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State of New Mexico
Oil Conservation Division

Incident ID	NAPP2206043246
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Joseph Guesnier Title: Senior Staff Scientist

Signature: Joseph Guesnier Date: 6/16/2022

email: jrguesnier@terracon.com Telephone: 806-544-9276

OCD Only

Received by: Robert Hamlet Date: 10/21/2022

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: Robert Hamlet Date: 10/21/2022

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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State of New Mexico
Oil Conservation Division

Incident ID	NAPP2208043246
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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?	260 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

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State of New Mexico
Oil Conservation Division

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

Printed Name: Joseph Guesnier Title: Senior Staff Scientist

Signature: Date: 6/16/2022

email: jrguesnier@terracon.com Telephone: 806-544-9276

OCD Only

Received by: Date:

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Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2206043246
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Closure

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Joseph Guesnier Title: Senior Staff Scientist

Signature: Joseph Guesnier Date: 6/16/2022

email: jrguesnier@terracon.com Telephone: 806-544-9276

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Silverback Operating II, LLC
Marshall APH Battery
32.677195, -104.491865
NMOCD Reference # NAPP2208043246
Terracon Project # AR227085

Closure Plan

Attn: Mr. Mark Ritchie
P: 210-874-2406
E: mritchie@silverbackexp.com

RE: **Release Investigation and Remedial Action Plan**
Marshall APH Battery
Unit F, Section 9, Township 19 south, Range 25 east
Eddy County, New Mexico
Terracon Project No. AR227085

Dear Mr. Ritchie,

Terracon Consultants, Inc. (Terracon) is pleased to submit our 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 recommends the following actions be taken to achieve protection of fresh water and the environment in accordance with NMOCD regulations. Terracon executed this Closure Report in general accordance with our scope of work (AR227085) dated March 13, 2022.

Action Items

Completed Actions

1) Conducted delineation sample collection and analysis.
2) Excavated and removed impacted material from site and area of concern.
3) Confirmation samples collected from all side walls and floor of excavation.
4) Closure report delivered to the NMOCD.

Anticipated Actions

1) Treatment of exhumed soils with TB-2000 microbes for TPH remediation.
2) Backfill of the open excavation following successful soil treatment and NMOCD concurrence of this report.

Variance Requested

1) Not applicable.

Silverback Operating II, LLC
Marshall Tank Battery
32.677195, -104.491865
NMOCD Reference # NAPP2208043246

Terracon appreciates this opportunity to provide environmental services to Silverback Operating II, LLC. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Joseph Guesnier, NORM RSO
Senior Staff Scientist
Lubbock

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

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Silverback Operating II, LLC
Marshall APH Battery
32.677195, -104.491865
NMOCD Reference # NAPP2208043246

Incident Information

The following table provides detailed information regarding the March 13, 2022 Marshall APH Battery site in Eddy County, New Mexico:

Required Information	Site and Release information	
Responsible party	The facility is operated by Silverback Operating II, LLC	
Local contact	Contact: Mr. Mark Ritchie	P: (210) 874-2406 E: mritchie@silverbackexp.com
NMOCD Notification	Notice of the release was provided to the NMOCD District 2 Artesia Office by Mark Ritchie (Silverback) on March 13, 2022.	
Facility description Site Map – (Exhibit 2 in Appendix A)	Marshall APH Battery is in Eddy County, New Mexico. The facility encompasses an approximate 2-acre area located within Unit F, Section 9, Township 19 South, Range 25 East, approximately 16 miles southwest of Artesia, New Mexico. The site is comprised of three produced water tanks, one crude oil tank, 1 heater treater and 3 seperators, and is surrounded by predominantly undeveloped native pastureland.	
Time of incident	March 13, 2022, discovered at 10:00 a.m.	
Discharge event	The cause of the release is believed to be the result of a failed gasket on an heater treater and was discovered by the pumper. Site illustrated in Figure 2 of Appendix A.	
Type of discharge	The documented mixed fluids release occurred within the boundaries of the tank battery pad and remained within the earthen containment; surfaces were observed to be saturated to a depth of 1 ft. below grade surface (bgs).	
Quantity of spilled material	Total Fluids: 10 bbls	Produced Water: mixed Total Petroleum Hydrocarbons: mixed
Site characteristics	Relatively flat with drainage following the native ground surface; very gently sloping to the southeast.	
Immediate corrective actions	Contaminated material was scraped via excavator at the incident location stockpiled, a vacuum truck was utilized to recover any residual fluids.	

Silverback Operating II, LLC
Marshall APH Battery
32.677195, -104.491865
NMOCD Reference # NAPP2208043246

Site Ranking Criteria	
Remedial Determining Information	**Site Ranking Characteristics**
Site characteristics Topographic Map – (Exhibit 1 in Appendix A)	Relatively flat with drainage following the native ground surface; very gently sloping to the southeast.
Groundwater NMOSE POD Location Map – (Exhibit 6 in Appendix A)	POD Number: (RA-05333) Depth to Groundwater: 260 ft. bgs Distance to Well: 0.54 miles to the northeast Date Drilled: April 4, 1967
	Groundwater Quality: Groundwater quality at the site is predominately used for livestock production.
Surface Water	Brantley Lake (South-eastern Eddy County, NM), approximately 8.1 miles to the southwest.
Soil Characteristics	Soils at the site are mapped as Reagan loam soils, 0 to 3 percent slopes, well-drained, 0 to 60 inches loam. Restrictive features are present at 84 inches bgs resulting in the formation being categorized with a Low runoff classification and a well-drained, drainage 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 moderate-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. The full extent of release quantities and excavation activities did extend greater than 84 inches bgs.

Regulatory Framework and Response Action Levels

Oil and gas exploration and production facilities in New Mexico are generally regulated by the New Mexico

Silverback Operating II, LLC
Marshall APH Battery
32.677195, -104.491865
NMOCD Reference # NAPP2208043246

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 Marshall APH Battery.

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 / on pad)

Based on the site-specific characteristics, the applicable NMOCD remediation levels for Total BTEX, chloride, and TPH within soils, exclusive of the Reclamation Zone (surface to 4 ft. bgs or on pad), are as follows:

Constituent	Remediation Limit
Chloride	20,000 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

Silverback Operating II, LLC
Marshall APH Battery
32.677195, -104.491865
NMOCD Reference # NAPP2208043246

Soil Investigation Discussion

During Terracon's April 02, 2022 and May 5, 2022 release investigation activities, a total of 20 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. All 20 samples were collected from within the release margins considering all fluids remained within the earthen containment at the battery.

Release Margins Data Evaluation

- **Reclamation Assessment Data Evaluation**

Benzene was detected above applicable laboratory SDLs in nine of the 10 soil samples analyzed within Reclamation Assessment target depths. The Total Benzene concentrations ranged from was 0.0015 mg/kg in HA-1 (0.5 ft. bgs to 1 ft. bgs) to 147 mg/kg in HA-2 (3.5 ft. bgs to 4 ft. bgs). Of the 10 soil samples analyzed, five soil samples exhibited Benzene concentrations above the applicable NMOCD Reclamation Assessment limit (RAL) of 10 mg/kg, as summarized in Table 2.

Total BTEX was detected above applicable laboratory SDLs in seven of the 8 soil samples analyzed within Reclamation Assessment target depths. The Total BTEX concentrations ranged from 0.0025 mg/kg in in HA-1 (0.5 ft. bgs to 1 ft. bgs) to 1,080 mg/kg in HA-2 (0.5 ft. bgs to 1 ft. bgs). Of the eight soil samples analyzed, two soil samples exhibited Total BTEX concentrations above the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Table 2.

Total TPH was detected above applicable laboratory SDLs in nine of the 13 soil samples analyzed within the Reclamation Assessment target depths. The Total TPH concentrations ranged from 137 mg/kg in HA-1 (0.5 ft. bgs to 1 ft. bgs) to 18,500 mg/kg in HA-3 (0 ft. bgs to 0.5 ft. bgs). Of the 13 soil samples analyzed, 8 soil samples exhibited Total TPH concentrations above the applicable NMOCD RAL of 2,500 mg/kg for Total TPH, as summarized in Table 2.

Chloride was detected above applicable laboratory SDLs in each of the 10 soil samples analyzed within the Reclamation Assessment target depths. The chloride concentrations ranged from 64.9 mg/kg in soil sample HA-4 (0 ft. bgs to 0.5 ft. bgs) to 2,740 mg/kg in soil sample HA-1 (1.5 ft. bgs to 2 ft. bgs). Of the 10 soil samples analyzed, zero soil samples exhibited chloride concentrations above the applicable NMOCD RAL of 20,000 mg/kg, as summarized in Table 2.

- **Remediation Assessment Data Evaluation**

At the soil boring location HA-2, soil samples was collected and analyzed from the 4.5 to 5 ft. bgs interval for the presence of constituents of concern. The other boring locations (HA-1, HA-3, HA-4, and HA-5) field data did not support sampling at deeper horizons and laboratory data in Table 2 supports those findings.

Silverback Operating II, LLC
Marshall APH Battery
32.677195, -104.491865
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Benzene was detected above applicable laboratory SDLs in each of the two soil samples analyzed within Reclamation Assessment target depths. The Total Benzene concentrations ranged from was 0.00371 mg/kg in HA-2 (9 ft. bgs to 10 ft. bgs) to 41.5 mg/kg in HA-2 (4.5 ft. bgs to 5 ft. bgs). Of the two soil samples analyzed, one soil sample exhibited Benzene concentrations above the applicable NMOCD Reclamation Assessment limit (RAL) of 10 mg/kg, as summarized in Table 2.

Total BTEX was detected above applicable laboratory SDLs in one soil sample analyzed within Reclamation Assessment target depths. The Total BTEX concentrations was from 0.202 mg/kg in in HA-2 (9 ft. bgs to 10 ft. bgs). The soil sample analyzed, did not exhibit Total BTEX concentrations above the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Table 2.

Total TPH was detected above applicable laboratory SDLs in each of the seven soil samples analyzed within the Reclamation Assessment target depths. The Total TPH concentrations ranged from 113 mg/kg in HA-2 (8 ft. bgs to 9 ft. bgs) to 6,350 mg/kg in HA-2 (4.5 ft. bgs to 5 ft. bgs). Of the seven soil samples analyzed, 3 soil samples exhibited Total TPH concentrations above the applicable NMOCD RAL of 2,500 mg/kg for Total TPH, as summarized in Table 2.

Chloride was detected above applicable laboratory SDLs in each of the two soil samples analyzed within the Reclamation Assessment target depths. The chloride concentrations ranged from 629 mg/kg in soil sample HA-2 (9 ft. bgs to 10 ft. bgs) to 2,200 mg/kg in soil sample HA-2 (4.5 ft. bgs to 5 ft. bgs). Of the two soil samples analyzed, no soil samples exhibited chloride concentrations above the applicable NMOCD RAL of 20,000 mg/kg, as summarized in Table 2.

Release Investigation Data Summary

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

Of the 20 soil samples analyzed, 11 soil samples exhibited total petroleum hydrocarbon concentrations above the applicable NMOCD Reclamation Action Limit of 2,500 mg/kg. While horizontal and vertical delineation were achieved the Total TPH concentrations above an actionable limits were concentrated at the surface at HA-1 and HA-3, and the HA-2 boring location exhibited Total TPH concentrations above the Reclamation Action Limit of 2,500 mg/kg to a depth of 6 ft. bgs.

It is anticipated that released fluids and associated hydrocarbons consolidated around the boring location of HA-2 and saturated to a depth of 6ft. bgs. Terracon collected additional vertical delineation samples and analyzed for the presence of Total TPH in all samples and all NMOCD RAL constituents in our deepest sample

HA-2 (9 ft. bgs to 10 ft. bgs) to ensure that concentrations were not elevated further at this interphase.

Confirmation Data Evaluation

During Terracon's June 6, 2022 and June 7, 2022 remediation and confirmation sampling activities, a total of 125 cubic yards (cy) of soil was excavated from the site and staged on plastic for treatment and backfill following the acceptance of this closure report. Additionally, a total of 15 soil samples were collected from the site and analyzed for BTEX, chloride, and/or TPH. All 15 samples were collected from within the base and walls of the excavation.

Benzene was detected above applicable laboratory SDLs in five of the 15 soil samples analyzed within Confirmation Assessment target depths. The Total Benzene concentrations ranged from was 0.00942 mg/kg in F-1 (1 ft. bgs to 2 ft. bgs) to 1.94 mg/kg in F-3 (8 ft. bgs to 9 ft. bgs). Of the 15 soil samples analyzed, no soil samples exhibited Benzene concentrations above the applicable NMOCD Confirmation Assessment limit (RAL) of 10 mg/kg, as summarized in Table 2.

Total BTEX was detected above applicable laboratory SDLs in 9 of the 15 soil sample analyzed within Confirmation Assessment target depths. The Total BTEX concentrations ranged from 0.00428 mg/kg in SW (0.5 ft. bgs to 1 ft. bgs) to 26.4 mg/kg in F-3 (8 ft. bgs to 9 ft. bgs). The soil samples analyzed, did not exhibit Total BTEX concentrations above the applicable NMOCD RAL for Total BTEX of 50 mg/kg, as summarized in Table 2.

Total TPH was detected above applicable laboratory SDLs in nine of the 15 soil samples analyzed within the Confirmation Assessment target depths. The Total TPH concentrations ranged from 114 mg/kg in NWW (0.5 ft. bgs to 1 ft. bgs) to 4,880 mg/kg in SWW (0.5 ft. bgs to 1 ft. bgs). Of the 15 soil samples analyzed, one soil samples exhibited Total TPH concentrations above the applicable NMOCD RAL of 2,500 mg/kg for Total TPH this location was further excavated and resulted in a reduced concentration of 193 mg/kg in SWW (0.5 ft. bgs to 1 ft. bgs) sample collected on June 7, 2022, as summarized in Table 2.

GRO/DRO was detected above applicable laboratory SDLs in nine of the 15 soil samples analyzed within the Confirmation Assessment target depths. The GRO/DRO concentrations ranged from 114 mg/kg in NWW (0.5 ft. bgs to 1 ft. bgs) to 4,880 mg/kg in SWW (0.5 ft. bgs to 1 ft. bgs). Of the 15 soil samples analyzed, three soil samples exhibited Total TPH concentrations above the applicable NMOCD RAL of 1,000 mg/kg for GRO/DRO these locations was further excavated and resulted in reduced concentrations of 193 mg/kg in SWW (0.5 ft. bgs to 1 ft. bgs) and 260 mg/kg in WW (0.5 ft. bgs to 1 ft. bgs) and 842 mg/kg in F-3 (8 ft. bgs to 9 ft. bgs)samples collected on June 7, 2022, as summarized in Table 2.

Chloride was detected above applicable laboratory SDLs in each of the 15 soil samples analyzed within the Confirmation Assessment target depths. The chloride concentrations ranged from 15.8 mg/kg in soil sample

EW (3 ft. bgs to 4 ft. bgs) to 6,680 mg/kg in soil sample SWW (0.5 ft. bgs to ft. bgs). Of the 15 soil samples analyzed, no soil samples exhibited chloride concentrations above the applicable NMOCD RAL of 20,000 mg/kg, as summarized in Table 2.

Confirmation Data Summary

Based on the review of the above release investigation analytical results, the presence of petroleum hydrocarbon constituents (Benzene/BTEX/TPH) were not detected at concentrations above applicable NMOCD Reclamation and/or Remediation Action Limits. No further remedial action appears warranted at this time.

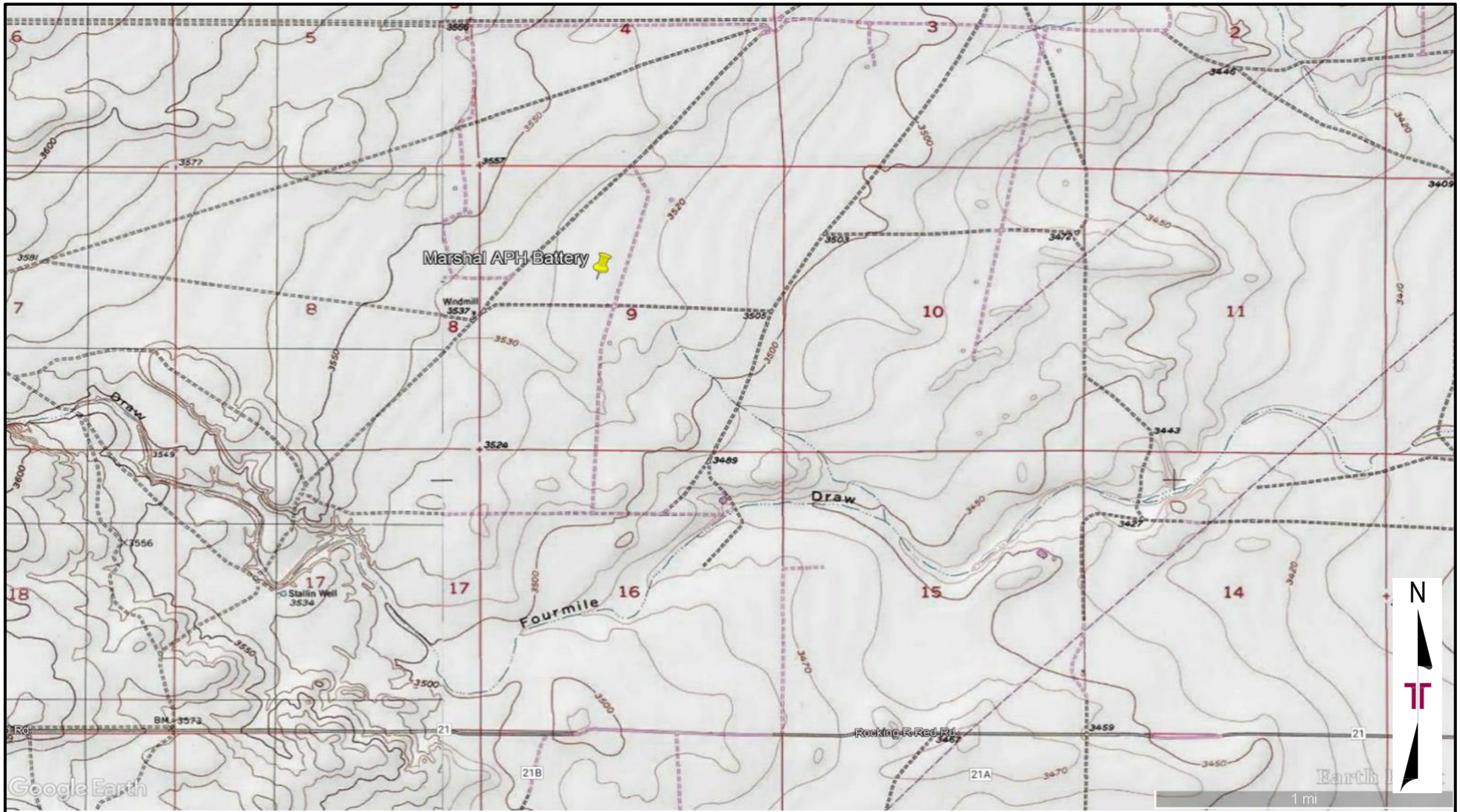
Termination of Reclamation Actions, Final Closure and Reporting

Reclamation and remedial actions at the site were terminated when the confirmation samples indicate that the above objectives had been completed within the reclamation and remedial depth designations. The intent of the reclamation and remedial approaches were to achieve compliance with NMOCD regulatory objectives in ensuring that any remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, the public health and the environment.

Upon termination of remedial actions, the area of the release will be closed by backfilling the excavated area with the previously exhumed and treated soils, and contouring to surrounding area topography and constructing the previous earthen berm that surrounded the site.

Upon completion of remedial activities, a final report summarizing actions taken to mitigate environmental damage related to the release has been provided to NMOCD for approval.

APPENDIX A – EXHIBITS



Project No.	AR227085
Scale:	As Shown
Source:	Google Earth
Date:	2018

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 1 – Topographic Map

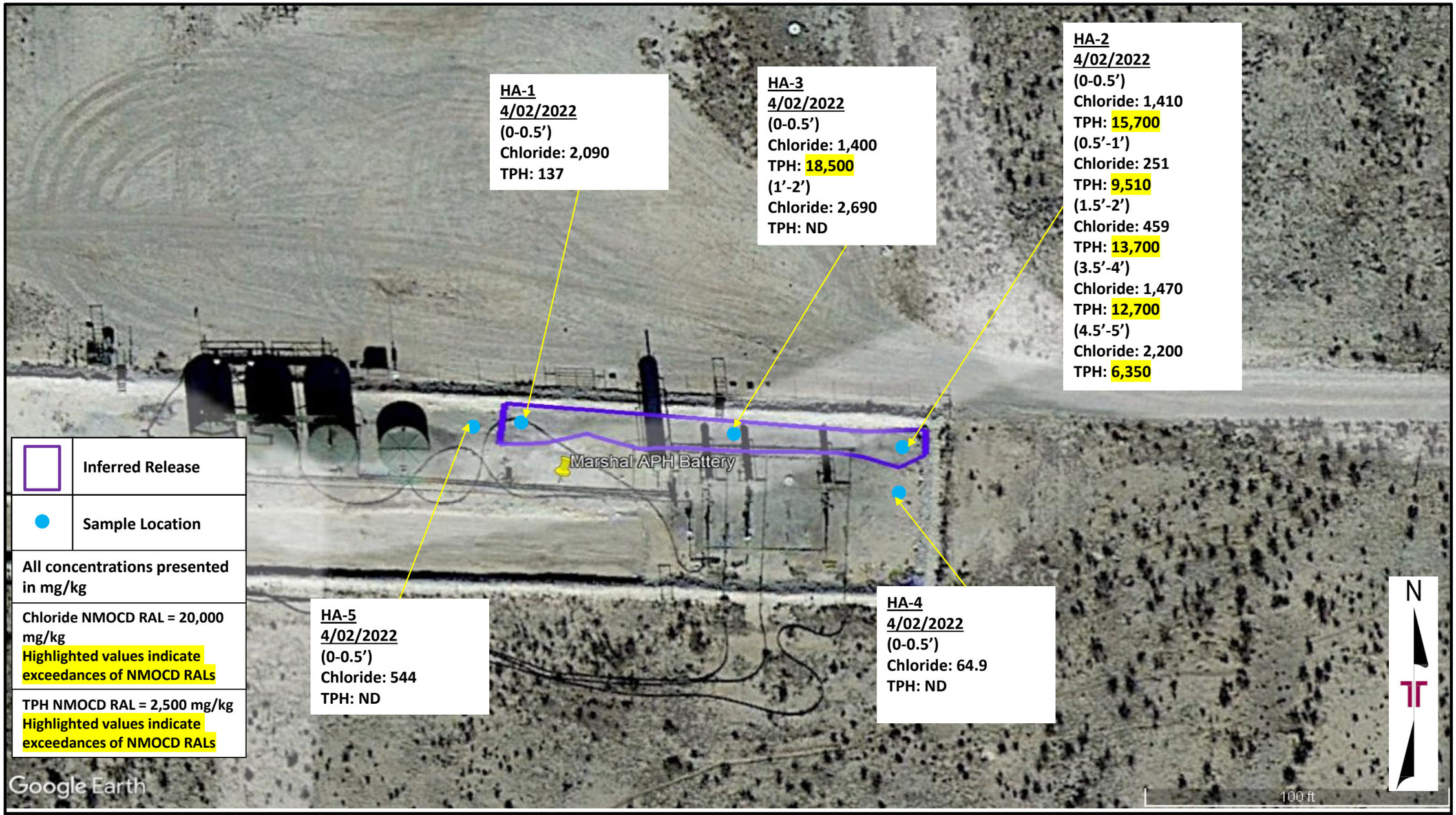
Marshall APH Battery
32.677137°, -104.491751°
Eddy County, New Mexico

