

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	NRM1931858285
District RP	2RP-5697
Facility ID	fAB1921929758
Application ID	pRM1931858373

Release Notification

1RLXK-191014-C-1410

Responsible Party

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

Location of Release Source

Latitude 32.182176 Longitude -103.880022
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	PLU Pierce Canyon 28 Fed	Site Type	Tank Battery
Date Release Discovered	10/07/2019	API# (if applicable)	30-015-36830 (Poker Lake Unit CVX JV PC 3H)

Unit Letter	Section	Township	Range	County
P	28	24S	30E	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) 0.0	Volume Recovered (bbls) 0.0
☒ Produced Water	Volume Released (bbls) 52.54	Volume Recovered (bbls) 52.0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Produced water flowline leaked due to internal corrosion. Vacuum truck recovered 52 bbls of produced water from containment and 0.54 bbls impacted pad surface. Additional third party resources have been retained to assist in the remediation.

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State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of fluid over 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? YES, by Amy Ruth to Mike Bratcher, Rob Hamlet, Victoria Venegas, Jim Griswold, and blm_nm_cfo_spill@blm.gov on 10/7/19 at 3:31 PM by 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 <u>not</u> 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: <u>Kyle Littrell</u> Signature:  email: <u>Kyle.Littrell@xtoenergy.com</u>	Title: <u>SH&E Supervisor</u> Date: <u>10/14/2019</u> Telephone: _____
<u>OCD Only</u> Received by: <u>Ramona Marcus</u> Date: <u>11/14/2019</u>	

Incident ID	NRM1931858285
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Site Assessment/Characterization

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

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

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

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

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

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

Oil Conservation Division

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

Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature: _____ Date: _____
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

Incident ID	NRM1931858285
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Application ID	

Remediation Plan

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

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

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

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

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Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature: _____ Date: _____
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

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2WV7H-191126-C-1410

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 32.182170 Longitude -103.880355
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	PLU Pierce Canyon 28 DTB	Site Type	Well Location
Date Release Discovered	11/13/2019	API# (if applicable)	30-015-36830 (PLU CVX JV PC #003H)

Unit Letter	Section	Township	Range	County
P	28	24S	30E	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) 2.41	Volume Recovered (bbls) 2.0
☒ Produced Water	Volume Released (bbls) 9.62	Volume Recovered (bbls) 8.0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A circulating line from the oil tank to the gun barrel tank had a leak due to corrosion. 12.03 bbls were released and 10.0 bbls were recovered by vacuum truck. Additional third party resources have been retained to assist in the remediation.

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Oil Conservation Division

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

Initial Response

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

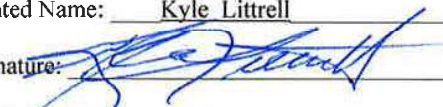
- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have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

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

N/A

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

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Printed Name: Kyle Littrell Title: SH&E Supervisor
 Signature:  Date: 11/26/2019
 email: Kyle_Littrell@xtoenergy.com Telephone: _____

OCD Only

Received by: Cristina Eads Date: 01/27/2020

Incident ID	NCE2002742193
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Site Assessment/Characterization

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What is the shallowest depth to groundwater beneath the area affected by the release?	>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
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Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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Oil Conservation Division

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Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature: _____ Date: _____
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

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Remediation Plan

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Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature: _____ Date: _____
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

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Date Release Discovered	10/07/2019	API# (if applicable)	30-015-36830 (Poker Lake Unit CVX JV PC 3H)

Unit Letter	Section	Township	Range	County
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Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls) 0.0	Volume Recovered (bbls) 0.0
☒ Produced Water	Volume Released (bbls) 52.54	Volume Recovered (bbls) 52.0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
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Cause of Release: Produced water flowline leaked due to internal corrosion. Vacuum truck recovered 52 bbls of produced water from containment and 0.54 bbls impacted pad surface. Additional third party resources have been retained to assist in the remediation.

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Printed Name: <u>Kyle Littrell</u> Signature:  email: <u>Kyle.Littrell@xtoenergy.com</u>	Title: <u>SH&E Supervisor</u> Date: <u>10/14/2019</u> Telephone: _____
<u>OCD Only</u> Received by: <u>Ramona Marcus</u> Date: <u>11/14/2019</u>	

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Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

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.
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Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature: _____ Date: _____
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

Incident ID	NRM1931858285
District RP	2RP-5697
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature: _____ Date: _____
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Chad Hensley Date: 03/10/2021

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

Signature:  Date: 03/10/2021

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NCE2002742193
District RP	
Facility ID	
Application ID	

2WV7H-191126-C-1410

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 32.182170 Longitude -103.880355
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	PLU Pierce Canyon 28 DTB	Site Type	Well Location
Date Release Discovered	11/13/2019	API# (if applicable)	30-015-36830 (PLU CVX JV PC #003H)

Unit Letter	Section	Township	Range	County
P	28	24S	30E	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) 2.41	Volume Recovered (bbls) 2.0
☒ Produced Water	Volume Released (bbls) 9.62	Volume Recovered (bbls) 8.0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A circulating line from the oil tank to the gun barrel tank had a leak due to corrosion. 12.03 bbls were released and 10.0 bbls were recovered by vacuum truck. Additional third party resources have been retained to assist in the remediation.

Form C-141

Page 2

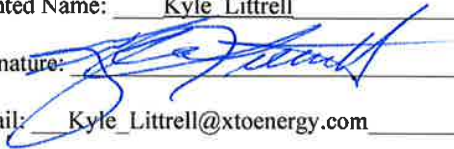
State of New Mexico
Oil Conservation Division

Incident ID	NCE2002742193
District RP	
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Kyle Littrell</u>	Title: <u>SH&E Supervisor</u>
Signature: 	Date: <u>11/26/2019</u>
email: <u>Kyle_Littrell@xtoenergy.com</u>	Telephone: _____
<u>OCD Only</u> Received by: <u>Cristina Eads</u> Date: <u>01/27/2020</u>	

Incident ID	NCE2002742193
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?	>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

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Incident ID	NCE2002742193
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Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: _____ Date: _____

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

OCD Only

Received by: _____ Date: _____

Incident ID	NCE2002742193
District RP	
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Application ID	

Remediation Plan

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

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
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Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature: _____ Date: _____
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____



WSP USA

3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

December 21, 2020

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

**Re: Remediation Work Plan
Poker Lake Unit Pierce Canyon 28
Incident Numbers/Remediation Permit Number: NRM1931858285 (2RP-5697) and
NCE2002742193
Eddy County, New Mexico**

To Whom it May Concern:

WSP USA Inc. (WSP) (formerly LT Environmental, Inc.), on behalf of XTO Energy, Inc. (XTO), presents the following Remediation Work Plan detailing site assessment, remediation, and soil sampling activities completed to date and proposing additional site assessment and soil sampling activities at the Poker Lake Unit Pierce Canyon 28 (Site) in Unit P, Section 28, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the remediation and soil sampling activities was to address impacts to soil resulting from two releases of crude oil and/or produced water at the Site, by safely excavating impacted soil to the extent possible based on Site conditions and allowed by XTO safety policies. Additional soil sampling activities are being proposed to delineate the extent of the remaining residual impacted soil. Based on field observations, field screening activities, and laboratory analytical results from soil sampling activities, XTO is submitting this Remediation Work Plan, describing remediation that has occurred and proposing additional delineation activities.

RELEASE BACKGROUND

Incident Number NRM1931858285 (2RP-5697)

On October 7, 2019, a produced water flowline developed a leak, resulting in the release of approximately 52.54 barrels (bbls) of produced water into a lined containment and onto the caliche well pad. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids, of which approximately 52.0 bbls of produced water were recovered from within the lined containment. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on October 14, 2019 and was subsequently assigned Incident Number NRM1931858285 and Remediation Permit (RP) Number 2RP-5697.

Incident Number NCE2002742193

On November 13, 2019, a circulating line from an oil tank to the gun barrel tank developed a leak due to corrosion, resulting in the release of 2.41 bbls of crude oil and 9.62 bbls of produced water onto the caliche well pad around the lined tank battery containment. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids, of which approximately 2.0 bbls of crude oil and 8.0 bbls of produced water were recovered. XTO reported the release to the NMOCD on a Release Notification and Form C-141 on November 26, 2019 and was subsequently assigned Incident Number NCE2002742193.

XTO requested an extension to combine investigation and remediation efforts for the separate releases. On September 15, 2020, NMOCD approved a final extension deadline of December 29, 2020 for Incident Number NRM1931858285 (2RP-5697) and Incident Number NCE2002742193. The purpose of the final extension request was to allow additional time to coordinate drilling activities to assist with depth to water determination at the Site.

SITE CHARACTERIZATION

WSP 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 greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted water well with depth to water data is New Mexico Office of the State Engineer (NMOSE) well C-04474-POD1, located approximately 0.17 miles southeast of the Site. NMOSE well C-04474-POD1 was drilled by XTO on September 10, 2020 during a depth to water study of the area. Using a truck mounted drill rig equipped with hollow stem auger, the soil boring was advanced to a total depth of 110 feet bgs. No water was observed within the soil boring after 72 hours and the boring was plugged and abandoned. The NMOSE Well Record and Log of the well is included as Attachment 1.

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, and church. 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 located in a medium-potential karst area. Potential receptors identified during Site Characterization are displayed in Figure 1.

WATERCOURSE SURVEY

On July 27, 2020, WSP personnel conducted a field investigation to confirm the presence of a potential significant watercourse identified in a desktop survey using the United States Fish and Wildlife Service (USFWS) online database, National Wetland Inventory (Wetland Mapper). Wetland Mapper is often used for initial evaluation of significant watercourses in response to



District II

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reportable releases as required in the site characterization defined in 19.15.29.11.A(4) of the New Mexico Administrative Code (NMAC).

Field verification is sometimes necessary to measure the distance of the feature from the release extent and to confirm the feature modeled by the USFWS complies with the definition of a



DIAGRAM 1: "RIVERINE" IDENTIFIED IN WETLAND MAPPER.

significant watercourse per Subsection P of 19.15.17.7 NMAC. Specifically, the definition in Subsection P of 19.15.17.7 NMAC requires a defined bed and bank and either named or identified by a dashed blue line on USGS 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank of such watercourse.

Prior to the field investigation, WSP determined the surface feature did not present the preliminary requirements cognate to the anterior definition of a significant watercourse such that it was not identified by a dashed blue line on the current USGS 7.5-minute quadrangle map and did

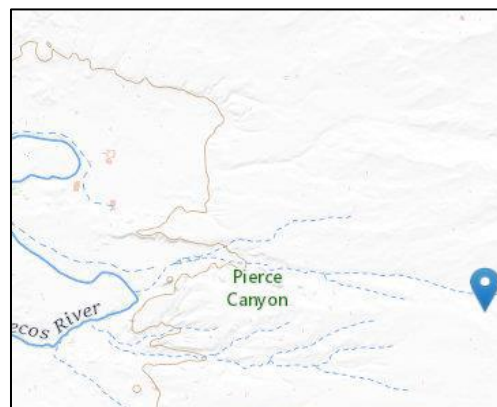


DIAGRAM 2: VIEW OF THE SITE LOCATION (BLUE PIN) UTILIZING THE CURRENT USGS 7.5 MINUTE QUADRANGLE HYDROLOGY BASE LAYER MAP. REFERENCE

<https://viewer.nationalmap.gov/basic/#NHD>



SURVEY PHOTO 1: FAINT EROSIONAL FEATURE.

not reveal aerial properties of a next lower tributary that connect to a significant watercourse.

No bed or bank were identified during the visual field survey of the watercourse. Only faint erosional paths or swales and ruts aligned with the topographic gradient were visible (Survey Photo 1 and survey Photo 2). The drainage did not appear to connect to a larger watercourse. WSP was unable to identify any feature with a bed and bank

within 300 feet of the release footprint. The features did not have a bed, there was no evidence of fluvial deposition inside



SURVEY PHOTO 2: EROSIONAL RUT.



the erosional features, and they did not connect to other watercourses, instead splaying out onto the desert floor. More detailed results and photographic evidence are provided in Figure 2. The closest feature with a defined bed and bank appears to be approximately 1,000 feet to the northwest (shown on the USGS 7.5-minute quadrangle map). Based on the observations presented, there are no significant watercourses located within 300 feet of the release extent per the definition of a significant watercourse in Subsection P of 19.15.17.7 NMAC. Instead, an erosional channel has formed by drainage of water during storm events. The faint conduit is intercepted by an access road and ultimately splays out along the desert floor without connecting to any other features. The survey tract associated with the conduit and photos is presented on Figure 2.

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)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

INITIAL SITE ASSESSMENT ACTIVITIES

Incident Number NRM1931858285 (2RP-5697)

On October 22, 2019, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP reviewed and verified the Form C-141 incident description (release source and release location) with visual soil impacts and confirmed that the release impacted the lined processing equipment containment and surrounding caliche well pad. A subsequent visual inspection of liner integrity determined the liner was compromised.

