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 | NRM2004536277 |
| 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 32.277699 Longitude -103.942959
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Remuda 100 Battery | Site Type Tank Battery |
| Date Release Discovered 01/29/2020 | API# *(if applicable)* N/A |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| E | 25 | 23S | 29E | Eddy |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☒ Condensate | Volume Released (bbls) 0.78 | Volume Recovered (bbls) 0 |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release: While depressuring the Central Tank Battery for construction upgrades, condensate released from the low pressure flare stack resulting in a fire on the ground around base of flare. Additionally condensate was released from the Jayco pot vent onto the ground. Fire under the flare stack was extinguished. No standing fluid to recover. Remediation of de minimis staining around the flare stack to be completed by hand digging with disposable at an approved site.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2004536277 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br>☒ Yes ☐ No | If YES, for what reason(s) does the responsible party consider this a major release?<br>An unauthorized release of a volume that results in a fire or is the result of a fire. |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?<br>Yes by Adrian Baker to Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Venegas, Victoria, EMNRD; Jim.Griswold@state.nm.us; rmann@slo.state.nm.us on Thursday, 1-30-20 at 5:22 PM via email. | |

## 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2/12/20

email: Kyle_Littrell@xtoenergy.com Telephone:

**OCD Only**

Received by: Ramona Marcus Date: 2/14/2020

NRM2004536277

| | | |
|---|---|---|
| **Location:** | **Remuda 100 - Fire** | |
| **Spill Date:** | **1/29/2020** | |
| **Area 1** | | |
| Approximate Area = | 2807.00 | sq. ft. |
| Average Saturation (or depth) of spill = | 0.13 | inches |
| | | |
| Average Porosity Factor = | 0.15 | |
| | | |
| VOLUME OF LEAK | | |
| Total Crude Oil = | 0.78 | bbls |
| | | |
| **TOTAL VOLUME OF LEAK** | | |
| **Total Crude Oil =** | **0.78** | **bbls** |
| **TOTAL VOLUME RECOVERED** | | |
| **Total Crude Oil =** | **0.00** | **bbls** |

| | |
|---|---|
| Incident ID | NRM2004536277 |
| 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? | 50-100 (ft bgs) |
| Did this release impact groundwater or surface water? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | ☐ Yes ☒ No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a wetland? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying a subsurface mine? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | ☐ Yes ☒ No |
| Are the lateral extents of the release within a 100-year floodplain? | ☐ Yes ☒ No |
| Did the release impact areas **not** on an exploration, development, production, or storage site? | ☐ Yes ☒ No |

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

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

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

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

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2004536277 |
| 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/25/2020

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

**OCD Only**

Received by: Date:

| | |
|---|---|
| Incident ID | NRM2004536277 |
| 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/25/2020

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

**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:

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 | NRM2005546770 |
| 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 32.277699 Longitude -103.942959
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Remuda 100 Battery | Site Type Tank Battery |
| Date Release Discovered 02/07/2020 | API# *(if applicable)* N/A |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| E | 25 | 23S | 29E | Eddy |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☒ Condensate | Volume Released (bbls) .07 | Volume Recovered (bbls) 0 |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release: While setting pressures for the blanket gas, the enardos on the tank released sending condensate out of the flare causing a small fire. Fire was extinguished immediately and there was no standing fluid to recover. Remediation of de minimis staining around the flare stack to be completed by hand digging with disposal at an approved site.

State of New Mexico
Oil Conservation Division


| | |
|---|---|
| Incident ID | NRM2005546 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☒ Yes ☐ No | If YES, for what reason(s) does the responsible party consider this a major release?<br><br>An unauthorized release of a volume that results in a fire or is the result of a fire. |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?<br>Yes by Amy Ruth to Mike Bratcher; Rob Hamlet; Victoria Venegas; 'Griswold, Jim, EMNRD'; 'rmann@slo.state.nm.us' on Friday, February 7, 2020 at 3:43 PM. | |

## 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:

There were no fluids to be contained via the use of berms or dikes, absorbent pads, or other containment devices.
There were no fluids released to be removed and managed.

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: Kyle Littrell  Title: SH&E Supervisor

Signature:

Date: 2/21/20

email: Kyle_Littrell@xtoenergy.com  Telephone:

**OCD Only**

Received by: Ramona Marcus  Date: 02/24/2020

NRM2005546770

| | | |
|---|---|---|
| **Location:** | **Remuda 100** | |
| **Spill Date:** | **2/7/2020** | |

| | | |
|---|---|---|
| **Approximate Area =** | **500.00** | **sq. ft.** |
| **Average Saturation (or depth) of spill =** | **0.30** | **inches** |
| **Porosity Factor =** | **0.03** | **percent** |

| **TOTAL VOLUME OF LEAK** | | |
|---|---|---|
| **Total Oil =** | **0.07** | **bbls** |

**VOLUME RECOVERED**

| | | |
|---|---|---|
| **Total Oil =** | **0.00** | **bbls** |

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2005546770 |
| 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? | 50-100 (ft bgs) |
| Did this release impact groundwater or surface water? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | ☐ Yes ☒ No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a wetland? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying a subsurface mine? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | ☐ Yes ☒ No |
| Are the lateral extents of the release within a 100-year floodplain? | ☐ Yes ☒ No |
| Did the release impact areas **not** on an exploration, development, production, or storage site? | ☐ Yes ☒ No |

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2005546770 |
| 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/25/2020

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

**OCD Only**

Received by: Date:

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2005546770 |
| 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/25/2020

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

**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:

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 | NRM2005548076 |
| 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 32.2 77 69 Longitude -103.942959
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Remuda 100 Battery | Site Type Tank Battery |
| Date Release Discovered 02/08/2020 | API# *(if applicable)* N/A |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| E | 25 | 23S | 29E | Eddy |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☒ Condensate | Volume Released (bbls) .05 | Volume Recovered (bbls) 0 |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release. The VRT compressor went down sending condensate out of the flare creating a small fire on the ground just below flare. The fire burned itself out and there was no standing fluid to recover. Remediation of de minimis staining around the flare stack to be completed by hand digging with disposal at an approved site.

State of New Mexico
Oil Conservation Division



| | |
|---|---|
| Incident ID | NRM2005548076 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☒ Yes ☐ No | If YES, for what reason(s) does the responsible party consider this a major release?<br><br>An unauthorized release of a volume that results in a fire or is the result of a fire. |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?<br>Yes by Kyle Littrell to Mike Bratcher; Rob Hamlet; Victoria Venegas; 'Griswold, Jim, EMNRD'; rmann@slo.state.nm.us on Sunday, February 9, 2020 at 8:30 AM. | |

## 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:

There were no fluids to be contained via the use of berms or dikes, absorbent pads, or other containment devices.
There were no fluids released to be removed and managed.

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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2/21/20

email: Kyle_Littrell@xtoenergy.com Telephone:

**OCD Only**

Received by: Ramona Marcus Date: 02/24/2020

NRM2005548076

| | | |
|---|---|---|
| **Location:** | **Remuda 100** | |
| **Spill Date:** | **2/8/2020** | |

| | | |
|---|---|---|
| **Approximate Area =** | **400.00** | **sq. ft.** |
| **Average Saturation (or depth) of spill =** | **0.30** | **inches** |
| **Porosity Factor =** | **0.03** | |

| **TOTAL VOLUME OF LEAK** | | |
|---|---|---|
| **Total Oil =** | **0.05** | **bbls** |

**VOLUME RECOVERED**

| | | |
|---|---|---|
| **Total Oil =** | **0.00** | **bbls** |

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2005548076 |
| 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? | 50-100 (ft bgs) |
| Did this release impact groundwater or surface water? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | ☐ Yes ☒ No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a wetland? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying a subsurface mine? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | ☐ Yes ☒ No |
| Are the lateral extents of the release within a 100-year floodplain? | ☐ Yes ☒ No |
| Did the release impact areas **not** on an exploration, development, production, or storage site? | ☐ Yes ☒ No |

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2005548076 |
| 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/25/2020

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

**OCD Only**

Received by: Date:

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NRM2005548076 |
| 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 04/25/2020

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

**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:

A proud member of WSP

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

April 27, 2020

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

**RE: Closure Request**
**Remuda 100 Battery**
**Incident ID: NRM2004536277, NRM2005546770, and NRM2005548076**
**Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment and soil sampling activities at the Remuda 100 Battery (Site) in Unit E, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to confirm the presence or absence of impacts to soil following a fire and release of condensate at the Site. Based on field observations, field screening results, and laboratory analytical results following soil sampling events, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Numbers NRM2004536277, NRM2005546770, and NRM2005548076.

