

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 Department

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

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

Incident ID	nAPP2136338719
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Solaris Water, LLC	OGRID 371643
Contact Name Rob Kirk	Contact Telephone O 575- 300-5155 C 469-978-5620
Contact email rob.kirk@ariswater.com	Incident # (assigned by OCD)
Contact mailing address 3305 Boyd Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.22496 Longitude -103.50678
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Gettysburg Tinhorn	Site Type Tinhorn
Date Release Discovered 12/28/2021	API# (if applicable)

Unit Letter	Section	Township	Range	County
O	7	24S	34E	Lea

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 82	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The connection of a poly pipe to a carbon steel fitting created a pin hole leak. The section was replaced and the leak has stopped.

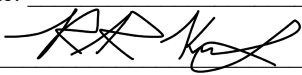
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Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? 82 BBLs of Produced Water released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Rob Kirk notified by NMOCD Web Portal, emails to Hoobs and Artesia offices of OCD	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
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: <u>Rob Kirk</u>	Title: <u>VP & GM, HSE & Compliance</u>
Signature: 	Date: <u>01/20/2023</u>
email: <u>rob.kirk@ariswater.com</u>	Telephone: <u>O 575- 300-5155 C 469-978-5620</u>
<u>OCD Only</u> Received by: _____ Date: _____	

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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>78</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

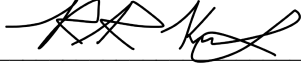
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods,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

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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: Rob Kirk Title: VP & GM, HSE & Compliance
 Signature:  Date: 01/20/2023
 email: rob.kirk@ariswater.com Telephone: O 575- 300-5155 C 469-978-5620

OCD Only

Received by: _____ Date: _____

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Remediation Plan


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

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

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

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

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

Printed Name: Rob Kirk Title: VP & GM, HSE & Compliance
 Signature:  Date: 01/20/2023
 email: rob.kirk@ariswater.com Telephone: O 575- 300-5155 C 469-978-5620

OCD Only

Received by: _____ Date: _____

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

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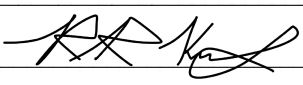
Closure

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

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

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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

Printed Name: Rob Kirk Title: VP & GM, HSE & Compliance
 Signature:  Date: 01/20/2023
 email: rob.kirk@ariswater.com Telephone: O 575- 300-5155 C 469-978-5620

OCD Only

Received by: _____ Date: _____

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

Closure Approved by:  Date: 09/06/2023
 Printed Name: Nelson Velez Title: Environmental Specialist – Adv

Solaris Water Medistream LLC.
Gettysburg Tinhorn
Unit: O Section: 07 Township: 24S Range: 34E
NMOCD Reference # nAPP2136338719
Terracon Project # AR227018



Amended Closure Report

Attn: Mr. Rob Kirk
P: (469) 978-5620
E: rob.kirk@ariswater.com

RE: **Amended Closure Report**
Gettysburg Tinhorn
Unit: O, Section 07, Township 24 South, Range 34 East
Lea County, New Mexico
Terracon Project No. AR227018

Dear Mr. Kirk,

Terracon Consultants, Inc. (Terracon) is pleased to submit our Amended Closure Report for the site referenced above. The Release Investigation and Closure Report were developed in accordance with the New Mexico Oil Conservation Division (NMOCD) regulations concerning clean-up actions required for releases of crude oil and produced water. Based on the release investigation assessment, Terracon completed the following actions to achieve the protection of fresh water and the environment in accordance with NMOCD regulations. Terracon developed the Release Investigation and Closure Report in general accordance with our scope of work (AR227018) dated April 20, 2022.

Action Items

Completed Actions

- 1) Initial site assessment and sampling events completed.
- 2) Vertical and Horizontal delineation of release was achieved.
- 3) All conditions needed for approval of closure have been met.
- 4) All Maps and associated data for approval have been provided
- 5) Conducted an initial site assessment and a series of sampling events.
- 6) Soil samples collected from the delineation were submitted to an approved Lab to determine levels of impact vertically and horizontally.
- 7) Excavation of the impacted area was completed with the intent to remove impacted soil as determined by the Closure Criteria set by NMOCD.
- 8) Exhumed soils were stockpiled on site and placed on plastic and bermed around the edges to reduce loss.
- 9) All confirmation samples were collected every 200 sq. ft.
- 10) Remedial activities were terminated when confirmation samples no longer exhibited concentrations of constituents of concern (COCs) above applicable NMOCD RALs for Oil and Gas impacted soils or a competent rock layer was encountered.
- 11) Following the completion of remedial activities all areas of the excavation activities have been

Solaris Water Midstream LLC
Gettysburg Tinhorn
Unit: 0 Section: 07 Township: 24S Range: 34E
NMOCD Reference # nAPP2136338719




backfilled and brought to the surrounding grade and reseeded.

Anticipated Actions

-
- 1) Approval by the NMOCD.
-

Terracon appreciates this opportunity to provide environmental services to Solaris Water Midstream LLC (Solaris). Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.



Travis L. Casey
Senior Staff Scientist
Carlsbad - Office



Erin Loyd, P.G. (TX)
Principal
Office Manager – Lubbock

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Attachments:

Appendix A – Exhibits

- Exhibit 1 – Topo Map
- Exhibit 2 – Site Map
- Exhibit 3 – Initial Site Investigation Map
- Exhibit 4 – Confirmation Soil Sampling Map
- Exhibit 5 – NMOSE POD Location Map
- Exhibit 6 – Cave Karst Public UCP Map

Appendix B – Tables, Procedures, and Figures

- Table 1 – Closure Criteria for Soils Impacted by a Release
- Table 2 – Soil Sample Analytical Results

Appendix C – Photographic Log

Appendix D – Analytical Report and Chain of Custody

Appendix E – Waste Manifest

Solaris Water Midstream LLC
 Gettysburg Tinhorn
 Unit: O Section: 07 Township: 24S Range: 34E
 NMOCD Reference # nAPP2136338719



Incident Information

The following table provides detailed information regarding the December 28, 2021, produced water release at the site in Lea County, New Mexico:

Required Information	Site and Release information	
Responsible party	The facility is operated by Solaris Water Midstream LLC	
Local contact	Contact: Mr. Rob Kirk	P: (469) 978-5620 E: rob.kirk@ariswater.com
NMOCD Notification	Notice of the release was provided to the NMOCD web portal by Rob Kirk on December 29, 2021. Incident number nAPP2136338719 was assigned to the release.	
Time of incident	On December 28, 2021, the time of discovery is undisclosed	
Discharge event	The cause of the leak was due to Corrosion at a Coupling and was discovered seeping to the surface and surrounding area along the pipeline right-of-way (ROW).	
Type of discharge	The documented fluids release occurred within already existing ROW and is affected at the surface to an undefined depth.	
Quantity of released material	Total Fluids: 82 bbls	Produced Water: 82 bbls Total Petroleum Hydrocarbons: None
Immediate corrective actions	Replacement of the Corrosive Coupling from Tinhorn to Riser.	

Solaris Water Midstream LLC
 Gettysburg Tinhorn
 Unit: O Section: 07 Township: 24S Range: 34E
 NMOCD Reference # nAPP2136338719



General Site Characteristics	
Remedial Determining Information	Site Ranking Characteristics
Facility Description Site Map – (Exhibit 2 in Appendix A)	Gettysburg Tinhorn is in Lea County, New Mexico. It is an area located within Unit O, Section 07, Township 24 South, Range 34 East, approximately 19.5 miles Northwest of Jal, New Mexico. The site is predominantly developed ROW.
Site characteristics Topographic Map – (Exhibit 1 in Appendix A)	Relatively flat with drainage following the ROW surface; very gently sloping to the east.
Groundwater NMOSE POD Location Map – (Exhibit 6 in Appendix A)	<u>POD Number:</u> (CP-03932-POD8) <u>Depth to Groundwater:</u> 78 ft. bgs <u>Distance to Well:</u> 0.37 miles to the northeast <u>Date Drilled:</u> May 18, 2016
	<u>Groundwater Quality:</u> Groundwater quality at the site is predominately used for livestock production.
Surface Water	Pecos River (South-eastern Eddy County, NM), approximately 27.5 miles to the west.
Soil Characteristics	Soils at the site are mapped as Berino-Cacique series soils, 0 to 3 percent slopes, well-drained, 0 to 6 inches loamy fine sand, 6 to 60 inches sandy clay loam. This soil has a surface layer of loamy fine sand. Restrictive features are present at 80 inches bgs resulting in the formation being categorized with a low runoff classification.
Karst Characterization Cave Karst Public UCP Map – (Exhibit 7 in Appendix A)	Terracon evaluated data from the NMOCD Public FTP Site, Karst map designations in reference to the site location. The site appears to be within a low-level Karst risk area. Based on on-site observations within the extent of the release margins the potential for Karst formations in this specific area are of low potential. A layer of solid competent rock was encountered from 11 to 21 inches bgs within the release margins. The full extent of release quantities and excavation activities did not extend greater than 60 inches bgs.

Solaris Water Midstream LLC
 Gettysburg Tinhorn
 Unit: O Section: 07 Township: 24S Range: 34E
 NMOCD Reference # nAPP2136338719



Regulatory Framework and Response Action Levels

Oil and gas exploration and production facilities in New Mexico are generally regulated by the New Mexico Oil Conservation Division (NMOCD). The NMOCD has issued the *Closure Criteria for Soils Impacted by a Release, June 21, 2018*, and *Restoration, Reclamation, and Re-vegetation (19.15.29.13) NMAC – D (Reclamation of areas no longer in use)* as guidance documents for the remediation and reclamation of sites impacted by releases from oil and gas exploration and production activities. Sections detailed below the applicability of these guidance documents to the site-specific characteristics associated with the Gettysburg Tinhorn.

Reclamation Levels (Surface to 4 ft. bgs)

The below Reclamation Limits for chlorides, TPH (GRO+DRO+MRO), BTEX (includes benzene, toluene, ethylbenzene, and xylenes), and benzene are defined within New Mexico Administration Code (NMAC) *Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use)* for soils extending to 4 ft. bgs.:

Constituent	Remediation Limits
Chloride	600 mg/kg
TPH (GRO+DRO+MRO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

Remediation Levels (> 4 ft. bgs)

Based on the depth-to-water information gathered from CP-03932-POD8 (78 ft bgs), the applicable NMOCD remediation levels for Total BTEX, chloride, and TPH within soils, exclusive of the Reclamation Zone (surface to 4 ft. bgs), are as follows:

Constituent	Remediation Limit
Chloride	10,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
TPH (GRO+DRO)	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

Solaris Water Midstream LLC
Gettysburg Tinhorn
Unit: O Section: 07 Township: 24S Range: 34E
NMOCD Reference # nAPP2136338719



Soil Investigation Discussion

During Terracon's January 18, 2022, and August 11, 2022 release investigation activities, a total of 26 soil samples were collected from within the release margins and analyzed for BTEX, chloride, and/or TPH. A total of 60 confirmation soil samples were collected on August 28-31, 2022, and February 13-20, 2023.

Release Margins Data Evaluation

■ Reclamation Assessment Data Evaluation

A total of 26 soil samples were collected from within the release margins within the top 4 ft bgs. All 11 of the initial samples were analyzed for the presence of BTEX, chloride, and/or TPH. One of the 11 samples did exhibit concentrations of benzene constituents above applicable laboratory sample detection levels (SDLs) but below the applicable NMOCD remedial action levels (RALs), as summarized in Table 1.

Each of the 26 samples collected was analyzed for the presence of chloride. The detected chloride concentrations ranged from non-detect in soil sample HA-3 (4.5 ft bgs to 5 ft bgs) to 5,930 mg/kg in soil sample HA-2 (0 ft bgs to 0.5 ft bgs), as summarized in Table 1.

Based on the review of the analytical results of the delineation soil samples, the detected constituent concentrations did exceed NMOCD RALs based on the criteria ranking parameters and applicability by depth. Based on this comparison, NMOCD Action Levels will continue to be utilized as the applicable RALs for the site.

Confirmation Sampling Data Evaluation

■ Remediation Assessment Data Evaluation

A total of 60 composite confirmation soil samples were collected throughout the excavated extent of the release and were analyzed for the presence of BTEX, Benzene, and/or TPH. Analyzed samples did not exhibit concentrations of BTEX, Benzene, or TPH constituents above applicable laboratory SDLs, as summarized in Table 1.

Chloride was detected above applicable laboratory SDLs in 59 of the 60 composite confirmation soil samples analyzed within the excavation extent. The chloride concentrations ranged from 6.13 mg/kg in soil sample S-SW04 (surface to 4 ft bgs) to 9,460 mg/kg in soil sample FS02 (5 ft bgs to 6 ft bgs). Of the 60 soil samples analyzed, the 20 wall soil samples exhibited chloride concentrations below the applicable NMOCD RALs of 600 mg/kg, with the exception being three wall samples that were further remediated and subsequently exhibited concentrations below the NMOCD RALs. The 40 floor confirmation samples exhibited chloride concentrations below the applicable NMOCD RALs of 10,000 mg/kg as summarized in Table 1.

Solaris Water Midstream LLC
Gettysburg Tinhorn
Unit: O Section: 07 Township: 24S Range: 34E
NMOCD Reference # nAPP2136338719



Investigation and Remediation Data Summary

Based on the review of the above release investigation analytical results, the presence of petroleum hydrocarbon constituents (BTEX/TPH) was not detected at concentrations above applicable NMOCD Reclamation and/or Remediation Action Limits.

Of the 60 soil samples analyzed, 19 soil samples exhibited chloride concentrations above the applicable NMOCD Reclamation Action Limit of 600 mg/kg for soil samples collected within the soils from surface to 4 ft bgs. None of the soil samples collected at depths greater than 4 ft bgs exhibited chlorides that exceeded the NMOCD Remediation Action Limit of 10,000 mg/kg.

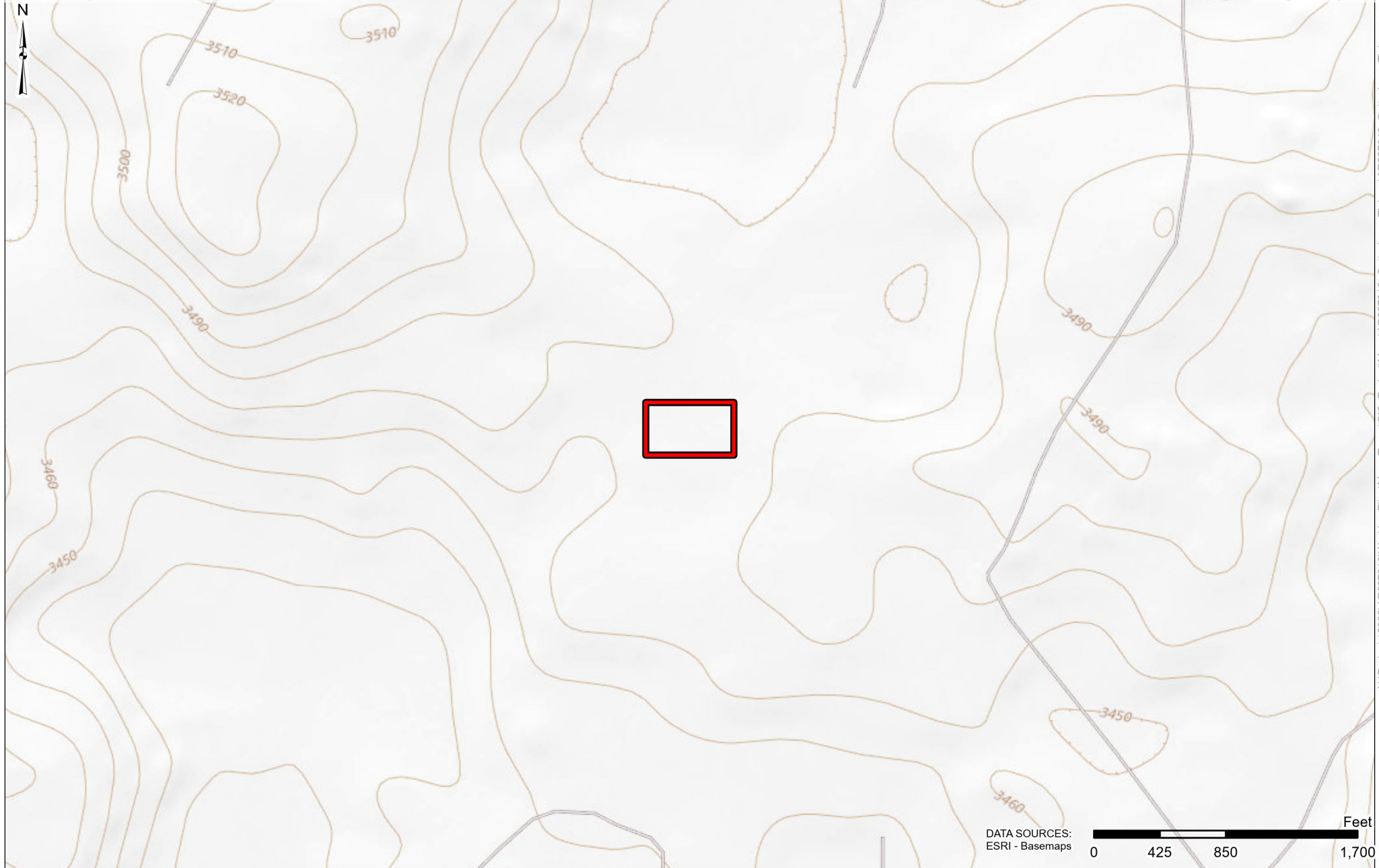
It is anticipated that released produced water-associated chlorides consolidated upon the cemented layer of the Lea Formation at 70 to 80 inches bgs. Based on the proximity of the analyzed samples to this restrictive layer and the magnitude of the concentrations being elevated above 600 mg/kg but below 10,000 mg/kg, it is not anticipated that further remedial actions are needed.

Solaris Water Midstream LLC
 Gettysburg Tintah
 Unit: O Section: 07 Township: 24S Range: 34E
 NMOCD Reference # nAPP2136338719

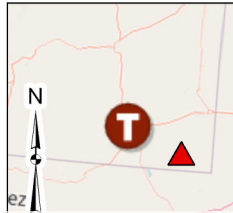
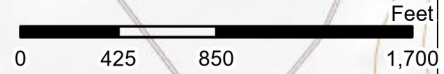


Soil Management Plan	
Soil Objectives	Approach Actions
General Soil Plan	The best approach for this site was determined to be to excavate all impacted materials and dispose of impacted materials at an approved oil and gas waste facility.
Reclamation Response Objectives	The objective of reclamation activities at this site was to remove all impacted materials from the surface to 4 ft. below grade surface (bgs) that had chloride concentrations above 600 mg/kg.
Remediation Response Objectives	The objective of remediation activities at this site was to ensure that all soils at depths below 4 ft. bgs. were at a chloride concentration below 10,000 mg/kg.
Soil Management	All impacted soils that were excavated were placed on a 20-mil poly liner. The excavated stockpiles had soils bermed around the edges to reduce unintended impacts on native soils.
Depth of Remediation Confirmation Soil Map – (Figure 3 in Appendix A)	The depths of remedial activities at the site were determined by titrating confirmation samples during excavation activities. The sections of the excavation from FS01 through FS05 were completed at 6 ft. bgs., while sections FS06 through FS30 were terminated at 5 ft. bgs.
Disposal Facility Waste Manifest – (Appendix E)	All impacted soils were taken to R360 Halfway.
Quantity Disposed Waste Manifest – (Appendix E)	A total of 3,640 cubic yards was excavated and disposed of at the R360 Halfway disposal facility.