Project No.	AR227085
Scale:	As Shown
Source:	Google Earth
Date:	2018

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 2 – Site Map

Marshall APH Battery
32.677137°, -104.491751°
Eddy County, New Mexico



Project No.	AR227085
Scale:	As Shown
Source:	Google Earth
Date:	2018

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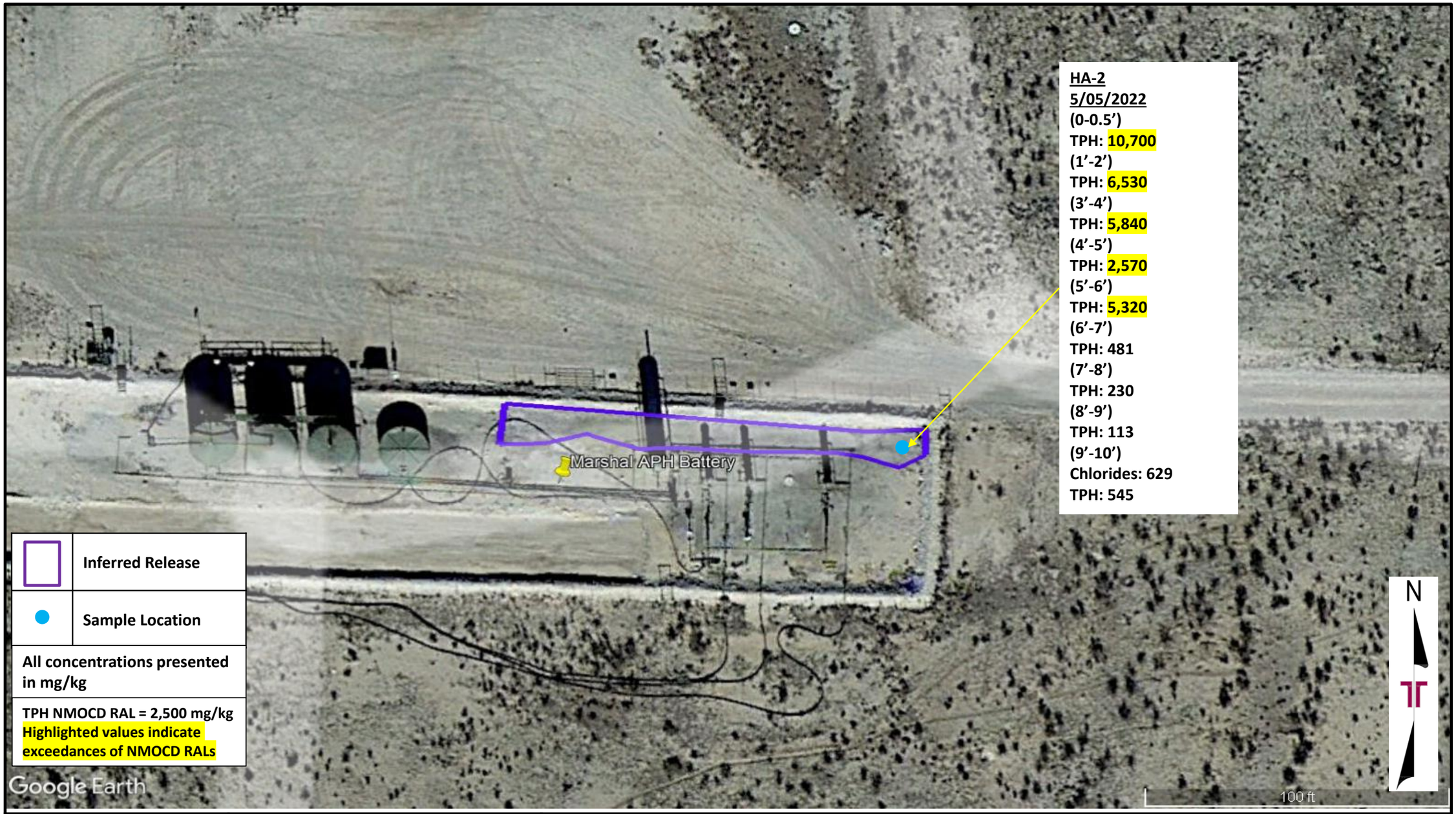
Exhibit 2 – Site Map

Marshall APH Battery
32.677137°, -104.491751°
Eddy County, New Mexico

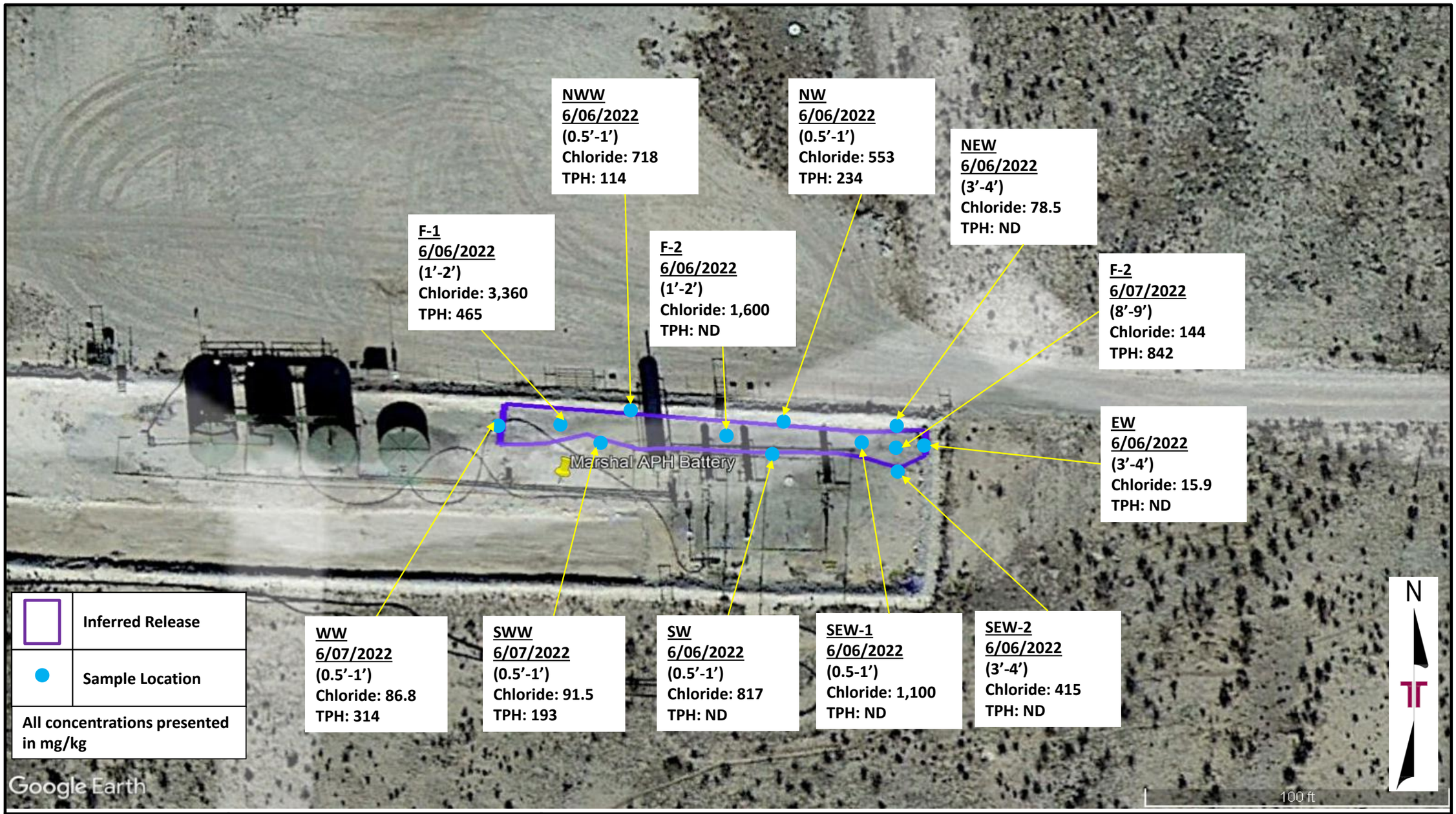


Project No.	AR227085
Scale:	As Shown
Source:	Google Earth
Date:	2018

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 4 – Supplemental Site Investigation Map

Marshall APH Battery
32.677137°, -104.491751°
Eddy County, New Mexico



Project No.	AR227085
Scale:	As Shown
Source:	Google Earth
Date:	2018

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 5 – Confirmation Soil Sampling Map

Marshall APH Battery
32.677137°, -104.491751°
Eddy County, New Mexico

Project No.	AR227085
Scale:	As Shown
Source:	Google Earth
Date:	2018

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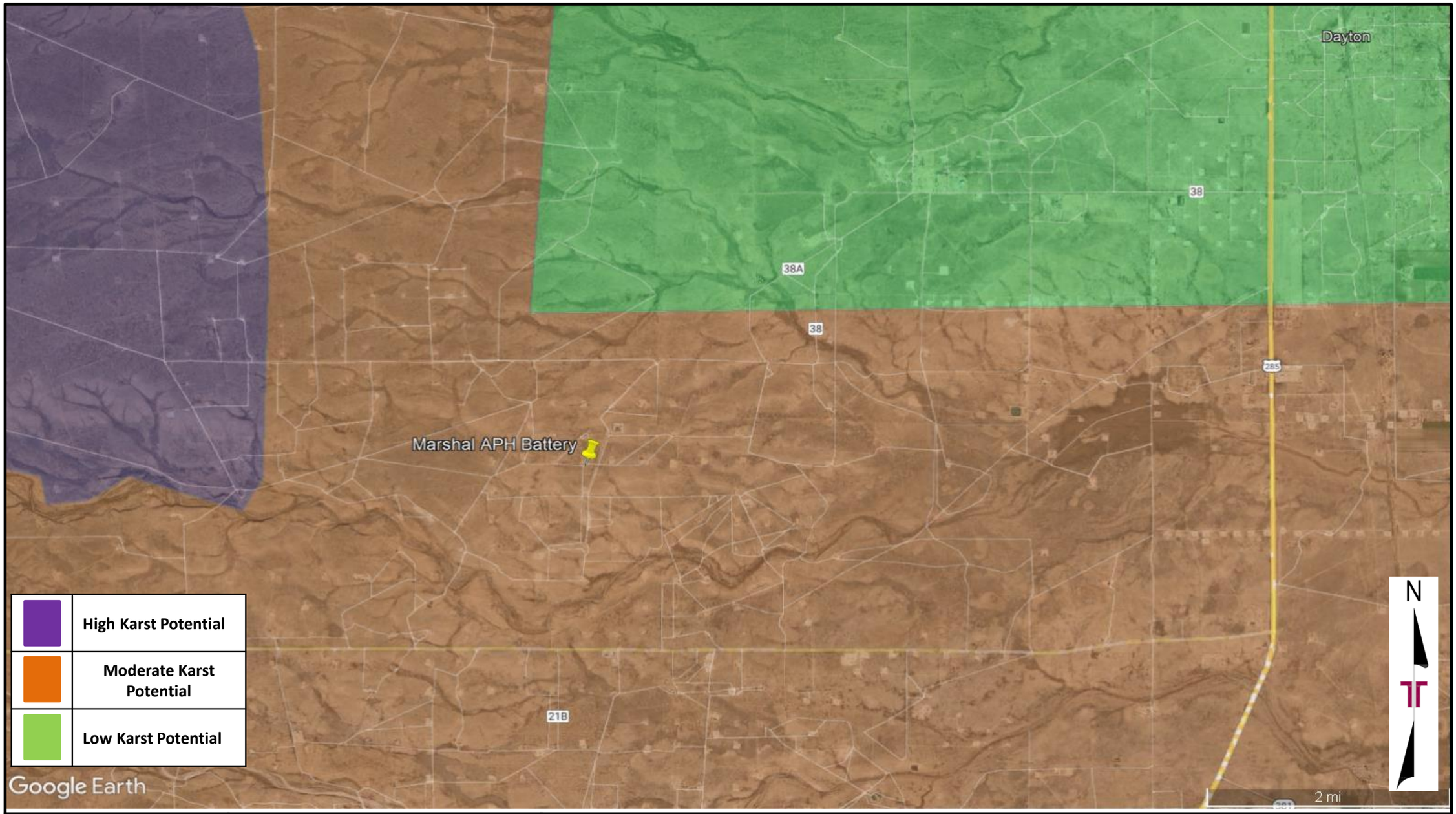
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 6 – NMOSE POD Location Map

Marshall APH Battery
32.677137°, -104.491751°
Eddy County, New Mexico



Project No.	AR227085
Scale:	As Shown
Source:	Google Earth
Date:	2018

Terracon
Consulting Engineers & Scientists
5847 50th St. Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Exhibit 7 – Cave Karst Public UCP Map

Marshall APH Battery
32.677137°, -104.491751°
Eddy County, New Mexico

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 Cl 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 Cl 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 Cl 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

PROCEDURE 1 - SOIL SAMPLING PROCEDURES

Soil sampling procedures are detailed as follows:

Soil Sampling Procedures for Laboratory Analysis

Soil Sampling Procedures

Soil sampling for laboratory analysis was conducted according to NMOCD-approved industry standards or other NMOCD-approved procedures. Accepted NMOCD soil sampling procedures and laboratory analytical methods are as follows:

- Collect samples in clean, air-tight glass jars supplied by the laboratory which will conduct the analysis or from a reliable laboratory equipment supplier.
- Label the samples with a unique code for each sample.
- Cool and store samples with cold packs or on ice.
- Promptly ship sample to the lab for analysis following chain of custody procedures.
- All samples must be analyzed within the holding times for the laboratory analytical method specified by EPA.

Analytical Methods

All soil samples must be analyzed using EPA methods, or by other NMOCD-approved methods and must be analyzed within the holding time specified by the method. Below are laboratory analytical methods the selected laboratory will use for analysis of soil samples analyzed for petroleum related constituents.

- Chloride – EPA Method 300.0
- Total Petroleum Hydrocarbons – TPH (GRO+DRO+MRO) – EPA Method 8015M
- Benzene, toluene, ethylbenzene and total xylenes (BTEX) – EPA Method 8021B
- Benzene – EPA Method 8021B

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Marshall APH Battery
Terracon Project No. AR227085

Sample I.D.	Sample Depth (bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	ORO	TOTAL
Release Investigation Samples									
HA-1 (0.5-1)	0.5' - 1'	Delineation	04/02/22	Benzene - 0.0015 Total BTEX - 0.0025	2,090	ND	137	ND	137
HA-1 (1.5-2)	1.5' - 2'	Delineation	04/02/22	Benzene - 0.00333 Total BTEX - 0.00921	2,740	ND	ND	ND	ND
HA-2 (0-0.5)	0' - 0.5'	Delineation	04/02/22	Benzene - **12.1** Total BTEX - **212**	1,410	2,310	**13,400**	ND	**15,700**
HA-2 (0.5-1)	0.5' - 1'	Delineation	04/02/22	Benzene - **96.2** Total BTEX - **1,080**	251	4,910	**4,600**	ND	**9,510**
HA-2 (1.5-2)	1.5' - 2'	Delineation	04/02/22	Benzene - **134** Total BTEX - NA	459	5,830	**7,880**	ND	**13,700**
HA-2 (3.5-4)	3.5' - 4'	Delineation	04/02/22	Benzene - **147** Total BTEX - NA	1,470	5,780	**6,940**	ND	**12,700**
HA-2 (4.5-5)	4.5' - 5'	Delineation	04/02/22	Benzene - **41.5** Total BTEX - NA	2,200	2,580	**3,770**	ND	**6,350**
HA-3 (0-0.5)	0' - 0.5'	Delineation	04/02/22	Benzene - 0.979 Total BTEX - 28.4	1,400	1,060	**17,400**	ND	**18,500**
HA-3 (0.5-1)	0.5' - 1'	Delineation	04/02/22	Benzene - ND Total BTEX - ND	2,690	ND	ND	ND	ND
HA-4 (0-0.5)	0' - 0.5'	Delineation	04/02/22	Benzene - 0.0121 Total BTEX - 0.0216	64.9	ND	ND	ND	ND
HA-5 (0-0.5)	0' - 0.5'	Delineation	04/02/22	Benzene - 0.00908 Total BTEX - 0.0152	544	ND	ND	ND	ND
Supplemental Release Investigation Samples									
HA-2 (0-0.5)	0' - 0.5'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	1,380	**8,300**	970	**10,700**
HA-2 (1-2)	1' - 2'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	2,930	**3,260**	339	**6,530**
HA-2 (3-4)	3' - 4'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	3,510	**2,330**	ND	**5,840**
HA-2 (4-5)	4' - 5'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	1,410	**1,070**	93.5	**2,570**
HA-2 (5-6)	5' - 6'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	1,880	**3,180**	260	**5,320**
HA-2 (6-7)	6' - 7'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	93.8	387	ND	481
HA-2 (7-8)	7' - 8'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	87.1	143	ND	230
HA-2 (8-9)	8' - 9'	Delineation	05/05/22	Benzene - NA Total BTEX - NA	NA	54.7	58.4	ND	113
HA-2 (9-10)	9' - 10'	Delineation	05/05/22	Benzene - 0.00371 Total BTEX - 0.202	629	157	388	ND	545
NMOCD Remediation and Delineation Standards[5] (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**	**20,000**	**1,000**		**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/ORO)
* = 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
NA = Not Analyzed
N/A= No Applicable reporting standards
Bold denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], Chloride[2], and TPH[3]
Marshall APH Battery
Terracon Project No. AR227085

Sample I.D.	Sample Depth (bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)			
						GRO	DRO	ORO	TOTAL
Confimation Samples									
WW	0.5' - 1'	Composite	06/06/22	Benzene - 0.0106 Total BTEX - 0.237	5,750	NA	**1,040**	NA	1,040
NWW	0.5' - 1'	Composite	06/06/22	Benzene - ND Total BTEX - 0.0825	718	NA	114	NA	114
SWW	0.5' - 1'	Composite	06/06/22	Benzene - 0.0599 Total BTEX - 0.51	6,680	NA	**4,880**	NA	**4,880**
F-1	1' - 2'	Composite	06/06/22	Benzene - 0.00942 Total BTEX - 0.164	3,360	NA	465	NA	465
NW	0.5' - 1'	Composite	06/06/22	Benzene - ND Total BTEX - 0.0294	553	NA	234	NA	234
F-2	1' - 2'	Composite	06/06/22	Benzene - ND Total BTEX - ND	1,600	NA	NA	NA	ND
SW	0.5' - 1'	Composite	06/06/22	Benzene - ND Total BTEX - 0.00428	817	NA	NA	NA	ND
SEW-1	3' - 4'	Composite	06/06/22	Benzene - ND Total BTEX - ND	1,100	NA	NA	NA	ND
SEW-2	0.5'-1'	Composite	06/06/22	Benzene - ND Total BTEX - ND	415	NA	NA	NA	ND
EW	3' - 4'	Composite	06/06/22	Benzene - ND Total BTEX - ND	15.9	NA	NA	NA	ND
NEW	3' - 4'	Composite	06/06/22	Benzene - ND Total BTEX - ND	78.5	NA	NA	NA	ND
F-3	6' - 7'	Composite	06/06/22	Benzene - ND Total BTEX - ND	1,970	646	**1,240**	NA	1,890
F-3	8' - 9'	Composite	06/07/22	Benzene - 1.94 Total BTEX - 26.4	144	284	558	NA	842
SWW	0.5' - 1'	Composite	06/07/22	Benzene - ND Total BTEX - 1.87	91.5	ND	193	ND	193
WW	0.5' - 1'	Composite	06/07/22	Benzene - 0.0504 Total BTEX - 5.99	86.8	53.9	260	ND	314
NMOCD Remediation and Delineation Standards[5] **(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**	**20,000**	**1,000**		**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/ORO)
* = 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
NA = Not Analyzed
N/A= No Applicable reporting standards
Bold denotes concentrations that exceed the New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards.

APPENDIX C – PHOTOGRAPHIC LOG

PHOTO 1: View of site sign

PHOTO 2: View of site, far west end of impacts

PHOTO 3: View of site

PHOTO 4: View of site, area of pooling far east end of impacts

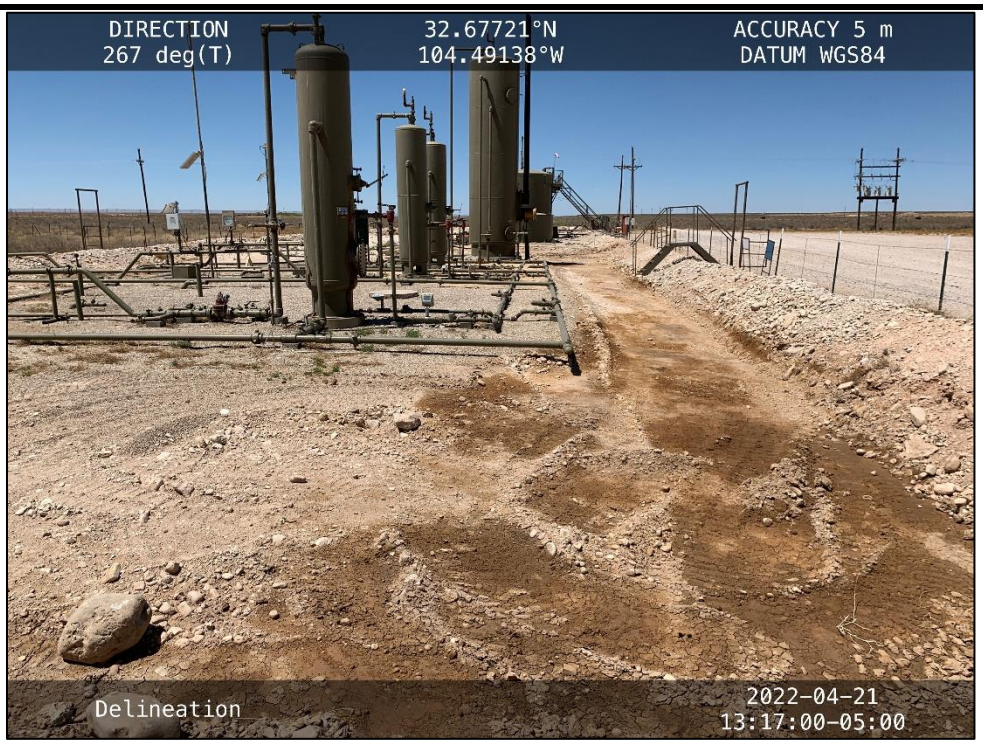


PHOTO 5: View of site, area of pooling

PHOTO 6: View of site, HA-1

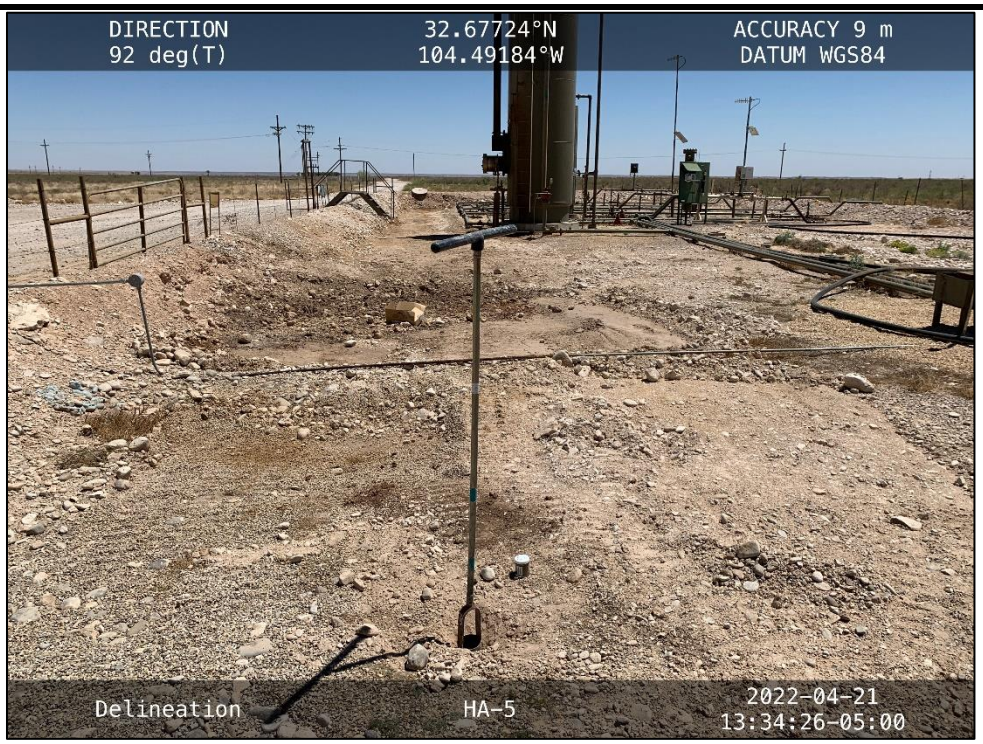


PHOTO 7: View of site, HA-5

PHOTO 8: View of site, HA-3

PHOTO 9: View of site, HA-4

PHOTO 10: View of site, HA-2

PHOTO 11: View of completed excavation/remediation.

PHOTO 12: View of initial staging site for exhumed soils

PHOTO 13: View of final stockpiled soils on plastic

APPENDIX D – ANALYTICAL REPORT AND CHAIN OF CUSTODY

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-4042-1
Laboratory Sample Delivery Group: AR227085
Client Project/Site: Marshall APH Battery
Revision: 1

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

Attn: Joseph Guesnier

JKramer

Authorized for release by:
5/3/2022 10:14:12 AM

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

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.

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).

JKramer

Jessica Kramer
Project Manager
5/3/2022 10:14:12 AM

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Laboratory Job ID: 820-4042-1
SDG: AR227085

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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
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.
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.
¤	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: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Job ID: 820-4042-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-4042-1

REVISION

The report being provided is a revision of the original report sent on 4/28/2022. The report (revision 1) is being revised due to Per client email, added samples 007-009 for all methods.

Report revision history

Receipt
The samples were received on 4/25/2022 1:53 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 -2.0°C

GC/MS VOA
Method 8260C: The matrix spike (MS) recoveries for preparation batch 860-50410 and analytical batch 860-50469 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8260C: The following samples were diluted due to the nature of the sample matrix: HA-2 (0-0.5) (820-4042-5) and HA-2 (0.5-1) (820-4042-6). Elevated reporting limits (RLs) are provided.

Method 8260C: Surrogate Toluene-d8 (Surrogate) recovery for the following sample was outside control limits: HA-2 (0-0.5) (820-4042-5). Evidence of matrix interference is present.

Method 8260C: Surrogate Toluene-d8 (Surrogate) and 4-Bromofluorobenzene (Surrogate) recovery for the following sample was outside control limits: HA-2 (0.5-1) (820-4042-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8260C: The following sample was diluted due to the nature of the sample matrix: HA-3 (0-0.5) (820-4042-10). Elevated reporting limits (RLs) are provided. Sample has strong smell.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: HA-2 (0-0.5) (820-4042-5) and HA-2 (0.5-1) (820-4042-6). Elevated reporting limits (RLs) are provided.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: HA-2 (0-0.5) (820-4042-5), HA-2 (0.5-1) (820-4042-6) and HA-3 (0-0.5) (820-4042-10). Elevated reporting limits (RLs) are provided.

Method 8260C: The following samples were diluted due to it being grease and matrix(860-24846-A-1-A) and (860-24846-A-1-A MS). Elevated reporting limits (RL) are provided.