## RELEASE BACKGROUND

On January 29, 2020, during construction upgrades, approximately 0.78 barrels (bbls) of condensate released from the low-pressure flare stack resulting in a small fire. The fire was immediately extinguished and there were no freestanding fluids to recover. There were no injuries reported and no damage to equipment. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on Release Notification and Corrective Action Form C-141 (Form C-141) on February 12, 2020 and was assigned Incident Number NRM2004536277.

On February 7, 2020, while setting pressures for the blanket gas, the tank released approximately 0.07 bbls of condensate out of the flare, resulting in a small fire. The fire was extinguished, and no injuries were reported. XTO reported the release to the NMOCD on a Form C-141 on February 21, 2020 and was assigned Incident Number NRM2005546770.

On February 8, 2020, the VRT compressor malfunctioned and released approximately 0.05 bbls of condensate from the flare, resulting in a small fire. The fire was immediately extinguished and there were no freestanding fluids to recover. There were no injuries reported and no damage to equipment. XTO reported the release to the NMOCD on a Form C-141 on February 21, 2020 and was assigned Incident Number NRM2005548076.

## SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be between 50 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 321717103561001, located approximately 0.81 miles north of the Site. The groundwater well has a reported depth to groundwater of 52 feet bgs, total depth is undetermined. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry tributary, located approximately 33 feet northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). The Site receptors are identified on Figure 1.

## CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

Additionally, reclamation of the affected pasture area must be comprised of non-waste containing earthen material exhibiting chloride concentrations below 600 mg/kg, which was applied per NMAC 19.15.29.13.D (1) to the top 4 feet.

## SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On April 13, 2020, LTE personnel inspected the Site to evaluate the release area based on information provided in the Form C-141s and visual observations. LTE personnel collected seven delineation borehole samples (BH01 through BH07) to assess for the presence or absence of soil impacts at the ground surface. Two discrete soil samples were collected from each borehole location at depths of approximately 1 foot and 2 feet bgs. Soil from the boreholes was field screened for volatile aromatic hydrocarbons utilizing a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each borehole were logged on lithologic/soil sampling logs, which are included in Attachment 1. All boreholes were backfilled with the removed soil. The borehole soil sample locations are depicted

on Figure 2. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Carlsbad, New Mexico for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following EPA Method 300.0.

Based on laboratory analytical results for the delineation soil samples collected on April 13, 2020, excavation activities did not appear to be warranted.

## ANALYTICAL RESULTS

Laboratory analytical results indicated delineation soil samples BH01 through BH07 collected at depths of approximately 1 foot and 2 feet bgs were compliant with the NMOCD Table 1 Closure Criteria for benzene, GRO and DRO, TPH and chloride concentrations and meet the reclamation standards (NMAC 19.15.29.13) in the top 4 feet. Laboratory analytical results are depicted on Figure 2 and summarized in Table 1. The laboratory analytical report is included as Attachment 3.

## CONCLUSIONS

Delineation soil samples BH01 through BH07 were collected from depths of approximately 1 foot and 2 feet bgs to assess for the presence or absence of soil impacts as a result of the condensate fires on January 29, February 7, and February 8, 2020. Laboratory analytical results for all soil samples indicated benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and chloride concentrations were compliant with the reclamation requirement in the top 4 feet. Additionally, field screening of soil indicated volatile aromatic hydrocarbons and chloride concentrations were not elevated and soil staining and petroleum hydrocarbon odors were not identified within the release area.

Based on initial response efforts, absence of elevated field screening results, and soil sample laboratory analytical results compliant with the Closure Criteria and reclamation requirement, no impacted soil was identified, and no soil excavation was required as a result of the condensate fires. XTO requests no further action for Incident Numbers NRM2004536277, NRM2005546770, and NRM2005548076.

If you have any questions or comments, please do not hesitate to contact Ashley Ager at (970) 385-1096.

A proud member of WSP

Sincerely,

LT ENVIRONMENTAL, INC.

Elizabeth A. Naka
Staff Environmental Scientist

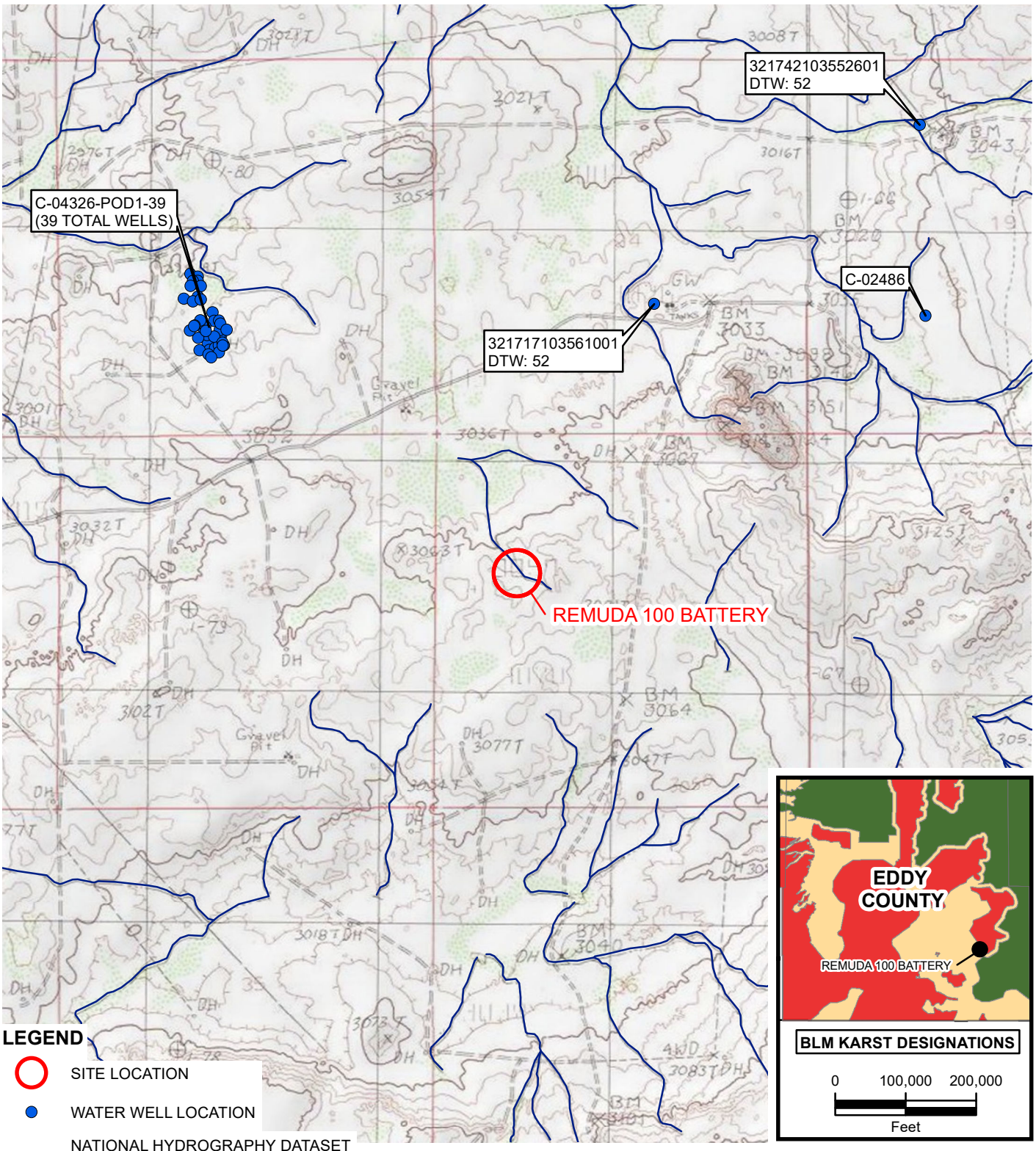
Ashley L. Ager, P.G.
Senior Geologist

**cc:** Kyle Littrell, XTO
Ryan Mann, State Land Office
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

| | |
|---|---|
| Figure 1 | Site Location Map |
| Figure 2 | Soil Sampling Locations |
| Table 1 | Laboratory Analytical Results |
| Attachment 1 | Lithologic/Soil Sampling Logs |
| Attachment 2 | Photographic Log |
| Attachment 3 | Laboratory Analytical Reports |