APPENDIX A – EXHIBITS



DATA SOURCES:
ESRI - Basemaps




 Site Location

Project No.:
AR227018

Date:
May 15 2023

Drawn By:
JWL

Reviewed By:
JRG



4518 W Pierce St
Carlsbad, NM

PH. 806-300-0140 terracon.com

Topographic Map

Gettysburg Tinhorn
-103.5064776°W, 32.2249046°N
Lea County, New Mexico

Exhibit

1

N:\Projects\2022\AR227018\Working Files\Maps-Topos\GIS - Project\Maps\AR227018 - Gettysburg Tinhorn.aprx




DATA SOURCES: Bing Feet



 Excavation Boundary

Project No.:
AR227018
Date:
May 15 2023
Drawn By:
JWL
Reviewed By:
JRG



4518 W Pierce St
Carlsbad, NM

PH. 806-300-0140 terracon.com

Site Map

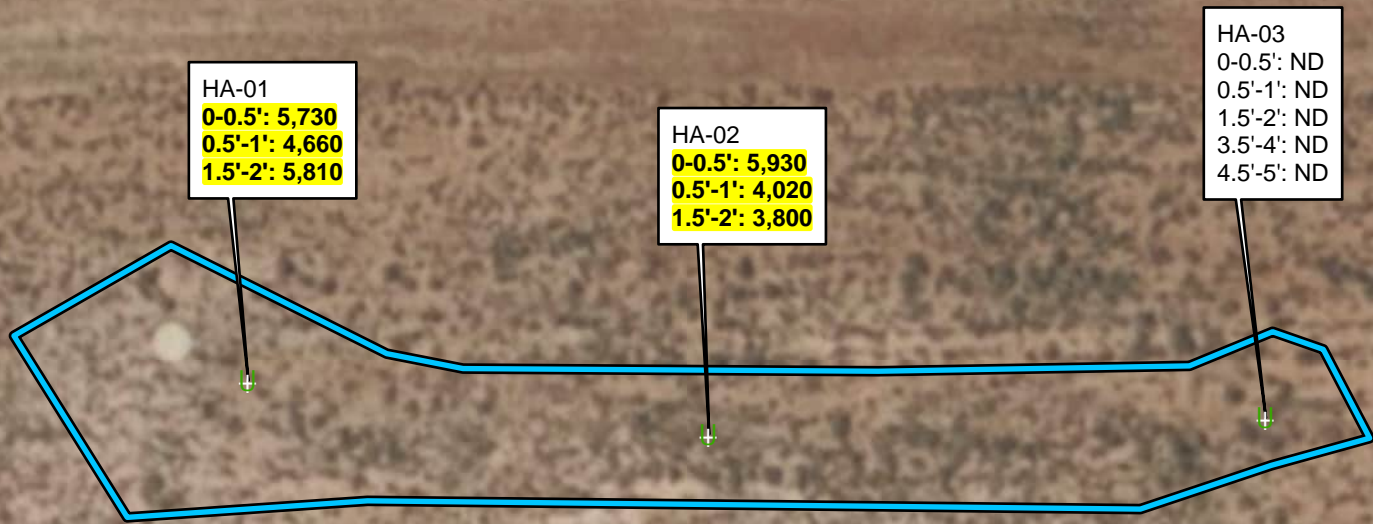
Gettysburg Tinhorn
-103.5064776°W, 32.2249046°N
Lea County, New Mexico

Exhibit

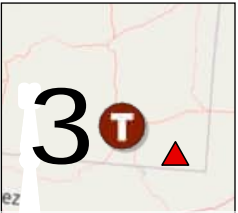
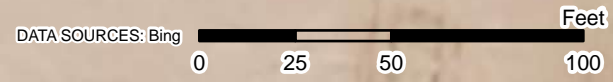
2

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3



All chloride concentrations presented in mg/kg
 NMOCD RAL = 600 mg/kg for chloride
 Highlighted values indicate exceedances of NMOCD RALs



Inferred Release
 Sample Location

Project No.: AR227018
 Date: May 15 2023
 Drawn By: JWL
 Reviewed By: JRG

4518 W Pierce St
 Carlsbad, NM
 PH. 806-300-0140 terracon.com

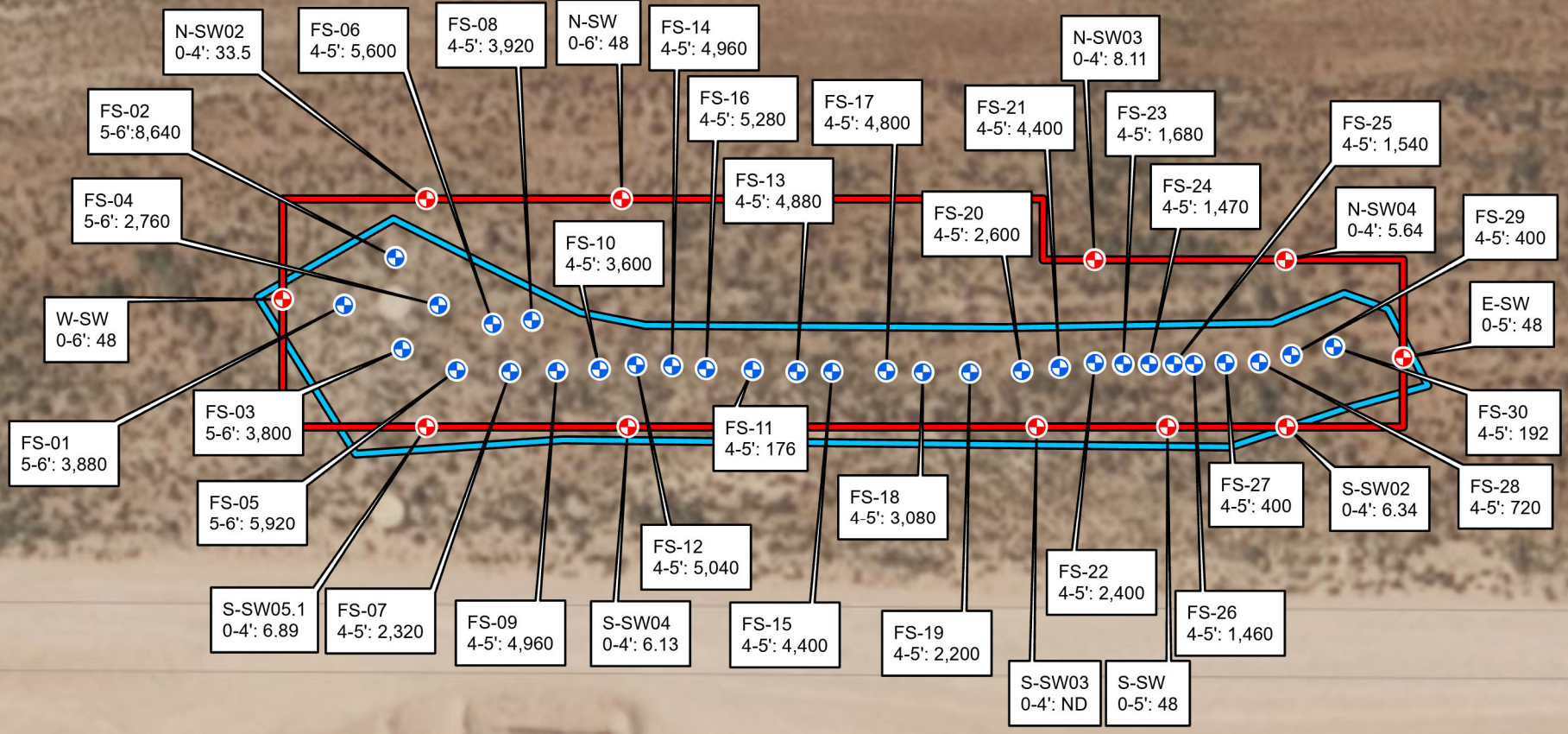
Initial Site Investigation Map

Gettysburg Tinhorn
 -103.5064776°W, 32.2249046°N
 Lea County, New Mexico

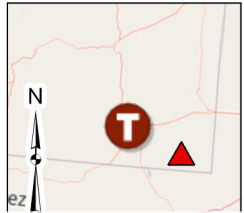
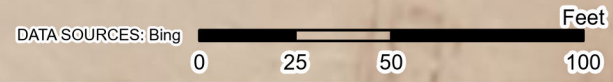
Exhibit

3

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All chloride concentrations presented in mg/kg
 NMOCD RAL = 600 mg/kg for chloride
 Highlighted values indicate exceedances of NMOCD RALs



- Inferred Release
- Excavation Boundary
- Sample Location
- Floor Sample
- Wall Sample

Project No.: AR227018
 Date: May 16 2023
 Drawn By: JWL
 Reviewed By: JRG

4518 W Pierce St
 Carlsbad, NM
 PH. 806-300-0140 terracon.com

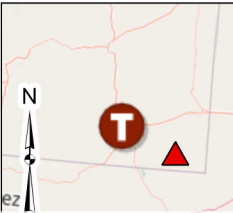
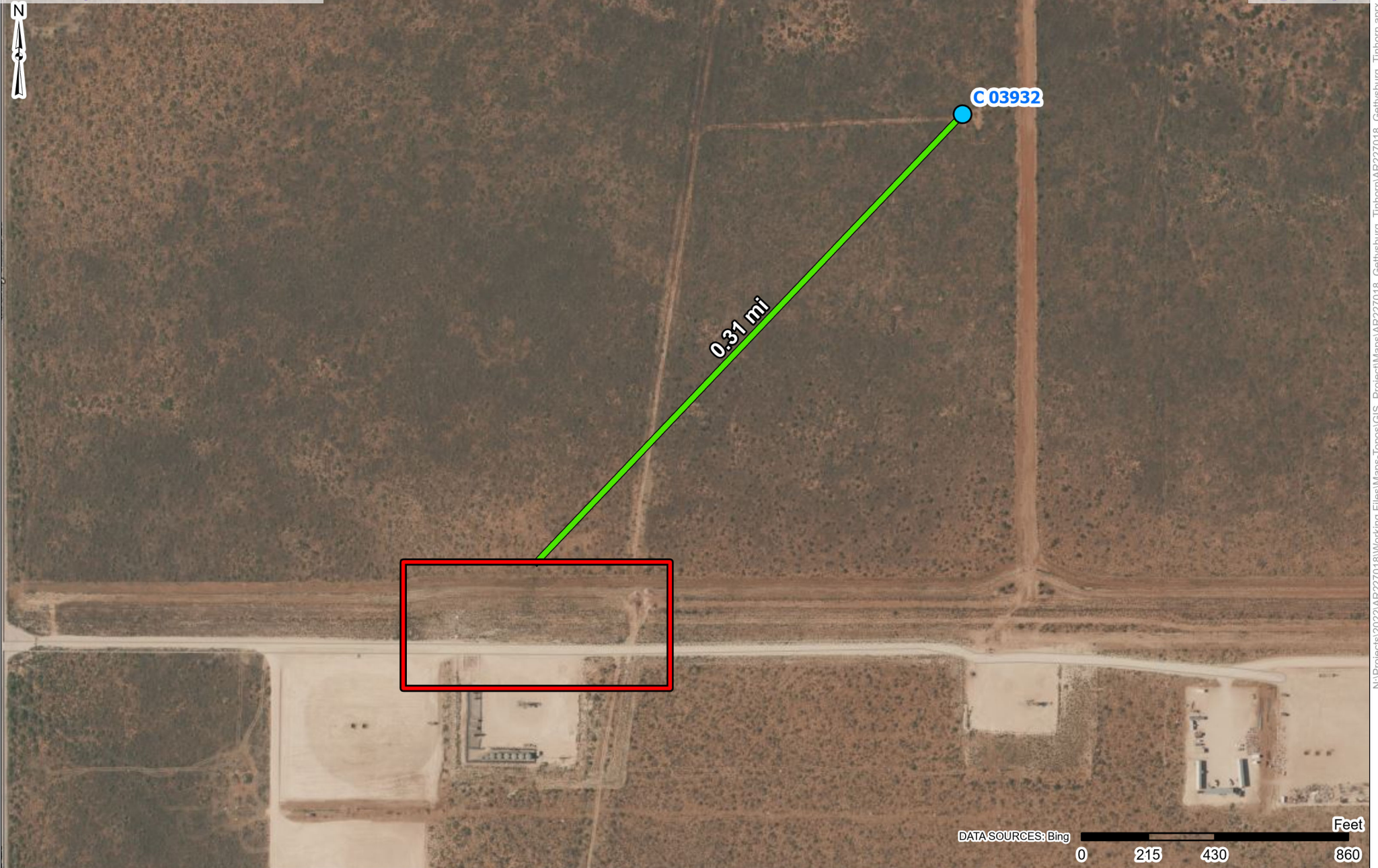
Confirmation Soil Sample Map

Gettysburg Tinhorn
 -103.5064776°W, 32.2249046°N
 Lea County, New Mexico

Exhibit

4

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- ▭ Site Location
- NMOSE PODS Location

Project No.:
AR227018

Date:
May 15 2023

Drawn By:
JWL

Reviewed By:
JRG



4518 W Pierce St
Carlsbad, NM

PH. 806-300-0140 terracon.com

NMOSE POD Location Map





Gettysburg Tinhorn
-103.5064776°W, 32.2249046°N
Lea County, New Mexico

Exhibit

5

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-  Site Location
- Karst Potential**
-  Low
-  Medium
-  High

Project No.:
AR227018

Date:
May 15 2023

Drawn By:
JWL

Reviewed By:
JRG



Terracon

4518 W Pierce St
Carlsbad, NM

PH. 806-300-0140 terracon.com

Cave Karst Public UCP Map

Gettysburg Tinhorn
-103.5064776°W, 32.2249046°N
Lea County, New Mexico

Exhibit

6

APPENDIX B – TABLES, PROCEDURES, AND FIGURES

Table 1			
Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/L TDS	Constituent	Method*	Limit**
≤50 feet	Chloride***	EPA 300.0 or SM4500 CI B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
51 feet – 100 feet	Chloride***	EPA 300.0 or SM4500 CI B	10,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
>100 feet	Chloride***	EPA 300.0 or SM4500 CI B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	TPH (GRO+DRO)	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

*Or other methods approved by the division

**Numerical limits or natural background level, whichever is greater

***This applies to releases of produced water or other fluids, which may contain chloride

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - BTEX ¹ , Chloride ² , and TPH ³ Gettysburg Tinhorn Terracon Project No. AR227018										
Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Soil Status	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
Release Margin Samples										
HA-1	0 - 0.5	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	5,730	ND	ND	ND	ND
	0.5 - 1	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	4,660	ND	ND	ND	ND
	1.5 - 2	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	5,810	ND	ND	ND	ND
HA-2	0 - 0.5	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	5,930	ND	ND	ND	ND
	0.5 - 1	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	4,020	ND	ND	ND	ND
	1.5 - 2	Grab	Ex-Situ	01/18/22	Benzene - 0.00129 Total BTEX - ND	3,800	ND	ND	ND	ND
HA-3	0 - 0.5	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	ND	ND	ND	ND	ND
	0.5 - 1	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	ND	ND	ND	ND	ND
	1.5 - 2	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	ND	ND	ND	ND	ND
	3.5 - 4	Grab	Ex-Situ	01/18/22	Benzene - ND Total BTEX - ND	ND	ND	ND	ND	ND
BH-1	0 - 0.5	Grab	Ex-Situ	08/11/22	Benzene - NA Total BTEX - NA	1840	NA	NA	NA	NA
	0.5 - 1	Grab	Ex-Situ	08/11/22	Benzene - NA Total BTEX - NA	436	NA	NA	NA	NA
	1 - 2	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	3810	NA	NA	NA	NA
	3.5 - 4	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	1960	NA	NA	NA	NA
	4.5 - 5	Grab	In-Situ	08/11/23	Benzene - NA Total BTEX - NA	112	NA	NA	NA	NA
BH-2	0 - 0.5	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	82.9	NA	NA	NA	NA
	0.5 - 1	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	1430	NA	NA	NA	NA
	1 - 2	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	4810	NA	NA	NA	NA
	3.5 - 4	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	5550	NA	NA	NA	NA
BH-3	0 - 0.5	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	949	NA	NA	NA	NA
	0.5 - 1	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	3760	NA	NA	NA	NA
	1.5 - 2	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	4640	NA	NA	NA	NA
	3.5 - 4	Grab	Ex-Situ	08/11/23	Benzene - NA Total BTEX - NA	2170	NA	NA	NA	NA
	4.5 - 5	Grab	In-Situ	08/11/23	Benzene - NA Total Xylenes - NA	152	NA	NA	NA	NA
NMOCD Reclamation Standards⁴ (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)					Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	600	N/A			100
NMOCD Remediation and Delineation Standards⁵ (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)					Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	10,000	N/A			25,000

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
 2. Chloride = Chloride analyzed by EPA Method 300.
 3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
 4. New Mexico Administration Code (NMAC) Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use) for soils extending to 4 ft. bgs
 5. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018
 < = Constituent not detected above the indicated laboratory SDL
 ND = Non Detect
 N/A = Not Applicable
Bold and Highlight denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Reclamation and/or Remediation and Delineation Standards.

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - BTEX ¹ , Chloride ² , and TPH ³ Gettysburg Tinhorn Terracon Project No. AR227018										
Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Soil Status	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
Confirmation Floor Samples										
FS01	5-6'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	8,530	ND	ND	ND	ND
FS02	5-6'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	9,460	ND	ND	ND	ND
FS03	5-6'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	496	ND	ND	ND	ND
FS04	5-6'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	320	ND	ND	ND	ND
E-FS01	5-6'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	5,680	ND	ND	ND	ND
E-FS02	4-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	3,520	ND	ND	ND	ND
E-FS03	4-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	3,200	ND	ND	ND	ND
E-FS04	4-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	2,680	ND	ND	ND	ND
E-FS05	4-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	2,880	ND	ND	ND	ND
E-FS06	4-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	752	ND	ND	ND	ND
FS01	5-6'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	3,880	NA	NA	NA	NA
FS02	5-6'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	8,640	NA	NA	NA	NA
FS03	5-6'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	3,800	NA	NA	NA	NA
FS04	5-6'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	2,760	NA	NA	NA	NA
FS05	5-6'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	5,920	NA	NA	NA	NA
FS06	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	5,600	NA	NA	NA	NA
FS07	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	2,320	NA	NA	NA	NA
FS08	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	3,920	NA	NA	NA	NA
FS09	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	4,960	NA	NA	NA	NA
FS10	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	3,600	NA	NA	NA	NA
FS11	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	176	NA	NA	NA	NA
FS12	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	5,040	NA	NA	NA	NA
FS13	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	4,880	NA	NA	NA	NA
FS14	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	4,960	NA	NA	NA	NA
FS15	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	4,400	NA	NA	NA	NA
NMOC D Reclamation Standards⁴ (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)					Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	600	N/A			100
NMOC D Remediation and Delineation Standards⁵ (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)					Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	10,000	N/A			25,000

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
 2. Chloride = Chloride analyzed by EPA Method 300.
 3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
 4. New Mexico Administration Code (NMAC) Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use) for soils extending to 4 ft. bgs
 5. New Mexico Oil Conservation Division (NMOC D) Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018
 < = Constituent not detected above the indicated laboratory SDL
 ND = Non Detect
 N/A = Not Applicable

Bold and Highlight denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOC D) Reclamation and/or Remediation and Delineation Standards.

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - BTEX ¹ , Chloride ² , and TPH ³ Gettysburg Tinhorn Terracon Project No. AR227018										
Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Soil Status	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
							GRO	DRO	MRO	TOTAL
Confirmation Floor Samples										
FS16	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	5,280	NA	NA	NA	NA
FS17	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	4,800	NA	NA	NA	NA
FS18	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	3,080	NA	NA	NA	NA
FS19	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	2,200	NA	NA	NA	NA
FS20	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	2,600	NA	NA	NA	NA
FS21	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	4,400	NA	NA	NA	NA
FS22	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	2,400	NA	NA	NA	NA
FS23	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	1,680	NA	NA	NA	NA
FS24	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	1,470	NA	NA	NA	NA
FS25	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	1,540	NA	NA	NA	NA
FS26	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	1,460	NA	NA	NA	NA
FS27	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	400	NA	NA	NA	NA
FS28	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	720	NA	NA	NA	NA
FS29	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	400	NA	NA	NA	NA
FS30	4-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	192	NA	NA	NA	NA
Confirmation Wall Samples										
TH-N	0-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	9,460	ND	ND	ND	ND
TH-E	0-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	8,660	ND	ND	ND	ND
TH-S	0-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	4,000	ND	ND	ND	ND
TH-W	0-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	3,840	ND	ND	ND	ND
ESW	0-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	4,400	ND	ND	ND	ND
NSW	0-5'	Composite	In-Situ	08/28/22	Benzene - ND Total BTEX - ND	304	ND	ND	ND	ND
E-SW-E	0-5'	Composite	Ex-Situ	08/28/22	Benzene - ND Total BTEX - ND	4,400	ND	ND	ND	ND
E-SW-N	0-5'	Composite	Ex-Situ	08/28/22	Benzene - ND Total BTEX - ND	736	ND	ND	ND	ND
N-SW	0-4'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	48	NA	NA	NA	NA
N-SW02	0-4'	Composite	In-Situ	02/13/23	Benzene - ND Total BTEX - ND	33.5	ND	ND	ND	ND
N-SW03	0-4'	Composite	In-Situ	02/13/23	Benzene - ND Total BTEX - ND	8.11	ND	ND	ND	ND
N-SW04	0-4'	Composite	In-Situ	02/13/23	Benzene - ND Total BTEX - ND	5.64	ND	ND	ND	ND
E SW	0-4'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	48	NA	NA	NA	NA
S SW	0-5'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	48	NA	NA	NA	NA
S-SW02	0-4'	Composite	In-Situ	02/13/23	Benzene - ND Total BTEX - ND	6.34	ND	ND	ND	ND
S-SW03	0-4'	Composite	In-Situ	02/13/23	Benzene - ND Total BTEX - ND	ND	ND	ND	ND	ND
S-SW04	0-4'	Composite	In-Situ	02/13/23	Benzene - ND Total BTEX - ND	6.13	ND	ND	ND	ND
S-SW05	0-4'	Composite	Ex-Situ	02/13/23	Benzene - ND Total BTEX - ND	780	ND	ND	ND	ND
S-SW05.1	0-4'	Composite	In-Situ	02/20/23	Benzene - ND Total BTEX - ND	6.89	ND	ND	ND	ND
W SW	0-6'	Composite	In-Situ	08/31/22	Benzene - NA Total BTEX - NA	48	NA	NA	NA	NA
NMOC Reclamation Standards⁴ (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)					Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	600	N/A			100
NMOC Remediation and Delineation Standards⁵ (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)					Benzene - 10 Toluene - N/A Ethylbenzene - N/A Total Xylenes - N/A Total BTEX - 50	10,000	N/A			2,500

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B
 2. Chloride = Chloride analyzed by EPA Method 300.
 3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)
 4. New Mexico Administration Code (NMAC) Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use) for soils extending to 4 ft. bgs
 5. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018
 NA = Not Analyzed
 ND = Non Detect
 N/A = Not Applicable
Bold and HighLight denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Reclamation and/or Remediation and Delineation Standards.

APPENDIX C – PHOTOGRAPHIC LOG

Gettysburg Tinhorn ■ Lea County, New Mexico
October 12, 2022 ■ Terracon Project No. AR227018



PHOTO 1: View of site, facing East. / **GPS:** 32.22493, -103.50689



PHOTO 2: View of excavation, facing East / **GPS:** 32.22492, -103.50679

Gettysburg Tinhorn ■ Lea County, New Mexico
October 12, 2022 ■ Terracon Project No. AR227018



PHOTO 3: View of excavation, facing West / GPS: 32.22491, -103.506



PHOTO 4: View of backfilled excavation area, facing northeast / GPS: 32:793457 - -104.57533

APPENDIX D – ANALYTICAL REPORT AND CHAIN OF CUSTODY



Environment Testing
America

ANALYTICAL REPORT

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock, TX 79424
Tel: (806)794-1296

Laboratory Job ID: 820-3158-1
Laboratory Sample Delivery Group: AR227018
Client Project/Site: Gettysburg Tinhorn

For:
Terracon Consulting Eng & Scientists
5847 50th St
Lubbock, Texas 79424

Attn: Joseph Guesnier

Authorized for release by:
1/21/2022 2:47:58 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com



LINKS

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results through
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Have a Question?