WSP personnel collected preliminary assessment soil samples at three locations (SS01 through SS03) within the release area on the caliche pad at a depth of approximately 0.5 feet bgs to assess the lateral extent of impacted soil outside of the lined containment. Preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The



release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 3A.

The preliminary 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 EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria in preliminary soil samples SS01 and SS02. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH and chloride concentrations were compliant with the Closure Criteria in preliminary soil sample SS03. The laboratory analytical results are summarized on the attached Table 1.

On December 5, 2019, WSP advanced one delineation borehole (BH01) utilizing a hand auger to a maximum depth of 4 feet bgs before reaching refusal. Soil samples were collected at 1-foot intervals from the borehole. The delineation soil samples were collected, handled, and analyzed as previously described. Soil from the borehole was field screened using a calibrated PID and Hach® chloride QuanTab® test strips. Field screening results and observations for the borehole were recorded on a lithologic/soil sampling log which is included in Attachment 2. The borehole soil sample location is presented on Figure 3A.

Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH and chloride concentrations were below the Closure Criteria in delineation soil samples BH01/BH01A/BH01B/BH01C, collected from borehole BH01. The laboratory analytical results are summarized on the attached Table 1.

Incident Number NCE2002742193

On November 18, 2019, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP reviewed and verified the Form C-141 incident description (release source and release location) with visual soil impacts and confirmed that the release impacted the caliche well pad surrounding the lined tank battery containment. WSP personnel collected preliminary assessment soil samples at six locations (SS01 through SS06) within and around the release extent at a depth of approximately 0.5 feet bgs to assess the lateral extent of soil impacts. Preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test



strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 4A. The preliminary soil samples were collected, handled, and analyzed as previously described.

Laboratory analytical results indicated that benzene and/or BTEX, TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria in preliminary soil samples SS02 through SS05. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS01 and SS06. The laboratory analytical results are summarized on the attached Table 2.

Based on visual staining in the release area, field screening activities and laboratory analytical results for the preliminary soil samples, delineation and excavation activities were warranted.

REMEDIATION ACTIVITIES

Incident Number NRM1931858285 (2RP-5697)

On December 6, 2019, WSP oversaw excavation of impacted soil as indicated by visual observations, field screening activities and laboratory analytical results for the preliminary soil samples. Excavation activities were performed utilizing heavy equipment to address the impacted area west of the lined containment associated with soil samples SS01 and SS02. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips.

Upon completion of excavation activities, WSP collected 5-point composite soil samples on a 200 square foot frequency from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. One composite floor soil sample (FS01) was collected from the excavation from a depth of 5 feet bgs. Four composite sidewall samples (SW01 through SW04) were collected from the excavation from depths ranging from the ground surface to 5 feet bgs. The excavation soil samples were handled and analyzed as previously described. Photographic documentation was conducted during excavation activities and a photographic log is included in Attachment 3. The excavation extent and excavation soil sample locations are presented on Figure 3B.

Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH and chloride concentrations were compliant with the Closure Criteria in excavation soil samples FS01 and SW01 through SW04. The laboratory analytical results are summarized on the attached Table 1.

The excavation encompassed an area of approximately 200 square feet west of the lined containment. A total of approximately 37 cubic yards of impacted soil were removed during



excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility located in Hobbs, New Mexico under XTO approved manifests.

Incident Number NCE2002742193

During December 2019, WSP oversaw initial excavation of impacted soil as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples. Excavation activities were performed utilizing heavy equipment and hydrovac to address the impacted areas associated with preliminary soil samples SS02, SS03 and SS05. Preliminary soil sample SS04 was unable to be removed due to excavation restrictions related to equipment stabilization and subsurface line congestion. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips. Due to the proximity of active process equipment and surface utilities, the excavation area was separated into two areas: an eastern hydro-excavation (as a means of non-destructive soil removal in areas with active production equipment) and a southern excavation unearthed by mechanical means and hydro-excavation. XTO safety policy prohibited earth-moving activities within two feet of active process equipment and utilities. The policy also requires that soil underlying pipelines be left in place to support pipeline stability. Due to the presence of active process equipment, aboveground and subsurface pipelines, safety restrictions and site configuration prevented the ability to remove all impacted soil (SS04).

On December 10, 2019, WSP collected 5-point composite soil samples on a 200 square foot frequency from the floor of the excavations. A total of four composite floor soil samples (FS01 through FS03 and FS05) were collected within the excavation extent at a depth of approximately 1 foot bgs. The composite floor soil samples in the excavations included soil from any sidewalls. The excavation soil samples were collected, handled, and analyzed as previously described. Photographic documentation was conducted during excavation activities and a photographic log is included in Attachment 3. The excavation extent and excavation soil sample locations are presented on Figure 4B.

Laboratory analytical results indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria in soil samples FS01 through FS03 and FS05; BTEX concentrations exceeded the Closure Criteria in soil samples FS01, FS03 and FS05. The laboratory analytical results are summarized on the attached Table 2.

Based on the laboratory analytical results and limited ability for further excavation in the east and south areas of the release, a combination of additional excavation and alternative remedial efforts were performed to address the residual hydrocarbon impacts. Following the initial sampling event that occurred on December 10, 2019, a 3 percent (%) MicroBlaze® Emergency Liquid Spill Control and freshwater solution (MicroBlaze®) mixture was applied thoroughly into



the excavations. Re-sampling events of the treated areas took place on January 27, 2020. WSP personnel recollected four composite soil samples (FS01 through FS03 and FS05) throughout the release extent. The excavation soil samples were collected, handled, and analyzed as previously described. Laboratory analytical results associated with the January 27, 2020 resampling event indicated enhanced biodegradation was actively occurring as demonstrated by decreasing benzene, BTEX, TPH-GRO, TPH-DRO and TPH concentrations in recollected soil samples FS01, FS02 and FS05.

On March 30, 2020 and March 31, 2020, WSP oversaw excavation of impacted soil in the areas associated with soil samples FS01 through FS04. No further excavation was advanced in the area associated with soil sample FS05, surrounding an electric control panel. The consolidated lithology inhibited advancement with a hydrovac, and the congestion of electric lines prevented access with mechanical equipment. Soil removal was performed utilizing heavy equipment where accessible and the excavation was deepened to depths as much as 6 feet bgs. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips.

WSP collected 5-point composite soil samples on a 200 square foot frequency from the sidewalls and floor of the expanded excavation. A total of four composite floor soil samples (FS01A through FS04A) were collected within the excavation at depths ranging from 1 foot to 6 feet bgs. A total of 3 composite sidewall samples (SW01 through SW03) were collected from the excavation at depths ranging from the ground surface to 2 feet or 6 feet bgs. The excavation soil samples were collected, handled, and analyzed as previously described. The current excavation extent and excavation soil sample locations are presented on Figure 4B.

Laboratory analytical results indicated that TPH-GRO/TPH-DRO concentrations exceeded the Closure Criteria in excavation floor samples FS01A and FS02A. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH and chloride concentrations were compliant with the Closure Criteria in excavation soil samples FS03A, FS04A and SW01 through SW03. The laboratory analytical results are summarized on the attached Table 2.

DELINATION SOIL SAMPLING ACTIVITIES

Incident Number NRM1931858285 (2RP-5697)

On September 1, 2020, WSP utilized a Shaw Tool, Ltd Portable Core Drill to install two corehole delineation points (CH01 and CH02) to determine the vertical extent of impact within the documented breached liner area and one delineation soil sample outside the lined containment to confirm vertical and lateral delineation to the north of the release. The coreholes were advanced to depths ranging from 7 feet to 7.5 feet bgs. Due to the location of the release, a Hot Work Permit was necessary to conduct investigative motor or electric powered drilling methods



within 35 feet of any hydrocarbon sources. In coordination with XTO, an XTO safety representative was retained to conduct air monitoring as part of the permit process for investigative core drilling activities. Corehole soil samples were field screened, at minimum, every 1-foot interval for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips. Soil samples from CH01 and CH02 were collected from the soil interval with the highest field screening result (1 foot bgs) and the terminus of the corehole (7 feet to 7.5 feet bgs). Field screening results and observations for each delineation soil sample were recorded on lithologic/soil sampling logs which are included in Attachment 2. The corehole locations are presented on Figure 3C. Photographic documentation from continued cored drilling activities is included in Attachment 3. The breached area within the lined containment was bonded and repaired by XTO in an effort to restore the integrity of the liner.

Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in all corehole delineation soil samples. The laboratory analytical results are summarized on the attached Table 1. The complete laboratory analytical reports for Incident Number NRM1931858285 (2RP-5697) are included as Attachment 4A.

Incident Number NCE2002742193

Between March 30, 2020 and July 13, 2020, WSP conducted delineation soil sampling activities to define the lateral and vertical extent of impacted soil remaining in place. Three delineation boreholes (BH01 through BH03) were advanced utilizing a hand auger to maximum depths ranging from 3 feet to 6 feet bgs before reaching refusal. Five delineation potholes (PH01 through PH05) were advanced to depths ranging from 3 feet to 6 feet bgs in areas accessible with heavy equipment. Soil samples were collected at 1-foot intervals from each borehole/pothole. PH02 and BH03 were advanced within the release extent to identify vertical extent. The remaining potholes and boreholes were placed around the release to define lateral extent. Soil from the boreholes/potholes was field screened using a calibrated PID and Hach® chloride QuanTab® test strips. The soil samples were collected, handled, and analyzed as previously described. Field screening results and observations for the boreholes/potholes were recorded on a lithologic/soil sampling logs which are included in Attachment 2. The delineation soil sample locations are presented on Figure 4C.

Laboratory analytical results indicated that TPH-GRO/TPH-DRO concentrations exceeded the Closure Criteria in delineation soil sample PH02B, collected at a depth of 5 feet bgs. Since delineation activities occurred simultaneously with excavation activities, the area associated with sample PH02B was excavated to the address impacts. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the



Closure Criteria in all other delineation soil samples collected from boreholes BH01 through BH04 and potholes PH01 through PH05. The laboratory analytical results are summarized on the attached Table 2. The complete laboratory analytical reports for Incident Number NCE2002742193 are included as Attachment 4B.

REMEDIATION WORK PLAN

Incident Number NRM1931858285 (2RP-5697)

To date, approximately 37 cubic yards of impacted were removed from the release area and transported to the R360 Facility in Hobbs, New Mexico. Laboratory analytical results for the excavation soil samples and all delineation soil samples collected from coreholes CH01 and CH02 and borehole BH01 that indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. No further remediation is required in these areas of the release.

An additional release area south of the lined containment requires investigation utilizing equipment with reduced disturbance capabilities because of surrounding aboveground equipment and pipelines. Due to limited access of the southern release area, excavation methods utilizing heavy equipment present potential hazards to onsite personnel. Non-mechanical means (i.e. shoveling and hydrovac) are restricted due to location access and soil profile of the Site. XTO proposes advancing a delineation corehole utilizing a Shaw Tool, Ltd Portable Core Drill in the release area south of the lined containment and collecting soil samples. The release area and proposed borehole location are shown on Figure 3D. If laboratory analytical results from the proposed delineation soil sample location indicate concentrations exceed the Closure Criteria, XTO will apply a bio-remedial agent to the impacted area and define the impacted soil to be left in place. If laboratory analytical results are compliant with the Closure Criteria, XTO will proceed with a closure request for Incident Number NRM1931858285 (2RP-5697).

Incident Number NCE2002742193

To date, approximately 85 cubic yards of impacted soil were removed from the release area and transported to the R360 Facility in Hobbs, New Mexico. Impacted soil, as represented by confirmation soil samples FS01A and FS02A, remains on the floor of the southern excavation under the existing gas pipeline. Impacted soil also remains in the northern excavation, represented by excavation confirmation sample FS05. Further excavation of impacted soil beyond excavation floor soil samples FS01A, FS02A and FS05 was limited by the presence of active production equipment, pipelines, and electrical sources. XTO safety policy was enforced where impacted soil was identified within 2 feet of active production equipment or pipelines. BTEX, TPH-GRO/TPH-DRO, and TPH concentrations in soil sample FS05 indicate that enhanced



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biodegradation is actively occurring as a result of the MicroBlaze® application and will continue to reduce.

Laboratory analytical results for current delineation soil samples indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and the release is vertically delineated; however, additional delineation activities are required in order to fully delineate the extent of impacted soil remaining in place. XTO proposes advancing additional delineation points to confirm lateral delineation. The proposed delineation points are presented on Figure 4D. Once laboratory analytical results confirm full lateral delineation, XTO will proceed with submitting a deferral request for Incident Number NCE2002742193. Based on current delineation and excavation laboratory analytical data, XTO estimates the vertical extent of impacted soil does not exceed 1.5 feet bgs on the east side of the lined tank battery containment and 3 feet bgs on the south side of the lined tank battery containment.