Method 8260C: The following samples were diluted due to the nature of the sample matrix: HA-2 (1.5-2) (820-4042-7), HA-2 (3.5-4) (820-4042-8) and HA-2 (4.5-5) (820-4042-9). Elevated reporting limits (RLs) are provided.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: HA-2 (1.5-2) (820-4042-7), HA-2 (3.5-4) (820-4042-8) and (880-14096-A-1-B). Elevated reporting limits (RLs) are provided.

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: Surrogate recovery for the following samples were outside control limits: HA-2 (0-0.5) (820-4042-5) and HA-3

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Job ID: 820-4042-1 (Continued)

Laboratory: Eurofins Lubbock (Continued)

(0-0.5) (820-4042-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The following samples were diluted due to the nature of the sample matrix: HA-2 (0-0.5) (820-4042-5) and HA-3 (0-0.5) (820-4042-10). Elevated reporting limits (RLs) are provided.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: HA-2 (0.5-1) (820-4042-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The following sample was diluted due to the nature of the sample matrix: HA-2 (0.5-1) (820-4042-6). Elevated reporting limits (RLs) are provided.

Method 8015MOD_NM: The following samples were diluted due to the nature of the sample matrix: HA-2 (1.5-2) (820-4042-7), HA-2 (3.5-4) (820-4042-8) and HA-2 (4.5-5) (820-4042-9). Elevated reporting limits (RLs) are provided.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: HA-2 (3.5-4) (820-4042-8) and HA-2 (4.5-5) (820-4042-9). 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.

HPLC/IC

Method 300_ORGFM_28D: Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for preparation batch 860-50614 and analytical batch 860-50552. The associated laboratory control sample (LCS) met acceptance criteria.

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: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Date Collected: 04/22/22 12:20
Date Received: 04/25/22 13:53
Sample Depth: 0.5 - 1

Lab Sample ID: 820-4042-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00150**		0.000998		mg/Kg		04/26/22 13:01	04/27/22 06:43	1
Toluene	<0.00499	U	0.00499		mg/Kg		04/26/22 13:01	04/27/22 06:43	1
Ethylbenzene	**0.00100**		0.000998		mg/Kg		04/26/22 13:01	04/27/22 06:43	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg		04/26/22 13:01	04/27/22 06:43	1
o-Xylene	<0.000998	U	0.000998		mg/Kg		04/26/22 13:01	04/27/22 06:43	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		04/26/22 13:01	04/27/22 06:43	1
MTBE	<0.00499	U	0.00499		mg/Kg		04/26/22 13:01	04/27/22 06:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*56 - 150*	*04/26/22 13:01*	*04/27/22 06:43*	*1*
4-Bromofluorobenzene (Surr)	*93*		*68 - 152*	*04/26/22 13:01*	*04/27/22 06:43*	*1*
Dibromofluoromethane (Surr)	*109*		*53 - 142*	*04/26/22 13:01*	*04/27/22 06:43*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*	*04/26/22 13:01*	*04/27/22 06:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00250**		0.00200		mg/Kg			04/27/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**137**		87.7		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<87.7	U	87.7		mg/Kg		04/26/22 18:45	04/26/22 20:36	1
Over C10-C28	**137**		87.7		mg/Kg		04/26/22 18:45	04/26/22 20:36	1
Over C28-C36	<87.7	U	87.7		mg/Kg		04/26/22 18:45	04/26/22 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*112*		*65 - 130*	*04/26/22 18:45*	*04/26/22 20:36*	*1*
o-Terphenyl (Surr)	*94*		*65 - 130*	*04/26/22 18:45*	*04/26/22 20:36*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2090**		10.1		mg/Kg		04/26/22 13:23	04/27/22 15:40	1

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

Date Collected: 04/22/22 12:25
Date Received: 04/25/22 13:53
Sample Depth: 1.5 - 2

Lab Sample ID: 820-4042-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00333**		0.00100		mg/Kg		04/26/22 13:01	04/27/22 06:20	1
Toluene	**0.00588**		0.00502		mg/Kg		04/26/22 13:01	04/27/22 06:20	1
Ethylbenzene	<0.00100	U F1	0.00100		mg/Kg		04/26/22 13:01	04/27/22 06:20	1
m,p-Xylenes	<0.00201	U F1	0.00201		mg/Kg		04/26/22 13:01	04/27/22 06:20	1
o-Xylene	<0.00100	U F1	0.00100		mg/Kg		04/26/22 13:01	04/27/22 06:20	1
Xylenes, Total	<0.00201	U	0.00201		mg/Kg		04/26/22 13:01	04/27/22 06:20	1
MTBE	<0.00502	U	0.00502		mg/Kg		04/26/22 13:01	04/27/22 06:20	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Date Collected: 04/22/22 12:25
Date Received: 04/25/22 13:53
Sample Depth: 1.5 - 2

Lab Sample ID: 820-4042-2

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		56 - 150	04/26/22 13:01	04/27/22 06:20	1
4-Bromofluorobenzene (Surr)	99		68 - 152	04/26/22 13:01	04/27/22 06:20	1
Dibromofluoromethane (Surr)	109		53 - 142	04/26/22 13:01	04/27/22 06:20	1
Toluene-d8 (Surr)	106		70 - 130	04/26/22 13:01	04/27/22 06:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00921**		0.00201		mg/Kg			04/27/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<51.5	U	51.5		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<51.5	U	51.5		mg/Kg		04/26/22 18:45	04/27/22 05:40	1
Over C10-C28	<51.5	U	51.5		mg/Kg		04/26/22 18:45	04/27/22 05:40	1
Over C28-C36	<51.5	U	51.5		mg/Kg		04/26/22 18:45	04/27/22 05:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	95		65 - 130	04/26/22 18:45	04/27/22 05:40	1
o-Terphenyl (Surr)	108		65 - 130	04/26/22 18:45	04/27/22 05:40	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2740**		10.2		mg/Kg		04/26/22 13:23	04/27/22 15:49	1

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

Date Collected: 04/22/22 12:40
Date Received: 04/25/22 13:53
Sample Depth: 0 - 0.5

Lab Sample ID: 820-4042-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	<0.125	U	0.125		mg/Kg		04/26/22 13:01	04/27/22 08:16	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		56 - 150	04/26/22 13:01	04/27/22 08:16	25
4-Bromofluorobenzene (Surr)	115		68 - 152	04/26/22 13:01	04/27/22 08:16	25
Dibromofluoromethane (Surr)	88		53 - 142	04/26/22 13:01	04/27/22 08:16	25
Toluene-d8 (Surr)	134	S1+	70 - 130	04/26/22 13:01	04/27/22 08:16	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**12.1**		0.500		mg/Kg		04/26/22 13:01	04/27/22 11:41	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		56 - 150	04/26/22 13:01	04/27/22 11:41	500
4-Bromofluorobenzene (Surr)	102		68 - 152	04/26/22 13:01	04/27/22 11:41	500
Dibromofluoromethane (Surr)	93		53 - 142	04/26/22 13:01	04/27/22 11:41	500
Toluene-d8 (Surr)	108		70 - 130	04/26/22 13:01	04/27/22 11:41	500

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Date Collected: 04/22/22 12:40
Date Received: 04/25/22 13:53
Sample Depth: 0 - 0.5

Lab Sample ID: 820-4042-5

Matrix: Solid

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	50.4		25.0		mg/Kg		04/26/22 13:01	04/27/22 14:28	5000
Ethylbenzene	63.0		5.00		mg/Kg		04/26/22 13:01	04/27/22 14:28	5000
m,p-Xylenes	58.4		10.0		mg/Kg		04/26/22 13:01	04/27/22 14:28	5000
o-Xylene	28.1		5.00		mg/Kg		04/26/22 13:01	04/27/22 14:28	5000
Xylenes, Total	86.5		10.0		mg/Kg		04/26/22 13:01	04/27/22 14:28	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*56 - 150*	*04/26/22 13:01*	*04/27/22 14:28*	*5000*
4-Bromofluorobenzene (Surr)	*96*		*68 - 152*	*04/26/22 13:01*	*04/27/22 14:28*	*5000*
Dibromofluoromethane (Surr)	*95*		*53 - 142*	*04/26/22 13:01*	*04/27/22 14:28*	*5000*
Toluene-d8 (Surr)	*97*		*70 - 130*	*04/26/22 13:01*	*04/27/22 14:28*	*5000*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	212		10.0		mg/Kg			04/27/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	15700		517		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	2310		517		mg/Kg		04/26/22 18:45	04/26/22 20:55	10
Over C10-C28	13400		517		mg/Kg		04/26/22 18:45	04/26/22 20:55	10
Over C28-C36	<517	U	517		mg/Kg		04/26/22 18:45	04/26/22 20:55	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*154*	*S1+*	*65 - 130*	*04/26/22 18:45*	*04/26/22 20:55*	*10*
o-Terphenyl (Surr)	*277*	*S1+*	*65 - 130*	*04/26/22 18:45*	*04/26/22 20:55*	*10*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1410		10.0		mg/Kg		04/26/22 13:23	04/27/22 15:57	1

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

Date Collected: 04/22/22 12:45
Date Received: 04/25/22 13:53
Sample Depth: 0.5 - 1

Lab Sample ID: 820-4042-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	<0.126	U	0.126		mg/Kg		04/26/22 13:01	04/27/22 08:40	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*56 - 150*	*04/26/22 13:01*	*04/27/22 08:40*	*25*
4-Bromofluorobenzene (Surr)	*160*	*S1+*	*68 - 152*	*04/26/22 13:01*	*04/27/22 08:40*	*25*
Dibromofluoromethane (Surr)	*83*		*53 - 142*	*04/26/22 13:01*	*04/27/22 08:40*	*25*
Toluene-d8 (Surr)	*449*	*S1+*	*70 - 130*	*04/26/22 13:01*	*04/27/22 08:40*	*25*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Date Collected: 04/22/22 12:45
Date Received: 04/25/22 13:53
Sample Depth: 0.5 - 1

Lab Sample ID: 820-4042-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	96.2		2.01		mg/Kg		04/26/22 13:01	04/27/22 12:04	2000
Ethylbenzene	252		2.01		mg/Kg		04/26/22 13:01	04/27/22 12:04	2000
m,p-Xylenes	212		4.02		mg/Kg		04/26/22 13:01	04/27/22 12:04	2000
o-Xylene	80.4		2.01		mg/Kg		04/26/22 13:01	04/27/22 12:04	2000
Xylenes, Total	292		4.02		mg/Kg		04/26/22 13:01	04/27/22 12:04	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*56 - 150*	*04/26/22 13:01*	*04/27/22 12:04*	*2000*
4-Bromofluorobenzene (Surr)	*97*		*68 - 152*	*04/26/22 13:01*	*04/27/22 12:04*	*2000*
Dibromofluoromethane (Surr)	*96*		*53 - 142*	*04/26/22 13:01*	*04/27/22 12:04*	*2000*
Toluene-d8 (Surr)	*104*		*70 - 130*	*04/26/22 13:01*	*04/27/22 12:04*	*2000*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	444		50.3		mg/Kg		04/26/22 13:01	04/27/22 14:48	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*56 - 150*	*04/26/22 13:01*	*04/27/22 14:48*	*10000*
4-Bromofluorobenzene (Surr)	*100*		*68 - 152*	*04/26/22 13:01*	*04/27/22 14:48*	*10000*
Dibromofluoromethane (Surr)	*95*		*53 - 142*	*04/26/22 13:01*	*04/27/22 14:48*	*10000*
Toluene-d8 (Surr)	*99*		*70 - 130*	*04/26/22 13:01*	*04/27/22 14:48*	*10000*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	1080		4.02		mg/Kg			04/27/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	9510		499		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	4910		499		mg/Kg		04/26/22 18:45	04/26/22 20:16	10
Over C10-C28	4600		499		mg/Kg		04/26/22 18:45	04/26/22 20:16	10
Over C28-C36	<499	U	499		mg/Kg		04/26/22 18:45	04/26/22 20:16	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*137*	*S1+*	*65 - 130*	*04/26/22 18:45*	*04/26/22 20:16*	*10*
o-Terphenyl (Surr)	*142*	*S1+*	*65 - 130*	*04/26/22 18:45*	*04/26/22 20:16*	*10*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	251		10.1		mg/Kg		04/26/22 13:23	04/27/22 16:06	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: 820-4042-7
Matrix: Solid
Date Collected: 04/22/22 12:50
Date Received: 04/25/22 13:53
Sample Depth: 1.5 - 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	134		1.99		mg/Kg		04/28/22 10:08	04/28/22 19:13	2000
Ethylbenzene	169		1.99		mg/Kg		04/28/22 10:08	04/28/22 19:13	2000
m,p-Xylenes	138		3.98		mg/Kg		04/28/22 10:08	04/28/22 19:13	2000
o-Xylene	58.7		1.99		mg/Kg		04/28/22 10:08	04/28/22 19:13	2000
Xylenes, Total	197		3.98		mg/Kg		04/28/22 10:08	04/28/22 19:13	2000
MTBE	<9.96	U	9.96		mg/Kg		04/28/22 10:08	04/28/22 19:13	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*56 - 150*	*04/28/22 10:08*	*04/28/22 19:13*	*2000*
4-Bromofluorobenzene (Surr)	*96*		*68 - 152*	*04/28/22 10:08*	*04/28/22 19:13*	*2000*
Dibromofluoromethane (Surr)	*92*		*53 - 142*	*04/28/22 10:08*	*04/28/22 19:13*	*2000*
Toluene-d8 (Surr)	*98*		*70 - 130*	*04/28/22 10:08*	*04/28/22 19:13*	*2000*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	473		24.9		mg/Kg		04/28/22 10:08	04/29/22 19:34	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*56 - 150*	*04/28/22 10:08*	*04/29/22 19:34*	*5000*
4-Bromofluorobenzene (Surr)	*97*		*68 - 152*	*04/28/22 10:08*	*04/29/22 19:34*	*5000*
Dibromofluoromethane (Surr)	*88*		*53 - 142*	*04/28/22 10:08*	*04/29/22 19:34*	*5000*
Toluene-d8 (Surr)	*94*		*70 - 130*	*04/28/22 10:08*	*04/29/22 19:34*	*5000*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	13700		1000		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	5830		1000		mg/Kg		04/29/22 12:01	05/02/22 11:19	20
Over C10-C28	7880		1000		mg/Kg		04/29/22 12:01	05/02/22 11:19	20
Over C28-C36	<1000	U	1000		mg/Kg		04/29/22 12:01	05/02/22 11:19	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*129*		*65 - 130*	*04/29/22 12:01*	*05/02/22 11:19*	*20*
o-Terphenyl (Surr)	*77*		*65 - 130*	*04/29/22 12:01*	*05/02/22 11:19*	*20*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	459		9.94		mg/Kg		04/28/22 14:09	04/28/22 17:00	1

Client Sample ID: HA-2 (3.5-4)

Lab Sample ID: 820-4042-8
Matrix: Solid
Date Collected: 04/22/22 12:55
Date Received: 04/25/22 13:53
Sample Depth: 3.5 - 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	147		2.00		mg/Kg		04/28/22 10:08	04/28/22 19:34	2000
Ethylbenzene	169		2.00		mg/Kg		04/28/22 10:08	04/28/22 19:34	2000
m,p-Xylenes	141		3.99		mg/Kg		04/28/22 10:08	04/28/22 19:34	2000

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Client Sample ID: HA-2 (3.5-4)

Lab Sample ID: 820-4042-8
Matrix: Solid
Date Collected: 04/22/22 12:55
Date Received: 04/25/22 13:53
Sample Depth: 3.5 - 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	58.0		2.00		mg/Kg		04/28/22 10:08	04/28/22 19:34	2000
Xylenes, Total	199		3.99		mg/Kg		04/28/22 10:08	04/28/22 19:34	2000
MTBE	<9.98	U	9.98		mg/Kg		04/28/22 10:08	04/28/22 19:34	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*56 - 150*	*04/28/22 10:08*	*04/28/22 19:34*	*2000*
4-Bromofluorobenzene (Surr)	*99*		*68 - 152*	*04/28/22 10:08*	*04/28/22 19:34*	*2000*
Dibromofluoromethane (Surr)	*97*		*53 - 142*	*04/28/22 10:08*	*04/28/22 19:34*	*2000*
Toluene-d8 (Surr)	*99*		*70 - 130*	*04/28/22 10:08*	*04/28/22 19:34*	*2000*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	417		25.0		mg/Kg		04/28/22 10:08	04/29/22 19:55	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*56 - 150*	*04/28/22 10:08*	*04/29/22 19:55*	*5000*
4-Bromofluorobenzene (Surr)	*93*		*68 - 152*	*04/28/22 10:08*	*04/29/22 19:55*	*5000*
Dibromofluoromethane (Surr)	*90*		*53 - 142*	*04/28/22 10:08*	*04/29/22 19:55*	*5000*
Toluene-d8 (Surr)	*97*		*70 - 130*	*04/28/22 10:08*	*04/29/22 19:55*	*5000*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	12700		998		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	5780		998		mg/Kg		04/29/22 12:01	05/02/22 11:38	20
Over C10-C28	6940		998		mg/Kg		04/29/22 12:01	05/02/22 11:38	20
Over C28-C36	<998	U	998		mg/Kg		04/29/22 12:01	05/02/22 11:38	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*117*		*65 - 130*	*04/29/22 12:01*	*05/02/22 11:38*	*20*
o-Terphenyl (Surr)	*156*	*S1+*	*65 - 130*	*04/29/22 12:01*	*05/02/22 11:38*	*20*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1470		9.88		mg/Kg		04/28/22 14:09	04/28/22 17:14	1

Client Sample ID: HA-2 (4.5-5)

Lab Sample ID: 820-4042-9
Matrix: Solid
Date Collected: 04/22/22 13:00
Date Received: 04/25/22 13:53
Sample Depth: 4.5 - 5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	41.5		1.99		mg/Kg		04/28/22 10:08	04/28/22 19:54	2000
Toluene	149		9.94		mg/Kg		04/28/22 10:08	04/28/22 19:54	2000
Ethylbenzene	85.6		1.99		mg/Kg		04/28/22 10:08	04/28/22 19:54	2000
m,p-Xylenes	73.1		3.98		mg/Kg		04/28/22 10:08	04/28/22 19:54	2000
o-Xylene	29.4		1.99		mg/Kg		04/28/22 10:08	04/28/22 19:54	2000
Xylenes, Total	103		3.98		mg/Kg		04/28/22 10:08	04/28/22 19:54	2000

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Client Sample ID: HA-2 (4.5-5)

Lab Sample ID: 820-4042-9
Matrix: Solid
Date Collected: 04/22/22 13:00
Date Received: 04/25/22 13:53
Sample Depth: 4.5 - 5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTBE	<9.94	U	9.94		mg/Kg		04/28/22 10:08	04/28/22 19:54	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*56 - 150*	*04/28/22 10:08*	*04/28/22 19:54*	*2000*
4-Bromofluorobenzene (Surr)	*96*		*68 - 152*	*04/28/22 10:08*	*04/28/22 19:54*	*2000*
Dibromofluoromethane (Surr)	*95*		*53 - 142*	*04/28/22 10:08*	*04/28/22 19:54*	*2000*
Toluene-d8 (Surr)	*98*		*70 - 130*	*04/28/22 10:08*	*04/28/22 19:54*	*2000*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**6350**		998		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	**2580**		998		mg/Kg		04/29/22 12:01	05/02/22 12:01	20
Over C10-C28	**3770**		998		mg/Kg		04/29/22 12:01	05/02/22 12:01	20
Over C28-C36	<998	U	998		mg/Kg		04/29/22 12:01	05/02/22 12:01	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*151*	*S1+*	*65 - 130*	*04/29/22 12:01*	*05/02/22 12:01*	*20*
o-Terphenyl (Surr)	*147*	*S1+*	*65 - 130*	*04/29/22 12:01*	*05/02/22 12:01*	*20*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2200**		9.84		mg/Kg		04/28/22 14:09	04/28/22 17:28	1

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

Lab Sample ID: 820-4042-10
Matrix: Solid
Date Collected: 04/22/22 13:05
Date Received: 04/25/22 13:53
Sample Depth: 0 - 0.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.979**		0.0250		mg/Kg		04/26/22 13:01	04/27/22 11:17	25
Toluene	**0.844**		0.125		mg/Kg		04/26/22 13:01	04/27/22 11:17	25
MTBE	<0.125	U	0.125		mg/Kg		04/26/22 13:01	04/27/22 11:17	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*56 - 150*	*04/26/22 13:01*	*04/27/22 11:17*	*25*
4-Bromofluorobenzene (Surr)	*111*		*68 - 152*	*04/26/22 13:01*	*04/27/22 11:17*	*25*
Dibromofluoromethane (Surr)	*90*		*53 - 142*	*04/26/22 13:01*	*04/27/22 11:17*	*25*
Toluene-d8 (Surr)	*99*		*70 - 130*	*04/26/22 13:01*	*04/27/22 11:17*	*25*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**5.94**		0.200		mg/Kg		04/26/22 13:01	04/27/22 14:07	200
m,p-Xylenes	**12.3**		0.399		mg/Kg		04/26/22 13:01	04/27/22 14:07	200
o-Xylene	**8.29**		0.200		mg/Kg		04/26/22 13:01	04/27/22 14:07	200
Xylenes, Total	**20.6**		0.399		mg/Kg		04/26/22 13:01	04/27/22 14:07	200

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: 820-4042-10
Matrix: Solid

Date Collected: 04/22/22 13:05
Date Received: 04/25/22 13:53
Sample Depth: 0 - 0.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		56 - 150	04/26/22 13:01	04/27/22 14:07	200
4-Bromofluorobenzene (Surr)	99		68 - 152	04/26/22 13:01	04/27/22 14:07	200
Dibromofluoromethane (Surr)	95		53 - 142	04/26/22 13:01	04/27/22 14:07	200
Toluene-d8 (Surr)	97		70 - 130	04/26/22 13:01	04/27/22 14:07	200

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**28.4**		0.399		mg/Kg			04/27/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**18500**		498		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	**1060**		498		mg/Kg		04/26/22 18:45	04/26/22 20:36	10
Over C10-C28	**17400**		498		mg/Kg		04/26/22 18:45	04/26/22 20:36	10
Over C28-C36	<498	U	498		mg/Kg		04/26/22 18:45	04/26/22 20:36	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	161	S1+	65 - 130	04/26/22 18:45	04/26/22 20:36	10
o-Terphenyl (Surr)	337	S1+	65 - 130	04/26/22 18:45	04/26/22 20:36	10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1400**		9.96		mg/Kg		04/26/22 13:23	04/27/22 16:15	1

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

Lab Sample ID: 820-4042-11
Matrix: Solid

Date Collected: 04/22/22 13:10
Date Received: 04/25/22 13:53
Sample Depth: 0.5 - 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000996	U	0.000996		mg/Kg		04/26/22 13:01	04/27/22 07:07	1
Toluene	<0.00498	U	0.00498		mg/Kg		04/26/22 13:01	04/27/22 07:07	1
Ethylbenzene	<0.000996	U	0.000996		mg/Kg		04/26/22 13:01	04/27/22 07:07	1
m,p-Xylenes	<0.00199	U	0.00199		mg/Kg		04/26/22 13:01	04/27/22 07:07	1
o-Xylene	<0.000996	U	0.000996		mg/Kg		04/26/22 13:01	04/27/22 07:07	1
Xylenes, Total	<0.00199	U	0.00199		mg/Kg		04/26/22 13:01	04/27/22 07:07	1
MTBE	<0.00498	U	0.00498		mg/Kg		04/26/22 13:01	04/27/22 07:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		56 - 150	04/26/22 13:01	04/27/22 07:07	1
4-Bromofluorobenzene (Surr)	84		68 - 152	04/26/22 13:01	04/27/22 07:07	1
Dibromofluoromethane (Surr)	105		53 - 142	04/26/22 13:01	04/27/22 07:07	1
Toluene-d8 (Surr)	100		70 - 130	04/26/22 13:01	04/27/22 07:07	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			04/27/22 16:58	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: 820-4042-11
Matrix: Solid

Date Collected: 04/22/22 13:10
Date Received: 04/25/22 13:53
Sample Depth: 0.5 - 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.5	U	50.5		mg/Kg		04/26/22 18:45	04/27/22 06:00	1
Over C10-C28	<50.5	U	50.5		mg/Kg		04/26/22 18:45	04/27/22 06:00	1
Over C28-C36	<50.5	U	50.5		mg/Kg		04/26/22 18:45	04/27/22 06:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*100*		*65 - 130*	*04/26/22 18:45*	*04/27/22 06:00*	*1*
o-Terphenyl (Surr)	*113*		*65 - 130*	*04/26/22 18:45*	*04/27/22 06:00*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2690**		9.82		mg/Kg		04/26/22 13:23	04/27/22 16:24	1

Client Sample ID: HA-4 (0-0.5)

Lab Sample ID: 820-4042-12
Matrix: Solid

Date Collected: 04/22/22 13:15
Date Received: 04/25/22 13:53
Sample Depth: 0 - 0.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0121**		0.00101		mg/Kg		04/26/22 13:01	04/27/22 07:30	1
Toluene	**0.00844**		0.00503		mg/Kg		04/26/22 13:01	04/27/22 07:30	1
Ethylbenzene	**0.00106**		0.00101		mg/Kg		04/26/22 13:01	04/27/22 07:30	1
m,p-Xylenes	<0.00201	U	0.00201		mg/Kg		04/26/22 13:01	04/27/22 07:30	1
o-Xylene	<0.00101	U	0.00101		mg/Kg		04/26/22 13:01	04/27/22 07:30	1
Xylenes, Total	<0.00201	U	0.00201		mg/Kg		04/26/22 13:01	04/27/22 07:30	1
MTBE	<0.00503	U	0.00503		mg/Kg		04/26/22 13:01	04/27/22 07:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*56 - 150*	*04/26/22 13:01*	*04/27/22 07:30*	*1*
4-Bromofluorobenzene (Surr)	*101*		*68 - 152*	*04/26/22 13:01*	*04/27/22 07:30*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 142*	*04/26/22 13:01*	*04/27/22 07:30*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*	*04/26/22 13:01*	*04/27/22 07:30*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0216**		0.00201		mg/Kg			04/27/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.4	U	50.4		mg/Kg		04/26/22 18:45	04/27/22 06:19	1
Over C10-C28	<50.4	U	50.4		mg/Kg		04/26/22 18:45	04/27/22 06:19	1
Over C28-C36	<50.4	U	50.4		mg/Kg		04/26/22 18:45	04/27/22 06:19	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Client Sample ID: HA-4 (0-0.5)