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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

- 1
- 2
- 3
- 4
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- 12
- 13
- 14

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Laboratory Job ID: 820-3158-1
SDG: AR227018

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Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by EQC field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-

05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Jessica Kramer
Project Manager
1/21/2022 2:47:58 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Laboratory Job ID: 820-3158-1
SDG: AR227018

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
SDG: AR227018

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
SDG: AR227018

Job ID: 820-3158-1

Laboratory: Eurofins Lubbock

Narrative

**Job Narrative
820-3158-1**

Receipt

The samples were received on 1/18/2022 3:57 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.5°C

GC/MS VOA

Method 8260C: The following samples were diluted due to it being lime sludge: (860-19305-C-1-A) and (860-19305-C-1-A MS). Elevated reporting limits (RL) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TindhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-1 (0-0.5)

Lab Sample ID: 820-3158-1

Date Collected: 01/18/22 11:10

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/20/22 19:16	1
Toluene	<0.00502	U	0.00502		mg/Kg		01/20/22 12:01	01/20/22 19:16	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/20/22 19:16	1
m,p-Xylenes	<0.00201	U	0.00201		mg/Kg		01/20/22 12:01	01/20/22 19:16	1
o-Xylene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/20/22 19:16	1
Xylenes, Total	<0.00201	U	0.00201		mg/Kg		01/20/22 12:01	01/20/22 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		56 - 150	01/20/22 12:01	01/20/22 19:16	1
4-Bromofluorobenzene (Surr)	107		68 - 152	01/20/22 12:01	01/20/22 19:16	1
Dibromofluoromethane (Surr)	97		53 - 142	01/20/22 12:01	01/20/22 19:16	1
Toluene-d8 (Surr)	108		70 - 130	01/20/22 12:01	01/20/22 19:16	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00201	U	0.00201		mg/Kg			01/21/22 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		01/20/22 15:45	01/20/22 18:33	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		01/20/22 15:45	01/20/22 18:33	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		01/20/22 15:45	01/20/22 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	98		65 - 130	01/20/22 15:45	01/20/22 18:33	1
o-Terphenyl (Surr)	98		65 - 130	01/20/22 15:45	01/20/22 18:33	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5730		98.8		mg/Kg		01/20/22 10:21	01/20/22 18:25	10

Client Sample ID: HA-1 (0.5-1)

Lab Sample ID: 820-3158-2

Date Collected: 01/18/22 11:15

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000994	U	0.000994		mg/Kg		01/20/22 12:01	01/20/22 19:37	1
Toluene	<0.00497	U	0.00497		mg/Kg		01/20/22 12:01	01/20/22 19:37	1
Ethylbenzene	<0.000994	U	0.000994		mg/Kg		01/20/22 12:01	01/20/22 19:37	1
m,p-Xylenes	<0.00199	U	0.00199		mg/Kg		01/20/22 12:01	01/20/22 19:37	1
o-Xylene	<0.000994	U	0.000994		mg/Kg		01/20/22 12:01	01/20/22 19:37	1
Xylenes, Total	<0.00199	U	0.00199		mg/Kg		01/20/22 12:01	01/20/22 19:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		56 - 150	01/20/22 12:01	01/20/22 19:37	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-1 (0.5-1)

Lab Sample ID: 820-3158-2

Date Collected: 01/18/22 11:15

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		68 - 152	01/20/22 12:01	01/20/22 19:37	1
Dibromofluoromethane (Surr)	95		53 - 142	01/20/22 12:01	01/20/22 19:37	1
Toluene-d8 (Surr)	108		70 - 130	01/20/22 12:01	01/20/22 19:37	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00199	U	0.00199		mg/Kg			01/21/22 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 19:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 19:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		65 - 130	01/20/22 15:45	01/20/22 19:34	1
o-Terphenyl (Surr)	95		65 - 130	01/20/22 15:45	01/20/22 19:34	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4660		101		mg/Kg		01/20/22 10:21	01/20/22 18:34	10

Client Sample ID: HA-1 (1.5-2)

Lab Sample ID: 820-3158-3

Date Collected: 01/18/22 11:20

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00101	U	0.00101		mg/Kg		01/20/22 12:01	01/20/22 19:58	1
Toluene	<0.00505	U	0.00505		mg/Kg		01/20/22 12:01	01/20/22 19:58	1
Ethylbenzene	<0.00101	U	0.00101		mg/Kg		01/20/22 12:01	01/20/22 19:58	1
m,p-Xylenes	<0.00202	U	0.00202		mg/Kg		01/20/22 12:01	01/20/22 19:58	1
o-Xylene	<0.00101	U	0.00101		mg/Kg		01/20/22 12:01	01/20/22 19:58	1
Xylenes, Total	<0.00202	U	0.00202		mg/Kg		01/20/22 12:01	01/20/22 19:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		56 - 150	01/20/22 12:01	01/20/22 19:58	1
4-Bromofluorobenzene (Surr)	110		68 - 152	01/20/22 12:01	01/20/22 19:58	1
Dibromofluoromethane (Surr)	94		53 - 142	01/20/22 12:01	01/20/22 19:58	1
Toluene-d8 (Surr)	106		70 - 130	01/20/22 12:01	01/20/22 19:58	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00202	U	0.00202		mg/Kg			01/21/22 10:44	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-1 (1.5-2)

Lab Sample ID: 820-3158-3

Date Collected: 01/18/22 11:20

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		01/20/22 15:45	01/20/22 19:54	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		01/20/22 15:45	01/20/22 19:54	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		01/20/22 15:45	01/20/22 19:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		65 - 130				01/20/22 15:45	01/20/22 19:54	1
o-Terphenyl (Surr)	102		65 - 130				01/20/22 15:45	01/20/22 19:54	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5810		102		mg/Kg		01/20/22 10:21	01/20/22 18:43	10

Client Sample ID: HA-2 (0-0.5)

Lab Sample ID: 820-3158-4

Date Collected: 01/18/22 11:25

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000992	U	0.000992		mg/Kg		01/20/22 12:01	01/21/22 01:33	1
Toluene	<0.00496	U	0.00496		mg/Kg		01/20/22 12:01	01/21/22 01:33	1
Ethylbenzene	<0.000992	U	0.000992		mg/Kg		01/20/22 12:01	01/21/22 01:33	1
m,p-Xylenes	<0.00198	U	0.00198		mg/Kg		01/20/22 12:01	01/21/22 01:33	1
o-Xylene	<0.000992	U	0.000992		mg/Kg		01/20/22 12:01	01/21/22 01:33	1
Xylenes, Total	<0.00198	U	0.00198		mg/Kg		01/20/22 12:01	01/21/22 01:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		56 - 150				01/20/22 12:01	01/21/22 01:33	1
4-Bromofluorobenzene (Surr)	112		68 - 152				01/20/22 12:01	01/21/22 01:33	1
Dibromofluoromethane (Surr)	95		53 - 142				01/20/22 12:01	01/21/22 01:33	1
Toluene-d8 (Surr)	109		70 - 130				01/20/22 12:01	01/21/22 01:33	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00198	U	0.00198		mg/Kg			01/21/22 11:34	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		01/20/22 15:45	01/20/22 20:14	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		01/20/22 15:45	01/20/22 20:14	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		01/20/22 15:45	01/20/22 20:14	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-2 (0-0.5)

Lab Sample ID: 820-3158-4

Date Collected: 01/18/22 11:25

Matrix: Soil

Date Received: 01/18/22 15:57

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	98		65 - 130	01/20/22 15:45	01/20/22 20:14	1
o-Terphenyl (Surr)	98		65 - 130	01/20/22 15:45	01/20/22 20:14	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5930		101		mg/Kg		01/20/22 10:21	01/20/22 18:52	10

Client Sample ID: HA-2 (0.5-1)

Lab Sample ID: 820-3158-5

Date Collected: 01/18/22 11:30

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 01:54	1
Toluene	<0.00502	U	0.00502		mg/Kg		01/20/22 12:01	01/21/22 01:54	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 01:54	1
m,p-Xylenes	<0.00201	U	0.00201		mg/Kg		01/20/22 12:01	01/21/22 01:54	1
o-Xylene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 01:54	1
Xylenes, Total	<0.00201	U	0.00201		mg/Kg		01/20/22 12:01	01/21/22 01:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		56 - 150	01/20/22 12:01	01/21/22 01:54	1
4-Bromofluorobenzene (Surr)	114		68 - 152	01/20/22 12:01	01/21/22 01:54	1
Dibromofluoromethane (Surr)	96		53 - 142	01/20/22 12:01	01/21/22 01:54	1
Toluene-d8 (Surr)	106		70 - 130	01/20/22 12:01	01/21/22 01:54	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00201	U	0.00201		mg/Kg			01/21/22 11:34	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 20:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 20:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		65 - 130	01/20/22 15:45	01/20/22 20:35	1
o-Terphenyl (Surr)	97		65 - 130	01/20/22 15:45	01/20/22 20:35	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4020		102		mg/Kg		01/20/22 10:21	01/20/22 19:19	10

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-2 (1.5-2)

Lab Sample ID: 820-3158-6

Date Collected: 01/18/22 11:35

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00129		0.000994		mg/Kg		01/20/22 12:01	01/21/22 02:15	1
Toluene	<0.00497	U	0.00497		mg/Kg		01/20/22 12:01	01/21/22 02:15	1
Ethylbenzene	<0.000994	U	0.000994		mg/Kg		01/20/22 12:01	01/21/22 02:15	1
m,p-Xylenes	<0.00199	U	0.00199		mg/Kg		01/20/22 12:01	01/21/22 02:15	1
o-Xylene	<0.000994	U	0.000994		mg/Kg		01/20/22 12:01	01/21/22 02:15	1
Xylenes, Total	<0.00199	U	0.00199		mg/Kg		01/20/22 12:01	01/21/22 02:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		56 - 150	01/20/22 12:01	01/21/22 02:15	1
4-Bromofluorobenzene (Surr)	111		68 - 152	01/20/22 12:01	01/21/22 02:15	1
Dibromofluoromethane (Surr)	96		53 - 142	01/20/22 12:01	01/21/22 02:15	1
Toluene-d8 (Surr)	107		70 - 130	01/20/22 12:01	01/21/22 02:15	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00199	U	0.00199		mg/Kg			01/21/22 11:34	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		01/20/22 15:45	01/20/22 21:15	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		01/20/22 15:45	01/20/22 21:15	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		01/20/22 15:45	01/20/22 21:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	99		65 - 130	01/20/22 15:45	01/20/22 21:15	1
o-Terphenyl (Surr)	99		65 - 130	01/20/22 15:45	01/20/22 21:15	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3800		101		mg/Kg		01/20/22 10:21	01/20/22 19:27	10

Client Sample ID: HA-3 (0-0.5)

Lab Sample ID: 820-3158-7

Date Collected: 01/18/22 11:40

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 02:36	1
Toluene	<0.00500	U	0.00500		mg/Kg		01/20/22 12:01	01/21/22 02:36	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 02:36	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg		01/20/22 12:01	01/21/22 02:36	1
o-Xylene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 02:36	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		01/20/22 12:01	01/21/22 02:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		56 - 150	01/20/22 12:01	01/21/22 02:36	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-3 (0-0.5)

Lab Sample ID: 820-3158-7

Date Collected: 01/18/22 11:40

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		68 - 152	01/20/22 12:01	01/21/22 02:36	1
Dibromofluoromethane (Surr)	92		53 - 142	01/20/22 12:01	01/21/22 02:36	1
Toluene-d8 (Surr)	107		70 - 130	01/20/22 12:01	01/21/22 02:36	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			01/21/22 11:34	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		01/20/22 15:45	01/20/22 21:35	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		01/20/22 15:45	01/20/22 21:35	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		01/20/22 15:45	01/20/22 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	98		65 - 130	01/20/22 15:45	01/20/22 21:35	1
o-Terphenyl (Surr)	98		65 - 130	01/20/22 15:45	01/20/22 21:35	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg		01/20/22 10:21	01/20/22 19:36	1

Client Sample ID: HA-3 (0.5-1)

Lab Sample ID: 820-3158-8

Date Collected: 01/18/22 11:45

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 02:57	1
Toluene	<0.00501	U	0.00501		mg/Kg		01/20/22 12:01	01/21/22 02:57	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 02:57	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg		01/20/22 12:01	01/21/22 02:57	1
o-Xylene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 02:57	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		01/20/22 12:01	01/21/22 02:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	134		56 - 150	01/20/22 12:01	01/21/22 02:57	1
4-Bromofluorobenzene (Surr)	110		68 - 152	01/20/22 12:01	01/21/22 02:57	1
Dibromofluoromethane (Surr)	103		53 - 142	01/20/22 12:01	01/21/22 02:57	1
Toluene-d8 (Surr)	102		70 - 130	01/20/22 12:01	01/21/22 02:57	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			01/21/22 11:34	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TindhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-3 (0.5-1)

Lab Sample ID: 820-3158-8

Date Collected: 01/18/22 11:45

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.3	U	49.3		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.3	U	49.3		mg/Kg		01/20/22 15:45	01/20/22 21:56	1
Diesel Range Organics (Over C10-C28)	<49.3	U	49.3		mg/Kg		01/20/22 15:45	01/20/22 21:56	1
Oil Range Organics (Over C28-C36)	<49.3	U	49.3		mg/Kg		01/20/22 15:45	01/20/22 21:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	98		65 - 130				01/20/22 15:45	01/20/22 21:56	1
o-Terphenyl (Surr)	97		65 - 130				01/20/22 15:45	01/20/22 21:56	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<9.96	U	9.96		mg/Kg		01/20/22 10:21	01/20/22 19:45	1

Client Sample ID: HA-3 (1.5-2)

Lab Sample ID: 820-3158-9

Date Collected: 01/18/22 11:50

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000992	U	0.000992		mg/Kg		01/20/22 12:01	01/21/22 03:18	1
Toluene	<0.00496	U	0.00496		mg/Kg		01/20/22 12:01	01/21/22 03:18	1
Ethylbenzene	<0.000992	U	0.000992		mg/Kg		01/20/22 12:01	01/21/22 03:18	1
m,p-Xylenes	<0.00198	U	0.00198		mg/Kg		01/20/22 12:01	01/21/22 03:18	1
o-Xylene	<0.000992	U	0.000992		mg/Kg		01/20/22 12:01	01/21/22 03:18	1
Xylenes, Total	<0.00198	U	0.00198		mg/Kg		01/20/22 12:01	01/21/22 03:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		56 - 150				01/20/22 12:01	01/21/22 03:18	1
4-Bromofluorobenzene (Surr)	112		68 - 152				01/20/22 12:01	01/21/22 03:18	1
Dibromofluoromethane (Surr)	95		53 - 142				01/20/22 12:01	01/21/22 03:18	1
Toluene-d8 (Surr)	105		70 - 130				01/20/22 12:01	01/21/22 03:18	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00198	U	0.00198		mg/Kg			01/21/22 11:34	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.4	U	49.4		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.4	U	49.4		mg/Kg		01/20/22 15:45	01/20/22 22:16	1
Diesel Range Organics (Over C10-C28)	<49.4	U	49.4		mg/Kg		01/20/22 15:45	01/20/22 22:16	1
Oil Range Organics (Over C28-C36)	<49.4	U	49.4		mg/Kg		01/20/22 15:45	01/20/22 22:16	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-3 (1.5-2)

Lab Sample ID: 820-3158-9

Date Collected: 01/18/22 11:50

Matrix: Soil

Date Received: 01/18/22 15:57

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	101		65 - 130	01/20/22 15:45	01/20/22 22:16	1
o-Terphenyl (Surr)	101		65 - 130	01/20/22 15:45	01/20/22 22:16	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<9.88	U	9.88		mg/Kg		01/20/22 10:21	01/20/22 19:54	1

Client Sample ID: HA-3 (3.5-4)

Lab Sample ID: 820-3158-10

Date Collected: 01/18/22 11:55

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00101	U	0.00101		mg/Kg		01/20/22 12:01	01/21/22 03:39	1
Toluene	<0.00505	U	0.00505		mg/Kg		01/20/22 12:01	01/21/22 03:39	1
Ethylbenzene	<0.00101	U	0.00101		mg/Kg		01/20/22 12:01	01/21/22 03:39	1
m,p-Xylenes	<0.00202	U	0.00202		mg/Kg		01/20/22 12:01	01/21/22 03:39	1
o-Xylene	<0.00101	U	0.00101		mg/Kg		01/20/22 12:01	01/21/22 03:39	1
Xylenes, Total	<0.00202	U	0.00202		mg/Kg		01/20/22 12:01	01/21/22 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		56 - 150	01/20/22 12:01	01/21/22 03:39	1
4-Bromofluorobenzene (Surr)	103		68 - 152	01/20/22 12:01	01/21/22 03:39	1
Dibromofluoromethane (Surr)	90		53 - 142	01/20/22 12:01	01/21/22 03:39	1
Toluene-d8 (Surr)	106		70 - 130	01/20/22 12:01	01/21/22 03:39	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00202	U	0.00202		mg/Kg			01/21/22 11:34	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.3	U	49.3		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.3	U	49.3		mg/Kg		01/20/22 15:45	01/20/22 22:36	1
Diesel Range Organics (Over C10-C28)	<49.3	U	49.3		mg/Kg		01/20/22 15:45	01/20/22 22:36	1
Oil Range Organics (Over C28-C36)	<49.3	U	49.3		mg/Kg		01/20/22 15:45	01/20/22 22:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	103		65 - 130	01/20/22 15:45	01/20/22 22:36	1
o-Terphenyl (Surr)	103		65 - 130	01/20/22 15:45	01/20/22 22:36	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<9.86	U	9.86		mg/Kg		01/20/22 10:21	01/20/22 20:03	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-3 (4.5-5)

Lab Sample ID: 820-3158-11

Date Collected: 01/18/22 12:00

Matrix: Soil

Date Received: 01/18/22 15:57

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 04:00	1
Toluene	<0.00502	U	0.00502		mg/Kg		01/20/22 12:01	01/21/22 04:00	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 04:00	1
m,p-Xylenes	<0.00201	U	0.00201		mg/Kg		01/20/22 12:01	01/21/22 04:00	1
o-Xylene	<0.00100	U	0.00100		mg/Kg		01/20/22 12:01	01/21/22 04:00	1
Xylenes, Total	<0.00201	U	0.00201		mg/Kg		01/20/22 12:01	01/21/22 04:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		56 - 150	01/20/22 12:01	01/21/22 04:00	1
4-Bromofluorobenzene (Surr)	106		68 - 152	01/20/22 12:01	01/21/22 04:00	1
Dibromofluoromethane (Surr)	97		53 - 142	01/20/22 12:01	01/21/22 04:00	1
Toluene-d8 (Surr)	102		70 - 130	01/20/22 12:01	01/21/22 04:00	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00201	U	0.00201		mg/Kg			01/21/22 11:34	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5		mg/Kg			01/21/22 10:56	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		01/20/22 15:57	01/20/22 22:56	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		01/20/22 15:57	01/20/22 22:56	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		01/20/22 15:57	01/20/22 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	99		65 - 130	01/20/22 15:57	01/20/22 22:56	1
o-Terphenyl (Surr)	98		65 - 130	01/20/22 15:57	01/20/22 22:56	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<9.94	U	9.94		mg/Kg		01/20/22 10:21	01/20/22 20:30	1

Eurofins Lubbock

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TindhornJob ID: 820-3158-1
SDG: AR227018

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Soil

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (56-150)	BFB (68-152)	DBFM (53-142)	TOL (70-130)
820-3158-1	HA-1 (0-0.5)	109	107	97	108
820-3158-2	HA-1 (0.5-1)	108	112	95	108
820-3158-3	HA-1 (1.5-2)	109	110	94	106
820-3158-4	HA-2 (0-0.5)	107	112	95	109
820-3158-5	HA-2 (0.5-1)	112	114	96	106
820-3158-6	HA-2 (1.5-2)	107	111	96	107
820-3158-7	HA-3 (0-0.5)	107	107	92	107
820-3158-8	HA-3 (0.5-1)	134	110	103	102
820-3158-9	HA-3 (1.5-2)	109	112	95	105
820-3158-10	HA-3 (3.5-4)	111	103	90	106
820-3158-11	HA-3 (4.5-5)	113	106	97	102

Surrogate Legend
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (56-150)	BFB (68-152)	DBFM (53-142)	TOL (70-130)
860-19305-C-1-A MS	Matrix Spike	102	111	74	105
880-10324-A-1-A MS	Matrix Spike	106	112	95	107
LCS 860-38211/3	Lab Control Sample	109	108	100	105
LCS 860-38319/3	Lab Control Sample	109	108	98	103
LCSD 860-38211/4	Lab Control Sample Dup	105	113	99	105
LCSD 860-38319/4	Lab Control Sample Dup	108	110	100	102
MB 860-38211/8	Method Blank	112	107	94	105
MB 860-38319/8	Method Blank	112	108	92	104

Surrogate Legend
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Soil

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (65-130)	OTPH1 (65-130)
820-3158-1	HA-1 (0-0.5)	98	98
820-3158-1 MS	HA-1 (0-0.5)	98	99
820-3158-1 MSD	HA-1 (0-0.5)	100	101
820-3158-2	HA-1 (0.5-1)	97	95
820-3158-3	HA-1 (1.5-2)	103	102
820-3158-4	HA-2 (0-0.5)	98	98

Eurofins Lubbock

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
 SDG: AR227018

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Soil

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (65-130)	OTPH1 (65-130)
820-3158-5	HA-2 (0.5-1)	97	97
820-3158-6	HA-2 (1.5-2)	99	99
820-3158-7	HA-3 (0-0.5)	98	98
820-3158-8	HA-3 (0.5-1)	98	97
820-3158-9	HA-3 (1.5-2)	101	101
820-3158-10	HA-3 (3.5-4)	103	103
820-3158-11	HA-3 (4.5-5)	99	98