PROPOSED SCHEDULE

XTO will complete the additional proposed remediation activities and provide a follow-up report detailing all remediation activities and a request for closure or deferral within 90 days of the date of approval of this work plan by NMOCD.

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

Kind regards,

A handwritten signature in black ink, appearing to read 'Joseph S. Hernandez'.

Joseph S. Hernandez
Associate Consultant, Geologist

A handwritten signature in black ink, appearing to read 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Managing Director, Geologist



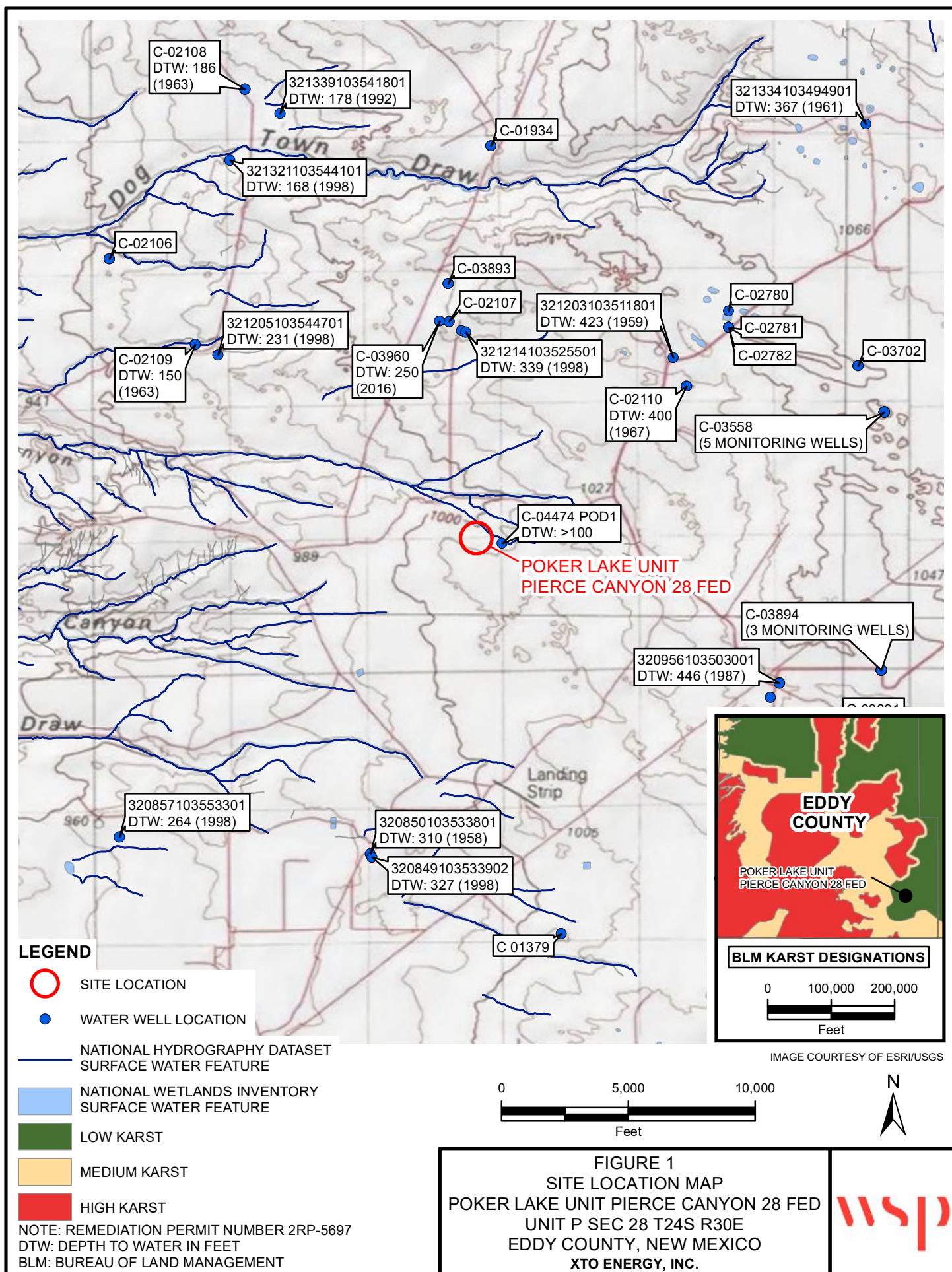
District II
Page 12

cc: Kyle Littrell, XTO
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD
Jim Amos, Bureau of Land Management

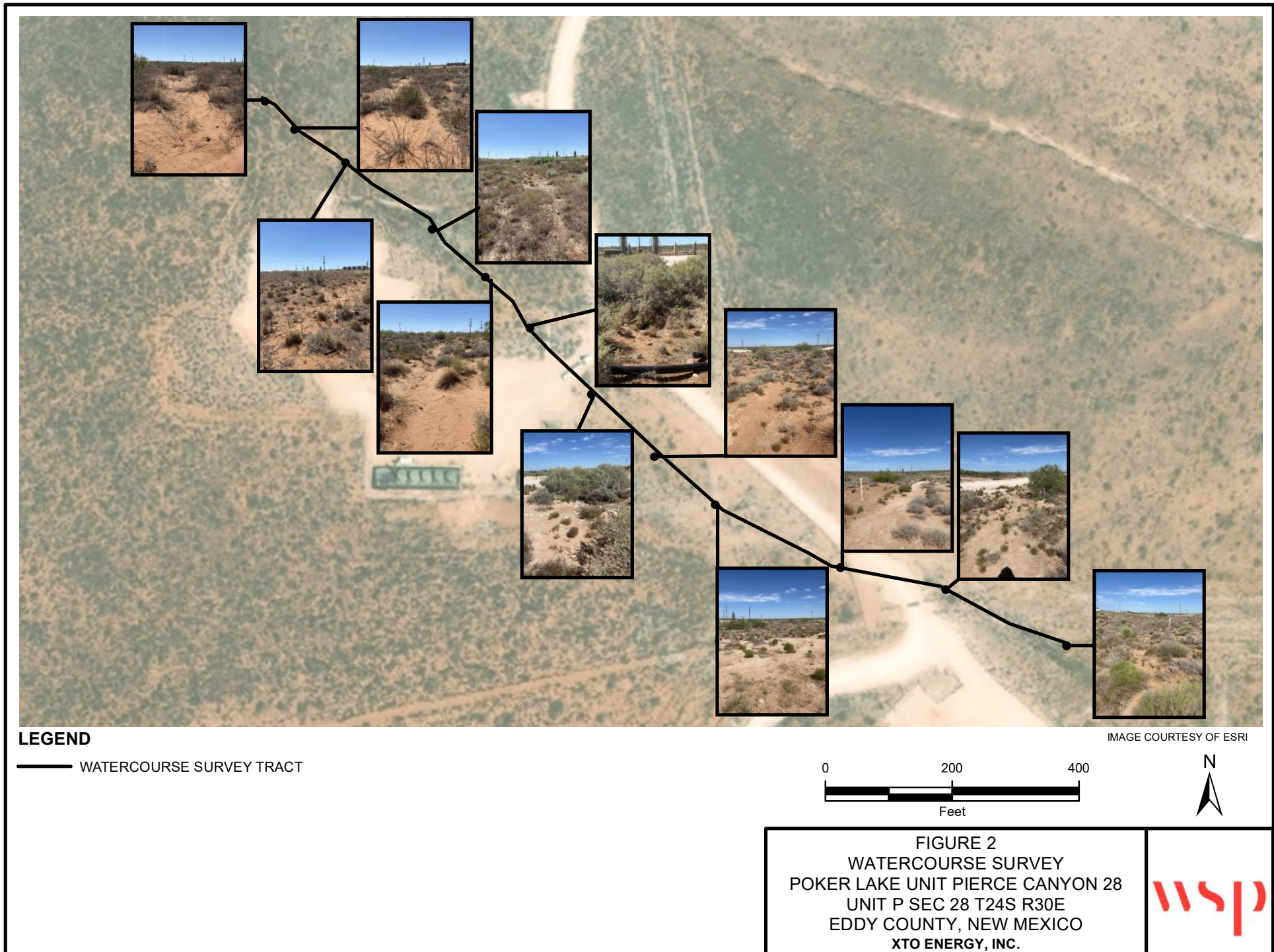
Attachments:

Figure 1	Site Location Map
Figure 2	Watercourse Survey
Figure 3A/4A	Preliminary Soil Sample Locations
Figure 3B/4B	Delineation Soil Sample Locations
Figure 3C/4C	Excavation Soil Sample Locations
Figure 3D/4D	Remediation Work Plan Proposed Soil Sample Locations
Table 1	Soil Analytical Results - Incident Number NRM1931858285 (2RP-5697)
Table 2	Soil Analytical Results - Incident Number NCE2002742193
Attachment 1	NMOSE Well Record (C-04474-POD1)
Attachment 2	Lithologic/Sampling Logs
Attachment 3	Photographic Log
Attachment 4A/4B	Laboratory Analytical Reports - Incident Number NRM1931858285 (2RP-5697) and Incident Number NCE2002742193

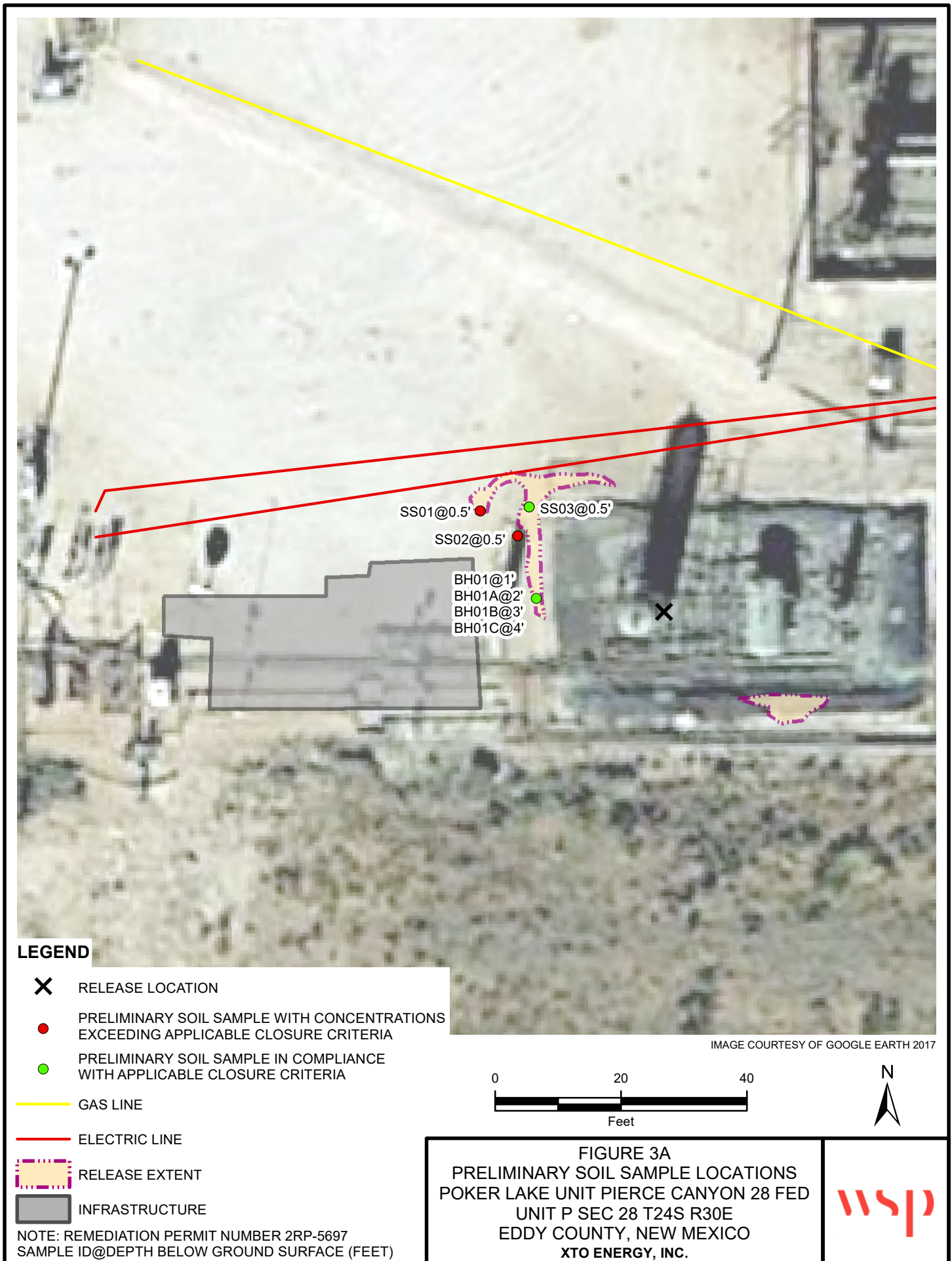
FIGURES



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P:\XTO Energy\GIS\MXD\012919281_PLU PC 28 BATTERY-PLU CVX JV PC 003H\012919281_FIG02_WATERCOURSE_SURVEY_2020.mxd



