1058	Received by: <i>James</i>	Date: 6/12	Time: 1058
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

ORIGINAL COPY

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B
 TPH TX1005 (Ext to C35)
 TPH 8015M (GRO - DRO - ORO - MRO)
 PAH 8270C
 Total Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Volatiles
 TCLP Semi Volatiles
 RCI
 GC/MS Vol. 8260B / 624
 GC/MS Semi. Vol. 8270C/625
 PCB's 8082 / 608
 NORM
 PLM (Asbestos)
 Chloride
 Chloride Sulfate TDS
 General Water Chemistry (see attached list)
 Anion/Cation Balance

LAB USE ONLY

REMARKS:

STANDARD

Sample Temperature

☒ RUSH: Same Day 24 hr 48 hr **2hr**
☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

6-7/10-3

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901 W Wall Street, Ste 100
 Midland, Texas 79705
 Tel (432) 682-4539
 Fax (432) 682-3946

604315

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Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM (county, state)		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None			
												YEAR: 2020
	Bottom Hole # 51 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 52 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 53 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 54 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 55 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 56 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 57 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 58 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 59 (4.5' BEB)	6/11/2020		X		X					1 N	
	Bottom Hole # 60 (4.5' BEB)	6/11/2020		X		X					1 N	

LAB USE ONLY	REMARKS:
☐ STANDARD	
☒ RUSH: Same Day 24 hr 48 hr 72 hr	
☐ Rush Charges Authorized	
☐ Special Report Limits or TRRP Report	

LAB USE ONLY	ANALYSIS REQUEST (Circle or Specify Method No.)
	BTEX 8021B BTEX 8260B
	TPH TX1005 (Ext to C35)
	TPH 8015M (GRO - DRO - ORO - MRO)
	PAH 8270C
	Total Metals Ag As Ba Cd Cr Pb Se Hg
	TCLP Metals Ag As Ba Cd Cr Pb Se Hg
	TCLP Volatiles
	TCLP Semi Volatiles
	RCI
	GC/MS Vol. 8260B / 624
	GC/MS Semi. Vol. 8270C/625
	PCB's 8082 / 608
	NORM
	PLM (Asbestos)
	Chloride
	Chloride Sulfate TDS
	General Water Chemistry (see attached list)
	Anion/Cation Balance
	Hold

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901W Wall Street, Ste 100
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 Fax (432) 682-3946

6604315

Page 7 of 9

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Sampler Signature: Conner Moehring	
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None			
												YEAR: 2020
	Bottom Hole #61 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #62 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #63 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #64 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #65 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #66 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #67 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #68 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #69 (4.5' BEB)	6/11/2020		X				X			1	N
	Bottom Hole #70 (4.5' BEB)	6/11/2020		X				X			1	N

LAB USE ONLY		REMARKS:	
Relinquished by: <i>Cal Tink</i>	Date: 6/12/20 Time: 1058	Received by: <i>Mike Carmona</i>	Date: 6/12/20 Time: 1058
Relinquished by:	Date:	Received by:	Date:

LAB USE ONLY		REMARKS:	
Sample Temperature	0.7/0.3	☐ STANDARD	☒ RUSH: Same Day 24 hr 48 hr <u>72 hr</u>
		☐ Rush Charges Authorized	
		☐ Special Report Limits or TRRP Report	

ORIGINAL COPY

ANALYSIS REQUEST
(Circle or Specify Method No.)
 BTEX 8021B BTEX 8260B
 TPH TX1005 (Exp to C35)
 TPH 8015M (GFO - DRO - ORO - MRO)
 PAH 8270C
 Total Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Volatiles
 TCLP Semi Volatiles
 RCI
 GC/MS Vol. 8260B / 624
 GC/MS Semi. Vol. 8270C/625
 PCB's 8082 / 608
 NORM
 PLM (Asbestos)
 Chloride
 Chloride Sulfate TDS
 General Water Chemistry (see attached list)
 Anion/Cation Balance

Hold

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901 W. Wall Street, Ste 100
 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

0604315

Page 8 of 4

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vacca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None				
										YEAR 2020			
	Bottom Hole #71 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #72 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #73 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #74 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #75 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #76 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #77 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #78 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #79 (4.5' BEB)	6/11/2020		X		X						1 N	
	Bottom Hole #80 (4.5' BEB)	6/11/2020		X		X						1 N	

Relinquished by: <i>AL</i>	Date: 6/12/20	Time: 1058	Received by: <i>HEARNOLD</i>	Date: 6/12	Time: 1058
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

ORIGINAL COPY

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB USE ONLY	BTEX 8021B	BTEX 8260B	
	TPH TX1005 (Ext to C35)		
	TPH 8015M (GRO - DRO - ORO - MRO)		
	PAH 8270C		
	Total Metals Ag As Ba Cd Cr Pb Se Hg		
	TCLP Metals Ag As Ba Cd Cr Pb Se Hg		
	TCLP Volatiles		
	TCLP Semi Volatiles		
	RCI		
	GC/MS Vol. 8260B / 624		
	GC/MS Semi. Vol. 8270C/625		
	PCB's 8082 / 608		
	NORM		
	PLM (Asbestos)		
Chloride			
Chloride Sulfate TDS			
General Water Chemistry (see attached list)			
Anion/Cation Balance			
Hold			

REMARKS:

☐ STANDARD

☒ RUSH: Same Day 24 hr 48 hr (72 hr)

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

0.7/p.3

Tetra Tech, Inc.

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1802315

Page 2 of 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 06.12.2020 10.58.00 AM

Work Order #: 664315

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

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

BTEX RECEIVED IN BULK
CONTAINER

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 06.12.2020

Checklist reviewed by:



Jessica Kramer

Date: 06.12.2020



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664787-001	664787-002	664787-003	664787-004	664787-005	664787-006
	Field Id:	Bottom Hole 91 (4.5'BEB)	Bottom Hole 92 (4.5'BEB)	Bottom Hole 93 (4.5'BEB)	Bottom Hole 94 (4.5'BEB)	Bottom Hole 95 (4.5'BEB)	Bottom Hole 96 (4.5'BEB)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	Extracted:	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15
	Analyzed:	06.20.2020 17:05	06.20.2020 17:26	06.20.2020 17:46	06.20.2020 19:07	06.20.2020 19:27	06.20.2020 19:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00403 0.00403	<0.00402 0.00402	<0.00402 0.00402	<0.00399 0.00399	<0.00400 0.00400	<0.00401 0.00401
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 14:50
	Analyzed:	06.19.2020 00:09	06.19.2020 01:20	06.19.2020 01:35	06.19.2020 01:40	06.19.2020 01:55	06.19.2020 02:00
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		33.7 5.00	20.3 5.00	32.0 5.05	14.9 4.98	67.6 4.95	27.4 5.03
TPH By SW8015 Mod	Extracted:	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00
	Analyzed:	06.18.2020 22:46	06.18.2020 23:50	06.19.2020 00:11	06.19.2020 00:32	06.19.2020 00:53	06.19.2020 01:14
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664787-007	664787-008	664787-009	664787-010	664787-011	664787-012
	Field Id:	Bottom Hole 97 (4.5'BEB	Bottom Hole 98 (4.5'BEB	Bottom Hole 99 (4.5'BEB	Bottom Hole 100 (4.5'BEB	Bottom Hole 101 (4.5'BEB	Bottom Hole 102 (4.5'BEB
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	Extracted:	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:15
	Analyzed:	06.20.2020 20:08	06.20.2020 20:29	06.20.2020 20:49	06.20.2020 21:10	06.20.2020 14:42	06.20.2020 21:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00404 0.00404	<0.00404 0.00404	<0.00401 0.00401	<0.00400 0.00400
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 14:50	06.18.2020 15:10
	Analyzed:	06.19.2020 02:05	06.19.2020 02:10	06.19.2020 02:15	06.19.2020 02:20	06.19.2020 02:25	06.18.2020 17:36
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		29.2 5.01	24.4 5.00	18.2 4.95	22.9 4.95	22.1 5.03	10.9 X 4.98
TPH By SW8015 Mod	Extracted:	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00
	Analyzed:	06.19.2020 01:35	06.19.2020 01:56	06.19.2020 02:18	06.19.2020 02:39	06.19.2020 03:21	06.19.2020 03:42
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664787-013	664787-014	664787-015	664787-016	664787-017	664787-018
	Field Id:	Bottom Hole 103 (4.5'BEB)	Bottom Hole 104 (4.5'BEB)	Bottom Hole 105 (4.5'BEB)	Bottom Hole 106 (4.5'BEB)	Bottom Hole 107 (4.5'BEB)	Bottom Hole 108 (4.5'BEB)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	Extracted:	06.19.2020 18:15	06.19.2020 18:15	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30
	Analyzed:	06.20.2020 21:51	06.20.2020 22:11	06.21.2020 01:15	06.21.2020 01:35	06.21.2020 01:56	06.21.2020 02:16
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00404 0.00404	<0.00401 0.00401	<0.00402 0.00402	<0.00400 0.00400
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10
	Analyzed:	06.18.2020 17:55	06.18.2020 18:01	06.18.2020 18:08	06.18.2020 18:14	06.18.2020 18:33	06.18.2020 18:39
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		16.9 4.95	79.2 5.04	10.4 4.98	11.9 5.02	8.95 4.95	67.6 5.05
TPH By SW8015 Mod	Extracted:	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00	06.18.2020 11:00
	Analyzed:	06.19.2020 04:04	06.19.2020 04:25	06.19.2020 04:46	06.19.2020 05:07	06.19.2020 05:28	06.19.2020 05:49
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664787-019	664787-020	664787-021	664787-022	664787-023	664787-024
	Field Id:	Bottom Hole 109 (4.5'BEB	Bottom Hole 110 (4.5'BEB	Bottom Hole 111 (4.5'BEB	Bottom Hole 112 (4.5'BEB	Bottom Hole 113 (4.5'BEB	Bottom Hole 114 (4.5'BEB
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	Extracted:	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30
	Analyzed:	06.21.2020 02:37	06.21.2020 02:57	06.21.2020 03:18	06.21.2020 03:38	06.21.2020 03:58	06.21.2020 04:19
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00402 0.00402	<0.00402 0.00402	<0.00403 0.00403	<0.00396 0.00396	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	Extracted:	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10
	Analyzed:	06.18.2020 18:46	06.18.2020 18:52	06.18.2020 18:58	06.18.2020 19:05	06.18.2020 19:24	06.18.2020 19:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		82.4 5.05	9.26 5.05	17.2 4.99	13.5 X 4.97	8.71 4.95	9.50 5.02
TPH By SW8015 Mod	Extracted:	06.18.2020 11:00	06.18.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00
	Analyzed:	06.19.2020 06:11	06.19.2020 06:32	06.19.2020 12:28	06.19.2020 13:33	06.19.2020 13:54	06.19.2020 14:16
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-025	664787-026	664787-027	664787-028	664787-029	664787-030
	<i>Field Id:</i>	Bottom Hole 115 (4.5'BEB)	Bottom Hole 116 (4.5'BEB)	Bottom Hole 117 (4.5'BEB)	Bottom Hole 118 (4.5'BEB)	Bottom Hole 119 (4.5'BEB)	Bottom Hole 120 (4.5'BEB)
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30
	<i>Analyzed:</i>	06.21.2020 10:09	06.21.2020 10:30	06.21.2020 10:50	06.21.2020 11:11	06.21.2020 11:31	06.21.2020 11:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00403 0.00403	<0.00402 0.00402	<0.00403 0.00403	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10	06.18.2020 15:10
	<i>Analyzed:</i>	06.18.2020 19:49	06.18.2020 19:55	06.18.2020 20:02	06.18.2020 20:08	06.18.2020 20:14	06.18.2020 20:21
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		42.9 5.00	56.2 4.97	76.1 5.02	18.5 5.00	9.58 5.00	95.7 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00
	<i>Analyzed:</i>	06.19.2020 14:37	06.19.2020 14:59	06.19.2020 15:20	06.19.2020 15:42	06.19.2020 16:04	06.19.2020 16:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<50.0 50.0	<49.8 49.8	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664787-031	664787-032	664787-033	664787-034	664787-035	664787-036
	Field Id:	Bottom Hole 121 (4.5')BEB	Bottom Hole 122 (4.5')BEB	Bottom Hole 123 (4.5')BEB	Bottom Hole 124 (4.5')BEB	Bottom Hole 125 (4.5')BEB	Bottom Hole 126 (4.5')BEB
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	Extracted:	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 18:30	06.19.2020 16:00	06.19.2020 16:00
	Analyzed:	06.21.2020 12:12	06.21.2020 12:32	06.21.2020 12:53	06.21.2020 13:13	06.20.2020 13:14	06.20.2020 13:35
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402	<0.00401 0.00401	<0.00404 0.00404	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	Extracted:	06.18.2020 15:10	06.18.2020 17:41	06.18.2020 17:41	06.18.2020 17:41	06.18.2020 17:41	06.18.2020 17:41
	Analyzed:	06.18.2020 20:27	06.19.2020 04:01	06.19.2020 03:56	06.19.2020 04:06	06.19.2020 04:22	06.19.2020 04:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		19.6 5.03	14.1 5.02	75.6 5.03	87.6 5.05	97.2 5.00	70.3 5.00
TPH By SW8015 Mod	Extracted:	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00
	Analyzed:	06.19.2020 17:08	06.19.2020 17:29	06.19.2020 17:51	06.19.2020 18:12	06.19.2020 18:33	06.19.2020 18:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	664787-037	664787-038	664787-039	664787-040	664787-041	664787-042
	Field Id:	Bottom Hole 127 (4.5')BEB	Bottom Hole 128 (4.5')BEB	Bottom Hole 129 (4.5')BEB	Bottom Hole 130 (4.5')BEB	Bottom Hole 131 (4.5')BEB	Bottom Hole 132 (4.5')BEB
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	Extracted:	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.22.2020 16:00
	Analyzed:	06.20.2020 13:55	06.20.2020 14:16	06.20.2020 14:36	06.20.2020 14:57	06.20.2020 15:17	06.23.2020 01:09
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00402 0.00402	<0.00397 0.00397	<0.00401 0.00401	<0.00402 0.00402
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Inorganic Anions by EPA 300/300.1	Extracted:	06.18.2020 17:41	06.18.2020 17:41	06.18.2020 17:41	06.18.2020 17:41	06.18.2020 17:41	06.18.2020 17:41
	Analyzed:	06.19.2020 10:13	06.19.2020 10:18	06.19.2020 10:23	06.19.2020 10:28	06.19.2020 10:33	06.19.2020 10:38
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		54.1 5.04	12.4 5.03	15.4 4.99	102 4.99	97.8 4.97	45.2 5.01
TPH By SW8015 Mod	Extracted:	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.22.2020 16:00
	Analyzed:	06.19.2020 19:15	06.19.2020 19:37	06.19.2020 19:58	06.19.2020 20:19	06.19.2020 12:28	06.22.2020 21:01
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9
Total TPH		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-043	664787-044	664787-045	664787-046	664787-047	664787-048
	<i>Field Id:</i>	Sidewall North 1	Sidewall North 2	Sidewall North 3	Sidewall North 4	Sidewall North 5	Sidewall North 6
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00
	<i>Analyzed:</i>	06.20.2020 15:38	06.20.2020 15:58	06.20.2020 16:19	06.20.2020 17:41	06.20.2020 18:02	06.20.2020 18:22
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00398 0.00398	<0.00403 0.00403	<0.00398 0.00398	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.18.2020 17:41	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50
	<i>Analyzed:</i>	06.19.2020 10:43	06.19.2020 14:55	06.19.2020 15:10	06.19.2020 15:15	06.19.2020 15:20	06.19.2020 15:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		21.8 5.03	81.7 5.03	25.3 5.05	53.1 4.99	28.4 5.05	42.2 4.96
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00
	<i>Analyzed:</i>	06.19.2020 13:33	06.19.2020 13:54	06.19.2020 14:16	06.19.2020 14:37	06.19.2020 14:59	06.19.2020 15:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-049	664787-050	664787-051	664787-052	664787-053	664787-054
	<i>Field Id:</i>	Sidewall North 7	Sidewall North 8	Sidewall North 9	Sidewall North 10	Sidewall North 11	Sidewall North 12
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00	06.19.2020 16:00
	<i>Analyzed:</i>	06.20.2020 18:43	06.20.2020 19:03	06.20.2020 19:24	06.20.2020 19:44	06.20.2020 20:05	06.20.2020 20:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	<0.00401 0.00401	<0.00402 0.00402	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50
	<i>Analyzed:</i>	06.19.2020 15:41	06.19.2020 15:46	06.19.2020 15:51	06.19.2020 15:56	06.19.2020 16:01	06.19.2020 16:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		81.1 4.95	25.5 4.95	14.9 5.05	69.8 5.00	27.6 4.95	15.3 5.01
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00
	<i>Analyzed:</i>	06.19.2020 15:42	06.19.2020 16:04	06.19.2020 16:25	06.19.2020 17:08	06.19.2020 17:29	06.19.2020 17:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-055	664787-056	664787-057	664787-058	664787-059	664787-060
	<i>Field Id:</i>	Sidewall North 13	Sidewall South 1	Sidewall South 2	Sidewall South 3	Sidewall South 4	Sidewall South 5
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 16:00	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30
	<i>Analyzed:</i>	06.20.2020 20:45	06.20.2020 23:50	06.21.2020 00:10	06.21.2020 00:30	06.21.2020 00:51	06.21.2020 01:11
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00400 0.00400	<0.00400 0.00400	<0.00402 0.00402	<0.00403 0.00403
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50
	<i>Analyzed:</i>	06.19.2020 16:21	06.19.2020 16:26	06.19.2020 16:41	06.19.2020 16:46	06.19.2020 16:51	06.19.2020 16:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		23.1 4.99	26.6 4.97	120 5.00	31.0 5.02	32.4 4.96	25.5 4.99
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00	06.19.2020 11:00
	<i>Analyzed:</i>	06.19.2020 18:12	06.19.2020 18:33	06.19.2020 18:54	06.19.2020 19:15	06.19.2020 19:37	06.19.2020 19:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-061	664787-062	664787-063	664787-064	664787-065	664787-066
	<i>Field Id:</i>	Sidewall South 6	Sidewall South 7	Sidewall South 8	Sidewall South 9	Sidewall South 10	Sidewall South 11
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30
	<i>Analyzed:</i>	06.21.2020 01:32	06.21.2020 01:52	06.21.2020 02:13	06.21.2020 02:33	06.21.2020 02:53	06.21.2020 04:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00403 0.00403	<0.00398 0.00398	<0.00401 0.00401	<0.00404 0.00404	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 12:50	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25
	<i>Analyzed:</i>	06.19.2020 17:02	06.19.2020 17:07	06.19.2020 17:12	06.19.2020 18:36	06.19.2020 18:42	06.19.2020 18:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		45.5 5.00	47.8 5.00	54.8 5.04	59.3 5.00	89.7 5.04	72.9 5.01
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.19.2020 22:05	06.19.2020 23:09	06.19.2020 23:30	06.19.2020 23:51	06.20.2020 00:13	06.20.2020 00:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9
Total TPH		<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.8 49.8	<49.9 49.9