Surrogate Legend

1CO = 1-Chlorooctane (Surr)

OTPH = o-Terphenyl (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (65-130)	OTPH1 (65-130)
LCS 860-38330/2-A	Lab Control Sample	100	105
LCSD 860-38330/3-A	Lab Control Sample Dup	99	98
MB 860-38330/1-A	Method Blank	99	98

Surrogate Legend

1CO = 1-Chlorooctane (Surr)

OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: 880-10324-A-1-A MS

Matrix: Solid

Analysis Batch: 38211

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 38102

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.0250	U	1.25	1.123		mg/Kg		90	71 - 119
Toluene	<0.125	U	1.25	1.245		mg/Kg		98	74 - 122
Ethylbenzene	<0.0250	U	1.25	1.279		mg/Kg		102	80 - 123
m,p-Xylenes	<0.0499	U	1.25	1.241		mg/Kg		96	78 - 127
o-Xylene	<0.0250	U	1.25	1.270		mg/Kg		102	79 - 125

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	106		56 - 150
4-Bromofluorobenzene (Surr)	112		68 - 152
Dibromofluoromethane (Surr)	95		53 - 142
Toluene-d8 (Surr)	107		70 - 130

Lab Sample ID: MB 860-38211/8

Matrix: Solid

Analysis Batch: 38211

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/Kg			01/20/22 12:18	1
Toluene	<0.00500	U	0.00500		mg/Kg			01/20/22 12:18	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg			01/20/22 12:18	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg			01/20/22 12:18	1
o-Xylene	<0.00100	U	0.00100		mg/Kg			01/20/22 12:18	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg			01/20/22 12:18	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		56 - 150		01/20/22 12:18	1
4-Bromofluorobenzene (Surr)	107		68 - 152		01/20/22 12:18	1
Dibromofluoromethane (Surr)	94		53 - 142		01/20/22 12:18	1
Toluene-d8 (Surr)	105		70 - 130		01/20/22 12:18	1

Lab Sample ID: LCS 860-38211/3

Matrix: Solid

Analysis Batch: 38211

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.05050		mg/Kg		101	66 - 142
Toluene	0.0500	0.05530		mg/Kg		111	74 - 130
Ethylbenzene	0.0500	0.05958		mg/Kg		119	80 - 130
m,p-Xylenes	0.0500	0.05552		mg/Kg		111	78 - 130
o-Xylene	0.0500	0.05833		mg/Kg		117	79 - 130

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	109		56 - 150
4-Bromofluorobenzene (Surr)	108		68 - 152
Dibromofluoromethane (Surr)	100		53 - 142
Toluene-d8 (Surr)	105		70 - 130

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-38211/4

Matrix: Solid

Analysis Batch: 38211

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04911		mg/Kg		98	66 - 142	3	25
Toluene	0.0500	0.05396		mg/Kg		108	74 - 130	2	25
Ethylbenzene	0.0500	0.05809		mg/Kg		116	80 - 130	3	25
m,p-Xylenes	0.0500	0.05506		mg/Kg		110	78 - 130	1	25
o-Xylene	0.0500	0.05825		mg/Kg		117	79 - 130	0	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		56 - 150
4-Bromofluorobenzene (Surr)	113		68 - 152
Dibromofluoromethane (Surr)	99		53 - 142
Toluene-d8 (Surr)	105		70 - 130

Lab Sample ID: 860-19305-C-1-A MS

Matrix: Solid

Analysis Batch: 38319

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 38300

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.0209	U	1.05	1.040		mg/Kg		99	71 - 119
Toluene	<0.105	U	1.05	1.122		mg/Kg		107	74 - 122
Ethylbenzene	<0.0209	U	1.05	1.189		mg/Kg		114	80 - 123
m,p-Xylenes	<0.0419	U	1.05	1.101		mg/Kg		105	78 - 127
o-Xylene	<0.0209	U	1.05	1.161		mg/Kg		111	79 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		56 - 150
4-Bromofluorobenzene (Surr)	111		68 - 152
Dibromofluoromethane (Surr)	74		53 - 142
Toluene-d8 (Surr)	105		70 - 130

Lab Sample ID: MB 860-38319/8

Matrix: Solid

Analysis Batch: 38319

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/Kg			01/21/22 00:51	1
Toluene	<0.00500	U	0.00500		mg/Kg			01/21/22 00:51	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg			01/21/22 00:51	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg			01/21/22 00:51	1
o-Xylene	<0.00100	U	0.00100		mg/Kg			01/21/22 00:51	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg			01/21/22 00:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		56 - 150		01/21/22 00:51	1
4-Bromofluorobenzene (Surr)	108		68 - 152		01/21/22 00:51	1
Dibromofluoromethane (Surr)	92		53 - 142		01/21/22 00:51	1
Toluene-d8 (Surr)	104		70 - 130		01/21/22 00:51	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-38319/3

Matrix: Solid

Analysis Batch: 38319

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04753		mg/Kg		95	66 - 142
Toluene	0.0500	0.05203		mg/Kg		104	74 - 130
Ethylbenzene	0.0500	0.05533		mg/Kg		111	80 - 130
m,p-Xylenes	0.0500	0.05197		mg/Kg		104	78 - 130
o-Xylene	0.0500	0.05461		mg/Kg		109	79 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	109		56 - 150
4-Bromofluorobenzene (Surr)	108		68 - 152
Dibromofluoromethane (Surr)	98		53 - 142
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 860-38319/4

Matrix: Solid

Analysis Batch: 38319

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04885		mg/Kg		98	66 - 142	3	25
Toluene	0.0500	0.05010		mg/Kg		100	74 - 130	4	25
Ethylbenzene	0.0500	0.05434		mg/Kg		109	80 - 130	2	25
m,p-Xylenes	0.0500	0.05120		mg/Kg		102	78 - 130	1	25
o-Xylene	0.0500	0.05415		mg/Kg		108	79 - 130	1	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		56 - 150
4-Bromofluorobenzene (Surr)	110		68 - 152
Dibromofluoromethane (Surr)	100		53 - 142
Toluene-d8 (Surr)	102		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 860-38330/1-A

Matrix: Solid

Analysis Batch: 38201

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 38330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 18:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 18:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/20/22 15:45	01/20/22 18:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	99		65 - 130	01/20/22 15:45	01/20/22 18:12	1
o-Terphenyl (Surr)	98		65 - 130	01/20/22 15:45	01/20/22 18:12	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
 SDG: AR227018

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 860-38330/2-A
Matrix: Solid
Analysis Batch: 38201

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	993	1264		mg/Kg		127	70 - 135
Diesel Range Organics (Over C10-C28)	996	957.1		mg/Kg		96	70 - 135
		LCS	LCS				
Surrogate		%Recovery	Qualifier	Limits			
1-Chlorooctane (Surr)		100		65 - 130			
o-Terphenyl (Surr)		105		65 - 130			

Lab Sample ID: LCSD 860-38330/3-A
Matrix: Solid
Analysis Batch: 38201

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38330

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	993	1274		mg/Kg		128	70 - 135	1	35
Diesel Range Organics (Over C10-C28)	996	932.6		mg/Kg		94	70 - 135	9	35
		LCSD	LCSD						
Surrogate		%Recovery	Qualifier	Limits					
1-Chlorooctane (Surr)		99		65 - 130					
o-Terphenyl (Surr)		98		65 - 130					

Lab Sample ID: 820-3158-1 MS
Matrix: Soil
Analysis Batch: 38201

Client Sample ID: HA-1 (0-0.5)
Prep Type: Total/NA
Prep Batch: 38330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	1000	1278		mg/Kg		127	70 - 135
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	942.4		mg/Kg		94	70 - 135
		MS	MS						
Surrogate		%Recovery	Qualifier	Limits					
1-Chlorooctane (Surr)		98		65 - 130					
o-Terphenyl (Surr)		99		65 - 130					

Lab Sample ID: 820-3158-1 MSD
Matrix: Soil
Analysis Batch: 38201

Client Sample ID: HA-1 (0-0.5)
Prep Type: Total/NA
Prep Batch: 38330

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	991	1299		mg/Kg		131	70 - 135	2	35
Diesel Range Organics (Over C10-C28)	<50.1	U	994	959.3		mg/Kg		96	70 - 135	2	35
		MSD	MSD								
Surrogate		%Recovery	Qualifier	Limits							
1-Chlorooctane (Surr)		100		65 - 130							

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
 SDG: AR227018

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 820-3158-1 MSD
 Matrix: Soil
 Analysis Batch: 38201

Client Sample ID: HA-1 (0-0.5)
 Prep Type: Total/NA
 Prep Batch: 38330

Surrogate	%Recovery	MSD Qualifier	MSD Limits
<i>o</i> -Terphenyl (Surr)	101		65 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-38287/1-A
 Matrix: Solid
 Analysis Batch: 38216

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 38287

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg		01/20/22 10:21	01/20/22 12:25	1

Lab Sample ID: LCS 860-38287/2-A
 Matrix: Solid
 Analysis Batch: 38216

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 38287

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	93.46		mg/Kg		93	80 - 120

Lab Sample ID: LCSD 860-38287/3-A
 Matrix: Solid
 Analysis Batch: 38216

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 38287

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	100	97.42		mg/Kg		97	80 - 120	4	20

Lab Sample ID: 820-3158-10 MS
 Matrix: Soil
 Analysis Batch: 38216

Client Sample ID: HA-3 (3.5-4)
 Prep Type: Total/NA
 Prep Batch: 38287

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<9.86	U	98.2	95.45		mg/Kg		97	80 - 120

Lab Sample ID: 820-3158-10 MSD
 Matrix: Soil
 Analysis Batch: 38216

Client Sample ID: HA-3 (3.5-4)
 Prep Type: Total/NA
 Prep Batch: 38287

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	<9.86	U	98.4	96.13		mg/Kg		98	80 - 120	1	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhoJob ID: 820-3158-1
SDG: AR227018

GC/MS VOA

Prep Batch: 38102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-10324-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	

Analysis Batch: 38211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1	HA-1 (0-0.5)	Total/NA	Soil	8260C	38274
820-3158-2	HA-1 (0.5-1)	Total/NA	Soil	8260C	38274
820-3158-3	HA-1 (1.5-2)	Total/NA	Soil	8260C	38274
MB 860-38211/8	Method Blank	Total/NA	Solid	8260C	
LCS 860-38211/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-38211/4	Lab Control Sample Dup	Total/NA	Solid	8260C	
880-10324-A-1-A MS	Matrix Spike	Total/NA	Solid	8260C	38102

Prep Batch: 38274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1	HA-1 (0-0.5)	Total/NA	Soil	5035	
820-3158-2	HA-1 (0.5-1)	Total/NA	Soil	5035	
820-3158-3	HA-1 (1.5-2)	Total/NA	Soil	5035	
820-3158-4	HA-2 (0-0.5)	Total/NA	Soil	5035	
820-3158-5	HA-2 (0.5-1)	Total/NA	Soil	5035	
820-3158-6	HA-2 (1.5-2)	Total/NA	Soil	5035	
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	5035	
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	5035	
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	5035	
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	5035	
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	5035	

Prep Batch: 38300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-19305-C-1-A MS	Matrix Spike	Total/NA	Solid	5030C	

Analysis Batch: 38319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-4	HA-2 (0-0.5)	Total/NA	Soil	8260C	38274
820-3158-5	HA-2 (0.5-1)	Total/NA	Soil	8260C	38274
820-3158-6	HA-2 (1.5-2)	Total/NA	Soil	8260C	38274
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	8260C	38274
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	8260C	38274
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	8260C	38274
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	8260C	38274
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	8260C	38274
MB 860-38319/8	Method Blank	Total/NA	Solid	8260C	
LCS 860-38319/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-38319/4	Lab Control Sample Dup	Total/NA	Solid	8260C	
860-19305-C-1-A MS	Matrix Spike	Total/NA	Solid	8260C	38300

Analysis Batch: 38431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1	HA-1 (0-0.5)	Total/NA	Soil	Total BTEX	
820-3158-2	HA-1 (0.5-1)	Total/NA	Soil	Total BTEX	
820-3158-3	HA-1 (1.5-2)	Total/NA	Soil	Total BTEX	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhoJob ID: 820-3158-1
SDG: AR227018

GC/MS VOA

Analysis Batch: 38443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-4	HA-2 (0-0.5)	Total/NA	Soil	Total BTEX	
820-3158-5	HA-2 (0.5-1)	Total/NA	Soil	Total BTEX	
820-3158-6	HA-2 (1.5-2)	Total/NA	Soil	Total BTEX	
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	Total BTEX	
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	Total BTEX	
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	Total BTEX	
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	Total BTEX	
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	Total BTEX	

GC Semi VOA

Analysis Batch: 37733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1	HA-1 (0-0.5)	Total/NA	Soil	8015 NM	
820-3158-2	HA-1 (0.5-1)	Total/NA	Soil	8015 NM	
820-3158-3	HA-1 (1.5-2)	Total/NA	Soil	8015 NM	
820-3158-4	HA-2 (0-0.5)	Total/NA	Soil	8015 NM	
820-3158-5	HA-2 (0.5-1)	Total/NA	Soil	8015 NM	
820-3158-6	HA-2 (1.5-2)	Total/NA	Soil	8015 NM	
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	8015 NM	
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	8015 NM	
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	8015 NM	
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	8015 NM	
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	8015 NM	

Analysis Batch: 38201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1	HA-1 (0-0.5)	Total/NA	Soil	8015B NM	38330
820-3158-2	HA-1 (0.5-1)	Total/NA	Soil	8015B NM	38330
820-3158-3	HA-1 (1.5-2)	Total/NA	Soil	8015B NM	38330
820-3158-4	HA-2 (0-0.5)	Total/NA	Soil	8015B NM	38330
820-3158-5	HA-2 (0.5-1)	Total/NA	Soil	8015B NM	38330
820-3158-6	HA-2 (1.5-2)	Total/NA	Soil	8015B NM	38330
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	8015B NM	38330
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	8015B NM	38330
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	8015B NM	38330
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	8015B NM	38330
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	8015B NM	38330
MB 860-38330/1-A	Method Blank	Total/NA	Solid	8015B NM	38330
LCS 860-38330/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38330
LCSD 860-38330/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38330
820-3158-1 MS	HA-1 (0-0.5)	Total/NA	Soil	8015B NM	38330
820-3158-1 MSD	HA-1 (0-0.5)	Total/NA	Soil	8015B NM	38330

Prep Batch: 38330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1	HA-1 (0-0.5)	Total/NA	Soil	8015NM Prep	
820-3158-2	HA-1 (0.5-1)	Total/NA	Soil	8015NM Prep	
820-3158-3	HA-1 (1.5-2)	Total/NA	Soil	8015NM Prep	
820-3158-4	HA-2 (0-0.5)	Total/NA	Soil	8015NM Prep	
820-3158-5	HA-2 (0.5-1)	Total/NA	Soil	8015NM Prep	

Eurofins Lubbock

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhoJob ID: 820-3158-1
SDG: AR227018

GC Semi VOA (Continued)

Prep Batch: 38330 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-6	HA-2 (1.5-2)	Total/NA	Soil	8015NM Prep	
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	8015NM Prep	
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	8015NM Prep	
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	8015NM Prep	
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	8015NM Prep	
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	8015NM Prep	
MB 860-38330/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 860-38330/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 860-38330/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-3158-1 MS	HA-1 (0-0.5)	Total/NA	Soil	8015NM Prep	
820-3158-1 MSD	HA-1 (0-0.5)	Total/NA	Soil	8015NM Prep	

HPLC/IC

Analysis Batch: 38216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1 - DL	HA-1 (0-0.5)	Total/NA	Soil	300.0	38287
820-3158-2 - DL	HA-1 (0.5-1)	Total/NA	Soil	300.0	38287
820-3158-3 - DL	HA-1 (1.5-2)	Total/NA	Soil	300.0	38287
820-3158-4 - DL	HA-2 (0-0.5)	Total/NA	Soil	300.0	38287
820-3158-5 - DL	HA-2 (0.5-1)	Total/NA	Soil	300.0	38287
820-3158-6 - DL	HA-2 (1.5-2)	Total/NA	Soil	300.0	38287
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	300.0	38287
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	300.0	38287
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	300.0	38287
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	300.0	38287
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	300.0	38287
MB 860-38287/1-A	Method Blank	Total/NA	Solid	300.0	38287
LCS 860-38287/2-A	Lab Control Sample	Total/NA	Solid	300.0	38287
LCSD 860-38287/3-A	Lab Control Sample Dup	Total/NA	Solid	300.0	38287
820-3158-10 MS	HA-3 (3.5-4)	Total/NA	Soil	300.0	38287
820-3158-10 MSD	HA-3 (3.5-4)	Total/NA	Soil	300.0	38287

Prep Batch: 38287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3158-1 - DL	HA-1 (0-0.5)	Total/NA	Soil	300_Prep	
820-3158-2 - DL	HA-1 (0.5-1)	Total/NA	Soil	300_Prep	
820-3158-3 - DL	HA-1 (1.5-2)	Total/NA	Soil	300_Prep	
820-3158-4 - DL	HA-2 (0-0.5)	Total/NA	Soil	300_Prep	
820-3158-5 - DL	HA-2 (0.5-1)	Total/NA	Soil	300_Prep	
820-3158-6 - DL	HA-2 (1.5-2)	Total/NA	Soil	300_Prep	
820-3158-7	HA-3 (0-0.5)	Total/NA	Soil	300_Prep	
820-3158-8	HA-3 (0.5-1)	Total/NA	Soil	300_Prep	
820-3158-9	HA-3 (1.5-2)	Total/NA	Soil	300_Prep	
820-3158-10	HA-3 (3.5-4)	Total/NA	Soil	300_Prep	
820-3158-11	HA-3 (4.5-5)	Total/NA	Soil	300_Prep	
MB 860-38287/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 860-38287/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
LCSD 860-38287/3-A	Lab Control Sample Dup	Total/NA	Solid	300_Prep	
820-3158-10 MS	HA-3 (3.5-4)	Total/NA	Soil	300_Prep	
820-3158-10 MSD	HA-3 (3.5-4)	Total/NA	Soil	300_Prep	

Eurofins Lubbock

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-1 (0-0.5)

Date Collected: 01/18/22 11:10

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-1

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38211	01/20/22 19:16	CSP	XEN STF
Total/NA	Analysis	Total BTEX		1			38431	01/21/22 10:44	EM	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 18:33	T1S	XEN STF
Total/NA	Prep	300_Prep	DL		5.06 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0	DL	10			38216	01/20/22 18:25	WP	XEN STF

Client Sample ID: HA-1 (0.5-1)

Date Collected: 01/18/22 11:15

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-2

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38211	01/20/22 19:37	CSP	XEN STF
Total/NA	Analysis	Total BTEX		1			38431	01/21/22 10:44	EM	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 19:34	T1S	XEN STF
Total/NA	Prep	300_Prep	DL		4.95 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0	DL	10			38216	01/20/22 18:34	WP	XEN STF

Client Sample ID: HA-1 (1.5-2)

Date Collected: 01/18/22 11:20

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-3

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38211	01/20/22 19:58	CSP	XEN STF
Total/NA	Analysis	Total BTEX		1			38431	01/21/22 10:44	EM	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.1 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 19:54	T1S	XEN STF
Total/NA	Prep	300_Prep	DL		4.90 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0	DL	10			38216	01/20/22 18:43	WP	XEN STF

Client Sample ID: HA-2 (0-0.5)

Date Collected: 01/18/22 11:25

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-4

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 01:33	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF

Eurofins Lubbock

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
 SDG: AR227018

Client Sample ID: HA-2 (0-0.5)

Lab Sample ID: 820-3158-4

Date Collected: 01/18/22 11:25

Matrix: Soil

Date Received: 01/18/22 15:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 20:14	T1S	XEN STF
Total/NA	Prep	300_Prep	DL		4.97 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0	DL	10			38216	01/20/22 18:52	WP	XEN STF

Client Sample ID: HA-2 (0.5-1)

Lab Sample ID: 820-3158-5

Date Collected: 01/18/22 11:30

Matrix: Soil

Date Received: 01/18/22 15:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 01:54	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 20:35	T1S	XEN STF
Total/NA	Prep	300_Prep	DL		4.92 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0	DL	10			38216	01/20/22 19:19	WP	XEN STF

Client Sample ID: HA-2 (1.5-2)

Lab Sample ID: 820-3158-6

Date Collected: 01/18/22 11:35

Matrix: Soil

Date Received: 01/18/22 15:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 02:15	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 21:15	T1S	XEN STF
Total/NA	Prep	300_Prep	DL		4.93 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0	DL	10			38216	01/20/22 19:27	WP	XEN STF

Client Sample ID: HA-3 (0-0.5)

Lab Sample ID: 820-3158-7

Date Collected: 01/18/22 11:40

Matrix: Soil

Date Received: 01/18/22 15:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 02:36	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.11 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 21:35	T1S	XEN STF

Eurofins Lubbock

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg TinhornJob ID: 820-3158-1
SDG: AR227018

Client Sample ID: HA-3 (0-0.5)

Date Collected: 01/18/22 11:40

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-7

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.98 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0		1			38216	01/20/22 19:36	WP	XEN STF

Client Sample ID: HA-3 (0.5-1)

Date Collected: 01/18/22 11:45

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-8

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 02:57	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.15 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 21:56	T1S	XEN STF
Total/NA	Prep	300_Prep			5.02 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0		1			38216	01/20/22 19:45	WP	XEN STF

Client Sample ID: HA-3 (1.5-2)

Date Collected: 01/18/22 11:50

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-9

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 03:18	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.12 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 22:16	T1S	XEN STF
Total/NA	Prep	300_Prep			5.06 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0		1			38216	01/20/22 19:54	WP	XEN STF

Client Sample ID: HA-3 (3.5-4)

Date Collected: 01/18/22 11:55

Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-10

Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 03:39	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.15 g	10 mL	38330	01/20/22 15:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 22:36	T1S	XEN STF
Total/NA	Prep	300_Prep			5.07 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0		1			38216	01/20/22 20:03	WP	XEN STF