Lab Sample ID: 820-4042-12
Matrix: Solid

Date Collected: 04/22/22 13:15
Date Received: 04/25/22 13:53
Sample Depth: 0 - 0.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	100		65 - 130	04/26/22 18:45	04/27/22 06:19	1
o-Terphenyl (Surr)	112		65 - 130	04/26/22 18:45	04/27/22 06:19	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64.9**		9.86		mg/Kg		04/26/22 13:23	04/27/22 16:33	1

Client Sample ID: HA-5 (0-0.5)

Lab Sample ID: 820-4042-13
Matrix: Solid

Date Collected: 04/22/22 13:20
Date Received: 04/25/22 13:53
Sample Depth: 0 - 0.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00908**		0.000998		mg/Kg		04/26/22 13:01	04/27/22 07:53	1
Toluene	**0.00612**		0.00499		mg/Kg		04/26/22 13:01	04/27/22 07:53	1
Ethylbenzene	<0.000998	U	0.000998		mg/Kg		04/26/22 13:01	04/27/22 07:53	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg		04/26/22 13:01	04/27/22 07:53	1
o-Xylene	<0.000998	U	0.000998		mg/Kg		04/26/22 13:01	04/27/22 07:53	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		04/26/22 13:01	04/27/22 07:53	1
MTBE	<0.00499	U	0.00499		mg/Kg		04/26/22 13:01	04/27/22 07:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		56 - 150	04/26/22 13:01	04/27/22 07:53	1
4-Bromofluorobenzene (Surr)	98		68 - 152	04/26/22 13:01	04/27/22 07:53	1
Dibromofluoromethane (Surr)	110		53 - 142	04/26/22 13:01	04/27/22 07:53	1
Toluene-d8 (Surr)	103		70 - 130	04/26/22 13:01	04/27/22 07:53	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0152**		0.00200		mg/Kg			04/27/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.7	U	50.7		mg/Kg			04/27/22 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.7	U	50.7		mg/Kg		04/26/22 18:45	04/27/22 06:57	1
Over C10-C28	<50.7	U	50.7		mg/Kg		04/26/22 18:45	04/27/22 06:57	1
Over C28-C36	<50.7	U	50.7		mg/Kg		04/26/22 18:45	04/27/22 06:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	106		65 - 130	04/26/22 18:45	04/27/22 06:57	1
o-Terphenyl (Surr)	119		65 - 130	04/26/22 18:45	04/27/22 06:57	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**544**		9.96		mg/Kg		04/27/22 15:19	04/27/22 16:42	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(56-150)	(68-152)	(53-142)	(70-130)
820-4042-1	HA-1 (0.5-1)	94	93	109	94
820-4042-2	HA-1 (1.5-2)	92	99	109	106
820-4042-2 MS	HA-1 (1.5-2)	96	103	107	106
820-4042-5	HA-2 (0-0.5)	98	115	88	134 S1+
820-4042-5 - DL	HA-2 (0-0.5)	85	102	93	108
820-4042-5 - DL2	HA-2 (0-0.5)	100	96	95	97
820-4042-6	HA-2 (0.5-1)	102	160 S1+	83	449 S1+
820-4042-6 - DL	HA-2 (0.5-1)	84	97	96	104
820-4042-6 - DL2	HA-2 (0.5-1)	102	100	95	99
820-4042-7	HA-2 (1.5-2)	99	96	92	98
820-4042-7 - DL	HA-2 (1.5-2)	106	97	88	94
820-4042-8	HA-2 (3.5-4)	102	99	97	99
820-4042-8 - DL	HA-2 (3.5-4)	106	93	90	97
820-4042-9	HA-2 (4.5-5)	102	96	95	98
820-4042-10	HA-3 (0-0.5)	84	111	90	99
820-4042-10 - DL	HA-3 (0-0.5)	103	99	95	97
820-4042-11	HA-3 (0.5-1)	99	84	105	100
820-4042-12	HA-4 (0-0.5)	105	101	103	99
820-4042-13	HA-5 (0-0.5)	103	98	110	103
860-24846-A-1-A MS	Matrix Spike	94	98	100	104
880-14096-A-1-B MS	Matrix Spike	97	100	101	100
LCS 860-50469/3	Lab Control Sample	99	102	109	100
LCS 860-50523/3	Lab Control Sample	100	97	103	99
LCS 860-50685/3	Lab Control Sample	98	99	103	98
LCS 860-50886/3	Lab Control Sample	102	100	105	100
LCSD 860-50469/4	Lab Control Sample Dup	94	97	109	101
LCSD 860-50523/4	Lab Control Sample Dup	101	96	104	101
LCSD 860-50685/4	Lab Control Sample Dup	95	100	101	100
LCSD 860-50886/4	Lab Control Sample Dup	103	99	102	97
MB 860-50469/9	Method Blank	99	91	112	94
MB 860-50523/7	Method Blank	102	98	98	97
MB 860-50685/9	Method Blank	98	97	95	96
MB 860-50886/9	Method Blank	110	98	103	94

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: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(65-130)	(65-130)
820-4042-1	HA-1 (0.5-1)	112	94
820-4042-2	HA-1 (1.5-2)	95	108
820-4042-5	HA-2 (0-0.5)	154 S1+	277 S1+
820-4042-6	HA-2 (0.5-1)	137 S1+	142 S1+

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (65-130)	OTPH1 (65-130)
820-4042-7 - RA	HA-2 (1.5-2)	129	77
820-4042-8 - RA	HA-2 (3.5-4)	117	156 S1+
820-4042-9 - RA	HA-2 (4.5-5)	151 S1+	147 S1+
820-4042-10	HA-3 (0-0.5)	161 S1+	337 S1+
820-4042-11	HA-3 (0.5-1)	100	113
820-4042-12	HA-4 (0-0.5)	100	112
820-4042-12 MS	HA-4 (0-0.5)	120	109
820-4042-13	HA-5 (0-0.5)	106	119
LCS 860-50481/2-A	Lab Control Sample	118	105
LCS 860-50951/2-A	Lab Control Sample	115	117
LCSD 860-50481/3-A	Lab Control Sample Dup	122	114
LCSD 860-50951/3-A	Lab Control Sample Dup	114	117
MB 860-50481/1-A	Method Blank	100	112
MB 860-50951/1-A	Method Blank	112	112

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: 860-24846-A-1-A MS
Matrix: Solid
Analysis Batch: 50685

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49788

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	29.2		25.3	48.26		mg/Kg		76	71 - 119
Toluene	<2.53	U	25.3	26.45		mg/Kg		101	74 - 122
Ethylbenzene	56.7	F1	25.3	70.45	F1	mg/Kg		54	80 - 123
m,p-Xylenes	55.5	F1	25.3	68.73	F1	mg/Kg		52	78 - 127
o-Xylene	17.7		25.3	38.66		mg/Kg		83	79 - 125
MTBE	<2.53	U	25.3	25.86		mg/Kg		102	64 - 148

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*56 - 150*
4-Bromofluorobenzene (Surr)	*98*		*68 - 152*
Dibromofluoromethane (Surr)	*100*		*53 - 142*
Toluene-d8 (Surr)	*104*		*70 - 130*

Lab Sample ID: 820-4042-2 MS
Matrix: Solid
Analysis Batch: 50469

Client Sample ID: HA-1 (1.5-2)
Prep Type: Total/NA
Prep Batch: 50410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.00333		0.0502	0.03999		mg/Kg		73	71 - 119
Toluene	0.00588		0.0502	0.04367		mg/Kg		75	74 - 122
Ethylbenzene	<0.00100	U F1	0.0502	0.03969	F1	mg/Kg		78	80 - 123
m,p-Xylenes	<0.00201	U F1	0.0502	0.03887	F1	mg/Kg		77	78 - 127
o-Xylene	<0.00100	U F1	0.0502	0.03938	F1	mg/Kg		78	79 - 125
MTBE	<0.00502	U	0.0502	0.04475		mg/Kg		89	64 - 148

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*56 - 150*
4-Bromofluorobenzene (Surr)	*103*		*68 - 152*
Dibromofluoromethane (Surr)	*107*		*53 - 142*
Toluene-d8 (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 860-50469/9
Matrix: Solid
Analysis Batch: 50469

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			04/27/22 05:57	1
Toluene	<0.00500	U	0.00500		mg/Kg			04/27/22 05:57	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg			04/27/22 05:57	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg			04/27/22 05:57	1
o-Xylene	<0.00100	U	0.00100		mg/Kg			04/27/22 05:57	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg			04/27/22 05:57	1
MTBE	<0.00500	U	0.00500		mg/Kg			04/27/22 05:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*56 - 150*		*04/27/22 05:57*	*1*
4-Bromofluorobenzene (Surr)	*91*		*68 - 152*		*04/27/22 05:57*	*1*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: MB 860-50469/9
Matrix: Solid
Analysis Batch: 50469

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	112		53 - 142		04/27/22 05:57	1
Toluene-d8 (Surr)	94		70 - 130		04/27/22 05:57	1

Lab Sample ID: LCS 860-50469/3
Matrix: Solid
Analysis Batch: 50469

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	0.04468		mg/Kg		89	66 - 142		
Toluene			0.0500	0.04241		mg/Kg		85	74 - 130		
Ethylbenzene			0.0500	0.04380		mg/Kg		88	80 - 130		
m,p-Xylenes			0.0500	0.04209		mg/Kg		84	78 - 130		
o-Xylene			0.0500	0.04417		mg/Kg		88	79 - 130		
MTBE			0.0500	0.04534		mg/Kg		91	64 - 148		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		56 - 150
4-Bromofluorobenzene (Surr)	102		68 - 152
Dibromofluoromethane (Surr)	109		53 - 142
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: LCSD 860-50469/4
Matrix: Solid
Analysis Batch: 50469

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	0.04495		mg/Kg		90	66 - 142	1	25
Toluene			0.0500	0.04501		mg/Kg		90	74 - 130	6	25
Ethylbenzene			0.0500	0.04520		mg/Kg		90	80 - 130	3	25
m,p-Xylenes			0.0500	0.04521		mg/Kg		90	78 - 130	7	25
o-Xylene			0.0500	0.04700		mg/Kg		94	79 - 130	6	25
MTBE			0.0500	0.05056		mg/Kg		101	64 - 148	11	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		56 - 150
4-Bromofluorobenzene (Surr)	97		68 - 152
Dibromofluoromethane (Surr)	109		53 - 142
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: MB 860-50523/7
Matrix: Solid
Analysis Batch: 50523

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			04/27/22 13:19	1
Toluene	<0.00500	U	0.00500		mg/Kg			04/27/22 13:19	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg			04/27/22 13:19	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg			04/27/22 13:19	1

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: MB 860-50523/7
Matrix: Solid
Analysis Batch: 50523

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00100	U	0.00100		mg/Kg			04/27/22 13:19	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg			04/27/22 13:19	1
MTBE	<0.00500	U	0.00500		mg/Kg			04/27/22 13:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*56 - 150*		*04/27/22 13:19*	*1*
4-Bromofluorobenzene (Surr)	*98*		*68 - 152*		*04/27/22 13:19*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 142*		*04/27/22 13:19*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*04/27/22 13:19*	*1*

Lab Sample ID: LCS 860-50523/3
Matrix: Solid
Analysis Batch: 50523

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	0.04908		mg/Kg		98	66 - 142		
Toluene			0.0500	0.04730		mg/Kg		95	74 - 130		
Ethylbenzene			0.0500	0.04913		mg/Kg		98	80 - 130		
m,p-Xylenes			0.0500	0.04807		mg/Kg		96	78 - 130		
o-Xylene			0.0500	0.04940		mg/Kg		99	79 - 130		
MTBE			0.0500	0.05180		mg/Kg		104	64 - 148		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*56 - 150*
4-Bromofluorobenzene (Surr)	*97*		*68 - 152*
Dibromofluoromethane (Surr)	*103*		*53 - 142*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 860-50523/4
Matrix: Solid
Analysis Batch: 50523

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	0.05035		mg/Kg		101	66 - 142	3	25
Toluene			0.0500	0.04884		mg/Kg		98	74 - 130	3	25
Ethylbenzene			0.0500	0.05043		mg/Kg		101	80 - 130	3	25
m,p-Xylenes			0.0500	0.05008		mg/Kg		100	78 - 130	4	25
o-Xylene			0.0500	0.05029		mg/Kg		101	79 - 130	2	25
MTBE			0.0500	0.05482		mg/Kg		110	64 - 148	6	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*56 - 150*
4-Bromofluorobenzene (Surr)	*96*		*68 - 152*
Dibromofluoromethane (Surr)	*104*		*53 - 142*
Toluene-d8 (Surr)	*101*		*70 - 130*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: MB 860-50685/9
Matrix: Solid
Analysis Batch: 50685

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			04/28/22 12:34	1
Toluene	<0.00500	U	0.00500		mg/Kg			04/28/22 12:34	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg			04/28/22 12:34	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg			04/28/22 12:34	1
o-Xylene	<0.00100	U	0.00100		mg/Kg			04/28/22 12:34	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg			04/28/22 12:34	1
MTBE	<0.00500	U	0.00500		mg/Kg			04/28/22 12:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*56 - 150*		*04/28/22 12:34*	*1*
4-Bromofluorobenzene (Surr)	*97*		*68 - 152*		*04/28/22 12:34*	*1*
Dibromofluoromethane (Surr)	*95*		*53 - 142*		*04/28/22 12:34*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*04/28/22 12:34*	*1*

Lab Sample ID: LCS 860-50685/3
Matrix: Solid
Analysis Batch: 50685

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	0.05397		mg/Kg		108	66 - 142		
Toluene			0.0500	0.05220		mg/Kg		104	74 - 130		
Ethylbenzene			0.0500	0.05436		mg/Kg		109	80 - 130		
m,p-Xylenes			0.0500	0.05374		mg/Kg		107	78 - 130		
o-Xylene			0.0500	0.05300		mg/Kg		106	79 - 130		
MTBE			0.0500	0.05186		mg/Kg		104	64 - 148		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*56 - 150*
4-Bromofluorobenzene (Surr)	*99*		*68 - 152*
Dibromofluoromethane (Surr)	*103*		*53 - 142*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 860-50685/4
Matrix: Solid
Analysis Batch: 50685

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	0.05019		mg/Kg		100	66 - 142	7	25
Toluene			0.0500	0.04921		mg/Kg		98	74 - 130	6	25
Ethylbenzene			0.0500	0.05144		mg/Kg		103	80 - 130	6	25
m,p-Xylenes			0.0500	0.05129		mg/Kg		103	78 - 130	5	25
o-Xylene			0.0500	0.05103		mg/Kg		102	79 - 130	4	25
MTBE			0.0500	0.04738		mg/Kg		95	64 - 148	9	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*56 - 150*
4-Bromofluorobenzene (Surr)	*100*		*68 - 152*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: LCSD 860-50685/4
Matrix: Solid
Analysis Batch: 50685

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	101		53 - 142
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 880-14096-A-1-B MS
Matrix: Solid
Analysis Batch: 50886

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 50802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.0502	U	2.51	2.412		mg/Kg		96	71 - 119
Toluene	<0.251	U	2.51	2.378		mg/Kg		95	74 - 122
Ethylbenzene	<0.0502	U	2.51	2.436		mg/Kg		97	80 - 123
m,p-Xylenes	<0.100	U	2.51	2.416		mg/Kg		96	78 - 127
o-Xylene	<0.0502	U	2.51	2.445		mg/Kg		97	79 - 125
MTBE	<0.251	U	2.51	2.737		mg/Kg		109	64 - 148

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		56 - 150
4-Bromofluorobenzene (Surr)	100		68 - 152
Dibromofluoromethane (Surr)	101		53 - 142
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: MB 860-50886/9
Matrix: Solid
Analysis Batch: 50886

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			04/29/22 12:23	1
Toluene	<0.00500	U	0.00500		mg/Kg			04/29/22 12:23	1
Ethylbenzene	<0.00100	U	0.00100		mg/Kg			04/29/22 12:23	1
m,p-Xylenes	<0.00200	U	0.00200		mg/Kg			04/29/22 12:23	1
o-Xylene	<0.00100	U	0.00100		mg/Kg			04/29/22 12:23	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg			04/29/22 12:23	1
MTBE	<0.00500	U	0.00500		mg/Kg			04/29/22 12:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		56 - 150		04/29/22 12:23	1
4-Bromofluorobenzene (Surr)	98		68 - 152		04/29/22 12:23	1
Dibromofluoromethane (Surr)	103		53 - 142		04/29/22 12:23	1
Toluene-d8 (Surr)	94		70 - 130		04/29/22 12:23	1

Lab Sample ID: LCS 860-50886/3
Matrix: Solid
Analysis Batch: 50886

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	0.04774		mg/Kg		95	66 - 142
Toluene	0.0500	0.04675		mg/Kg		93	74 - 130
Ethylbenzene	0.0500	0.04810		mg/Kg		96	80 - 130

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: LCS 860-50886/3
Matrix: Solid
Analysis Batch: 50886

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	0.0500	0.04774		mg/Kg		95	78 - 130
o-Xylene	0.0500	0.04878		mg/Kg		98	79 - 130
MTBE	0.0500	0.05673		mg/Kg		113	64 - 148

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*56 - 150*
4-Bromofluorobenzene (Surr)	*100*		*68 - 152*
Dibromofluoromethane (Surr)	*105*		*53 - 142*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 860-50886/4
Matrix: Solid
Analysis Batch: 50886

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	0.04787		mg/Kg		96	66 - 142	0	25
Toluene	0.0500	0.04515		mg/Kg		90	74 - 130	3	25
Ethylbenzene	0.0500	0.04817		mg/Kg		96	80 - 130	0	25
m,p-Xylenes	0.0500	0.04761		mg/Kg		95	78 - 130	0	25
o-Xylene	0.0500	0.04808		mg/Kg		96	79 - 130	1	25
MTBE	0.0500	0.04793		mg/Kg		96	64 - 148	17	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*56 - 150*
4-Bromofluorobenzene (Surr)	*99*		*68 - 152*
Dibromofluoromethane (Surr)	*102*		*53 - 142*
Toluene-d8 (Surr)	*97*		*70 - 130*

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

Lab Sample ID: MB 860-50481/1-A
Matrix: Solid
Analysis Batch: 50377

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50481

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.0	U	50.0		mg/Kg		04/26/22 18:45	04/27/22 05:20	1
Over C10-C28	<50.0	U	50.0		mg/Kg		04/26/22 18:45	04/27/22 05:20	1
Over C28-C36	<50.0	U	50.0		mg/Kg		04/26/22 18:45	04/27/22 05:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*100*		*65 - 130*	*04/26/22 18:45*	*04/27/22 05:20*	*1*
o-Terphenyl (Surr)	*112*		*65 - 130*	*04/26/22 18:45*	*04/27/22 05:20*	*1*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: LCS 860-50481/2-A
Matrix: Solid
Analysis Batch: 50377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50481

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C6-C10			996	1002		mg/Kg		101	70 - 135		
Over C10-C28			999	1037		mg/Kg		104	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*118*		*65 - 130*
o-Terphenyl (Surr)	*105*		*65 - 130*

Lab Sample ID: LCSD 860-50481/3-A
Matrix: Solid
Analysis Batch: 50377

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50481

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C6-C10			996	1034		mg/Kg		104	70 - 135	3	35
Over C10-C28			999	1096		mg/Kg		110	70 - 135	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*122*		*65 - 130*
o-Terphenyl (Surr)	*114*		*65 - 130*

Lab Sample ID: 820-4042-12 MS
Matrix: Solid
Analysis Batch: 50377

Client Sample ID: HA-4 (0-0.5)
Prep Type: Total/NA
Prep Batch: 50481

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
C6-C10	<50.4	U	1000	1045		mg/Kg		104	70 - 135		
Over C10-C28	<50.4	U	1010	1101		mg/Kg		109	70 - 135		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*120*		*65 - 130*
o-Terphenyl (Surr)	*109*		*65 - 130*

Lab Sample ID: MB 860-50951/1-A
Matrix: Solid
Analysis Batch: 50925

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50951

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.0	U	50.0		mg/Kg		04/29/22 12:01	04/29/22 18:47	1
Over C10-C28	<50.0	U	50.0		mg/Kg		04/29/22 12:01	04/29/22 18:47	1
Over C28-C36	<50.0	U	50.0		mg/Kg		04/29/22 12:01	04/29/22 18:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*112*		*65 - 130*	*04/29/22 12:01*	*04/29/22 18:47*	*1*
o-Terphenyl (Surr)	*112*		*65 - 130*	*04/29/22 12:01*	*04/29/22 18:47*	*1*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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

Lab Sample ID: LCS 860-50951/2-A
Matrix: Solid
Analysis Batch: 50925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50951

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C6-C10			996	1033		mg/Kg		104	70 - 135		
Over C10-C28			999	997.7		mg/Kg		100	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*115*		*65 - 130*
o-Terphenyl (Surr)	*117*		*65 - 130*

Lab Sample ID: LCSD 860-50951/3-A
Matrix: Solid
Analysis Batch: 50925

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50951

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C6-C10			996	1066		mg/Kg		107	70 - 135	3	35
Over C10-C28			999	980.0		mg/Kg		98	70 - 135	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*114*		*65 - 130*
o-Terphenyl (Surr)	*117*		*65 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-50614/2-A
Matrix: Solid
Analysis Batch: 50552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50614

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg		04/27/22 15:19	04/27/22 17:08	1

Lab Sample ID: LCS 860-50614/3-A
Matrix: Solid
Analysis Batch: 50552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50614

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			100	109.9		mg/Kg		110	80 - 120		

Lab Sample ID: LCSD 860-50614/4-A
Matrix: Solid
Analysis Batch: 50552

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50614

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			100	107.2		mg/Kg		107	80 - 120	2	20

Lab Sample ID: 820-4046-A-1-G MS
Matrix: Solid
Analysis Batch: 50552

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 50614

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1530		98.6	1431	4	mg/Kg		-98	80 - 120		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 820-4046-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50552 — **Prep Batch: 50614**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1530		98.4	1430	4	mg/Kg		-99	80 - 120	0	20

Lab Sample ID: MB 860-50799/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50784 — **Prep Batch: 50799**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg		04/28/22 14:09	04/28/22 13:39	1

Lab Sample ID: LCS 860-50799/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50784 — **Prep Batch: 50799**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	100	97.06		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 860-50799/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50784 — **Prep Batch: 50799**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	100.6		mg/Kg		101	80 - 120	4	20

Lab Sample ID: 820-4042-9 MS — **Client Sample ID: HA-2 (4.5-5)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50784 — **Prep Batch: 50799**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2200		98.2	2260	4	mg/Kg		62	80 - 120

Lab Sample ID: 820-4042-9 MSD — **Client Sample ID: HA-2 (4.5-5)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50784 — **Prep Batch: 50799**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2200		98.0	2260	4	mg/Kg		62	80 - 120	0	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

GC/MS VOA

Prep Batch: 49788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-24846-A-1-A MS	Matrix Spike	Total/NA	Solid	5030C	

Prep Batch: 50410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	5035	
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	5035	
820-4042-5 - DL2	HA-2 (0-0.5)	Total/NA	Solid	5035	
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	5035	
820-4042-5 - DL	HA-2 (0-0.5)	Total/NA	Solid	5035	
820-4042-6 - DL2	HA-2 (0.5-1)	Total/NA	Solid	5035	
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	5035	
820-4042-6 - DL	HA-2 (0.5-1)	Total/NA	Solid	5035	
820-4042-10 - DL	HA-3 (0-0.5)	Total/NA	Solid	5035	
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	5035	
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	5035	
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	5035	
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	5035	
820-4042-2 MS	HA-1 (1.5-2)	Total/NA	Solid	5035	

Analysis Batch: 50469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	8260C	50410
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	8260C	50410
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	8260C	50410
820-4042-5 - DL	HA-2 (0-0.5)	Total/NA	Solid	8260C	50410
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	8260C	50410
820-4042-6 - DL	HA-2 (0.5-1)	Total/NA	Solid	8260C	50410
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	8260C	50410
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	8260C	50410
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	8260C	50410
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	8260C	50410
MB 860-50469/9	Method Blank	Total/NA	Solid	8260C	
LCS 860-50469/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-50469/4	Lab Control Sample Dup	Total/NA	Solid	8260C	
820-4042-2 MS	HA-1 (1.5-2)	Total/NA	Solid	8260C	50410

Analysis Batch: 50523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-5 - DL2	HA-2 (0-0.5)	Total/NA	Solid	8260C	50410
820-4042-6 - DL2	HA-2 (0.5-1)	Total/NA	Solid	8260C	50410
820-4042-10 - DL	HA-3 (0-0.5)	Total/NA	Solid	8260C	50410
MB 860-50523/7	Method Blank	Total/NA	Solid	8260C	
LCS 860-50523/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-50523/4	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 50644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	Total BTEX	
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	Total BTEX	
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	Total BTEX	
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

GC/MS VOA (Continued)

Analysis Batch: 50644 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	Total BTEX	
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	Total BTEX	
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	Total BTEX	
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	Total BTEX	