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-067	664787-068	664787-069	664787-070	664787-071	664787-072
	<i>Field Id:</i>	Sidewall South 12	Sidewall South 13	Sidewall East 1	Sidewall East 2	Sidewall East 3	Sidewall East 4
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30
	<i>Analyzed:</i>	06.21.2020 04:36	06.21.2020 04:56	06.21.2020 05:16	06.21.2020 05:37	06.21.2020 05:57	06.21.2020 06:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00402 0.00402	<0.00398 0.00398	<0.00399 0.00399	<0.00404 0.00404
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25
	<i>Analyzed:</i>	06.19.2020 18:55	06.19.2020 19:14	06.19.2020 19:20	06.19.2020 19:27	06.19.2020 19:33	06.19.2020 19:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		23.9 4.96	23.4 5.00	9.33 5.00	9.88 5.03	14.1 4.98	34.2 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.20.2020 00:55	06.20.2020 01:16	06.20.2020 01:37	06.20.2020 01:58	06.20.2020 02:41	06.20.2020 03:02
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0
Total TPH		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-073	664787-074	664787-075	664787-076	664787-077	664787-078
	<i>Field Id:</i>	Sidewall East 5	Sidewall East 6	Sidewall East 7	Sidewall East 8	Sidewall East 9	Sidewall East 10
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 16:30	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.21.2020 06:38	06.21.2020 06:59	06.21.2020 07:19	06.19.2020 18:19	06.19.2020 18:39	06.19.2020 19:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
m,p-Xylenes		<0.00400 0.00400	<0.00403 0.00403	<0.00396 0.00396	<0.00400 0.00400	<0.00398 0.00398	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25
	<i>Analyzed:</i>	06.19.2020 19:46	06.19.2020 20:05	06.19.2020 20:11	06.19.2020 20:30	06.19.2020 20:36	06.19.2020 20:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		9.78 X 5.00	61.4 4.96	63.3 5.02	8.96 4.98	8.49 5.05	82.1 5.05
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.20.2020 03:23	06.20.2020 03:44	06.20.2020 04:05	06.20.2020 04:27	06.20.2020 04:48	06.20.2020 05:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<49.9 49.9	<49.8 49.8

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-079	664787-080	664787-081	664787-082	664787-083	664787-084
	<i>Field Id:</i>	Sidewall East 11	Sidewall East 12	Sidewall East 13	Sidewall East 14	Sidewall West 1	Sidewall West 2
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.19.2020 19:20	06.19.2020 19:40	06.19.2020 20:01	06.19.2020 20:21	06.19.2020 20:41	06.19.2020 21:02
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	<0.00400 0.00400	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:25	06.19.2020 15:40	06.19.2020 15:40
	<i>Analyzed:</i>	06.19.2020 20:49	06.19.2020 20:55	06.19.2020 21:02	06.19.2020 21:08	06.19.2020 21:46	06.19.2020 22:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		19.1 4.99	22.4 4.96	10.1 4.97	24.4 5.04	17.9 4.97	8.38 4.99
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.20.2020 05:31	06.20.2020 05:52	06.19.2020 22:05	06.19.2020 23:09	06.19.2020 23:30	06.19.2020 23:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-085	664787-086	664787-087	664787-088	664787-089	664787-090
	<i>Field Id:</i>	Sidewall West 3	Sidewall West 4	Sidewall West 5	Sidewall West 6	Sidewall West 7	Sidewall West 8
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.19.2020 22:23	06.19.2020 22:44	06.19.2020 23:04	06.19.2020 23:25	06.19.2020 23:45	06.19.2020 17:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00403 0.00403	<0.00402 0.00402	<0.00404 0.00404	<0.00398 0.00398	<0.00399 0.00399	<0.00397 0.00397
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 15:40	06.19.2020 15:40	06.19.2020 15:40	06.19.2020 15:40	06.19.2020 15:40	06.19.2020 15:40
	<i>Analyzed:</i>	06.19.2020 22:12	06.19.2020 22:18	06.19.2020 22:24	06.19.2020 22:43	06.19.2020 22:50	06.19.2020 22:56
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		25.8 5.04	61.6 4.98	9.25 5.04	89.9 4.96	11.6 5.00	9.92 4.98
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00
	<i>Analyzed:</i>	06.20.2020 00:13	06.20.2020 00:34	06.20.2020 00:55	06.20.2020 01:16	06.20.2020 01:37	06.20.2020 01:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0

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Jessica Kramer
Project Manager



Certificate of Analysis Summary 664787

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co, NM

Date Received in Lab: Thu 06.18.2020 10:44

Report Date: 06.23.2020 15:57

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664787-091	664787-092	664787-093	664787-094	664787-095	
	<i>Field Id:</i>	Sidewall West 9	Sidewall West 10	Sidewall West 11	Sidewall West 12	Sidewall West 13	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	06.16.2020 00:00	
BTEX by EPA 8021B	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	
	<i>Analyzed:</i>	06.20.2020 00:05	06.20.2020 00:26	06.20.2020 00:46	06.20.2020 01:06	06.20.2020 01:27	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	
Toluene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	
m,p-Xylenes		<0.00398 0.00398	<0.00402 0.00402	<0.00402 0.00402	<0.00398 0.00398	<0.00398 0.00398	
o-Xylene		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	
Total Xylenes		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	
Total BTEX		<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	06.19.2020 15:40	06.19.2020 15:40	06.19.2020 15:40	06.19.2020 15:40	06.19.2020 15:40	
	<i>Analyzed:</i>	06.19.2020 23:02	06.19.2020 23:09	06.19.2020 23:15	06.19.2020 23:34	06.19.2020 23:40	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		78.8 5.02	39.4 5.04	20.4 5.00	11.6 5.05	67.6 4.99	
TPH By SW8015 Mod	<i>Extracted:</i>	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 15:00	06.19.2020 11:00	
	<i>Analyzed:</i>	06.20.2020 02:41	06.20.2020 03:02	06.20.2020 03:23	06.20.2020 03:44	06.19.2020 20:19	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	
Total TPH		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	

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Jessica Kramer
Project Manager



Analytical Report 664787

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Vaca 30 SWD

212C-MD-02169

06.23.2020

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-34), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



06.23.2020

Project Manager: **Mike Carmona**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: XENCO Report No(s): **664787**

Vaca 30 SWD

Project Address: Lea Co, NM

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 664787. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 664787 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bottom Hole 91 (4.5'BEB)	S	06.16.2020 00:00		664787-001
Bottom Hole 92 (4.5'BEB)	S	06.16.2020 00:00		664787-002
Bottom Hole 93 (4.5'BEB)	S	06.16.2020 00:00		664787-003
Bottom Hole 94 (4.5'BEB)	S	06.16.2020 00:00		664787-004
Bottom Hole 95 (4.5'BEB)	S	06.16.2020 00:00		664787-005
Bottom Hole 96 (4.5'BEB)	S	06.16.2020 00:00		664787-006
Bottom Hole 97 (4.5'BEB)	S	06.16.2020 00:00		664787-007
Bottom Hole 98 (4.5'BEB)	S	06.16.2020 00:00		664787-008
Bottom Hole 99 (4.5'BEB)	S	06.16.2020 00:00		664787-009
Bottom Hole 100 (4.5'BEB)	S	06.16.2020 00:00		664787-010
Bottom Hole 101 (4.5'BEB)	S	06.16.2020 00:00		664787-011
Bottom Hole 102 (4.5'BEB)	S	06.16.2020 00:00		664787-012
Bottom Hole 103 (4.5'BEB)	S	06.16.2020 00:00		664787-013
Bottom Hole 104 (4.5'BEB)	S	06.16.2020 00:00		664787-014
Bottom Hole 105 (4.5'BEB)	S	06.16.2020 00:00		664787-015
Bottom Hole 106 (4.5'BEB)	S	06.16.2020 00:00		664787-016
Bottom Hole 107 (4.5'BEB)	S	06.16.2020 00:00		664787-017
Bottom Hole 108 (4.5'BEB)	S	06.16.2020 00:00		664787-018
Bottom Hole 109 (4.5'BEB)	S	06.16.2020 00:00		664787-019
Bottom Hole 110 (4.5'BEB)	S	06.16.2020 00:00		664787-020
Bottom Hole 111 (4.5'BEB)	S	06.16.2020 00:00		664787-021
Bottom Hole 112 (4.5'BEB)	S	06.16.2020 00:00		664787-022
Bottom Hole 113 (4.5'BEB)	S	06.16.2020 00:00		664787-023
Bottom Hole 114 (4.5'BEB)	S	06.16.2020 00:00		664787-024
Bottom Hole 115 (4.5'BEB)	S	06.16.2020 00:00		664787-025
Bottom Hole 116 (4.5'BEB)	S	06.16.2020 00:00		664787-026
Bottom Hole 117 (4.5'BEB)	S	06.16.2020 00:00		664787-027
Bottom Hole 118 (4.5'BEB)	S	06.16.2020 00:00		664787-028
Bottom Hole 119 (4.5'BEB)	S	06.16.2020 00:00		664787-029
Bottom Hole 120 (4.5'BEB)	S	06.16.2020 00:00		664787-030
Bottom Hole 121 (4.5'BEB)	S	06.16.2020 00:00		664787-031
Bottom Hole 122 (4.5'BEB)	S	06.16.2020 00:00		664787-032
Bottom Hole 123 (4.5'BEB)	S	06.16.2020 00:00		664787-033
Bottom Hole 124 (4.5'BEB)	S	06.16.2020 00:00		664787-034
Bottom Hole 125 (4.5'BEB)	S	06.16.2020 00:00		664787-035
Bottom Hole 126 (4.5'BEB)	S	06.16.2020 00:00		664787-036
Bottom Hole 127 (4.5'BEB)	S	06.16.2020 00:00		664787-037
Bottom Hole 128 (4.5'BEB)	S	06.16.2020 00:00		664787-038
Bottom Hole 129 (4.5'BEB)	S	06.16.2020 00:00		664787-039
Bottom Hole 130 (4.5'BEB)	S	06.16.2020 00:00		664787-040
Bottom Hole 131 (4.5'BEB)	S	06.16.2020 00:00		664787-041
Bottom Hole 132 (4.5'BEB)	S	06.16.2020 00:00		664787-042
Sidewall North 1	S	06.16.2020 00:00		664787-043



Sample Cross Reference 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sidewall North 2	S	06.16.2020 00:00	664787-044
Sidewall North 3	S	06.16.2020 00:00	664787-045
Sidewall North 4	S	06.16.2020 00:00	664787-046
Sidewall North 5	S	06.16.2020 00:00	664787-047
Sidewall North 6	S	06.16.2020 00:00	664787-048
Sidewall North 7	S	06.16.2020 00:00	664787-049
Sidewall North 8	S	06.16.2020 00:00	664787-050
Sidewall North 9	S	06.16.2020 00:00	664787-051
Sidewall North 10	S	06.16.2020 00:00	664787-052
Sidewall North 11	S	06.16.2020 00:00	664787-053
Sidewall North 12	S	06.16.2020 00:00	664787-054
Sidewall North 13	S	06.16.2020 00:00	664787-055
Sidewall South 1	S	06.16.2020 00:00	664787-056
Sidewall South 2	S	06.16.2020 00:00	664787-057
Sidewall South 3	S	06.16.2020 00:00	664787-058
Sidewall South 4	S	06.16.2020 00:00	664787-059
Sidewall South 5	S	06.16.2020 00:00	664787-060
Sidewall South 6	S	06.16.2020 00:00	664787-061
Sidewall South 7	S	06.16.2020 00:00	664787-062
Sidewall South 8	S	06.16.2020 00:00	664787-063
Sidewall South 9	S	06.16.2020 00:00	664787-064
Sidewall South 10	S	06.16.2020 00:00	664787-065
Sidewall South 11	S	06.16.2020 00:00	664787-066
Sidewall South 12	S	06.16.2020 00:00	664787-067
Sidewall South 13	S	06.16.2020 00:00	664787-068
Sidewall East 1	S	06.16.2020 00:00	664787-069
Sidewall East 2	S	06.16.2020 00:00	664787-070
Sidewall East 3	S	06.16.2020 00:00	664787-071
Sidewall East 4	S	06.16.2020 00:00	664787-072
Sidewall East 5	S	06.16.2020 00:00	664787-073
Sidewall East 6	S	06.16.2020 00:00	664787-074
Sidewall East 7	S	06.16.2020 00:00	664787-075
Sidewall East 8	S	06.16.2020 00:00	664787-076
Sidewall East 9	S	06.16.2020 00:00	664787-077
Sidewall East 10	S	06.16.2020 00:00	664787-078
Sidewall East 11	S	06.16.2020 00:00	664787-079
Sidewall East 12	S	06.16.2020 00:00	664787-080
Sidewall East 13	S	06.16.2020 00:00	664787-081
Sidewall East 14	S	06.16.2020 00:00	664787-082
Sidewall West 1	S	06.16.2020 00:00	664787-083
Sidewall West 2	S	06.16.2020 00:00	664787-084
Sidewall West 3	S	06.16.2020 00:00	664787-085
Sidewall West 4	S	06.16.2020 00:00	664787-086
Sidewall West 5	S	06.16.2020 00:00	664787-087

**Sample Cross Reference 664787****Tetra Tech- Midland, Midland, TX**

Vaca 30 SWD

Sidewall West 6	S	06.16.2020 00:00	664787-088
Sidewall West 7	S	06.16.2020 00:00	664787-089
Sidewall West 8	S	06.16.2020 00:00	664787-090
Sidewall West 9	S	06.16.2020 00:00	664787-091
Sidewall West 10	S	06.16.2020 00:00	664787-092
Sidewall West 11	S	06.16.2020 00:00	664787-093
Sidewall West 12	S	06.16.2020 00:00	664787-094
Sidewall West 13	S	06.16.2020 00:00	664787-095

**CASE NARRATIVE****Client Name: Tetra Tech- Midland****Project Name: Vaca 30 SWD**Project ID: 212C-MD-02169
Work Order Number(s): 664787Report Date: 06.23.2020
Date Received: 06.18.2020**Sample receipt non conformances and comments:****Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3129445 Inorganic Anions by EPA 300/300.1

Lab Sample ID 664787-022 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 664787-012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3129540 Inorganic Anions by EPA 300/300.1

Lab Sample ID 664884-021 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 664787-064, -065, -066, -067, -068, -069, -070, -071, -072, -073, -074, -075, -076, -077, -078, -079, -080, -081, -082.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3129603 BTEX by EPA 8021B

Lab Sample ID 664787-056 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene recovered below QC limits in the Matrix Spike. Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 664787-056, -057, -058, -059, -060, -061, -062, -063, -064, -065, -066, -067, -068, -069, -070, -071, -072, -073, -074, -075.

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

Batch: LBA-3129606 BTEX by EPA 8021B

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

Samples affected are: 664787-008.