Eurofins Lubbock

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
 SDG: AR227018

Client Sample ID: HA-3 (4.5-5)
Date Collected: 01/18/22 12:00
Date Received: 01/18/22 15:57

Lab Sample ID: 820-3158-11
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	38274	01/20/22 12:01	CSP	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	38319	01/21/22 04:00	A1S	XEN STF
Total/NA	Analysis	Total BTEX		1			38443	01/21/22 11:34	CSP	XEN STF
Total/NA	Analysis	8015 NM		1			37733	01/21/22 10:56	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.1 g	10 mL	38330	01/20/22 15:57	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			38201	01/20/22 22:56	T1S	XEN STF
Total/NA	Prep	300_Prep			5.03 g	50 mL	38287	01/20/22 10:21	ANP	XEN STF
Total/NA	Analysis	300.0		1			38216	01/20/22 20:30	WP	XEN STF

Laboratory References:

XEN STF = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
SDG: AR227018

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-21-44	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Soil	Total TPH
8015B NM	8015NM Prep	Soil	Diesel Range Organics (Over C10-C28)
8015B NM	8015NM Prep	Soil	Gasoline Range Organics (GRO)-C6-C10
8015B NM	8015NM Prep	Soil	Oil Range Organics (Over C28-C36)
Total BTEX		Soil	Total BTEX

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Method Summary

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
 SDG: AR227018

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	XEN STF
Total BTEX	Total BTEX Calculation	TAL SOP	XEN STF
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN STF
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN STF
300.0	Anions, Ion Chromatography	MCAWW	XEN STF
300_Prep	Anions, Ion Chromatography, 10% Wt/Vol	MCAWW	XEN STF
5035	Closed System Purge and Trap	SW846	XEN STF
8015NM Prep	Microextraction	SW846	XEN STF

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
 SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
 TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN STF = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200



Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-3158-1
SDG: AR227018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-3158-1	HA-1 (0-0.5)	Soil	01/18/22 11:10	01/18/22 15:57
820-3158-2	HA-1 (0.5-1)	Soil	01/18/22 11:15	01/18/22 15:57
820-3158-3	HA-1 (1.5-2)	Soil	01/18/22 11:20	01/18/22 15:57
820-3158-4	HA-2 (0-0.5)	Soil	01/18/22 11:25	01/18/22 15:57
820-3158-5	HA-2 (0.5-1)	Soil	01/18/22 11:30	01/18/22 15:57
820-3158-6	HA-2 (1.5-2)	Soil	01/18/22 11:35	01/18/22 15:57
820-3158-7	HA-3 (0-0.5)	Soil	01/18/22 11:40	01/18/22 15:57
820-3158-8	HA-3 (0.5-1)	Soil	01/18/22 11:45	01/18/22 15:57
820-3158-9	HA-3 (1.5-2)	Soil	01/18/22 11:50	01/18/22 15:57
820-3158-10	HA-3 (3.5-4)	Soil	01/18/22 11:55	01/18/22 15:57
820-3158-11	HA-3 (4.5-5)	Soil	01/18/22 12:00	01/18/22 15:57

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Loc: 820
3158



820-3158 Chain of Custody

CHAIN O

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

ANALYSIS
REQUESTED

Office Location Lubbock

Phone: _____
Contact: _____
SRS #: _____

Project Manager J. Guesnier

Sampler's Name A. Adams

Sampler's Signature *A. Adams*

Project Number AR227018

Project Name Gettysburg Tinhorn

No. Type of Containers

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers				BTEX (EPA Method 8260B)	TPH Extended 8015	Chloride (EPA Method 800)	Temp of Cooler When Received (°C)	Page <u>1</u> of <u>1</u>	Lab Sample ID
								4 oz Glass	40 ml VOA	250 ml Poly	5035 kit						
S	1/18/2022	11:10		X	HA-1 (0-0.5)	0	0.5'	X				X	X	X	7.6/7.5°C		
S	1/18/2022	11:15		X	HA-1 (0.5-1)	0.5	1'	X				X	X	X			
S	1/18/2022	11:20		X	HA-1 (1.5-2)	1.5'	2'	X				X	X	X			
S	1/18/2022	11:25		X	HA-2 (0-0.5)	0	0.5'	X				X	X	X			
S	1/18/2022	11:30		X	HA-2 (0.5-1)	0.5	1'	X				X	X	X			
S	1/18/2022	11:35		X	HA-2 (1.5-2)	1.5'	2'	X				X	X	X			
S	1/18/2022	11:40		X	HA-3 (0-0.5)	0	0.5'	X				X	X	X			
S	1/18/2022	11:45		X	HA-3 (0.5-1)	0.5	1'	X				X	X	X			
S	1/18/2022	11:50		X	HA-3 (1.5-2)	1.5'	2'	X				X	X	X			
S	1/18/2022	11:55		X	HA-3 (3.5-4)	3.5'	4'	X				X	X	X			
S	1/18/2022	12:00		X	HA-3 (4.5-5)	4.5'	5'	X				X	X	X			

TURNAROUND TIME Normal 48-Hour Rush 24-Hour Rush TRRP Laboratory Review Checklist Yes No

Relinquished by (Signature) <i>A. Adams</i>	Date: <u>1-18-2022</u>	Time: <u>15:57</u>	Received by (Signature) <i>Ashley T. Ruppel</i>	Date: <u>1/18/22</u>	Time: <u>15:57</u>
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES: Client:

e-mail results to:
joseph.guesnier@terracon.com
erin.loyd@terracon.com

Matrix: WW-Wastewater W - Water S - Soil L - Liquid A - Air Bag C - Charcoal tube SL - Sludge
Container: VOA - 40 ml vial A/G - Amber Glass 1L 250 ml - Glass wide mouth P/O - Plastic or other: _____

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140
Responsive ■ Resourceful ■ Reliable

Released to Imaging: 9/6/2023 7:24:24 AM

Page 32 of 36

1/21/2022

Received by OCD: 6/8/2023 12:00:33 AM

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Eurofins Lubbock
6701 Aberdeen Ave. Suite 8
Lubbock, TX 79424
Phone: 806-794-1296

Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)		Sampler		Lab PM: Kramer Jessica		Carrier Tracking No(s):		COC No: 820-2988.1			
Client Contact Shipping/Receiving		Phone:		E-Mail: jessica.kramer@eurofinset.com		State of Origin: Texas		Page: Page 1 of 2			
Company: Eurofins Environment Testing South Cent				Accreditations Required (See note): NELAP - Texas				Job #: 820-3158-1			
Address: 4145 Greenbriar Dr		Due Date Requested: 1/24/2022		Analysis Requested						Preservation Codes: A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate J Ice U Acetone K DI Water V MCAA L EDTA W pH 4-5 Z other (specify)	
City: Stafford		TAT Requested (days):									
State, Zip: TX, 77477		PO #:		8260C/8035FP_Calc (MOD) BTEX		8015MOD_MM8015NM_B_Prep (MOD) Full TPH		8015MOD_Calc			
Phone: 281-240-4200(Tel)		WC #:		300_ORGFM_28D/300_Prep Chloride		Total BTEX		Other			
Email:		Project #: 82000340		SSOW#:							
Project Name: Gettysburg Tinhom		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oi)			
Site:											
Sample Identification - Client ID (Lab ID)								Special Instructions/Note.			
HA-1 (0-0.5) (820-3158-1)		1/18/22		11:10 Central		Solid		X X X X X			
HA-1 (0.5-1) (820-3158-2)		1/18/22		11:15 Central		Solid		X X X X X			
HA-1 (1.5-2) (820-3158-3)		1/18/22		11:20 Central		Solid		X X X X X			
HA-2 (0-0.5) (820-3158-4)		1/18/22		11:25 Central		Solid		X X X X X			
HA-2 (0.5-1) (820-3158-5)		1/18/22		11:30 Central		Solid		X X X X X			
HA-2 (1.5-2) (820-3158-6)		1/18/22		11:35 Central		Solid		X X X X X			
HA-3 (0-0.5) (820-3158-7)		1/18/22		11:40 Central		Solid		X X X X X			
HA-3 (0.5-1) (820-3158-8)		1/18/22		11:45 Central		Solid		X X X X X			
HA-3 (1.5-2) (820-3158-9)		1/18/22		11:50 Central		Solid		X X X X X			

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I II III IV Other (specify)		Primary Deliverable Rank: 2	

Special Instructions/QC Requirements.

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment	
Relinquished by: <i>Whaley T. Luggler</i>		Date/Time: 1/19/22 17:00		Company:		Received by: <i>EX</i>	
Relinquished by: <i>EX</i>		Date/Time:		Company:		Date/Time: 1/20/22 10:08	
Relinquished by:		Date/Time:		Company:		Received by:	

Custody Seals Intact: Δ Yes Δ No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: Temp. 1.8 IR ID:HOU-223 C/F:-0.2	
-------------------------------------	--	------------------	--	--	--

Ver 06/08/2021
Corrected Temp: 1.6



Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-3158-1

SDG Number: AR227018

Login Number: 3158

List Number: 1

Creator: Ruggles, Ashley

List Source: Eurofins Lubbock

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-3158-1

SDG Number: AR227018

Login Number: 3158

List Number: 2

Creator: Milone, Jeancarlo

List Source: Eurofins Houston

List Creation: 01/20/22 11:31 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mike Adams
 Terracon Consulting Eng & Scientists
 5847 50th St
 Lubbock, Texas 79424
 Generated 2/16/2023 9:19:08 AM

JOB DESCRIPTION

Gettysburg
 SDG NUMBER AR227018

JOB NUMBER

890-4104-1



Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/16/2023 9:19:08 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

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Eurofins Carlsbad

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory


· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Laboratory Job ID: 890-4104-1
SDG: AR227018

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

Job ID: 890-4104-1

Laboratory: Eurofins Carlsbad**Narrative**

**Job Narrative
890-4104-1****Receipt**

The samples were received on 2/14/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: N-SW02 (890-4104-1), N-SW03 (890-4104-2), N-SW04 (890-4104-3), S-SW02 (890-4104-4), S-SW03 (890-4104-5), S-SW04 (890-4104-6) and S-SW05 (890-4104-7).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: N-SW02 (890-4104-1), N-SW03 (890-4104-2), N-SW04 (890-4104-3), S-SW02 (890-4104-4), S-SW03 (890-4104-5) and (LCSD 880-46331/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: S-SW04 (890-4104-6). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The method blank for preparation batch 880-46347 and analytical batch 880-46349 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



Client Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: N-SW02

Lab Sample ID: 890-4104-1

Date Collected: 02/13/23 12:05

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 06:42	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 06:42	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 06:42	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 06:42	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 06:42	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 06:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	02/14/23 14:57	02/16/23 06:42	1
1,4-Difluorobenzene (Surr)	107		70 - 130	02/14/23 14:57	02/16/23 06:42	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/16/23 09:32	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/15/23 15:53	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 14:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 14:28	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 14:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	02/14/23 17:42	02/15/23 14:28	1
o-Terphenyl	109		70 - 130	02/14/23 17:42	02/15/23 14:28	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.5		4.95		mg/Kg			02/15/23 20:51	1

Client Sample ID: N-SW03

Lab Sample ID: 890-4104-2

Date Collected: 02/13/23 12:10

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 07:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 07:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130	02/14/23 14:57	02/16/23 07:02	1
1,4-Difluorobenzene (Surr)	108		70 - 130	02/14/23 14:57	02/16/23 07:02	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: N-SW03

Lab Sample ID: 890-4104-2

Date Collected: 02/13/23 12:10

Matrix: Solid

Date Received: 02/14/23 09:50

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/16/23 09:32	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/15/23 15:53	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 15:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 15:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 15:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	02/14/23 17:42	02/15/23 15:12	1
o-Terphenyl	108		70 - 130	02/14/23 17:42	02/15/23 15:12	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.11		4.99		mg/Kg			02/15/23 21:09	1

Client Sample ID: N-SW04

Lab Sample ID: 890-4104-3

Date Collected: 02/13/23 12:13

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:23	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:23	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 07:23	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:23	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 07:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130	02/14/23 14:57	02/16/23 07:23	1
1,4-Difluorobenzene (Surr)	102		70 - 130	02/14/23 14:57	02/16/23 07:23	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/16/23 09:32	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/16/23 09:18	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 15:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 15:56	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: N-SW04

Lab Sample ID: 890-4104-3

Date Collected: 02/13/23 12:13

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 15:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130				02/14/23 17:42	02/15/23 15:56	1
o-Terphenyl	99		70 - 130				02/14/23 17:42	02/15/23 15:56	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.64		4.97		mg/Kg			02/15/23 21:16	1

Client Sample ID: S-SW02

Lab Sample ID: 890-4104-4

Date Collected: 02/13/23 12:16

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:43	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:43	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 07:43	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 07:43	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 07:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130				02/14/23 14:57	02/16/23 07:43	1
1,4-Difluorobenzene (Surr)	100		70 - 130				02/14/23 14:57	02/16/23 07:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/16/23 09:32	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/16/23 09:18	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/14/23 17:42	02/15/23 16:18	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/14/23 17:42	02/15/23 16:18	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/14/23 17:42	02/15/23 16:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130				02/14/23 17:42	02/15/23 16:18	1
o-Terphenyl	91		70 - 130				02/14/23 17:42	02/15/23 16:18	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.34		5.00		mg/Kg			02/15/23 21:22	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: S-SW03

Lab Sample ID: 890-4104-5

Date Collected: 02/13/23 12:20

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 08:04	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 08:04	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 08:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 08:04	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/23 14:57	02/16/23 08:04	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/23 14:57	02/16/23 08:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	135	S1+	70 - 130	02/14/23 14:57	02/16/23 08:04	1
1,4-Difluorobenzene (Surr)	107		70 - 130	02/14/23 14:57	02/16/23 08:04	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/16/23 09:32	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/16/23 09:18	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 16:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 16:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	02/14/23 17:42	02/15/23 16:40	1
o-Terphenyl	105		70 - 130	02/14/23 17:42	02/15/23 16:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/15/23 21:28	1

Client Sample ID: S-SW04

Lab Sample ID: 890-4104-6

Date Collected: 02/13/23 12:24

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		02/14/23 14:57	02/16/23 08:24	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/14/23 14:57	02/16/23 08:24	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/14/23 14:57	02/16/23 08:24	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		02/14/23 14:57	02/16/23 08:24	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/14/23 14:57	02/16/23 08:24	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		02/14/23 14:57	02/16/23 08:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	02/14/23 14:57	02/16/23 08:24	1
1,4-Difluorobenzene (Surr)	109		70 - 130	02/14/23 14:57	02/16/23 08:24	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: S-SW04

Lab Sample ID: 890-4104-6

Date Collected: 02/13/23 12:24

Matrix: Solid

Date Received: 02/14/23 09:50

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			02/16/23 09:59	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/16/23 09:18	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 17:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 17:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/14/23 17:42	02/15/23 17:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	02/14/23 17:42	02/15/23 17:01	1
o-Terphenyl	98		70 - 130	02/14/23 17:42	02/15/23 17:01	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.13		4.96		mg/Kg			02/15/23 21:46	1

Client Sample ID: S-SW05

Lab Sample ID: 890-4104-7

Date Collected: 02/13/23 12:28

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 08:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 08:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 08:44	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/14/23 14:57	02/16/23 08:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 08:44	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/14/23 14:57	02/16/23 08:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	02/14/23 14:57	02/16/23 08:44	1
1,4-Difluorobenzene (Surr)	100		70 - 130	02/14/23 14:57	02/16/23 08:44	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/16/23 09:59	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/16/23 09:18	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 17:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 17:23	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: S-SW05

Lab Sample ID: 890-4104-7

Date Collected: 02/13/23 12:28

Matrix: Solid

Date Received: 02/14/23 09:50

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 17:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130				02/14/23 17:42	02/15/23 17:23	1
o-Terphenyl	112		70 - 130				02/14/23 17:42	02/15/23 17:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	780		4.97		mg/Kg			02/15/23 21:52	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
880-24624-A-1-B MS	Matrix Spike	123	104
880-24624-A-1-C MSD	Matrix Spike Duplicate	115	107
890-4104-1	N-SW02	133 S1+	107
890-4104-2	N-SW03	137 S1+	108
890-4104-3	N-SW04	134 S1+	102
890-4104-4	S-SW02	136 S1+	100
890-4104-5	S-SW03	135 S1+	107
890-4104-6	S-SW04	132 S1+	109
890-4104-7	S-SW05	130	100
LCS 880-46331/1-A	Lab Control Sample	115	106
LCSD 880-46331/2-A	Lab Control Sample Dup	58 S1-	104
MB 880-46304/5-A	Method Blank	118	105
MB 880-46331/5-A	Method Blank	122	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
880-24741-A-3-B MS	Matrix Spike	110	113
880-24741-A-3-C MSD	Matrix Spike Duplicate	103	107
890-4104-1	N-SW02	101	109
890-4104-2	N-SW03	99	108
890-4104-3	N-SW04	93	99
890-4104-4	S-SW02	81	91
890-4104-5	S-SW03	96	105
890-4104-6	S-SW04	87	98
890-4104-7	S-SW05	101	112
LCS 880-46347/2-A	Lab Control Sample	88	99
LCSD 880-46347/3-A	Lab Control Sample Dup	88	97
MB 880-46347/1-A	Method Blank	82	96

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46304/5-A
 Matrix: Solid
 Analysis Batch: 46357

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 46304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/23 11:29	02/15/23 12:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/23 11:29	02/15/23 12:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/23 11:29	02/15/23 12:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/23 11:29	02/15/23 12:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/23 11:29	02/15/23 12:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/23 11:29	02/15/23 12:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	02/14/23 11:29	02/15/23 12:43	1
1,4-Difluorobenzene (Surr)	105		70 - 130	02/14/23 11:29	02/15/23 12:43	1

Lab Sample ID: MB 880-46331/5-A
 Matrix: Solid
 Analysis Batch: 46357

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 46331

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 00:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 00:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 00:18	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/23 14:57	02/16/23 00:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/23 14:57	02/16/23 00:18	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/23 14:57	02/16/23 00:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	02/14/23 14:57	02/16/23 00:18	1
1,4-Difluorobenzene (Surr)	101		70 - 130	02/14/23 14:57	02/16/23 00:18	1

Lab Sample ID: LCS 880-46331/1-A
 Matrix: Solid
 Analysis Batch: 46357

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 46331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1108		mg/Kg		111	70 - 130
Toluene	0.100	0.1072		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.1064		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2221		mg/Kg		111	70 - 130
o-Xylene	0.100	0.1080		mg/Kg		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-46331/2-A
 Matrix: Solid
 Analysis Batch: 46357

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 46331

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1176		mg/Kg		118	70 - 130	6	35

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-46331/2-A
 Matrix: Solid
 Analysis Batch: 46357

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 46331

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.1137		mg/Kg		114	70 - 130	6	35
Ethylbenzene	0.100	0.1091		mg/Kg		109	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2289		mg/Kg		114	70 - 130	3	35
o-Xylene	0.100	0.1120		mg/Kg		112	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	58	S1-	70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-24624-A-1-B MS
 Matrix: Solid
 Analysis Batch: 46357

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 46331

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.100	0.09696		mg/Kg		97	70 - 130
Toluene	<0.00202	U	0.100	0.09416		mg/Kg		94	70 - 130
Ethylbenzene	<0.00202	U	0.100	0.09388		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.201	0.1964		mg/Kg		98	70 - 130
o-Xylene	<0.00202	U	0.100	0.09605		mg/Kg		95	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	123		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-24624-A-1-C MSD
 Matrix: Solid
 Analysis Batch: 46357

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 46331

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.1121		mg/Kg		113	70 - 130	15	35
Toluene	<0.00202	U	0.0990	0.1049		mg/Kg		106	70 - 130	11	35
Ethylbenzene	<0.00202	U	0.0990	0.1014		mg/Kg		102	70 - 130	8	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.2102		mg/Kg		106	70 - 130	7	35
o-Xylene	<0.00202	U	0.0990	0.1001		mg/Kg		101	70 - 130	4	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-46347/1-A
 Matrix: Solid
 Analysis Batch: 46349

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 46347

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 08:08	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-46347/1-A
Matrix: Solid
Analysis Batch: 46349

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46347

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 08:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/14/23 17:42	02/15/23 08:08	1
Surrogate	MB MB		Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	82		70 - 130				02/14/23 17:42	02/15/23 08:08	1
o-Terphenyl	96		70 - 130				02/14/23 17:42	02/15/23 08:08	1

Lab Sample ID: LCS 880-46347/2-A
Matrix: Solid
Analysis Batch: 46349

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46347

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	813.6		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)	1000	913.6		mg/Kg		91	70 - 130
Surrogate	LCS LCS		Limits			D	Limits
	%Recovery	Qualifier					
1-Chlorooctane	88		70 - 130				
o-Terphenyl	99		70 - 130				

Lab Sample ID: LCSD 880-46347/3-A
Matrix: Solid
Analysis Batch: 46349

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46347

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	
		Result	Qualifier					RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	876.1		mg/Kg		88	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	857.7		mg/Kg		86	70 - 130	6	20
Surrogate	LCSD LCSD		Limits			D	Limits		
	%Recovery	Qualifier							
1-Chlorooctane	88		70 - 130						
o-Terphenyl	97		70 - 130						

Lab Sample ID: 880-24741-A-3-B MS
Matrix: Solid
Analysis Batch: 46349

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46347

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1023		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	158		1000	1090		mg/Kg		93	70 - 130
Surrogate	MS MS		Limits			D	Limits		
	%Recovery	Qualifier							
1-Chlorooctane	110		70 - 130						
o-Terphenyl	113		70 - 130						

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-24741-A-3-C MSD
 Matrix: Solid
 Analysis Batch: 46349

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 46347

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	993.2		mg/Kg		95	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	158		1000	1030		mg/Kg		87	70 - 130	6	20
Surrogate	%Recovery	MSD Qualifier		MSD							Limits
1-Chlorooctane	103										70 - 130
o-Terphenyl	107										70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46422/1-A
 Matrix: Solid
 Analysis Batch: 46466