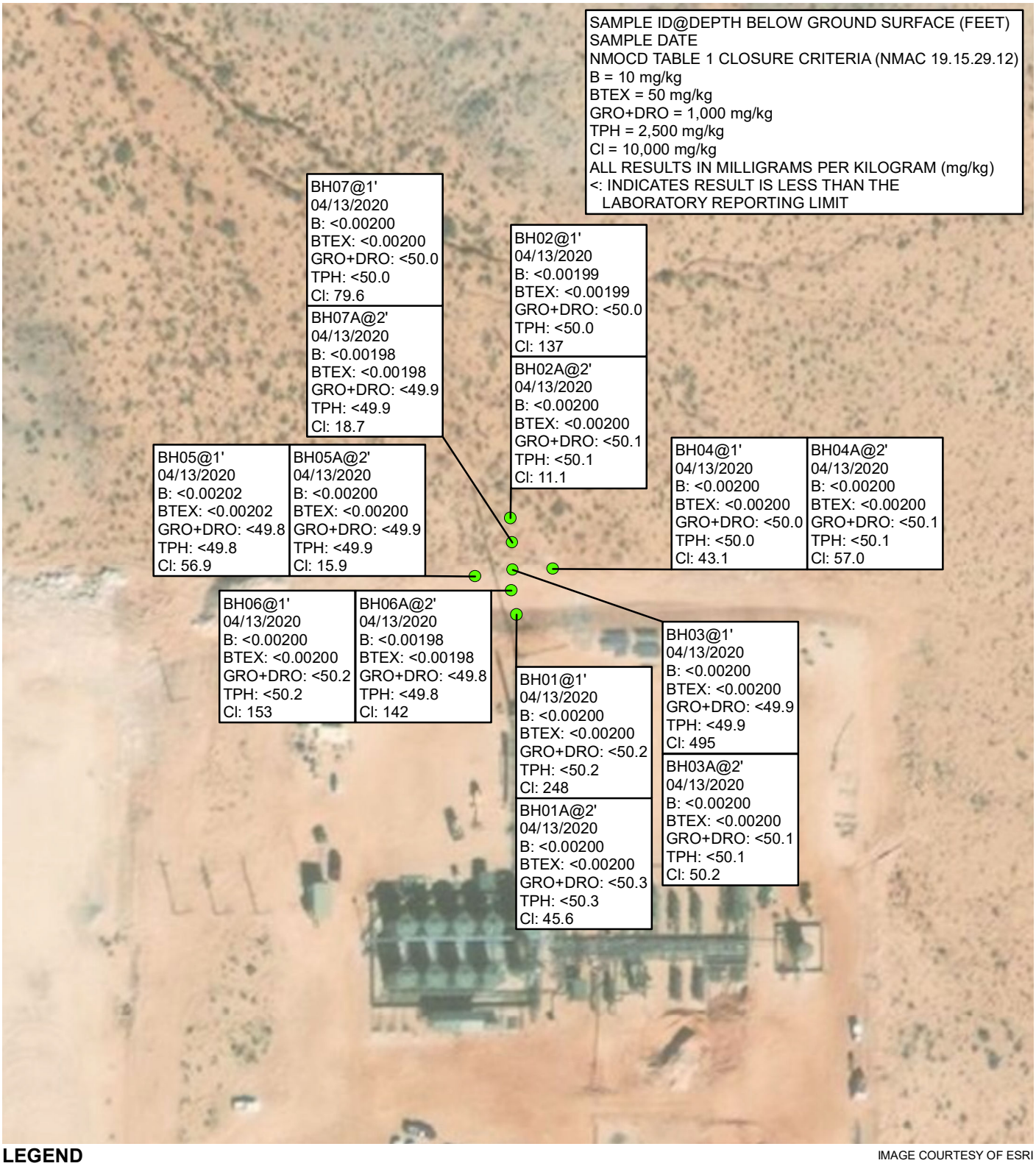
# FIGURES




NOTE: INCIDENT NUMBER NOT ASSIGNED
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
REMUDA 100 BATTERY
UNIT E SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

P:\XTO Energy\GIS\MXD\012920050_REMUDA 100 BATTERY\012920050_FIG01_SL_RECEPTOR_2020.mxd




**LEGEND**

IMAGE COURTESY OF ESRI

SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER NOT ASSIGNED

0 100 200
Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
REMUDA 100 BATTERY
UNIT E SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

P:\XTO Energy\GIS\MXD\012920050_REMUDA 100 BATTERY\012920050_FIG02_SS_LOC_2020.mxd

TABLES

# TABLE 1
# SOIL ANALYTICAL RESULTS

## REMUDA 100 BATTERY
## INCIDENT NUMBER NRM2004536277, NRM2005546770, and NRM2005548076
## EDDY COUNTY, NEW MEXICO
## XTO ENERGY, INC.

| Sample Name | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-benzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria** | | | **10** | NE | NE | NE | **50** | NE | NE | NE | NE | **100** | **600** |
| BH01 | 1 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 248 |
| BH01A | 2 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.3 | <50.3 | <50.3 | <50.3 | <50.3 | 45.6 |
| BH02 | 1 | 04/13/2020 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 137 |
| BH02A | 2 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 11.1 |
| BH03 | 1 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 495 |
| BH03A | 2 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 50.2 |
| BH04 | 1 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 43.1 |
| BH04A | 2 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.1 | <50.1 | <50.1 | <50.1 | <50.1 | 57.0 |
| BH05 | 1 | 04/13/2020 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 56.9 |
| BH05A | 2 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 15.9 |
| BH06 | 1 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.2 | <50.2 | <50.2 | <50.2 | <50.2 | 153 |
| BH06A | 2 | 04/13/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 142 |
| BH07 | 1 | 04/13/2020 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 79.6 |
| BH07A | 2 | 04/13/2020 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <0.00198 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 18.7 |

**Notes:**

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
TPH - total petroleum hydrocarbons
**Bold** - indicates result exceeds the applicable regulatory standard
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

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ATTACHMENT 1: LITHOLOGIC / SOIL SAMPLING LOG

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

A proud member of WSP

| | |
|---|---|
| BH or PH Name: BH01 | Date: 4.13.20 |
| Site Name: Rhonda 10 | |
| RP or Incident Number: | |
| LTE Job Number: 01292005O | |
| Logged By: SL, EM | Method: Hand Auger |
| Lat/Long: | Field Screening: Chloride, PID |
| Hole Diameter: 2.25" | Total Depth: 2' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments: TD @ 2'

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | 0.4 | N | BH01 | 1 | 1 | SP SM | 0 - 2 Sand, Brown, No odor, no stain, m-f, poorly graded, trace silt, trace caliche |
| D | | 1.0 | N | BH01A | 2 | 2 | | |
| | | | | | | 3 | | TD @ 2' |
| | | | | | | 4 | | |
| | | | | | | 5 | | |
| | | | | | | 6 | | |
| | | | | | | 7 | | |
| | | | | | | 8 | | |
| | | | | | | 9 | | |
| | | | | | | 10 | | |
| | | | | | | 11 | | |
| | | | | | | 12 | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220

A proud member of WSP

| | |
|---|---|
| BH or PH Name: BH02 | Date: 4.13.20 |
| Site Name: Remuda 100 | |
| RP or Incident Number: | |
| LTE Job Number: 01292050 | |
| Logged By: SL / EM | Method: Hand Auger |
| Lat/Long: | Field Screening: Chloride, PID |
| Hole Diameter: 2.25" | Total Depth: 2' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments: Tb @ 2'

