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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

4KEK3-190725-C-1410

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.56058 Longitude -103.31849
(NAD 83 in decimal degrees to 5 decimal places)

Site Name EMSU B Tank Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 4/4/2019	API# *(if applicable)* N/A

Unit Letter	Section	Township	Range	County
A	23	20S	36E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* BLM)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 7.89	Volume Recovered (bbls) 7.75
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A 4 inch flange separated from a nipple on trunkline coming from freewater knockout and tester to the heater treater. A contract crew was onsite performing work when fluids were released to the well pad. The crew built a berm to contain the release. A vacuum truck recovered all free fluids. Additional third party resources have been retained to assist with remediation.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

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

If all the actions described above have not been undertaken, explain why:
N/A

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Amy C. Ruth Title: SH&E Coordinator

Signature: _____ Date: 4/16/2019

email: Amy_Ruth@xtoenergy.com Telephone: 575-689-3380

OCD Only

Received by: _____ Date: _____

Location:	EMSU B Tank Battery	
Spill Date:	4/4/2019	

OR		
Approximate Area=	32	ft^2
Average Saturation (or depth) of Spill=	10.00	inches

Approximate Oil %	100	
Average Porosity Factor=	0.03	
Approximate Volume Recovered=	7.75	bbls

VOLUME OF LEAK		
Total Oil=	7.89	barrels
Total Produced Water=	0	barrels

VOLUME RECOVERED

Total Oil=	7.75	barrels
Total Produced Water=	0	barrels

From: Rose-Coss, Dylan H, EMNRD
To: Ruth, Amy
Subject: RE: Initial C-141 - EMSU B Battery release 4-4-19
Date: Wednesday, May 01, 2019 12:13:04 PM
Attachments: image001.png

RE: **XTO Energy** * **EMSU B Battery*** DOR: **04/04/0219**

All,

The OCD tracking number for this release event is **1RP-5446**.

Thank you,

Dylan Rose-Coss

Environmental Scientist
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

(505) 476-3488

From: Ruth, Amy <Amy_Ruth@xtoenergy.com>
Sent: Tuesday, April 16, 2019 11:08 AM
To: EMNRD-OCD-District1spills <EMNRD-OCD-District1spills@state.nm.us>; Crystal Weaver <caweaver@blm.gov>; Deborah McKinney <dmckinne@blm.gov>
Cc: Meadows, Derrick <Derrick_Meadows@xtoenergy.com>; Goodman, Ronald <Ronald_Goodman@xtoenergy.com>; Littrell, Kyle <Kyle_Littrell@xtoenergy.com>; Foust, Bryan <Bryan_Foust@xtoenergy.com>
Subject: [EXT] Initial C-141 - EMSU B Battery release 4-4-19

Good Morning,

Attached is an initial form C-141 with spill calculations detailing a fluid release event associated with the referenced facility. Please contact us with any questions or concerns. Thank you.

Respectfully,

Amy C. Ruth
Permian Division
Environmental Coordinator
3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.689.3380

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	46 (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 ***(Release was on well pad – caliche – non-native soil)***
☒ 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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Shelby Pennington Title: Environmental Coordinator

Signature: Shelby Pennington Date: 7/ 25/ 19

email: shelby_pennington@xtoenergy. com Telephone: 281- 723- 9353

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated. ***Unable to achieve full vertical delineation at this facility due to safety concerns associated with subsurface lines and vessels in the immediate vicinity of the release location.***

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater. ***Although, full vertical delineation was infeasible, soil sampling strongly indicated decreasing concentrations of constituents of concern with depth. BTEX was below regulatory limits at all sample points. Chloride was vertically delineated. And TPH decreased with depth to only 177-ppm at the 12'bgs location associated with the source of the release.***

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: Shelby Pennington Title: Environmental Coordinator

Signature: Shelby Pennington Date: 7/ 25/ 19

email: shelby_pennington@xtoenergy. com Telephone: 281- 723- 9353

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

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: _____

JULY 25, 2019

4KEK3-190725-C-1410

SITE CHARACTERIZATION REPORT AND REMEDIATION DEFERRAL REQUEST

XTO ENERGY, INC. - EMSU B TANK BATTERY

1RP-5446

SITE CHARACTERIZATION REPORT AND
REMEDIATION DEFERRAL REQUEST
XTO ENERGY, INC. - EMSU B TANK BATTERY
Sport Environmental Services, LLC

July 25, 2019

Environmental Specialist Team
New Mexico Oil Conservation Division
District 1 (Hobbs)
1625 N. French Dr.
Hobbs, NM 88240

Re: Site Characterization Report and Remediation Deferral Request
XTO Energy, Inc.
EMSU B Tank Battery
RP #: 1RP-5446
Approximate Geographic Coordinates: 32.56508°N, -103.31849°W
Unit Letter P, Section 23, Township 20S, Range 36E
Lea County, New Mexico

Dear NMOCD Environmental Specialists:

Sport Environmental Services, LLC is submitting, on behalf of XTO Energy, Inc. *(XTO* or *Client)*, a Site Characterization Report and Remediation Deferral Request for the EMSU B Tank Battery *(EMSU B Tank Battery* or *subject site)* where a release occurred when a 4-inch fiberglass flange separated from a 4-inch nipple on a trunkline coming from a freewater knockout and tester to a heater treater on the well pad. The total volume of this release was reported to be 7.89 barrels -- of which 7.75 barrels were recovered. A contract crew was present at the subject site and performing work when the release occurred on April 4, 2019. The crew built a berm to contain the release and notified production foreman. The release was isolated and a vacuum truck was sent to location to recover all free fluids. Impacts from the release were limited due to the client's rapid response.

A request for remediation deferral is being made due to contamination presence in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. No areas outside of the active well pad that would require immediate and complete remediation were impacted by this release. The C-141 Form associated with this deferral request is available in **Attachment A**.

Site Assessment & Characterization

As part of site assessment and characterization of the site, aerial imagery was evaluated for the presence of major watercourses within a 0.5-mile radius of the release site. Aerial imagery demonstrating the absence of surface water within a 0.5-mile radius of the release site can be found within **Attachment B**.

A groundwater depth evaluation was performed as well. The NMOSE and USGS sources were reviewed for groundwater depth information. The findings were dated and at a significant distance from the release site. The Client provided groundwater depth data associated with a nearby site that was in closer geographic proximity and more current than the available data on NMOSE and USGS databases. Please see **Figure 1** on the following page. This established groundwater depth at the site to be approximately 46 feet below ground surface ('bgs). Therefore, the appropriate remediation standard as specified in the NMOCD Table 1 (NMAC 19.15.29.11) will be applied.

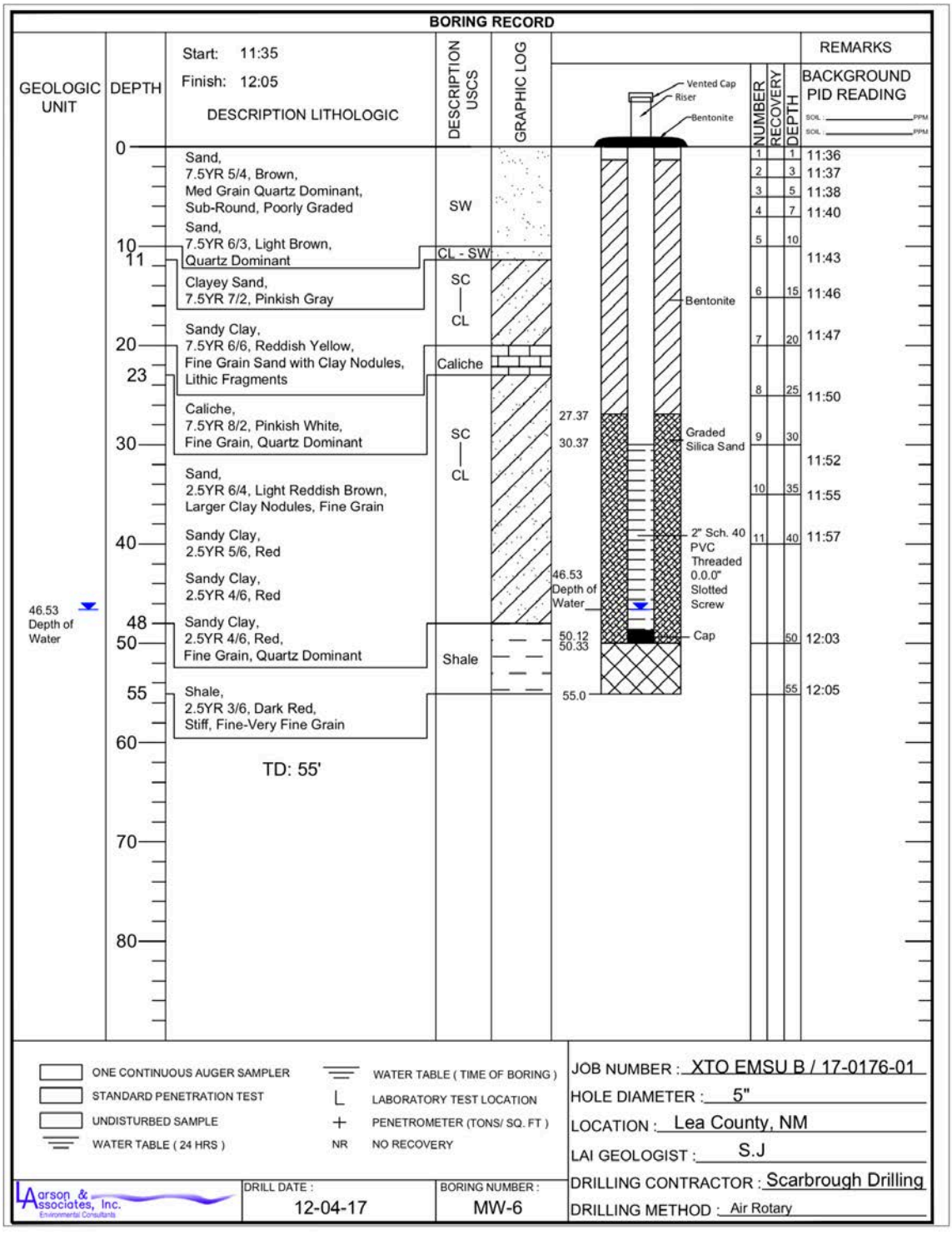
BORING RECORD
GEOLOGIC UNIT
DEPTH
Start: 11:35
Finish: 12:05
DESCRIPTION LITHOLOGIC
DESCRIPTION USCS
GRAPHIC LOG
REMARKS
BACKGROUND PID READING
NUMBER
RECOVERY
DEPTH
Sand, 7.5YR 5/4, Brown, Med Grain Quartz Dominant, Sub-Round, Poorly Graded
SW
Sand, 7.5YR 6/3, Light Brown, Quartz Dominant
CL - SW
Clayey Sand, 7.5YR 7/2, Pinkish Gray
SC — CL
Sandy Clay, 7.5YR 6/6, Reddish Yellow, Fine Grain Sand with Clay Nodules, Lithic Fragments
Caliche
Caliche, 7.5YR 8/2, Pinkish White, Fine Grain, Quartz Dominant
SC — CL
Sand, 2.5YR 6/4, Light Reddish Brown, Larger Clay Nodules, Fine Grain
Sandy Clay, 2.5YR 5/6, Red
Sandy Clay, 2.5YR 4/6, Red
Sandy Clay, 2.5YR 4/6, Red, Fine Grain, Quartz Dominant
Shale
Shale, 2.5YR 3/6, Dark Red, Stiff, Fine-Very Fine Grain
TD: 55'
Vented Cap
Riser
Bentonite
Bentonite
Graded Silica Sand
2" Sch. 40 PVC Threaded 0.0.0" Slotted Screw
Cap
27.37
30.37
46.53 Depth of Water
50.12
50.33
55.0
46.53 Depth of Water
11:36
11:37
11:38
11:40
11:43
11:46
11:47
11:50
11:52
11:55
11:57
12:03
12:05
ONE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HRS)
WATER TABLE (TIME OF BORING)
L LABORATORY TEST LOCATION
+ PENETROMETER (TONS/ SQ. FT)
NR NO RECOVERY
JOB NUMBER : XTO EMSU B / 17-0176-01
HOLE DIAMETER : 5"
LOCATION : Lea County, NM
LAI GEOLOGIST : S.J
DRILLING CONTRACTOR : Scarbrough Drilling
DRILLING METHOD : Air Rotary
Larson & Associates, Inc.
Environmental Consultants
DRILL DATE : 12-04-17
BORING NUMBER : MW-6

Figure 1.