Analysis Batch: 50685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-7	HA-2 (1.5-2)	Total/NA	Solid	8260C	50730
820-4042-8	HA-2 (3.5-4)	Total/NA	Solid	8260C	50730
820-4042-9	HA-2 (4.5-5)	Total/NA	Solid	8260C	50730
MB 860-50685/9	Method Blank	Total/NA	Solid	8260C	
LCS 860-50685/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-50685/4	Lab Control Sample Dup	Total/NA	Solid	8260C	
860-24846-A-1-A MS	Matrix Spike	Total/NA	Solid	8260C	49788

Prep Batch: 50730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-7 - DL	HA-2 (1.5-2)	Total/NA	Solid	5035	
820-4042-7	HA-2 (1.5-2)	Total/NA	Solid	5035	
820-4042-8 - DL	HA-2 (3.5-4)	Total/NA	Solid	5035	
820-4042-8	HA-2 (3.5-4)	Total/NA	Solid	5035	
820-4042-9	HA-2 (4.5-5)	Total/NA	Solid	5035	

Prep Batch: 50802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-14096-A-1-B MS	Matrix Spike	Total/NA	Solid	5030C	

Analysis Batch: 50886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-7 - DL	HA-2 (1.5-2)	Total/NA	Solid	8260C	50730
820-4042-8 - DL	HA-2 (3.5-4)	Total/NA	Solid	8260C	50730
MB 860-50886/9	Method Blank	Total/NA	Solid	8260C	
LCS 860-50886/3	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 860-50886/4	Lab Control Sample Dup	Total/NA	Solid	8260C	
880-14096-A-1-B MS	Matrix Spike	Total/NA	Solid	8260C	50802

GC Semi VOA

Analysis Batch: 50366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	8015B NM	50481
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	8015B NM	50481

Analysis Batch: 50368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	8015B NM	50481
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	8015B NM	50481

Analysis Batch: 50377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	8015B NM	50481

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

GC Semi VOA (Continued)

Analysis Batch: 50377 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	8015B NM	50481
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	8015B NM	50481
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	8015B NM	50481
MB 860-50481/1-A	Method Blank	Total/NA	Solid	8015B NM	50481
LCS 860-50481/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50481
LCSD 860-50481/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50481
820-4042-12 MS	HA-4 (0-0.5)	Total/NA	Solid	8015B NM	50481

Prep Batch: 50481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	8015NM Prep	
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	8015NM Prep	
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	8015NM Prep	
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	8015NM Prep	
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	8015NM Prep	
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	8015NM Prep	
MB 860-50481/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 860-50481/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 860-50481/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-4042-12 MS	HA-4 (0-0.5)	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	8015 NM	
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	8015 NM	
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	8015 NM	
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	8015 NM	
820-4042-7	HA-2 (1.5-2)	Total/NA	Solid	8015 NM	
820-4042-8	HA-2 (3.5-4)	Total/NA	Solid	8015 NM	
820-4042-9	HA-2 (4.5-5)	Total/NA	Solid	8015 NM	
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	8015 NM	
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	8015 NM	
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	8015 NM	
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	8015 NM	

Analysis Batch: 50925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-50951/1-A	Method Blank	Total/NA	Solid	8015B NM	50951
LCS 860-50951/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50951
LCSD 860-50951/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50951

Prep Batch: 50951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-7 - RA	HA-2 (1.5-2)	Total/NA	Solid	8015NM Prep	
820-4042-8 - RA	HA-2 (3.5-4)	Total/NA	Solid	8015NM Prep	
820-4042-9 - RA	HA-2 (4.5-5)	Total/NA	Solid	8015NM Prep	
MB 860-50951/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 860-50951/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 860-50951/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

GC Semi VOA

Analysis Batch: 51155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-7 - RA	HA-2 (1.5-2)	Total/NA	Solid	8015B NM	50951
820-4042-8 - RA	HA-2 (3.5-4)	Total/NA	Solid	8015B NM	50951
820-4042-9 - RA	HA-2 (4.5-5)	Total/NA	Solid	8015B NM	50951

HPLC/IC

Prep Batch: 50417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	300_Prep	
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	300_Prep	
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	300_Prep	
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	300_Prep	
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	300_Prep	
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	300_Prep	
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	300_Prep	

Analysis Batch: 50552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-1	HA-1 (0.5-1)	Total/NA	Solid	300.0	50417
820-4042-2	HA-1 (1.5-2)	Total/NA	Solid	300.0	50417
820-4042-5	HA-2 (0-0.5)	Total/NA	Solid	300.0	50417
820-4042-6	HA-2 (0.5-1)	Total/NA	Solid	300.0	50417
820-4042-10	HA-3 (0-0.5)	Total/NA	Solid	300.0	50417
820-4042-11	HA-3 (0.5-1)	Total/NA	Solid	300.0	50417
820-4042-12	HA-4 (0-0.5)	Total/NA	Solid	300.0	50417
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	300.0	50614
MB 860-50614/2-A	Method Blank	Total/NA	Solid	300.0	50614
LCS 860-50614/3-A	Lab Control Sample	Total/NA	Solid	300.0	50614
LCSD 860-50614/4-A	Lab Control Sample Dup	Total/NA	Solid	300.0	50614
820-4046-A-1-G MS	Matrix Spike	Total/NA	Solid	300.0	50614
820-4046-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	300.0	50614

Prep Batch: 50614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-13	HA-5 (0-0.5)	Total/NA	Solid	300_Prep	
MB 860-50614/2-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 860-50614/3-A	Lab Control Sample	Total/NA	Solid	300_Prep	
LCSD 860-50614/4-A	Lab Control Sample Dup	Total/NA	Solid	300_Prep	
820-4046-A-1-G MS	Matrix Spike	Total/NA	Solid	300_Prep	
820-4046-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	300_Prep	

Analysis Batch: 50784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-7	HA-2 (1.5-2)	Total/NA	Solid	300.0	50799
820-4042-8	HA-2 (3.5-4)	Total/NA	Solid	300.0	50799
820-4042-9	HA-2 (4.5-5)	Total/NA	Solid	300.0	50799
MB 860-50799/1-A	Method Blank	Total/NA	Solid	300.0	50799
LCS 860-50799/2-A	Lab Control Sample	Total/NA	Solid	300.0	50799
LCSD 860-50799/3-A	Lab Control Sample Dup	Total/NA	Solid	300.0	50799
820-4042-9 MS	HA-2 (4.5-5)	Total/NA	Solid	300.0	50799
820-4042-9 MSD	HA-2 (4.5-5)	Total/NA	Solid	300.0	50799

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

HPLC/IC

Prep Batch: 50799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4042-7	HA-2 (1.5-2)	Total/NA	Solid	300_Prep	
820-4042-8	HA-2 (3.5-4)	Total/NA	Solid	300_Prep	
820-4042-9	HA-2 (4.5-5)	Total/NA	Solid	300_Prep	
MB 860-50799/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 860-50799/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
LCSD 860-50799/3-A	Lab Control Sample Dup	Total/NA	Solid	300_Prep	
820-4042-9 MS	HA-2 (4.5-5)	Total/NA	Solid	300_Prep	
820-4042-9 MSD	HA-2 (4.5-5)	Total/NA	Solid	300_Prep	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Client Sample ID: HA-1 (0.5-1)
Date Collected: 04/22/22 12:20
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	50469	04/27/22 06:43	KLV	XEN STF
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			5.7 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			50366	04/26/22 20:36	T1S	XEN STF
Total/NA	Prep	300_Prep			4.94 g	50 mL	50417	04/26/22 13:23	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 15:40	ANP	XEN STF

Client Sample ID: HA-1 (1.5-2)
Date Collected: 04/22/22 12:25
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-2
Matrix: Solid

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	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	50469	04/27/22 06:20	KLV	XEN STF
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.7 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			50377	04/27/22 05:40	T1S	XEN STF
Total/NA	Prep	300_Prep			4.92 g	50 mL	50417	04/26/22 13:23	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 15:49	ANP	XEN STF

Client Sample ID: HA-2 (0-0.5)
Date Collected: 04/22/22 12:40
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	DL2		5.00 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C	DL2	5000	5 mL	5 mL	50523	04/27/22 14:28	KLV	XEN STF
Total/NA	Prep	5035			5.00 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		25	5 mL	5 mL	50469	04/27/22 08:16	KLV	XEN STF
Total/NA	Prep	5035	DL		5.00 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C	DL	500	5 mL	5 mL	50469	04/27/22 11:41	KLV	XEN STF
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.68 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		10			50368	04/26/22 20:55	T1S	XEN STF
Total/NA	Prep	300_Prep			4.98 g	50 mL	50417	04/26/22 13:23	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 15:57	ANP	XEN STF

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Client Sample ID: HA-2 (0.5-1)
Date Collected: 04/22/22 12:45
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	DL2		4.97 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C	DL2	10000	5 mL	5 mL	50523	04/27/22 14:48	KLV	XEN STF
Total/NA	Prep	5035			4.97 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		25	5 mL	5 mL	50469	04/27/22 08:40	KLV	XEN STF
Total/NA	Prep	5035	DL		4.97 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C	DL	2000	5 mL	5 mL	50469	04/27/22 12:04	KLV	XEN STF
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		10			50366	04/26/22 20:16	T1S	XEN STF
Total/NA	Prep	300_Prep			4.97 g	50 mL	50417	04/26/22 13:23	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 16:06	ANP	XEN STF

Client Sample ID: HA-2 (1.5-2)
Date Collected: 04/22/22 12:50
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-7
Matrix: Solid

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	50730	04/28/22 10:08	MTMG	XEN STF
Total/NA	Analysis	8260C		2000	5 mL	5 mL	50685	04/28/22 19:13	MTMG	XEN STF
Total/NA	Prep	5035	DL		5.02 g	5 mL	50730	04/28/22 10:08	MTMG	XEN STF
Total/NA	Analysis	8260C	DL	5000	5 mL	5 mL	50886	04/29/22 19:34	MTMG	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep	RA		9.98 g	10 mL	50951	04/29/22 12:01	SYH	XEN STF
Total/NA	Analysis	8015B NM	RA	20			51155	05/02/22 11:19	DD	XEN STF
Total/NA	Prep	300_Prep			5.03 g	50 mL	50799	04/28/22 14:09	ANP	XEN STF
Total/NA	Analysis	300.0		1			50784	04/28/22 17:00	WP	XEN STF

Client Sample ID: HA-2 (3.5-4)
Date Collected: 04/22/22 12:55
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 g	50730	04/28/22 10:08	MTMG	XEN STF
Total/NA	Analysis	8260C		2000	5 mL	5 mL	50685	04/28/22 19:34	MTMG	XEN STF
Total/NA	Prep	5035	DL		5.01 g	5 g	50730	04/28/22 10:08	MTMG	XEN STF
Total/NA	Analysis	8260C	DL	5000	5 mL	5 mL	50886	04/29/22 19:55	MTMG	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep	RA		10.02 g	10 mL	50951	04/29/22 12:01	SYH	XEN STF
Total/NA	Analysis	8015B NM	RA	20			51155	05/02/22 11:38	DD	XEN STF
Total/NA	Prep	300_Prep			5.06 g	50 mL	50799	04/28/22 14:09	ANP	XEN STF
Total/NA	Analysis	300.0		1			50784	04/28/22 17:14	WP	XEN STF

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Client Sample ID: HA-2 (4.5-5)
Date Collected: 04/22/22 13:00
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-9
Matrix: Solid

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 g	50730	04/28/22 10:08	MTMG	XEN STF
Total/NA	Analysis	8260C		2000	5 mL	5 mL	50685	04/28/22 19:54	MTMG	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep	RA		10.02 g	10 mL	50951	04/29/22 12:01	SYH	XEN STF
Total/NA	Analysis	8015B NM	RA	20			51155	05/02/22 12:01	DD	XEN STF
Total/NA	Prep	300_Prep			5.08 g	50 mL	50799	04/28/22 14:09	ANP	XEN STF
Total/NA	Analysis	300.0		1			50784	04/28/22 17:28	WP	XEN STF

Client Sample ID: HA-3 (0-0.5)
Date Collected: 04/22/22 13:05
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	DL		5.01 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C	DL	200	5 mL	5 mL	50523	04/27/22 14:07	KLV	XEN STF
Total/NA	Prep	5035			5.01 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		25	5 mL	5 mL	50469	04/27/22 11:17	KLV	XEN STF
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		10			50368	04/26/22 20:36	T1S	XEN STF
Total/NA	Prep	300_Prep			5.02 g	50 mL	50417	04/26/22 13:23	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 16:15	ANP	XEN STF

Client Sample ID: HA-3 (0.5-1)
Date Collected: 04/22/22 13:10
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-11
Matrix: Solid

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	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	50469	04/27/22 07:07	KLV	XEN STF
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			50377	04/27/22 06:00	T1S	XEN STF
Total/NA	Prep	300_Prep			5.09 g	50 mL	50417	04/26/22 13:23	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 16:24	ANP	XEN STF

Client Sample ID: HA-4 (0-0.5)
Date Collected: 04/22/22 13:15
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	50469	04/27/22 07:30	KLV	XEN STF

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Client Sample ID: HA-4 (0-0.5)

Date Collected: 04/22/22 13:15
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			50377	04/27/22 06:19	T1S	XEN STF
Total/NA	Prep	300_Prep			5.07 g	50 mL	50417	04/26/22 13:23	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 16:33	ANP	XEN STF

Client Sample ID: HA-5 (0-0.5)

Date Collected: 04/22/22 13:20
Date Received: 04/25/22 13:53

Lab Sample ID: 820-4042-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	50410	04/26/22 13:01	MTMG	XEN STF
Total/NA	Analysis	8260C		1	5 mL	5 mL	50469	04/27/22 07:53	KLV	XEN STF
Total/NA	Analysis	Total BTEX		1			50644	04/27/22 16:58	MC	XEN STF
Total/NA	Analysis	8015 NM		1			50664	04/27/22 18:22	DD	XEN STF
Total/NA	Prep	8015NM Prep			9.86 g	10 mL	50481	04/26/22 18:45	SAR	XEN STF
Total/NA	Analysis	8015B NM		1			50377	04/27/22 06:57	T1S	XEN STF
Total/NA	Prep	300_Prep			5.02 g	50 mL	50614	04/27/22 15:19	ANP	XEN STF
Total/NA	Analysis	300.0		1			50552	04/27/22 16:42	ANP	XEN STF

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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		Solid	Total TPH
8015B NM	8015NM Prep	Solid	C6-C10
8015B NM	8015NM Prep	Solid	Over C10-C28
8015B NM	8015NM Prep	Solid	Over C28-C36
Total BTEX		Solid	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

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: Marshall APH Battery

Job ID: 820-4042-1
SDG: AR227085

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
820-4042-1	HA-1 (0.5-1)	Solid	04/22/22 12:20	04/25/22 13:53	0.5 - 1
820-4042-2	HA-1 (1.5-2)	Solid	04/22/22 12:25	04/25/22 13:53	1.5 - 2
820-4042-5	HA-2 (0-0.5)	Solid	04/22/22 12:40	04/25/22 13:53	0 - 0.5
820-4042-6	HA-2 (0.5-1)	Solid	04/22/22 12:45	04/25/22 13:53	0.5 - 1
820-4042-7	HA-2 (1.5-2)	Solid	04/22/22 12:50	04/25/22 13:53	1.5 - 2
820-4042-8	HA-2 (3.5-4)	Solid	04/22/22 12:55	04/25/22 13:53	3.5 - 4
820-4042-9	HA-2 (4.5-5)	Solid	04/22/22 13:00	04/25/22 13:53	4.5 - 5
820-4042-10	HA-3 (0-0.5)	Solid	04/22/22 13:05	04/25/22 13:53	0 - 0.5
820-4042-11	HA-3 (0.5-1)	Solid	04/22/22 13:10	04/25/22 13:53	0.5 - 1
820-4042-12	HA-4 (0-0.5)	Solid	04/22/22 13:15	04/25/22 13:53	0 - 0.5
820-4042-13	HA-5 (0-0.5)	Solid	04/22/22 13:20	04/25/22 13:53	0 - 0.5

Loc: 820
4042


820-4042 Chain of Custody

CHAIN OF CUSTODY

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: J. Guesnier
SRS #:
Sampler's Name: J. Guesnier
Sampler's Signature

Project Number: AR227085
Project Name: Marshall APH Battery

ANALYSIS REQUESTED

TEMP OF COOLER WHEN RECEIVED (°C): -2.2/-2.0 CF: +0.2 IR.4

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 4 oz Glass	2 oz Glass	250 ml Poly	5035 kit	TPH Extended 8015	Chloride (EPA Method 300)	BTEX-MTBE (EPA Method 8260B)	Hold				Lab Sample ID
S	4/22/2022	12:20		X	HA-1 (0.5-1)	0.5'	1'	X				X	X	X					
S	4/22/2022	12:25		X	HA-1 (1.5-2)	1.5'	2'	X				X	X	X					
S	4/22/2022	12:30		X	HA-1 (3.5-4)	3.5'	4'	X							X				
S	4/22/2022	12:35		X	HA-1 (4.5-5)	4.5'	5'	X							X				
S	4/22/2022	12:40		X	HA-2 (0-0.5)	0'	0.5'	X				X	X	X					
S	4/22/2022	12:45		X	HA-2 (0.5-1)	0.5'	1'	X				X	X	X					
S	4/22/2022	12:50		X	HA-2 (1.5-2)	1.5'	2'	X							X				
S	4/22/2022	12:55		X	HA-2 (3.5-4)	3.5'	4'	X							X				
S	4/22/2022	13:00		X	HA-2 (4.5-5)	4.5'	5'	X							X				
S	4/22/2022	13:05		X	HA-3 (0-0.5)	0'	0.5'	X				X	X	X					
S	4/22/2022	13:10		X	HA-3 (0.5-1)	0.5'	1'	X				X	X	X					
S	4/22/2022	13:15		X	HA-4 (0-0.5)	0'	0.5'	X				X	X	X					
S	4/22/2022	13:20		X	HA-5 (0-0.5)	0'	0.5'	X				X	X	X					

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

TRRP Laboratory Review Checklist: ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
	4-25-22	13:53	Teddy Rudd	4/25/22	1353

NOTES: Client:

e-mail results to:
joseph.guesnier@terraconc.com
erin.loyd@terracon.com
brady.thornton@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 _____

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 820-3642.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Texas		Job #: 820-4042-1
Address: 4145 Greenbriar Dr	Due Date Requested: 4/27/2022			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: General Soils	Project #: 82000340			
Site:	SSOW#:			

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	Z	other (specify)

Other

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Total_BTEX_Calc	8015MOD_NM/8016NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/300_Prep Chloride	8260C/5035FP_Calc BTEX and MTBE	Special Instructions/Note:
HA-1 (0.5-1) (820-4042-1)	4/22/22	12:20 Central		Solid		X	X	X	X	
HA-1 (1.5-2) (820-4042-2)	4/22/22	12:25 Central		Solid		X	X	X	X	
HA-2 (0-0.5) (820-4042-5)	4/22/22	12:40 Central		Solid		X	X	X	X	
HA-2 (0.5-1) (820-4042-6)	4/22/22	12:45 Central		Solid		X	X	X	X	
HA-3 (0-0.5) (820-4042-10)	4/22/22	13:05 Central		Solid		X	X	X	X	
HA-3 (0.5-1) (820-4042-11)	4/22/22	13:10 Central		Solid		X	X	X	X	
HA-4 (0-0.5) (820-4042-12)	4/22/22	13:15 Central		Solid		X	X	X	X	
HA-5 (0-0.5) (820-4042-13)	4/22/22	13:20 Central		Solid		X	X	X	X	

IR ID:HOU-332
Temp: 3.2
C/F: -0.9
Corrected Temp: 2.3

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 complicance 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	☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
Ashley Ruggler	4/25/22 17 00		FedEx		
Relinquished by: FedEx	Date/Time:	Company	Received by:	Date/Time: 4/26/2022 10:50	Company EX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4042-1
SDG Number: AR227085

Login Number: 4042
List Number: 1
Creator: Lee, Randell

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.	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	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4042-1
SDG Number: AR227085

Login Number: 4042
List Number: 2
Creator: Milone, Jeancarlo

List Source: Eurofins Houston
List Creation: 04/26/22 12:00 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	
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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ANALYTICAL REPORT

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

Laboratory Job ID: 820-4212-1
Laboratory Sample Delivery Group: AR227085
Client Project/Site: Marshall APH Battery

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

Attn: Joseph Guesnier

JKramer

Authorized for release by:
5/11/2022 2:26:29 PM

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

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.

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
5/11/2022 2:26:29 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Laboratory Job ID: 820-4212-1
SDG: AR227085

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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.
¤	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: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Job ID: 820-4212-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-4212-1

Receipt
The samples were received on 5/9/2022 5:00 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 -1.5°C

GC VOA
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 matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-25270 and analytical batch 880-25229 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.

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: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

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

Date Collected: 05/05/22 15:15
Date Received: 05/09/22 17:00
Sample Depth: 0 - 0.5'

Lab Sample ID: 820-4212-1

Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	10700		499		mg/Kg			05/11/22 13:40	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	1380		499		mg/Kg		05/10/22 11:04	05/10/22 14:36	10
Diesel Range Organics (Over C10-C28)	8300		499		mg/Kg		05/10/22 11:04	05/10/22 14:36	10
Oil Range Organics (Over C28-C36)	970		499		mg/Kg		05/10/22 11:04	05/10/22 14:36	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*103*		*70 - 130*	*05/10/22 11:04*	*05/10/22 14:36*	*10*
o-Terphenyl (Surr)	*72*		*70 - 130*	*05/10/22 11:04*	*05/10/22 14:36*	*10*

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

Date Collected: 05/05/22 15:20
Date Received: 05/09/22 17:00
Sample Depth: 1' - 2'

Lab Sample ID: 820-4212-2

Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	6530		250		mg/Kg			05/11/22 13:40	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	2930		250		mg/Kg		05/10/22 11:04	05/10/22 14:58	5
Diesel Range Organics (Over C10-C28)	3260		250		mg/Kg		05/10/22 11:04	05/10/22 14:58	5
Oil Range Organics (Over C28-C36)	339		250		mg/Kg		05/10/22 11:04	05/10/22 14:58	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*111*		*70 - 130*	*05/10/22 11:04*	*05/10/22 14:58*	*5*
o-Terphenyl (Surr)	*84*		*70 - 130*	*05/10/22 11:04*	*05/10/22 14:58*	*5*

Client Sample ID: HA-2 (3-4)

Date Collected: 05/05/22 15:25
Date Received: 05/09/22 17:00
Sample Depth: 3' - 4'

Lab Sample ID: 820-4212-3

Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5840		250		mg/Kg			05/11/22 13:40	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	3510		250		mg/Kg		05/10/22 11:04	05/10/22 15:19	5
Diesel Range Organics (Over C10-C28)	2330		250		mg/Kg		05/10/22 11:04	05/10/22 15:19	5
Oil Range Organics (Over C28-C36)	<250	U	250		mg/Kg		05/10/22 11:04	05/10/22 15:19	5

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Client Sample ID: HA-2 (3-4)
Date Collected: 05/05/22 15:25
Date Received: 05/09/22 17:00
Sample Depth: 3' - 4'

Lab Sample ID: 820-4212-3
Matrix: Soil

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	110		70 - 130	05/10/22 11:04	05/10/22 15:19	5
o-Terphenyl (Surr)	94		70 - 130	05/10/22 11:04	05/10/22 15:19	5

Client Sample ID: HA-2 (4-5)
Date Collected: 05/05/22 15:30
Date Received: 05/09/22 17:00
Sample Depth: 4' - 5'

Lab Sample ID: 820-4212-4
Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	2570		50.0		mg/Kg			05/11/22 13:40	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	1410		50.0		mg/Kg		05/10/22 11:04	05/10/22 16:34	1
Diesel Range Organics (Over C10-C28)	1070		50.0		mg/Kg		05/10/22 11:04	05/10/22 16:34	1
Oil Range Organics (Over C28-C36)	93.5		50.0		mg/Kg		05/10/22 11:04	05/10/22 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	97		70 - 130	05/10/22 11:04	05/10/22 16:34	1
o-Terphenyl (Surr)	83		70 - 130	05/10/22 11:04	05/10/22 16:34	1

Client Sample ID: HA-2 (5-6)
Date Collected: 05/05/22 15:35
Date Received: 05/09/22 17:00
Sample Depth: 5' - 6'

Lab Sample ID: 820-4212-5
Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5320		249		mg/Kg			05/11/22 13:40	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	1880		249		mg/Kg		05/10/22 11:04	05/10/22 16:13	5
Diesel Range Organics (Over C10-C28)	3180		249		mg/Kg		05/10/22 11:04	05/10/22 16:13	5
Oil Range Organics (Over C28-C36)	260		249		mg/Kg		05/10/22 11:04	05/10/22 16:13	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	109		70 - 130	05/10/22 11:04	05/10/22 16:13	5
o-Terphenyl (Surr)	95		70 - 130	05/10/22 11:04	05/10/22 16:13	5

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Client Sample ID: HA-2 (6-7)
Date Collected: 05/05/22 15:40
Date Received: 05/09/22 17:00
Sample Depth: 6' - 7'

Lab Sample ID: 820-4212-6
Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	481		49.9		mg/Kg			05/11/22 13:40	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	93.8		49.9		mg/Kg		05/10/22 11:04	05/10/22 16:55	1
Diesel Range Organics (Over C10-C28)	387		49.9		mg/Kg		05/10/22 11:04	05/10/22 16:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/10/22 11:04	05/10/22 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*90*		*70 - 130*	*05/10/22 11:04*	*05/10/22 16:55*	*1*
o-Terphenyl (Surr)	*92*		*70 - 130*	*05/10/22 11:04*	*05/10/22 16:55*	*1*