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | 0-2 |
| D | <186 | 0.4 | N | BH02 | 1 | 1 | SP SM | Sand, Brown, no odor, no stain, m-f, poorly graded, trace silt, trace caliche |
| D | <186 | 0.2 | N | BH02A | 2 | 2 | | |
| | | | | | | 3 | | Tb @ 2' |
| | | | | | | 4 | | |
| | | | | | | 5 | | |
| | | | | | | 6 | | |
| | | | | | | 7 | | |
| | | | | | | 8 | | |
| | | | | | | 9 | | |
| | | | | | | 10 | | |
| | | | | | | 11 | | |
| | | | | | | 12 | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220

A proud member of WSP

| | |
|---|---|
| BH or PH Name: BH03 | Date: 4.13.20 |
| Site Name: Remuda 100 | |
| RP or Incident Number: | |
| LTE Job Number: 01292005o | |
| Logged By: SL EM | Method: Hand Auger |
| Hole Diameter: 2.25" | Total Depth: 2' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long:

Field Screening: Chloride, PID

Comments: TD @ 2.0'

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 960 | 0.0 | N | BH03 | 1 | 0 | SP SM | 0-2 Sand, Brown, no odor, no stain, m-f, poorly graded, trace silt, trace caliche |
| D | <186 | 0.0 | N | BH03A | 2 | 1 | | |
| | | | | | | 2 | | TD @ 2' |
| | | | | | | 3 | | |
| | | | | | | 4 | | |
| | | | | | | 5 | | |
| | | | | | | 6 | | |
| | | | | | | 7 | | |
| | | | | | | 8 | | |
| | | | | | | 9 | | |
| | | | | | | 10 | | |
| | | | | | | 11 | | |
| | | | | | | 12 | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220

A proud member of WSP

| | |
|---|---|
| BH or PH Name: BH04 | Date: 4.13.20 |
| Site Name: Remuda 100 | |
| RP or Incident Number: | |
| LTE Job Number: 01292050 | |
| Logged By: SL EM | Method: Hand Auger |
| Lat/Long: | Field Screening: Chloride, PID |
| Hole Diameter: 2.25" | Total Depth: 2' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Comments: TD @ 2'

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | <186 | 0.0 | N | BH04 | 1 | 0 | SP SM | 0-2 Sand, Brown, no odor, no stain, m-f, poorly graded, trace silt, trace caliche |
| D | <186 | 0.0 | N | BH04A | 2 | 1 | | |
| | | | | | | 2 | | TD @ 2' |
| | | | | | | 3 | | |
| | | | | | | 4 | | |
| | | | | | | 5 | | |
| | | | | | | 6 | | |
| | | | | | | 7 | | |
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| | | | | | | 9 | | |
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| | | | | | | 11 | | |
| | | | | | | 12 | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220

A proud member of WSP

| | |
|---|---|
| BH or PH Name: BH05 | Date: 4.13.20 |
| Site Name: Remuda 100 | |
| RP or Incident Number: | |
| LTE Job Number: 01297 20050 | |
| Logged By: SL EM | Method: Hand Auger |
| Lat/Long: | Field Screening: Chloride, PID |
| Hole Diameter: 2.25" | Total Depth: 2' |

## LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 2'

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | <186 | 0.0 | N | BH05 | 1 | 0 | SP | 0-2 Sand, Brown, No odor, no stain, m-f, poorly graded, trace silt, trace caliche |
| D | <186 | 0.0 | N | BH05A | 2 | 1 | SM | |
| | | | | | | 2 | | TD @ 2' |
| | | | | | | 3 | | |
| | | | | | | 4 | | |
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| | | | | | | 11 | | |
| | | | | | | 12 | | |

**LT Environmental, Inc.**
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Carlsbad, New Mexico 88220
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| | |
|---|---|
| BH or PH Name: BH06 | Date: 4.13.20 |
| Site Name: Remuda 100 | |
| RP or Incident Number: | |
| LTE Job Number: 01292005O | |
| Logged By: SL EM | Method: Hand Auger |
| Lat/Long: | Field Screening: Chloride, PID |
| Hole Diameter: 2.25" | Total Depth: 2' |

Comments: TD @ 2'

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | <186 | 0.0 | N | BH06 | 1 | 0 | SP | 0-2 sand, brown, no odor, no stain, m-f, poor ly graded, trace silt, trace caliche |
| | | | | | | 1 | SM | |
| D | <186 | 0.0 | N | BH06A | 2 | 2 | | |
| | | | | | | 3 | | TD @ 2' |
| | | | | | | 4 | | |
| | | | | | | 5 | | |
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| | | | | | | 10 | | |
| | | | | | | 11 | | |
| | | | | | | 12 | | |

**LT Environmental, Inc.**
508 West Stevens Street
Carlsbad, New Mexico 88220

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| | |
|---|---|
| BH or PH Name: BH07 | Date: 4.13.20 |
| Site Name: Remuda 106 | |
| RP or Incident Number: | |
| LTE Job Number: 01292050 | |
| Logged By: SL EM | Method: Hand Auger |
| Hole Diameter: 2.25" | Total Depth: 2' |

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long:

Field Screening: Chloride, PID

Comments: TD @ 2'

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | <186 | 0.0 | N | BH07 | 1 | 0 | SP SM | 0-2 Sand, Brown, no odor, no stain, m-f, poorly graded, trace silt, trace caliche |
| D | <186 | 0.0 | N | BH07A | 2 | 1 | | |
| | | | | | | 2 | | TD @ 2' |
| | | | | | | 3 | | |
| | | | | | | 4 | | |
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| | | | | | | 12 | | |

# ATTACHMENT 2: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG


**Photograph 1:** View of release area on January 31, 2020 facing north.

**Photograph 2:** View of delineation soil sample BPH05 facing south.

**Photograph 3:** View of delineation soil sample BH01 facing north.

**Photograph 4:** View of delineation soil sample BH03 facing south.

Remuda 100 Battery
NRM2004536277, NRM2005546770, and NRM2005548076
Photographs Taken: January 31, 2020 and April 13, 2020

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

# Analytical Report 658696

## for

## LT Environmental, Inc.

**Project Manager: Dan Moir**

**Remuda 100**

**01292200500**

**04.15.2020**

Collected By: Client

**1089 N Canal Street**
**Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

04.15.2020

Project Manager: **Dan Moir**
**LT Environmental, Inc.**
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **658696**
**Remuda 100**
Project Address:

**Dan Moir**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 658696. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 658696 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

**Jessica Kramer**
Project Manager

*A Small Business and Minority Company*

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

# Sample Cross Reference 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| BH01 | S | 04.13.2020 10:17 | 1 ft | 658696-001 |
| BH01A | S | 04.13.2020 10:18 | 2 ft | 658696-002 |
| BH02 | S | 04.13.2020 10:44 | 1 ft | 658696-003 |
| BH02A | S | 04.13.2020 10:45 | 2 ft | 658696-004 |
| BH03 | S | 04.13.2020 11:03 | 1 ft | 658696-005 |
| BH03A | S | 04.13.2020 11:04 | 2 ft | 658696-006 |
| BH04 | S | 04.13.2020 11:27 | 1 ft | 658696-007 |
| BH04A | S | 04.13.2020 11:28 | 2 ft | 658696-008 |
| BH05 | S | 04.13.2020 11:42 | 1 ft | 658696-009 |
| BH05A | S | 04.13.2020 11:44 | 2 ft | 658696-010 |
| BH06 | S | 04.13.2020 13:20 | 1 ft | 658696-011 |
| BH06A | S | 04.13.2020 13:21 | 2 ft | 658696-012 |
| BH07 | S | 04.13.2020 13:23 | 1 ft | 658696-013 |
| BH07A | S | 04.13.2020 13:27 | 2 ft | 658696-014 |

# CASE NARRATIVE

***Client Name: LT Environmental, Inc.***

***Project Name: Remuda 100***

Project ID: *01292200500*
Work Order Number(s): *658696*

Report Date: *04.15.2020*
Date Received: *04.13.2020*

**Sample receipt non conformances and comments:**

None

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

None

**Analytical non conformances and comments:**

Batch: LBA-3122893 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3122895 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 658696

## LT Environmental, Inc., Arvada, CO

## Project Name: Remuda 100

**Project Id:** 01292200500
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon 04.13.2020 14:30
**Report Date:** 04.15.2020 12:05
**Project Manager:** Jessica Kramer