Site characterization by means of horizontal and vertical delineation sampling was performed. The release footprint was mapped with a GPS device to generate a Release Site Plan denoting sample location placement as shown in **Attachment C.**

On April 23, 2019, hand-augering was performed inside the active facility, as required due to safety concerns, to obtain discrete depth soil samples. When Sport Environmental was present at the subject site, the excavated area associated with the release location was open – this made it possible for soil samples to be collected to a maximum depth of approximately 12 feet below ground surface ('bgs). Sampling to this depth may not have otherwise been possible on account of the hard caliche layer present at the well pad. Soil samples were collected at the surface (0-1' bgs) and in two-foot (2') depth increments up to the maximum depth (12' bgs) for soils characterization and assessment. Sample locations were dictated by subsurface line locations. The depth of each sample point was ultimately determined by the point at which auger refusal was encountered. For this reason, soil lithology data *(i.e.*, boring logs) were not generated since caliche overburden was not fully penetrated to enter native soils. Horizontal delineation points (i.e., HDP1 through HDP3) were limited in depth due to the strength of the caliche layer present at the subject site's surface.

Samples were properly collected and preserved in accordance with proper sampling protocols to ensure representative characterization of soils submitted to Eurofins TestAmerica, a NELAP certified laboratory, under proper chain-of-custody for analysis. Each constituent was analyzed using appropriate analytical methods. Chlorides were analyzed using EPA Method 300, Total Petroleum Hydrocarbons (TPH) using Method 8015B, and BTEX constituents on the using Method 8260.

Geo-tagged Site Photographs

Final photographs demonstrating facility congestion and proper excavation are provided on the following page. All geotagged photographs contain the geographic coordinates, date, time, and other data associated with their capture.

Photographic Log: April 23, 2019

Photograph	Description
	The client provided a photograph of the affected area. The workers who were present at the time of the release constructed an effective berm to contain the fluids and minimize impacts to the site. This photograph is believed to have been captured on or around April 4, 2019.
	Delineation sampling with a hand-auger within active facility. Majority of lines are subsurface so care was given to sample collection. Hand-augering was the only means of sampling allowed within the facility due to safety concerns and the desire not to risk further impacts to the subject site. Soil Boring 1 (SB1) is photographed in this image showing the area that had previously been bermed as immediate response to the release.

Excavation at SB-1 is pictured in the background. Horizontal Delineation Point 2 (HDP2) is shown in the foreground. The thick, hard caliche layer and presence of sub-surface piping prevented the use of heavy equipment at the subject site and limited the ability to sample to greater depths.

Satellite imagery from the Pleiades system indicates that the excavation has been filled with clean soil. This image was acquired on July 21, 2019.

Successful Remediation Performed on Area Outside of Active Facility

A review of the analytical results associated with characterization efforts was performed. The results indicate that a small volume of soil at Horizontal Delineation Point 2 (HDP2) exceeded the 100 parts-per-million (ppm) Total Petroleum Hydrocarbon (TPH) limit applicable to the subject site. This sample was collected at six-inches below ground surface at an active well pad and may reasonably be expected to be unrelated to the release. The caliche well pad would be addressed as part of the client's typical site abandonment protocol.

In addition, remedial work at the location of the release (i.e., Soil Boring 1) was largely successful in reducing the concentrations chlorides in the affected area with only a single depth interval at 2'bgs showing chlorides above the 600-ppm limit (SB1 at 2'bgs indicated a chloride concentration of 1,040 ppm with concentrations decreasing with depth). As for TPH, concentrations at SB1 peached at approximately 14,084 ppm at 6'bgs and decreased with depth to only 177 ppm at 12'bgs. The 100-ppm limit on TPH was exceeded at all of the SB1 depth intervals except the topmost interval. Soil samples were collected at SB-1's excavation floor (12' bgs) as part of efforts to ensure that the concentration of TPH was below the 100-ppm limit. However, that limit was exceeded at HDP2 and SB1 as shown in the summary table in **Attachment D.** The full analytical results, inclusive of the chain-of-custody, are provided in **Attachment E**. Safety concerns associated with the presence of subsurface lines, some of which Sport Environmental has been advised may be operated by third-parties), has made further delineation of TPH infeasible at this time.

BTEX and Benzene concentrations were well below their respective regulatory limits at all sample points.

All of the excavated material associated with this release was sent to Sundance Services, a NMOCD approved facility in Eunice, New Mexico, for proper disposal. The manifests documenting this disposal are available in **Attachment F**.

Based on a review of the release history, impacts to areas outside of the active well pad did not occur. As for the area within the well pad that has not yet met the Closure Criteria associated with a release where groundwater is less than fifty feet, the concentrations of TPH and Chloride require further work to be performed at the time of site closure. Benzene, Toluene, Ethylbenzene, and Xylenes were below their respective limits as confirmed by the analytical data associated with the soil sampling. The volume of affected soil associated with the deferred remediation request is estimated to be 54 cubic yards within the active facility as estimated by multiplying the footprint of the impacted area by an average of 15 feet in depth. Vertical delineation of TPH was nearly complete (177 ppm vs 100 ppm) at the 12'bgs depth interval at SB1. Sport Environmental respectfully requests an exception to the 100-ppm delineation limit associated with remediation deferral of this release and that the client be allowed to fully address the impacted area at the time of site closure.

If NMOCD should wish to discuss this request for closure further, please contact us at (432) 683-1100.

Sincerely,

Deborah S. Moore, ME, REPA, CESCO, RSO
President/Environmental Engineer
Sport Environmental Services, LLC

cc: Mr. Shelby Pennington (XTO)

List of Attachments:

A *C-141*
B *0.5-Mile Radius Map denoting Absence of Major Watercourses*
C *Release Site Plan denoting Sample Locations*
D *Analytical Results Table*
E *Laboratory Analytical Reports*
F *Waste Manifests*

Attachment A

C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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1220 South St. Francis Dr.
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Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.56058 Longitude -103.31849
(NAD 83 in decimal degrees to 5 decimal places)

Site Name EMSU B Tank Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 4/4/2019	API# *(if applicable)* N/A

Unit Letter	Section	Township	Range	County
A	23	20S	36E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* BLM)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 7.89	Volume Recovered (bbls) 7.75
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A 4 inch flange separated from a nipple on trunkline coming from freewater knockout and tester to the heater treater. A contract crew was onsite performing work when fluids were released to the well pad. The crew built a berm to contain the release. A vacuum truck recovered all free fluids. Additional third party resources have been retained to assist with remediation.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

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

If all the actions described above have not been undertaken, explain why:
N/A

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Amy C. Ruth Title: SH&E Coordinator

Signature: _____ Date: 4/16/2019

email: Amy_Ruth@xtoenergy.com Telephone: 575-689-3380

OCD Only

Received by: _____ Date: _____

Location:	EMSU B Tank Battery	
Spill Date:	4/4/2019	

OR		
Approximate Area=	32	ft^2
Average Saturation (or depth) of Spill=	10.00	inches

Approximate Oil %	100	
Average Porosity Factor=	0.03	
Approximate Volume Recovered=	7.75	bbls

VOLUME OF LEAK		
Total Oil=	7.89	barrels
Total Produced Water=	0	barrels

VOLUME RECOVERED

Total Oil=	7.75	barrels
Total Produced Water=	0	barrels

From: Rose-Coss, Dylan H, EMNRD
To: Ruth, Amy
Subject: RE: Initial C-141 - EMSU B Battery release 4-4-19
Date: Wednesday, May 01, 2019 12:13:04 PM
Attachments: image001.png

RE: **XTO Energy** * **EMSU B Battery*** DOR: **04/04/0219**

All,

The OCD tracking number for this release event is **1RP-5446**.

Thank you,

Dylan Rose-Coss

Environmental Scientist
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

(505) 476-3488

From: Ruth, Amy <Amy_Ruth@xtoenergy.com>
Sent: Tuesday, April 16, 2019 11:08 AM
To: EMNRD-OCD-District1spills <EMNRD-OCD-District1spills@state.nm.us>; Crystal Weaver <caweaver@blm.gov>; Deborah McKinney <dmckinne@blm.gov>
Cc: Meadows, Derrick <Derrick_Meadows@xtoenergy.com>; Goodman, Ronald <Ronald_Goodman@xtoenergy.com>; Littrell, Kyle <Kyle_Littrell@xtoenergy.com>; Foust, Bryan <Bryan_Foust@xtoenergy.com>
Subject: [EXT] Initial C-141 - EMSU B Battery release 4-4-19

Good Morning,

Attached is an initial form C-141 with spill calculations detailing a fluid release event associated with the referenced facility. Please contact us with any questions or concerns. Thank you.