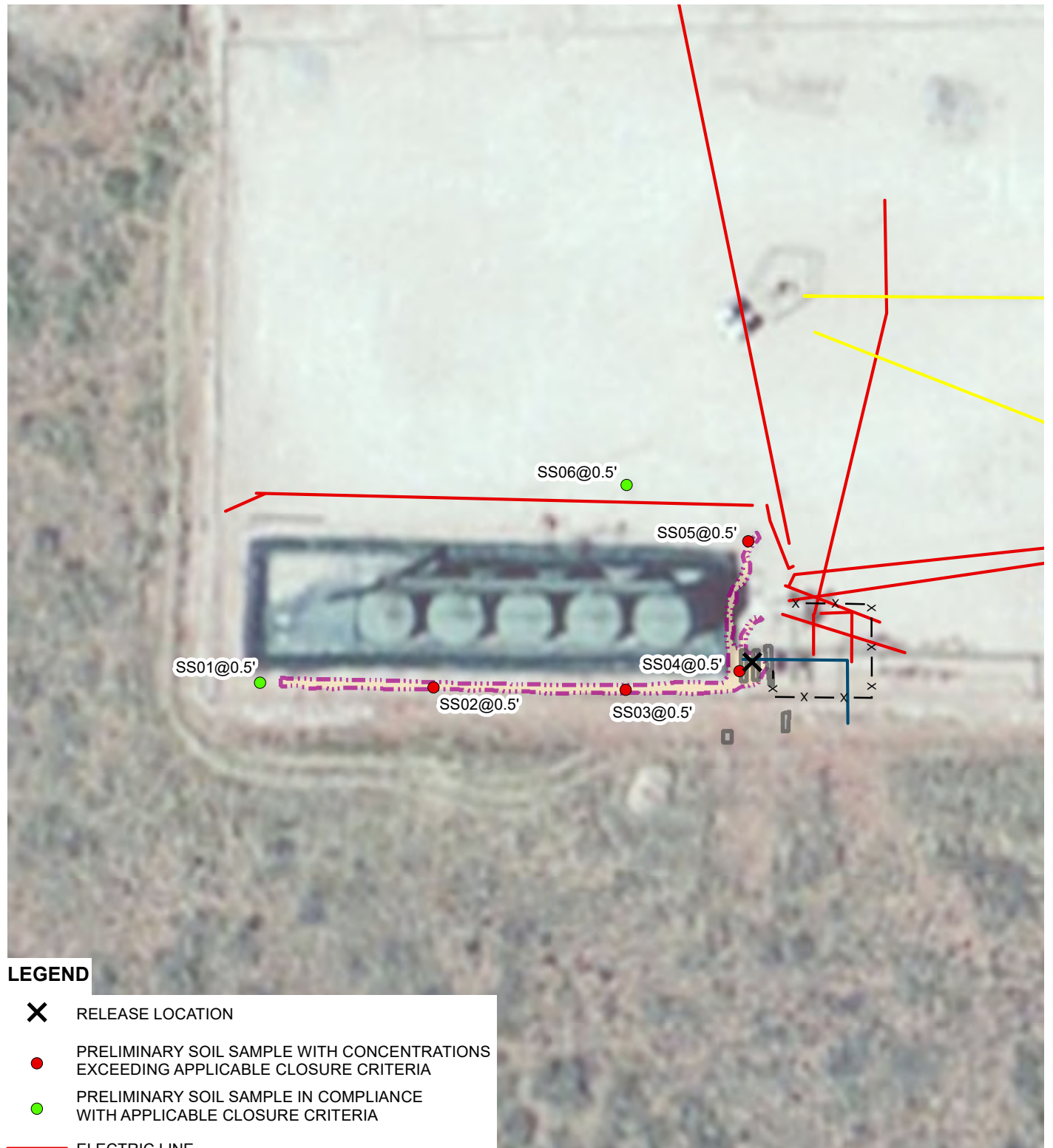


IMAGE COURTESY OF ESRI

LEGEND

RELEASE LOCATION



PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA



PRELIMINARY SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

— ELECTRIC LINE

x — x FENCED AREA

— GAS LINE

— SWD LINE



RELEASE EXTENT



INFRASTRUCTURE

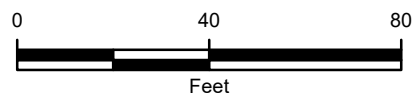
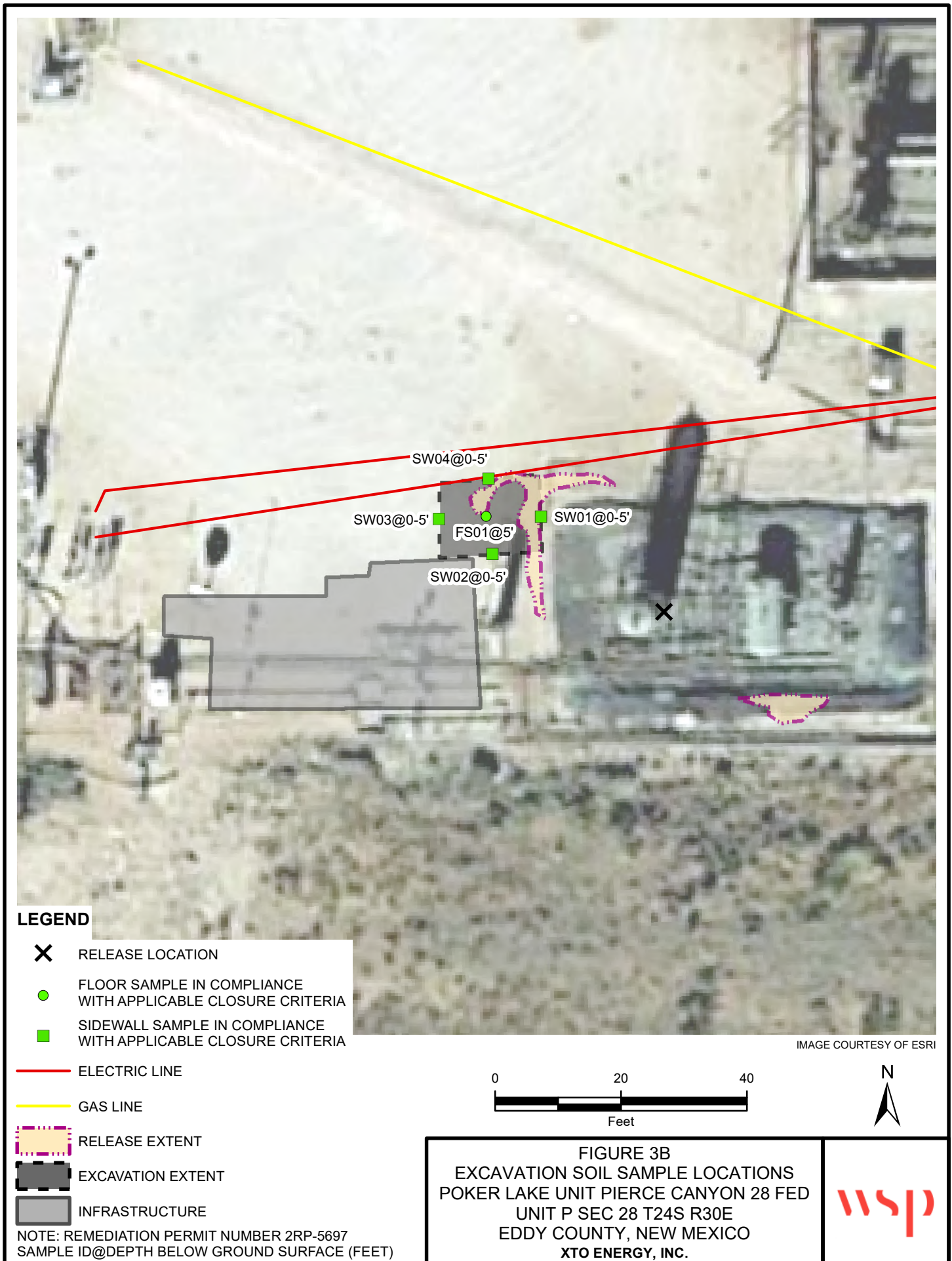
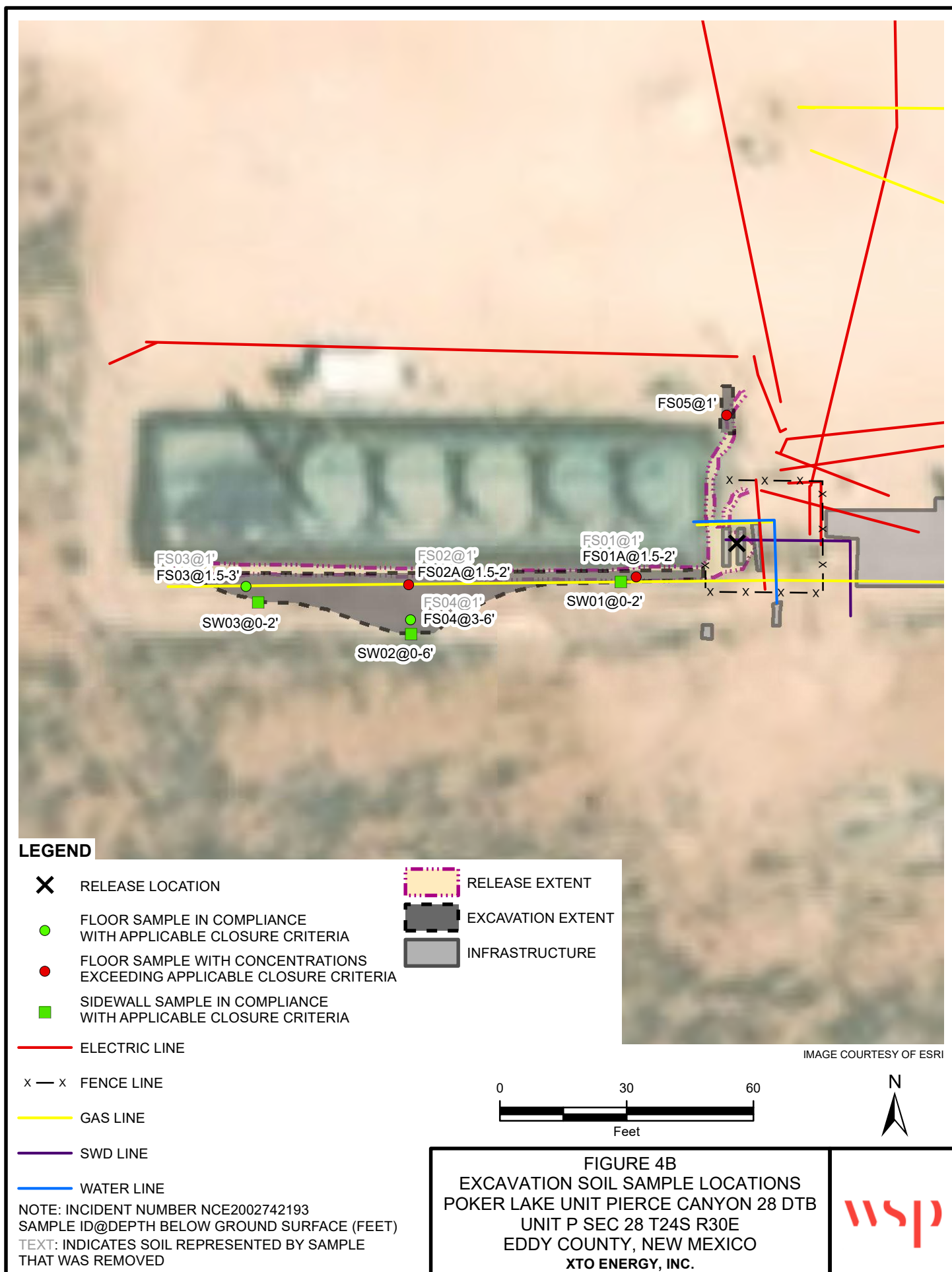
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: INCIDENT NUMBER NCE2002742193