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 658696-001 | | 658696-002 | | 658696-003 | | 658696-004 | | 658696-005 | | 658696-006 | |
| | *Field Id:* | BH01 | | BH01A | | BH02 | | BH02A | | BH03 | | BH03A | |
| | *Depth:* | 1- ft | | 2- ft | | 1- ft | | 2- ft | | 1- ft | | 2- ft | |
| | *Matrix:* | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | *Sampled:* | 04.13.2020 10:17 | | 04.13.2020 10:18 | | 04.13.2020 10:44 | | 04.13.2020 10:45 | | 04.13.2020 11:03 | | 04.13.2020 11:04 | |
| **BTEX by EPA 8021B** | *Extracted:* | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | |
| | *Analyzed:* | 04.13.2020 15:35 | | 04.13.2020 15:55 | | 04.13.2020 17:37 | | 04.13.2020 17:57 | | 04.13.2020 18:18 | | 04.13.2020 18:38 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00399 | 0.00399 | <0.00398 | 0.00398 | <0.00399 | 0.00399 | <0.00400 | 0.00400 | <0.00399 | 0.00399 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00200 | 0.00200 |
| **Select Anions By EPA 300** | *Extracted:* | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | |
| | *Analyzed:* | 04.13.2020 16:48 | | 04.13.2020 16:54 | | 04.13.2020 16:59 | | 04.13.2020 17:05 | | 04.13.2020 17:21 | | 04.13.2020 17:27 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 248 | 10.0 | 45.6 | 9.98 | 137 | 9.92 | 11.1 | 9.96 | 495 | 10.1 | 50.2 | 10.0 |
| **TPH by SW8015 Mod** | *Extracted:* | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | |
| | *Analyzed:* | 04.14.2020 12:02 | | 04.14.2020 12:02 | | 04.14.2020 05:44 | | 04.14.2020 06:04 | | 04.14.2020 06:24 | | 04.14.2020 06:44 | |
| | *Units/RL:* | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.2 | 50.2 | <50.3 | 50.3 | <50.0 | 50.0 | <50.1 | 50.1 | <49.9 | 49.9 | <50.1 | 50.1 |
| Diesel Range Organics (DRO) | | <50.2 | 50.2 | <50.3 | 50.3 | <50.0 | 50.0 | <50.1 | 50.1 | <49.9 | 49.9 | <50.1 | 50.1 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.2 | 50.2 | <50.3 | 50.3 | <50.0 | 50.0 | <50.1 | 50.1 | <49.9 | 49.9 | <50.1 | 50.1 |
| Total GRO-DRO | | <50.2 | 50.2 | <50.3 | 50.3 | <50.0 | 50.0 | <50.1 | 50.1 | <49.9 | 49.9 | <50.1 | 50.1 |
| Total TPH | | <50.2 | 50.2 | <50.3 | 50.3 | <50.0 | 50.0 | <50.1 | 50.1 | <49.9 | 49.9 | <50.1 | 50.1 |



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Jessica Kramer
Project Manager

# Certificate of Analysis Summary 658696

## LT Environmental, Inc., Arvada, CO

## Project Name: Remuda 100

**Project Id:** 01292200500
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon 04.13.2020 14:30
**Report Date:** 04.15.2020 12:05
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 658696-007 | | 658696-008 | | 658696-009 | | 658696-010 | | 658696-011 | | 658696-012 | |
| | ***Field Id:*** | BH04 | | BH04A | | BH05 | | BH05A | | BH06 | | BH06A | |
| | ***Depth:*** | 1- ft | | 2- ft | | 1- ft | | 2- ft | | 1- ft | | 2- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | 04.13.2020 11:27 | | 04.13.2020 11:28 | | 04.13.2020 11:42 | | 04.13.2020 11:44 | | 04.13.2020 13:20 | | 04.13.2020 13:21 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | | 04.13.2020 15:00 | |
| | ***Analyzed:*** | 04.13.2020 18:58 | | 04.13.2020 19:19 | | 04.13.2020 19:39 | | 04.13.2020 20:00 | | 04.13.2020 20:20 | | 04.13.2020 20:40 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Toluene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| m,p-Xylenes | | <0.00401 | 0.00401 | <0.00401 | 0.00401 | <0.00403 | 0.00403 | <0.00400 | 0.00400 | <0.00401 | 0.00401 | <0.00397 | 0.00397 |
| o-Xylene | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| Total BTEX | | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00202 | 0.00202 | <0.00200 | 0.00200 | <0.00200 | 0.00200 | <0.00198 | 0.00198 |
| **Select Anions By EPA 300** | ***Extracted:*** | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | | ** ** ** ** | |
| | ***Analyzed:*** | 04.13.2020 17:32 | | 04.13.2020 17:38 | | 04.13.2020 17:43 | | 04.13.2020 17:49 | | 04.13.2020 18:05 | | 04.13.2020 18:10 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 43.1 | 9.92 | 57.0 | 9.96 | 56.9 | 9.98 | 15.9 | 9.98 | 153 | 9.98 | 142 | 9.96 |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | | 04.13.2020 17:05 | |
| | ***Analyzed:*** | 04.14.2020 07:24 | | 04.14.2020 07:44 | | 04.14.2020 08:04 | | 04.14.2020 08:24 | | 04.14.2020 08:44 | | 04.14.2020 09:05 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 | 50.0 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 |
| Total GRO-DRO | | <50.0 | 50.0 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 |
| Total TPH | | <50.0 | 50.0 | <50.1 | 50.1 | <49.8 | 49.8 | <49.9 | 49.9 | <50.2 | 50.2 | <49.8 | 49.8 |



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Jessica Kramer
Project Manager

# Certificate of Analysis Summary 658696

## LT Environmental, Inc., Arvada, CO

## Project Name: Remuda 100

**Project Id:** 01292200500
**Contact:** Dan Moir
**Project Location:**

**Date Received in Lab:** Mon 04.13.2020 14:30
**Report Date:** 04.15.2020 12:05
**Project Manager:** Jessica Kramer

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 658696-013 | | 658696-014 | | | |
| | ***Field Id:*** | BH07 | | BH07A | | | |
| | ***Depth:*** | 1- ft | | 2- ft | | | |
| | ***Matrix:*** | SOIL | | SOIL | | | |
| | ***Sampled:*** | 04.13.2020 13:23 | | 04.13.2020 13:27 | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | 04.13.2020 15:30 | | 04.13.2020 15:30 | | | |
| | ***Analyzed:*** | 04.13.2020 18:51 | | 04.13.2020 19:11 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | |
| Benzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | |
| m,p-Xylenes | | <0.00399 | 0.00399 | <0.00396 | 0.00396 | | |
| o-Xylene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | |
| Total BTEX | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | | |
| **Select Anions By EPA 300** | ***Extracted:*** | ** ** ** ** | | ** ** ** ** | | | |
| | ***Analyzed:*** | 04.13.2020 18:27 | | 04.13.2020 18:32 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | |
| Chloride | | 79.6 | 9.92 | 18.7 | 9.96 | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | 04.13.2020 17:05 | | 04.13.2020 17:05 | | | |
| | ***Analyzed:*** | 04.14.2020 09:25 | | 04.14.2020 09:45 | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | | |
| Gasoline Range Hydrocarbons (GRO) | | <50.0 | 50.0 | <49.9 | 49.9 | | |
| Diesel Range Organics (DRO) | | <50.0 | 50.0 | <49.9 | 49.9 | | |
| Motor Oil Range Hydrocarbons (MRO) | | <50.0 | 50.0 | <49.9 | 49.9 | | |
| Total GRO-DRO | | <50.0 | 50.0 | <49.9 | 49.9 | | |
| Total TPH | | <50.0 | 50.0 | <49.9 | 49.9 | | |