**CASE NARRATIVE****Client Name: Tetra Tech- Midland****Project Name: Vaca 30 SWD**

Project ID: 212C-MD-02169
Work Order Number(s): 664787

Report Date: 06.23.2020
Date Received: 06.18.2020

Batch: LBA-3129607 BTEX by EPA 8021B

Lab Sample ID 664787-015 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.

Samples in the analytical batch are: 664787-015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034.

The Laboratory Control Sample for Benzene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3129608 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7705918-1-BKS, 7705918-1-BLK, 7705918-1-BSD, 664787-090 S, 664787-090

SD, 664787-080, 664787-081, 664787-095, 664787-083, 664787-084, 664787-085, 664787-086, 664787-087, 664787-088, 664787-089, 664787-091, 664787-092, 664787-093, 664787-094, 664787-079, 664787-078, 664787-077, 664787-076, 664787-090, 664787-082.



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 91 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-001

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.7	5.00	mg/kg	06.19.2020 00:09		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.18.2020 22:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.18.2020 22:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.18.2020 22:46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.18.2020 22:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.18.2020 22:46	
o-Terphenyl	84-15-1	86	%	70-130	06.18.2020 22:46	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 91 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-001

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.20.2020 17:05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.20.2020 17:05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.20.2020 17:05	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.20.2020 17:05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.20.2020 17:05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.20.2020 17:05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.20.2020 17:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.20.2020 17:05		
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.20.2020 17:05		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 92 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-002

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.3	5.00	mg/kg	06.19.2020 01:20		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.18.2020 23:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.18.2020 23:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.18.2020 23:50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.18.2020 23:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.18.2020 23:50	
o-Terphenyl	84-15-1	87	%	70-130	06.18.2020 23:50	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 92 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-002

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 17:26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 17:26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 17:26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 17:26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 17:26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 17:26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 17:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.20.2020 17:26		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.20.2020 17:26		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 93 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-003

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.0	5.05	mg/kg	06.19.2020 01:35		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 00:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 00:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 00:11	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 00:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.19.2020 00:11	
o-Terphenyl	84-15-1	87	%	70-130	06.19.2020 00:11	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 93 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-003

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 17:46	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 17:46	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 17:46	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 17:46	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 17:46	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 17:46	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 17:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	06.20.2020 17:46		
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.20.2020 17:46		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 94 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-004

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.9	4.98	mg/kg	06.19.2020 01:40		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 00:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 00:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 00:32	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 00:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	06.19.2020 00:32	
o-Terphenyl	84-15-1	88	%	70-130	06.19.2020 00:32	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 94 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-004

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 19:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 19:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 19:07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.2020 19:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 19:07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 19:07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 19:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.20.2020 19:07		
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.20.2020 19:07		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 95 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-005

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	67.6	4.95	mg/kg	06.19.2020 01:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 00:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 00:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 00:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 00:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 00:53	
o-Terphenyl	84-15-1	86	%	70-130	06.19.2020 00:53	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 95 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-005

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 19:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 19:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 19:27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.2020 19:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 19:27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 19:27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 19:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.20.2020 19:27	
4-Bromofluorobenzene	460-00-4	128	%	70-130	06.20.2020 19:27	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 96 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-006

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.4	5.03	mg/kg	06.19.2020 02:00		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 01:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 01:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 01:14	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 01:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.19.2020 01:14	
o-Terphenyl	84-15-1	88	%	70-130	06.19.2020 01:14	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 96 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-006

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 19:48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 19:48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 19:48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.2020 19:48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 19:48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 19:48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 19:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.20.2020 19:48		
4-Bromofluorobenzene	460-00-4	123	%	70-130	06.20.2020 19:48		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 97 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-007

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.2	5.01	mg/kg	06.19.2020 02:05		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 01:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 01:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 01:35	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 01:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.19.2020 01:35	
o-Terphenyl	84-15-1	87	%	70-130	06.19.2020 01:35	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 97 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-007

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 20:08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 20:08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 20:08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 20:08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 20:08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 20:08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 20:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	129	%	70-130	06.20.2020 20:08		
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.20.2020 20:08		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 98 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-008

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.4	5.00	mg/kg	06.19.2020 02:10		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 01:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 01:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 01:56	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 01:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.19.2020 01:56	
o-Terphenyl	84-15-1	88	%	70-130	06.19.2020 01:56	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 98 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-008

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.20.2020 20:29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.20.2020 20:29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.20.2020 20:29	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.20.2020 20:29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.20.2020 20:29	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.20.2020 20:29	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.20.2020 20:29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	131	%	70-130	06.20.2020 20:29	**	
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.20.2020 20:29		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 99 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-009

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.2	4.95	mg/kg	06.19.2020 02:15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 02:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 02:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 02:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 02:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	06.19.2020 02:18	
o-Terphenyl	84-15-1	82	%	70-130	06.19.2020 02:18	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 99 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-009

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.20.2020 20:49	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.20.2020 20:49	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.20.2020 20:49	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.20.2020 20:49	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.20.2020 20:49	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.20.2020 20:49	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.20.2020 20:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.20.2020 20:49		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.20.2020 20:49		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 100 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-010

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.9	4.95	mg/kg	06.19.2020 02:20		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 02:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 02:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 02:39	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 02:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 02:39	
o-Terphenyl	84-15-1	85	%	70-130	06.19.2020 02:39	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 100 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-010

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.20.2020 21:10	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.20.2020 21:10	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.20.2020 21:10	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.20.2020 21:10	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.20.2020 21:10	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.20.2020 21:10	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.20.2020 21:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.20.2020 21:10		
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.20.2020 21:10		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 101 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-011

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 14:50

Basis: Wet Weight

Seq Number: 3129444

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.1	5.03	mg/kg	06.19.2020 02:25		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 03:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 03:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 03:21	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 03:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	06.19.2020 03:21	
o-Terphenyl	84-15-1	83	%	70-130	06.19.2020 03:21	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 101 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-011

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 14:42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 14:42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 14:42	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.2020 14:42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 14:42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 14:42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 14:42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	06.20.2020 14:42		
1,4-Difluorobenzene	540-36-3	91	%	70-130	06.20.2020 14:42		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 102 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-012

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.9	4.98	mg/kg	06.18.2020 17:36	X	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 03:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 03:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 03:42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 03:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 03:42	
o-Terphenyl	84-15-1	85	%	70-130	06.19.2020 03:42	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 102 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-012

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 21:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 21:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 21:30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.2020 21:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 21:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 21:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 21:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.20.2020 21:30		
4-Bromofluorobenzene	460-00-4	97	%	70-130	06.20.2020 21:30		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 103 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-013

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.9	4.95	mg/kg	06.18.2020 17:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 04:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 04:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 04:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 04:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 04:04	
o-Terphenyl	84-15-1	84	%	70-130	06.19.2020 04:04	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 103 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-013

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 21:51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 21:51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 21:51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 21:51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 21:51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 21:51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 21:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.20.2020 21:51		
4-Bromofluorobenzene	460-00-4	119	%	70-130	06.20.2020 21:51		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 104 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-014

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	79.2	5.04	mg/kg	06.18.2020 18:01		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 04:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 04:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 04:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 04:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 04:25	
o-Terphenyl	84-15-1	85	%	70-130	06.19.2020 04:25	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 104 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-014

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:15

Basis: Wet Weight

Seq Number: 3129606

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.20.2020 22:11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.20.2020 22:11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.20.2020 22:11	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.20.2020 22:11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.20.2020 22:11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.20.2020 22:11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.20.2020 22:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	06.20.2020 22:11		
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.20.2020 22:11		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 105 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-015

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.4	4.98	mg/kg	06.18.2020 18:08		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 04:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 04:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 04:46	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 04:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.19.2020 04:46	
o-Terphenyl	84-15-1	85	%	70-130	06.19.2020 04:46	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 105 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-015

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 01:15	UX	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 01:15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 01:15	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.21.2020 01:15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 01:15	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 01:15	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 01:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.21.2020 01:15		
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.21.2020 01:15		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 106 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-016

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.9	5.02	mg/kg	06.18.2020 18:14		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 05:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 05:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 05:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 05:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	06.19.2020 05:07	
o-Terphenyl	84-15-1	87	%	70-130	06.19.2020 05:07	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 106 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-016

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 01:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 01:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 01:35	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.21.2020 01:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 01:35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 01:35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 01:35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	06.21.2020 01:35		
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.21.2020 01:35		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 107 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-017

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.95	4.95	mg/kg	06.18.2020 18:33		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 05:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 05:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 05:28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 05:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.19.2020 05:28	
o-Terphenyl	84-15-1	84	%	70-130	06.19.2020 05:28	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 107 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-017

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.21.2020 01:56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.21.2020 01:56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.21.2020 01:56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.21.2020 01:56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.21.2020 01:56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.21.2020 01:56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.21.2020 01:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.21.2020 01:56		
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.21.2020 01:56		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 108 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-018

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	67.6	5.05	mg/kg	06.18.2020 18:39		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 05:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 05:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 05:49	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 05:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 05:49	
o-Terphenyl	84-15-1	84	%	70-130	06.19.2020 05:49	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 108 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-018

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 02:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 02:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 02:16	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 02:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 02:16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 02:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 02:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.21.2020 02:16		
4-Bromofluorobenzene	460-00-4	121	%	70-130	06.21.2020 02:16		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 109 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-019

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	82.4	5.05	mg/kg	06.18.2020 18:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 06:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 06:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 06:11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 06:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 06:11	
o-Terphenyl	84-15-1	85	%	70-130	06.19.2020 06:11	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 109 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-019

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.21.2020 02:37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.21.2020 02:37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.21.2020 02:37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.21.2020 02:37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.21.2020 02:37	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.21.2020 02:37	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.21.2020 02:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.21.2020 02:37		
4-Bromofluorobenzene	460-00-4	119	%	70-130	06.21.2020 02:37		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 110 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-020

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.26	5.05	mg/kg	06.18.2020 18:52		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.18.2020 11:00

Basis: Wet Weight

Seq Number: 3129421

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 06:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 06:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 06:32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 06:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 06:32	
o-Terphenyl	84-15-1	85	%	70-130	06.19.2020 06:32	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 110 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-020

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.21.2020 02:57	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.21.2020 02:57	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.21.2020 02:57	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.21.2020 02:57	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.21.2020 02:57	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.21.2020 02:57	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.21.2020 02:57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.21.2020 02:57		
4-Bromofluorobenzene	460-00-4	120	%	70-130	06.21.2020 02:57		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 111 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-021

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.2	4.99	mg/kg	06.18.2020 18:58		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.19.2020 12:28	
o-Terphenyl	84-15-1	89	%	70-130	06.19.2020 12:28	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 111 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-021

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.21.2020 03:18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.21.2020 03:18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.21.2020 03:18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.21.2020 03:18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.21.2020 03:18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.21.2020 03:18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.21.2020 03:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.21.2020 03:18		
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.21.2020 03:18		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 112 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-022

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	4.97	mg/kg	06.18.2020 19:05	X	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 13:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 13:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 13:33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 13:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	06.19.2020 13:33	
o-Terphenyl	84-15-1	89	%	70-130	06.19.2020 13:33	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 112 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-022

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 03:38	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 03:38	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 03:38	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.21.2020 03:38	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 03:38	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 03:38	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 03:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.21.2020 03:38		
4-Bromofluorobenzene	460-00-4	115	%	70-130	06.21.2020 03:38		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 113 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-023

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.71	4.95	mg/kg	06.18.2020 19:24		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 13:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 13:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 13:54	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 13:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.19.2020 13:54	
o-Terphenyl	84-15-1	93	%	70-130	06.19.2020 13:54	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 113 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-023

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.21.2020 03:58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.21.2020 03:58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.21.2020 03:58	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.21.2020 03:58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.21.2020 03:58	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.21.2020 03:58	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.21.2020 03:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.21.2020 03:58		
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.21.2020 03:58		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 114 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-024

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.50	5.02	mg/kg	06.18.2020 19:30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 14:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 14:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 14:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 14:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	06.19.2020 14:16	
o-Terphenyl	84-15-1	100	%	70-130	06.19.2020 14:16	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 114 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-024

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.21.2020 04:19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.21.2020 04:19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.21.2020 04:19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.21.2020 04:19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.21.2020 04:19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.21.2020 04:19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.21.2020 04:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	06.21.2020 04:19		
1,4-Difluorobenzene	540-36-3	90	%	70-130	06.21.2020 04:19		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 115 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-025

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.9	5.00	mg/kg	06.18.2020 19:49		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.19.2020 14:37	
o-Terphenyl	84-15-1	92	%	70-130	06.19.2020 14:37	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 115 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-025

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 10:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 10:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 10:09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 10:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 10:09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 10:09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 10:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	06.21.2020 10:09		
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.21.2020 10:09		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 116 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-026

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.2	4.97	mg/kg	06.18.2020 19:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 14:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 14:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 14:59	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 14:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.19.2020 14:59	
o-Terphenyl	84-15-1	95	%	70-130	06.19.2020 14:59	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 116 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-026

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 10:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 10:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 10:30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 10:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 10:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 10:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 10:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.21.2020 10:30		
4-Bromofluorobenzene	460-00-4	117	%	70-130	06.21.2020 10:30		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 117 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-027

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.1	5.02	mg/kg	06.18.2020 20:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 15:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 15:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 15:20	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 15:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.19.2020 15:20	
o-Terphenyl	84-15-1	93	%	70-130	06.19.2020 15:20	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 117 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-027

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 10:50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 10:50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 10:50	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.21.2020 10:50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 10:50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 10:50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 10:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.21.2020 10:50		
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.21.2020 10:50		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 118 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-028

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.5	5.00	mg/kg	06.18.2020 20:08		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.19.2020 15:42	
o-Terphenyl	84-15-1	95	%	70-130	06.19.2020 15:42	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 118 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-028

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.21.2020 11:11	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.21.2020 11:11	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.21.2020 11:11	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.21.2020 11:11	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.21.2020 11:11	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.21.2020 11:11	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.21.2020 11:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.21.2020 11:11	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.21.2020 11:11	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 119 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-029

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.58	5.00	mg/kg	06.18.2020 20:14		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 16:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 16:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 16:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 16:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.19.2020 16:04	
o-Terphenyl	84-15-1	93	%	70-130	06.19.2020 16:04	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 119 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-029

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 11:31	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 11:31	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 11:31	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.21.2020 11:31	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 11:31	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 11:31	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 11:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.21.2020 11:31		
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.21.2020 11:31		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 120 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-030

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	95.7	5.00	mg/kg	06.18.2020 20:21		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 16:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 16:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 16:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 16:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.19.2020 16:25	
o-Terphenyl	84-15-1	96	%	70-130	06.19.2020 16:25	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 120 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-030

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 11:52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 11:52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 11:52	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.21.2020 11:52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 11:52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 11:52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 11:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.21.2020 11:52	
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.21.2020 11:52	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 121 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-031

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.18.2020 15:10

Basis: Wet Weight

Seq Number: 3129445

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.6	5.03	mg/kg	06.18.2020 20:27		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.19.2020 17:08	
o-Terphenyl	84-15-1	93	%	70-130	06.19.2020 17:08	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 121 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-031

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 12:12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 12:12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 12:12	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.21.2020 12:12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 12:12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 12:12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 12:12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	06.21.2020 12:12		
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.21.2020 12:12		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 122 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-032

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.1	5.02	mg/kg	06.19.2020 04:01		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 17:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 17:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 17:29	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 17:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.19.2020 17:29	
o-Terphenyl	84-15-1	92	%	70-130	06.19.2020 17:29	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 122 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-032

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.21.2020 12:32	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.21.2020 12:32	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.21.2020 12:32	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.21.2020 12:32	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.21.2020 12:32	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.21.2020 12:32	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.21.2020 12:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.21.2020 12:32		
1,4-Difluorobenzene	540-36-3	104	%	70-130	06.21.2020 12:32		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 123 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-033

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	75.6	5.03	mg/kg	06.19.2020 03:56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 17:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 17:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 17:51	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 17:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	06.19.2020 17:51	
o-Terphenyl	84-15-1	100	%	70-130	06.19.2020 17:51	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 123 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-033

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 12:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 12:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 12:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.21.2020 12:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 12:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 12:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 12:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.21.2020 12:53		
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.21.2020 12:53		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 124 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-034

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	87.6	5.05	mg/kg	06.19.2020 04:06		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-130	06.19.2020 18:12	
o-Terphenyl	84-15-1	99	%	70-130	06.19.2020 18:12	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 124 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-034

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 18:30

Basis: Wet Weight

Seq Number: 3129607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 13:13	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 13:13	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 13:13	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.21.2020 13:13	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 13:13	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 13:13	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 13:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	06.21.2020 13:13	
1,4-Difluorobenzene	540-36-3	104	%	70-130	06.21.2020 13:13	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 125 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-035

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	97.2	5.00	mg/kg	06.19.2020 04:22		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.19.2020 18:33	
o-Terphenyl	84-15-1	93	%	70-130	06.19.2020 18:33	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 125 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-035

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 13:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 13:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 13:14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.2020 13:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 13:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 13:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 13:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.20.2020 13:14		
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.20.2020 13:14		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 126 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-036