Respectfully,

Amy C. Ruth
Permian Division
Environmental Coordinator
3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.689.3380

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	46 (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 ***(Release was on well pad – caliche – non-native soil)***
☒ 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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Shelby Pennington Title: Environmental Coordinator

Signature: Shelby Pennington Date: 7/ 25/ 19

email: shelby_pennington@xtoenergy. com Telephone: 281- 723- 9353

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated. ***Unable to achieve full vertical delineation at this facility due to safety concerns associated with subsurface lines and vessels in the immediate vicinity of the release location.***

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater. ***Although, full vertical delineation was infeasible, soil sampling strongly indicated decreasing concentrations of constituents of concern with depth. BTEX was below regulatory limits at all sample points. Chloride was vertically delineated. And TPH decreased with depth to only 177-ppm at the 12'bgs location associated with the source of the release.***

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: Shelby Pennington Title: Environmental Coordinator

Signature: Shelby Pennington Date: 7/ 25/ 19

email: shelby_pennington@xtoenergy. com Telephone: 281- 723- 9353

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

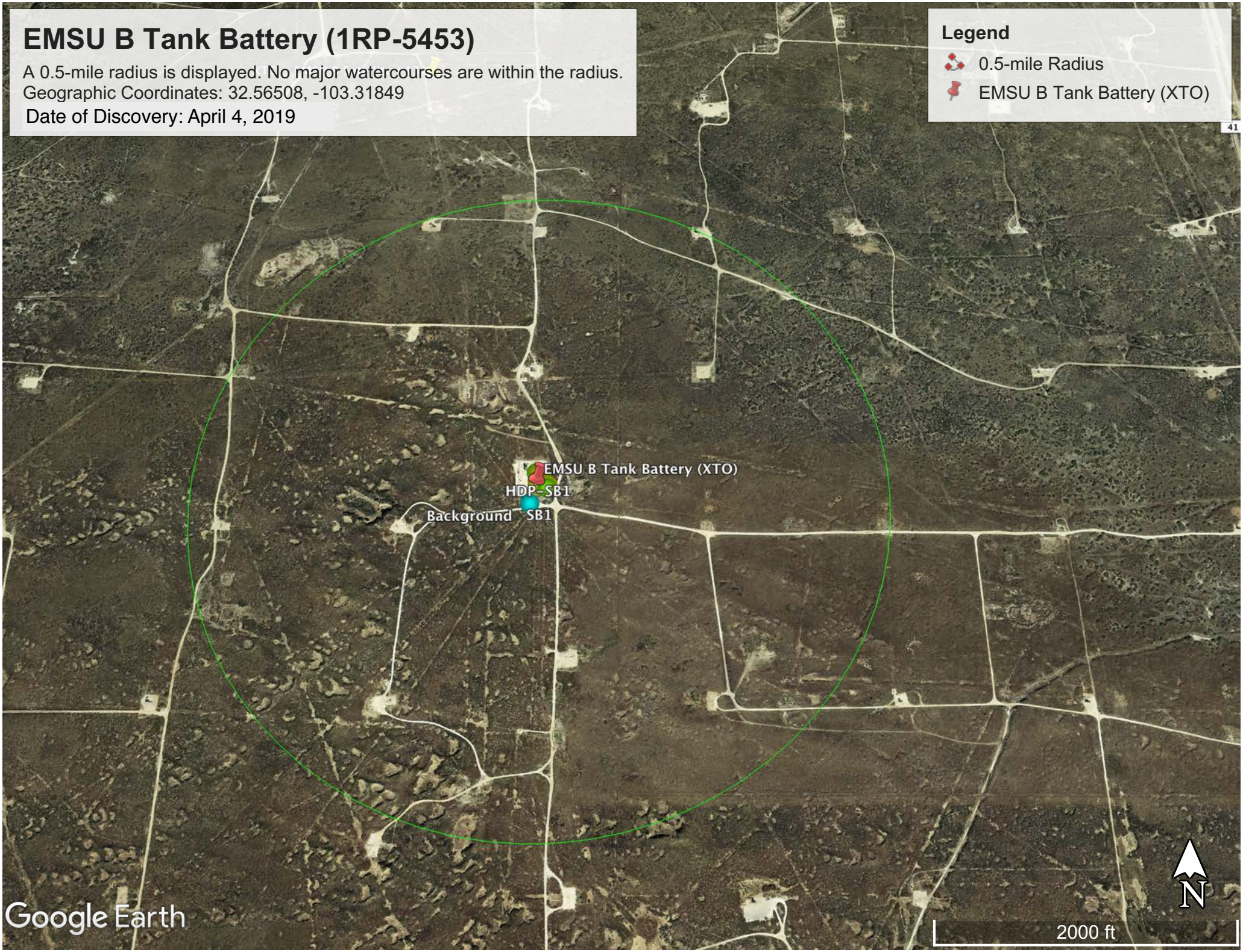
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

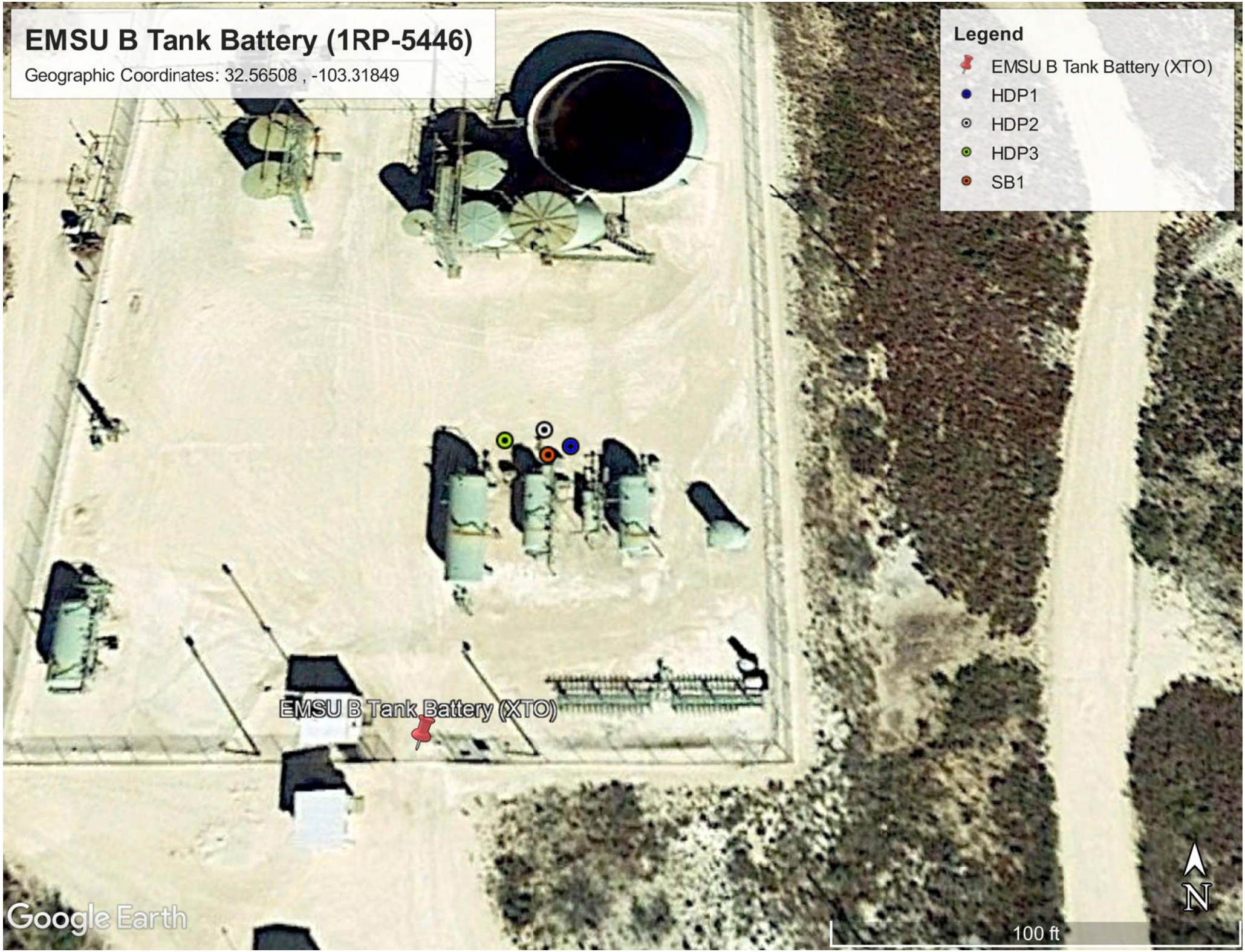
Attachment B

0.5-Mile Radius Map
Demonstrating Absence of Major Watercourses


EMSU B Tank Battery (1RP-5453)
A 0.5-mile radius is displayed. No major watercourses are within the radius.
Geographic Coordinates: 32.56508, -103.31849
Date of Discovery: April 4, 2019
Legend
0.5-mile Radius
EMSU B Tank Battery (XTO)
EMSU B Tank Battery (XTO)
HDP-SB1
Background SB1
Google Earth
N
2000 ft

Attachment C

Release Site Plan
Depicting Sample Locations


EMSU B Tank Battery (1RP-5446)
Geographic Coordinates: 32.56508 , -103.31849
Legend
EMSU B Tank Battery (XTO)
HDP1
HDP2
HDP3
SB1
EMSU B Tank Battery (XTO)
Google Earth
N
100 ft

Attachment D

Analytical Results Summary Table

XTO Energy, Inc. - EMSU B Tank Battery (1RP-5446)

Analyte	Benzene	Toluene	Ethylbenzene	Xylenes, Total	Gasoline Range Organics [C6 - C10]	Diesel Range Organics [C10-C28]	MRO (C28-C35)	Chloride
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Closure Criteria for Soils Impacted by a Release (Depth to Groundwater is Less than 50")	10	Total BTEX must not exceed 50 mg/Kg			Total Petroleum Hydrocarbons are not to exceed 100 mg/Kg (GRO + DRO + MRO)			600
490-172773-1 EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs 4/23/2019 11:05 AM	ND	ND	ND	0.0047	ND	14.0	9.17	ND
490-172773-2 EMSU B Tank Battery New April Release - HDP2 - @ 6" bgs 4/23/2019 11:10 AM	ND	ND	ND	0.00303	ND	7520	2580	29.3
490-172773-3 EMSU B Tank Battery New April Release - HDP3 - @ 3" bgs 4/23/2019 11:15 AM	ND	ND	0.000777	0.00477	ND	50.1	22.8	372
490-172773-4 EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs 4/23/2019 11:17 AM	0.00435	0.081	0.190	0.933	69.7	3.16	2.52	423
490-172773-5 EMSU B Tank Battery New April Release - SB1 - @ 2' bgs 4/23/2019 11:19 AM	0.00247	0.0438	0.0499	0.295	37.5	4780	1690	1040
490-172773-6 EMSU B Tank Battery New April Release - SB1 - @ 3' bgs 4/23/2019 11:20 AM	ND	0.0266	0.0754	0.286	22.7	7280	2520	140
490-172773-7 EMSU B Tank Battery New April Release - SB1 - @ 4' bgs 4/23/2019 11:21 AM	0.00113	0.0127	0.0317	0.239	145	2230	467	107
490-172773-8 EMSU B Tank Battery New April Release - SB1 - @ 6' bgs 4/23/2019 11:28 AM	ND	ND	0.212	2.16	674	10800	2610	137
490-172773-9 EMSU B Tank Battery New April Release - SB1 - @ 8' bgs 4/23/2019 11:35 AM	0.00400	0.0106	0.291	0.971	49.7	989	229	143
490-172773-10 EMSU B Tank Battery New April Release - SB1 - @ 10' bgs 4/23/2019 11:53 AM	ND	ND	0.644	1.33	260	766	221	14.1
490-172773-11 EMSU B Tank Battery New April Release - SB1 - @ 12' bgs 4/23/2019 12:00 PM	ND	ND	0.0168	0.0624	35.2	112	30.1	20.9

Note: Groundwater was estimated to be present at approximately 46 feet below ground surface at the subject site.