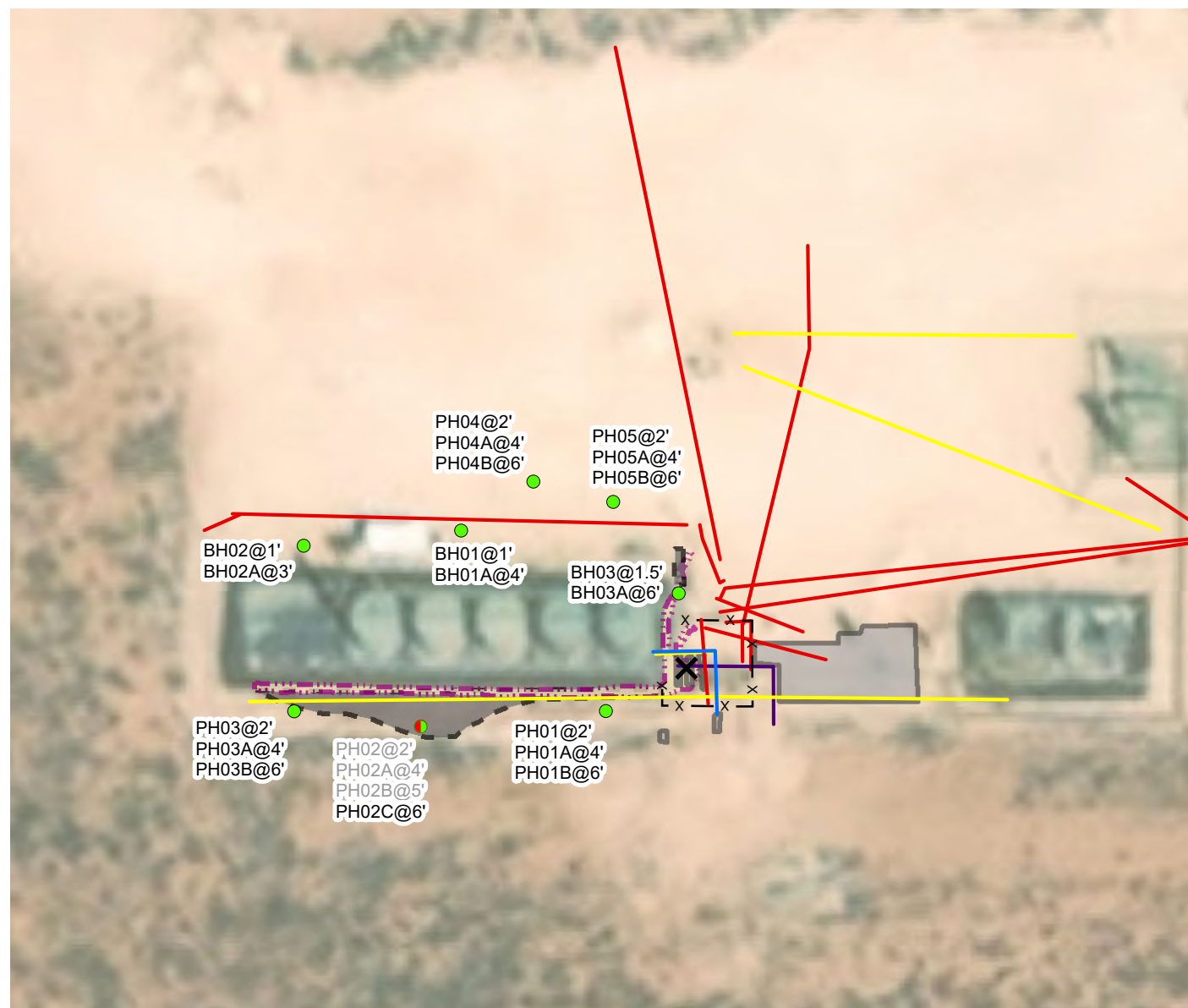
FIGURE 4A
PRELIMINARY SOIL SAMPLE LOCATIONS
POKER LAKE UNIT PIERCE CANYON 28 DTB
UNIT P SEC 28 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.





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**LEGEND**

- X** RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN PARTIAL COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- x — x FENCE LINE
- ELECTRIC LINE
- GAS LINE
- SWD LINE
- WATER LINE
- RELEASE EXTENT
- EXCAVATION EXTENT
- INFRASTRUCTURE

NOTE: INCIDENT NUMBER NCE2002742193
 SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
 TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED

IMAGE COURTESY OF ESRI

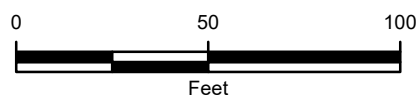
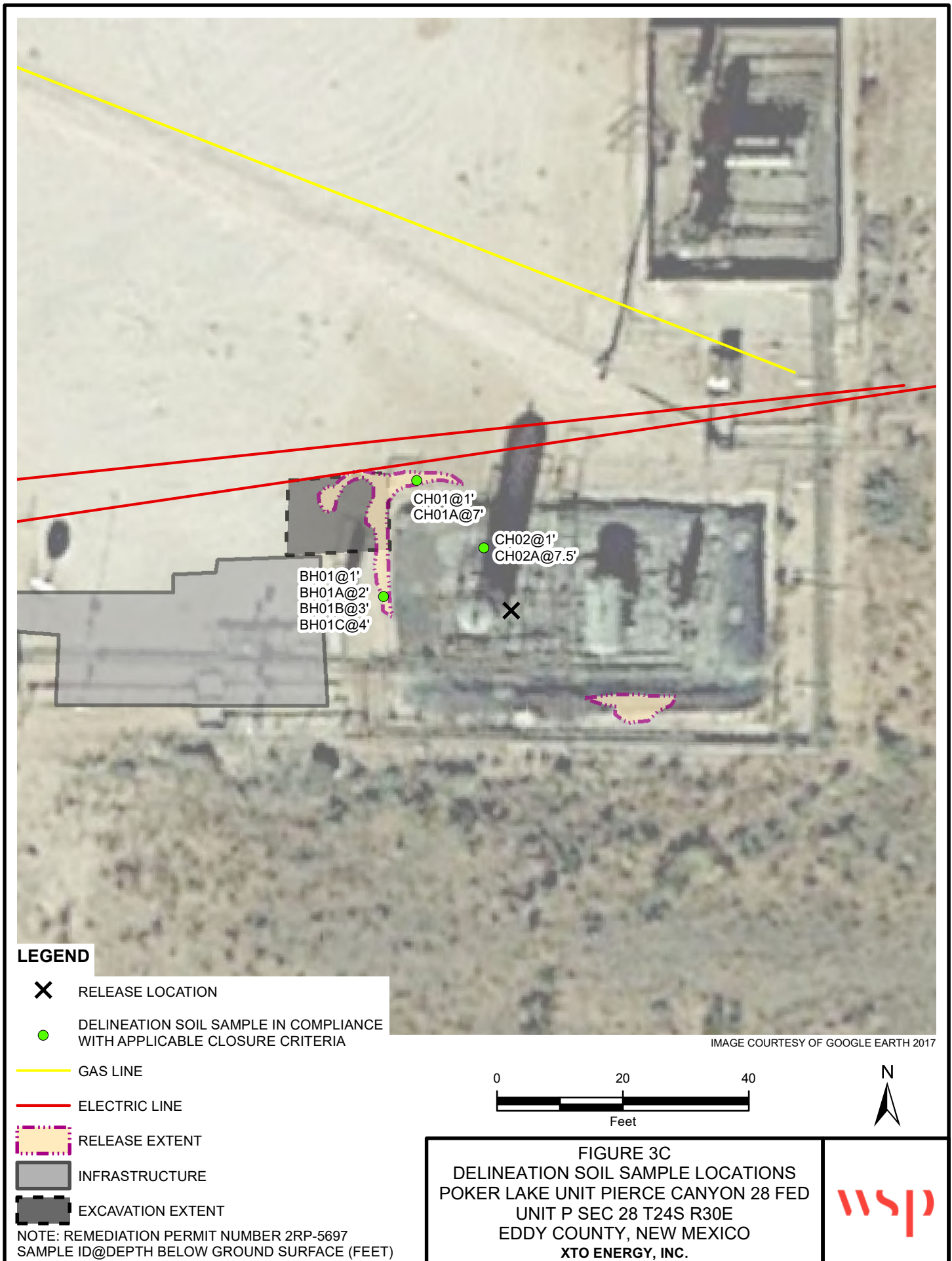
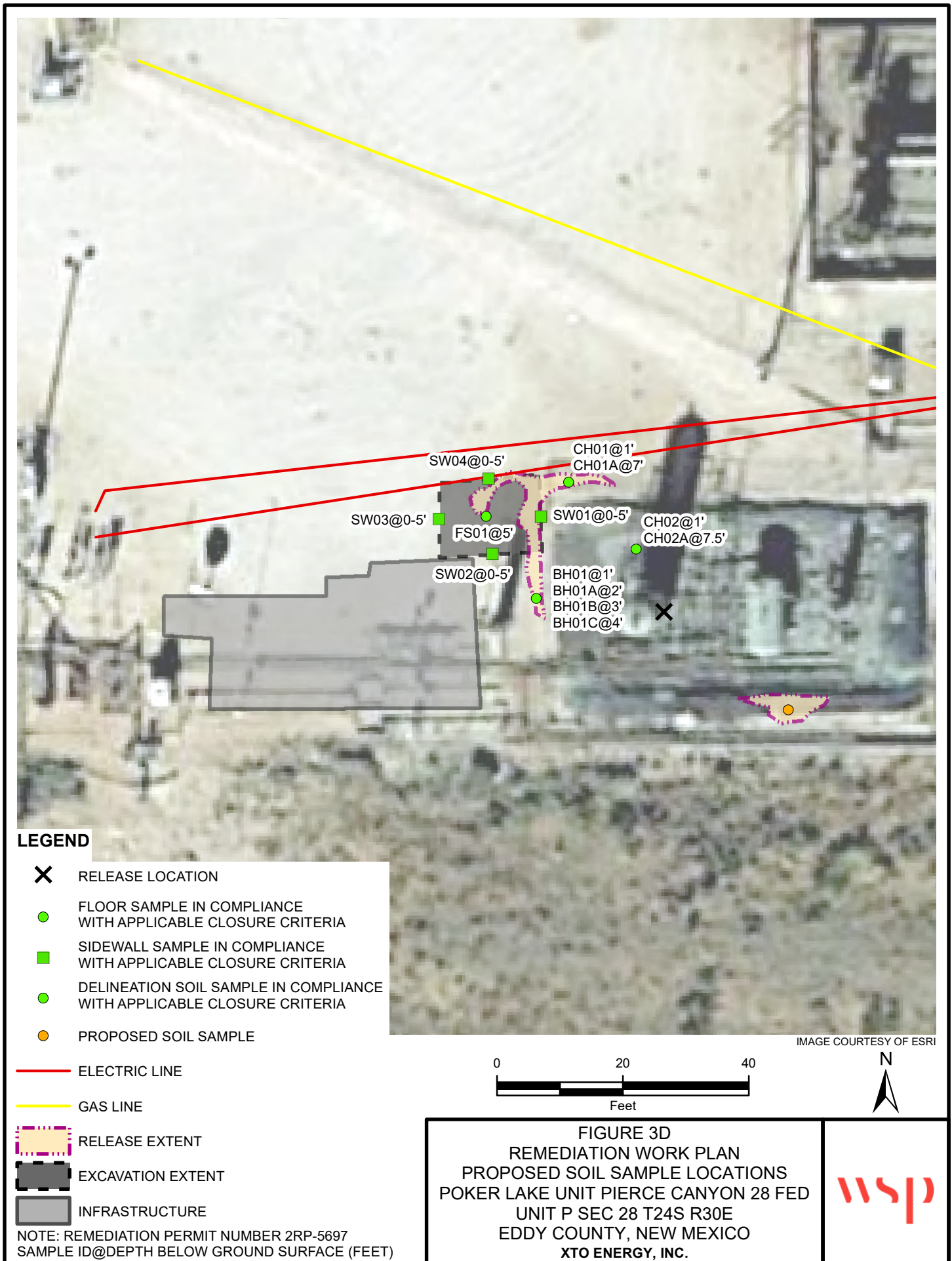


FIGURE 4C
 DELINEATION SOIL SAMPLE LOCATIONS
 POKER LAKE UNIT PIERCE CANYON 28 DTB
 UNIT P SEC 28 T24S R30E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.