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.3	5.00	mg/kg	06.19.2020 04:27		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 18:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 18:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 18:54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 18:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	06.19.2020 18:54	
o-Terphenyl	84-15-1	90	%	70-130	06.19.2020 18:54	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 126 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-036

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 13:35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 13:35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 13:35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 13:35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 13:35	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 13:35	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 13:35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.20.2020 13:35		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 13:35		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 127 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-037

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	54.1	5.04	mg/kg	06.19.2020 10:13		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 19:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 19:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 19:15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 19:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	06.19.2020 19:15	
o-Terphenyl	84-15-1	90	%	70-130	06.19.2020 19:15	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 127 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-037

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 13:55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 13:55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 13:55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 13:55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 13:55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 13:55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 13:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	06.20.2020 13:55		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 13:55		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 128 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-038

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	5.03	mg/kg	06.19.2020 10:18		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	06.19.2020 19:37	
o-Terphenyl	84-15-1	90	%	70-130	06.19.2020 19:37	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 128 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-038

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 14:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 14:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 14:16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.2020 14:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 14:16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 14:16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 14:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	06.20.2020 14:16	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 14:16	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 129 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-039

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.4	4.99	mg/kg	06.19.2020 10:23		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 19:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 19:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 19:58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 19:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.19.2020 19:58	
o-Terphenyl	84-15-1	87	%	70-130	06.19.2020 19:58	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 129 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-039

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 14:36	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 14:36	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 14:36	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 14:36	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 14:36	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 14:36	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 14:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.20.2020 14:36		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 14:36		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 130 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-040

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	102	4.99	mg/kg	06.19.2020 10:28		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.19.2020 20:19	
o-Terphenyl	84-15-1	92	%	70-130	06.19.2020 20:19	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 130 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-040

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.20.2020 14:57	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.20.2020 14:57	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.20.2020 14:57	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.20.2020 14:57	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.20.2020 14:57	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.20.2020 14:57	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.20.2020 14:57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.2020 14:57		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 14:57		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 131 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-041

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	97.8	4.97	mg/kg	06.19.2020 10:33		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 12:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	06.19.2020 12:28	
o-Terphenyl	84-15-1	109	%	70-130	06.19.2020 12:28	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 131 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-041

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 15:17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 15:17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 15:17	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.2020 15:17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 15:17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 15:17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 15:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.2020 15:17		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 15:17		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 132 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-042

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.2	5.01	mg/kg	06.19.2020 10:38		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.22.2020 16:00

Basis: Wet Weight

Seq Number: 3129707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.22.2020 21:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.22.2020 21:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.22.2020 21:01	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.22.2020 21:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	06.22.2020 21:01	
o-Terphenyl	84-15-1	111	%	70-130	06.22.2020 21:01	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole 132 (4.5'BEB)**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-042

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.22.2020 16:00

Basis: Wet Weight

Seq Number: 3129660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.23.2020 01:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.23.2020 01:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.23.2020 01:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.23.2020 01:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.23.2020 01:09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.23.2020 01:09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.23.2020 01:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.23.2020 01:09		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.23.2020 01:09		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-043

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: SPC

% Moisture:

Analyst: SPC

Date Prep: 06.18.2020 17:41

Basis: Wet Weight

Seq Number: 3129449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.8	5.03	mg/kg	06.19.2020 10:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 13:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 13:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 13:33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 13:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	06.19.2020 13:33	
o-Terphenyl	84-15-1	101	%	70-130	06.19.2020 13:33	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-043

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 15:38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 15:38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 15:38	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.2020 15:38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 15:38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 15:38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 15:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.20.2020 15:38		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 15:38		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 2** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-044 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 12:50 Basis: Wet Weight
 Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	81.7	5.03	mg/kg	06.19.2020 14:55		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 11:00 Basis: Wet Weight
 Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 13:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 13:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 13:54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 13:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.19.2020 13:54	
o-Terphenyl	84-15-1	94	%	70-130	06.19.2020 13:54	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 2**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-044

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 15:58	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 15:58	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 15:58	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 15:58	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 15:58	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 15:58	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 15:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 15:58		
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.20.2020 15:58		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-045

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.3	5.05	mg/kg	06.19.2020 15:10		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 14:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 14:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 14:16	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 14:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.19.2020 14:16	
o-Terphenyl	84-15-1	90	%	70-130	06.19.2020 14:16	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-045

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 16:19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 16:19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 16:19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 16:19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 16:19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 16:19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 16:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	06.20.2020 16:19		
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.20.2020 16:19		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 4**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-046

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.1	4.99	mg/kg	06.19.2020 15:15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 14:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.19.2020 14:37	
o-Terphenyl	84-15-1	96	%	70-130	06.19.2020 14:37	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 4**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-046

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.20.2020 17:41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.20.2020 17:41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.20.2020 17:41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.20.2020 17:41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.20.2020 17:41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.20.2020 17:41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.20.2020 17:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.20.2020 17:41		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 17:41		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-047

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.4	5.05	mg/kg	06.19.2020 15:20		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 14:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 14:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 14:59	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 14:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.19.2020 14:59	
o-Terphenyl	84-15-1	96	%	70-130	06.19.2020 14:59	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-047

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 18:02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 18:02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 18:02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 18:02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 18:02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 18:02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 18:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.20.2020 18:02		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 18:02		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 6** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-048 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 12:50 Basis: Wet Weight
 Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.2	4.96	mg/kg	06.19.2020 15:26		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 11:00 Basis: Wet Weight
 Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 15:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 15:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 15:20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 15:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.19.2020 15:20	
o-Terphenyl	84-15-1	97	%	70-130	06.19.2020 15:20	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 6**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-048

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 18:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 18:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 18:22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.2020 18:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 18:22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 18:22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 18:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.20.2020 18:22	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 18:22	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 7**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-049

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	81.1	4.95	mg/kg	06.19.2020 15:41		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 15:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.19.2020 15:42	
o-Terphenyl	84-15-1	97	%	70-130	06.19.2020 15:42	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 7**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-049

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 18:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 18:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 18:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.20.2020 18:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 18:43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 18:43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 18:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.20.2020 18:43		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 18:43		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-050

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.5	4.95	mg/kg	06.19.2020 15:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 16:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 16:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 16:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 16:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.19.2020 16:04	
o-Terphenyl	84-15-1	92	%	70-130	06.19.2020 16:04	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-050

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 19:03	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 19:03	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 19:03	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 19:03	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 19:03	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 19:03	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 19:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.20.2020 19:03		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 19:03		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-051

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.9	5.05	mg/kg	06.19.2020 15:51		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 16:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 16:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 16:25	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 16:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.19.2020 16:25	
o-Terphenyl	84-15-1	96	%	70-130	06.19.2020 16:25	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-051

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 19:24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 19:24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 19:24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 19:24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 19:24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 19:24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 19:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 19:24		
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.20.2020 19:24		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 10** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-052 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 12:50 Basis: Wet Weight
 Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	69.8	5.00	mg/kg	06.19.2020 15:56		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 11:00 Basis: Wet Weight
 Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 17:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.19.2020 17:08	
o-Terphenyl	84-15-1	94	%	70-130	06.19.2020 17:08	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 10**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-052

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 19:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 19:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 19:44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.2020 19:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 19:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 19:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 19:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.20.2020 19:44		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 19:44		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 11** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-053 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 12:50 Basis: Wet Weight
 Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.6	4.95	mg/kg	06.19.2020 16:01		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 11:00 Basis: Wet Weight
 Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 17:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 17:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 17:29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 17:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.19.2020 17:29	
o-Terphenyl	84-15-1	93	%	70-130	06.19.2020 17:29	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 11**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-053

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 20:05	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 20:05	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 20:05	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 20:05	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 20:05	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 20:05	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 20:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 20:05		
4-Bromofluorobenzene	460-00-4	105	%	70-130	06.20.2020 20:05		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 12** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-054 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 12:50 Basis: Wet Weight
 Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.3	5.01	mg/kg	06.19.2020 16:06		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 11:00 Basis: Wet Weight
 Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 17:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 17:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 17:51	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 17:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.19.2020 17:51	
o-Terphenyl	84-15-1	97	%	70-130	06.19.2020 17:51	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 12**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-054

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 20:25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 20:25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 20:25	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.20.2020 20:25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 20:25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 20:25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 20:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.20.2020 20:25		
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.20.2020 20:25		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 13** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-055 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 12:50 Basis: Wet Weight
 Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.1	4.99	mg/kg	06.19.2020 16:21		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 11:00 Basis: Wet Weight
 Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 18:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	06.19.2020 18:12	
o-Terphenyl	84-15-1	104	%	70-130	06.19.2020 18:12	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall North 13**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-055

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:00

Basis: Wet Weight

Seq Number: 3129600

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.20.2020 20:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.20.2020 20:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.20.2020 20:45	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.20.2020 20:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.20.2020 20:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.20.2020 20:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.20.2020 20:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.20.2020 20:45		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.20.2020 20:45		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-056

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.6	4.97	mg/kg	06.19.2020 16:26		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 18:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.19.2020 18:33	
o-Terphenyl	84-15-1	89	%	70-130	06.19.2020 18:33	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-056

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 23:50	UX	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 23:50	UX	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 23:50	UX	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 23:50	UX	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 23:50	UX	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 23:50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 23:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.20.2020 23:50		
1,4-Difluorobenzene	540-36-3	104	%	70-130	06.20.2020 23:50		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 2**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-057

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	5.00	mg/kg	06.19.2020 16:41		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 18:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 18:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 18:54	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 18:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.19.2020 18:54	
o-Terphenyl	84-15-1	97	%	70-130	06.19.2020 18:54	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 2**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-057

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 00:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 00:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 00:10	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 00:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 00:10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 00:10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 00:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 00:10		
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 00:10		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-058

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.0	5.02	mg/kg	06.19.2020 16:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 19:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 19:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 19:15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 19:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.19.2020 19:15	
o-Terphenyl	84-15-1	93	%	70-130	06.19.2020 19:15	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-058

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 00:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 00:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 00:30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 00:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 00:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 00:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 00:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.21.2020 00:30		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 00:30		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 4**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-059

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.4	4.96	mg/kg	06.19.2020 16:51		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 19:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.19.2020 19:37	
o-Terphenyl	84-15-1	95	%	70-130	06.19.2020 19:37	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 4**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-059

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.21.2020 00:51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.21.2020 00:51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.21.2020 00:51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.21.2020 00:51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.21.2020 00:51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.21.2020 00:51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.21.2020 00:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.21.2020 00:51		
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.21.2020 00:51		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-060

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.5	4.99	mg/kg	06.19.2020 16:57		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 11:00

Basis: Wet Weight

Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 19:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 19:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 19:58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 19:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.19.2020 19:58	
o-Terphenyl	84-15-1	95	%	70-130	06.19.2020 19:58	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-060

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 01:11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 01:11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 01:11	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.21.2020 01:11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 01:11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 01:11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 01:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.21.2020 01:11		
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.21.2020 01:11		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 6**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-061

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.5	5.00	mg/kg	06.19.2020 17:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 22:05	
o-Terphenyl	84-15-1	86	%	70-130	06.19.2020 22:05	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 6**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-061

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 01:32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 01:32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 01:32	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.21.2020 01:32	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 01:32	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 01:32	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 01:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 01:32		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 01:32		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 7** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-062 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 12:50 Basis: Wet Weight
 Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.8	5.00	mg/kg	06.19.2020 17:07		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 15:00 Basis: Wet Weight
 Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.19.2020 23:09	
o-Terphenyl	84-15-1	86	%	70-130	06.19.2020 23:09	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 7**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-062

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.21.2020 01:52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.21.2020 01:52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.21.2020 01:52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.21.2020 01:52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.21.2020 01:52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.21.2020 01:52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.21.2020 01:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 01:52		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 01:52		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-063

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 12:50

Basis: Wet Weight

Seq Number: 3129530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	54.8	5.04	mg/kg	06.19.2020 17:12		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 23:30	
o-Terphenyl	84-15-1	86	%	70-130	06.19.2020 23:30	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-063

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 02:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 02:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 02:13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.21.2020 02:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 02:13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 02:13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 02:13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 02:13		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 02:13		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-064

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.3	5.00	mg/kg	06.19.2020 18:36		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.19.2020 23:51	
o-Terphenyl	84-15-1	84	%	70-130	06.19.2020 23:51	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-064

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 02:33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 02:33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 02:33	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.21.2020 02:33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 02:33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 02:33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 02:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 02:33	
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.21.2020 02:33	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 10** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-065 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 15:25 Basis: Wet Weight
 Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	89.7	5.04	mg/kg	06.19.2020 18:42		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 15:00 Basis: Wet Weight
 Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.20.2020 00:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.20.2020 00:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.20.2020 00:13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.20.2020 00:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	06.20.2020 00:13	
o-Terphenyl	84-15-1	88	%	70-130	06.20.2020 00:13	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 10**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-065

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 02:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 02:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 02:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.21.2020 02:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 02:53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 02:53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 02:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 02:53		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 02:53		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 11** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-066 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 15:25 Basis: Wet Weight
 Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.9	5.01	mg/kg	06.19.2020 18:49		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 15:00 Basis: Wet Weight
 Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.20.2020 00:34	
o-Terphenyl	84-15-1	87	%	70-130	06.20.2020 00:34	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 11**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-066

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.21.2020 04:15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.21.2020 04:15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.21.2020 04:15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.21.2020 04:15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.21.2020 04:15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.21.2020 04:15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.21.2020 04:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.21.2020 04:15		
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.21.2020 04:15		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 12**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-067

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.9	4.96	mg/kg	06.19.2020 18:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 00:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 00:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 00:55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 00:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.20.2020 00:55	
o-Terphenyl	84-15-1	86	%	70-130	06.20.2020 00:55	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 12**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-067

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 04:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 04:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 04:36	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 04:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 04:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 04:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 04:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 04:36		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 04:36		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 13** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-068 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 15:25 Basis: Wet Weight
 Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.4	5.00	mg/kg	06.19.2020 19:14		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 15:00 Basis: Wet Weight
 Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.20.2020 01:16	
o-Terphenyl	84-15-1	86	%	70-130	06.20.2020 01:16	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall South 13**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-068

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 04:56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 04:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 04:56	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 04:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 04:56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 04:56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 04:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 04:56		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 04:56		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-069

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.33	5.00	mg/kg	06.19.2020 19:20		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.20.2020 01:37	
o-Terphenyl	84-15-1	86	%	70-130	06.20.2020 01:37	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-069

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.21.2020 05:16	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.21.2020 05:16	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.21.2020 05:16	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.21.2020 05:16	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.21.2020 05:16	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.21.2020 05:16	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.21.2020 05:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.21.2020 05:16		
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 05:16		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 2**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-070

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.88	5.03	mg/kg	06.19.2020 19:27		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 01:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 01:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 01:58	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 01:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.20.2020 01:58	
o-Terphenyl	84-15-1	86	%	70-130	06.20.2020 01:58	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 2**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-070

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.21.2020 05:37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.21.2020 05:37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.21.2020 05:37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.21.2020 05:37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.21.2020 05:37	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.21.2020 05:37	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.21.2020 05:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 05:37	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 05:37	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-071

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.1	4.98	mg/kg	06.19.2020 19:33		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.20.2020 02:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.20.2020 02:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.20.2020 02:41	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.20.2020 02:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	06.20.2020 02:41	
o-Terphenyl	84-15-1	86	%	70-130	06.20.2020 02:41	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-071

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 05:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 05:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 05:57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.21.2020 05:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 05:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 05:57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 05:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.21.2020 05:57	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 05:57	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 4**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-072

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.2	5.00	mg/kg	06.19.2020 19:39		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.20.2020 03:02	
o-Terphenyl	84-15-1	87	%	70-130	06.20.2020 03:02	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 4**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-072

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 06:18	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 06:18	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 06:18	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.21.2020 06:18	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 06:18	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 06:18	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 06:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.21.2020 06:18		
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 06:18		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-073

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.78	5.00	mg/kg	06.19.2020 19:46	X	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-130	06.20.2020 03:23	
o-Terphenyl	84-15-1	88	%	70-130	06.20.2020 03:23	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-073

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.21.2020 06:38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.21.2020 06:38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.21.2020 06:38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.21.2020 06:38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.21.2020 06:38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.21.2020 06:38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.21.2020 06:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 06:38		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 06:38		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 6** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-074 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 15:25 Basis: Wet Weight
 Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	61.4	4.96	mg/kg	06.19.2020 20:05		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 15:00 Basis: Wet Weight
 Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.20.2020 03:44	
o-Terphenyl	84-15-1	90	%	70-130	06.20.2020 03:44	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 6**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-074

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.21.2020 06:59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.21.2020 06:59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.21.2020 06:59	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.21.2020 06:59	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.21.2020 06:59	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.21.2020 06:59	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.21.2020 06:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.21.2020 06:59		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 06:59		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 7**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-075

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	63.3	5.02	mg/kg	06.19.2020 20:11		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.20.2020 04:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.20.2020 04:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.20.2020 04:05	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.20.2020 04:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.20.2020 04:05	
o-Terphenyl	84-15-1	91	%	70-130	06.20.2020 04:05	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 7**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-075