Attachment E

Laboratory Analytical Reports

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

Laboratory Job ID: 490-172773-1
Client Project/Site: EMSU B Tank Battery (New April Release)

For:
Sport Environmental Services LLC
502 N Big Spring St
Midland, Texas 79701

Attn: Debi Sport Moore

Authorized for release by:
5/6/2019 1:38:04 PM
Shali Brown, Project Manager II
(615)301-5031
shali.brown@testamericainc.com

Designee for

Jennifer Gambill, Project Manager I
(615)301-5044
jennifer.gambill@testamericainc.com

Table of Contents

Sample Summary

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-172773-1	EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs	Solid	04/23/19 11:05	04/26/19 09:25
490-172773-2	EMSU B Tank Battery New April Release - HDP2 - @ 6" bgs	Solid	04/23/19 11:10	04/26/19 09:25
490-172773-3	EMSU B Tank Battery New April Release - HDP3 - @ 3" bgs	Solid	04/23/19 11:15	04/26/19 09:25
490-172773-4	EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs	Solid	04/23/19 11:17	04/26/19 09:25
490-172773-5	EMSU B Tank Battery New April Release - SB1 - @ 2' bgs	Solid	04/23/19 11:19	04/26/19 09:25
490-172773-6	EMSU B Tank Battery New April Release - SB1 - @ 3' bgs	Solid	04/23/19 11:20	04/26/19 09:25
490-172773-7	EMSU B Tank Battery New April Release - SB1 - @ 4' bgs	Solid	04/23/19 11:21	04/26/19 09:25
490-172773-8	EMSU B Tank Battery New April Release - SB1 - @ 6' bgs	Solid	04/23/19 11:28	04/26/19 09:25
490-172773-9	EMSU B Tank Battery New April Release - SB1 - @ 8' bgs	Solid	04/23/19 11:35	04/26/19 09:25
490-172773-10	EMSU B Tank Battery New April Release - SB1 - @ 10' bgs	Solid	04/23/19 11:53	04/26/19 09:25
490-172773-11	EMSU B Tank Battery New April Release - SB1 - @ 12' bgs	Solid	04/23/19 12:00	04/26/19 09:25

Job ID: 490-172773-1

Laboratory: Eurofins TestAmerica, Nashville

Narrative

Job Narrative
490-172773-1

Comments
No additional comments.

Receipt
The samples were received on 4/26/2019 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2º C.

GC/MS VOA
Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample: EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs (490-172773-4). The sample shows evidence of matrix interference.

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample: EMSU B Tank Battery New April Release - SB1 - @ 3' bgs (490-172773-6). The sample shows evidence of matrix interference. No requested analytes are associated with the low internal standard. Data is not impacted.

Method(s) 8260B: Surrogate recovery was outside control limits for the following sample: EMSU B Tank Battery New April Release - SB1 - @ 12' bgs (490-172773-11). 4-Bromofluorobenzene surrogate is not associated with reported analytes. Data has been reported.

Method(s) 8260B: Surrogate recovery for the following samples were outside control limits: EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs (490-172773-4), EMSU B Tank Battery New April Release - SB1 - @ 3' bgs (490-172773-6) and EMSU B Tank Battery New April Release - SB1 - @ 8' bgs (490-172773-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: The following samples were diluted due to the nature of the sample matrix: EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs (490-172773-4), EMSU B Tank Battery New April Release - SB1 - @ 4' bgs (490-172773-7), EMSU B Tank Battery New April Release - SB1 - @ 6' bgs (490-172773-8) and EMSU B Tank Battery New April Release - SB1 - @ 10' bgs (490-172773-10). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: Surrogate recovery was outside control limits for the following sample: EMSU B Tank Battery New April Release - SB1 - @ 6' bgs (490-172773-8). 4-Bromofluorobenzene surrogate is not associated with reported analytes. Data has been reported.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 490-592404.

Method(s) 8260B: Surrogate recovery for the following samples were outside control limits: EMSU B Tank Battery New April Release - SB1 - @ 4' bgs (490-172773-7) and EMSU B Tank Battery New April Release - SB1 - @ 10' bgs (490-172773-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Surrogate recovery for the following samples were outside control limits: EMSU B Tank Battery New April Release - SB1 - @ 2' bgs (490-172773-5) and EMSU B Tank Battery New April Release - SB1 - @ 6' bgs (490-172773-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following samples: EMSU B Tank Battery New April Release - SB1 - @ 2' bgs (490-172773-5) and EMSU B Tank Battery New April Release - SB1 - @ 6' bgs (490-172773-8). The sample(s) shows evidence of matrix interference.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 490-592400.

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

HPLC/IC

Job ID: 490-172773-1 (Continued)

Laboratory: Eurofins TestAmerica, Nashville (Continued)

Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs (490-172773-4) and EMSU B Tank Battery New April Release - SB1 - @ 2' bgs (490-172773-5). 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 VOA

Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 490-591459 and analytical batch 490-591477.

Method(s) 8015B: The method blank for preparation batch 490-591565 and analytical batch 490-591826 contained C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

GC Semi VOA

Method(s) 8015B: The matrix spike duplicate (MSD) recoveries for 490-592232 were outside control limits. Sample non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8015B: The following samples were diluted to bring the concentration of target analytes within the calibration range: (490-172890-A-3-A), (490-172890-A-3-B MS) and (490-172890-A-3-C MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8015B: The following samples were diluted due to the nature of the sample matrix : EMSU B Tank Battery New April Release - HDP2 - @ 6" bgs (490-172773-2), EMSU B Tank Battery New April Release - SB1 - @ 2' bgs (490-172773-5), EMSU B Tank Battery New April Release - SB1 - @ 3' bgs (490-172773-6), EMSU B Tank Battery New April Release - SB1 - @ 4' bgs (490-172773-7) and EMSU B Tank Battery New April Release - SB1 - @ 6' bgs (490-172773-8). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8015B: The following samples were diluted due to the nature of the sample matrix: EMSU B Tank Battery New April Release - SB1 - @ 8' bgs (490-172773-9) and EMSU B Tank Battery New April Release - SB1 - @ 10' bgs (490-172773-10). 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.

Organic Prep

Method(s) 3550C: The following samples were diluted due to the nature of the sample matrix: EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs (490-172773-1) and EMSU B Tank Battery New April Release - HDP2 - @ 6" bgs (490-172773-2).

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Client Sample ID: EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs

Lab Sample ID: 490-172773-1

Date Collected: 04/23/19 11:05
Matrix: Solid
Date Received: 04/26/19 09:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00189	0.000632	mg/Kg		04/30/19 09:44	05/02/19 19:06	1
Ethylbenzene	ND		0.00189	0.000632	mg/Kg		04/30/19 09:44	05/02/19 19:06	1
Toluene	ND		0.00189	0.000698	mg/Kg		04/30/19 09:44	05/02/19 19:06	1
Xylenes, Total	**0.00470**	**J**	0.00566	0.00116	mg/Kg		04/30/19 09:44	05/02/19 19:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*127*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:06*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:06*	*1*
Dibromofluoromethane (Surr)	*124*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:06*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:06*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.73	2.36	mg/Kg		04/30/19 09:44	05/01/19 03:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*95*		*50 - 150*	*04/30/19 09:44*	*05/01/19 03:00*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**14.0**		8.22	4.11	mg/Kg		05/02/19 19:07	05/05/19 11:30	1
MRO (C28-C35)	**9.17**		8.22	4.11	mg/Kg		05/02/19 19:07	05/05/19 11:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*90*		*50 - 150*	*05/02/19 19:07*	*05/05/19 11:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.0	7.01	mg/Kg			04/30/19 20:05	1

Client: Sport Environmental Services LLC
Project/Site: EMSU B Tank Battery (New April Release)

Job ID: 490-172773-1

Client Sample ID: EMSU B Tank Battery New April Release - HDP2 - @ 6" bgs

Lab Sample ID: 490-172773-2

Date Collected: 04/23/19 11:10
Date Received: 04/26/19 09:25

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00189	0.000632	mg/Kg		04/30/19 09:44	05/02/19 19:34	1
Ethylbenzene	ND		0.00189	0.000632	mg/Kg		04/30/19 09:44	05/02/19 19:34	1
Toluene	ND		0.00189	0.000698	mg/Kg		04/30/19 09:44	05/02/19 19:34	1
Xylenes, Total	**0.00303**	**J**	0.00566	0.00116	mg/Kg		04/30/19 09:44	05/02/19 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:34*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:34*	*1*
Dibromofluoromethane (Surr)	*126*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:34*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*	*04/30/19 09:44*	*05/02/19 19:34*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.66	2.33	mg/Kg		04/30/19 09:44	05/01/19 03:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*94*		*50 - 150*	*04/30/19 09:44*	*05/01/19 03:34*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**7520**		403	202	mg/Kg		05/02/19 19:07	05/05/19 11:48	50
MRO (C28-C35)	**2580**		403	202	mg/Kg		05/02/19 19:07	05/05/19 11:48	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*0*	*X*	*50 - 150*	*05/02/19 19:07*	*05/05/19 11:48*	*50*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.3**		9.99	6.99	mg/Kg			04/30/19 20:28	1

Client: Sport Environmental Services LLC
Project/Site: EMSU B Tank Battery (New April Release)

Job ID: 490-172773-1

Client Sample ID: EMSU B Tank Battery New April Release - HDP3 - @ 3" bgs

Lab Sample ID: 490-172773-3

Date Collected: 04/23/19 11:15
Date Received: 04/26/19 09:25

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00199	0.000666	mg/Kg		04/30/19 09:44	05/02/19 20:03	1
Ethylbenzene	**0.000777**	**J**	0.00199	0.000666	mg/Kg		04/30/19 09:44	05/02/19 20:03	1
Toluene	ND		0.00199	0.000736	mg/Kg		04/30/19 09:44	05/02/19 20:03	1
Xylenes, Total	**0.00477**	**J**	0.00596	0.00122	mg/Kg		04/30/19 09:44	05/02/19 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*128*		*70 - 130*	*04/30/19 09:44*	*05/02/19 20:03*	*1*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*04/30/19 09:44*	*05/02/19 20:03*	*1*
Dibromofluoromethane (Surr)	*124*		*70 - 130*	*04/30/19 09:44*	*05/02/19 20:03*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*	*04/30/19 09:44*	*05/02/19 20:03*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.84	2.42	mg/Kg		04/30/19 09:44	05/01/19 04:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*90*		*50 - 150*	*04/30/19 09:44*	*05/01/19 04:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**50.1**		4.96	2.48	mg/Kg		05/02/19 19:07	05/05/19 12:05	1
MRO (C28-C35)	**22.8**		4.96	2.48	mg/Kg		05/02/19 19:07	05/05/19 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*66*		*50 - 150*	*05/02/19 19:07*	*05/05/19 12:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**372**		9.98	6.99	mg/Kg			04/30/19 20:40	1