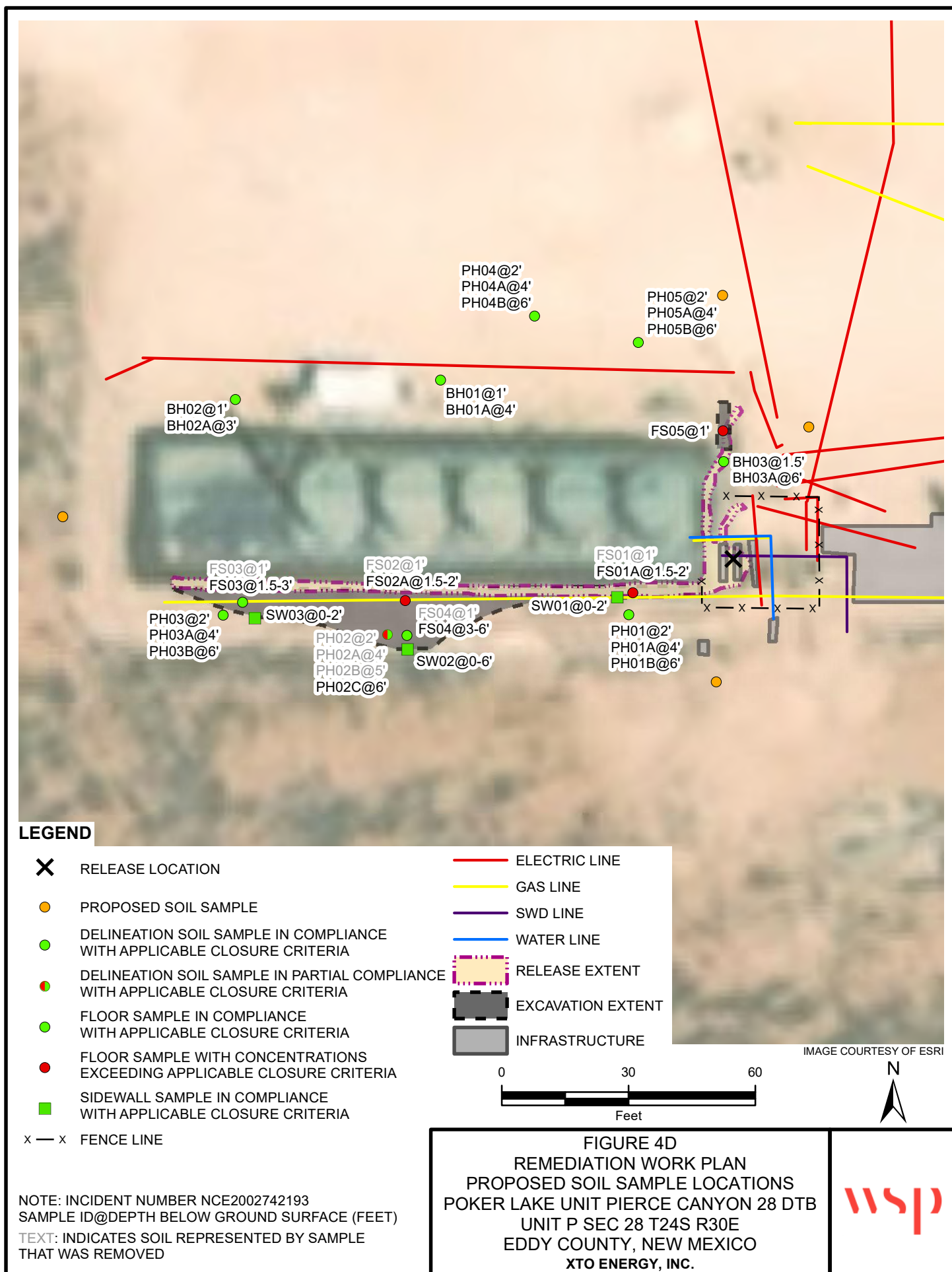




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TABLES

Table 1

Soil Analytical Results
Poker Lake Unit Pierce Canyon 28 Fed
Incident Number NRM1931858285 and Remediation Permit Number 2RP-5697
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	10/22/2019	0.5	<0.00200	<0.00200	<250	8,000	1,130	8,000	9,130	3,600
SS02	10/22/2019	0.5	<0.00199	<0.00199	<250	8,680	1,230	8,680	9,910	1,530
SS03	10/22/2019	0.5	<0.00201	<0.00201	<50.0	280	66.3	280	346	12,000
Delineation Samples										
BH01	12/05/2019	1	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	4,750
BH01A	12/05/2019	2	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	3,970
BH01B	12/05/2019	3	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	1,410
BH01C	12/05/2019	4	<0.00198	<0.00198	<49.9	52.0	<49.9	52.0	52.0	2,910
CH01	09/01/2020	1	<0.00199	<0.00199	<50.1	563	84.8	563	648	325
CH01A	09/01/2020	7	<0.00200	<0.00200	<49.8	90.7	<49.8	90.7	90.7	594
CH02	09/01/2020	1	<0.00198	<0.00198	<50.1	214	<50.1	214	214	596
CH02A	09/01/2020	7.5	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	114
Excavation Floor Samples										
FS01	12/06/2019	5	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	316
Excavation Sidewall Samples										
SW01	12/06/2019	0 - 5	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	5,400

Table 1

Soil Analytical Results
Poker Lake Unit Pierce Canyon 28 Fed
Incident Number NRM1931858285 and Remediation Permit Number 2RP-5697
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
SW02	12/06/2019	0 - 5	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	101
SW03	12/06/2019	0 - 5	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	268
SW04	12/06/2019	0 - 5	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	352

Notes:

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

< - indicates result is less than the stated laboratory method practical quantitation limit

NE - Not Established

BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard

Greyed data represents samples that were excavated

Table 2

Soil Analytical Results
Poker Lake Unit Pierce Canyon 28 DTB
Incident Number NCE2002742193
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	11/18/2019	0.5	0.00469	0.00987	<50.2	<50.2	<50.2	<50.2	<50.2	56.7
SS02	11/18/2019	0.5	15.3	324	7,400	17,500	1,320	24,900	26,200	8,450
SS03	11/18/2019	0.5	10.2	228	4,020	10,500	839	14,500	15,400	5,100
SS04	11/18/2019	0.5	8.49	198	2,600	6,560	524	9,160	9,680	12,000
SS05	11/18/2019	0.5	15.9	275	4,480	8,800	816	13,300	14,100	718
SS06	11/18/2019	0.5	0.013	0.0781	<50.2	148	57.5	148	206	2,580
Excavation Floor Samples										
FS01	12/10/2019	1	5.18	111	1,930	4,540	340	6,470	6,810	7,400
FS01	01/27/2020	1	<0.0502	11.3	367	2,190	150	2,560	2,710	3,880
FS01A	03/31/2020	1.5 - 2	<0.00201	<0.00201	<50.0	1,640	185	1,640	1,830	5,640
FS02	12/10/2019	1	0.144	32.2	1,160	5,540	551	6,700	7,250	2,190
FS02	01/27/2020	1	<0.0833	1.11	140	1,290	97.8	1,430	1,530	2,900
FS02A	03/31/2020	1.5 - 2	<0.00202	0.0198	<49.8	1,370	176	1,370	1,550	4,900
FS03	12/10/2019	1	1.57	70.7	1,330	2,770	220	4,100	4,320	4,440
FS03	01/27/2020	1	0.0225	11.6	970	4,340	455	5,310	5,770	1,240
FS03A	03/31/2020	1.5 - 3	<0.00200	<0.00200	<50.0	89.3	<50.0	89.3	89.3	50.8

Table 2

Soil Analytical Results
Poker Lake Unit Pierce Canyon 28 DTB
Incident Number NCE2002742193
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
FS04	01/27/2020	1	0.0242	19.0	686	3,700	458	4,390	4,840	1,780
FS04A	03/31/2020	3 - 6	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	69.0
FS05	12/10/2019	1	2.89	212	3,920	9,910	747	13,800	14,600	2,150
FS05	01/27/2020	1	0.956	85.6	2,660	8,150	608	10,800	11,400	1,070
Excavation Sidewall Samples										
SW01	03/31/2020	0 - 2	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	136
SW02	03/31/2020	0 - 6	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	52.0
SW03	03/31/2020	0 - 2	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	21.5
Delineation Samples										
PH01	03/30/2020	2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	<10.1
PH01A	03/30/2020	4	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	54.0
PH01B	03/30/2020	6	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	52.5
PH02	03/30/2020	2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	33.1
PH02A	03/30/2020	4	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	274
PH02B	03/30/2020	5	<0.0200	0.194	130	1,320	134	1,450	1,580	7,520
PH02C	03/30/2020	6	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	28.4
PH03	03/30/2020	2	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	36.1
PH03A	03/30/2020	4	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	21.2
PH03B	03/30/2020	6	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	16.4

Table 2

Soil Analytical Results
Poker Lake Unit Pierce Canyon 28 DTB
Incident Number NCE2002742193
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
PH04	03/31/2020	2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	<10.1
PH04A	03/31/2020	4	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	258
PH04B	03/31/2020	6	<0.00201	<0.00201	58.7	<50.0	<50.0	58.7	58.7	526
PH05	03/31/2020	2	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	374
PH05A	03/31/2020	4	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	382
PH05B	03/31/2020	6	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	199
BH01	06/10/2020	1	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	183
BH01A	06/10/2020	4	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	126
BH02	06/10/2020	1	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	58.4
BH02A	06/10/2020	3	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	297
BH03	07/13/2020	1.5	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	195
BH03A	07/13/2020	6	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	788

Notes:

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

< - indicates result is less than the stated laboratory method practical quantitation limit

NE - Not Established

BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard

Greyed data represents samples that were excavated

ATTACHMENT 1: REFERENCED WELL RECORD



2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

10/06/2020

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record C-4472 Pod1

To whom it may concern:

Attached please find a well record and a plugging record, in duplicate, for a one (1) soil borings, C-4472 Pod1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Lucas Middleton".

Lucas Middleton

Enclosures: as noted above



2020 OCT 6 2020 10

352 OCT 6 2020 PM 2:11



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

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 APPLICANT

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (BH-01)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4472			
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	DEGREES 32°	MINUTES 10'	SECONDS 51.44"	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE -103°	52'	38.65"	W	* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NE NE SE (Unit 1) Sec. 13 T23S R29E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 09/10/20	DRILLING ENDED 09/10/20	DEPTH OF COMPLETED WELL (FT) temporary well material		BORE HOLE DEPTH (FT) 110	DEPTH WATER FIRST ENCOUNTERED (FT) n/a		
	COMPLETED WELL IS: ☐ ARTESIAN ☒ DRY HOLE ☐ SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a		
	DRILLING FLUID: ☒ AIR ☐ MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: ☒ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	48	±8.5	Boring- HSA	--	--	--	--
	48	110	±4.5	Boring- Air Rotary	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

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WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

USE ON OCT 6 2020 #2...

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO				
	0	30	30	Sand, Medium , poorly-graded with silt, no plasticity, Red-Brown	Y ✓ N	
	30	45	15	Clayey Sand, Medium, low plasticity, Dark Red-Brown	Y ✓ N	
	45	50	5	Sand, Medium , poorly-graded, compacted, no plasticity, Brown	Y ✓ N	
	50	58	8	Caliche, well cemented with medium sand matrix. Brown	Y ✓ N	
	58	73	15	Clayey Sand, Medium, Moderate plasticity, increasing clay, Brown	Y ✓ N	
	73	78	5	Caliche, with Sandy clay layering, mod plasticity, poorly-graded sand, White	Y ✓ N	
	78	83	5	Sand, Medium , poorly-graded, no plasticity, Light Brown	Y ✓ N	
	83	88	5	Clayey Sand, Medium, Moderate plasticity, decreasing clay, Red Brown	Y ✓ N	
	88	110	22	Sand, Fine , poorly-graded, no plasticity , Brown	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from LTE on-site geologist.	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	Jackie D. Atkins DATE

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WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

2020-10-05_C-4474POD1_OSE_Well Record and Log-forsign

Final Audit Report

2020-10-06

Created:	2020-10-06
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA_F9cZtiO34P0Tus3PoXnMWcxdmBx6HXt

OSE DT OCT 5 2020 PM 2:11

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"2020-10-05_C-4474POD1_OSE_Well Record and Log-forsign" History

-  Document created by Lucas Middleton (lucas@atkinseng.com)
2020-10-06 - 2:55:52 PM GMT - IP address: 69.21.248.123
-  Document emailed to Jack Atkins (jack@atkinseng.com) for signature
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2020-10-06 - 4:16:54 PM GMT - IP address: 74.50.153.115
-  Document e-signed by Jack Atkins (jack@atkinseng.com)
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-  Agreement completed.
2020-10-06 - 4:18:28 PM GMT

DSE DT OCT 5 2020 10:21



PLUGGING RECORD

APPLICANT
COPY



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4474-POD1

Well owner: XTO ENERGY (Kyle Littrell)

Phone No.: 432.682.8873

Mailing address: 6401 Holiday Hill Dr.