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 16:30

Basis: Wet Weight

Seq Number: 3129603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.21.2020 07:19	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.21.2020 07:19	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.21.2020 07:19	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.21.2020 07:19	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.21.2020 07:19	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.21.2020 07:19	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.21.2020 07:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	06.21.2020 07:19		
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.21.2020 07:19		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-076

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.96	4.98	mg/kg	06.19.2020 20:30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 04:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 04:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 04:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 04:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	06.20.2020 04:27	
o-Terphenyl	84-15-1	88	%	70-130	06.20.2020 04:27	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-076

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.2020 18:19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.2020 18:19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.2020 18:19	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.19.2020 18:19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.19.2020 18:19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.19.2020 18:19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.19.2020 18:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	144	%	70-130	06.19.2020 18:19	**	
1,4-Difluorobenzene	540-36-3	82	%	70-130	06.19.2020 18:19		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-077

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.49	5.05	mg/kg	06.19.2020 20:36		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 04:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 04:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 04:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 04:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.20.2020 04:48	
o-Terphenyl	84-15-1	90	%	70-130	06.20.2020 04:48	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-077

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.19.2020 18:39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.19.2020 18:39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.19.2020 18:39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.19.2020 18:39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.19.2020 18:39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.19.2020 18:39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.19.2020 18:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	70-130	06.19.2020 18:39		
4-Bromofluorobenzene	460-00-4	147	%	70-130	06.19.2020 18:39	**	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 10**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-078

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	82.1	5.05	mg/kg	06.19.2020 20:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.20.2020 05:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.20.2020 05:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.20.2020 05:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.20.2020 05:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.20.2020 05:09	
o-Terphenyl	84-15-1	87	%	70-130	06.20.2020 05:09	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 10**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-078

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.19.2020 19:00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.19.2020 19:00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.19.2020 19:00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.19.2020 19:00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.19.2020 19:00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.19.2020 19:00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.19.2020 19:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	82	%	70-130	06.19.2020 19:00		
4-Bromofluorobenzene	460-00-4	154	%	70-130	06.19.2020 19:00	**	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 11**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-079

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.1	4.99	mg/kg	06.19.2020 20:49		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 05:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 05:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 05:31	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 05:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-130	06.20.2020 05:31	
o-Terphenyl	84-15-1	86	%	70-130	06.20.2020 05:31	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 11**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-079

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.2020 19:20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.2020 19:20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.2020 19:20	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.19.2020 19:20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.19.2020 19:20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.19.2020 19:20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.19.2020 19:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	166	%	70-130	06.19.2020 19:20	**	
1,4-Difluorobenzene	540-36-3	83	%	70-130	06.19.2020 19:20		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 12**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-080

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.4	4.96	mg/kg	06.19.2020 20:55		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129560

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 05:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 05:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 05:52	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 05:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	06.20.2020 05:52	
o-Terphenyl	84-15-1	85	%	70-130	06.20.2020 05:52	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 12**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-080

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.2020 19:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.2020 19:40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.2020 19:40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.19.2020 19:40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.19.2020 19:40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.19.2020 19:40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.19.2020 19:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	06.19.2020 19:40		
4-Bromofluorobenzene	460-00-4	168	%	70-130	06.19.2020 19:40	**	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 13**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-081

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.1	4.97	mg/kg	06.19.2020 21:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 22:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.19.2020 22:05	
o-Terphenyl	84-15-1	91	%	70-130	06.19.2020 22:05	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 13**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-081

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.19.2020 20:01	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.19.2020 20:01	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.19.2020 20:01	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.19.2020 20:01	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.19.2020 20:01	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.19.2020 20:01	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.19.2020 20:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	82	%	70-130	06.19.2020 20:01		
4-Bromofluorobenzene	460-00-4	165	%	70-130	06.19.2020 20:01	**	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 14**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-082

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:25

Basis: Wet Weight

Seq Number: 3129540

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.4	5.04	mg/kg	06.19.2020 21:08		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.19.2020 23:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.19.2020 23:09	
o-Terphenyl	84-15-1	91	%	70-130	06.19.2020 23:09	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall East 14**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-082

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.19.2020 20:21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.19.2020 20:21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.19.2020 20:21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.19.2020 20:21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.19.2020 20:21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.19.2020 20:21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.19.2020 20:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	170	%	70-130	06.19.2020 20:21	**	
1,4-Difluorobenzene	540-36-3	89	%	70-130	06.19.2020 20:21		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-083

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.9	4.97	mg/kg	06.19.2020 21:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 23:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	06.19.2020 23:30	
o-Terphenyl	84-15-1	88	%	70-130	06.19.2020 23:30	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 1**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-083

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.2020 20:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.2020 20:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.2020 20:41	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.19.2020 20:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.19.2020 20:41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.19.2020 20:41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.19.2020 20:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	82	%	70-130	06.19.2020 20:41		
4-Bromofluorobenzene	460-00-4	169	%	70-130	06.19.2020 20:41	**	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 2**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-084

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.38	4.99	mg/kg	06.19.2020 22:05		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.19.2020 23:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.19.2020 23:51	
o-Terphenyl	84-15-1	94	%	70-130	06.19.2020 23:51	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 2**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-084

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.19.2020 21:02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.19.2020 21:02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.19.2020 21:02	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.19.2020 21:02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.19.2020 21:02	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.19.2020 21:02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.19.2020 21:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	06.19.2020 21:02		
4-Bromofluorobenzene	460-00-4	175	%	70-130	06.19.2020 21:02	**	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-085

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.8	5.04	mg/kg	06.19.2020 22:12		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 00:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 00:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 00:13	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 00:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.20.2020 00:13	
o-Terphenyl	84-15-1	91	%	70-130	06.20.2020 00:13	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 3**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-085

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.19.2020 22:23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.19.2020 22:23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.19.2020 22:23	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.19.2020 22:23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.19.2020 22:23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.19.2020 22:23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.19.2020 22:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	152	%	70-130	06.19.2020 22:23	**	
1,4-Difluorobenzene	540-36-3	83	%	70-130	06.19.2020 22:23		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 4** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-086 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 15:40 Basis: Wet Weight
 Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	61.6	4.98	mg/kg	06.19.2020 22:18		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 15:00 Basis: Wet Weight
 Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 00:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	06.20.2020 00:34	
o-Terphenyl	84-15-1	87	%	70-130	06.20.2020 00:34	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 4**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-086

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.19.2020 22:44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.19.2020 22:44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.19.2020 22:44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.19.2020 22:44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.19.2020 22:44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.19.2020 22:44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.19.2020 22:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	142	%	70-130	06.19.2020 22:44	**	
1,4-Difluorobenzene	540-36-3	76	%	70-130	06.19.2020 22:44		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-087

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.25	5.04	mg/kg	06.19.2020 22:24		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.20.2020 00:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.20.2020 00:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.20.2020 00:55	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.20.2020 00:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	06.20.2020 00:55	
o-Terphenyl	84-15-1	90	%	70-130	06.20.2020 00:55	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 5**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-087

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.19.2020 23:04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.19.2020 23:04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.19.2020 23:04	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	06.19.2020 23:04	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.19.2020 23:04	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.19.2020 23:04	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.19.2020 23:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	149	%	70-130	06.19.2020 23:04	**	
1,4-Difluorobenzene	540-36-3	83	%	70-130	06.19.2020 23:04		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 6**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-088

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	89.9	4.96	mg/kg	06.19.2020 22:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 01:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.20.2020 01:16	
o-Terphenyl	84-15-1	92	%	70-130	06.20.2020 01:16	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 6**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-088

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.19.2020 23:25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.19.2020 23:25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.19.2020 23:25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.19.2020 23:25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.19.2020 23:25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.19.2020 23:25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.19.2020 23:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	70-130	06.19.2020 23:25		
4-Bromofluorobenzene	460-00-4	151	%	70-130	06.19.2020 23:25	**	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 7**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-089

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	5.00	mg/kg	06.19.2020 22:50		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 01:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.20.2020 01:37	
o-Terphenyl	84-15-1	93	%	70-130	06.20.2020 01:37	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 7**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-089

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.19.2020 23:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.19.2020 23:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.19.2020 23:45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.19.2020 23:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.19.2020 23:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.19.2020 23:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.19.2020 23:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	70-130	06.19.2020 23:45		
4-Bromofluorobenzene	460-00-4	157	%	70-130	06.19.2020 23:45	**	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-090

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.92	4.98	mg/kg	06.19.2020 22:56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 01:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 01:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 01:58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 01:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	06.20.2020 01:58	
o-Terphenyl	84-15-1	90	%	70-130	06.20.2020 01:58	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 8**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-090

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.19.2020 17:59	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.19.2020 17:59	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.19.2020 17:59	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.19.2020 17:59	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.19.2020 17:59	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.19.2020 17:59	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.19.2020 17:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	146	%	70-130	06.19.2020 17:59	**	
1,4-Difluorobenzene	540-36-3	80	%	70-130	06.19.2020 17:59		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-091

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	78.8	5.02	mg/kg	06.19.2020 23:02		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 02:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 02:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 02:41	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 02:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-130	06.20.2020 02:41	
o-Terphenyl	84-15-1	95	%	70-130	06.20.2020 02:41	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 9**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-091

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 00:05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 00:05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 00:05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 00:05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 00:05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 00:05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 00:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	06.20.2020 00:05		
4-Bromofluorobenzene	460-00-4	169	%	70-130	06.20.2020 00:05	**	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 10** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-092 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 15:40 Basis: Wet Weight
 Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	39.4	5.04	mg/kg	06.19.2020 23:09		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 15:00 Basis: Wet Weight
 Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 03:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	06.20.2020 03:02	
o-Terphenyl	84-15-1	93	%	70-130	06.20.2020 03:02	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 10**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-092

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 00:26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 00:26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 00:26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 00:26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 00:26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 00:26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 00:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	174	%	70-130	06.20.2020 00:26	**	
1,4-Difluorobenzene	540-36-3	85	%	70-130	06.20.2020 00:26		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 11**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-093

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.4	5.00	mg/kg	06.19.2020 23:15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.20.2020 03:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-130	06.20.2020 03:23	
o-Terphenyl	84-15-1	94	%	70-130	06.20.2020 03:23	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 11**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-093

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.20.2020 00:46	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.20.2020 00:46	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.20.2020 00:46	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.20.2020 00:46	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.20.2020 00:46	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.20.2020 00:46	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.20.2020 00:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	175	%	70-130	06.20.2020 00:46	**	
1,4-Difluorobenzene	540-36-3	86	%	70-130	06.20.2020 00:46		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 12**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-094

Date Collected: 06.16.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.19.2020 15:40

Basis: Wet Weight

Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	5.05	mg/kg	06.19.2020 23:34		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129565

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.20.2020 03:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	06.20.2020 03:44	
o-Terphenyl	84-15-1	93	%	70-130	06.20.2020 03:44	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 12**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-094

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 01:06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 01:06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 01:06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 01:06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 01:06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 01:06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 01:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	165	%	70-130	06.20.2020 01:06	**	
1,4-Difluorobenzene	540-36-3	82	%	70-130	06.20.2020 01:06		



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 13** Matrix: Soil Date Received: 06.18.2020 10:44
 Lab Sample Id: 664787-095 Date Collected: 06.16.2020 00:00
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.2020 15:40 Basis: Wet Weight
 Seq Number: 3129542

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	67.6	4.99	mg/kg	06.19.2020 23:40		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 06.19.2020 11:00 Basis: Wet Weight
 Seq Number: 3129564

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.19.2020 20:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	06.19.2020 20:19	
o-Terphenyl	84-15-1	98	%	70-130	06.19.2020 20:19	



Certificate of Analytical Results 664787

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Sidewall West 13**

Matrix: Soil

Date Received: 06.18.2020 10:44

Lab Sample Id: 664787-095

Date Collected: 06.16.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.19.2020 15:00

Basis: Wet Weight

Seq Number: 3129608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.20.2020 01:27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.20.2020 01:27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.20.2020 01:27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.20.2020 01:27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.20.2020 01:27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.20.2020 01:27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.20.2020 01:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	173	%	70-130	06.20.2020 01:27	**	
1,4-Difluorobenzene	540-36-3	83	%	70-130	06.20.2020 01:27		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129444

Matrix: Solid

Prep Method: E300P

Date Prep: 06.18.2020

MB Sample Id: 7705720-1-BLK

LCS Sample Id: 7705720-1-BKS

LCSD Sample Id: 7705720-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	236	94	241	96	90-110	2	20	mg/kg	06.18.2020 23:59	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129445

Matrix: Solid

Prep Method: E300P

Date Prep: 06.18.2020

MB Sample Id: 7705722-1-BLK

LCS Sample Id: 7705722-1-BKS

LCSD Sample Id: 7705722-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	251	100	251	100	90-110	0	20	mg/kg	06.18.2020 17:23	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129449

Matrix: Solid

Prep Method: E300P

Date Prep: 06.18.2020

MB Sample Id: 7705747-1-BLK

LCS Sample Id: 7705747-1-BKS

LCSD Sample Id: 7705747-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	241	96	237	95	90-110	2	20	mg/kg	06.19.2020 02:46	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129530

Matrix: Solid

Prep Method: E300P

Date Prep: 06.19.2020

MB Sample Id: 7705820-1-BLK

LCS Sample Id: 7705820-1-BKS

LCSD Sample Id: 7705820-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	239	96	234	94	90-110	2	20	mg/kg	06.19.2020 14:45	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129540

Matrix: Solid

Prep Method: E300P

Date Prep: 06.19.2020

MB Sample Id: 7705822-1-BLK

LCS Sample Id: 7705822-1-BKS

LCSD Sample Id: 7705822-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	253	101	253	101	90-110	0	20	mg/kg	06.19.2020 18:04	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129542

Matrix: Solid

Prep Method: E300P

Date Prep: 06.19.2020

MB Sample Id: 7705823-1-BLK

LCS Sample Id: 7705823-1-BKS

LCSD Sample Id: 7705823-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	254	102	90-110	0	20	mg/kg	06.19.2020 21:34	

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129444

Matrix: Soil

Prep Method: E300P

Date Prep: 06.18.2020

Parent Sample Id: 664787-001

MS Sample Id: 664787-001 S

MSD Sample Id: 664787-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	33.7	250	284	100	275	97	90-110	3	20	mg/kg	06.19.2020 00:14	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129444

Matrix: Soil

Prep Method: E300P

Date Prep: 06.18.2020

Parent Sample Id: 664787-002

MS Sample Id: 664787-002 S

MSD Sample Id: 664787-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.3	250	263	97	265	98	90-110	1	20	mg/kg	06.19.2020 01:25	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129445

Matrix: Soil

Prep Method: E300P

Date Prep: 06.18.2020

Parent Sample Id: 664787-012

MS Sample Id: 664787-012 S

MSD Sample Id: 664787-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.9	249	305	118	285	110	90-110	7	20	mg/kg	06.18.2020 17:42	X

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129445

Matrix: Soil

Prep Method: E300P

Date Prep: 06.18.2020

Parent Sample Id: 664787-022

MS Sample Id: 664787-022 S

MSD Sample Id: 664787-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.5	249	291	111	284	109	90-110	2	20	mg/kg	06.18.2020 19:11	X

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129449

Matrix: Soil

Prep Method: E300P

Date Prep: 06.18.2020

Parent Sample Id: 664787-034

MS Sample Id: 664787-034 S

MSD Sample Id: 664787-034 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	87.6	253	337	99	338	99	90-110	0	20	mg/kg	06.19.2020 04:11	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129449

Matrix: Soil

Prep Method: E300P

Date Prep: 06.18.2020

Parent Sample Id: 664840-001

MS Sample Id: 664840-001 S

MSD Sample Id: 664840-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	384	1250	1610	98	1640	100	90-110	2	20	mg/kg	06.19.2020 03:01	

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129530

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 664787-044

MS Sample Id: 664787-044 S

Date Prep: 06.19.2020

MSD Sample Id: 664787-044 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	81.7	252	320	95	331	99	90-110	3	20	mg/kg	06.19.2020 15:00	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129530

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 664787-054

MS Sample Id: 664787-054 S

Date Prep: 06.19.2020

MSD Sample Id: 664787-054 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.3	251	258	97	273	103	90-110	6	20	mg/kg	06.19.2020 16:11	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129540

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 664787-073

MS Sample Id: 664787-073 S

Date Prep: 06.19.2020

MSD Sample Id: 664787-073 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.78	250	314	122	309	120	90-110	2	20	mg/kg	06.19.2020 19:52	X

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129540

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 664884-021

MS Sample Id: 664884-021 S

Date Prep: 06.19.2020

MSD Sample Id: 664884-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	538	249	771	94	760	89	90-110	1	20	mg/kg	06.19.2020 18:23	X

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129542

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 664787-083

MS Sample Id: 664787-083 S

Date Prep: 06.19.2020

MSD Sample Id: 664787-083 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	17.9	249	282	106	280	105	90-110	1	20	mg/kg	06.19.2020 21:53	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3129542

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 664787-093

MS Sample Id: 664787-093 S

Date Prep: 06.19.2020

MSD Sample Id: 664787-093 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.4	250	280	104	279	103	90-110	0	20	mg/kg	06.19.2020 23:21	