Client Sample Results

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs

Lab Sample ID: 490-172773-4

Date Collected: 04/23/19 11:17
Matrix: Solid
Date Received: 04/26/19 09:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00435		0.00193	0.000645	mg/Kg		04/30/19 09:44	05/02/19 21:29	1
Ethylbenzene	0.190		0.0859	0.0292	mg/Kg		04/30/19 09:44	05/02/19 16:15	1
Toluene	0.0810	J	0.0859	0.0318	mg/Kg		04/30/19 09:44	05/02/19 16:15	1
Xylenes, Total	0.933		0.258	0.0533	mg/Kg		04/30/19 09:44	05/02/19 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*	*04/30/19 09:44*	*05/02/19 16:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*156*	*X*	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:29*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*04/30/19 09:44*	*05/02/19 16:15*	*1*
4-Bromofluorobenzene (Surr)	*912*	*X **	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:29*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*	*04/30/19 09:44*	*05/02/19 16:15*	*1*
Dibromofluoromethane (Surr)	*135*	*X*	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:29*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*	*04/30/19 09:44*	*05/02/19 16:15*	*1*
Toluene-d8 (Surr)	*118*	***	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:29*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	69.7		4.35	2.17	mg/Kg		04/30/19 09:44	05/01/19 05:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*91*		*50 - 150*	*04/30/19 09:44*	*05/01/19 05:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3.16	J	4.97	2.48	mg/Kg		05/02/19 19:07	05/05/19 12:22	1
MRO (C28-C35)	2.52	J	4.97	2.48	mg/Kg		05/02/19 19:07	05/05/19 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*103*		*50 - 150*	*05/02/19 19:07*	*05/05/19 12:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	423		49.8	34.9	mg/Kg			05/02/19 00:58	5

Client: Sport Environmental Services LLC
Project/Site: EMSU B Tank Battery (New April Release)

Job ID: 490-172773-1

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 2' bgs

Lab Sample ID: 490-172773-5

Date Collected: 04/23/19 11:19
Date Received: 04/26/19 09:25

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00247		0.00167	0.000559	mg/Kg		04/30/19 09:44	05/03/19 14:04	1
Ethylbenzene	0.0499		0.00167	0.000559	mg/Kg		04/30/19 09:44	05/03/19 14:04	1
Toluene	0.0438		0.00167	0.000618	mg/Kg		04/30/19 09:44	05/03/19 14:04	1
Xylenes, Total	0.295		0.00501	0.00103	mg/Kg		04/30/19 09:44	05/03/19 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*127*		*70 - 130*	*04/30/19 09:44*	*05/03/19 14:04*	*1*
4-Bromofluorobenzene (Surr)	*213*	*X **	*70 - 130*	*04/30/19 09:44*	*05/03/19 14:04*	*1*
Dibromofluoromethane (Surr)	*116*		*70 - 130*	*04/30/19 09:44*	*05/03/19 14:04*	*1*
Toluene-d8 (Surr)	*289*	*X*	*70 - 130*	*04/30/19 09:44*	*05/03/19 14:04*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	37.5		4.86	2.43	mg/Kg		04/30/19 09:44	05/01/19 04:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*92*		*50 - 150*	*04/30/19 09:44*	*05/01/19 04:41*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	4780		249	125	mg/Kg		05/02/19 19:07	05/05/19 12:40	50
MRO (C28-C35)	1690		249	125	mg/Kg		05/02/19 19:07	05/05/19 12:40	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*0*	*X*	*50 - 150*	*05/02/19 19:07*	*05/05/19 12:40*	*50*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1040		101	70.7	mg/Kg			05/02/19 01:14	10

Client: Sport Environmental Services LLC
Project/Site: EMSU B Tank Battery (New April Release)

Job ID: 490-172773-1

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 3' bgs

Lab Sample ID: 490-172773-6

Date Collected: 04/23/19 11:20
Date Received: 04/26/19 09:25

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00199	0.000667	mg/Kg		04/30/19 09:44	05/02/19 21:01	1
Ethylbenzene	**0.0754**		0.00199	0.000667	mg/Kg		04/30/19 09:44	05/02/19 21:01	1
Toluene	**0.0266**		0.00199	0.000737	mg/Kg		04/30/19 09:44	05/02/19 21:01	1
Xylenes, Total	**0.286**		0.00598	0.00123	mg/Kg		04/30/19 09:44	05/02/19 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*132*	*X*	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:01*	*1*
4-Bromofluorobenzene (Surr)	*834*	*X **	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:01*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*	*04/30/19 09:44*	*05/02/19 21:01*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*	*04/30/19 09:44*	*05/02/19 21:01*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**22.7**		4.45	2.22	mg/Kg		04/30/19 09:44	05/01/19 06:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*95*		*50 - 150*	*04/30/19 09:44*	*05/01/19 06:23*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**7280**		497	248	mg/Kg		05/02/19 19:07	05/05/19 12:57	100
MRO (C28-C35)	**2520**		497	248	mg/Kg		05/02/19 19:07	05/05/19 12:57	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*0*	*X*	*50 - 150*	*05/02/19 19:07*	*05/05/19 12:57*	*100*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**140**		9.97	6.98	mg/Kg			04/30/19 21:15	1

Client: Sport Environmental Services LLC
Project/Site: EMSU B Tank Battery (New April Release)

Job ID: 490-172773-1

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 4' bgs

Lab Sample ID: 490-172773-7

Date Collected: 04/23/19 11:21
Date Received: 04/26/19 09:25

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00113	J	0.00193	0.000648	mg/Kg		04/30/19 09:44	05/03/19 13:59	1
Ethylbenzene	0.0317		0.00193	0.000648	mg/Kg		04/30/19 09:44	05/03/19 13:59	1
Toluene	0.0127		0.00193	0.000716	mg/Kg		04/30/19 09:44	05/03/19 13:59	1
Xylenes, Total	0.239		0.00580	0.00119	mg/Kg		04/30/19 09:44	05/03/19 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*143*	*X*	*70 - 130*	*04/30/19 09:44*	*05/03/19 13:59*	*1*
4-Bromofluorobenzene (Surr)	*665*	*X*	*70 - 130*	*04/30/19 09:44*	*05/03/19 13:59*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*	*04/30/19 09:44*	*05/03/19 13:59*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*	*04/30/19 09:44*	*05/03/19 13:59*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	145		4.95	2.48	mg/Kg		04/30/19 09:44	05/01/19 06:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*90*		*50 - 150*	*04/30/19 09:44*	*05/01/19 06:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2230		249	124	mg/Kg		05/02/19 19:07	05/05/19 13:15	50
MRO (C28-C35)	467		249	124	mg/Kg		05/02/19 19:07	05/05/19 13:15	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*0*	*X*	*50 - 150*	*05/02/19 19:07*	*05/05/19 13:15*	*50*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	107		9.88	6.92	mg/Kg			04/30/19 21:26	1

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 6' bgs

Lab Sample ID: 490-172773-8

Date Collected: 04/23/19 11:28
Matrix: Solid
Date Received: 04/26/19 09:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00187	0.000627	mg/Kg		04/30/19 09:44	05/03/19 14:34	1
Ethylbenzene	**0.212**		0.00187	0.000627	mg/Kg		04/30/19 09:44	05/03/19 14:34	1
Toluene	ND		0.00187	0.000693	mg/Kg		04/30/19 09:44	05/03/19 14:34	1
Xylenes, Total	**2.16**		0.251	0.0518	mg/Kg		04/30/19 09:44	05/02/19 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*	*04/30/19 09:44*	*05/02/19 18:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*183*	*X*	*70 - 130*	*04/30/19 09:44*	*05/03/19 14:34*	*1*
4-Bromofluorobenzene (Surr)	*140*	*X*	*70 - 130*	*04/30/19 09:44*	*05/02/19 18:37*	*1*
4-Bromofluorobenzene (Surr)	*520*	*X **	*70 - 130*	*04/30/19 09:44*	*05/03/19 14:34*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*	*04/30/19 09:44*	*05/02/19 18:37*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*	*04/30/19 09:44*	*05/03/19 14:34*	*1*
Toluene-d8 (Surr)	*128*		*70 - 130*	*04/30/19 09:44*	*05/02/19 18:37*	*1*
Toluene-d8 (Surr)	*5544*	*X*	*70 - 130*	*04/30/19 09:44*	*05/03/19 14:34*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**674**		4.37	2.19	mg/Kg		04/30/19 09:44	05/01/19 07:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*89*		*50 - 150*	*04/30/19 09:44*	*05/01/19 07:30*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**10800**		491	246	mg/Kg		05/02/19 19:07	05/05/19 13:50	100
MRO (C28-C35)	**2610**		98.3	49.1	mg/Kg		05/02/19 19:07	05/05/19 13:32	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*0*	*X*	*50 - 150*	*05/02/19 19:07*	*05/05/19 13:32*	*20*
o-Terphenyl (Surr)	*0*	*X*	*50 - 150*	*05/02/19 19:07*	*05/05/19 13:50*	*100*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**137**		9.87	6.91	mg/Kg			04/30/19 21:38	1

Client: Sport Environmental Services LLC
Project/Site: EMSU B Tank Battery (New April Release)

Job ID: 490-172773-1

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 8' bgs

Lab Sample ID: 490-172773-9

Date Collected: 04/23/19 11:35
Date Received: 04/26/19 09:25

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00400		0.00177	0.000592	mg/Kg		04/30/19 09:44	05/02/19 21:58	1
Ethylbenzene	0.291		0.00177	0.000592	mg/Kg		04/30/19 09:44	05/02/19 21:58	1
Toluene	0.0106		0.00177	0.000654	mg/Kg		04/30/19 09:44	05/02/19 21:58	1
Xylenes, Total	0.971		0.255	0.0526	mg/Kg		04/30/19 09:44	05/02/19 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*	*04/30/19 09:44*	*05/02/19 17:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*142*	*X*	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:58*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/30/19 09:44*	*05/02/19 17:12*	*1*
4-Bromofluorobenzene (Surr)	*449*	*X*	*70 - 130*	*04/30/19 09:44*	*05/02/19 21:58*	*1*
Dibromofluoromethane (Surr)	*97*		*70 - 130*	*04/30/19 09:44*	*05/02/19 17:12*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*	*04/30/19 09:44*	*05/02/19 21:58*	*1*
Toluene-d8 (Surr)	*111*		*70 - 130*	*04/30/19 09:44*	*05/02/19 17:12*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*	*04/30/19 09:44*	*05/02/19 21:58*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	49.7		4.66	2.33	mg/Kg		04/30/19 09:44	05/01/19 08:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*90*		*50 - 150*	*04/30/19 09:44*	*05/01/19 08:04*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	989		49.6	24.8	mg/Kg		05/02/19 19:07	05/05/19 14:07	10
MRO (C28-C35)	229		49.6	24.8	mg/Kg		05/02/19 19:07	05/05/19 14:07	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*135*		*50 - 150*	*05/02/19 19:07*	*05/05/19 14:07*	*10*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	143		9.95	6.96	mg/Kg			04/30/19 21:49	1

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 10' bgs

Lab Sample ID: 490-172773-10

Date Collected: 04/23/19 11:53
Matrix: Solid
Date Received: 04/26/19 09:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00181	0.000607	mg/Kg		04/30/19 11:19	05/03/19 14:28	1
Ethylbenzene	**0.644**		0.0982	0.0334	mg/Kg		04/30/19 11:19	05/02/19 19:34	1
Toluene	ND		0.00181	0.000670	mg/Kg		04/30/19 11:19	05/03/19 14:28	1
Xylenes, Total	**1.33**		0.295	0.0609	mg/Kg		04/30/19 11:19	05/02/19 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*	*04/30/19 11:19*	*05/02/19 19:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*182*	*X*	*70 - 130*	*04/30/19 11:19*	*05/03/19 14:28*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*04/30/19 11:19*	*05/02/19 19:34*	*1*
4-Bromofluorobenzene (Surr)	*381*	*X*	*70 - 130*	*04/30/19 11:19*	*05/03/19 14:28*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*	*04/30/19 11:19*	*05/02/19 19:34*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*	*04/30/19 11:19*	*05/03/19 14:28*	*1*
Toluene-d8 (Surr)	*117*		*70 - 130*	*04/30/19 11:19*	*05/02/19 19:34*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*	*04/30/19 11:19*	*05/03/19 14:28*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**260**	**B**	4.22	2.11	mg/Kg		04/30/19 11:19	05/01/19 22:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*89*		*50 - 150*	*04/30/19 11:19*	*05/01/19 22:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**766**		49.7	24.8	mg/Kg		05/02/19 19:07	05/05/19 16:10	10
MRO (C28-C35)	**221**		24.8	12.4	mg/Kg		05/02/19 19:07	05/05/19 14:25	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*103*		*50 - 150*	*05/02/19 19:07*	*05/05/19 14:25*	*5*
o-Terphenyl (Surr)	*129*		*50 - 150*	*05/02/19 19:07*	*05/05/19 16:10*	*10*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14.1**		9.75	6.82	mg/Kg			04/30/19 22:01	1