City: Midland

State: Texas

Zip code: 79707

II. WELL PLUGGING INFORMATION:

- 1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)
- 2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/21
- 3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s):
Shane Elridge
- 4) Date well plugging began: 09/15/20 Date well plugging concluded: 09/15/20
- 5) GPS Well Location: Latitude: 32 deg, 10 min, 51.44 sec
Longitude: -103 deg, 52 min, 38.65 sec, WGS 84
- 6) Depth of well confirmed at initiation of plugging as: 110 ft below ground level (bgl),
by the following manner: weighted tape
- 7) Static water level measured at initiation of plugging: n/a ft bgl
- 8) Date well plugging plan of operations was approved by the State Engineer: 09/02/2020
- 9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe
differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

USE DUE OCT 6 2020

APPLICANT COPY

- For each interval plugged, describe within the following columns:**

[illegible]

MULTIPLY		BY	AND OBTAIN
cubic feet	x	7.4805	= gallons
cubic yards	x	201.97	= gallons

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins

10/06/20

Date _____

2020-10-06_C04774-POD1_WD-11 Plugging Record- forsign

Final Audit Report

2020-10-06

Created:	2020-10-06
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAkcDYFZZCiOmmTlIPTLygNOEure8NL-I2

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"2020-10-06_C04774-POD1_WD-11 Plugging Record- forsign" History

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2020-10-06 - 3:36:08 PM GMT- IP address: 69.21.248.123
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2020-10-06 - 4:21:33 PM GMT- IP address: 74.50.153.115
-  Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2020-10-06 - 4:22:32 PM GMT - Time Source: server- IP address: 74.50.153.115
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2020-10-06 - 4:22:32 PM GMT

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: BH01		Date: 12/5/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 Fed						
		RP Number: 2RP-5697						
		WSP Job Number: TE012919250						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.182192N, 103.880096W		Field Screening: Chloride, PID		Hole Diameter: 3 inches				
				Total Depth: 4 feet bgs				
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Compacted pad surface caliche fill
M	3,864	36.4	N	BH01	1	1	SP-SM	Brown to light brown, poorly-graded sand (f. - m.) with silt, low plasticity and no odor
M	1,170	29.6	N	BH01A	2	2		
M	554	7.4	N	BH01B	3	3		
M	1,988	15.0	N	BH01C	4	4	cche	Brown to off-white, moderately consolidated caliche with no odor
								Total Depth
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: CH01		Date: 9/1/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 Fed						
		RP Number: 2RP-5697						
		WSP Job Number: TE012919250						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.182237N, 103.880078W		Field Screening: Chloride, PID		Hole Diameter: 1.25 inches				
				Total Depth: 7 feet bgs				
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Compacted pad surface caliche fill
M	500	0.8	N	CH01	1	1	SP-SM	Brown to light brown, poorly-graded sand (f. - m.) with silt, low plasticity and no odor
M	820	0.1	N		2	2		
M	1,940	0.1	N		3	3		
M	1,820	0.1	N		4	4	cche	Tan, light pink, moderately consolidated caliche with no odor
M	820	0.1	N		5	5		
M	-	-	N		6	6		
M	1,988	0.2	N	CH01A	7	7	cche	
						8		Total Depth
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: CH02		Date: 9/1/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 Fed						
		RP Number: 2RP-5697						
		WSP Job Number: TE012919250						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.182210N, 103.880044W		Field Screening: Chloride, PID		Hole Diameter: 1.25 inches				
				Total Depth: 7.5 feet bgs				
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Compacted pad surface caliche fill
M	1,210	6.6	N	CH02	1	1	SP-SM	Brown to light brown, poorly-graded sand (f. - m.) with silt, low plasticity and no odor
M	1,210	5.6	N		2	2		
M	1,690	2.5	N		3	3		
M	2,370	0.4	N		4	4	cche	
M	2,070	0.5	N		5	5		
M	2,370	0.1	N		6	6		
M	1,380	0.1	N		7	7	cche	
M	960	0.3	N	CH02A	7.5	7.5	cche	
						8		Total Depth
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH Name: BH01		Date: 6/10/20	
					Site Name: Poker Lake Unit Pierce Canyon 28 DTB			
					Incident Number: NCE2002742193			
					WSP Job Number: TE012919281			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Robert McAfee		Method: Hand Auger	
Lat/Long: 32.18228719N, 103.88057875W			Field Screening: Chloride, PID		Hole Diameter: 3 inches		Total Depth: 4 feet bgs	
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	cche	Compacted pad surface caliche fill
M	520	0.5	N	BH01	1	1	SP-SM	Brown, poorly-graded sand (f.) with silt, low plasticity and no odor
M	200	0.1	N		2	2		
M	240	0.1	N		3	3	SP-SC	Brown, poorly-graded sand (f.) with clay, low plasticity and no odor
M	200	0.1	N	BH01A	4	4	SP-SC	(Auger Refusal at 4.5 ft bgs - consolidated caliche)
								Total Depth
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		BH Name: BH02		Date: 6/10/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 DTB						
		Incident Number: NCE2002742193						
		WSP Job Number: TE012919281						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.182275N, 103.8807357W		Field Screening: Chloride, PID		Hole Diameter: 3 inches				
				Total Depth: 3 feet bgs				
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	cche	Compacted pad surface caliche fill
M	< 124	0.5	N	BH02	1	1	SP-SM	Brown, poorly-graded sand (f.) with silt, low plasticity and no odor
M	280	0.3	N		2	2		
M	380	0.2	N	BH02A	3	3	SP-SM	
								(Auger refusal at 3.5 ft bgs - consolidated caliche)
								Total Depth
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		BH Name: BH03		Date: 7/13/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 DTB						
		Incident Number: NCE2002742193						
		WSP Job Number: TE012919281						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.182239N, 103.880360W		Field Screening: Chloride, PID		Hole Diameter: 12 inches				
				Total Depth: 6 feet bgs				
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	cche	Compacted pad surface caliche fill
					1	1		
M	<124	0.7	N	BH03	1.5	1.5	SP-SM	Brown, poorly-graded sand (f.) with silt, low plasticity and no odor, trace caliche
M	280	1.3	N		2	2		
M	235	0.2	N		3	3	cche	Tan, consolidated caliche
M	173	0.5	N		4	4	cche	
M	580	1.2	N	BH03A	6	6	cche	Tan, well consolidated caliche
								Total Depth
						7		
						8		
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: PH01		Date: 3/30/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 DTB						
		Incident Number: NCE2002742193						
		WSP Job Number: TE012919281						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.18213145N, 103.88043513W			Field Screening: Chloride, PID		Hole Diameter: n/a			
Total Depth: 6 feet bgs								
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	-	-	N	-	-	0	SP-SM	Brown-red, poorly-graded sand (f.) with silt, low plasticity and no odor
						1		
M	235	0.6	N	PH01	2	2	cche	Tan, well consolidated caliche with no odor
						3		
M	173	2.5	N	PH01A	4	4	cche	
						5		
M	173	2	N	PH01B	6	6	cche	
						7		Total Depth
						8		
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: PH02		Date: 3/30/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 DTB						
		Incident Number: NCE2002742193						
		WSP Job Number: TE012919281						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.182123N, 103.880627W		Field Screening: Chloride, PID		Hole Diameter: n/a				
Total Depth: 6 feet bgs								
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	-	-	N	-		0	SP-SM	Light brown to red, poorly-graded sand (f.) with silt, low plasticity
						1		
M	-	439.0	N	PH02	2	2	cche	Tan, moderately consolidated caliche with no odor
						3		
M	274	100.3	N	PH02A	4	4	cche	
						5		
M	< 120	8.8	N	PH02B	5	5	cche	
						6		
M	< 120	4.4	N	PH02C	6	6	cche	
						7		Total Depth
						8		
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: PH03		Date: 3/30/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 DTB						
		Incident Number: NCE2002742193						
		WSP Job Number: TE012919281						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.18213476N, 103.88075919W		Field Screening: Chloride, PID		Hole Diameter: n/a				
				Total Depth: 6 feet bgs				
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	-	-	N	-		0	SP-SM	Light brown to red, poorly-graded sand (f.) with silt, low plasticity and no odor
						1		
M	207	0.3	N	PH03	2	2	cche	Tan, moderately consolidated caliche with no odor
						3		
M	173	3.5	N	PH03A	4	4	cche	
						5		
M	173	1.3	N	PH03B	6	6	cche	
						7		
						8		
						9		
						10		
						11		
						12		
							Total Depth	

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: PH04		Date: 3/31/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 DTB						
		Incident Number: NCE2002742193						
		WSP Job Number: TE012919281						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.18231103N, 103.88052735W		Field Screening: Chloride, PID		Hole Diameter: n/a				
Total Depth: 6 feet bgs								
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	-	-	N	-	-	0		Compacted pad surface caliche fill
						1	SP-SM	Brown to light brown, poorly-graded sand (f. - m.) with silt, low plasticity, no odor
M	< 600	0.6	N	PH04	2	2		
						3	SP-SC	Brown to light brown, poorly-graded sand (f. - m.) with brown-red clay, moderate plasticity and no odor
M	< 600	0.5	N	PH04A	4	4	cche	Tan to off-white, moderately consolidated caliche with no odor
						5		
M	< 600	1	N	PH04B	6	6	cche	
						7		
						8		
						9		
						10		
						11		
						12		
								Total Depth

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		PH Name: PH05		Date: 3/31/20				
		Site Name: Poker Lake Unit Pierce Canyon 28 DTB						
		Incident Number: NCE2002742193						
		WSP Job Number: TE012919281						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.182304N, 103.880426W		Field Screening: Chloride, PID		Hole Diameter: n/a				
Total Depth: 6 feet bgs								
Comments: Chloride testing conducted with 1:4 dilution of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		Compacted pad surface caliche fill
						1	SP-SM	Brown to light brown, poorly-graded sand (f. - m.) with silt, low plasticity and no odor
M	< 600	0.2	N	PH05	2	2		
						3	SP-SC	Brown to light brown, poorly-graded sand (f. - m.) with brown-red clay and no odor
M	< 600	0.5	N	PH05A	4	4	cche	Tan to off-white, moderately consolidated caliche with no odor
						5		
M	< 600	0.8	N	PH05B	6	6	cche	
								Total Depth
						7		
						8		
						9		
						10		
						11		
						12		

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG

XTO Energy, INC.	Poker Lake Unit Pierce Canyon 28 Eddy County, New Mexico	TE012919250 & TE012919281
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Photo No.	Date	
1	March 31, 2020	
NRM1931858285 (2RP-5697)		
Southern view of the eastern excavation.		

Photo No.	Date	
2	December 10, 2019	
NCE2002742193		
Hydrovac excavation associated with soil sample location FS05 on the eastern side of the tank battery containment.		



PHOTOGRAPHIC LOG

XTO Energy, INC.	Poker Lake Unit Pierce Canyon 28 Eddy County, New Mexico	TE012919250 & TE012919281
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Photo No.	Date	
3	January 27, 2020	
NCE2002742193		
Delineation activities west of the tank battery containment.		

Photo No.	Date	
4	March 27, 2020	
NCE2002742193		
Western view of the hydrovac excavation south of the tank battery containment.		



PHOTOGRAPHIC LOG

XTO Energy, INC.	Poker Lake Unit Pierce Canyon 28 Eddy County, New Mexico	TE012919250 & TE012919281
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Photo No.	Date	
5	March 31, 2020	
NCE2002742193		
Western view of the final excavation south of the tank battery containment.		

Photo No.	Date	
6	September 1, 2020	
NCE2002742193		
Corehole drilling activities at CH02 soil sample location.		