Client Sample ID: Method Blank
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/15/23 20:32	1

Lab Sample ID: LCS 880-46422/2-A
 Matrix: Solid
 Analysis Batch: 46466

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	241.5		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-46422/3-A
 Matrix: Solid
 Analysis Batch: 46466

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	241.7		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-4104-1 MS
 Matrix: Solid
 Analysis Batch: 46466

Client Sample ID: N-SW02
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	33.5		248	266.6		mg/Kg		94	90 - 110

Lab Sample ID: 890-4104-1 MSD
 Matrix: Solid
 Analysis Batch: 46466

Client Sample ID: N-SW02
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	33.5		248	267.2		mg/Kg		94	90 - 110	0	20

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

GC VOA

Prep Batch: 46304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-46304/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 46331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Total/NA	Solid	5035	
890-4104-2	N-SW03	Total/NA	Solid	5035	
890-4104-3	N-SW04	Total/NA	Solid	5035	
890-4104-4	S-SW02	Total/NA	Solid	5035	
890-4104-5	S-SW03	Total/NA	Solid	5035	
890-4104-6	S-SW04	Total/NA	Solid	5035	
890-4104-7	S-SW05	Total/NA	Solid	5035	
MB 880-46331/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46331/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 880-46331/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24624-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-24624-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 46357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Total/NA	Solid	8021B	46331
890-4104-2	N-SW03	Total/NA	Solid	8021B	46331
890-4104-3	N-SW04	Total/NA	Solid	8021B	46331
890-4104-4	S-SW02	Total/NA	Solid	8021B	46331
890-4104-5	S-SW03	Total/NA	Solid	8021B	46331
890-4104-6	S-SW04	Total/NA	Solid	8021B	46331
890-4104-7	S-SW05	Total/NA	Solid	8021B	46331
MB 880-46304/5-A	Method Blank	Total/NA	Solid	8021B	46304
MB 880-46331/5-A	Method Blank	Total/NA	Solid	8021B	46331
LCS 880-46331/1-A	Lab Control Sample	Total/NA	Solid	8021B	46331
LCS 880-46331/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46331
880-24624-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	46331
880-24624-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46331

Analysis Batch: 46503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Total/NA	Solid	Total BTEX	
890-4104-2	N-SW03	Total/NA	Solid	Total BTEX	
890-4104-3	N-SW04	Total/NA	Solid	Total BTEX	
890-4104-4	S-SW02	Total/NA	Solid	Total BTEX	
890-4104-5	S-SW03	Total/NA	Solid	Total BTEX	
890-4104-6	S-SW04	Total/NA	Solid	Total BTEX	
890-4104-7	S-SW05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 46347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Total/NA	Solid	8015NM Prep	
890-4104-2	N-SW03	Total/NA	Solid	8015NM Prep	
890-4104-3	N-SW04	Total/NA	Solid	8015NM Prep	
890-4104-4	S-SW02	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

GC Semi VOA (Continued)

Prep Batch: 46347 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-5	S-SW03	Total/NA	Solid	8015NM Prep	
890-4104-6	S-SW04	Total/NA	Solid	8015NM Prep	
890-4104-7	S-SW05	Total/NA	Solid	8015NM Prep	
MB 880-46347/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-46347/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-46347/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24741-A-3-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24741-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 46349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Total/NA	Solid	8015B NM	46347
890-4104-2	N-SW03	Total/NA	Solid	8015B NM	46347
890-4104-3	N-SW04	Total/NA	Solid	8015B NM	46347
890-4104-4	S-SW02	Total/NA	Solid	8015B NM	46347
890-4104-5	S-SW03	Total/NA	Solid	8015B NM	46347
890-4104-6	S-SW04	Total/NA	Solid	8015B NM	46347
890-4104-7	S-SW05	Total/NA	Solid	8015B NM	46347
MB 880-46347/1-A	Method Blank	Total/NA	Solid	8015B NM	46347
LCS 880-46347/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	46347
LCSD 880-46347/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	46347
880-24741-A-3-B MS	Matrix Spike	Total/NA	Solid	8015B NM	46347
880-24741-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	46347

Analysis Batch: 46465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Total/NA	Solid	8015 NM	
890-4104-2	N-SW03	Total/NA	Solid	8015 NM	
890-4104-3	N-SW04	Total/NA	Solid	8015 NM	
890-4104-4	S-SW02	Total/NA	Solid	8015 NM	
890-4104-5	S-SW03	Total/NA	Solid	8015 NM	
890-4104-6	S-SW04	Total/NA	Solid	8015 NM	
890-4104-7	S-SW05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Soluble	Solid	DI Leach	
890-4104-2	N-SW03	Soluble	Solid	DI Leach	
890-4104-3	N-SW04	Soluble	Solid	DI Leach	
890-4104-4	S-SW02	Soluble	Solid	DI Leach	
890-4104-5	S-SW03	Soluble	Solid	DI Leach	
890-4104-6	S-SW04	Soluble	Solid	DI Leach	
890-4104-7	S-SW05	Soluble	Solid	DI Leach	
MB 880-46422/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46422/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46422/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4104-1 MS	N-SW02	Soluble	Solid	DI Leach	
890-4104-1 MSD	N-SW02	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

HPLC/IC

Analysis Batch: 46466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4104-1	N-SW02	Soluble	Solid	300.0	46422
890-4104-2	N-SW03	Soluble	Solid	300.0	46422
890-4104-3	N-SW04	Soluble	Solid	300.0	46422
890-4104-4	S-SW02	Soluble	Solid	300.0	46422
890-4104-5	S-SW03	Soluble	Solid	300.0	46422
890-4104-6	S-SW04	Soluble	Solid	300.0	46422
890-4104-7	S-SW05	Soluble	Solid	300.0	46422
MB 880-46422/1-A	Method Blank	Soluble	Solid	300.0	46422
LCS 880-46422/2-A	Lab Control Sample	Soluble	Solid	300.0	46422
LCSD 880-46422/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46422
890-4104-1 MS	N-SW02	Soluble	Solid	300.0	46422
890-4104-1 MSD	N-SW02	Soluble	Solid	300.0	46422

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: N-SW02

Lab Sample ID: 890-4104-1

Date Collected: 02/13/23 12:05

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46331	02/14/23 14:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46357	02/16/23 06:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46503	02/16/23 09:32	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46465	02/15/23 15:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46347	02/14/23 17:42	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46349	02/15/23 14:28	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	46422	02/15/23 13:43	KS	EET MID
Soluble	Analysis	300.0		1			46466	02/15/23 20:51	CH	EET MID

Client Sample ID: N-SW03

Lab Sample ID: 890-4104-2

Date Collected: 02/13/23 12:10

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	46331	02/14/23 14:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46357	02/16/23 07:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46503	02/16/23 09:32	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46465	02/15/23 15:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	46347	02/14/23 17:42	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46349	02/15/23 15:12	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	46422	02/15/23 13:43	KS	EET MID
Soluble	Analysis	300.0		1			46466	02/15/23 21:09	CH	EET MID

Client Sample ID: N-SW04

Lab Sample ID: 890-4104-3

Date Collected: 02/13/23 12:13

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46331	02/14/23 14:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46357	02/16/23 07:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46503	02/16/23 09:32	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46465	02/16/23 09:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46347	02/14/23 17:42	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46349	02/15/23 15:56	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	46422	02/15/23 13:43	KS	EET MID
Soluble	Analysis	300.0		1			46466	02/15/23 21:16	CH	EET MID

Client Sample ID: S-SW02

Lab Sample ID: 890-4104-4

Date Collected: 02/13/23 12:16

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	46331	02/14/23 14:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46357	02/16/23 07:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46503	02/16/23 09:32	AJ	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Client Sample ID: S-SW02

Lab Sample ID: 890-4104-4

Date Collected: 02/13/23 12:16

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			46465	02/16/23 09:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	46347	02/14/23 17:42	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46349	02/15/23 16:18	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46422	02/15/23 13:43	KS	EET MID
Soluble	Analysis	300.0		1			46466	02/15/23 21:22	CH	EET MID

Client Sample ID: S-SW03

Lab Sample ID: 890-4104-5

Date Collected: 02/13/23 12:20

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46331	02/14/23 14:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46357	02/16/23 08:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46503	02/16/23 09:32	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46465	02/16/23 09:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46347	02/14/23 17:42	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46349	02/15/23 16:40	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46422	02/15/23 13:43	KS	EET MID
Soluble	Analysis	300.0		1			46466	02/15/23 21:28	CH	EET MID

Client Sample ID: S-SW04

Lab Sample ID: 890-4104-6

Date Collected: 02/13/23 12:24

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	46331	02/14/23 14:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46357	02/16/23 08:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46503	02/16/23 09:59	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46465	02/16/23 09:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	46347	02/14/23 17:42	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46349	02/15/23 17:01	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	46422	02/15/23 13:43	KS	EET MID
Soluble	Analysis	300.0		1			46466	02/15/23 21:46	CH	EET MID

Client Sample ID: S-SW05

Lab Sample ID: 890-4104-7

Date Collected: 02/13/23 12:28

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	46331	02/14/23 14:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46357	02/16/23 08:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46503	02/16/23 09:59	AJ	EET MID
Total/NA	Analysis	8015 NM		1			46465	02/16/23 09:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46347	02/14/23 17:42	SM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46349	02/15/23 17:23	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

Client Sample ID: S-SW05

Lab Sample ID: 890-4104-7

Date Collected: 02/13/23 12:28

Matrix: Solid

Date Received: 02/14/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	46422	02/15/23 13:43	KS	EET MID
Soluble	Analysis	300.0		1			46466	02/15/23 21:52	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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Method Summary

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg

Job ID: 890-4104-1
 SDG: AR227018

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



Sample Summary


Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg

Job ID: 890-4104-1
SDG: AR227018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-4104-1	N-SW02	Solid	02/13/23 12:05	02/14/23 09:50
890-4104-2	N-SW03	Solid	02/13/23 12:10	02/14/23 09:50
890-4104-3	N-SW04	Solid	02/13/23 12:13	02/14/23 09:50
890-4104-4	S-SW02	Solid	02/13/23 12:16	02/14/23 09:50
890-4104-5	S-SW03	Solid	02/13/23 12:20	02/14/23 09:50
890-4104-6	S-SW04	Solid	02/13/23 12:24	02/14/23 09:50
890-4104-7	S-SW05	Solid	02/13/23 12:28	02/14/23 09:50

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CHAIN OF CUSTODY RECORD



Office Location 4578
4502 W. Pierce St Carlsbad NM, 88220

Project Manager Mike Adams
Sampler's Name Travis Casey

Laboratory:
Address: _____
Phone: _____
Contact: _____
SRS #: _____
Sampler's Signature: _____

ANALYSIS REQUEST


Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	

LAB USE ONLY DUE DATE: _____
TEMP OF COOLER WHEN RECEIVED (°C) _____

Project Number A4227016 **Project Name** Cockey's bars Timbarn

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers			Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)				
								4 oz Glass	2 oz Glass	250 ml Poly							
S	2-13-23	1205			N-SW02			X									
		1210			N-SW03												
		1213			N-SW04												
		1216			S-SW02												
		1220			S-SW03												
		1224			S-SW04												
		1228			S-SW05												

Lab Sample ID



890-4104 Chain of Custody

TURNAROUND TIME Normal 48-Hour Rush 24-Hour Rush **TRRP Laboratory Review Checklist** Yes No

Relinquished by (Signature) <u>Bickey Miller</u>	Date:	Time:	Received by (Signature) <u>Travis Casey</u>	Date:	Time:	Bill To: <u>TMM007 - 0.2</u> <u>0.8 / 0.4</u>
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:	
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:	
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:	

Matrix WW-Wastewater W - Water S - Soil L - Liq A - Air Bag C - Charcoal tube SL - Sludge

Container VOA - 40 ml vial A/G - Amber Gla 250 ml = Glass wide P/O - Plastic or other _____

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-4104-1

SDG Number: AR227018

Login Number: 4104

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-4104-1

SDG Number: AR227018

Login Number: 4104

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/15/23 12:16 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Travis Casey
 Terracon Consulting Eng & Scientists
 5847 50th St
 Lubbock, Texas 79424
 Generated 2/27/2023 11:53:03 AM

JOB DESCRIPTION

Gettysburg Tinhorn

JOB NUMBER

890-4157-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220

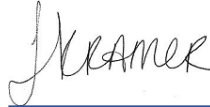


Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/27/2023 11:53:03 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Eurofins Carlsbad

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Laboratory Job ID: 890-4157-1

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinho

Job ID: 890-4157-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Carlsbad

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Job ID: 890-4157-1

Laboratory: Eurofins Carlsbad**Narrative**

**Job Narrative
890-4157-1**

Receipt

The sample was received on 2/20/2023 3:19 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: S-SW5.1 (890-4157-1).

GC VOA

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-46948 and analytical batch 880-46925 recovered outside control limits for the following analytes: Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene.

Method 8021B: Surrogate recovery for the following samples were outside control limits: S-SW5.1 (890-4157-1), (CCV 880-46925/20), (CCV 880-46925/33), (CCV 880-46925/51), (LCS 880-46948/1-A), (LCSD 880-46948/2-A), (880-25049-A-1-I), (880-25049-A-1-J MS) and (880-25049-A-1-K MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-47146 and analytical batch 880-47130 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Client Sample ID: S-SW5.1

Lab Sample ID: 890-4157-1

Date Collected: 02/20/23 11:15

Matrix: Solid

Date Received: 02/20/23 15:19

Sample Depth: 5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U **	0.00202		mg/Kg		02/22/23 14:24	02/23/23 02:56	1
Toluene	<0.00202	U **	0.00202		mg/Kg		02/22/23 14:24	02/23/23 02:56	1
Ethylbenzene	<0.00202	U **	0.00202		mg/Kg		02/22/23 14:24	02/23/23 02:56	1
m-Xylene & p-Xylene	<0.00403	U **	0.00403		mg/Kg		02/22/23 14:24	02/23/23 02:56	1
o-Xylene	<0.00202	U **	0.00202		mg/Kg		02/22/23 14:24	02/23/23 02:56	1
Xylenes, Total	<0.00403	U **	0.00403		mg/Kg		02/22/23 14:24	02/23/23 02:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	191	S1+	70 - 130	02/22/23 14:24	02/23/23 02:56	1
1,4-Difluorobenzene (Surr)	70		70 - 130	02/22/23 14:24	02/23/23 02:56	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			02/23/23 12:26	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/27/23 12:20	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/24/23 09:54	02/24/23 13:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/24/23 09:54	02/24/23 13:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/24/23 09:54	02/24/23 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	02/24/23 09:54	02/24/23 13:13	1
o-Terphenyl	85		70 - 130	02/24/23 09:54	02/24/23 13:13	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.89		5.05		mg/Kg			02/22/23 18:38	1

Eurofins Carlsbad

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-4157-1	S-SW5.1	191 S1+	70
LCS 880-46948/1-A	Lab Control Sample	199 S1+	83
LCSD 880-46948/2-A	Lab Control Sample Dup	197 S1+	82
MB 880-46866/5-A	Method Blank	113	75
MB 880-46948/5-A	Method Blank	125	71

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
890-4157-1	S-SW5.1	88	85
LCS 880-47146/2-A	Lab Control Sample	111	99
LCSD 880-47146/3-A	Lab Control Sample Dup	114	104
MB 880-47146/1-A	Method Blank	139 S1+	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46866/5-A
 Matrix: Solid
 Analysis Batch: 46925

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 46866

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/21/23 14:31	02/22/23 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	02/21/23 14:31	02/22/23 11:37	1
1,4-Difluorobenzene (Surr)	75		70 - 130	02/21/23 14:31	02/22/23 11:37	1

Lab Sample ID: MB 880-46948/5-A
 Matrix: Solid
 Analysis Batch: 46925

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 46948

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/22/23 14:24	02/23/23 01:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	02/22/23 14:24	02/23/23 01:12	1
1,4-Difluorobenzene (Surr)	71		70 - 130	02/22/23 14:24	02/23/23 01:12	1

Lab Sample ID: LCS 880-46948/1-A
 Matrix: Solid
 Analysis Batch: 46925

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 46948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1279		mg/Kg		128	70 - 130
Toluene	0.100	0.1292		mg/Kg		129	70 - 130
Ethylbenzene	0.100	0.1268		mg/Kg		127	70 - 130
m-Xylene & p-Xylene	0.200	0.2592		mg/Kg		130	70 - 130
o-Xylene	0.100	0.1242		mg/Kg		124	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	199	S1+	70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: LCSD 880-46948/2-A
 Matrix: Solid
 Analysis Batch: 46925

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 46948

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1457	*+	mg/Kg		146	70 - 130	13	35

Eurofins Carlsbad

QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinho

Job ID: 890-4157-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-46948/2-A
 Matrix: Solid
 Analysis Batch: 46925

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 46948

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	RPD	Limit
Toluene	0.100	0.1491	*+	mg/Kg		149	70 - 130	14	35	
Ethylbenzene	0.100	0.1497	*+	mg/Kg		150	70 - 130	17	35	
m-Xylene & p-Xylene	0.200	0.3065	*+	mg/Kg		153	70 - 130	17	35	
o-Xylene	0.100	0.1486	*+	mg/Kg		149	70 - 130	18	35	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	197	S1+	70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-47146/1-A
 Matrix: Solid
 Analysis Batch: 47130

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 47146

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/24/23 08:14	02/24/23 08:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/24/23 08:14	02/24/23 08:40	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/24/23 08:14	02/24/23 08:40	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	139	S1+	70 - 130	02/24/23 08:14	02/24/23 08:40	1
o-Terphenyl	134	S1+	70 - 130	02/24/23 08:14	02/24/23 08:40	1

Lab Sample ID: LCS 880-47146/2-A
 Matrix: Solid
 Analysis Batch: 47130

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 47146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	1000	915.9		mg/Kg		92	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	925.7		mg/Kg		93	70 - 130	

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	111		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: LCSD 880-47146/3-A
 Matrix: Solid
 Analysis Batch: 47130

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 47146

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	972.6		mg/Kg		97	70 - 130	6	20	
Diesel Range Organics (Over C10-C28)	1000	957.1		mg/Kg		96	70 - 130	3	20	

Eurofins Carlsbad

QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-47146/3-A
 Matrix: Solid
 Analysis Batch: 47130

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 47146

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	114		70 - 130
o-Terphenyl	104		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46942/1-A
 Matrix: Solid
 Analysis Batch: 46978

Client Sample ID: Method Blank
 Prep Type: Soluble

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<5.00	U	5.00		mg/Kg			02/22/23 17:25	1

Lab Sample ID: LCS 880-46942/2-A
 Matrix: Solid
 Analysis Batch: 46978

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Lab Sample ID: LCSD 880-46942/3-A
 Matrix: Solid
 Analysis Batch: 46978

Client Sample ID: Lab Control Sample Dup
 Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Chloride	250	274.3		mg/Kg		110	90 - 110	12	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

GC VOA

Prep Batch: 46866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-46866/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 46925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Total/NA	Solid	8021B	46948
MB 880-46866/5-A	Method Blank	Total/NA	Solid	8021B	46866
MB 880-46948/5-A	Method Blank	Total/NA	Solid	8021B	46948
LCS 880-46948/1-A	Lab Control Sample	Total/NA	Solid	8021B	46948
LCSD 880-46948/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46948

Prep Batch: 46948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Total/NA	Solid	5035	
MB 880-46948/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46948/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46948/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 47061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 47130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Total/NA	Solid	8015B NM	47146
MB 880-47146/1-A	Method Blank	Total/NA	Solid	8015B NM	47146
LCS 880-47146/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47146
LCSD 880-47146/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47146

Prep Batch: 47146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Total/NA	Solid	8015NM Prep	
MB 880-47146/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47146/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47146/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Soluble	Solid	DI Leach	
MB 880-46942/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46942/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46942/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

HPLC/IC

Analysis Batch: 46978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4157-1	S-SW5.1	Soluble	Solid	300.0	46942
MB 880-46942/1-A	Method Blank	Soluble	Solid	300.0	46942
LCS 880-46942/2-A	Lab Control Sample	Soluble	Solid	300.0	46942
LCSD 880-46942/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46942

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Client Sample ID: S-SW5.1

Lab Sample ID: 890-4157-1

Date Collected: 02/20/23 11:15

Matrix: Solid

Date Received: 02/20/23 15:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	46948	02/22/23 14:24	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46925	02/23/23 02:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47061	02/23/23 12:26	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47315	02/27/23 12:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47146	02/24/23 09:54	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47130	02/24/23 13:13	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	46942	02/22/23 11:54	KS	EET MID
Soluble	Analysis	300.0		1			46978	02/22/23 18:38	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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Method Summary

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 890-4157-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4157-1	S-SW5.1	Solid	02/20/23 11:15	02/20/23 15:19	5'

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CHAIN OF CUSTODY RECORD

Terracon										Laboratory Address:			ANALYSIS REQUEST			LAB USE ONLY DUE DATE:		
Office Location: 4518 W. Pierce St Carlsbad NM, 88220										Phone:								
Project Manager: <u>Travis Casey</u>										Contact:								
Sampler's Name: <u>Travis Casey</u>										SRS #:								
										Sampler's Signature: <u>[Signature]</u>								
Project Number					Project Name: <u>Cretlysburg Trench</u>					No. Type of Containers								
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	4 oz Glass	2 oz Glass	250 ml Poly	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Lab Sample ID				
S	2-20-23	1110	R		S-SWS-1	0	5'	A			A	A	A					



TURNAROUND TIME: Normal 48-Hour Rush 24-Hour Rush

TRRP Laboratory Review Checklist: Yes No

Relinquished by (Signature): <u>[Signature]</u>	Date: <u>2-20-23</u>	Time:	Received by (Signature): <u>[Signature]</u>	Date: <u>2-20-23</u>	Time: <u>15:19</u>	Bill To:
Relinquished by (Signature): <u>[Signature]</u>	Date: <u>2-20-23</u>	Time: <u>15:19</u>	Received by (Signature): <u>[Signature]</u>	Date: <u>2-20-23</u>	Time: <u>15:19</u>	
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Date:	Time:	

TEMP OF COOLER WHEN RECEIVED (oC): 3.2 / 3.0 -0.2 Imm-007

e-mail results to:
 joseph.guesnier@terracon.com
 travis.casey@terracon.com
 mike.adams@terracon.com
 beckysue.miller@terracon.com

Matrix: WW-Wastewater W - Water S - Soil L - Liquid A - Air Bag C - Charcoal tube SL - Sludge
 Container: VOA - 40 ml vial A/G - Amber G 250 ml = Glass wide mou P/O - Plastic or other

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-4157-1

Login Number: 4157

List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-4157-1

Login Number: 4157

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/22/23 12:07 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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Environment Testing
America

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ANALYTICAL REPORT

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock, TX 79424
Tel: (806)794-1296

Laboratory Job ID: 820-5375-1
Laboratory Sample Delivery Group: AR227018
Client Project/Site: Gettysburg Tinhorn

For:
Terracon Consulting Eng & Scientists
5847 50th St
Lubbock, Texas 79424

Attn: Joseph Guesnier

Authorized for release by:
8/22/2022 4:10:27 PM

Jessica Kramer, Project Manager
(432)704-5440
Jessica.Kramer@et.eurofinsus.com



LINKS

Review your project
results through



Have a Question?