Client: Sport Environmental Services LLC
Project/Site: EMSU B Tank Battery (New April Release)

Job ID: 490-172773-1

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 12' bgs

Lab Sample ID: 490-172773-11

Date Collected: 04/23/19 12:00

Matrix: Solid

Date Received: 04/26/19 09:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00189	0.000633	mg/Kg		04/30/19 11:19	05/02/19 20:32	1
Ethylbenzene	**0.0168**		0.00189	0.000633	mg/Kg		04/30/19 11:19	05/02/19 20:32	1
Toluene	ND		0.00189	0.000699	mg/Kg		04/30/19 11:19	05/02/19 20:32	1
Xylenes, Total	**0.0624**		0.00567	0.00116	mg/Kg		04/30/19 11:19	05/02/19 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*	*04/30/19 11:19*	*05/02/19 20:32*	*1*
4-Bromofluorobenzene (Surr)	*142*	*X*	*70 - 130*	*04/30/19 11:19*	*05/02/19 20:32*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*	*04/30/19 11:19*	*05/02/19 20:32*	*1*
Toluene-d8 (Surr)	*90*		*70 - 130*	*04/30/19 11:19*	*05/02/19 20:32*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	**35.2**	**B**	4.65	2.32	mg/Kg		04/30/19 11:19	05/01/19 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*91*		*50 - 150*	*04/30/19 11:19*	*05/01/19 14:06*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**112**		4.98	2.49	mg/Kg		05/02/19 19:07	05/05/19 14:42	1
MRO (C28-C35)	**30.1**		4.98	2.49	mg/Kg		05/02/19 19:07	05/05/19 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*70*		*50 - 150*	*05/02/19 19:07*	*05/05/19 14:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20.9**		10.1	7.06	mg/Kg			04/30/19 22:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: 490-172773-9 MS

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 8' bgs

Matrix: Solid
Analysis Batch: 592131

Prep Type: Total/NA
Prep Batch: 591460

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		2.12	2.078		mg/Kg		98	21 - 150
Ethylbenzene	0.375		2.12	2.367		mg/Kg		94	10 - 150
Toluene	ND		2.12	2.133		mg/Kg		101	17 - 150
Xylenes, Total	0.971		4.24	4.801		mg/Kg		90	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
Dibromofluoromethane (Surr)	*96*		*70 - 130*
Toluene-d8 (Surr)	*108*		*70 - 130*

Lab Sample ID: 490-172773-9 MSD

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 8' bgs

Matrix: Solid
Analysis Batch: 592131

Prep Type: Total/NA
Prep Batch: 591460

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		2.12	2.080		mg/Kg		98	21 - 150	0	50
Ethylbenzene	0.375		2.12	2.297		mg/Kg		91	10 - 150	3	50
Toluene	ND		2.12	2.111		mg/Kg		99	17 - 150	1	50
Xylenes, Total	0.971		4.24	4.652		mg/Kg		87	10 - 150	3	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
Toluene-d8 (Surr)	*111*		*70 - 130*

Lab Sample ID: 490-172773-1 MS

Client Sample ID: EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs

Matrix: Solid
Analysis Batch: 592141

Prep Type: Total/NA
Prep Batch: 591461

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.0427	0.04121		mg/Kg		97	21 - 150
Ethylbenzene	ND		0.0427	0.03908		mg/Kg		92	10 - 150
Toluene	ND		0.0427	0.03895		mg/Kg		91	17 - 150
Xylenes, Total	0.00470	J	0.0853	0.08046		mg/Kg		89	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

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

Lab Sample ID: 490-172773-1 MSD
Client Sample ID: EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 592141
Prep Batch: 591461

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0479	0.03634		mg/Kg		76	21 - 150	13	50
Ethylbenzene	ND		0.0479	0.03596		mg/Kg		75	10 - 150	8	50
Toluene	ND		0.0479	0.03470		mg/Kg		72	17 - 150	12	50
Xylenes, Total	0.00470	J	0.0958	0.08208		mg/Kg		81	10 - 150	2	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*105*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: MB 490-592131/7
Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 592131

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.100	0.0340	mg/Kg			05/02/19 14:13	1
Ethylbenzene	ND		0.100	0.0340	mg/Kg			05/02/19 14:13	1
Toluene	ND		0.100	0.0370	mg/Kg			05/02/19 14:13	1
Xylenes, Total	ND		0.300	0.0620	mg/Kg			05/02/19 14:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*		*05/02/19 14:13*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*05/02/19 14:13*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*05/02/19 14:13*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*05/02/19 14:13*	*1*

Lab Sample ID: LCS 490-592131/3
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 592131

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2.50	2.612		mg/Kg		104	70 - 130
Ethylbenzene	2.50	2.564		mg/Kg		103	70 - 130
Toluene	2.50	2.555		mg/Kg		102	70 - 130
Xylenes, Total	5.00	5.210		mg/Kg		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

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

Lab Sample ID: LCSD 490-592131/4
Matrix: Solid
Analysis Batch: 592131

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			2.50	2.619		mg/Kg		105	70 - 130	0	37
Ethylbenzene			2.50	2.633		mg/Kg		105	70 - 130	3	38
Toluene			2.50	2.626		mg/Kg		105	70 - 130	3	40
Xylenes, Total			5.00	5.258		mg/Kg		105	70 - 130	1	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 490-592141/7
Matrix: Solid
Analysis Batch: 592141

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000670	mg/Kg			05/02/19 14:18	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			05/02/19 14:18	1
Toluene	ND		0.00200	0.000740	mg/Kg			05/02/19 14:18	1
Xylenes, Total	ND		0.00600	0.00123	mg/Kg			05/02/19 14:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*70 - 130*		*05/02/19 14:18*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*05/02/19 14:18*	*1*
Dibromofluoromethane (Surr)	*122*		*70 - 130*		*05/02/19 14:18*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*05/02/19 14:18*	*1*

Lab Sample ID: LCS 490-592141/3
Matrix: Solid
Analysis Batch: 592141

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	0.05182		mg/Kg		104	70 - 130
Ethylbenzene			0.0500	0.04873		mg/Kg		97	70 - 130
Toluene			0.0500	0.04790		mg/Kg		96	70 - 130
Xylenes, Total			0.100	0.09750		mg/Kg		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*109*		*70 - 130*
Toluene-d8 (Surr)	*95*		*70 - 130*

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

Lab Sample ID: LCSD 490-592141/4
Matrix: Solid
Analysis Batch: 592141

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	0.05218		mg/Kg		104	70 - 130	1	37
Ethylbenzene			0.0500	0.04824		mg/Kg		96	70 - 130	1	38
Toluene			0.0500	0.04860		mg/Kg		97	70 - 130	1	40
Xylenes, Total			0.100	0.09680		mg/Kg		97	70 - 130	1	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: MB 490-592400/6
Matrix: Solid
Analysis Batch: 592400

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000670	mg/Kg			05/03/19 13:34	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			05/03/19 13:34	1
Toluene	ND		0.00200	0.000740	mg/Kg			05/03/19 13:34	1
Xylenes, Total	ND		0.00600	0.00123	mg/Kg			05/03/19 13:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*05/03/19 13:34*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*05/03/19 13:34*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*05/03/19 13:34*	*1*
Toluene-d8 (Surr)	*115*		*70 - 130*		*05/03/19 13:34*	*1*

Lab Sample ID: LCS 490-592400/3
Matrix: Solid
Analysis Batch: 592400

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	0.04568		mg/Kg		91	70 - 130
Ethylbenzene			0.0500	0.04765		mg/Kg		95	70 - 130
Toluene			0.0500	0.05117		mg/Kg		102	70 - 130
Xylenes, Total			0.100	0.09787		mg/Kg		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*107*		*70 - 130*

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

Lab Sample ID: LCSD 490-592400/4
Matrix: Solid
Analysis Batch: 592400

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	0.04525		mg/Kg		91	70 - 130	1	37
Ethylbenzene			0.0500	0.04724		mg/Kg		94	70 - 130	1	38
Toluene			0.0500	0.05075		mg/Kg		101	70 - 130	1	40
Xylenes, Total			0.100	0.09614		mg/Kg		96	70 - 130	2	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*109*		*70 - 130*

Lab Sample ID: MB 490-592404/6
Matrix: Solid
Analysis Batch: 592404

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000670	mg/Kg			05/03/19 13:30	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			05/03/19 13:30	1
Toluene	ND		0.00200	0.000740	mg/Kg			05/03/19 13:30	1
Xylenes, Total	ND		0.00600	0.00123	mg/Kg			05/03/19 13:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*127*		*70 - 130*		*05/03/19 13:30*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*05/03/19 13:30*	*1*
Dibromofluoromethane (Surr)	*125*		*70 - 130*		*05/03/19 13:30*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*05/03/19 13:30*	*1*

Lab Sample ID: LCS 490-592404/3
Matrix: Solid
Analysis Batch: 592404

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	0.05244		mg/Kg		105	70 - 130
Ethylbenzene			0.0500	0.04834		mg/Kg		97	70 - 130
Toluene			0.0500	0.04760		mg/Kg		95	70 - 130
Xylenes, Total			0.100	0.09717		mg/Kg		97	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
Dibromofluoromethane (Surr)	*110*		*70 - 130*
Toluene-d8 (Surr)	*95*		*70 - 130*

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

Lab Sample ID: LCSD 490-592404/4
Matrix: Solid
Analysis Batch: 592404

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	0.05174		mg/Kg		103	70 - 130	1	37
Ethylbenzene			0.0500	0.04876		mg/Kg		98	70 - 130	1	38
Toluene			0.0500	0.04831		mg/Kg		97	70 - 130	1	40
Xylenes, Total			0.100	0.09766		mg/Kg		98	70 - 130	1	38

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
Dibromofluoromethane (Surr)	*109*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 490-591459/1-A
Matrix: Solid
Analysis Batch: 591477

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 591459

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.00	2.50	mg/Kg		04/30/19 09:25	04/30/19 19:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*94*		*50 - 150*	*04/30/19 09:25*	*04/30/19 19:41*	*1*

Lab Sample ID: LCS 490-591459/2-A
Matrix: Solid
Analysis Batch: 591477

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591459

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]			500	473.9		mg/Kg		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*106*		*50 - 150*