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129421

MB Sample Id: 7705765-1-BLK

Matrix: Solid

LCS Sample Id: 7705765-1-BKS

Prep Method: SW8015P

Date Prep: 06.18.2020

LCSD Sample Id: 7705765-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	834	83	838	84	70-130	0	20	mg/kg	06.18.2020 22:04	
Diesel Range Organics (DRO)	<50.0	1000	867	87	864	86	70-130	0	20	mg/kg	06.18.2020 22:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		89		91		70-130	%	06.18.2020 22:04
o-Terphenyl	92		100		97		70-130	%	06.18.2020 22:04

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129558

MB Sample Id: 7705833-1-BLK

Matrix: Solid

LCS Sample Id: 7705833-1-BKS

Prep Method: SW8015P

Date Prep: 06.19.2020

LCSD Sample Id: 7705833-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	802	80	839	84	70-130	5	20	mg/kg	06.19.2020 11:45	
Diesel Range Organics (DRO)	<50.0	1000	840	84	831	83	70-130	1	20	mg/kg	06.19.2020 11:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	79		80		79		70-130	%	06.19.2020 11:45
o-Terphenyl	86		86		77		70-130	%	06.19.2020 11:45

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129564

MB Sample Id: 7705834-1-BLK

Matrix: Solid

LCS Sample Id: 7705834-1-BKS

Prep Method: SW8015P

Date Prep: 06.19.2020

LCSD Sample Id: 7705834-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	840	84	894	89	70-130	6	20	mg/kg	06.19.2020 11:45	
Diesel Range Organics (DRO)	<50.0	1000	866	87	863	86	70-130	0	20	mg/kg	06.19.2020 11:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		95		96		70-130	%	06.19.2020 11:45
o-Terphenyl	93		111		108		70-130	%	06.19.2020 11:45

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129560

MB Sample Id: 7705836-1-BLK

Matrix: Solid

LCS Sample Id: 7705836-1-BKS

Prep Method: SW8015P

Date Prep: 06.19.2020

LCSD Sample Id: 7705836-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	827	83	826	83	70-130	0	20	mg/kg	06.19.2020 21:22	
Diesel Range Organics (DRO)	<50.0	1000	868	87	858	86	70-130	1	20	mg/kg	06.19.2020 21:22	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	82		87		85		70-130	%	06.19.2020 21:22			
o-Terphenyl	92		86		85		70-130	%	06.19.2020 21:22			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129565

MB Sample Id: 7705837-1-BLK

Matrix: Solid

LCS Sample Id: 7705837-1-BKS

Prep Method: SW8015P

Date Prep: 06.19.2020

LCSD Sample Id: 7705837-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	883	88	825	83	70-130	7	20	mg/kg	06.19.2020 21:22	
Diesel Range Organics (DRO)	<50.0	1000	908	91	863	86	70-130	5	20	mg/kg	06.19.2020 21:22	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	83		93		95		70-130	%	06.19.2020 21:22			
o-Terphenyl	94		105		112		70-130	%	06.19.2020 21:22			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129707

MB Sample Id: 7705941-1-BLK

Matrix: Solid

LCS Sample Id: 7705941-1-BKS

Prep Method: SW8015P

Date Prep: 06.22.2020

LCSD Sample Id: 7705941-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	835	84	844	84	70-130	1	20	mg/kg	06.22.2020 18:30	
Diesel Range Organics (DRO)	<50.0	1000	811	81	811	81	70-130	0	20	mg/kg	06.22.2020 18:30	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	107		122		122		70-130	%	06.22.2020 18:30			
o-Terphenyl	113		116		115		70-130	%	06.22.2020 18:30			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129421

Matrix: Solid
MB Sample Id: 7705765-1-BLK

Prep Method: SW8015P

Date Prep: 06.18.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.18.2020 21:43	

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129558

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.19.2020

MB Sample Id: 7705833-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

06.19.2020 11:24

Flag**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3129564

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.19.2020

MB Sample Id: 7705834-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

06.19.2020 11:24

Flag**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3129560

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.19.2020

MB Sample Id: 7705836-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

06.19.2020 21:01

Flag**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3129565

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.19.2020

MB Sample Id: 7705837-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

06.19.2020 21:01

Flag**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3129707

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.22.2020

MB Sample Id: 7705941-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

06.22.2020 18:12

Flag

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129421

Parent Sample Id: 664787-001

Matrix: Soil

MS Sample Id: 664787-001 S

Prep Method: SW8015P

Date Prep: 06.18.2020

MSD Sample Id: 664787-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	823	83	850	85	70-130	3	20	mg/kg	06.18.2020 23:07	
Diesel Range Organics (DRO)	<49.9	997	860	86	836	84	70-130	3	20	mg/kg	06.18.2020 23:07	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	81		78		70-130	%	06.18.2020 23:07
o-Terphenyl	86		84		70-130	%	06.18.2020 23:07

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129558

Parent Sample Id: 664787-021

Matrix: Soil

MS Sample Id: 664787-021 S

Prep Method: SW8015P

Date Prep: 06.19.2020

MSD Sample Id: 664787-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	879	88	931	93	70-130	6	20	mg/kg	06.19.2020 12:50	
Diesel Range Organics (DRO)	<50.0	1000	845	85	965	97	70-130	13	20	mg/kg	06.19.2020 12:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		86		70-130	%	06.19.2020 12:50
o-Terphenyl	78		81		70-130	%	06.19.2020 12:50

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129564

Parent Sample Id: 664787-041

Matrix: Soil

MS Sample Id: 664787-041 S

Prep Method: SW8015P

Date Prep: 06.19.2020

MSD Sample Id: 664787-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	816	82	850	85	70-130	4	20	mg/kg	06.19.2020 12:50	
Diesel Range Organics (DRO)	<49.9	997	805	81	865	87	70-130	7	20	mg/kg	06.19.2020 12:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		83		70-130	%	06.19.2020 12:50
o-Terphenyl	97		96		70-130	%	06.19.2020 12:50

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129560

Parent Sample Id: 664787-061

Matrix: Soil

MS Sample Id: 664787-061 S

Prep Method: SW8015P

Date Prep: 06.19.2020

MSD Sample Id: 664787-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	850	85	861	86	70-130	1	20	mg/kg	06.19.2020 22:26	
Diesel Range Organics (DRO)	<49.9	998	861	86	848	85	70-130	2	20	mg/kg	06.19.2020 22:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		79		70-130	%	06.19.2020 22:26
o-Terphenyl	77		75		70-130	%	06.19.2020 22:26

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129565

Parent Sample Id: 664787-081

Matrix: Soil

MS Sample Id: 664787-081 S

Prep Method: SW8015P

Date Prep: 06.19.2020

MSD Sample Id: 664787-081 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	839	84	891	89	70-130	6	20	mg/kg	06.19.2020 22:26	
Diesel Range Organics (DRO)	<49.9	997	874	88	865	87	70-130	1	20	mg/kg	06.19.2020 22:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		86		70-130	%	06.19.2020 22:26
o-Terphenyl	98		96		70-130	%	06.19.2020 22:26

Analytical Method: TPH By SW8015 Mod

Seq Number: 3129707

Parent Sample Id: 664989-021

Matrix: Soil

MS Sample Id: 664989-021 S

Prep Method: SW8015P

Date Prep: 06.22.2020

MSD Sample Id: 664989-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	876	88	844	85	70-130	4	20	mg/kg	06.22.2020 19:27	
Diesel Range Organics (DRO)	<49.9	997	844	85	808	81	70-130	4	20	mg/kg	06.22.2020 19:27	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		123		70-130	%	06.22.2020 19:27
o-Terphenyl	122		114		70-130	%	06.22.2020 19:27

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129608

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.19.2020

MB Sample Id: 7705918-1-BLK

LCS Sample Id: 7705918-1-BKS

LCSD Sample Id: 7705918-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.114	114	0.110	110	70-130	4	35	mg/kg	06.19.2020 15:31	
Toluene	<0.00200	0.100	0.110	110	0.107	107	70-130	3	35	mg/kg	06.19.2020 15:31	
Ethylbenzene	<0.00200	0.100	0.116	116	0.111	111	70-130	4	35	mg/kg	06.19.2020 15:31	
m,p-Xylenes	<0.00400	0.200	0.238	119	0.229	115	70-130	4	35	mg/kg	06.19.2020 15:31	
o-Xylene	<0.00200	0.100	0.118	118	0.112	112	70-130	5	35	mg/kg	06.19.2020 15:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	81		89		90		70-130	%	06.19.2020 15:31
4-Bromofluorobenzene	143	**	150	**	156	**	70-130	%	06.19.2020 15:31

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129600

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.19.2020

MB Sample Id: 7705912-1-BLK

LCS Sample Id: 7705912-1-BKS

LCSD Sample Id: 7705912-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0950	95	0.0962	96	70-130	1	35	mg/kg	06.20.2020 11:11	
Toluene	<0.00200	0.100	0.0953	95	0.0994	99	70-130	4	35	mg/kg	06.20.2020 11:11	
Ethylbenzene	<0.00200	0.100	0.0991	99	0.0996	100	70-130	1	35	mg/kg	06.20.2020 11:11	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.201	101	70-130	1	35	mg/kg	06.20.2020 11:11	
o-Xylene	<0.00200	0.100	0.0988	99	0.0996	100	70-130	1	35	mg/kg	06.20.2020 11:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		97		99		70-130	%	06.20.2020 11:11
4-Bromofluorobenzene	102		98		99		70-130	%	06.20.2020 11:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129603

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.19.2020

MB Sample Id: 7705913-1-BLK

LCS Sample Id: 7705913-1-BKS

LCSD Sample Id: 7705913-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0914	91	0.100	100	70-130	9	35	mg/kg	06.20.2020 21:47	
Toluene	<0.00200	0.100	0.0895	90	0.102	102	70-130	13	35	mg/kg	06.20.2020 21:47	
Ethylbenzene	<0.00200	0.100	0.0813	81	0.101	101	70-130	22	35	mg/kg	06.20.2020 21:47	
m,p-Xylenes	<0.00400	0.200	0.159	80	0.202	101	70-130	24	35	mg/kg	06.20.2020 21:47	
o-Xylene	<0.00200	0.100	0.0821	82	0.101	101	70-130	21	35	mg/kg	06.20.2020 21:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		98		100		70-130	%	06.20.2020 21:47
4-Bromofluorobenzene	99		98		99		70-130	%	06.20.2020 21:47

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129606

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.19.2020

MB Sample Id: 7705916-1-BLK

LCS Sample Id: 7705916-1-BKS

LCSD Sample Id: 7705916-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0818	82	0.0741	74	70-130	10	35	mg/kg	06.20.2020 12:38	
Toluene	<0.00200	0.100	0.100	100	0.0919	92	70-130	8	35	mg/kg	06.20.2020 12:38	
Ethylbenzene	<0.00200	0.100	0.117	117	0.106	106	70-130	10	35	mg/kg	06.20.2020 12:38	
m,p-Xylenes	<0.00400	0.200	0.234	117	0.212	106	70-130	10	35	mg/kg	06.20.2020 12:38	
o-Xylene	<0.00200	0.100	0.118	118	0.107	107	70-130	10	35	mg/kg	06.20.2020 12:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		89		86		70-130	%	06.20.2020 12:38
4-Bromofluorobenzene	111		113		105		70-130	%	06.20.2020 12:38

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129607

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.19.2020

MB Sample Id: 7705917-1-BLK

LCS Sample Id: 7705917-1-BKS

LCSD Sample Id: 7705917-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0728	73	0.0736	74	70-130	1	35	mg/kg	06.20.2020 23:12	
Toluene	<0.00200	0.100	0.0940	94	0.0965	97	70-130	3	35	mg/kg	06.20.2020 23:12	
Ethylbenzene	<0.00200	0.100	0.107	107	0.110	110	70-130	3	35	mg/kg	06.20.2020 23:12	
m,p-Xylenes	<0.00400	0.200	0.214	107	0.222	111	70-130	4	35	mg/kg	06.20.2020 23:12	
o-Xylene	<0.00200	0.100	0.111	111	0.114	114	70-130	3	35	mg/kg	06.20.2020 23:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		88		86		70-130	%	06.20.2020 23:12
4-Bromofluorobenzene	113		113		116		70-130	%	06.20.2020 23:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129660

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.22.2020

MB Sample Id: 7705960-1-BLK

LCS Sample Id: 7705960-1-BKS

LCSD Sample Id: 7705960-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.0995	100	70-130	2	35	mg/kg	06.22.2020 18:19	
Toluene	<0.00200	0.100	0.100	100	0.101	101	70-130	1	35	mg/kg	06.22.2020 18:19	
Ethylbenzene	<0.00200	0.100	0.104	104	0.101	101	70-130	3	35	mg/kg	06.22.2020 18:19	
m,p-Xylenes	<0.00400	0.200	0.210	105	0.203	102	70-130	3	35	mg/kg	06.22.2020 18:19	
o-Xylene	<0.00200	0.100	0.104	104	0.101	101	70-130	3	35	mg/kg	06.22.2020 18:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		100		98		70-130	%	06.22.2020 18:19
4-Bromofluorobenzene	104		101		99		70-130	%	06.22.2020 18:19

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129608

Parent Sample Id: 664787-090

Matrix: Soil

MS Sample Id: 664787-090 S

Prep Method: SW5035A

Date Prep: 06.19.2020

MSD Sample Id: 664787-090 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.102	103	0.112	113	70-130	9	35	mg/kg	06.19.2020 16:14	
Toluene	<0.00199	0.0994	0.0969	97	0.108	109	70-130	11	35	mg/kg	06.19.2020 16:14	
Ethylbenzene	<0.00199	0.0994	0.100	101	0.112	113	70-130	11	35	mg/kg	06.19.2020 16:14	
m,p-Xylenes	<0.00398	0.199	0.207	104	0.231	117	70-130	11	35	mg/kg	06.19.2020 16:14	
o-Xylene	<0.00199	0.0994	0.104	105	0.116	117	70-130	11	35	mg/kg	06.19.2020 16:14	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		97		70-130	%	06.19.2020 16:14
4-Bromofluorobenzene	157	**	165	**	70-130	%	06.19.2020 16:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129600

Parent Sample Id: 664787-035

Matrix: Soil

MS Sample Id: 664787-035 S

Prep Method: SW5035A

Date Prep: 06.19.2020

MSD Sample Id: 664787-035 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0989	100	0.0915	92	70-130	8	35	mg/kg	06.20.2020 11:52	
Toluene	<0.00198	0.0990	0.0971	98	0.0888	90	70-130	9	35	mg/kg	06.20.2020 11:52	
Ethylbenzene	<0.00198	0.0990	0.0922	93	0.0825	83	70-130	11	35	mg/kg	06.20.2020 11:52	
m,p-Xylenes	<0.00396	0.198	0.186	94	0.165	83	70-130	12	35	mg/kg	06.20.2020 11:52	
o-Xylene	<0.00198	0.0990	0.0931	94	0.0832	84	70-130	11	35	mg/kg	06.20.2020 11:52	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		102		70-130	%	06.20.2020 11:52
4-Bromofluorobenzene	103		101		70-130	%	06.20.2020 11:52

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129603

Parent Sample Id: 664787-056

Matrix: Soil

MS Sample Id: 664787-056 S

Prep Method: SW5035A

Date Prep: 06.19.2020

MSD Sample Id: 664787-056 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0651	65	0.0780	79	70-130	18	35	mg/kg	06.20.2020 22:28	X
Toluene	<0.00200	0.0998	0.0519	52	0.0662	67	70-130	24	35	mg/kg	06.20.2020 22:28	X
Ethylbenzene	<0.00200	0.0998	0.0434	43	0.0573	58	70-130	28	35	mg/kg	06.20.2020 22:28	X
m,p-Xylenes	<0.00399	0.200	0.0867	43	0.114	58	70-130	27	35	mg/kg	06.20.2020 22:28	X
o-Xylene	<0.00200	0.0998	0.0462	46	0.0594	60	70-130	25	35	mg/kg	06.20.2020 22:28	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		70-130	%	06.20.2020 22:28
4-Bromofluorobenzene	103		99		70-130	%	06.20.2020 22:28

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129606

Parent Sample Id: 664787-011

Matrix: Soil

MS Sample Id: 664787-011 S

Prep Method: SW5035A

Date Prep: 06.19.2020

MSD Sample Id: 664787-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0692	70	0.0779	78	70-130	12	35	mg/kg	06.20.2020 13:20	
Toluene	<0.00199	0.0994	0.0791	80	0.0881	88	70-130	11	35	mg/kg	06.20.2020 13:20	
Ethylbenzene	<0.00199	0.0994	0.0859	86	0.0965	97	70-130	12	35	mg/kg	06.20.2020 13:20	
m,p-Xylenes	<0.00398	0.199	0.172	86	0.194	97	70-130	12	35	mg/kg	06.20.2020 13:20	
o-Xylene	<0.00199	0.0994	0.0878	88	0.0976	98	70-130	11	35	mg/kg	06.20.2020 13:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		92		70-130	%	06.20.2020 13:20
4-Bromofluorobenzene	112		114		70-130	%	06.20.2020 13:20

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129607

Parent Sample Id: 664787-015

Matrix: Soil

MS Sample Id: 664787-015 S

Prep Method: SW5035A

Date Prep: 06.19.2020

MSD Sample Id: 664787-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0593	59	0.0703	70	70-130	17	35	mg/kg	06.20.2020 23:53	X
Toluene	<0.00202	0.101	0.0772	76	0.0918	91	70-130	17	35	mg/kg	06.20.2020 23:53	
Ethylbenzene	<0.00202	0.101	0.0858	85	0.104	103	70-130	19	35	mg/kg	06.20.2020 23:53	
m,p-Xylenes	<0.00403	0.202	0.172	85	0.208	103	70-130	19	35	mg/kg	06.20.2020 23:53	
o-Xylene	<0.00202	0.101	0.0880	87	0.106	105	70-130	19	35	mg/kg	06.20.2020 23:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		89		70-130	%	06.20.2020 23:53
4-Bromofluorobenzene	111		124		70-130	%	06.20.2020 23:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3129660

Parent Sample Id: 664620-001

Matrix: Soil

MS Sample Id: 664620-001 S

Prep Method: SW5035A

Date Prep: 06.22.2020

MSD Sample Id: 664620-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0822	83	0.0775	78	70-130	6	35	mg/kg	06.22.2020 19:00	
Toluene	<0.00199	0.0996	0.0861	86	0.0792	80	70-130	8	35	mg/kg	06.22.2020 19:00	
Ethylbenzene	<0.00199	0.0996	0.0853	86	0.0752	76	70-130	13	35	mg/kg	06.22.2020 19:00	
m,p-Xylenes	<0.00398	0.199	0.173	87	0.152	76	70-130	13	35	mg/kg	06.22.2020 19:00	
o-Xylene	<0.00199	0.0996	0.0867	87	0.0770	77	70-130	12	35	mg/kg	06.22.2020 19:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		70-130	%	06.22.2020 19:00
4-Bromofluorobenzene	101		102		70-130	%	06.22.2020 19:00

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

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

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

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

Analysis Request of Custody Record



Tetra Tech, Inc.