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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Laboratory Job ID: 820-5375-1
SDG: AR227018

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-

05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Jessica Kramer
Project Manager
8/22/2022 4:10:27 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Laboratory Job ID: 820-5375-1
SDG: AR227018

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
SDG: AR227018

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
SDG: AR227018

Job ID: 820-5375-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-5375-1

Receipt

The samples were received on 8/11/2022 4:52 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -0.2°C

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-65708 and analytical batch 860-65567 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
SDG: AR227018

Client Sample ID: BH-1 (0-0.5)

Lab Sample ID: 820-5375-1

Date Collected: 08/11/22 11:05

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1840		10.1		mg/Kg		08/18/22 22:18	08/19/22 00:50	1

Client Sample ID: BH-1 (0.5-1)

Lab Sample ID: 820-5375-2

Date Collected: 08/11/22 11:10

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	436		10.0		mg/Kg		08/18/22 22:18	08/19/22 01:02	1

Client Sample ID: BH-1 (1-2)

Lab Sample ID: 820-5375-3

Date Collected: 08/11/22 11:15

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3810		9.90		mg/Kg		08/18/22 22:18	08/19/22 01:38	1

Client Sample ID: BH-1 (3.5-4)

Lab Sample ID: 820-5375-4

Date Collected: 08/11/22 11:20

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1960		10.0		mg/Kg		08/18/22 22:18	08/19/22 01:49	1

Client Sample ID: BH-1 (4.5-5)

Lab Sample ID: 820-5375-5

Date Collected: 08/11/22 11:25

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	112		9.92		mg/Kg		08/18/22 22:18	08/19/22 02:25	1

Client Sample ID: BH-2 (0-0.5)

Lab Sample ID: 820-5375-7

Date Collected: 08/11/22 11:50

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	82.9		9.98		mg/Kg		08/18/22 22:18	08/19/22 02:49	1

Client Sample ID: BH-2 (0.5-1)

Lab Sample ID: 820-5375-8

Date Collected: 08/11/22 11:55

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1430		10.0		mg/Kg		08/18/22 22:18	08/19/22 03:00	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tindhorn

Job ID: 820-5375-1
SDG: AR227018

Client Sample ID: BH-2 (1-2)

Lab Sample ID: 820-5375-9

Date Collected: 08/11/22 12:00

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4810		10.1		mg/Kg		08/18/22 22:18	08/19/22 03:12	1

Client Sample ID: BH-2 (3.5-4)

Lab Sample ID: 820-5375-10

Date Collected: 08/11/22 12:05

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5550		100		mg/Kg		08/18/22 22:18	08/19/22 17:03	10

Client Sample ID: BH-2 (4.5-5)

Lab Sample ID: 820-5375-11

Date Collected: 08/11/22 12:10

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3770		9.96		mg/Kg		08/18/22 22:18	08/19/22 04:00	1

Client Sample ID: BH-3 (0-0.5)

Lab Sample ID: 820-5375-13

Date Collected: 08/11/22 12:30

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	949		10.1		mg/Kg		08/18/22 22:18	08/19/22 04:23	1

Client Sample ID: BH-3 (0.5-1)

Lab Sample ID: 820-5375-14

Date Collected: 08/11/22 12:35

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3760	F2	10.1		mg/Kg		08/18/22 22:18	08/19/22 04:35	1

Client Sample ID: BH-3 (1-2)

Lab Sample ID: 820-5375-15

Date Collected: 08/11/22 12:40

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4640		10.0		mg/Kg		08/18/22 22:18	08/19/22 05:11	1

Client Sample ID: BH-3 (3.5-4)

Lab Sample ID: 820-5375-16

Date Collected: 08/11/22 12:45

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2170		10.1		mg/Kg		08/18/22 22:18	08/19/22 05:22	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
SDG: AR227018

Client Sample ID: BH-3 (4.5-5)

Lab Sample ID: 820-5375-17

Date Collected: 08/11/22 12:50

Matrix: Solid

Date Received: 08/11/22 16:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	152		9.94		mg/Kg		08/18/22 22:18	08/19/22 05:34	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
 SDG: AR227018

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-65708/1-A
 Matrix: Solid
 Analysis Batch: 65567

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 65708

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg		08/18/22 22:18	08/18/22 23:51	1

Lab Sample ID: LCS 860-65708/2-A
 Matrix: Solid
 Analysis Batch: 65567

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 65708

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	101.5		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 860-65708/3-A
 Matrix: Solid
 Analysis Batch: 65567

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 65708

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	101.4		mg/Kg		101	80 - 120	0	20

Lab Sample ID: 820-5375-4 MS
 Matrix: Solid
 Analysis Batch: 65567

Client Sample ID: BH-1 (3.5-4)
 Prep Type: Total/NA
 Prep Batch: 65708

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1960		101	2033	4	mg/Kg		69	80 - 120

Lab Sample ID: 820-5375-4 MSD
 Matrix: Solid
 Analysis Batch: 65567

Client Sample ID: BH-1 (3.5-4)
 Prep Type: Total/NA
 Prep Batch: 65708

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1960		99.8	2004	4	mg/Kg		41	80 - 120	1	20

Lab Sample ID: 820-5375-14 MS
 Matrix: Solid
 Analysis Batch: 65567

Client Sample ID: BH-3 (0.5-1)
 Prep Type: Total/NA
 Prep Batch: 65708

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3760	F2	99.2	3715	4	mg/Kg		-44	80 - 120

Lab Sample ID: 820-5375-14 MSD
 Matrix: Solid
 Analysis Batch: 65567

Client Sample ID: BH-3 (0.5-1)
 Prep Type: Total/NA
 Prep Batch: 65708

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3760	F2	99.2	2187	4 F2	mg/Kg		-1584	80 - 120	52	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
 SDG: AR227018

HPLC/IC

Analysis Batch: 65567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5375-1	BH-1 (0-0.5)	Total/NA	Solid	300.0	65708
820-5375-2	BH-1 (0.5-1)	Total/NA	Solid	300.0	65708
820-5375-3	BH-1 (1-2)	Total/NA	Solid	300.0	65708
820-5375-4	BH-1 (3.5-4)	Total/NA	Solid	300.0	65708
820-5375-5	BH-1 (4.5-5)	Total/NA	Solid	300.0	65708
820-5375-7	BH-2 (0-0.5)	Total/NA	Solid	300.0	65708
820-5375-8	BH-2 (0.5-1)	Total/NA	Solid	300.0	65708
820-5375-9	BH-2 (1-2)	Total/NA	Solid	300.0	65708
820-5375-11	BH-2 (4.5-5)	Total/NA	Solid	300.0	65708
820-5375-13	BH-3 (0-0.5)	Total/NA	Solid	300.0	65708
820-5375-14	BH-3 (0.5-1)	Total/NA	Solid	300.0	65708
820-5375-15	BH-3 (1-2)	Total/NA	Solid	300.0	65708
820-5375-16	BH-3 (3.5-4)	Total/NA	Solid	300.0	65708
820-5375-17	BH-3 (4.5-5)	Total/NA	Solid	300.0	65708
MB 860-65708/1-A	Method Blank	Total/NA	Solid	300.0	65708
LCS 860-65708/2-A	Lab Control Sample	Total/NA	Solid	300.0	65708
LCSD 860-65708/3-A	Lab Control Sample Dup	Total/NA	Solid	300.0	65708
820-5375-4 MS	BH-1 (3.5-4)	Total/NA	Solid	300.0	65708
820-5375-4 MSD	BH-1 (3.5-4)	Total/NA	Solid	300.0	65708
820-5375-14 MS	BH-3 (0.5-1)	Total/NA	Solid	300.0	65708
820-5375-14 MSD	BH-3 (0.5-1)	Total/NA	Solid	300.0	65708

Prep Batch: 65708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5375-1	BH-1 (0-0.5)	Total/NA	Solid	300_Prep	
820-5375-2	BH-1 (0.5-1)	Total/NA	Solid	300_Prep	
820-5375-3	BH-1 (1-2)	Total/NA	Solid	300_Prep	
820-5375-4	BH-1 (3.5-4)	Total/NA	Solid	300_Prep	
820-5375-5	BH-1 (4.5-5)	Total/NA	Solid	300_Prep	
820-5375-7	BH-2 (0-0.5)	Total/NA	Solid	300_Prep	
820-5375-8	BH-2 (0.5-1)	Total/NA	Solid	300_Prep	
820-5375-9	BH-2 (1-2)	Total/NA	Solid	300_Prep	
820-5375-10	BH-2 (3.5-4)	Total/NA	Solid	300_Prep	
820-5375-11	BH-2 (4.5-5)	Total/NA	Solid	300_Prep	
820-5375-13	BH-3 (0-0.5)	Total/NA	Solid	300_Prep	
820-5375-14	BH-3 (0.5-1)	Total/NA	Solid	300_Prep	
820-5375-15	BH-3 (1-2)	Total/NA	Solid	300_Prep	
820-5375-16	BH-3 (3.5-4)	Total/NA	Solid	300_Prep	
820-5375-17	BH-3 (4.5-5)	Total/NA	Solid	300_Prep	
MB 860-65708/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 860-65708/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
LCSD 860-65708/3-A	Lab Control Sample Dup	Total/NA	Solid	300_Prep	
820-5375-4 MS	BH-1 (3.5-4)	Total/NA	Solid	300_Prep	
820-5375-4 MSD	BH-1 (3.5-4)	Total/NA	Solid	300_Prep	
820-5375-14 MS	BH-3 (0.5-1)	Total/NA	Solid	300_Prep	
820-5375-14 MSD	BH-3 (0.5-1)	Total/NA	Solid	300_Prep	

Analysis Batch: 65815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5375-10	BH-2 (3.5-4)	Total/NA	Solid	300.0	65708

Eurofins Lubbock

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tindhorn

Job ID: 820-5375-1
 SDG: AR227018

Client Sample ID: BH-1 (0-0.5)

Lab Sample ID: 820-5375-1

Date Collected: 08/11/22 11:05

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.97 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 00:50	RBNS	EET HOU

Client Sample ID: BH-1 (0.5-1)

Lab Sample ID: 820-5375-2

Date Collected: 08/11/22 11:10

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.99 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 01:02	RBNS	EET HOU

Client Sample ID: BH-1 (1-2)

Lab Sample ID: 820-5375-3

Date Collected: 08/11/22 11:15

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			5.05 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 01:38	RBNS	EET HOU

Client Sample ID: BH-1 (3.5-4)

Lab Sample ID: 820-5375-4

Date Collected: 08/11/22 11:20

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.98 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 01:49	RBNS	EET HOU

Client Sample ID: BH-1 (4.5-5)

Lab Sample ID: 820-5375-5

Date Collected: 08/11/22 11:25

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			5.04 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 02:25	RBNS	EET HOU

Client Sample ID: BH-2 (0-0.5)

Lab Sample ID: 820-5375-7

Date Collected: 08/11/22 11:50

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			5.01 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 02:49	RBNS	EET HOU

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tindhorn

Job ID: 820-5375-1
 SDG: AR227018

Client Sample ID: BH-2 (0.5-1)

Lab Sample ID: 820-5375-8

Date Collected: 08/11/22 11:55

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			5.00 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 03:00	RBNS	EET HOU

Client Sample ID: BH-2 (1-2)

Lab Sample ID: 820-5375-9

Date Collected: 08/11/22 12:00

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.95 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 03:12	RBNS	EET HOU

Client Sample ID: BH-2 (3.5-4)

Lab Sample ID: 820-5375-10

Date Collected: 08/11/22 12:05

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.98 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		10			65815	08/19/22 17:03	RBNS	EET HOU

Client Sample ID: BH-2 (4.5-5)

Lab Sample ID: 820-5375-11

Date Collected: 08/11/22 12:10

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			5.02 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 04:00	RBNS	EET HOU

Client Sample ID: BH-3 (0-0.5)

Lab Sample ID: 820-5375-13

Date Collected: 08/11/22 12:30

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.96 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	65567	08/19/22 04:23	RBNS	EET HOU

Client Sample ID: BH-3 (0.5-1)

Lab Sample ID: 820-5375-14

Date Collected: 08/11/22 12:35

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.95 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	65567	08/19/22 04:35	RBNS	EET HOU

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
 Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
 SDG: AR227018

Client Sample ID: BH-3 (1-2)

Lab Sample ID: 820-5375-15

Date Collected: 08/11/22 12:40

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.99 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 05:11	RBNS	EET HOU

Client Sample ID: BH-3 (3.5-4)

Lab Sample ID: 820-5375-16

Date Collected: 08/11/22 12:45

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			4.95 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 05:22	RBNS	EET HOU

Client Sample ID: BH-3 (4.5-5)

Lab Sample ID: 820-5375-17

Date Collected: 08/11/22 12:50

Matrix: Solid

Date Received: 08/11/22 16:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	300_Prep			5.03 g	50 mL	65708	08/18/22 22:18	RBNS	EET HOU
Total/NA	Analysis	300.0		1			65567	08/19/22 05:34	RBNS	EET HOU

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
SDG: AR227018

Laboratory: Eurofins Houston

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-22-47	06-30-23

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Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
SDG: AR227018

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET HOU
300_Prep	Anions, Ion Chromatography, 10% Wt/Vol	MCAWW	EET HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Gettysburg Tinhorn

Job ID: 820-5375-1
SDG: AR227018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-5375-1	BH-1 (0-0.5)	Solid	08/11/22 11:05	08/11/22 16:52
820-5375-2	BH-1 (0.5-1)	Solid	08/11/22 11:10	08/11/22 16:52
820-5375-3	BH-1 (1-2)	Solid	08/11/22 11:15	08/11/22 16:52
820-5375-4	BH-1 (3.5-4)	Solid	08/11/22 11:20	08/11/22 16:52
820-5375-5	BH-1 (4.5-5)	Solid	08/11/22 11:25	08/11/22 16:52
820-5375-7	BH-2 (0-0.5)	Solid	08/11/22 11:50	08/11/22 16:52
820-5375-8	BH-2 (0.5-1)	Solid	08/11/22 11:55	08/11/22 16:52
820-5375-9	BH-2 (1-2)	Solid	08/11/22 12:00	08/11/22 16:52
820-5375-10	BH-2 (3.5-4)	Solid	08/11/22 12:05	08/11/22 16:52
820-5375-11	BH-2 (4.5-5)	Solid	08/11/22 12:10	08/11/22 16:52
820-5375-13	BH-3 (0-0.5)	Solid	08/11/22 12:30	08/11/22 16:52
820-5375-14	BH-3 (0.5-1)	Solid	08/11/22 12:35	08/11/22 16:52
820-5375-15	BH-3 (1-2)	Solid	08/11/22 12:40	08/11/22 16:52
820-5375-16	BH-3 (3.5-4)	Solid	08/11/22 12:45	08/11/22 16:52
820-5375-17	BH-3 (4.5-5)	Solid	08/11/22 12:50	08/11/22 16:52

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Loc: 820
5375



820-5375 Chain of Custody

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

ANALYSIS
REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER
WHEN RECEIVED (°C)

-0.1/-0.2
18.4

Page ___ of ___

Office Location _____

Phone: _____
Contact: _____
SRS #: _____

Project Manager J. Guesnier

Sampler's Name A. Worley

Sampler's Signature
Austin Worley

Project Number
AR227018

Project Name
Gettysburg Tinhorn

No. Type of Containers

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers				Chloride (EPA Method 300)	Hold	Lab Sample ID
								4 oz Glass	2 oz Glass	250 ml	Poly			
S	8/11/2022	11:05		X	BH-1 (0-0.5)	0	0.5'	X				X		
S	8/11/2022	11:10		X	BH-1 (0.5-1)	0.5'	1'	X				X		
S	8/11/2022	11:15		X	BH-1 (1-2)	1'	2'	X				X		
S	8/11/2022	11:20		X	BH-1 (3.5-4)	3.5'	4'	X				X		
S	8/11/2022	11:25		X	BH-1 (4.5-5)	4.5'	5'	X				X		
S	8/11/2022	11:30		X	BH-1 (5.5-6)	5.5'	6'	X				X		
S	8/11/2022	11:50		X	BH-2 (0-0.5)	0	0.5'	X				X		
S	8/11/2022	11:55		X	BH-2 (0.5-1)	0.5'	1'	X				X		
S	8/11/2022	12:00		X	BH-2 (1-2)	1'	2'	X				X		
S	8/11/2022	12:05		X	BH-2 (3.5-4)	3.5'	4'	X				X		
S	8/11/2022	12:10		X	BH-2 (4.5-5)	4.5'	5'	X				X		
S	8/11/2022	12:15		X	BH-2 (5.5-6)	5.5'	6'	X				X		
S	8/11/2022	12:30		X	BH-3 (0-0.5)	0	0.5'	X				X		
S	8/11/2022	12:35		X	BH-3 (0.5-1)	0.5'	1'	X				X		
S	8/11/2022	12:40		X	BH-3 (1-2)	1'	2'	X				X		
S	8/11/2022	12:45		X	BH-3 (3.5-4)	3.5'	4'	X				X		
S	8/11/2022	12:50		X	BH-3 (4.5-5)	4.5'	5'	X				X		
S	8/11/2022	12:55		X	BH-3 (5.5-6)	5.5'	6'	X				X		

TURNAROUND TIME Normal 48-Hour Rush 24-Hour Rush TRRP Laboratory Review Checklist Yes No

Relinquished by (Signature) <i>Austin Worley</i>	Date: 8-11-22 Time: 4:52pm	Received by (Signature) <i>Hooley Jaeger</i>	Date: 8/11/22 Time: 1652	Bill To: Solaris Midstream (Rob Kirk) e-mail results to: joseph.guesnier@terracon.com austin.worley@terracon.com
Relinquished by (Signature)	Date:	Received by (Signature)	Date:	
Relinquished by (Signature)	Date:	Received by (Signature)	Date:	
Relinquished by (Signature)	Date:	Received by (Signature)	Date:	

Matrix: WW - Wastewater W - Water S - Soil L - Liquid A - Air Bag C - Charcoal tube M - Sludge
 Container: VOA - 40 ml vial A/G - Amber Glass 1L 250 ml - Glass wide mouth P/O - Plastic or other _____

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

Responsive ■ Resourceful ■ Reliable

Released to Imaging: 9/6/2023 7:24:24 AM

Page 17 of 23

8/22/2022

Received by OCD: 6/8/2023 12:00:33 AM

Page 133 of 175



Eurofins Lubbock Temp: 1.6 IR ID:HOU-338
6701 Aberdeen Ave. Suite C/F+1.4
Lubbock, TX 79424 Corrected Temp: 3.0
Phone: 806-794-1296