Client Sample ID: HA-2 (7-8)
Date Collected: 05/05/22 15:45
Date Received: 05/09/22 17:00
Sample Depth: 7' - 8'

Lab Sample ID: 820-4212-7
Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	230		50.0		mg/Kg			05/11/22 13:40	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	87.1		50.0		mg/Kg		05/10/22 11:04	05/10/22 18:00	1
Diesel Range Organics (Over C10-C28)	143		50.0		mg/Kg		05/10/22 11:04	05/10/22 18:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/22 11:04	05/10/22 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*89*		*70 - 130*	*05/10/22 11:04*	*05/10/22 18:00*	*1*
o-Terphenyl (Surr)	*96*		*70 - 130*	*05/10/22 11:04*	*05/10/22 18:00*	*1*

Client Sample ID: HA-2 (8-9)
Date Collected: 05/05/22 15:50
Date Received: 05/09/22 17:00
Sample Depth: 8' - 9'

Lab Sample ID: 820-4212-8
Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	113		50.0		mg/Kg			05/11/22 13:40	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	54.7		50.0		mg/Kg		05/10/22 11:04	05/10/22 18:22	1
Diesel Range Organics (Over C10-C28)	58.4		50.0		mg/Kg		05/10/22 11:04	05/10/22 18:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/22 11:04	05/10/22 18:22	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Client Sample ID: HA-2 (8-9)

Lab Sample ID: 820-4212-8
Matrix: Soil
Date Collected: 05/05/22 15:50
Date Received: 05/09/22 17:00
Sample Depth: 8' - 9'

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	91		70 - 130	05/10/22 11:04	05/10/22 18:22	1
o-Terphenyl (Surr)	98		70 - 130	05/10/22 11:04	05/10/22 18:22	1

Client Sample ID: HA-2 (9-10)

Lab Sample ID: 820-4212-9
Matrix: Soil
Date Collected: 05/05/22 15:55
Date Received: 05/09/22 17:00
Sample Depth: 9' - 10'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00371		0.00199		mg/Kg		05/10/22 10:52	05/11/22 05:56	1
Toluene	0.0543		0.00199		mg/Kg		05/10/22 10:52	05/11/22 05:56	1
Ethylbenzene	0.0611		0.00199		mg/Kg		05/10/22 10:52	05/11/22 05:56	1
m,p-Xylenes	0.0581		0.00398		mg/Kg		05/10/22 10:52	05/11/22 05:56	1
o-Xylene	0.0252		0.00199		mg/Kg		05/10/22 10:52	05/11/22 05:56	1
Xylenes, Total	0.0833		0.00398		mg/Kg		05/10/22 10:52	05/11/22 05:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	05/10/22 10:52	05/11/22 05:56	1
1,4-Difluorobenzene (Surr)	83		70 - 130	05/10/22 10:52	05/11/22 05:56	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.202		0.00398		mg/Kg			05/11/22 08:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	545		50.0		mg/Kg			05/11/22 13:40	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	157		50.0		mg/Kg		05/10/22 11:04	05/10/22 17:39	1
Diesel Range Organics (Over C10-C28)	388		50.0		mg/Kg		05/10/22 11:04	05/10/22 17:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/22 11:04	05/10/22 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	94		70 - 130	05/10/22 11:04	05/10/22 17:39	1
o-Terphenyl (Surr)	96		70 - 130	05/10/22 11:04	05/10/22 17:39	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	629		4.99		mg/Kg			05/10/22 17:30	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Soil **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
820-4212-9	HA-2 (9-10)	88	83

Surrogate Legend

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

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-14580-A-4-B MS	Matrix Spike	104	98
880-14580-A-4-C MSD	Matrix Spike Duplicate	106	101
LCS 880-25266/1-A	Lab Control Sample	99	99
LCSD 880-25266/2-A	Lab Control Sample Dup	100	97
MB 880-25110/5-A	Method Blank	101	95
MB 880-25266/5-A	Method Blank	98	95

Surrogate Legend

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

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

Matrix: Soil **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
820-4212-1	HA-2 (0-0.5)	103	72
820-4212-2	HA-2 (1-2)	111	84
820-4212-3	HA-2 (3-4)	110	94
820-4212-4	HA-2 (4-5)	97	83
820-4212-5	HA-2 (5-6)	109	95
820-4212-6	HA-2 (6-7)	90	92
820-4212-7	HA-2 (7-8)	89	96
820-4212-8	HA-2 (8-9)	91	98
820-4212-9	HA-2 (9-10)	94	96

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-14580-A-1-F MS	Matrix Spike	81	73
880-14580-A-1-G MSD	Matrix Spike Duplicate	82	74
LCS 880-25270/2-A	Lab Control Sample	102	99

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
LCSD 880-25270/3-A	Lab Control Sample Dup	103	101								
MB 880-25270/1-A	Method Blank	88	99								

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-25110/5-A
Matrix: Solid
Analysis Batch: 25224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/09/22 13:08	05/10/22 12:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/09/22 13:08	05/10/22 12:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/09/22 13:08	05/10/22 12:02	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		05/09/22 13:08	05/10/22 12:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/09/22 13:08	05/10/22 12:02	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/09/22 13:08	05/10/22 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*05/09/22 13:08*	*05/10/22 12:02*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*05/09/22 13:08*	*05/10/22 12:02*	*1*

Lab Sample ID: MB 880-25266/5-A
Matrix: Solid
Analysis Batch: 25224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25266

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/10/22 10:52	05/11/22 03:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/10/22 10:52	05/11/22 03:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/10/22 10:52	05/11/22 03:04	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		05/10/22 10:52	05/11/22 03:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/10/22 10:52	05/11/22 03:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/10/22 10:52	05/11/22 03:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*05/10/22 10:52*	*05/11/22 03:04*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*05/10/22 10:52*	*05/11/22 03:04*	*1*

Lab Sample ID: LCS 880-25266/1-A
Matrix: Solid
Analysis Batch: 25224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25266

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08603		mg/Kg		86	70 - 130
Toluene	0.100	0.08465		mg/Kg		85	70 - 130
Ethylbenzene	0.100	0.08620		mg/Kg		86	70 - 130
m,p-Xylenes	0.200	0.1796		mg/Kg		90	70 - 130
o-Xylene	0.100	0.09780		mg/Kg		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-25266/2-A
Matrix: Solid
Analysis Batch: 25224

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25266

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.07230		mg/Kg		72	70 - 130	17	35

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

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

Lab Sample ID: LCSD 880-25266/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 25224 — **Prep Batch: 25266**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.07434		mg/Kg		74	70 - 130	13	35
Ethylbenzene			0.100	0.07575		mg/Kg		76	70 - 130	13	35
m,p-Xylenes			0.200	0.1592		mg/Kg		80	70 - 130	12	35
o-Xylene			0.100	0.08755		mg/Kg		88	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-14580-A-4-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 25224 — **Prep Batch: 25266**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.07959		mg/Kg		80	70 - 130
Toluene	<0.00201	U	0.0998	0.07831		mg/Kg		78	70 - 130
Ethylbenzene	<0.00201	U	0.0998	0.08032		mg/Kg		80	70 - 130
m,p-Xylenes	<0.00402	U	0.200	0.1674		mg/Kg		84	70 - 130
o-Xylene	<0.00201	U	0.0998	0.09136		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-14580-A-4-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 25224 — **Prep Batch: 25266**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.08680		mg/Kg		87	70 - 130	9	35
Toluene	<0.00201	U	0.100	0.08529		mg/Kg		85	70 - 130	9	35
Ethylbenzene	<0.00201	U	0.100	0.08679		mg/Kg		87	70 - 130	8	35
m,p-Xylenes	<0.00402	U	0.200	0.1811		mg/Kg		90	70 - 130	8	35
o-Xylene	<0.00201	U	0.100	0.09802		mg/Kg		98	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-25270/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 25229 — **Prep Batch: 25270**

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		05/10/22 11:04	05/10/22 11:21	1

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

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

Lab Sample ID: MB 880-25270/1-A
Matrix: Solid
Analysis Batch: 25229

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25270

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/10/22 11:04	05/10/22 11:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/10/22 11:04	05/10/22 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*88*		*70 - 130*	*05/10/22 11:04*	*05/10/22 11:21*	*1*
o-Terphenyl (Surr)	*99*		*70 - 130*	*05/10/22 11:04*	*05/10/22 11:21*	*1*

Lab Sample ID: LCS 880-25270/2-A
Matrix: Solid
Analysis Batch: 25229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25270

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	871.9		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	978.6		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*102*		*70 - 130*
o-Terphenyl (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-25270/3-A
Matrix: Solid
Analysis Batch: 25229

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 25270

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	814.5		mg/Kg		81	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	987.6		mg/Kg		99	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*103*		*70 - 130*
o-Terphenyl (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-14580-A-1-F MS
Matrix: Solid
Analysis Batch: 25229

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 25270

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1003		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)	81.9	F1	1000	747.7	F1	mg/Kg		67	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*81*		*70 - 130*
o-Terphenyl (Surr)	*73*		*70 - 130*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

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

Lab Sample ID: 880-14580-A-1-G MSD
Matrix: Solid
Analysis Batch: 25229

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 25270

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	998	1026		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	81.9	F1	998	761.4	F1	mg/Kg		68	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*82*		*70 - 130*
o-Terphenyl (Surr)	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-25241/1-A
Matrix: Solid
Analysis Batch: 25278

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			05/10/22 16:07	1

Lab Sample ID: LCS 880-25241/2-A
Matrix: Solid
Analysis Batch: 25278

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	257.0		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-25241/3-A
Matrix: Solid
Analysis Batch: 25278

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	254.6		mg/Kg		102	90 - 110	1	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

GC VOA

Prep Batch: 25110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-25110/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 25224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-9	HA-2 (9-10)	Total/NA	Soil	8021B	25266
MB 880-25110/5-A	Method Blank	Total/NA	Solid	8021B	25110
MB 880-25266/5-A	Method Blank	Total/NA	Solid	8021B	25266
LCS 880-25266/1-A	Lab Control Sample	Total/NA	Solid	8021B	25266
LCSD 880-25266/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	25266
880-14580-A-4-B MS	Matrix Spike	Total/NA	Solid	8021B	25266
880-14580-A-4-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	25266

Prep Batch: 25266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-9	HA-2 (9-10)	Total/NA	Soil	5035	
MB 880-25266/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-25266/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-25266/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-14580-A-4-B MS	Matrix Spike	Total/NA	Solid	5035	
880-14580-A-4-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 25302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-9	HA-2 (9-10)	Total/NA	Soil	Total BTEX	

GC Semi VOA

Analysis Batch: 25229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-1	HA-2 (0-0.5)	Total/NA	Soil	8015B NM	25270
820-4212-2	HA-2 (1-2)	Total/NA	Soil	8015B NM	25270
820-4212-3	HA-2 (3-4)	Total/NA	Soil	8015B NM	25270
820-4212-4	HA-2 (4-5)	Total/NA	Soil	8015B NM	25270
820-4212-5	HA-2 (5-6)	Total/NA	Soil	8015B NM	25270
820-4212-6	HA-2 (6-7)	Total/NA	Soil	8015B NM	25270
820-4212-7	HA-2 (7-8)	Total/NA	Soil	8015B NM	25270
820-4212-8	HA-2 (8-9)	Total/NA	Soil	8015B NM	25270
820-4212-9	HA-2 (9-10)	Total/NA	Soil	8015B NM	25270
MB 880-25270/1-A	Method Blank	Total/NA	Solid	8015B NM	25270
LCS 880-25270/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	25270
LCSD 880-25270/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	25270
880-14580-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	25270
880-14580-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	25270

Prep Batch: 25270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-1	HA-2 (0-0.5)	Total/NA	Soil	8015NM Prep	
820-4212-2	HA-2 (1-2)	Total/NA	Soil	8015NM Prep	
820-4212-3	HA-2 (3-4)	Total/NA	Soil	8015NM Prep	
820-4212-4	HA-2 (4-5)	Total/NA	Soil	8015NM Prep	
820-4212-5	HA-2 (5-6)	Total/NA	Soil	8015NM Prep	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

GC Semi VOA (Continued)

Prep Batch: 25270 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-6	HA-2 (6-7)	Total/NA	Soil	8015NM Prep	
820-4212-7	HA-2 (7-8)	Total/NA	Soil	8015NM Prep	
820-4212-8	HA-2 (8-9)	Total/NA	Soil	8015NM Prep	
820-4212-9	HA-2 (9-10)	Total/NA	Soil	8015NM Prep	
MB 880-25270/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-25270/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-25270/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-14580-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-14580-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 25356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-1	HA-2 (0-0.5)	Total/NA	Soil	8015 NM	
820-4212-2	HA-2 (1-2)	Total/NA	Soil	8015 NM	
820-4212-3	HA-2 (3-4)	Total/NA	Soil	8015 NM	
820-4212-4	HA-2 (4-5)	Total/NA	Soil	8015 NM	
820-4212-5	HA-2 (5-6)	Total/NA	Soil	8015 NM	
820-4212-6	HA-2 (6-7)	Total/NA	Soil	8015 NM	
820-4212-7	HA-2 (7-8)	Total/NA	Soil	8015 NM	
820-4212-8	HA-2 (8-9)	Total/NA	Soil	8015 NM	
820-4212-9	HA-2 (9-10)	Total/NA	Soil	8015 NM	

HPLC/IC

Leach Batch: 25241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-9	HA-2 (9-10)	Soluble	Soil	DI Leach	
MB 880-25241/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-25241/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-25241/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 25278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4212-9	HA-2 (9-10)	Soluble	Soil	300.0	25241
MB 880-25241/1-A	Method Blank	Soluble	Solid	300.0	25241
LCS 880-25241/2-A	Lab Control Sample	Soluble	Solid	300.0	25241
LCSD 880-25241/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	25241

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Client Sample ID: HA-2 (0-0.5)
Date Collected: 05/05/22 15:15
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-1
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		10			25229	05/10/22 14:36	SM	XEN MID

Client Sample ID: HA-2 (1-2)
Date Collected: 05/05/22 15:20
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-2
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		5			25229	05/10/22 14:58	SM	XEN MID

Client Sample ID: HA-2 (3-4)
Date Collected: 05/05/22 15:25
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-3
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		5			25229	05/10/22 15:19	SM	XEN MID

Client Sample ID: HA-2 (4-5)
Date Collected: 05/05/22 15:30
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-4
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25229	05/10/22 16:34	SM	XEN MID

Client Sample ID: HA-2 (5-6)
Date Collected: 05/05/22 15:35
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-5
Matrix: Soil

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			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		5			25229	05/10/22 16:13	SM	XEN MID

Client Sample ID: HA-2 (6-7)
Date Collected: 05/05/22 15:40
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-6
Matrix: Soil

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			25356	05/11/22 13:40	SM	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Client Sample ID: HA-2 (6-7)
Date Collected: 05/05/22 15:40
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-6
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	8015NM Prep			10.02 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25229	05/10/22 16:55	SM	XEN MID

Client Sample ID: HA-2 (7-8)
Date Collected: 05/05/22 15:45
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-7
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25229	05/10/22 18:00	SM	XEN MID

Client Sample ID: HA-2 (8-9)
Date Collected: 05/05/22 15:50
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-8
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25229	05/10/22 18:22	SM	XEN MID

Client Sample ID: HA-2 (9-10)
Date Collected: 05/05/22 15:55
Date Received: 05/09/22 17:00

Lab Sample ID: 820-4212-9
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			5.02 g	5 mL	25266	05/10/22 10:52	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	25224	05/11/22 05:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			25302	05/11/22 08:13	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			25356	05/11/22 13:40	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	25270	05/10/22 11:04	DM	XEN MID
Total/NA	Analysis	8015B NM		1			25229	05/10/22 17:39	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	25241	05/10/22 10:39	SC	XEN MID
Soluble	Analysis	300.0		1			25278	05/10/22 17:30	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

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	T104704400-21-22	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
Total BTEX		Soil	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

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

Protocol References:

ASTM = ASTM International

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4212-1
SDG: AR227085

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
820-4212-1	HA-2 (0-0.5)	Soil	05/05/22 15:15	05/09/22 17:00	0 - 0.5'
820-4212-2	HA-2 (1-2)	Soil	05/05/22 15:20	05/09/22 17:00	1' - 2'
820-4212-3	HA-2 (3-4)	Soil	05/05/22 15:25	05/09/22 17:00	3' - 4'
820-4212-4	HA-2 (4-5)	Soil	05/05/22 15:30	05/09/22 17:00	4' - 5'
820-4212-5	HA-2 (5-6)	Soil	05/05/22 15:35	05/09/22 17:00	5' - 6'
820-4212-6	HA-2 (6-7)	Soil	05/05/22 15:40	05/09/22 17:00	6' - 7'
820-4212-7	HA-2 (7-8)	Soil	05/05/22 15:45	05/09/22 17:00	7' - 8'
820-4212-8	HA-2 (8-9)	Soil	05/05/22 15:50	05/09/22 17:00	8' - 9'
820-4212-9	HA-2 (9-10)	Soil	05/05/22 15:55	05/09/22 17:00	9' - 10'

Loc: 820
4212

4212

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: J. Guesnier
SRS #:
Sampler's Name: J. Guesnier
Sampler's Signature

Project Number: AR227085
Project Name: Marshall APH Battery

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): IR-4 -1.7/-1.5

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 4 oz Glass	2 oz Glass	250 ml Poly	5035 kit	TPH Extended 8015	Chloride (EPA Method 300)	BTEX (EPA Method 8021B)	Lab Sample ID
S	5/5/2022	15:15		X	HA-2 (0-0.5)	0	0.5'	X				X			
S	5/5/2022	15:20		X	HA-2 (1-2)	1'	2'	X				X			
S	5/5/2022	15:25		X	HA-2 (3-4)	3'	4'	X				X			
S	5/5/2022	15:30		X	HA-2 (4-5)	4'	5'	X				X			
S	5/5/2022	15:35		X	HA-2 (5-6)	5'	6'	X				X			
S	5/5/2022	15:40		X	HA-2 (6-7)	6'	7'	X				X			
S	5/5/2022	15:45		X	HA-2 (7-8)	7'	8'	X				X			
S	5/5/2022	15:50		X	HA-2 (8-9)	8'	9'	X				X			
S	5/5/2022	15:55		X	HA-2 (9-10)	9'	10'	X				X	X	X	

820-4212 Chain of Custody

TURNAROUND TIME ☐ Normal ☑ 48-Hour Rush ☐ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
	5.6.22	5:00	Holly Taylor	5/6/22	1700

NOTES: Client:

e-mail results to:
joseph.guesnier@terraconc.com
erin.loyd@terracon.com
brady.thornton@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 _____

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4212-1
SDG Number: AR227085

Login Number: 4212
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	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4212-1
SDG Number: AR227085

Login Number: 4212
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 05/10/22 10:37 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?	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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ANALYTICAL REPORT

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

Laboratory Job ID: 820-4502-1
Laboratory Sample Delivery Group: AR227085
Client Project/Site: Marshall APH Battery
Revision: 1

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

Attn: Joseph Guesnier

JKramer

Authorized for release by:
6/14/2022 8:40:57 AM

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

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.

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).

JKramer

Jessica Kramer
Project Manager
6/14/2022 8:40:57 AM

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Laboratory Job ID: 820-4502-1
SDG: AR227085

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low 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
F1	MS and/or MSD recovery 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.
¤	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: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Job ID: 820-4502-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-4502-1

REVISION

The report being provided is a revision of the original report sent on 6/13/2022. The report (revision 1) is being revised due to Per client email, requesting sample ID change N to NW.

Report revision history

Receipt
The samples were received on 6/7/2022 9:30 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 6.0°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-27132 and analytical batch 880-27214 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.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-27175 and analytical batch 880-27311 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: WW

Date Collected: 06/06/22 15:30
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-1
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0106**	**F1**	0.00199		mg/Kg		06/09/22 08:48	06/09/22 19:39	1
Toluene	**0.128**	**F1**	0.00199		mg/Kg		06/09/22 08:48	06/09/22 19:39	1
Ethylbenzene	**0.0492**	**F1 F2**	0.00199		mg/Kg		06/09/22 08:48	06/09/22 19:39	1
m,p-Xylenes	**0.0374**	**F1 F2**	0.00398		mg/Kg		06/09/22 08:48	06/09/22 19:39	1
o-Xylene	**0.0117**	**F1 F2**	0.00199		mg/Kg		06/09/22 08:48	06/09/22 19:39	1
Xylenes, Total	**0.0491**	**F1 F2**	0.00398		mg/Kg		06/09/22 08:48	06/09/22 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*06/09/22 08:48*	*06/09/22 19:39*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*06/09/22 08:48*	*06/09/22 19:39*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.237**		0.00398		mg/Kg			06/10/22 11:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1040**		50.0		mg/Kg			06/10/22 08:41	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		06/08/22 17:20	06/10/22 04:35	1
Diesel Range Organics (Over C10-C28)	**1040**		50.0		mg/Kg		06/08/22 17:20	06/10/22 04:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/10/22 04:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*115*		*70 - 130*	*06/08/22 17:20*	*06/10/22 04:35*	*1*
o-Terphenyl (Surr)	*114*		*70 - 130*	*06/08/22 17:20*	*06/10/22 04:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5750**	**F1**	50.0		mg/Kg			06/10/22 20:11	10

Client Sample ID: NWW

Date Collected: 06/06/22 15:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-2
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 20:06	1
Toluene	**0.0343**		0.00198		mg/Kg		06/09/22 08:48	06/09/22 20:06	1
Ethylbenzene	**0.0178**		0.00198		mg/Kg		06/09/22 08:48	06/09/22 20:06	1
m,p-Xylenes	**0.0179**		0.00397		mg/Kg		06/09/22 08:48	06/09/22 20:06	1
o-Xylene	**0.0125**		0.00198		mg/Kg		06/09/22 08:48	06/09/22 20:06	1
Xylenes, Total	**0.0304**		0.00397		mg/Kg		06/09/22 08:48	06/09/22 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*06/09/22 08:48*	*06/09/22 20:06*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*06/09/22 08:48*	*06/09/22 20:06*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: NWW
Date Collected: 06/06/22 15:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-2
Matrix: Soil

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0825**		0.00397		mg/Kg			06/10/22 11:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**114**		49.9		mg/Kg			06/10/22 08:41	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	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 05:18	1
Diesel Range Organics (Over C10-C28)	**114**		49.9		mg/Kg		06/08/22 17:20	06/10/22 05:18	1
OIl Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 05:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*122*		*70 - 130*	*06/08/22 17:20*	*06/10/22 05:18*	*1*
o-Terphenyl (Surr)	*126*		*70 - 130*	*06/08/22 17:20*	*06/10/22 05:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**718**		5.05		mg/Kg			06/10/22 20:38	1

Client Sample ID: SWW
Date Collected: 06/06/22 15:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-3
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0559**		0.00199		mg/Kg		06/09/22 08:48	06/09/22 20:33	1
Toluene	**0.303**		0.00199		mg/Kg		06/09/22 08:48	06/09/22 20:33	1
Ethylbenzene	**0.0750**		0.00199		mg/Kg		06/09/22 08:48	06/09/22 20:33	1
m,p-Xylenes	**0.0608**		0.00398		mg/Kg		06/09/22 08:48	06/09/22 20:33	1
o-Xylene	**0.0157**		0.00199		mg/Kg		06/09/22 08:48	06/09/22 20:33	1
Xylenes, Total	**0.0765**		0.00398		mg/Kg		06/09/22 08:48	06/09/22 20:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*06/09/22 08:48*	*06/09/22 20:33*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*06/09/22 08:48*	*06/09/22 20:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.510**		0.00398		mg/Kg			06/10/22 11:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4880**		250		mg/Kg			06/10/22 08:41	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	<250	U	250		mg/Kg		06/08/22 17:20	06/10/22 04:13	5
Diesel Range Organics (Over C10-C28)	**4880**		250		mg/Kg		06/08/22 17:20	06/10/22 04:13	5

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: SWW
Date Collected: 06/06/22 15:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-3
Matrix: Soil

Method: 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)	<250	U	250		mg/Kg		06/08/22 17:20	06/10/22 04:13	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*116*		*70 - 130*	*06/08/22 17:20*	*06/10/22 04:13*	*5*
o-Terphenyl (Surr)	*95*		*70 - 130*	*06/08/22 17:20*	*06/10/22 04:13*	*5*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6680**		49.5		mg/Kg			06/10/22 20:47	10

Client Sample ID: F-1
Date Collected: 06/06/22 15:45
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-4
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00942**		0.00200		mg/Kg		06/09/22 08:48	06/09/22 21:00	1
Toluene	**0.0804**		0.00200		mg/Kg		06/09/22 08:48	06/09/22 21:00	1
Ethylbenzene	**0.0276**		0.00200		mg/Kg		06/09/22 08:48	06/09/22 21:00	1
m,p-Xylenes	**0.0203**		0.00400		mg/Kg		06/09/22 08:48	06/09/22 21:00	1
o-Xylene	**0.0258**		0.00200		mg/Kg		06/09/22 08:48	06/09/22 21:00	1
Xylenes, Total	**0.0461**		0.00400		mg/Kg		06/09/22 08:48	06/09/22 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*06/09/22 08:48*	*06/09/22 21:00*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/09/22 08:48*	*06/09/22 21:00*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.164**		0.00400		mg/Kg			06/10/22 11:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**465**		49.9		mg/Kg			06/10/22 08:41	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	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 04:57	1
Diesel Range Organics (Over C10-C28)	**465**		49.9		mg/Kg		06/08/22 17:20	06/10/22 04:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*131*	*S1+*	*70 - 130*	*06/08/22 17:20*	*06/10/22 04:57*	*1*
o-Terphenyl (Surr)	*133*	*S1+*	*70 - 130*	*06/08/22 17:20*	*06/10/22 04:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3360**		24.9		mg/Kg			06/10/22 20:57	5