901 W. Wall Street, Ste 100
Midland, Texas 79705
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Page 2 of 10

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None					
										YEAR: 2020				
	Bottom Hole 100 (4.5' BEB)	6/16/20		X				X				1 N	X	BTEX 8021B BTEX 8260B
	Bottom Hole 101 (4.5' BEB)	6/16/2020		X				X				1 N	X	TPH TX1005 (Ext to C35)
	Bottom Hole 102 (7.5' BEB)	6/16/2020		X				X				1 N	X	TPH 8015M (GRC - DRO - ORO - MRO)
	Bottom Hole 103 (7.5' BEB)	6/16/2020		X				X				1 N	X	PAH 8270C
	Bottom Hole 104 (7.5' BEB)	6/16/2020		X				X				1 N	X	Total Metals Ag As Ba Cd Cr Pb Se Hg
	Bottom Hole 105 (7.5' BEB)	6/16/2020		X				X				1 N	X	TCLP Metals Ag As Ba Cd Cr Pb Se Hg
	Bottom Hole 106 (7.5' BEB)	6/16/2020		X				X				1 N	X	TCLP Volatiles
	Bottom Hole 107 (7.5' BEB)	6/16/2020		X				X				1 N	X	TCLP Semi Volatiles
	Bottom Hole 108 (7.5' BEB)	6/16/2020		X				X				1 N	X	RCI
	Bottom Hole 109 (7.5' BEB)	6/16/2020		X				X				1 N	X	GC/MS Vol. 8260B / 624
														GC/MS Semi. Vol. 8270C/625
														PCB's 8082 / 608
														NORM
														PLM (Asbestos)
														Chloride
														Chloride Sulfate TDS
														General Water Chemistry (see attached list)
														Anion/Cation Balance
														Hold

LAB USE ONLY	REMARKS:
☐ STANDARD ☒ RUSH: Same Day 24 hr 48 hr (72 hr) ☐ Rush Charges Authorized ☐ Special Report Limits or TRRP Report	Date: Time: Received by: Date: Time:

Date: Time: Received by:	Date: Time: Received by:
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(Circle) HAND DELIVERED FEDEX UPS Tracking #:

1-7113

Sample Temperature

Analysis Request of Custody Record



Tetra Tech, Inc.

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 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

Page 3 of 10

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD			
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)	
		DATE	TIME		WATER	SOIL	HCL	HNO ₃	ICE				None
	Bottom Hole 110 (7.5' BEB)	6/16/2020		X				X			1 N	X	BTEX 8021B BTEX 8260B TPH TX1005 (Ext to C35) TPH 8015M (GRO - DRO - ORO - MRO) PAH 8270C Total Metals Ag As Ba Cd Cr Pb Se Hg TCLP Metals Ag As Ba Cd Cr Pb Se Hg TCLP Volatiles TCLP Semi Volatiles RCI GC/MS Vol. 8260B / 624 GC/MS Semi. Vol. 8270C/625 PCB's 8082 / 608 NORM PLM (Asbestos) Chloride Chloride Sulfate TDS General Water Chemistry (see attached list) Anion/Cation Balance
	Bottom Hole 111 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 112 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 113 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 114 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 115 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 116 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 117 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 118 (7.5' BEB)	6/16/2020		X				X			1 N	X	
	Bottom Hole 119 (7.5' BEB)	6/16/2020		X				X			1 N	X	

Relinquished by: <i>[Signature]</i> Date: _____ Time: _____ Relinquished by: <i>[Signature]</i> Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____	Received by: <i>[Signature]</i> Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____
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LAB USE ONLY Sample Temperature 171/13	REMARKS: ☐ STANDARD ☒ RUSH: Same Day 24 hr 48 hr 72 hr ☐ Rush Charges Authorized ☐ Special Report Limits or TRRP Report
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Analysis Request of Custody Record



Tetra Tech, Inc.

 901 W. Wall Street, Ste 100
 Midland, Texas 79705
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 Fax (432) 682-3946

004787

Page 4 of 10

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD			
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy			
Receiving Laboratory: Xenco		Sampler Signature: Conner Moehring	
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None					
										YEAR: 2020				
	Bottom Hole 120 (7.5' BEB)	6/16/2020		X				X				1 N		BTEX 8021B BTEX 8260B
	Bottom Hole 121 (7.5' BEB)	6/16/2020		X				X				1 N		TPH TX1005 (Ext to C35)
	Bottom Hole 122 (7.5' BEB)	6/16/2020		X				X				1 N		TPH 8015M (GRO - DRO - ORO - MRO)
	Bottom Hole 123 (7.5' BEB)	6/16/2020		X				X				1 N		PAH 8270C
	Bottom Hole 124 (7.5' BEB)	6/16/2020		X				X				1 N		Total Metals Ag As Ba Cd Cr Pb Se Hg
	Bottom Hole 125 (7.5' BEB)	6/16/2020		X				X				1 N		TCLP Metals Ag As Ba Cd Cr Pb Se Hg
	Bottom Hole 126 (7.5' BEB)	6/16/2020		X				X				1 N		TCLP Volatiles
	Bottom Hole 127 (4' BEB)	6/16/2020		X				X				1 N		TCLP Semi Volatiles
	Bottom Hole 128 (4' BEB)	6/16/2020		X				X				1 N		RCI
	Bottom Hole 129 (4' BEB)	6/16/2020		X				X				1 N		GC/MS Vol. 8260B / 624
														GC/MS Semi. Vol. 8270C/625
														PCB's 8082 / 608
														NORM
														PLM (Asbestos)
														Chloride
														Chloride Sulfate TDS
														General Water Chemistry (see attached list)
														Anion/Cation Balance
														Hold

Received by: <i>[Signature]</i> Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____
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LAB USE ONLY Sample Temperature: 1-7/11.3 REMARKS: ☐ STANDARD ☒ RUSH: Same Day 24 hr 48 hr 72 hr ☐ Rush Charges Authorized ☐ Special Report Limits or TRRP Report	(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____
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Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901 W Wall Street, Ste 100
 Midland, Texas 79705
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 Fax (432) 682-3946

Page 5 of 10

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vacca 30 SWD			
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None				
										YEAR: 2020			
	Bottom Hole 130 (4' BEB)	6/16/2020		X				X				1	N
	Bottom Hole 131 (4' BEB)	6/16/2020		X				X				1	N
	Bottom Hole 132 (4' BEB)	6/16/2020		X				X				1	N
	Sidewall North 1	6/16/2020		X				X				1	N
	Sidewall North 2	6/16/2020		X				X				1	N
	Sidewall North 3	6/16/2020		X				X				1	N
	Sidewall North 4	6/16/2020		X				X				1	N
	Sidewall North 5	6/16/2020		X				X				1	N
	Sidewall North 6	6/16/2020		X				X				1	N
	Sidewall North 7	6/16/2020		X				X				1	N

Relinquished by:	Date: _____ Time: _____	Received by:	Date: _____ Time: _____
Relinquished by:	Date: _____ Time: _____	Received by:	Date: _____ Time: _____

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ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB USE ONLY	REMARKS:
☐ STANDARD	
☒ RUSH: Same Day 24 hr 48 hr 72 hr	
☐ Rush Charges Authorized	
☐ Special Report Limits or TRRP Report	

BTEX 8021B	BTEX 8260B
TPH TX1005 (Ext to C35)	
TPH 8015M (GRC - DRO - ORO - MRO)	
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles	
TCLP Semi Volatiles	
RCI	
GC/MS Vol. 8260B / 624	
GC/MS Semi. Vol. 8270C/625	
PCB's 8082 / 608	
NORM	
PLM (Asbestos)	
Chloride	
Chloride Sulfate TDS	
General Water Chemistry (see attached list)	
Anion/Cation Balance	
Hold	

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

1.711.3

Sample Temperature

Analysis Request of Custody Record



Tetra Tech, Inc.

901 W. Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Page 6 of 10

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD			
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy			
Receiving Laboratory: Xenco		Sampler Signature: Conner Moehring	
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	LAB USE ONLY	REMARKS:	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None						
										YEAR: 2020					
	Sidewall North 8	6/16/2020		X				X				1	N	X	
	Sidewall North 9	6/16/2020		X				X				1	N	X	
	Sidewall North 10	6/16/2020		X				X				1	N	X	
	Sidewall North 11	6/16/2020		X				X				1	N	X	
	Sidewall North 12	6/16/2020		X				X				1	N	X	
	Sidewall North 13	6/16/2020		X				X				1	N	X	
	Sidewall South 1	6/16/2020		X				X				1	N	X	
	Sidewall South 2	6/16/2020		X				X				1	N	X	
	Sidewall South 3	6/16/2020		X				X				1	N	X	
	Sidewall South 4	6/16/2020		X				X				1	N	X	

ANALYSIS REQUEST (Circle or Specify Method No.)														
BTEX 8021B		BTEX 8260B												
TPH TX1005 (Ext to C35)														
TPH 8015M (GRO - DRO - ORO - MRO)														
PAH 8270C														
Total Metals Ag As Ba Cd Cr Pb Se Hg														
TCLP Metals Ag As Ba Cd Cr Pb Se Hg														
TCLP Volatiles														
TCLP Semi Volatiles														
RCI														
GC/MS Vol. 8260B/ 624														
GC/MS Semi. Vol. 8270C/625														
PCB's 8082 / 608														
NORM														
PLM (Asbestos)														
Chloride														
Chloride Sulfate TDS														
General Water Chemistry (see attached list)														
Anion/Cation Balance														
Hold														

Reinquired by:	Date: _____ Time: _____	Received by:	Date: _____ Time: _____
Reinquired by: _____	Date: _____ Time: _____	Received by: _____	Date: _____ Time: _____

LAB USE ONLY	REMARKS:
Sample Temperature	☐ STANDARD
1.711.3	☒ RUSH: Same Day 24 hr 48 hr <u>72 hr</u>
	☐ Rush Charges Authorized
	☐ Special Report Limits or TRRP Report

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Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901W Wall Street, Ste 100
 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

Page 7 of 16

Client Name: EOG

Site Manager: Mike Carmona

Project Name: Vaca 30 SWD

Project Location: Lea Co, NM

Project #:

212C-MD-02169

Invoice to:

EOG - James Kennedy

Receiving Laboratory:

Xenco

Sampler Signature:

Conner Moehring

Comments:

SAMPLE IDENTIFICATION

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	LAB USE ONLY	REMARKS:	
		DATE	TIME		WATER	SOIL	HCL	HNO ₃	ICE					None
	Sidewall South 5	6/16/2020		X						1	N	X		
	Sidewall South 6	6/16/2020		X						1	N	X		
	Sidewall South 7	6/16/2020		X						1	N	X		
	Sidewall South 8	6/16/2020		X						1	N	X		
	Sidewall South 9	6/16/2020		X						1	N	X		
	Sidewall South 10	6/16/2020		X						1	N	X		
	Sidewall South 11	6/16/2020		X						1	N	X		
	Sidewall South 12	6/16/2020		X						1	N	X		
	Sidewall South 13	6/16/2020		X						1	N	X		
	Sidewall East 1	6/16/2020		X						1	N	X		

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B
 TPH TX1005 (Ext to C35)
 TPH 8015M (GRO - DRO - ORO - MRO)
 PAH 8270C
 Total Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Metals Ag As Ba Cd Cr Pb Se Hg
 TCLP Volatiles
 TCLP Semi Volatiles
 RCI
 GC/MS Vol. 8260B/624
 GC/MS Semi. Vol. 8270C/625
 PCB's 8082 / 608
 NORM
 PLM (Asbestos)
 Chloride
 Chloride Sulfate TDS
 General Water Chemistry (see attached list)
 Anion/Cation Balance

Hold

LAB USE ONLY

Sample Temperature

1.71/1.3

REMARKS:
☐ STANDARD☒ RUSH: Same Day 24 hr 48 hr 72 hr☐ Rush Charges Authorized☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Analysis Request of Custody Record

**Tetra Tech, Inc.**901 W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Page 8 of 10

1044757

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None				
										YEAR: 2020			
	Sidewall East 2	6/16/2020		X		X						1 N	
	Sidewall East 3	6/16/2020		X		X						1 N	
	Sidewall East 4	6/16/2020		X		X						1 N	
	Sidewall East 5	6/16/2020		X		X						1 N	
	Sidewall East 6	6/16/2020		X		X						1 N	
	Sidewall East 7	6/16/2020		X		X						1 N	
	Sidewall East 8	6/16/2020		X		X						1 N	
	Sidewall East 9	6/16/2020		X		X						1 N	
	Sidewall East 10	6/16/2020		X		X						1 N	
	Sidewall East 11	6/16/2020		X		X						1 N	

LAB USE ONLY	REMARKS:	ANALYSIS REQUEST (Circle or Specify Method No.)																			
Sample Temperature 1.7/1.3 ☐ STANDARD ☒ RUSH: Same Day 24 hr 48 hr (2 hr) ☐ Rush Charges Authorized ☐ Special Report Limits or TRRP Report	(Circle) (HAND DELIVERED) FEDEX UPS Tracking #:	BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	

ORIGINAL COPY

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Page

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Client Name:

EOG

Site Manager:

Mike Carmona

Project Name:

Vaca 30 SWD

Project Location:
(county, state)

Lea Co, NM

Project #:

212C-MD-02169

Invoice to:

EOG - James Kennedy

Receiving Laboratory:

Xenco

Sampler Signature:

Conner Moehring

Comments:

SAMPLE IDENTIFICATION

OCB-10/21/2021 3:45:52 PM

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	LAB USE ONLY	REMARKS:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		YEAR: 2020			WATER	SOIL	HCL	HNO ₃	ICE					None																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B
TPH TX1005 (Ext to C35)
TPH 8015M (GRO DRO - ORO - MRO)
PAH 8270C
Total Metals Ag As Ba Cd Cr Pb Se Hg
TCLP Metals Ag As Ba Cd Cr Pb Se Hg
TCLP Volatiles
TCLP Semi Volatiles
RCI
GC/MS Vol. 8260B / 624
GC/MS Semi. Vol. 8270C/625
PCB's 8082 / 608
NORM
PLM (Asbestos)
Chloride
Chloride Sulfate TDS
General Water Chemistry (see attached list)
Anion/Cation Balance

Hold

LAB USE ONLY

Sample Temperature

REMARKS:

☐ STANDARD

☒ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

Analysis Request of Custody Record



Tetra Tech, Inc.