Chain of Custody Record



ofins Environment Testing America

Client Information (Sub Contract Lab)		Sampler	Lab PM:	820-5375 Chain of Custody																											
Client Contact		Phone:	Kramer Jessica	59.1																											
Shipping/Receiving		E-Mail:	Jessica.Kramer@et.eurofinsus.com	State of Origin:	Texas																										
Company:		Eurofins Environment Testing South Cent		Accreditations Required (See note):	NELAP Texas																										
Address:		Due Date Requested:	8/15/2022	Job #:																											
4145 Greenbriar Dr		TAT Requested (days):		820-5375-1																											
City:		Analysis Requested																													
Stafford																															
State, Zip:		PO #:	<table border="0"> <tr><td>A HCL</td><td>M Hexane</td></tr> <tr><td>B NaOH</td><td>N None</td></tr> <tr><td>C Zn Acetate</td><td>O AsNaO2</td></tr> <tr><td>D Nitric Acid</td><td>P Na2O4S</td></tr> <tr><td>E NaHSO4</td><td>Q Na2SO3</td></tr> <tr><td>F MeOH</td><td>R Na2S2O3</td></tr> <tr><td>G Amchlor</td><td>S H2SO4</td></tr> <tr><td>H Ascorbic Acid</td><td>T TSP Dodecahydrate</td></tr> <tr><td>I Ice</td><td>U Acetone</td></tr> <tr><td>J DI Water</td><td>V MCAA</td></tr> <tr><td>K EDTA</td><td>W pH 4-5</td></tr> <tr><td>L EDA</td><td>Y Trizma</td></tr> <tr><td></td><td>Z other (specify)</td></tr> </table>			A HCL	M Hexane	B NaOH	N None	C Zn Acetate	O AsNaO2	D Nitric Acid	P Na2O4S	E NaHSO4	Q Na2SO3	F MeOH	R Na2S2O3	G Amchlor	S H2SO4	H Ascorbic Acid	T TSP Dodecahydrate	I Ice	U Acetone	J DI Water	V MCAA	K EDTA	W pH 4-5	L EDA	Y Trizma		Z other (specify)
A HCL	M Hexane																														
B NaOH	N None																														
C Zn Acetate	O AsNaO2																														
D Nitric Acid	P Na2O4S																														
E NaHSO4	Q Na2SO3																														
F MeOH	R Na2S2O3																														
G Amchlor	S H2SO4																														
H Ascorbic Acid	T TSP Dodecahydrate																														
I Ice	U Acetone																														
J DI Water	V MCAA																														
K EDTA	W pH 4-5																														
L EDA	Y Trizma																														
	Z other (specify)																														
Project Name:		WO #:	Other																												
Gettysburg Tinhom		Project #:	82000340																												
Site:		SSOV#:																													
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oi, BT=Trace, A=Air)	Special Instructions/Note:																									
BH-1 (0-0.5) (820-5375-1)		8/11/22	11:05 Central	Solid	X																										
BH-1 (0.5-1) (820-5375-2)		8/11/22	11:10 Central	Solid	X																										
BH-1 (1-2) (820-5375-3)		8/11/22	11:15 Central	Solid	X																										
BH-1 (3.5-4) (820-5375-4)		8/11/22	11:20 Central	Solid	X																										
BH-2 (0-0.5) (820-5375-7)		8/11/22	11:50 Central	Solid	X																										
BH-2 (0.5-1) (820-5375-8)		8/11/22	11:55 Central	Solid	X																										
BH-2 (1-2) (820-5375-9)		8/11/22	12:00 Central	Solid	X																										
BH-2 (3.5-4) (820-5375-10)		8/11/22	12:05 Central	Solid	X																										
BH-3 (0-0.5) (820-5375-13)		8/11/22	12:30 Central	Solid	X																										
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.</p>																															
Possible Hazard Identification			Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																												
Unconfirmed			<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																												
Deliverable Requested: I II III IV Other (specify)		Primary Deliverable Rank: 2	Special Instructions/QC Requirements.																												
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:																											
Relinquished by: Amber L. Ruppel		Date/Time: 8/11/22 17:00	Company:	Received by: Jander Jow	Date/Time: 8/13/22 849	Company: Eurofins																									
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:	Company:																									
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:	Company:																									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:																											



Eurofins Lubbock

6701 Aberdeen Ave. Suite Temp: IR ID:HOU-338
 Lubbock, TX 79424 C/F +1.4 1.6
 Phone: 806-794-1296 Corrected Temp. 3.0

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler		Lab PM: Kramer Jessica		Carrier Tracking No(s):		COC No: 820-4569.2	
Client Contact Shipping/Receiving		Phone:		E-Mail: Jessica.Kramer@et.eurofinsus.com		State of Origin: Texas		Page: Page 2 of 2	
Company: Eurofins Environment Testing South Cent				Accreditations Required (See note): NELAP Texas				Job #: 820-5375-1	
Address: 4145 Greenbriar Dr City: Stafford State, Zip: TX, 77477		Due Date Requested: 8/15/2022		Analysis Requested				Preservation Codes: A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z other (specify)	
Phone: 281-240-4200(Tel)		TAT Requested (days):							
Email:		PO #:		Project #: 82000340		Project Name: Gettysburg Tinhom		SOW#:	
Site:		WO #:		BT-Tissue, AAAR		300_ORGFM_28D300_Prep Chloride		Other	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=organic/oil, BT=Tissue, AAAR)				Special Instructions/Note
BH-3 (0.5-1) (820-5375-14)		8/11/22	12:35 Central		Solid	X			
BH-3 (1-2) (820-5375-15)		8/11/22	12:40 Central		Solid	X			
BH-3 (3.5-4) (820-5375-16)		8/11/22	12:45 Central		Solid	X			
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.</p>									
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
Unconfirmed					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I II, III, IV Other (specify)			Primary Deliverable Rank: 2		Special Instructions/QC Requirements:				
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:		
Relinquished by: <i>Andrew 1. Ruppel</i>			Date/Time: <i>8/11/22 17:00</i>		Company:		Received by: <i>Jordan Jones</i>		Date/Time: <i>8/13/22 849</i>
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:
Custody Seals Intact Δ Yes Δ No		Custody Seal No.			Cooler Temperature(s) °C and Other Remarks:				

8/12/22, 2:47 PM

FedEx Ship Manager - Print Your Label(s)

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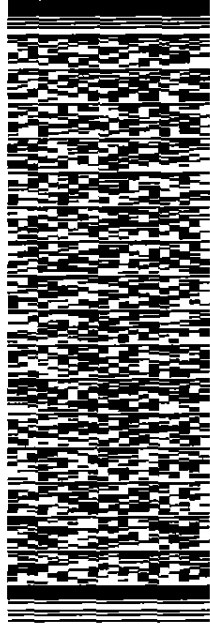
ORIGIN ID: LBBA (806) 794-1296
 LUBBOCK LOGN
 EUROFINX XENCO
 6701 ABERDEEN AVENUE STE 8
 LUBBOCK, TX 79424
 UNITED STATES US

SHIP DATE: 12AUG22
 ACTWGT: 10.00 LB
 CAD: 110320796/IN/E14490
 BILL SENDER

TO HOUSTON SAMPLE RECEIVING
 XENCO HOUSTON
 4145 GREENBRIAR DR

STAFFORD TX 77477
 (281) 240-4200
 NV REF

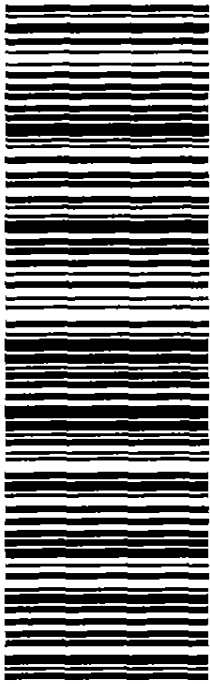
PO: DEPT:



581.J2/F39D/FE2D

TRK# 7776 5102 2150
 0207
 SATURDAY 12:00P
 PRIORITY OVERNIGHT

X0 SGRA
 TX-US IAH
 77477



After printing this label

- 1 Use the 'Print' button on this page to print your label to your laser or inkjet printer
- 2 Fold the printed page along the horizontal line.
- 3 Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned

Warning IMPORTANT: TRANSMIT YOUR SHIPPING DATA AND PRINT A MANIFEST

At the end of each shipping day you should perform the FedEx Ground End of Day Close procedure to transmit your shipping data to FedEx. To do so, click on the Ground End of Day Close Button. If required, print the pickup manifest that appears. A printed manifest is required to be tendered along with your packages if they are being picked up by FedEx Ground. If you are dropping your packages off at a FedEx drop off location, the manifest is not required.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide and applicable tariff available upon request. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations, including limitations on our liability, can be found in the current FedEx Service Guide and applicable tariff apply. In no event shall FedEx Ground be liable for any special, incidental, or consequential damages, including, without limitation, loss of profit, loss to the intrinsic value of the package, loss of sale, interest income or attorney's fees. Recovery cannot exceed actual documented loss. Items of extraordinary value are subject to separate limitations of liability set forth in the Service Guide and tariff. Written claims must be filed within strict time limits - see current FedEx Service Guide.

8/12/22 3.12 PM

FedEx Ship Manager - Print Your Label(s)

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ORIGIN ID: LBBA (806) 794-1296
 LUBBOCK LOGIN
 EUROFINS XENCO
 6701 ABERDEEN AVENUE STE 8
 LUBBOCK, TX 79424
 UNITED STATES US

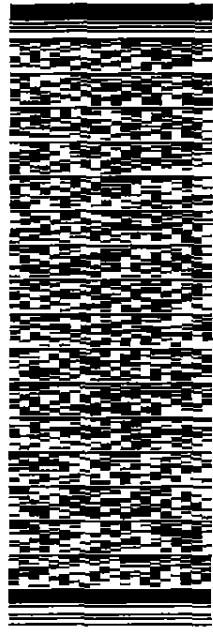
SHIP DATE: 12AUG22
 ACTWGT: 10.00 LB
 CAD: 110320796/NET/4490

BILL SENDER

TO HOUSTON SAMPLE RECEIVING
 XENCO HOUSTON
 4145 GREENBRIAR DR

STAFFORD TX 77477
 (281) 240-4200
 NV: REF:

PO: DEPT:



J222822041201uv

581.J2F39D/FE2D

TRK# 7776 5137 5450
 0201
 SATURDAY 12:00P
 PRIORITY OVERNIGHT

X0 SGRA
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 77477
 IAH



After printing this label.

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned

Warning IMPORTANT TRANSMIT YOUR SHIPPING DATA AND PRINT A MANIFEST

At the end of each shipping day, you should perform the FedEx Ground End of Day Close procedure to transmit your shipping data to FedEx. To do so, click on the Ground End of Day Close Button. If required, print the pickup manifest that appears. A printed manifest is required to be tendered along with your packages if they are being picked up by FedEx Ground. If you are dropping your packages off at a FedEx drop off location, the manifest is not required.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide and applicable tariff available upon request. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations, including limitations on our liability, can be found in the current FedEx Service Guide and applicable tariff apply. In no event shall FedEx Ground be liable for any special, incidental, or consequential damages, including, without limitation, loss of profit, loss to the intrinsic value of the package, loss of sale, interest income or attorney's fees. Recovery cannot exceed actual documented loss. Items of extraordinary value are subject to separate limitations of liability set forth in the Service Guide and tariff. Written claims must be filed within strict time limits - see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-5375-1

SDG Number: AR227018

Login Number: 5375

List Number: 1

Creator: Ruggles, Ashley

List Source: Eurofins Lubbock

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-5375-1

SDG Number: AR227018

Login Number: 5375

List Number: 2

Creator: Torres, Sandra

List Source: Eurofins Houston

List Creation: 08/13/22 02:44 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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

August 30, 2022

JOSEPH GUESNIER
TERRACON CONSULTANTS
5827 50TH ST. SUITE 1
LUBBOCK, TX 79424

RE: GETTYSBURG TINHORN

Enclosed are the results of analyses for samples received by the laboratory on 08/26/22 10:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 01 (H223937-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8530	16.0	08/29/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	189	94.6	200	2.40	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	192	96.2	200	0.884	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 77.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.8 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 02 (H223937-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9460	16.0	08/29/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	189	94.6	200	2.40	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	192	96.2	200	0.884	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 105 % 45.3-161

Surrogate: 1-Chlorooctadecane 125 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 03 (H223937-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	08/29/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	189	94.6	200	2.40	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	192	96.2	200	0.884	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 79.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.9 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 04 (H223937-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	08/29/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	189	94.6	200	2.40	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	192	96.2	200	0.884	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 71.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.6 % 46.3-178

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Analytical Results For:

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 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: TH - N (H223937-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9460	16.0	08/29/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	189	94.6	200	2.40	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	192	96.2	200	0.884	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 64.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 77.7 % 46.3-178

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TERRACON CONSULTANTS
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 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: TH - E (H223937-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8660	16.0	08/29/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	189	94.6	200	2.40	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	192	96.2	200	0.884	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 58.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 69.4 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: TH - S (H223937-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	08/29/2022	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 77.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 78.3 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
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 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: TH - W (H223937-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3840	16.0	08/29/2022	ND	448	112	400	0.00	QM-07

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	17.6	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 81.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.4 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: ESW (H223937-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.06	103	2.00	1.56	
Toluene*	<0.050	0.050	08/29/2022	ND	2.31	116	2.00	0.0954	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.23	111	2.00	0.479	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.98	116	6.00	0.281	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 69.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 69.7 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: NSW (H223937-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/29/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/29/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/29/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/29/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 70.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 70.7 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - FS 01 (H223937-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5680	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 73.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 73.9 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - FS 02 (H223937-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3520	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 71.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 71.8 % 46.3-178

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Analytical Results For:

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 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - FS 03 (H223937-13)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 69.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 69.7 % 46.3-178

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TERRACON CONSULTANTS
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 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - FS 04 (H223937-14)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2680	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 60.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 60.2 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - FS 05 (H223937-15)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2880	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 71.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 71.4 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - FS 06 (H223937-16)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 69.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 69.6 % 46.3-178

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - SW - E (H223937-17)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 79.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 79.6 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	08/26/2022	Sampling Date:	08/25/2022
Reported:	08/30/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227020	Sample Received By:	Tamara Oldaker
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: E - SW - N (H223937-18)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/30/2022	ND	2.14	107	2.00	8.23	
Toluene*	<0.050	0.050	08/30/2022	ND	2.07	104	2.00	8.02	
Ethylbenzene*	<0.050	0.050	08/30/2022	ND	2.02	101	2.00	7.45	
Total Xylenes*	<0.150	0.150	08/30/2022	ND	6.24	104	6.00	6.45	
Total BTEX	<0.300	0.300	08/30/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	08/29/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/29/2022	ND	192	96.0	200	1.08	
DRO >C10-C28*	<10.0	10.0	08/29/2022	ND	181	90.4	200	0.698	
EXT DRO >C28-C36	<10.0	10.0	08/29/2022	ND					

Surrogate: 1-Chlorooctane 74.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 74.3 % 46.3-178

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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Form containing company information (Terracon), project details (Gettysburg Tinhorn), and a table with columns for Lab I.D., Sample I.D., Matrix, Preserv., and Sampling. Includes handwritten notes like 'Chloride CEPA Method 300'.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses.

Bottom section of the form containing 'Relinquished By', 'Received By', 'Delivered By', and 'Turnaround Time' fields with handwritten signatures and dates.

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsonm.com



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Form containing company information (Terracon), project details (Gettysburg Tinhorn), and a table with columns for Lab I.D., Sample I.D., Matrix, Preservation, and Sampling. Includes handwritten notes like 'Chloride (EPA Method 300)' and 'TPH Extended 8015'.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses.

Bottom section of the form containing 'Relinquished By', 'Received By', 'Delivered By', and 'Turnaround Time' fields. Includes handwritten signatures and dates.

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinalabsnm.com



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

September 07, 2022

MIKE ADAMS

TERRACON CONSULTANTS

5827 50TH ST. SUITE 1

LUBBOCK, TX 79424

RE: GETTYSBURG TINHORN

Enclosed are the results of analyses for samples received by the laboratory on 09/01/22 12:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TERRACON CONSULTANTS
 MIKE ADAMS
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	09/01/2022	Sampling Date:	08/31/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227018	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 01 5-6 (H224031-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3880	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 02 5-6 (H224031-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8640	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 03 5-6 (H224031-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3800	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 04 5-6 (H224031-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2760	16.0	09/06/2022	ND	416	104	400	3.77	

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Analytical Results For:

TERRACON CONSULTANTS
 MIKE ADAMS
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	09/01/2022	Sampling Date:	08/31/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227018	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 05 5-6 (H224031-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5920	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 06 3-4 (H224031-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 07 3-4 (H224031-07)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2320	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 08 3-4 (H224031-08)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 09 3-4 (H224031-09)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	09/06/2022	ND	416	104	400	3.77	

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Analytical Results For:

TERRACON CONSULTANTS
 MIKE ADAMS
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	09/01/2022	Sampling Date:	08/31/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227018	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 10 3-4 (H224031-10)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 11 3-4 (H224031-11)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 12 3-4 (H224031-12)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5040	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 13 3-4 (H224031-13)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4880	16.0	09/06/2022	ND	416	104	400	3.77	

Sample ID: FS 14 3-4 (H224031-14)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	09/06/2022	ND	432	108	400	3.64	QM-07

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Analytical Results For:

TERRACON CONSULTANTS
 MIKE ADAMS
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	09/01/2022	Sampling Date:	08/31/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227018	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 15 3-4 (H224031-15)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 16 3-4 (H224031-16)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5280	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 17 3-4 (H224031-17)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 18 3-4 (H224031-18)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3080	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 19 3-4 (H224031-19)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	09/06/2022	ND	432	108	400	3.64	

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Analytical Results For:

TERRACON CONSULTANTS
 MIKE ADAMS
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	09/01/2022	Sampling Date:	08/31/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227018	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 20 3-4 (H224031-20)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2600	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 21 3-4 (H224031-21)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 22 3-4 (H224031-22)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 23 3-4 (H224031-23)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 24 3-4 (H224031-24)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1470	16.0	09/06/2022	ND	432	108	400	3.64	

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TERRACON CONSULTANTS
 MIKE ADAMS
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	09/01/2022	Sampling Date:	08/31/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227018	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 25 3-4 (H224031-25)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1540	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 26 3-4 (H224031-26)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1460	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 27 3-4 (H224031-27)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 28 3-4 (H224031-28)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: FS 29 3-4 (H224031-29)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	09/06/2022	ND	432	108	400	3.64	

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TERRACON CONSULTANTS
 MIKE ADAMS
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received:	09/01/2022	Sampling Date:	08/31/2022
Reported:	09/07/2022	Sampling Type:	Soil
Project Name:	GETTYSBURG TINHORN	Sampling Condition:	Cool & Intact
Project Number:	AR227018	Sample Received By:	Shalyn Rodriguez
Project Location:	SOLARIS (32.224927-103.506768)		

Sample ID: FS 30 3-4 (H224031-30)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: N SW 0-4 (H224031-31)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: E SW 0-4 (H224031-32)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: S SW 0-6 (H224031-33)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/06/2022	ND	432	108	400	3.64	

Sample ID: W SW 0-6 (H224031-34)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/06/2022	ND	432	108	400	3.77	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CHAIN OF CUSTODY RECORD



Laboratory:
Address:
Phone:
Contact:
SRS #:
Sampler's Signature *Travis Casey*

Office Location: 4502 W. Pierce St Carlsbad NM, 88220
Project Manager: Mike Adams
Sampler's Name: Travis Casey

ANALYSIS REQUEST

LAB USE ONLY DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C) *3.1°C - 0.1°C #113 SR*
2.5°C

Project Number: *AR227018*
Project Name: *Gettysburg Tin horn*
No. Type of Containers

Matrix	Date	Time	Comp Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	4 oz Glass	2 oz Glass	250 ml Poly	Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)
S	8/31/22	0814	X	FS01	5	6	1			X		
		0816		FS02			1					
		0818		FS03			1					
		0820		FS04			1					
		0822		FS05			1					
		0824		FS06	3	4	1					
		0826		FS07			1					
		0828		FS08			1					
		0830		FS09			1					
		0832		FS10			1					
		0834		FS11			1					
		0836		FS12			1					
		0838		FS13			1					
		0840		FS14			1					
		0842		FS15			1					
		0844		FS16			1					
		0846		FS17			1					
		0848		FS18			1					
		0850		FS19			1					
		0852		FS20			1					
		0854		FS21			1					
		0856		FS22			1					

H224031
Lab Sample ID

1-20-21-22-23-24-25-26-27-28-29-30-31-32

TURNAROUND TIME: Normal 48-Hour Rush 24-Hour Rush TRRP Laboratory Review Checklist Yes No

Relinquished by (Signature) <i>Travis Casey</i>	Date: 8/31	Time: 1800	Received by (Signature) <i>[Signature]</i>	Date: 8-31-22	Time: 1800
Relinquished by (Signature) <i>[Signature]</i>	Date: 9-1-22	Time: 1205	Received by (Signature) <i>[Signature]</i>	Date: 9/1/22	Time: 1305
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

Bill To: *Saluda*
Rob Kirk

e-mail results to:
joseph.guesnier@terracon.com
travis.casey@terracon.com
mike.adams@terracon.com

Matrix: WW-Wastewater W - Water S - Soil L - Liq A - Air Bag C - Charcoal tube SL - Sludge
Container: VOA - 40 ml vial A/G - Amber Gla 250 ml = Glass wide P/O - Plastic or other

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

CHAIN OF CUSTODY RECORD



Laboratory:
Address:
Phone:
Contact:
SRS #:
Sampler's Signature

Office Location: 4502 W. Pierce St Carlsbad NM, 88220
Project Manager: Mike Adams
Sampler's Name: Travis Casey

ANALYSIS REQUEST

LAB USE ONLY DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 3.12 cooler #113 SR
2.52

Project Number: _____ Project Name: _____ No. Type of Containers

Matrix	Date	Time	Comp Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers			Chloride (EPA Method 300)	TPH Extended 8015	BTEX (EPA Method 8021B)	Lab Sample ID
							4 oz Glass	2 oz Glass	250 ml Poly				
S	8/13/22	0858	K	FS23	3	4	1					23	
		0900		FS24			1					24	
		0902		FS25			1					25	
		0904		FS26			1					26	
		0906		FS27			1					27	
		0908		FS28			1					28	
		0910		FS29			1					29	
		0912		FS30			1					30	
		0916		N SW	0	4	1					31	
		0918		E SW	0	4	1					32	
		0922		S SW	0	6	1					33	
		1100		W SW	0	6	1					34	

1224031
Lab Sample ID

TURNAROUND TIME: Normal 48-Hour Rush 24-Hour Rush TRRP Laboratory Review Checklist Yes No

Relinquished by (Signature): <i>[Signature]</i>	Date: 8/31	Time: 15:00	Received by (Signature): <i>[Signature]</i>	Date: 8/31/22	Time: 16:00	Bill To: Solaris Rob Kirk
Relinquished by (Signature): <i>[Signature]</i>	Date: 9-1-22	Time: 1206	Received by (Signature): <i>[Signature]</i>	Date: 9/1/22	Time: 1205	
Relinquished by (Signature): <i>[Signature]</i>	Date:	Time:	Received by (Signature):	Date:	Time:	
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Date:	Time:	

e-mail results to:
joseph.guesnier@terracon.com
travis.casey@terracon.com
mike.adams@terracon.com

Matrix: WW-Wastewater W - Water S - Soil L - Liq A - Air Bag C - Charcoal tube SL - Sludge
Container: VOA - 40 ml vial A/G - Amber Gla 250 ml = Glass wide P/O - Plastic or other

APPENDIX E – WASTE MANIFEST

APPENDIX F – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 224895

CONDITIONS

Operator: SOLARIS WATER MIDSTREAM, LLC 907 Tradewinds Blvd, Suite B Midland, TX 79706	OGRID: 371643
	Action Number: 224895
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	9/6/2023