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

Jessica Kramer
Project Manager

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-001 | Date Collected: | 04.13.2020 10:17 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **248** | 10.0 | mg/kg | 04.13.2020 16:48 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 04.14.2020 12:02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 04.14.2020 12:02 | |
| o-Terphenyl | 84-15-1 | 103 | % | 70-135 | 04.14.2020 12:02 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-001 | Date Collected: | 04.13.2020 10:17 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:35 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:35 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:35 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.13.2020 15:35 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:35 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:35 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:35 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 93 | % | 70-130 | 04.13.2020 15:35 | |
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 04.13.2020 15:35 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-002 | Date Collected: | 04.13.2020 10:18 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **45.6** | 9.98 | mg/kg | 04.13.2020 16:54 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.3 | 50.3 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.3 | 50.3 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.3 | 50.3 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Total GRO-DRO | PHC628 | <50.3 | 50.3 | mg/kg | 04.14.2020 12:02 | U | 1 |
| Total TPH | PHC635 | <50.3 | 50.3 | mg/kg | 04.14.2020 12:02 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 92 | % | 70-135 | 04.14.2020 12:02 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 04.14.2020 12:02 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH01A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-002 | Date Collected: | 04.13.2020 10:18 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:55 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:55 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:55 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.13.2020 15:55 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:55 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:55 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 15:55 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 04.13.2020 15:55 | |
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 04.13.2020 15:55 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-003 | Date Collected: | 04.13.2020 10:44 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **137** | 9.92 | mg/kg | 04.13.2020 16:59 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.14.2020 05:44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.14.2020 05:44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.14.2020 05:44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.14.2020 05:44 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.14.2020 05:44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 04.14.2020 05:44 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.14.2020 05:44 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-003 | Date Collected: | 04.13.2020 10:44 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 04.13.2020 17:37 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 04.13.2020 17:37 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 04.13.2020 17:37 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 04.13.2020 17:37 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 04.13.2020 17:37 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 04.13.2020 17:37 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 04.13.2020 17:37 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 91 | % | 70-130 | 04.13.2020 17:37 | |
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 04.13.2020 17:37 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-004 | Date Collected: | 04.13.2020 10:45 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **11.1** | 9.96 | mg/kg | 04.13.2020 17:05 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 04.14.2020 06:04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:04 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:04 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 04.14.2020 06:04 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 04.14.2020 06:04 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH02A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-004 | Date Collected: | 04.13.2020 10:45 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 17:57 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 17:57 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 17:57 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.13.2020 17:57 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 17:57 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 17:57 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 17:57 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 04.13.2020 17:57 | |
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 04.13.2020 17:57 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-005 | Date Collected: | 04.13.2020 11:03 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **495** | 10.1 | mg/kg | 04.13.2020 17:21 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.14.2020 06:24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.14.2020 06:24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.14.2020 06:24 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.14.2020 06:24 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.14.2020 06:24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 04.14.2020 06:24 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 04.14.2020 06:24 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-005 | Date Collected: | 04.13.2020 11:03 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:18 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:18 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:18 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.13.2020 18:18 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:18 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:18 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:18 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 04.13.2020 18:18 | |
| 4-Bromofluorobenzene | 460-00-4 | 93 | % | 70-130 | 04.13.2020 18:18 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-006 | Date Collected: | 04.13.2020 11:04 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **50.2** | 10.0 | mg/kg | 04.13.2020 17:27 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 04.14.2020 06:44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:44 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 04.14.2020 06:44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 04.14.2020 06:44 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 04.14.2020 06:44 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH03A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-006 | Date Collected: | 04.13.2020 11:04 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:38 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:38 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:38 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.13.2020 18:38 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:38 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:38 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:38 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 04.13.2020 18:38 | |
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 04.13.2020 18:38 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

Sample Id: **BH04** Matrix: Soil Date Received:04.13.2020 14:30
Lab Sample Id: 658696-007 Date Collected: 04.13.2020 11:27 Sample Depth: 1 ft

Analytical Method: Select Anions By EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 04.13.2020 14:11 Basis: Wet Weight
Seq Number: 3122891

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **43.1** | 9.92 | mg/kg | 04.13.2020 17:32 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 04.13.2020 17:05 Basis: Wet Weight
Seq Number: 3122934

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.14.2020 07:24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.14.2020 07:24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.14.2020 07:24 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.14.2020 07:24 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.14.2020 07:24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 04.14.2020 07:24 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.14.2020 07:24 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-007 | Date Collected: | 04.13.2020 11:27 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:58 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:58 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:58 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.13.2020 18:58 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:58 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:58 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:58 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 04.13.2020 18:58 | |
| 4-Bromofluorobenzene | 460-00-4 | 93 | % | 70-130 | 04.13.2020 18:58 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

Sample Id: **BH04A** Matrix: Soil Date Received:04.13.2020 14:30
Lab Sample Id: 658696-008 Date Collected: 04.13.2020 11:28 Sample Depth: 2 ft

Analytical Method: Select Anions By EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 04.13.2020 14:11 Basis: Wet Weight
Seq Number: 3122891

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **57.0** | 9.96 | mg/kg | 04.13.2020 17:38 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 04.13.2020 17:05 Basis: Wet Weight
Seq Number: 3122934

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.1 | 50.1 | mg/kg | 04.14.2020 07:44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.1 | 50.1 | mg/kg | 04.14.2020 07:44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.1 | 50.1 | mg/kg | 04.14.2020 07:44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.1 | 50.1 | mg/kg | 04.14.2020 07:44 | U | 1 |
| Total TPH | PHC635 | <50.1 | 50.1 | mg/kg | 04.14.2020 07:44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 04.14.2020 07:44 | |
| o-Terphenyl | 84-15-1 | 92 | % | 70-135 | 04.14.2020 07:44 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH04A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-008 | Date Collected: | 04.13.2020 11:28 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 19:19 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 19:19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 19:19 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.13.2020 19:19 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 19:19 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 19:19 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 19:19 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 92 | % | 70-130 | 04.13.2020 19:19 | |
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 04.13.2020 19:19 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-009 | Date Collected: | 04.13.2020 11:42 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **56.9** | 9.98 | mg/kg | 04.13.2020 17:43 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 04.14.2020 08:04 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 04.14.2020 08:04 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 04.14.2020 08:04 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 04.14.2020 08:04 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 04.14.2020 08:04 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 04.14.2020 08:04 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.14.2020 08:04 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-009 | Date Collected: | 04.13.2020 11:42 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 04.13.2020 19:39 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 04.13.2020 19:39 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 04.13.2020 19:39 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 04.13.2020 19:39 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 04.13.2020 19:39 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 04.13.2020 19:39 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 04.13.2020 19:39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 04.13.2020 19:39 | |
| 4-Bromofluorobenzene | 460-00-4 | 91 | % | 70-130 | 04.13.2020 19:39 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-010 | Date Collected: | 04.13.2020 11:44 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **15.9** | 9.98 | mg/kg | 04.13.2020 17:49 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.14.2020 08:24 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.14.2020 08:24 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.14.2020 08:24 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.14.2020 08:24 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.14.2020 08:24 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 95 | % | 70-135 | 04.14.2020 08:24 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 04.14.2020 08:24 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH05A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-010 | Date Collected: | 04.13.2020 11:44 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:00 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00400 | 0.00400 | mg/kg | 04.13.2020 20:00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:00 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 04.13.2020 20:00 | |
| 1,4-Difluorobenzene | 540-36-3 | 113 | % | 70-130 | 04.13.2020 20:00 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-011 | Date Collected: | 04.13.2020 13:20 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **153** | 9.98 | mg/kg | 04.13.2020 18:05 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.2 | 50.2 | mg/kg | 04.14.2020 08:44 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.2 | 50.2 | mg/kg | 04.14.2020 08:44 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.2 | 50.2 | mg/kg | 04.14.2020 08:44 | U | 1 |
| Total GRO-DRO | PHC628 | <50.2 | 50.2 | mg/kg | 04.14.2020 08:44 | U | 1 |
| Total TPH | PHC635 | <50.2 | 50.2 | mg/kg | 04.14.2020 08:44 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 04.14.2020 08:44 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.14.2020 08:44 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-011 | Date Collected: | 04.13.2020 13:20 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:20 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 04.13.2020 20:20 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:20 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 20:20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 97 | % | 70-130 | 04.13.2020 20:20 | |
| 1,4-Difluorobenzene | 540-36-3 | 114 | % | 70-130 | 04.13.2020 20:20 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

Sample Id: **BH06A** Matrix: Soil Date Received:04.13.2020 14:30
Lab Sample Id: 658696-012 Date Collected: 04.13.2020 13:21 Sample Depth: 2 ft

Analytical Method: Select Anions By EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 04.13.2020 14:11 Basis: Wet Weight
Seq Number: 3122891

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **142** | 9.96 | mg/kg | 04.13.2020 18:10 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 04.13.2020 17:05 Basis: Wet Weight
Seq Number: 3122934