 901W Wall Street, Ste 100
 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

Page 10 of 10

Client Name: EOG		Site Manager: Mike Carmona	
Project Name: Vaca 30 SWD		Project #: 212C-MD-02169	
Project Location: Lea Co, NM		Project #: 212C-MD-02169	
Invoice to: EOG - James Kennedy		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)	
		DATE	TIME		WATER	SOIL	HCL	HNO ₃	ICE				None
	Sidewall West 8	6/16/2020		X			X			1 N		BTEX 8021B BTEX 8260B	
	Sidewall West 9	6/16/2020		X			X			1 N		TPH TX1005 (Ext to C35)	
	Sidewall West 10	6/16/2020		X			X			1 N		TPH 8015M (GRO - DRO - ORO - MRO)	
	Sidewall West 11	6/16/2020		X			X			1 N		PAH 8270C	
	Sidewall West 12	6/16/2020		X			X			1 N		Total Metals Ag As Ba Cd Cr Pb Se Hg	
	Sidewall West 13	6/16/2020		X			X			1 N		TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
												TCLP Volatiles	
												TCLP Semi Volatiles	
												RCI	
												GC/MS Vol. 8260B / 624	
												GC/MS Semi. Vol. 8270C/625	
												PCB's 8082 / 608	
												NORM	
												PLM (Asbestos)	
												Chloride	
												Chloride Sulfate TDS	
												General Water Chemistry (see attached list)	
												Anion/Cation Balance	
												Hold	

Relinquished by:	Date: _____ Time: _____	Received by:	Date: _____ Time: _____
Relinquished by: _____	Date: _____ Time: _____	Received by: _____	Date: _____ Time: _____

LAB USE ONLY	REMARKS:
1.7/1.3	☐ STANDARD ☒ RUSH: Same Day 24 hr 48 hr <u>72 hr</u> ☐ Rush Charges Authorized ☐ Special Report Limits or TRRP Report

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 06.18.2020 10.44.00 AM

Work Order #: 664787

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	Yes EXTRA SAMPLE FOR BH96
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 06.18.2020

Checklist reviewed by:



Jessica Kramer

Date: 06.19.2020



Certificate of Analysis Summary 665569

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co. NM

Date Received in Lab: Thu 06.25.2020 15:34

Report Date: 06.29.2020 13:09

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	665569-001	665569-002	665569-003	665569-004	665569-005	665569-006
	Field Id:	Bottom Hole #4 (5.5 BEB)	Bottom Hole #7 (5.5 BEB)	Bottom Hole #14 (5.5 BEE)	Bottom Hole #18 (5.5 BEE)	Bottom Hole #19 (5.5 BEE)	Bottom Hole #20 (5.5 BEE)
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	06.25.2020 00:00	06.25.2020 00:00	06.25.2020 00:00	06.25.2020 00:00	06.25.2020 00:00	06.25.2020 00:00
BTEX by EPA 8021B	Extracted:	06.26.2020 15:00	06.26.2020 15:00	06.26.2020 15:00	06.26.2020 15:00	06.26.2020 15:00	06.26.2020 15:00
	Analyzed:	06.26.2020 19:47	06.26.2020 20:08	06.26.2020 20:28	06.26.2020 20:49	06.26.2020 21:09	06.26.2020 21:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
m,p-Xylenes		<0.00399 0.00399	<0.00403 0.00403	<0.00396 0.00396	<0.00398 0.00398	<0.00398 0.00398	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201
Inorganic Anions by EPA 300/300.1	Extracted:	06.26.2020 10:21	06.26.2020 10:21	06.26.2020 10:21	06.26.2020 10:21	06.26.2020 10:21	06.26.2020 10:21
	Analyzed:	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		221 5.00	235 5.02	231 5.03	277 4.96	228 5.00	234 5.05
TPH By SW8015 Mod	Extracted:	06.25.2020 17:00	06.25.2020 17:00	06.25.2020 17:00	06.25.2020 17:00	06.25.2020 17:00	06.25.2020 17:00
	Analyzed:	06.25.2020 19:10	06.25.2020 19:31	06.25.2020 19:53	06.25.2020 20:14	06.25.2020 20:36	06.25.2020 20:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0
Total TPH		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 665569

Tetra Tech- Midland, Midland, TX

Project Name: Vaca 30 SWD

Project Id: 212C-MD-02169

Contact: Mike Carmona

Project Location: Lea Co. NM

Date Received in Lab: Thu 06.25.2020 15:34

Report Date: 06.29.2020 13:09

Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 665569-007 Field Id: Bottom Hole #21 (5.5 BEE) Depth: Matrix: SOIL Sampled: 06.25.2020 00:00					
BTEX by EPA 8021B	Extracted: 06.26.2020 15:00 Analyzed: 06.26.2020 21:50 Units/RL: mg/kg RL					
Benzene	<0.00199 0.00199					
Toluene	<0.00199 0.00199					
Ethylbenzene	<0.00199 0.00199					
m,p-Xylenes	<0.00398 0.00398					
o-Xylene	<0.00199 0.00199					
Total Xylenes	<0.00199 0.00199					
Total BTEX	<0.00199 0.00199					
Inorganic Anions by EPA 300/300.1	Extracted: 06.26.2020 10:21 Analyzed: ** * * * * Units/RL: mg/kg RL					
Chloride	223 4.95					
TPH By SW8015 Mod	Extracted: 06.25.2020 17:00 Analyzed: 06.25.2020 21:18 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<49.8 49.8					
Diesel Range Organics (DRO)	<49.8 49.8					
Motor Oil Range Hydrocarbons (MRO)	<49.8 49.8					
Total TPH	<49.8 49.8					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer
Project Manager



Analytical Report 665569

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Vaca 30 SWD

212C-MD-02169

06.29.2020

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



06.29.2020

Project Manager: **Mike Carmona**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: XENCO Report No(s): **665569**

Vaca 30 SWD

Project Address: Lea Co. NM

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 665569. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 665569 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 665569****Tetra Tech- Midland, Midland, TX**

Vaca 30 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bottom Hole #4 (5.5 BEB)	S	06.25.2020 00:00		665569-001
Bottom Hole #7 (5.5 BEB)	S	06.25.2020 00:00		665569-002
Bottom Hole #14 (5.5 BEB)	S	06.25.2020 00:00		665569-003
Bottom Hole #18 (5.5 BEB)	S	06.25.2020 00:00		665569-004
Bottom Hole #19 (5.5 BEB)	S	06.25.2020 00:00		665569-005
Bottom Hole #20 (5.5 BEB)	S	06.25.2020 00:00		665569-006
Bottom Hole #21 (5.5 BEB)	S	06.25.2020 00:00		665569-007



CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Vaca 30 SWD

Project ID: 212C-MD-02169
Work Order Number(s): 665569

Report Date: 06.29.2020
Date Received: 06.25.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #4 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-001

Date Collected: 06.25.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.26.2020 10:21

Basis: Wet Weight

Seq Number: 3130056

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	221	5.00	mg/kg	06.25.2020 21:26		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.25.2020 17:00

Basis: Wet Weight

Seq Number: 3130103

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.25.2020 19:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.25.2020 19:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.25.2020 19:10	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.25.2020 19:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	75	%	70-130	06.25.2020 19:10	
o-Terphenyl	84-15-1	82	%	70-130	06.25.2020 19:10	



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #4 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-001

Date Collected: 06.25.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.26.2020 15:00

Basis: Wet Weight

Seq Number: 3130218

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.26.2020 19:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.26.2020 19:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.26.2020 19:47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.26.2020 19:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.26.2020 19:47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.26.2020 19:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.26.2020 19:47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	06.26.2020 19:47		
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.26.2020 19:47		



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #7 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-002

Date Collected: 06.25.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.26.2020 10:21

Basis: Wet Weight

Seq Number: 3130056

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	235	5.02	mg/kg	06.25.2020 21:31		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.25.2020 17:00

Basis: Wet Weight

Seq Number: 3130103

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.25.2020 19:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.25.2020 19:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.25.2020 19:31	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.25.2020 19:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	06.25.2020 19:31	
o-Terphenyl	84-15-1	74	%	70-130	06.25.2020 19:31	



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #7 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-002

Date Collected: 06.25.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.26.2020 15:00

Basis: Wet Weight

Seq Number: 3130218

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.26.2020 20:08	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.26.2020 20:08	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.26.2020 20:08	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.26.2020 20:08	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.26.2020 20:08	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.26.2020 20:08	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.26.2020 20:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.26.2020 20:08		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.26.2020 20:08		



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #14 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-003

Date Collected: 06.25.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.26.2020 10:21

Basis: Wet Weight

Seq Number: 3130056

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	231	5.03	mg/kg	06.25.2020 21:36		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.25.2020 17:00

Basis: Wet Weight

Seq Number: 3130103

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.25.2020 19:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.25.2020 19:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.25.2020 19:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.25.2020 19:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-130	06.25.2020 19:53	
o-Terphenyl	84-15-1	79	%	70-130	06.25.2020 19:53	



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #14 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-003

Date Collected: 06.25.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.26.2020 15:00

Basis: Wet Weight

Seq Number: 3130218

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.26.2020 20:28	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.26.2020 20:28	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.26.2020 20:28	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	06.26.2020 20:28	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.26.2020 20:28	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.26.2020 20:28	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.26.2020 20:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	06.26.2020 20:28		
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.26.2020 20:28		



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #18 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-004

Date Collected: 06.25.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.26.2020 10:21

Basis: Wet Weight

Seq Number: 3130056

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	277	4.96	mg/kg	06.25.2020 21:41		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.25.2020 17:00

Basis: Wet Weight

Seq Number: 3130103

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.25.2020 20:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.25.2020 20:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.25.2020 20:14	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.25.2020 20:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	70	%	70-130	06.25.2020 20:14	
o-Terphenyl	84-15-1	75	%	70-130	06.25.2020 20:14	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #18 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-004

Date Collected: 06.25.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.26.2020 15:00

Basis: Wet Weight

Seq Number: 3130218

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.26.2020 20:49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.26.2020 20:49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.26.2020 20:49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.26.2020 20:49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.26.2020 20:49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.26.2020 20:49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.26.2020 20:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	06.26.2020 20:49		
4-Bromofluorobenzene	460-00-4	107	%	70-130	06.26.2020 20:49		



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #19 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-005

Date Collected: 06.25.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.26.2020 10:21

Basis: Wet Weight

Seq Number: 3130056

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	228	5.00	mg/kg	06.25.2020 21:46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.25.2020 17:00

Basis: Wet Weight

Seq Number: 3130103

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	06.25.2020 20:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	06.25.2020 20:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	06.25.2020 20:36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	06.25.2020 20:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	06.25.2020 20:36	
o-Terphenyl	84-15-1	75	%	70-130	06.25.2020 20:36	



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Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #19 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-005

Date Collected: 06.25.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.26.2020 15:00

Basis: Wet Weight

Seq Number: 3130218

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.26.2020 21:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.26.2020 21:09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.26.2020 21:09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.26.2020 21:09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.26.2020 21:09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.26.2020 21:09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.26.2020 21:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	06.26.2020 21:09		
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.26.2020 21:09		



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #20 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-006

Date Collected: 06.25.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.26.2020 10:21

Basis: Wet Weight

Seq Number: 3130056

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	234	5.05	mg/kg	06.25.2020 21:51		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.25.2020 17:00

Basis: Wet Weight

Seq Number: 3130103

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	06.25.2020 20:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	06.25.2020 20:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	06.25.2020 20:57	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	06.25.2020 20:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-130	06.25.2020 20:57	
o-Terphenyl	84-15-1	79	%	70-130	06.25.2020 20:57	



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #20 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-006

Date Collected: 06.25.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.26.2020 15:00

Basis: Wet Weight

Seq Number: 3130218

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.26.2020 21:30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.26.2020 21:30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.26.2020 21:30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.26.2020 21:30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.26.2020 21:30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.26.2020 21:30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.26.2020 21:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.26.2020 21:30		
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.26.2020 21:30		



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #21 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-007

Date Collected: 06.25.2020 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.26.2020 10:21

Basis: Wet Weight

Seq Number: 3130056

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	223	4.95	mg/kg	06.25.2020 21:56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 06.25.2020 17:00

Basis: Wet Weight

Seq Number: 3130103

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.25.2020 21:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.25.2020 21:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.25.2020 21:18	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.25.2020 21:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	72	%	70-130	06.25.2020 21:18	
o-Terphenyl	84-15-1	70	%	70-130	06.25.2020 21:18	



Certificate of Analytical Results 665569

Tetra Tech- Midland, Midland, TX

Vaca 30 SWD

Sample Id: **Bottom Hole #21 (5.5 BEB)**

Matrix: Soil

Date Received: 06.25.2020 15:34

Lab Sample Id: 665569-007

Date Collected: 06.25.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 06.26.2020 15:00

Basis: Wet Weight

Seq Number: 3130218

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.26.2020 21:50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.26.2020 21:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.26.2020 21:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.26.2020 21:50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.26.2020 21:50	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.26.2020 21:50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.26.2020 21:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	06.26.2020 21:50		
1,4-Difluorobenzene	540-36-3	106	%	70-130	06.26.2020 21:50		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3130056

Matrix: Solid

Prep Method: E300P

Date Prep: 06.26.2020

MB Sample Id: 7706240-1-BLK

LCS Sample Id: 7706240-1-BKS

LCSD Sample Id: 7706240-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	265	106	90-110	5	20	mg/kg	06.25.2020 19:29	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3130056

Matrix: Soil

Prep Method: E300P

Date Prep: 06.26.2020

Parent Sample Id: 665480-016

MS Sample Id: 665480-016 S

MSD Sample Id: 665480-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.92	250	275	106	278	108	90-110	1	20	mg/kg	06.25.2020 19:44	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3130056

Matrix: Soil

Prep Method: E300P

Date Prep: 06.26.2020

Parent Sample Id: 665481-008

MS Sample Id: 665481-008 S

MSD Sample Id: 665481-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.1	250	274	101	282	104	90-110	3	20	mg/kg	06.25.2020 20:55	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3130103

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.25.2020

MB Sample Id: 7706205-1-BLK

LCS Sample Id: 7706205-1-BKS

LCSD Sample Id: 7706205-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1050	105	998	100	70-130	5	20	mg/kg	06.25.2020 12:41	
Diesel Range Organics (DRO)	<50.0	1000	1160	116	1180	118	70-130	2	20	mg/kg	06.25.2020 12:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	72		76		130		70-130	%	06.25.2020 12:41
o-Terphenyl	76		76		119		70-130	%	06.25.2020 12:41

Analytical Method: TPH By SW8015 Mod

Seq Number: 3130103

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.25.2020

MB Sample Id: 7706205-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.25.2020 12:20	

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

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

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

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



Tetra Tech- Midland

Vaca 30 SWD

Analytical Method: TPH By SW8015 Mod

Seq Number: 3130103

Parent Sample Id: 665480-001

Matrix: Soil

MS Sample Id: 665480-001 S

Prep Method: SW8015P

Date Prep: 06.25.2020

MSD Sample Id: 665480-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	1080	107	1060	105	70-130	2	20	mg/kg	06.25.2020 13:45	
Diesel Range Organics (DRO)	<50.3	1010	1200	119	1210	120	70-130	1	20	mg/kg	06.25.2020 13:45	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		128		70-130	%	06.25.2020 13:45
o-Terphenyl	118		116		70-130	%	06.25.2020 13:45

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130218

MB Sample Id: 7706349-1-BLK

Matrix: Solid

LCS Sample Id: 7706349-1-BKS

Prep Method: SW5035A

Date Prep: 06.26.2020

LCSD Sample Id: 7706349-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0932	93	0.0960	96	70-130	3	35	mg/kg	06.26.2020 16:43	
Toluene	<0.00200	0.100	0.0994	99	0.0973	97	70-130	2	35	mg/kg	06.26.2020 16:43	
Ethylbenzene	<0.00200	0.100	0.108	108	0.105	105	70-130	3	35	mg/kg	06.26.2020 16:43	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.204	102	70-130	4	35	mg/kg	06.26.2020 16:43	
o-Xylene	<0.00200	0.100	0.107	107	0.103	103	70-130	4	35	mg/kg	06.26.2020 16:43	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		94		96		70-130	%	06.26.2020 16:43
4-Bromofluorobenzene	100		103		99		70-130	%	06.26.2020 16:43

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130218

Parent Sample Id: 665649-001

Matrix: Soil

MS Sample Id: 665649-001 S

Prep Method: SW5035A

Date Prep: 06.26.2020

MSD Sample Id: 665649-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0769	77	0.0684	68	70-130	12	35	mg/kg	06.26.2020 17:24	X
Toluene	<0.00200	0.100	0.0723	72	0.0565	56	70-130	25	35	mg/kg	06.26.2020 17:24	X
Ethylbenzene	<0.00200	0.100	0.0675	68	0.0402	40	70-130	51	35	mg/kg	06.26.2020 17:24	XF
m,p-Xylenes	<0.00400	0.200	0.130	65	0.0761	38	70-130	52	35	mg/kg	06.26.2020 17:24	XF
o-Xylene	<0.00200	0.100	0.0665	67	0.0399	40	70-130	50	35	mg/kg	06.26.2020 17:24	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		102		70-130	%	06.26.2020 17:24
4-Bromofluorobenzene	104		102		70-130	%	06.26.2020 17:24

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

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

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 06.25.2020 03.34.24 PM

Work Order #: 665569

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes BTEX was in bulk container
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 06.25.2020

Checklist reviewed by:



Jessica Kramer

Date: 06.26.2020

District I
1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210
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1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 57375

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 57375
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	1/24/2022