Lab Sample ID: LCSD 490-591459/3-A
Matrix: Solid
Analysis Batch: 591477

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 591459

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]			500	464.1		mg/Kg		93	70 - 130	2	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*105*		*50 - 150*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 490-591565/1-A
Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 591826
Prep Batch: 591565

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	2.636	J	5.00	2.50	mg/Kg		04/30/19 11:16	05/01/19 13:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*90*		*50 - 150*	*04/30/19 11:16*	*05/01/19 13:32*	*1*

Lab Sample ID: LCS 490-591565/2-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 591826
Prep Batch: 591565

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]	500	463.4		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*101*		*50 - 150*

Lab Sample ID: LCSD 490-591565/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 591826
Prep Batch: 591565

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	500	458.7		mg/Kg		92	70 - 130	1	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*102*		*50 - 150*

Lab Sample ID: 490-172992-A-1-A MS
Client Sample ID: Matrix Spike
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 591826
Prep Batch: 591565

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics [C6 - C10]	ND		433	372.1		mg/Kg		86	56 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*99*		*50 - 150*

Lab Sample ID: 490-172992-A-1-A MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 591826
Prep Batch: 591565

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		433	375.8		mg/Kg		87	56 - 130	1	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*99*		*50 - 150*

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

Lab Sample ID: MB 490-592232/1-A
Matrix: Solid
Analysis Batch: 592413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 592232

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.00	2.50	mg/Kg		05/02/19 12:51	05/03/19 15:08	1
MRO (C28-C35)	ND		5.00	2.50	mg/Kg		05/02/19 12:51	05/03/19 15:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*98*		*50 - 150*	*05/02/19 12:51*	*05/03/19 15:08*	*1*

Lab Sample ID: LCS 490-592232/2-A
Matrix: Solid
Analysis Batch: 592413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 592232

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	40.0	39.76		mg/Kg		99	54 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl (Surr)	*108*		*50 - 150*

Lab Sample ID: 490-172890-A-3-B MS
Matrix: Solid
Analysis Batch: 592413

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 592232

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	72.5	F1	39.7	127.9		mg/Kg		139	10 - 142

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl (Surr)	*96*		*50 - 150*

Lab Sample ID: 490-172890-A-3-C MSD
Matrix: Solid
Analysis Batch: 592413

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 592232

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	72.5	F1	39.0	149.4	F1	mg/Kg		197	10 - 142	16	47

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl (Surr)	*101*		*50 - 150*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-591634/1-A
Matrix: Solid
Analysis Batch: 591766

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.1	7.07	mg/Kg			04/30/19 19:30	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 490-591634/2-A
Matrix: Solid
Analysis Batch: 591766

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			100	105.7		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 490-591634/3-A
Matrix: Solid
Analysis Batch: 591766

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			101	99.21		mg/Kg		99	90 - 110	6	20

Lab Sample ID: 490-172773-1 MS
Matrix: Solid
Analysis Batch: 591766

Client Sample ID: EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	ND		101	101.9		mg/Kg		100	80 - 120		

GC/MS VOA

Prep Batch: 591460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-9 MS	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-9 MSD	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	

Prep Batch: 591461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	5030B	
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Total/NA	Solid	5030B	
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Total/NA	Solid	5030B	
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-1 MS	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	5030B	
490-172773-1 MSD	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	5030B	

Prep Batch: 591567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	

Prep Batch: 591569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	

Analysis Batch: 592131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591460
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591460
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591460
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591567
MB 490-592131/7	Method Blank	Total/NA	Solid	8260B	
LCS 490-592131/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-592131/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
490-172773-9 MS	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591460
490-172773-9 MSD	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591460

Analysis Batch: 592141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	8260B	591461
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Total/NA	Solid	8260B	591461
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Total/NA	Solid	8260B	591461
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591461
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591461
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591461
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591569
MB 490-592141/7	Method Blank	Total/NA	Solid	8260B	

GC/MS VOA (Continued)

Analysis Batch: 592141 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-592141/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-592141/4	Lab Control Sample Dup	Total/NA	Solid	8260B	
490-172773-1 MS	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	8260B	591461
490-172773-1 MSD	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	8260B	591461

Analysis Batch: 592400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591461
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591461
MB 490-592400/6	Method Blank	Total/NA	Solid	8260B	
LCS 490-592400/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-592400/4	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 592404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591461
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8260B	591569
MB 490-592404/6	Method Blank	Total/NA	Solid	8260B	
LCS 490-592404/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-592404/4	Lab Control Sample Dup	Total/NA	Solid	8260B	

GC VOA

Prep Batch: 591459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	5030B	
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Total/NA	Solid	5030B	
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Total/NA	Solid	5030B	
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
MB 490-591459/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 490-591459/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 490-591459/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 591477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	8015B	591459
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Total/NA	Solid	8015B	591459
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Total/NA	Solid	8015B	591459
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591459
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591459
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591459
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591459
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591459
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591459
MB 490-591459/1-A	Method Blank	Total/NA	Solid	8015B	591459
LCS 490-591459/2-A	Lab Control Sample	Total/NA	Solid	8015B	591459

GC VOA (Continued)

Analysis Batch: 591477 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 490-591459/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	591459

Prep Batch: 591565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	5030B	
MB 490-591565/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 490-591565/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 490-591565/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
490-172992-A-1-A MS	Matrix Spike	Total/NA	Solid	5030B	
490-172992-A-1-A MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Analysis Batch: 591826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591565
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	591565
MB 490-591565/1-A	Method Blank	Total/NA	Solid	8015B	591565
LCS 490-591565/2-A	Lab Control Sample	Total/NA	Solid	8015B	591565
LCSD 490-591565/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	591565
490-172992-A-1-A MS	Matrix Spike	Total/NA	Solid	8015B	591565
490-172992-A-1-A MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	591565

GC Semi VOA

Prep Batch: 592232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	3550C	
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Total/NA	Solid	3550C	
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Total/NA	Solid	3550C	
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	3550C	
MB 490-592232/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 490-592232/2-A	Lab Control Sample	Total/NA	Solid	3550C	
490-172890-A-3-B MS	Matrix Spike	Total/NA	Solid	3550C	
490-172890-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	

Analysis Batch: 592413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-592232/1-A	Method Blank	Total/NA	Solid	8015B	592232
LCS 490-592232/2-A	Lab Control Sample	Total/NA	Solid	8015B	592232
490-172890-A-3-B MS	Matrix Spike	Total/NA	Solid	8015B	592232
490-172890-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	592232

GC Semi VOA

Analysis Batch: 592707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Total/NA	Solid	8015B	592232
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Total/NA	Solid	8015B	592232
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Total/NA	Solid	8015B	592232
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Total/NA	Solid	8015B	592232

HPLC/IC

Leach Batch: 591634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Soluble	Solid	DI Leach	
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Soluble	Solid	DI Leach	
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Soluble	Solid	DI Leach	
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	DI Leach	
MB 490-591634/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 490-591634/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 490-591634/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
490-172773-1 MS	EMSU B Tank Battery New April Release - HDP1	Soluble	Solid	DI Leach	

Analysis Batch: 591766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-1	EMSU B Tank Battery New April Release - HDP1	Soluble	Solid	300.0	591634
490-172773-2	EMSU B Tank Battery New April Release - HDP2	Soluble	Solid	300.0	591634
490-172773-3	EMSU B Tank Battery New April Release - HDP3	Soluble	Solid	300.0	591634
490-172773-6	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634
490-172773-7	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634
490-172773-8	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634
490-172773-9	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634
490-172773-10	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634
490-172773-11	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634
MB 490-591634/1-A	Method Blank	Soluble	Solid	300.0	591634
LCS 490-591634/2-A	Lab Control Sample	Soluble	Solid	300.0	591634
LCSD 490-591634/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	591634
490-172773-1 MS	EMSU B Tank Battery New April Release - HDP1	Soluble	Solid	300.0	591634

QC Association Summary

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

HPLC/IC

Analysis Batch: 592012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-172773-4	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634
490-172773-5	EMSU B Tank Battery New April Release - SB1 -	Soluble	Solid	300.0	591634

Lab Chronicle

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Client Sample ID: EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs
Lab Sample ID: 490-172773-1

Date Collected: 04/23/19 11:05
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.30 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592141	05/02/19 19:06	P1B	TAL NSH
Total/NA	Prep	5030B			5.29 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 03:00	AK1	TAL NSH
Total/NA	Prep	3550C			15.21 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		1			592707	05/05/19 11:30	GMH	TAL NSH
Soluble	Leach	DI Leach			2.9964 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 20:05	T1C	TAL NSH

Client Sample ID: EMSU B Tank Battery New April Release - HDP2 - @ 6" bgs
Lab Sample ID: 490-172773-2

Date Collected: 04/23/19 11:10
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.30 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592141	05/02/19 19:34	P1B	TAL NSH
Total/NA	Prep	5030B			5.36 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 03:34	AK1	TAL NSH
Total/NA	Prep	3550C			15.49 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		50			592707	05/05/19 11:48	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0037 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 20:28	T1C	TAL NSH

Client Sample ID: EMSU B Tank Battery New April Release - HDP3 - @ 3" bgs
Lab Sample ID: 490-172773-3

Date Collected: 04/23/19 11:15
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.03 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592141	05/02/19 20:03	P1B	TAL NSH
Total/NA	Prep	5030B			5.17 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 04:08	AK1	TAL NSH
Total/NA	Prep	3550C			25.21 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		1			592707	05/05/19 12:05	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0058 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 20:40	T1C	TAL NSH

Lab Chronicle

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs

Lab Sample ID: 490-172773-4

Date Collected: 04/23/19 11:17
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.82 g	5.0 mL	591460	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	0.1 mL	5 mL	592131	05/02/19 16:15	P1B	TAL NSH
Total/NA	Prep	5030B			5.19 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592141	05/02/19 21:29	P1B	TAL NSH
Total/NA	Prep	5030B			5.75 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 05:49	AK1	TAL NSH
Total/NA	Prep	3550C			25.16 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		1			592707	05/05/19 12:22	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0106 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		5			592012	05/02/19 00:58	SOO	TAL NSH

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 2' bgs

Lab Sample ID: 490-172773-5

Date Collected: 04/23/19 11:19
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.99 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592400	05/03/19 14:04	PN	TAL NSH
Total/NA	Prep	5030B			5.14 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 04:41	AK1	TAL NSH
Total/NA	Prep	3550C			25.06 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		50			592707	05/05/19 12:40	GMH	TAL NSH
Soluble	Leach	DI Leach			2.9696 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		10			592012	05/02/19 01:14	SOO	TAL NSH

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 3' bgs

Lab Sample ID: 490-172773-6

Date Collected: 04/23/19 11:20
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.02 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592141	05/02/19 21:01	P1B	TAL NSH
Total/NA	Prep	5030B			5.62 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 06:23	AK1	TAL NSH
Total/NA	Prep	3550C			25.16 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		100			592707	05/05/19 12:57	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0077 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 21:15	T1C	TAL NSH

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 4' bgs
Lab Sample ID: 490-172773-7
Date Collected: 04/23/19 11:21
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.17 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592404	05/03/19 13:59	PN	TAL NSH
Total/NA	Prep	5030B			5.05 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 06:56	AK1	TAL NSH
Total/NA	Prep	3550C			25.15 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		50			592707	05/05/19 13:15	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0357 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 21:26	T1C	TAL NSH