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.8 | 49.8 | mg/kg | 04.14.2020 09:05 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.8 | 49.8 | mg/kg | 04.14.2020 09:05 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.8 | 49.8 | mg/kg | 04.14.2020 09:05 | U | 1 |
| Total GRO-DRO | PHC628 | <49.8 | 49.8 | mg/kg | 04.14.2020 09:05 | U | 1 |
| Total TPH | PHC635 | <49.8 | 49.8 | mg/kg | 04.14.2020 09:05 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 04.14.2020 09:05 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.14.2020 09:05 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH06A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-012 | Date Collected: | 04.13.2020 13:21 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:00 | Basis: | Wet Weight |
| Seq Number: | 3122895 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 20:40 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 20:40 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 20:40 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00397 | 0.00397 | mg/kg | 04.13.2020 20:40 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 20:40 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 20:40 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.13.2020 20:40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 96 | % | 70-130 | 04.13.2020 20:40 | |
| 1,4-Difluorobenzene | 540-36-3 | 110 | % | 70-130 | 04.13.2020 20:40 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-013 | Date Collected: | 04.13.2020 13:23 | Sample Depth: | 1 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **79.6** | 9.92 | mg/kg | 04.13.2020 18:27 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <50.0 | 50.0 | mg/kg | 04.14.2020 09:25 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <50.0 | 50.0 | mg/kg | 04.14.2020 09:25 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <50.0 | 50.0 | mg/kg | 04.14.2020 09:25 | U | 1 |
| Total GRO-DRO | PHC628 | <50.0 | 50.0 | mg/kg | 04.14.2020 09:25 | U | 1 |
| Total TPH | PHC635 | <50.0 | 50.0 | mg/kg | 04.14.2020 09:25 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 94 | % | 70-135 | 04.14.2020 09:25 | |
| o-Terphenyl | 84-15-1 | 100 | % | 70-135 | 04.14.2020 09:25 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-013 | Date Collected: | 04.13.2020 13:23 | Sample Depth: | 1 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:30 | Basis: | Wet Weight |
| Seq Number: | 3122893 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:51 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:51 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:51 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 04.13.2020 18:51 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:51 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:51 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 04.13.2020 18:51 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 540-36-3 | 105 | % | 70-130 | 04.13.2020 18:51 | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 04.13.2020 18:51 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-014 | Date Collected: | 04.13.2020 13:27 | Sample Depth: | 2 ft |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | Select Anions By EPA 300 | | | Prep Method: | E300P |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 14:11 | Basis: | Wet Weight |
| Seq Number: | 3122891 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **18.7** | 9.96 | mg/kg | 04.13.2020 18:32 | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| Analytical Method: | TPH by SW8015 Mod | | | Prep Method: | SW8015P |
| Tech: | DTH | | | % Moisture: | |
| Analyst: | DTH | Date Prep: | 04.13.2020 17:05 | Basis: | Wet Weight |
| Seq Number: | 3122934 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <49.9 | 49.9 | mg/kg | 04.14.2020 09:45 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <49.9 | 49.9 | mg/kg | 04.14.2020 09:45 | U | 1 |
| Motor Oil Range Hydrocarbons (MRO) | PHCG2835 | <49.9 | 49.9 | mg/kg | 04.14.2020 09:45 | U | 1 |
| Total GRO-DRO | PHC628 | <49.9 | 49.9 | mg/kg | 04.14.2020 09:45 | U | 1 |
| Total TPH | PHC635 | <49.9 | 49.9 | mg/kg | 04.14.2020 09:45 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 1-Chlorooctane | 111-85-3 | 91 | % | 70-135 | 04.14.2020 09:45 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 04.14.2020 09:45 | |

# Certificate of Analytical Results 658696

## LT Environmental, Inc., Arvada, CO

Remuda 100

| | | | | | |
|---|---|---|---|---|---|
| Sample Id: | **BH07A** | Matrix: | Soil | Date Received: | 04.13.2020 14:30 |
| Lab Sample Id: | 658696-014 | Date Collected: | 04.13.2020 13:27 | Sample Depth: | 2 ft |
| Analytical Method: | BTEX by EPA 8021B | | | Prep Method: | SW5030B |
| Tech: | MAB | | | % Moisture: | |
| Analyst: | MAB | Date Prep: | 04.13.2020 15:30 | Basis: | Wet Weight |
| Seq Number: | 3122893 | | | | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 19:11 | U | 1 |
| Toluene | 108-88-3 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 19:11 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 19:11 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00396 | 0.00396 | mg/kg | 04.13.2020 19:11 | U | 1 |
| o-Xylene | 95-47-6 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 19:11 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00198 | 0.00198 | mg/kg | 04.13.2020 19:11 | U | 1 |
| Total BTEX | | <0.00198 | 0.00198 | mg/kg | 04.13.2020 19:11 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 460-00-4 | 100 | % | 70-130 | 04.13.2020 19:11 | |
| 1,4-Difluorobenzene | 540-36-3 | 106 | % | 70-130 | 04.13.2020 19:11 | |

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the quantitation limit and above the detection limit.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

**JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample **BLK** Method Blank

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

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

**+** NELAC certification not offered for this compound.

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

# QC Summary 658696



## LT Environmental, Inc.

Remuda 100

**Analytical Method:** Select Anions By EPA 300 — Prep Method: E300P
Seq Number: 3122891 — Matrix: Solid — Date Prep: 04.13.2020
MB Sample Id: 7701194-1-BLK — LCS Sample Id: 7701194-1-BKS — LCSD Sample Id: 7701194-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <10.0 | 250 | 259 | 104 | 260 | 104 | 90-110 | 0 | 20 | mg/kg | 04.13.2020 16:21 | |

**Analytical Method:** Select Anions By EPA 300 — Prep Method: E300P
Seq Number: 3122891 — Matrix: Soil — Date Prep: 04.13.2020
Parent Sample Id: 658691-001 — MS Sample Id: 658691-001 S — MSD Sample Id: 658691-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 734 | 200 | 941 | 104 | 935 | 101 | 90-110 | 1 | 20 | mg/kg | 04.13.2020 16:37 | |

**Analytical Method:** Select Anions By EPA 300 — Prep Method: E300P
Seq Number: 3122891 — Matrix: Soil — Date Prep: 04.13.2020
Parent Sample Id: 658696-010 — MS Sample Id: 658696-010 S — MSD Sample Id: 658696-010 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 15.9 | 200 | 218 | 101 | 220 | 102 | 90-110 | 1 | 20 | mg/kg | 04.13.2020 17:54 | |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122934 — Matrix: Solid — Date Prep: 04.13.2020
MB Sample Id: 7701154-1-BLK — LCS Sample Id: 7701154-1-BKS — LCSD Sample Id: 7701154-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 1000 | 1060 | 106 | 1020 | 102 | 70-135 | 4 | 35 | mg/kg | 04.14.2020 02:24 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1240 | 124 | 1180 | 118 | 70-135 | 5 | 35 | mg/kg | 04.14.2020 02:24 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 108 | | 133 | | 129 | | 70-135 | % | 04.14.2020 02:24 |
| o-Terphenyl | 115 | | 112 | | 109 | | 70-135 | % | 04.14.2020 02:24 |

**Analytical Method:** TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122934 — Matrix: Solid — Date Prep: 04.13.2020
MB Sample Id: 7701154-1-BLK

| Parameter | MB Result | Units | Analysis Date | Flag |
|---|---|---|---|---|
| Motor Oil Range Hydrocarbons (MRO) | <50.0 | mg/kg | 04.14.2020 02:03 | |