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: NW

Date Collected: 06/06/22 16:30
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-5
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/09/22 08:48	06/09/22 21:27	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/09/22 08:48	06/09/22 21:27	1
Ethylbenzene	**0.00873**		0.00201		mg/Kg		06/09/22 08:48	06/09/22 21:27	1
m,p-Xylenes	**0.0207**		0.00402		mg/Kg		06/09/22 08:48	06/09/22 21:27	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/09/22 08:48	06/09/22 21:27	1
Xylenes, Total	**0.0207**		0.00402		mg/Kg		06/09/22 08:48	06/09/22 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*06/09/22 08:48*	*06/09/22 21:27*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*06/09/22 08:48*	*06/09/22 21:27*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0294**		0.00402		mg/Kg			06/10/22 11:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**234**		49.9		mg/Kg			06/10/22 08:41	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	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 00:14	1
Diesel Range Organics (Over C10-C28)	**234**		49.9		mg/Kg		06/08/22 17:20	06/10/22 00:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*97*		*70 - 130*	*06/08/22 17:20*	*06/10/22 00:14*	*1*
o-Terphenyl (Surr)	*102*		*70 - 130*	*06/08/22 17:20*	*06/10/22 00:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**553**		4.97		mg/Kg			06/10/22 21:06	1

Client Sample ID: F-2

Date Collected: 06/06/22 16:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-6
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/22 08:48	06/09/22 21:54	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/22 08:48	06/09/22 21:54	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/22 08:48	06/09/22 21:54	1
m,p-Xylenes	<0.00398	U	0.00398		mg/Kg		06/09/22 08:48	06/09/22 21:54	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/22 08:48	06/09/22 21:54	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/22 08:48	06/09/22 21:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*06/09/22 08:48*	*06/09/22 21:54*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/09/22 08:48*	*06/09/22 21:54*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: F-2
Date Collected: 06/06/22 16:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-6
Matrix: Soil

Method: 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			06/10/22 11:39	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			06/10/22 08:41	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		06/08/22 17:20	06/10/22 00:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/10/22 00:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/10/22 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*101*		*70 - 130*	*06/08/22 17:20*	*06/10/22 00:36*	*1*
o-Terphenyl (Surr)	*111*		*70 - 130*	*06/08/22 17:20*	*06/10/22 00:36*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1600**		25.0		mg/Kg			06/10/22 21:34	5

Client Sample ID: SW
Date Collected: 06/06/22 16:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-7
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/09/22 08:48	06/09/22 22:21	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/09/22 08:48	06/09/22 22:21	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/09/22 08:48	06/09/22 22:21	1
m,p-Xylenes	<0.00404	U	0.00404		mg/Kg		06/09/22 08:48	06/09/22 22:21	1
o-Xylene	**0.00428**		0.00202		mg/Kg		06/09/22 08:48	06/09/22 22:21	1
Xylenes, Total	**0.00428**		0.00404		mg/Kg		06/09/22 08:48	06/09/22 22:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*06/09/22 08:48*	*06/09/22 22:21*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*06/09/22 08:48*	*06/09/22 22:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00428**		0.00404		mg/Kg			06/10/22 11:39	1

Method: 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			06/10/22 08:41	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	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 00:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 00:58	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: SW

Date Collected: 06/06/22 16:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-7
Matrix: Soil

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 00:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*108*		*70 - 130*	*06/08/22 17:20*	*06/10/22 00:58*	*1*
o-Terphenyl (Surr)	*114*		*70 - 130*	*06/08/22 17:20*	*06/10/22 00:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**817**		5.05		mg/Kg			06/10/22 21:43	1

Client Sample ID: SEW-1

Date Collected: 06/06/22 17:30
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-8
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/09/22 08:48	06/09/22 22:48	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/09/22 08:48	06/09/22 22:48	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/09/22 08:48	06/09/22 22:48	1
m,p-Xylenes	<0.00402	U	0.00402		mg/Kg		06/09/22 08:48	06/09/22 22:48	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/09/22 08:48	06/09/22 22:48	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/09/22 08:48	06/09/22 22:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*06/09/22 08:48*	*06/09/22 22:48*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*06/09/22 08:48*	*06/09/22 22:48*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/10/22 11:39	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			06/10/22 08:41	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		06/08/22 17:20	06/10/22 01:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/10/22 01:19	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/10/22 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*122*		*70 - 130*	*06/08/22 17:20*	*06/10/22 01:19*	*1*
o-Terphenyl (Surr)	*133*	*S1+*	*70 - 130*	*06/08/22 17:20*	*06/10/22 01:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		4.98		mg/Kg			06/10/22 21:52	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: SEW-2
Date Collected: 06/06/22 17:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-9
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:15	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:15	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:15	1
m,p-Xylenes	<0.00397	U	0.00397		mg/Kg		06/09/22 08:48	06/09/22 23:15	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:15	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		06/09/22 08:48	06/09/22 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*06/09/22 08:48*	*06/09/22 23:15*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*06/09/22 08:48*	*06/09/22 23:15*	*1*

Method: 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			06/10/22 11:39	1

Method: 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			06/10/22 08:41	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	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 01:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 01:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 01:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*124*		*70 - 130*	*06/08/22 17:20*	*06/10/22 01:41*	*1*
o-Terphenyl (Surr)	*133*	*S1+*	*70 - 130*	*06/08/22 17:20*	*06/10/22 01:41*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**415**		4.95		mg/Kg			06/10/22 22:01	1

Client Sample ID: EW
Date Collected: 06/06/22 17:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-10
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:43	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:43	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:43	1
m,p-Xylenes	<0.00396	U	0.00396		mg/Kg		06/09/22 08:48	06/09/22 23:43	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/09/22 08:48	06/09/22 23:43	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		06/09/22 08:48	06/09/22 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*06/09/22 08:48*	*06/09/22 23:43*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*06/09/22 08:48*	*06/09/22 23:43*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: EW
Date Collected: 06/06/22 17:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-10
Matrix: Soil

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			06/10/22 11:39	1

Method: 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			06/10/22 08:41	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	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 02:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 02:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*117*		*70 - 130*	*06/08/22 17:20*	*06/10/22 02:25*	*1*
o-Terphenyl (Surr)	*127*		*70 - 130*	*06/08/22 17:20*	*06/10/22 02:25*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15.9**		5.04		mg/Kg			06/10/22 22:11	1

Client Sample ID: NEW
Date Collected: 06/06/22 17:45
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-11
Matrix: Soil

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/10/22 01:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/10/22 01:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/10/22 01:32	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		06/09/22 08:48	06/10/22 01:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/10/22 01:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/22 08:48	06/10/22 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*06/09/22 08:48*	*06/10/22 01:32*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*06/09/22 08:48*	*06/10/22 01:32*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			06/10/22 11:39	1

Method: 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			06/10/22 08:41	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	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 02:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 02:47	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: NEW

Lab Sample ID: 820-4502-11
Matrix: Soil
Date Collected: 06/06/22 17:45
Date Received: 06/07/22 09:30

Method: 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)	<49.9	U	49.9		mg/Kg		06/08/22 17:20	06/10/22 02:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*107*		*70 - 130*	*06/08/22 17:20*	*06/10/22 02:47*	*1*
o-Terphenyl (Surr)	*115*		*70 - 130*	*06/08/22 17:20*	*06/10/22 02:47*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.5**		4.97		mg/Kg			06/10/22 22:20	1

Client Sample ID: F-3

Lab Sample ID: 820-4502-12
Matrix: Soil
Date Collected: 06/06/22 17:50
Date Received: 06/07/22 09:30

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/09/22 08:48	06/10/22 01:59	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/09/22 08:48	06/10/22 01:59	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/09/22 08:48	06/10/22 01:59	1
m,p-Xylenes	<0.00403	U	0.00403		mg/Kg		06/09/22 08:48	06/10/22 01:59	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/09/22 08:48	06/10/22 01:59	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		06/09/22 08:48	06/10/22 01:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*06/09/22 08:48*	*06/10/22 01:59*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*06/09/22 08:48*	*06/10/22 01:59*	*1*

Method: 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			06/10/22 11:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1890**		50.0		mg/Kg			06/10/22 08:41	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	**646**		50.0		mg/Kg		06/08/22 17:20	06/10/22 05:40	1
Diesel Range Organics (Over C10-C28)	**1240**		50.0		mg/Kg		06/08/22 17:20	06/10/22 05:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/10/22 05:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*125*		*70 - 130*	*06/08/22 17:20*	*06/10/22 05:40*	*1*
o-Terphenyl (Surr)	*123*		*70 - 130*	*06/08/22 17:20*	*06/10/22 05:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1970**		25.0		mg/Kg			06/10/22 22:48	5

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Soil **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
820-4502-1	WW	110	104
820-4502-1 MS	WW	118	99
820-4502-1 MSD	WW	111	98
820-4502-2	NWW	115	103
820-4502-3	SWW	106	101
820-4502-4	F-1	111	99
820-4502-5	NW	112	100
820-4502-6	F-2	118	99
820-4502-7	SW	107	101
820-4502-8	SEW-1	114	100
820-4502-9	SEW-2	116	104
820-4502-10	EW	113	104
820-4502-11	NEW	111	101
820-4502-12	F-3	111	102

Surrogate Legend

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

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
LCS 880-27132/1-A	Lab Control Sample	108	105
LCSD 880-27132/2-A	Lab Control Sample Dup	105	100
MB 880-27132/5-A	Method Blank	82	0.04 S1-

Surrogate Legend

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

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

Matrix: Soil **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
820-4502-1	WW	115	114
820-4502-2	NWW	122	126
820-4502-3	SWW	116	95
820-4502-4	F-1	131 S1+	133 S1+
820-4502-5	NW	97	102
820-4502-6	F-2	101	111
820-4502-7	SW	108	114
820-4502-8	SEW-1	122	133 S1+
820-4502-9	SEW-2	124	133 S1+
820-4502-10	EW	117	127
820-4502-11	NEW	107	115
820-4502-12	F-3	125	123

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

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 (70-130)	OTPH1 (70-130)
890-2381-A-1-G MS	Matrix Spike	92	89
890-2381-A-1-H MSD	Matrix Spike Duplicate	104	102
LCS 880-27116/2-A	Lab Control Sample	98	100
LCSD 880-27116/3-A	Lab Control Sample Dup	114	118
MB 880-27116/1-A	Method Blank	94	99

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-27132/5-A
Matrix: Solid
Analysis Batch: 27214

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/09/22 19:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/09/22 19:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/09/22 19:11	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		06/09/22 08:48	06/09/22 19:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/22 08:48	06/09/22 19:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/22 08:48	06/09/22 19:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*06/09/22 08:48*	*06/09/22 19:11*	*1*
1,4-Difluorobenzene (Surr)	*0.04*	*S1-*	*70 - 130*	*06/09/22 08:48*	*06/09/22 19:11*	*1*

Lab Sample ID: LCS 880-27132/1-A
Matrix: Solid
Analysis Batch: 27214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27132

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1042		mg/Kg		104	70 - 130		
Toluene			0.100	0.09949		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.1045		mg/Kg		105	70 - 130		
m,p-Xylenes			0.200	0.2047		mg/Kg		102	70 - 130		
o-Xylene			0.100	0.1020		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-27132/2-A
Matrix: Solid
Analysis Batch: 27214

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27132

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09115		mg/Kg		91	70 - 130	13	35
Toluene			0.100	0.08991		mg/Kg		90	70 - 130	10	35
Ethylbenzene			0.100	0.09402		mg/Kg		94	70 - 130	11	35
m,p-Xylenes			0.200	0.1843		mg/Kg		92	70 - 130	10	35
o-Xylene			0.100	0.09340		mg/Kg		93	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 820-4502-1 MS
Matrix: Soil
Analysis Batch: 27214

Client Sample ID: WW
Prep Type: Total/NA
Prep Batch: 27132

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.0106	F1	0.100	0.07745	F1	mg/Kg		67	70 - 130		
Toluene	0.128	F1	0.100	0.1508	F1	mg/Kg		23	70 - 130		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

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

Lab Sample ID: 820-4502-1 MS
Matrix: Soil
Analysis Batch: 27214

Client Sample ID: WW
Prep Type: Total/NA
Prep Batch: 27132

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.0492	F1 F2	0.100	0.06368	F1	mg/Kg		14	70 - 130
m,p-Xylenes	0.0374	F1 F2	0.201	0.06816	F1	mg/Kg		15	70 - 130
o-Xylene	0.0117	F1 F2	0.100	0.02815	F1	mg/Kg		16	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 820-4502-1 MSD
Matrix: Soil
Analysis Batch: 27214

Client Sample ID: WW
Prep Type: Total/NA
Prep Batch: 27132

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0106	F1	0.100	0.08645		mg/Kg		76	70 - 130	11	35
Toluene	0.128	F1	0.100	0.1647	F1	mg/Kg		37	70 - 130	9	35
Ethylbenzene	0.0492	F1 F2	0.100	0.09862	F1 F2	mg/Kg		49	70 - 130	43	35
m,p-Xylenes	0.0374	F1 F2	0.200	0.1447	F1 F2	mg/Kg		54	70 - 130	72	35
o-Xylene	0.0117	F1 F2	0.100	0.07040	F1 F2	mg/Kg		59	70 - 130	86	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-27116/1-A
Matrix: Solid
Analysis Batch: 27125

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27116

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		06/08/22 17:20	06/09/22 20:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/09/22 20:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/08/22 17:20	06/09/22 20:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*94*		*70 - 130*	*06/08/22 17:20*	*06/09/22 20:34*	*1*
o-Terphenyl (Surr)	*99*		*70 - 130*	*06/08/22 17:20*	*06/09/22 20:34*	*1*

Lab Sample ID: LCS 880-27116/2-A
Matrix: Solid
Analysis Batch: 27125

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1165		mg/Kg		116	70 - 130
Diesel Range Organics (Over C10-C28)	1000	851.9		mg/Kg		85	70 - 130

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

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

Lab Sample ID: LCS 880-27116/2-A
Matrix: Solid
Analysis Batch: 27125

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27116

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	98		70 - 130
o-Terphenyl (Surr)	100		70 - 130

Lab Sample ID: LCSD 880-27116/3-A
Matrix: Solid
Analysis Batch: 27125

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27116

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1006		mg/Kg		101	70 - 130	15	20
Diesel Range Organics (Over C10-C28)			1000	987.1		mg/Kg		99	70 - 130	15	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	114		70 - 130
o-Terphenyl (Surr)	118		70 - 130

Lab Sample ID: 890-2381-A-1-G MS
Matrix: Solid
Analysis Batch: 27125

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	995.7		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	998.3		mg/Kg		100	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	92		70 - 130
o-Terphenyl (Surr)	89		70 - 130

Lab Sample ID: 890-2381-A-1-H MSD
Matrix: Solid
Analysis Batch: 27125

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27116

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	<49.9	U	1000	1142		mg/Kg		113	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	1158		mg/Kg		116	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane (Surr)	104		70 - 130
o-Terphenyl (Surr)	102		70 - 130

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-27175/1-A
Matrix: Solid
Analysis Batch: 27311

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			06/10/22 19:43	1

Lab Sample ID: LCS 880-27175/2-A
Matrix: Solid
Analysis Batch: 27311

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.1		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-27175/3-A
Matrix: Solid
Analysis Batch: 27311

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	260.4		mg/Kg		104	90 - 110	2	20

Lab Sample ID: 820-4502-1 MS
Matrix: Soil
Analysis Batch: 27311

Client Sample ID: WW
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	5750	F1	2500	8667	F1	mg/Kg		117	90 - 110		

Lab Sample ID: 820-4502-1 MSD
Matrix: Soil
Analysis Batch: 27311

Client Sample ID: WW
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5750	F1	2500	8706	F1	mg/Kg		118	90 - 110	0	20

Lab Sample ID: 820-4502-11 MS
Matrix: Soil
Analysis Batch: 27311

Client Sample ID: NEW
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	78.5		249	325.5		mg/Kg		99	90 - 110		

Lab Sample ID: 820-4502-11 MSD
Matrix: Soil
Analysis Batch: 27311

Client Sample ID: NEW
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	78.5		249	318.7		mg/Kg		97	90 - 110	2	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

GC VOA

Prep Batch: 27132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Total/NA	Soil	5035	
820-4502-2	NWW	Total/NA	Soil	5035	
820-4502-3	SWW	Total/NA	Soil	5035	
820-4502-4	F-1	Total/NA	Soil	5035	
820-4502-5	NW	Total/NA	Soil	5035	
820-4502-6	F-2	Total/NA	Soil	5035	
820-4502-7	SW	Total/NA	Soil	5035	
820-4502-8	SEW-1	Total/NA	Soil	5035	
820-4502-9	SEW-2	Total/NA	Soil	5035	
820-4502-10	EW	Total/NA	Soil	5035	
820-4502-11	NEW	Total/NA	Soil	5035	
820-4502-12	F-3	Total/NA	Soil	5035	
MB 880-27132/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27132/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27132/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-4502-1 MS	WW	Total/NA	Soil	5035	
820-4502-1 MSD	WW	Total/NA	Soil	5035	

Analysis Batch: 27214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Total/NA	Soil	8021B	27132
820-4502-2	NWW	Total/NA	Soil	8021B	27132
820-4502-3	SWW	Total/NA	Soil	8021B	27132
820-4502-4	F-1	Total/NA	Soil	8021B	27132
820-4502-5	NW	Total/NA	Soil	8021B	27132
820-4502-6	F-2	Total/NA	Soil	8021B	27132
820-4502-7	SW	Total/NA	Soil	8021B	27132
820-4502-8	SEW-1	Total/NA	Soil	8021B	27132
820-4502-9	SEW-2	Total/NA	Soil	8021B	27132
820-4502-10	EW	Total/NA	Soil	8021B	27132
820-4502-11	NEW	Total/NA	Soil	8021B	27132
820-4502-12	F-3	Total/NA	Soil	8021B	27132
MB 880-27132/5-A	Method Blank	Total/NA	Solid	8021B	27132
LCS 880-27132/1-A	Lab Control Sample	Total/NA	Solid	8021B	27132
LCSD 880-27132/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27132
820-4502-1 MS	WW	Total/NA	Soil	8021B	27132
820-4502-1 MSD	WW	Total/NA	Soil	8021B	27132

Analysis Batch: 27301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Total/NA	Soil	Total BTEX	
820-4502-2	NWW	Total/NA	Soil	Total BTEX	
820-4502-3	SWW	Total/NA	Soil	Total BTEX	
820-4502-4	F-1	Total/NA	Soil	Total BTEX	
820-4502-5	NW	Total/NA	Soil	Total BTEX	
820-4502-6	F-2	Total/NA	Soil	Total BTEX	
820-4502-7	SW	Total/NA	Soil	Total BTEX	
820-4502-8	SEW-1	Total/NA	Soil	Total BTEX	
820-4502-9	SEW-2	Total/NA	Soil	Total BTEX	
820-4502-10	EW	Total/NA	Soil	Total BTEX	
820-4502-11	NEW	Total/NA	Soil	Total BTEX	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

GC VOA (Continued)

Analysis Batch: 27301 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-12	F-3	Total/NA	Soil	Total BTEX	

GC Semi VOA

Prep Batch: 27116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Total/NA	Soil	8015NM Prep	
820-4502-2	NWW	Total/NA	Soil	8015NM Prep	
820-4502-3	SWW	Total/NA	Soil	8015NM Prep	
820-4502-4	F-1	Total/NA	Soil	8015NM Prep	
820-4502-5	NW	Total/NA	Soil	8015NM Prep	
820-4502-6	F-2	Total/NA	Soil	8015NM Prep	
820-4502-7	SW	Total/NA	Soil	8015NM Prep	
820-4502-8	SEW-1	Total/NA	Soil	8015NM Prep	
820-4502-9	SEW-2	Total/NA	Soil	8015NM Prep	
820-4502-10	EW	Total/NA	Soil	8015NM Prep	
820-4502-11	NEW	Total/NA	Soil	8015NM Prep	
820-4502-12	F-3	Total/NA	Soil	8015NM Prep	
MB 880-27116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-27116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-27116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2381-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2381-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 27125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Total/NA	Soil	8015B NM	27116
820-4502-2	NWW	Total/NA	Soil	8015B NM	27116
820-4502-3	SWW	Total/NA	Soil	8015B NM	27116
820-4502-4	F-1	Total/NA	Soil	8015B NM	27116
820-4502-5	NW	Total/NA	Soil	8015B NM	27116
820-4502-6	F-2	Total/NA	Soil	8015B NM	27116
820-4502-7	SW	Total/NA	Soil	8015B NM	27116
820-4502-8	SEW-1	Total/NA	Soil	8015B NM	27116
820-4502-9	SEW-2	Total/NA	Soil	8015B NM	27116
820-4502-10	EW	Total/NA	Soil	8015B NM	27116
820-4502-11	NEW	Total/NA	Soil	8015B NM	27116
820-4502-12	F-3	Total/NA	Soil	8015B NM	27116
MB 880-27116/1-A	Method Blank	Total/NA	Solid	8015B NM	27116
LCS 880-27116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	27116
LCSD 880-27116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	27116
890-2381-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	27116
890-2381-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	27116

Analysis Batch: 27252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Total/NA	Soil	8015 NM	
820-4502-2	NWW	Total/NA	Soil	8015 NM	
820-4502-3	SWW	Total/NA	Soil	8015 NM	
820-4502-4	F-1	Total/NA	Soil	8015 NM	
820-4502-5	NW	Total/NA	Soil	8015 NM	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

GC Semi VOA (Continued)

Analysis Batch: 27252 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-6	F-2	Total/NA	Soil	8015 NM	
820-4502-7	SW	Total/NA	Soil	8015 NM	
820-4502-8	SEW-1	Total/NA	Soil	8015 NM	
820-4502-9	SEW-2	Total/NA	Soil	8015 NM	
820-4502-10	EW	Total/NA	Soil	8015 NM	
820-4502-11	NEW	Total/NA	Soil	8015 NM	
820-4502-12	F-3	Total/NA	Soil	8015 NM	

HPLC/IC

Leach Batch: 27175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Soluble	Soil	DI Leach	
820-4502-2	NWW	Soluble	Soil	DI Leach	
820-4502-3	SWW	Soluble	Soil	DI Leach	
820-4502-4	F-1	Soluble	Soil	DI Leach	
820-4502-5	NW	Soluble	Soil	DI Leach	
820-4502-6	F-2	Soluble	Soil	DI Leach	
820-4502-7	SW	Soluble	Soil	DI Leach	
820-4502-8	SEW-1	Soluble	Soil	DI Leach	
820-4502-9	SEW-2	Soluble	Soil	DI Leach	
820-4502-10	EW	Soluble	Soil	DI Leach	
820-4502-11	NEW	Soluble	Soil	DI Leach	
820-4502-12	F-3	Soluble	Soil	DI Leach	
MB 880-27175/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-27175/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-27175/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-4502-1 MS	WW	Soluble	Soil	DI Leach	
820-4502-1 MSD	WW	Soluble	Soil	DI Leach	
820-4502-11 MS	NEW	Soluble	Soil	DI Leach	
820-4502-11 MSD	NEW	Soluble	Soil	DI Leach	

Analysis Batch: 27311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-1	WW	Soluble	Soil	300.0	27175
820-4502-2	NWW	Soluble	Soil	300.0	27175
820-4502-3	SWW	Soluble	Soil	300.0	27175
820-4502-4	F-1	Soluble	Soil	300.0	27175
820-4502-5	NW	Soluble	Soil	300.0	27175
820-4502-6	F-2	Soluble	Soil	300.0	27175
820-4502-7	SW	Soluble	Soil	300.0	27175
820-4502-8	SEW-1	Soluble	Soil	300.0	27175
820-4502-9	SEW-2	Soluble	Soil	300.0	27175
820-4502-10	EW	Soluble	Soil	300.0	27175
820-4502-11	NEW	Soluble	Soil	300.0	27175
820-4502-12	F-3	Soluble	Soil	300.0	27175
MB 880-27175/1-A	Method Blank	Soluble	Solid	300.0	27175
LCS 880-27175/2-A	Lab Control Sample	Soluble	Solid	300.0	27175
LCSD 880-27175/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	27175
820-4502-1 MS	WW	Soluble	Soil	300.0	27175
820-4502-1 MSD	WW	Soluble	Soil	300.0	27175

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

HPLC/IC (Continued)

Analysis Batch: 27311 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4502-11 MS	NEW	Soluble	Soil	300.0	27175
820-4502-11 MSD	NEW	Soluble	Soil	300.0	27175

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: WW
Date Collected: 06/06/22 15:30
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-1
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			5.02 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 19:39	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 04:35	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		10			27311	06/10/22 20:11	CH	XEN MID

Client Sample ID: NWW
Date Collected: 06/06/22 15:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-2
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			5.04 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 20:06	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 05:18	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 20:38	CH	XEN MID

Client Sample ID: SWW
Date Collected: 06/06/22 15:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-3
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			5.03 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 20:33	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		5			27125	06/10/22 04:13	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		10			27311	06/10/22 20:47	CH	XEN MID

Client Sample ID: F-1
Date Collected: 06/06/22 15:45
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-4
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			5.00 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 21:00	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: F-1
Date Collected: 06/06/22 15:45
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-4
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 04:57	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		5			27311	06/10/22 20:57	CH	XEN MID

Client Sample ID: NW
Date Collected: 06/06/22 16:30
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-5
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			4.97 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 21:27	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 00:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 21:06	CH	XEN MID

Client Sample ID: F-2
Date Collected: 06/06/22 16:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-6
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			5.02 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 21:54	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 00:36	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		5			27311	06/10/22 21:34	CH	XEN MID