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 6' bgs
Lab Sample ID: 490-172773-8
Date Collected: 04/23/19 11:28
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.98 g	5.0 mL	591460	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	0.1 mL	5 mL	592131	05/02/19 18:37	P1B	TAL NSH
Total/NA	Prep	5030B			5.34 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592400	05/03/19 14:34	PN	TAL NSH
Total/NA	Prep	5030B			5.72 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 07:30	AK1	TAL NSH
Total/NA	Prep	3550C			25.44 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		20			592707	05/05/19 13:32	GMH	TAL NSH
Total/NA	Prep	3550C			25.44 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		100			592707	05/05/19 13:50	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0392 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 21:38	T1C	TAL NSH

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 8' bgs
Lab Sample ID: 490-172773-9
Date Collected: 04/23/19 11:35
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.89 g	5.0 mL	591460	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	0.1 mL	5 mL	592131	05/02/19 17:12	P1B	TAL NSH
Total/NA	Prep	5030B			5.66 g	5.0 mL	591461	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592141	05/02/19 21:58	P1B	TAL NSH
Total/NA	Prep	5030B			5.36 g	5.0 mL	591459	04/30/19 09:44	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591477	05/01/19 08:04	AK1	TAL NSH
Total/NA	Prep	3550C			25.20 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		10			592707	05/05/19 14:07	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0151 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 21:49	T1C	TAL NSH

Lab Chronicle

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 10' bgs
Lab Sample ID: 490-172773-10

Date Collected: 04/23/19 11:53
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.09 g	5.0 mL	591567	04/30/19 11:19	JLP	TAL NSH
Total/NA	Analysis	8260B		1	0.1 mL	5 mL	592131	05/02/19 19:34	P1B	TAL NSH
Total/NA	Prep	5030B			5.52 g	5.0 mL	591569	04/30/19 11:19	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592404	05/03/19 14:28	PN	TAL NSH
Total/NA	Prep	5030B			5.92 g	5.0 mL	591565	04/30/19 11:19	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591826	05/01/19 22:02	AK1	TAL NSH
Total/NA	Prep	3550C			25.16 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		5			592707	05/05/19 14:25	GMH	TAL NSH
Total/NA	Prep	3550C			25.16 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		10			592707	05/05/19 16:10	GMH	TAL NSH
Soluble	Leach	DI Leach			3.0773 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 22:01	T1C	TAL NSH

Client Sample ID: EMSU B Tank Battery New April Release - SB1 - @ 12' bgs
Lab Sample ID: 490-172773-11

Date Collected: 04/23/19 12:00
Matrix: Solid
Date Received: 04/26/19 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.29 g	5.0 mL	591569	04/30/19 11:19	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5 g	5 mL	592141	05/02/19 20:32	P1B	TAL NSH
Total/NA	Prep	5030B			5.38 g	5.0 mL	591565	04/30/19 11:19	JLP	TAL NSH
Total/NA	Analysis	8015B		1	0.1 mL	5 mL	591826	05/01/19 14:06	AK1	TAL NSH
Total/NA	Prep	3550C			25.10 g	1 mL	592232	05/02/19 19:07	AMD	TAL NSH
Total/NA	Analysis	8015B		1			592707	05/05/19 14:42	GMH	TAL NSH
Soluble	Leach	DI Leach			2.9727 g	30 mL	591634	04/30/19 14:33	SOO	TAL NSH
Soluble	Analysis	300.0		1			591766	04/30/19 22:36	T1C	TAL NSH

Laboratory References:

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
8015B	Gasoline Range Organics - (GC)	SW846	TAL NSH
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL NSH
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH
3550C	Ultrasonic Extraction	SW846	TAL NSH
5030B	Purge and Trap	SW846	TAL NSH
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL NSH

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.

Laboratory References:

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Sport Environmental Services LLC
Job ID: 490-172773-1
Project/Site: EMSU B Tank Battery (New April Release)

Laboratory: Eurofins TestAmerica, Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	06-30-19
Arizona	State Program	9	AZ0473	05-05-20
Arkansas DEQ	State Program	6	88-0737	04-25-20
California	State Program	9	2938	06-30-19
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-19
Georgia	State Program	4	NA: NELAP & A2LA	12-31-19
Illinois	NELAP	5	200010	12-09-19
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-19
Kentucky (UST)	State Program	4	19	06-30-19
Kentucky (WW)	State Program	4	90038	12-31-19
Louisiana	NELAP	6	30613	06-30-19
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-20
Massachusetts	State Program	1	M-TN032	06-30-19
Minnesota	NELAP	5	047-999-345	12-31-19
Mississippi	State Program	4	N/A	06-30-19
Nevada	State Program	9	TN00032	07-31-19
New Hampshire	NELAP	1	2963	10-09-19
New Jersey	NELAP	2	TN965	06-30-19
New York	NELAP	2	11342	03-31-20
North Carolina (WW/SW)	State Program	4	387	12-31-19
North Dakota	State Program	8	R-146	06-30-19
Oklahoma	State Program	6	9412	08-31-19
Oregon	NELAP	10	TN200001	04-26-19 *
Pennsylvania	NELAP	3	68-00585	07-31-19
Rhode Island	State Program	1	LAO00268	12-30-19
South Carolina	State Program	4	84009 (001)	02-28-19 *
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	04-10-20
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-19
Washington	State Program	10	C789	07-19-19
West Virginia DEP	State Program	3	219	02-28-19 *
Wisconsin	State Program	5	998020430	08-31-19
Wyoming (UST)	A2LA	8	453.07	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-172773 Chain of Custody

Cooler Received/Opened On 4/26/2019 @ 0925

Time Samples Removed From Cooler 13:40 Time Samples Placed In Storage 13:45 (2 Hour Window)

1. Tracking # 5949 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 97310166 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 3.2 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) TR

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? (Bubblewrap) Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES...(NO)...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

Larger than this.

14. Was there a Trip Blank in this cooler? YES...(NO)...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) ACE

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) ACE

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) ACE

I certify that I attached a label with the unique LIMS number to each container (intial) ACE

21. Were there Non-Conformance issues at login? YES...(NO) Was a NCM generated? YES...(NO)...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

TestAmerica Nashville
2960 Foster Creighton Drive

Nashville, TN 37204-3719
phone 615.726.0177 fax 615.726.3404

Chain of Custody Record Midland #264

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Debi Moore	Site Contact: Debi Moore	Date: 04/23/2019	COC No:
Sport Environmental Services, LLC	Tel/Fax: (432) 683-1100	Lab Contact: Jennifer Gambill	Carrier:	_____ of _____ COCs
502 N. Big Spring Street	Analysis Turnaround Time			Sampler: Clint Elliott
Midland, TX 79701	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(432) 683-1100 Phone	TAT if different from Below _____			Walk-in Client:
(888) 500-0622 FAX	☐ 2 weeks			Lab Sampling:
Project Name: EMSU B Tank Battery (New April Release)	☑ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O # Purchase Order Not Required	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TPH (GRO+DRO+MRO)	BTEX	Chlorides	Sample Specific Notes:
EMSU B Tank Battery New April Release - HDP1 - @ 6" bgs	4/23/2019	1105	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - HDP2 - @ 6" bgs	4/23/2019	1110	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - HDP3 - @ 3" bgs	4/23/2019	1115	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 0-1' bgs	4/23/2019	1117	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 2' bgs	4/23/2019	1119	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 3' bgs	4/23/2019	1120	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 4' bgs	4/23/2019	1121	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 6' bgs	4/23/2019	1128	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 8' bgs	4/23/2019	1135	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 10' bgs	4/23/2019	1153	G	S	1			x	x	x	
EMSU B Tank Battery New April Release - SB1 - @ 12' bgs	4/23/2019	1200	G	S	1			x	x	x	

Loc: 490
172773

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: 3.2 Corr'd:_____ Therm ID No.:_____		
Relinquished by:	Company: Sport Env	Date/Time: 4/25/19 11:10am	Received by:	Company: Sport Env	Date/Time: 4/25/19 11:10am
Relinquished by:	Company: Sport Env	Date/Time: 4/25/19 11:30am	Received by:	Company: TA	Date/Time: 4-25-19 1131
Relinquished by:	Company: TA	Date/Time: 4-25-19 1131	Received in Laboratory by:	Company: TA-MAS	Date/Time: 4/26/19 9:25

Form No. CA-C-WI-002, Rev. 4.18, dated 9/5/2018

5/6/2019

Attachment F

Waste Manifests

SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231
Business: (575) 394-2511 • Disposal: (575) 390-7842

TICKET No. 504660
3257

LEASE OPERATOR/SHIPPER/COMPANY: XTO	**DATE:** 4-4-19
LEASE NAME: EM SUB 17B	**TIME:** 832 AM/PM
RIG NAME & NUMBER:	**VEHICLE NO:** 1503
TRANSPORTER COMPANY: Blue Star.	**PHONE:** 575-725-5555
GENERATOR COMPANY MAN'S NAME: Scott Fawcett	**PHONE:** 432-234-3054

CHARGE TO: XTO

TYPE OF MATERIAL

[ ] Tank Bottoms [ ] Drilling Fluids [ ] Rinsate [ ] BS&W Content:

[ ] Solids [X] Contaminated Soil [ ] ~~Jet Out~~ wash

Description: OIP

VOLUME OF MATERIAL

[X] BBLS. 5 : [ ] YARD 8 : [ ] _____

RRC or API # **C-133#**

STICKERS, CODES, NUMBERS, ETC.

AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 361.001 et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS, PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET. TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO SUNDANCE SERVICES, INC.'S FACILITY FOR DISPOSAL.

THIS WILL CERTIFY *that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.*

DRIVER: _____
(SIGNATURE)

FACILITY REPRESENTATIVE: _____
(SIGNATURE)

White - Sundance Canary - Sundance Acct #1 Pink - Transporter

SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231
Business: (575) 394-2511 • Disposal: (575) 390-7842

TICKET No. 504804

LEASE OPERATOR/SHIPPER/COMPANY: XTO	**DATE:** 4-5-19
LEASE NAME: EMSU #B	**TIME:** 4:53 AM/PM
RIG NAME & NUMBER:	**VEHICLE NO:** 105
TRANSPORTER COMPANY: Cyclone Wellness	**PHONE:**
GENERATOR COMPANY MAN'S NAME: Scott Kaffman	**PHONE:** 432-234-305

CHARGE TO: XTO

TYPE OF MATERIAL

[ ] Tank Bottoms [ ] Drilling Fluids [ ] Rinsate [ ] BS&W Content: _____

[ ] Solids [ ] Contaminated Soil [ ] Jet Out

Description: SOLID

VOLUME OF MATERIAL [ ] BBLS._____: [ ] YARD 10 : [ ] _____

RRC or API # **C-133#**

STICKERS, CODES, NUMBERS, ETC.

AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 361.001 et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS, PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET. TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO SUNDANCE SERVICES, INC.'S FACILITY FOR DISPOSAL.

THIS WILL CERTIFY *that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.*

DRIVER: _____
(SIGNATURE)

FACILITY REPRESENTATIVE: Sandra Moore
(SIGNATURE)

White - Sundance Canary - Sundance Acct #1 Pink - Transporter