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

# QC Summary 658696



## LT Environmental, Inc.

Remuda 100

**Analytical Method:** **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122934 Matrix: Soil Date Prep: 04.13.2020
Parent Sample Id: 658613-006 MS Sample Id: 658613-006 S MSD Sample Id: 658613-006 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons (GRO) | <50.0 | 1000 | 1020 | 102 | 1010 | 102 | 70-135 | 1 | 35 | mg/kg | 04.14.2020 03:24 | |
| Diesel Range Organics (DRO) | <50.0 | 1000 | 1180 | 118 | 1160 | 117 | 70-135 | 2 | 35 | mg/kg | 04.14.2020 03:24 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1-Chlorooctane | 116 | | 116 | | 70-135 | % | 04.14.2020 03:24 |
| o-Terphenyl | 114 | | 112 | | 70-135 | % | 04.14.2020 03:24 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122895 Matrix: Solid Date Prep: 04.13.2020
MB Sample Id: 7701119-1-BLK LCS Sample Id: 7701119-1-BKS LCSD Sample Id: 7701119-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.121 | 121 | 0.110 | 110 | 70-130 | 10 | 35 | mg/kg | 04.13.2020 10:29 | |
| Toluene | <0.00200 | 0.100 | 0.109 | 109 | 0.0994 | 99 | 70-130 | 9 | 35 | mg/kg | 04.13.2020 10:29 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.100 | 100 | 0.0909 | 91 | 71-129 | 10 | 35 | mg/kg | 04.13.2020 10:29 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.194 | 97 | 0.176 | 88 | 70-135 | 10 | 35 | mg/kg | 04.13.2020 10:29 | |
| o-Xylene | <0.00200 | 0.100 | 0.100 | 100 | 0.0906 | 91 | 71-133 | 10 | 35 | mg/kg | 04.13.2020 10:29 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 113 | | 108 | | 108 | | 70-130 | % | 04.13.2020 10:29 |
| 4-Bromofluorobenzene | 91 | | 85 | | 87 | | 70-130 | % | 04.13.2020 10:29 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122893 Matrix: Solid Date Prep: 04.13.2020
MB Sample Id: 7701120-1-BLK LCS Sample Id: 7701120-1-BKS LCSD Sample Id: 7701120-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.100 | 0.105 | 105 | 0.109 | 109 | 70-130 | 4 | 35 | mg/kg | 04.13.2020 10:21 | |
| Toluene | <0.00200 | 0.100 | 0.101 | 101 | 0.105 | 105 | 70-130 | 4 | 35 | mg/kg | 04.13.2020 10:21 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0959 | 96 | 0.0998 | 100 | 71-129 | 4 | 35 | mg/kg | 04.13.2020 10:21 | |
| m,p-Xylenes | <0.00400 | 0.200 | 0.200 | 100 | 0.207 | 104 | 70-135 | 3 | 35 | mg/kg | 04.13.2020 10:21 | |
| o-Xylene | <0.00200 | 0.100 | 0.100 | 100 | 0.104 | 104 | 71-133 | 4 | 35 | mg/kg | 04.13.2020 10:21 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 106 | | 104 | | 104 | | 70-130 | % | 04.13.2020 10:21 |
| 4-Bromofluorobenzene | 97 | | 91 | | 92 | | 70-130 | % | 04.13.2020 10:21 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

# QC Summary 658696



## LT Environmental, Inc.

Remuda 100

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122895 Matrix: Soil Date Prep: 04.13.2020
Parent Sample Id: 658610-003 MS Sample Id: 658610-003 S MSD Sample Id: 658610-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00197 | 0.0986 | 0.106 | 108 | 0.104 | 104 | 70-130 | 2 | 35 | mg/kg | 04.13.2020 11:10 | |
| Toluene | <0.00197 | 0.0986 | 0.0968 | 98 | 0.0936 | 94 | 70-130 | 3 | 35 | mg/kg | 04.13.2020 11:10 | |
| Ethylbenzene | <0.00197 | 0.0986 | 0.0907 | 92 | 0.0854 | 85 | 71-129 | 6 | 35 | mg/kg | 04.13.2020 11:10 | |
| m,p-Xylenes | <0.00394 | 0.197 | 0.176 | 89 | 0.165 | 83 | 70-135 | 6 | 35 | mg/kg | 04.13.2020 11:10 | |
| o-Xylene | <0.00197 | 0.0986 | 0.0875 | 89 | 0.0852 | 85 | 71-133 | 3 | 35 | mg/kg | 04.13.2020 11:10 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 108 | | 109 | | 70-130 | % | 04.13.2020 11:10 |
| 4-Bromofluorobenzene | 88 | | 84 | | 70-130 | % | 04.13.2020 11:10 |

**Analytical Method:** **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122893 Matrix: Soil Date Prep: 04.13.2020
Parent Sample Id: 658613-001 MS Sample Id: 658613-001 S MSD Sample Id: 658613-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | 0.0998 | 0.109 | 109 | 0.0899 | 89 | 70-130 | 19 | 35 | mg/kg | 04.13.2020 11:01 | |
| Toluene | <0.00200 | 0.0998 | 0.105 | 105 | 0.0857 | 85 | 70-130 | 20 | 35 | mg/kg | 04.13.2020 11:01 | |
| Ethylbenzene | <0.00200 | 0.0998 | 0.0970 | 97 | 0.0770 | 76 | 71-129 | 23 | 35 | mg/kg | 04.13.2020 11:01 | |
| m,p-Xylenes | <0.00399 | 0.200 | 0.201 | 101 | 0.157 | 78 | 70-135 | 25 | 35 | mg/kg | 04.13.2020 11:01 | |
| o-Xylene | <0.00200 | 0.0998 | 0.101 | 101 | 0.0795 | 79 | 71-133 | 24 | 35 | mg/kg | 04.13.2020 11:01 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 103 | | 103 | | 70-130 | % | 04.13.2020 11:01 |
| 4-Bromofluorobenzene | 97 | | 93 | | 70-130 | % | 04.13.2020 11:01 |

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

# Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crasibad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 658696

www.xenco.com Page 1 of 2

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental, Inc., Permian office | Company Name: | XTO Energy |
| Address: | 3300 North A Street | Address: | 3104 East Green Street |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 432.236.3849 | Email: | dmoir@ltenv.com, slo@ltenv.com |

**Work Order Comments**

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | Remuda 100 | Turn Around | |
| Project Number: | 012920050 | Routine | ☑ |
| Project Location | | Rush: | |
| Sampler's Name: | SL EM | Due Date: | |
| PO #: | | Quote #: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | 2.0 | Thermometer ID | NM007 |
| Received Intact: | Yes No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Total Containers: | 14 |

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | Pres. Code | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | BH01 | S | 4.13.20 | 1017 | 1' | 1 | | X | X | X | |
| | BH01A | | | 1018 | 2' | | | | | | |
| | BH02 | | | 1044 | 1' | | | | | | |
| | BH02A | | | 1045 | 2' | | | | | | |
| | BH03 | | | 1103 | 1' | | | | | | |
| | BH03A | | | 1104 | 2' | | | | | | |
| | BH04 | | | 1127 | 1' | | | | | | |
| | BH04A | | | 1128 | 2' | | | | | | |
| | BH05 | | | 1142 | 1' | | | | | | |
| | BH05A | | | 1144 | 2' | | | | | | |

**Total 200.7 / 6010 200.8 / 6020:** 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

*Circle Method(s) and Metal(s) to be analyzed*

**TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| | | 4/13/20 14:30 | 2 | | |
| | | | 4 | | |
| | | | 6 | | |

Revised Date 022619 Rev. 2019.1

# Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 658696

Page 2 of 2

| | | | |
|---|---|---|---|
| Project Manager: | Dan Moir | Bill to: (if different) | Kyle Littrell |
| Company Name: | LT Environmental Inc., Permian Office | Company Name: | XTO Energy |
| Address: | 3300 North A Street | Address: | 3104 East Green Street |
| City, State ZIP: | Midland TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 432.236.3849 | Email: | dmoir@ltenv.com, slac@ltenv.com |

**Work Order Comments**

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | Remuda 100 | Turn Around | |
| Project Number: | 012920050 | Routine ☑ | |
| Project Location | | Rush: | |
| Sampler's Name: | SL EM | Due Date: | |
| PO #: | | Quote #: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Temperature (°C): | | Thermometer ID | |
| Received Intact: | Yes No | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | |

**Preservative Codes**

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

| Lab ID | Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | BH06 | S | 4.13.20 | 1320 | 1' | 1 | x | x | x | |
| | BH06A | | | 1321 | 2' | | | | | |
| | BH07 | | | 1323 | 1' | | | | | |
| | BH07A | | | 1327 | 2' | | | | | |

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
*Circle Method(s) and Metal(s) to be analyzed* **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

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| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 4/13/20 14:30 | 2 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 022619 Rev. 2019.1