Client Sample ID: SW
Date Collected: 06/06/22 16:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-7
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	5035			4.95 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 22:21	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 00:58	AJ	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: SW
Date Collected: 06/06/22 16:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-7
Matrix: Soil

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 21:43	CH	XEN MID

Client Sample ID: SEW-1
Date Collected: 06/06/22 17:30
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-8
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			4.98 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 22:48	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 01:19	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 21:52	CH	XEN MID

Client Sample ID: SEW-2
Date Collected: 06/06/22 17:35
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-9
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	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 23:15	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 01:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 22:01	CH	XEN MID

Client Sample ID: EW
Date Collected: 06/06/22 17:40
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-10
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			5.05 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/09/22 23:43	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 02:25	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 22:11	CH	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Client Sample ID: NEW
Date Collected: 06/06/22 17:45
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-11
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			5.00 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/10/22 01:32	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 02:47	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		1			27311	06/10/22 22:20	CH	XEN MID

Client Sample ID: F-3
Date Collected: 06/06/22 17:50
Date Received: 06/07/22 09:30

Lab Sample ID: 820-4502-12
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			4.96 g	5 mL	27132	06/09/22 08:48	EL	XEN MID
Total/NA	Analysis	8021B		1			27214	06/10/22 01:59	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			27301	06/10/22 11:39	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27252	06/10/22 08:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27116	06/08/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27125	06/10/22 05:40	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	27175	06/09/22 11:59	CH	XEN MID
Soluble	Analysis	300.0		5			27311	06/10/22 22:48	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

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	T104704400-21-22	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
Total BTEX		Soil	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

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

Protocol References:

ASTM = ASTM International

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4502-1
SDG: AR227085

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-4502-1	WW	Soil	06/06/22 15:30	06/07/22 09:30
820-4502-2	NWW	Soil	06/06/22 15:35	06/07/22 09:30
820-4502-3	SWW	Soil	06/06/22 15:40	06/07/22 09:30
820-4502-4	F-1	Soil	06/06/22 15:45	06/07/22 09:30
820-4502-5	NW	Soil	06/06/22 16:30	06/07/22 09:30
820-4502-6	F-2	Soil	06/06/22 16:35	06/07/22 09:30
820-4502-7	SW	Soil	06/06/22 16:40	06/07/22 09:30
820-4502-8	SEW-1	Soil	06/06/22 17:30	06/07/22 09:30
820-4502-9	SEW-2	Soil	06/06/22 17:35	06/07/22 09:30
820-4502-10	EW	Soil	06/06/22 17:40	06/07/22 09:30
820-4502-11	NEW	Soil	06/06/22 17:45	06/07/22 09:30
820-4502-12	F-3	Soil	06/06/22 17:50	06/07/22 09:30

Loc: 820
4502

820-4502 Chain of Custody

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: J. Guesnier
SRS #:
Sampler's Name: B. Thornton
Sampler's Signature:

Project Number: AR227085
Project Name: Marshall APH Battery

ANALYSIS REQUESTED

LAB USE O
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 5.8/6.0 °C

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 4 oz Glass	2 oz Glass	250 ml Poly	5035 kit	Chloride (EPA Method 300)	BTEX (EPA Method 8021B)	TPH Extended 8015	Lab Sample ID
S	6/6/2022	1530		X	WW			X				X	X	X	
S	6/6/2022	1535		X	NWW			X				X	X	X	
S	6/6/2022	1540		X	SWW			X				X	X	X	
S	6/6/2022	1545		X	F-1	1	2	X				X	X	X	
S	6/6/2022	1630		X	NW			X				X	X	X	
S	6/6/2022	1635		X	F-2	1	2	X				X	X	X	
S	6/6/2022	1640		X	SW			X				X	X	X	
S	6/6/2022	1730		X	SEW-1			X				X	X	X	
S	6/6/2022	1735		X	SEW-2			X				X	X	X	
S	6/6/2022	1740		X	EW			X				X	X	X	
S	6/6/2022	1745		X	NEW			X				X	X	X	
S	6/6/2022	1750		X	F-3	6	7	X				X	X	X	

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

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
	6.7.2022	9:30		6/7/22	9:30

NOTES: Client:

e-mail results to:
joseph.guesnier@terraconc.om
erin.loyd@terracon.com
Brady.thornton@terracon.com
Aaron.adams@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 _____

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4502-1
SDG Number: AR227085

Login Number: 4502
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	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4502-1
SDG Number: AR227085

Login Number: 4502
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 06/08/22 11:10 AM

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	

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-4539-1
Laboratory Sample Delivery Group: AR227085
Client Project/Site: Marshall APH Battery
Revision: 2

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

Attn: Joseph Guesnier

JKramer

Authorized for release by:
6/14/2022 8:36:55 AM

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

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.

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).

JKramer

Jessica Kramer
Project Manager
6/14/2022 8:36:55 AM

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Laboratory Job ID: 820-4539-1
SDG: AR227085

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Qualifiers

GC VOA

Qualifier	Qualifier Description
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.
¤	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: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Job ID: 820-4539-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-4539-1

REVISION

The report being provided is a revision of the original report sent on 6/10/2022. The report (revision 2) is being revised due to Per client email, requesting sample ID change NEW to WW.

Report revision history

The report being provided is a revision of the original report sent on 6/10/2022. The report (revision 2) is being revised due to Per client email, requesting sample ID change NEW to WW.
Revision 1 - 6/13/2022 - Reason - Per client request, changing sample ID from EW to SWW.

Receipt
The samples were received on 6/8/2022 9:26 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 2.3°C

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: WW (820-4539-1). 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
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: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Client Sample ID: WW

Date Collected: 06/07/22 14:40
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0504**		0.0501		mg/Kg		06/09/22 11:13	06/09/22 20:10	25
Toluene	**0.860**		0.0501		mg/Kg		06/09/22 11:13	06/09/22 20:10	25
Ethylbenzene	**2.16**		0.0501		mg/Kg		06/09/22 11:13	06/09/22 20:10	25
m,p-Xylenes	**2.02**		0.100		mg/Kg		06/09/22 11:13	06/09/22 20:10	25
o-Xylene	**0.895**		0.0501		mg/Kg		06/09/22 11:13	06/09/22 20:10	25
Xylenes, Total	**2.92**		0.100		mg/Kg		06/09/22 11:13	06/09/22 20:10	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*147*	*S1+*	*70 - 130*	*06/09/22 11:13*	*06/09/22 20:10*	*25*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/09/22 11:13*	*06/09/22 20:10*	*25*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**5.99**		0.100		mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**314**		49.9		mg/Kg			06/10/22 09:46	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	**53.9**		49.9		mg/Kg		06/09/22 11:40	06/09/22 23:30	1
Diesel Range Organics (Over C10-C28)	**260**		49.9		mg/Kg		06/09/22 11:40	06/09/22 23:30	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/22 11:40	06/09/22 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*106*		*70 - 130*	*06/09/22 11:40*	*06/09/22 23:30*	*1*
o-Terphenyl (Surr)	*112*		*70 - 130*	*06/09/22 11:40*	*06/09/22 23:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**86.8**		4.99		mg/Kg			06/09/22 14:33	1

Client Sample ID: SWW

Date Collected: 06/07/22 14:45
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.100	U	0.100		mg/Kg		06/09/22 11:24	06/09/22 19:38	50
Toluene	**0.486**		0.100		mg/Kg		06/09/22 11:24	06/09/22 19:38	50
Ethylbenzene	**0.641**		0.100		mg/Kg		06/09/22 11:24	06/09/22 19:38	50
m,p-Xylenes	**0.510**		0.201		mg/Kg		06/09/22 11:24	06/09/22 19:38	50
o-Xylene	**0.231**		0.100		mg/Kg		06/09/22 11:24	06/09/22 19:38	50
Xylenes, Total	**0.741**		0.201		mg/Kg		06/09/22 11:24	06/09/22 19:38	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*06/09/22 11:24*	*06/09/22 19:38*	*50*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*06/09/22 11:24*	*06/09/22 19:38*	*50*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Client Sample ID: SWW
Date Collected: 06/07/22 14:45
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-2
Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	1.87		0.201		mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	193		50.0		mg/Kg			06/10/22 09:46	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		06/09/22 11:40	06/09/22 23:52	1
Diesel Range Organics (Over C10-C28)	193		50.0		mg/Kg		06/09/22 11:40	06/09/22 23:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/22 11:40	06/09/22 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*88*		*70 - 130*	*06/09/22 11:40*	*06/09/22 23:52*	*1*
o-Terphenyl (Surr)	*93*		*70 - 130*	*06/09/22 11:40*	*06/09/22 23:52*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	91.5		4.96		mg/Kg			06/09/22 15:52	1

Client Sample ID: F-3
Date Collected: 06/07/22 14:50
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.94		0.100		mg/Kg		06/09/22 11:24	06/09/22 19:58	50
Toluene	8.30		0.100		mg/Kg		06/09/22 11:24	06/09/22 19:58	50
Ethylbenzene	6.89		0.100		mg/Kg		06/09/22 11:24	06/09/22 19:58	50
m,p-Xylenes	6.58		0.200		mg/Kg		06/09/22 11:24	06/09/22 19:58	50
o-Xylene	2.73		0.100		mg/Kg		06/09/22 11:24	06/09/22 19:58	50
Xylenes, Total	9.31		0.200		mg/Kg		06/09/22 11:24	06/09/22 19:58	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*06/09/22 11:24*	*06/09/22 19:58*	*50*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*06/09/22 11:24*	*06/09/22 19:58*	*50*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	26.4		0.200		mg/Kg			06/10/22 10:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	842		50.0		mg/Kg			06/10/22 09:46	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	284		50.0		mg/Kg		06/09/22 11:40	06/10/22 00:14	1
Diesel Range Organics (Over C10-C28)	558		50.0		mg/Kg		06/09/22 11:40	06/10/22 00:14	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Client Sample ID: F-3

Date Collected: 06/07/22 14:50
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-3

Matrix: Solid

Method: 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		06/09/22 11:40	06/10/22 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*95*		*70 - 130*	*06/09/22 11:40*	*06/10/22 00:14*	*1*
o-Terphenyl (Surr)	*97*		*70 - 130*	*06/09/22 11:40*	*06/10/22 00:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**144**		5.00		mg/Kg			06/09/22 15:59	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
820-4539-1	WW	147 S1+	97
820-4539-2	SWW	102	92
820-4539-3	F-3	96	92
880-15608-A-6-C MS	Matrix Spike	122	95
880-15608-A-6-D MSD	Matrix Spike Duplicate	108	106
890-2381-A-1-K MS	Matrix Spike	107	104
890-2381-A-1-L MSD	Matrix Spike Duplicate	103	102
LCS 880-27164/1-A	Lab Control Sample	111	104
LCS 880-27169/1-A	Lab Control Sample	104	99
LCSD 880-27164/2-A	Lab Control Sample Dup	102	103
LCSD 880-27169/2-A	Lab Control Sample Dup	109	95
MB 880-27164/5-A	Method Blank	100	91
MB 880-27169/5-A	Method Blank	98	97

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 (70-130)	OTPH1 (70-130)
820-4539-1	WW	106	112
820-4539-2	SWW	88	93
820-4539-3	F-3	95	97
890-2387-A-61-C MS	Matrix Spike	84	82
890-2387-A-61-D MSD	Matrix Spike Duplicate	84	82
LCS 880-27170/2-A	Lab Control Sample	115	119
LCSD 880-27170/3-A	Lab Control Sample Dup	108	112
MB 880-27170/1-A	Method Blank	83	89

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-27164/5-A
Matrix: Solid
Analysis Batch: 27136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27164

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/22 10:05	06/09/22 12:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/22 10:05	06/09/22 12:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/22 10:05	06/09/22 12:16	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		06/09/22 10:05	06/09/22 12:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/22 10:05	06/09/22 12:16	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/22 10:05	06/09/22 12:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*06/09/22 10:05*	*06/09/22 12:16*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*06/09/22 10:05*	*06/09/22 12:16*	*1*

Lab Sample ID: LCS 880-27164/1-A
Matrix: Solid
Analysis Batch: 27136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27164

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1125		mg/Kg		112	70 - 130		
Toluene			0.100	0.1094		mg/Kg		109	70 - 130		
Ethylbenzene			0.100	0.1137		mg/Kg		114	70 - 130		
m,p-Xylenes			0.200	0.2276		mg/Kg		114	70 - 130		
o-Xylene			0.100	0.1160		mg/Kg		116	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-27164/2-A
Matrix: Solid
Analysis Batch: 27136

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27164

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09839		mg/Kg		98	70 - 130	13	35
Toluene			0.100	0.09249		mg/Kg		92	70 - 130	17	35
Ethylbenzene			0.100	0.09674		mg/Kg		97	70 - 130	16	35
m,p-Xylenes			0.200	0.1944		mg/Kg		97	70 - 130	16	35
o-Xylene			0.100	0.09787		mg/Kg		98	70 - 130	17	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-15608-A-6-C MS
Matrix: Solid
Analysis Batch: 27136

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27164

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.09163		mg/Kg		92	70 - 130		
Toluene	<0.00200	U	0.0998	0.1028		mg/Kg		102	70 - 130		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

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

Lab Sample ID: 880-15608-A-6-C MS
Matrix: Solid
Analysis Batch: 27136

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27164

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.1103		mg/Kg		110	70 - 130
m,p-Xylenes	<0.00399	U	0.200	0.2272		mg/Kg		114	70 - 130
o-Xylene	<0.00200	U	0.0998	0.1163		mg/Kg		116	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-15608-A-6-D MSD
Matrix: Solid
Analysis Batch: 27136

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27164

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.1057		mg/Kg		105	70 - 130	14	35
Toluene	<0.00200	U	0.100	0.09801		mg/Kg		97	70 - 130	5	35
Ethylbenzene	<0.00200	U	0.100	0.1032		mg/Kg		103	70 - 130	7	35
m,p-Xylenes	<0.00399	U	0.200	0.2077		mg/Kg		104	70 - 130	9	35
o-Xylene	<0.00200	U	0.100	0.1026		mg/Kg		102	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 880-27169/5-A
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/22 11:24	06/09/22 16:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/22 11:24	06/09/22 16:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*06/09/22 11:24*	*06/09/22 16:24*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/09/22 11:24*	*06/09/22 16:24*	*1*

Lab Sample ID: LCS 880-27169/1-A
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08701		mg/Kg		87	70 - 130
Toluene	0.100	0.09313		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.08725		mg/Kg		87	70 - 130
m,p-Xylenes	0.200	0.1998		mg/Kg		100	70 - 130

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

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

Lab Sample ID: LCS 880-27169/1-A
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27169

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.09882		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-27169/2-A
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27169

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08058		mg/Kg		81	70 - 130	8	35
Toluene			0.100	0.08864		mg/Kg		89	70 - 130	5	35
Ethylbenzene			0.100	0.08534		mg/Kg		85	70 - 130	2	35
m,p-Xylenes			0.200	0.1981		mg/Kg		99	70 - 130	1	35
o-Xylene			0.100	0.09984		mg/Kg		100	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-2381-A-1-K MS
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.1070		mg/Kg		106	70 - 130		
Toluene	<0.00199	U	0.101	0.1057		mg/Kg		105	70 - 130		
Ethylbenzene	<0.00199	U	0.101	0.09944		mg/Kg		99	70 - 130		
m,p-Xylenes	<0.00398	U	0.201	0.2272		mg/Kg		113	70 - 130		
o-Xylene	<0.00199	U	0.101	0.1108		mg/Kg		110	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-2381-A-1-L MSD
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09863		mg/Kg		99	70 - 130	8	35
Toluene	<0.00199	U	0.0996	0.09833		mg/Kg		99	70 - 130	7	35
Ethylbenzene	<0.00199	U	0.0996	0.09226		mg/Kg		93	70 - 130	7	35
m,p-Xylenes	<0.00398	U	0.199	0.2103		mg/Kg		106	70 - 130	8	35
o-Xylene	<0.00199	U	0.0996	0.1033		mg/Kg		104	70 - 130	7	35

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

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

Lab Sample ID: 890-2381-A-1-L MSD
Matrix: Solid
Analysis Batch: 27183

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27169

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

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

Lab Sample ID: MB 880-27170/1-A
Matrix: Solid
Analysis Batch: 27127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27170

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		06/09/22 11:40	06/09/22 20:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/22 11:40	06/09/22 20:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/22 11:40	06/09/22 20:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	83		70 - 130	06/09/22 11:40	06/09/22 20:34	1
o-Terphenyl (Surr)	89		70 - 130	06/09/22 11:40	06/09/22 20:34	1

Lab Sample ID: LCS 880-27170/2-A
Matrix: Solid
Analysis Batch: 27127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27170

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	953.3		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	917.9		mg/Kg		92	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	115		70 - 130
o-Terphenyl (Surr)	119		70 - 130

Lab Sample ID: LCSD 880-27170/3-A
Matrix: Solid
Analysis Batch: 27127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27170

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	834.9		mg/Kg		83	70 - 130	13	20
Diesel Range Organics (Over C10-C28)			1000	832.9		mg/Kg		83	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	108		70 - 130
o-Terphenyl (Surr)	112		70 - 130

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

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

Lab Sample ID: 890-2387-A-61-C MS
Matrix: Solid
Analysis Batch: 27127

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27170

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	877.0		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	800.5		mg/Kg		79	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*84*		*70 - 130*
o-Terphenyl (Surr)	*82*		*70 - 130*

Lab Sample ID: 890-2387-A-61-D MSD
Matrix: Solid
Analysis Batch: 27127

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27170

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	<49.9	U	1000	947.0		mg/Kg		95	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	808.6		mg/Kg		79	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*84*		*70 - 130*
o-Terphenyl (Surr)	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-27168/1-A
Matrix: Solid
Analysis Batch: 27202

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			06/09/22 13:22	1

Lab Sample ID: LCS 880-27168/2-A
Matrix: Solid
Analysis Batch: 27202

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	248.0		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-27168/3-A
Matrix: Solid
Analysis Batch: 27202

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	248.9		mg/Kg		100	90 - 110	0	20

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2390-A-5-C MS
Matrix: Solid
Analysis Batch: 27202

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	145		253	390.6		mg/Kg		97	90 - 110		

Lab Sample ID: 890-2390-A-5-D MSD
Matrix: Solid
Analysis Batch: 27202

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	145		253	391.6		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

GC VOA

Analysis Batch: 27136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Total/NA	Solid	8021B	27164
MB 880-27164/5-A	Method Blank	Total/NA	Solid	8021B	27164
LCS 880-27164/1-A	Lab Control Sample	Total/NA	Solid	8021B	27164
LCSD 880-27164/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27164
880-15608-A-6-C MS	Matrix Spike	Total/NA	Solid	8021B	27164
880-15608-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	27164

Prep Batch: 27164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Total/NA	Solid	5035	
MB 880-27164/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27164/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27164/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-15608-A-6-C MS	Matrix Spike	Total/NA	Solid	5035	
880-15608-A-6-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 27169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-2	SWW	Total/NA	Solid	5035	
820-4539-3	F-3	Total/NA	Solid	5035	
MB 880-27169/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27169/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27169/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2381-A-1-K MS	Matrix Spike	Total/NA	Solid	5035	
890-2381-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 27183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-2	SWW	Total/NA	Solid	8021B	27169
820-4539-3	F-3	Total/NA	Solid	8021B	27169
MB 880-27169/5-A	Method Blank	Total/NA	Solid	8021B	27169
LCS 880-27169/1-A	Lab Control Sample	Total/NA	Solid	8021B	27169
LCSD 880-27169/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27169
890-2381-A-1-K MS	Matrix Spike	Total/NA	Solid	8021B	27169
890-2381-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	27169

Analysis Batch: 27284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Total/NA	Solid	Total BTEX	
820-4539-2	SWW	Total/NA	Solid	Total BTEX	
820-4539-3	F-3	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 27127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Total/NA	Solid	8015B NM	27170
820-4539-2	SWW	Total/NA	Solid	8015B NM	27170
820-4539-3	F-3	Total/NA	Solid	8015B NM	27170
MB 880-27170/1-A	Method Blank	Total/NA	Solid	8015B NM	27170
LCS 880-27170/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	27170

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

GC Semi VOA (Continued)

Analysis Batch: 27127 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-27170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	27170
890-2387-A-61-C MS	Matrix Spike	Total/NA	Solid	8015B NM	27170
890-2387-A-61-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	27170

Prep Batch: 27170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Total/NA	Solid	8015NM Prep	
820-4539-2	SWW	Total/NA	Solid	8015NM Prep	
820-4539-3	F-3	Total/NA	Solid	8015NM Prep	
MB 880-27170/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-27170/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-27170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2387-A-61-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2387-A-61-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 27262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Total/NA	Solid	8015 NM	
820-4539-2	SWW	Total/NA	Solid	8015 NM	
820-4539-3	F-3	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 27168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Soluble	Solid	DI Leach	
820-4539-2	SWW	Soluble	Solid	DI Leach	
820-4539-3	F-3	Soluble	Solid	DI Leach	
MB 880-27168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-27168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-27168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2390-A-5-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2390-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 27202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4539-1	WW	Soluble	Solid	300.0	27168
820-4539-2	SWW	Soluble	Solid	300.0	27168
820-4539-3	F-3	Soluble	Solid	300.0	27168
MB 880-27168/1-A	Method Blank	Soluble	Solid	300.0	27168
LCS 880-27168/2-A	Lab Control Sample	Soluble	Solid	300.0	27168
LCSD 880-27168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	27168
890-2390-A-5-C MS	Matrix Spike	Soluble	Solid	300.0	27168
890-2390-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	27168

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Client Sample ID: WW
Date Collected: 06/07/22 14:40
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-1
Matrix: Solid

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	27164	06/09/22 11:13	MR	XEN MID
Total/NA	Analysis	8021B		25			27136	06/09/22 20:10	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27284	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27262	06/10/22 09:46	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	27170	06/09/22 11:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27127	06/09/22 23:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	27168	06/09/22 12:00	CH	XEN MID
Soluble	Analysis	300.0		1			27202	06/09/22 14:33	CH	XEN MID

Client Sample ID: SWW
Date Collected: 06/07/22 14:45
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-2
Matrix: Solid

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	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	27183	06/09/22 19:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27284	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27262	06/10/22 09:46	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27170	06/09/22 11:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27127	06/09/22 23:52	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	27168	06/09/22 12:00	CH	XEN MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	27202	06/09/22 15:52	CH	XEN MID

Client Sample ID: F-3
Date Collected: 06/07/22 14:50
Date Received: 06/08/22 09:26

Lab Sample ID: 820-4539-3
Matrix: Solid

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	27169	06/09/22 11:24	EL	XEN MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	27183	06/09/22 19:58	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27284	06/10/22 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			27262	06/10/22 09:46	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	27170	06/09/22 11:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1			27127	06/10/22 00:14	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	27168	06/09/22 12:00	CH	XEN MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	27202	06/09/22 15:59	CH	XEN MID

Laboratory References:
XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

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	T104704400-21-22	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		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

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

Protocol References:

ASTM = ASTM International

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Marshall APH Battery

Job ID: 820-4539-1
SDG: AR227085

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-4539-1	WW	Solid	06/07/22 14:40	06/08/22 09:26
820-4539-2	SWW	Solid	06/07/22 14:45	06/08/22 09:26
820-4539-3	F-3	Solid	06/07/22 14:50	06/08/22 09:26

Loc: 820
4539

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: J. Guesnier
SRS #:
Sampler's Name: B. Thornton
Sampler's Signature:

Project Number: AR227085
Project Name: Marshall APH Battery

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 2.1/2.3°C

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 4 oz Glass	2 oz Glass	250 ml Poly	5035 kit	Chloride (EPA Method 300)	BTEX (EPA Method 8021B)	TPH Extended 8015	Lab Sample ID
S	6/7/2022	1440		X	NEW			X				X	X	X	
S	6/7/2022	1445		X	EW			X				X	X	X	
S	6/7/2022	1450		X	F-3	8	9	X				X	X	X	

820-4539 Chain of Custody

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

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	6.8.2022	9:20		6/8/22	9:20

NOTES: Client:

e-mail results to:
joseph.guesnier@terraconc.om
erin.loyd@terracon.com
Brady.thornton@terracon.com
Aaron.adams@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 _____

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 820-4004 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 820-4539-1
Address: 1211 W Florida Ave ,	Due Date Requested: 6/10/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Marshall APH Battery	Project #: 82000340			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B - NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I - Ice, J DI Water, K - EDTA, L EDA, M Hexane, N - None, O AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Y Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	300_ORGFM_28D/DI_LEACH Chloride	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	Total Number of containers	Special Instructions/Note:
Preservation Code:													
NEW (820-4539-1)	6/7/22	14 40 Central		Solid			X	X	X	X	X	1	
EW (820-4539-2)	6/7/22	14 45 Central		Solid			X	X	X	X	X	1	
F-3 (820-4539-3)	6/7/22	14 50 Central		Solid			X	X	X	X	X	1	

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 complicance 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	☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
anthony Ruppler	6/8/22 17:00		KRAMER	6/9/22	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.	1.6/1.4

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4539-1
SDG Number: AR227085

Login Number: 4539
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	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4539-1
SDG Number: AR227085

Login Number: 4539
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 06/09/22 11:11 AM

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	

APPENDIX E – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Solaris Water Midstream, as reflected in our proposal (PA4197040).

Additional Scope Limitations

Development of this RAP is based upon information provided by the Client and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client. The data, interpretations, findings, and our recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Solaris Water Midstream, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Solaris Water Midstream and Terracon. Any unauthorized distribution or reuse is at Solaris Water Midstream sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Solaris Water Midstream and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Solaris Water Midstream and all relying parties unless otherwise agreed in writing.

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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 117937

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 117937
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2208043246 MARSHALL APH BATTERY, thank you. This closure is approved.	10/21/2022