ATTACHMENT 4A: LABORATORY ANALYTICAL REPORTS - NRM1931858285 (2RP-5697)

Certificate of Analysis Summary 640829



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery 2RP-5697

Project Id: 012919250

Date Received in Lab: Wed 10.23.2019 12:25

Contact: Dan Moir

Report Date: 12.16.2020 10:05

Project Location:

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	640829-001	640829-002	640829-003			
	Field Id:	SS01	SS02	SS03			
	Depth:	0.5- ft	0.5- ft	0.5- ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	10.22.2019 13:15	10.22.2019 13:20	10.22.2019 13:25			
BTEX by EPA 8021B SUB: T104704400-20-21	Extracted:	10.28.2019 11:45	10.28.2019 11:45	10.28.2019 11:45			
	Analyzed:	10.28.2019 20:14	10.28.2019 20:34	10.28.2019 21:53			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201			
Benzene							
Toluene							
Ethylbenzene							
m,p-Xylenes							
o-Xylene							
Total Xylenes							
Total BTEX							
Chloride by EPA 300 SUB: T104704400-20-21	Extracted:	10.24.2019 14:30	10.24.2019 14:30	10.24.2019 16:45			
	Analyzed:	10.24.2019 23:26	10.24.2019 23:31	10.24.2019 17:43			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		3600 24.8	1530 25.3	12000 99.8			
Chloride							
TPH by SW8015 Mod SUB: T104704400-20-21	Extracted:	10.25.2019 17:00	10.25.2019 17:00	10.25.2019 17:00			
	Analyzed:	10.26.2019 04:10	10.26.2019 04:31	10.26.2019 04:52			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		<250 250	<250 250	<50.0 50.0			
Gasoline Range Hydrocarbons (GRO)							
Diesel Range Organics (DRO)							
Motor Oil Range Hydrocarbons (MRO)							
Total GRO-DRO							
Total TPH							

BRL - Below Reporting Limit

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



Environment Testing
Xenco

Analytical Report 640829

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery 2RP-5697

012919250

12.16.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.16.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **640829**

PLU PC 28 Battery 2RP-5697

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 Eurofins Xenco, LLC Report Number(s) 640829. 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 Eurofins Xenco, LLC. 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. 640829 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 640829

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10.22.2019 13:15	0.5 ft	640829-001
SS02	S	10.22.2019 13:20	0.5 ft	640829-002
SS03	S	10.22.2019 13:25	0.5 ft	640829-003



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery 2RP-5697

Project ID: 012919250
Work Order Number(s): 640829

Report Date: 12.16.2020
Date Received: 10.23.2019

Sample receipt non conformances and comments:

V1.001 Revision (client email) Corrected project name/number and sample depth. JK 04/02/20

V1.002 Revision - Changed client name from LT Environmental to WSP USA JK 12/15/20

V1.003 Revision - Changed sample 001 (SS01) sample depth to 0.5' JK 12/16/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3105707 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 640829

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SS01**
Lab Sample Id: 640829-001

Matrix: Soil
Date Collected: 10.22.2019 13:15

Date Received: 10.23.2019 12:25
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.24.2019 14:30

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105377

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3600	24.8	mg/kg	10.24.2019 23:26		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.25.2019 17:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105552

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<250	250	mg/kg	10.26.2019 04:10	U	5
Diesel Range Organics (DRO)	C10C28DRO	8000	250	mg/kg	10.26.2019 04:10		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1130	250	mg/kg	10.26.2019 04:10		5
Total GRO-DRO	PHC628	8000	250	mg/kg	10.26.2019 04:10		5
Total TPH	PHC635	9130	250	mg/kg	10.26.2019 04:10		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	10.26.2019 04:10	
o-Terphenyl	84-15-1	85	%	70-135	10.26.2019 04:10	



Certificate of Analytical Results 640829

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SS01**
Lab Sample Id: 640829-001

Matrix: Soil
Date Collected: 10.22.2019 13:15

Date Received: 10.23.2019 12:25
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

Analyst: KTL

Date Prep: 10.28.2019 11:45

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.2019 20:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.2019 20:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.2019 20:14	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.2019 20:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.2019 20:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.2019 20:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.2019 20:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.28.2019 20:14	
1,4-Difluorobenzene	540-36-3	94	%	70-130	10.28.2019 20:14	



Certificate of Analytical Results 640829

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SS02**
Lab Sample Id: 640829-002

Matrix: Soil
Date Collected: 10.22.2019 13:20

Date Received: 10.23.2019 12:25
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.24.2019 14:30

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105377

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1530	25.3	mg/kg	10.24.2019 23:31		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.25.2019 17:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105552

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<250	250	mg/kg	10.26.2019 04:31	U	5
Diesel Range Organics (DRO)	C10C28DRO	8680	250	mg/kg	10.26.2019 04:31		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1230	250	mg/kg	10.26.2019 04:31		5
Total GRO-DRO	PHC628	8680	250	mg/kg	10.26.2019 04:31		5
Total TPH	PHC635	9910	250	mg/kg	10.26.2019 04:31		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	75	%	70-135	10.26.2019 04:31	
o-Terphenyl	84-15-1	85	%	70-135	10.26.2019 04:31	



Certificate of Analytical Results 640829

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SS02**
Lab Sample Id: 640829-002

Matrix: Soil
Date Collected: 10.22.2019 13:20

Date Received: 10.23.2019 12:25
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

Analyst: KTL

Date Prep: 10.28.2019 11:45

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.28.2019 20:34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.28.2019 20:34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.28.2019 20:34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.28.2019 20:34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.28.2019 20:34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.28.2019 20:34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.28.2019 20:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.28.2019 20:34	
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.28.2019 20:34	



Certificate of Analytical Results 640829

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SS03**
Lab Sample Id: 640829-003

Matrix: Soil
Date Collected: 10.22.2019 13:25

Date Received: 10.23.2019 12:25
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 10.24.2019 16:45

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105379

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12000	99.8	mg/kg	10.24.2019 17:43		20

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 10.25.2019 17:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105552

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.26.2019 04:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	280	50.0	mg/kg	10.26.2019 04:52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	66.3	50.0	mg/kg	10.26.2019 04:52		1
Total GRO-DRO	PHC628	280	50.0	mg/kg	10.26.2019 04:52		1
Total TPH	PHC635	346	50.0	mg/kg	10.26.2019 04:52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	10.26.2019 04:52	
o-Terphenyl	84-15-1	83	%	70-135	10.26.2019 04:52	



Certificate of Analytical Results 640829

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SS03**
Lab Sample Id: 640829-003

Matrix: Soil
Date Collected: 10.22.2019 13:25

Date Received: 10.23.2019 12:25
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

Analyst: KTL

Date Prep: 10.28.2019 11:45

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3105707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.28.2019 21:53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.28.2019 21:53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.28.2019 21:53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.28.2019 21:53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.28.2019 21:53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.28.2019 21:53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.28.2019 21:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.28.2019 21:53	
4-Bromofluorobenzene	460-00-4	100	%	70-130	10.28.2019 21:53	

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: Chloride by EPA 300

Seq Number: 3105377

Matrix: Solid

Prep Method: E300P

Date Prep: 10.24.2019

MB Sample Id: 7688863-1-BLK

LCS Sample Id: 7688863-1-BKS

LCSD Sample Id: 7688863-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	264	106	90-110	0	20	mg/kg	10.24.2019 21:06	

Analytical Method: Chloride by EPA 300

Seq Number: 3105379

Matrix: Solid

Prep Method: E300P

Date Prep: 10.24.2019

MB Sample Id: 7688864-1-BLK

LCS Sample Id: 7688864-1-BKS

LCSD Sample Id: 7688864-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	254	102	248	99	90-110	2	20	mg/kg	10.24.2019 17:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3105377

Matrix: Soil

Prep Method: E300P

Date Prep: 10.24.2019

Parent Sample Id: 640781-009

MS Sample Id: 640781-009 S

MSD Sample Id: 640781-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.4	250	303	112	305	113	90-110	1	20	mg/kg	10.24.2019 21:21	X

Analytical Method: Chloride by EPA 300

Seq Number: 3105377

Matrix: Soil

Prep Method: E300P

Date Prep: 10.24.2019

Parent Sample Id: 640781-020

MS Sample Id: 640781-020 S

MSD Sample Id: 640781-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	633	250	922	116	930	119	90-110	1	20	mg/kg	10.24.2019 22:31	X

Analytical Method: Chloride by EPA 300

Seq Number: 3105379

Matrix: Soil

Prep Method: E300P

Date Prep: 10.24.2019

Parent Sample Id: 640835-001

MS Sample Id: 640835-001 S

MSD Sample Id: 640835-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	30.8	253	312	111	309	110	90-110	1	20	mg/kg	10.24.2019 23:37	X

Analytical Method: Chloride by EPA 300

Seq Number: 3105379

Matrix: Soil

Prep Method: E300P

Date Prep: 10.24.2019

Parent Sample Id: 640835-010

MS Sample Id: 640835-010 S

MSD Sample Id: 640835-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.29	250	278	108	276	107	90-110	1	20	mg/kg	10.24.2019 18:52	

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

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

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

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105552

MB Sample Id: 7688965-1-BLK

Matrix: Solid

LCS Sample Id: 7688965-1-BKS

Prep Method: SW8015P

Date Prep: 10.25.2019

LCSD Sample Id: 7688965-1-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)	<15.0	1000	840	84	826	83	70-135	2	20	mg/kg	10.25.2019 20:31	
Diesel Range Organics (DRO)	<15.0	1000	864	86	862	86	70-135	0	20	mg/kg	10.25.2019 20:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		87		104		70-135	%	10.25.2019 20:31
o-Terphenyl	91		90		90		70-135	%	10.25.2019 20:31

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105552

Matrix: Solid

Prep Method: SW8015P

Date Prep: 10.25.2019

MB Sample Id: 7688965-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.25.2019 20:09	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3105552

Matrix: Soil

Prep Method: SW8015P

Date Prep: 10.25.2019

Parent Sample Id: 640878-001

MS Sample Id: 640878-001 S

MSD Sample Id: 640878-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	18.8	997	851	83	850	83	70-135	0	20	mg/kg	10.25.2019 21:33	
Diesel Range Organics (DRO)	975	997	2140	117	2130	116	70-135	0	20	mg/kg	10.25.2019 21:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		96		70-135	%	10.25.2019 21:33
o-Terphenyl	102		106		70-135	%	10.25.2019 21:33

Analytical Method: BTEX by EPA 8021B

Seq Number: 3105707

Matrix: Solid

Prep Method: SW5030B

Date Prep: 10.28.2019

MB Sample Id: 7689008-1-BLK

LCS Sample Id: 7689008-1-BKS

LCSD Sample Id: 7689008-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.101	101	0.102	102	70-130	1	35	mg/kg	10.28.2019 15:33	
Toluene	<0.00200	0.100	0.0919	92	0.0942	94	70-130	2	35	mg/kg	10.28.2019 15:33	
Ethylbenzene	<0.00200	0.100	0.0924	92	0.0945	95	70-130	2	35	mg/kg	10.28.2019 15:33	
m,p-Xylenes	<0.00400	0.200	0.185	93	0.188	94	70-130	2	35	mg/kg	10.28.2019 15:33	
o-Xylene	<0.00200	0.100	0.0874	87	0.0900	90	70-130	3	35	mg/kg	10.28.2019 15:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		97		103		70-130	%	10.28.2019 15:33
4-Bromofluorobenzene	95		101		110		70-130	%	10.28.2019 15:33

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

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

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

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

WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: BTEX by EPA 8021B

Seq Number: 3105707

Parent Sample Id: 641072-001

Matrix: Soil

MS Sample Id: 641072-001 S

Prep Method: SW5030B

Date Prep: 10.28.2019

MSD Sample Id: 641072-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0728	73	0.0914	92	70-130	23	35	mg/kg	10.28.2019 16:13	
Toluene	<0.00199	0.0996	0.0714	72	0.0839	84	70-130	16	35	mg/kg	10.28.2019 16:13	
Ethylbenzene	<0.00199	0.0996	0.0620	62	0.0831	84	70-130	29	35	mg/kg	10.28.2019 16:13	X
m,p-Xylenes	<0.00398	0.199	0.123	62	0.167	84	70-130	30	35	mg/kg	10.28.2019 16:13	X
o-Xylene	<0.00199	0.0996	0.0606	61	0.0784	79	70-130	26	35	mg/kg	10.28.2019 16:13	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		99		70-130	%	10.28.2019 16:13
4-Bromofluorobenzene	99		111		70-130	%	10.28.2019 16:13

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

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

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

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



Chain of Custody

Work Order No: 640829

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)565-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental, Inc.	Company Name:	XTO Energy
Address:	508 W. Stevens St.	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:		Email:	Dan, Tacoma, Kaley, Carol, Rebecca

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

Project Name:	PLU PC 28 Battery	Turn Around											Work Order Notes				
Project Number:	012919250	Routine ☒											TAT starts the day received by the lab, if received by 4:30pm Sample Comments				
P.O. Number:		Rush:															
Sampler's Name:	Kaley Jennings	Due Date:															
SAMPLE RECEIPT Temperature (°C): 1.0 Received Intact: Yes ☒ No Cooler Custody Seals: Yes ☒ No Sample Custody Seals: Yes ☒ No Thermometer ID: T-NM-003 Correction Factor: -0.2 Total Containers: 3																	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST												
SS01	S	10-22-19	13:15	0.5'	X	X	X										
SS02	S	10-22-19	13:20	0.5'	X	X	X										
SS03	S	10-22-19	13:25	0.5'	X	X	X										
					BTEX (EPA8021B) TPH (SW8015 Mod) Chloride (E300)												
					NFE												

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 Ti 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 Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	10/23/19 12:25	<i>[Signature]</i>	<i>[Signature]</i>	10/23/19 12:25
3			4		
5			6		



Inter-Office Shipment

Page 1 of 1

IOS Number **50712**

Date/Time: 10/23/19 14:20

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 776797683616

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640829-001	S	SS01	10/22/19 13:15	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640829-001	S	SS01	10/22/19 13:15	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640829-001	S	SS01	10/22/19 13:15	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640829-002	S	SS02	10/22/19 13:20	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640829-002	S	SS02	10/22/19 13:20	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640829-002	S	SS02	10/22/19 13:20	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640829-003	S	SS03	10/22/19 13:25	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PF	
640829-003	S	SS03	10/22/19 13:25	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640829-003	S	SS03	10/22/19 13:25	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 10/23/2019

Received By:

Brianna Teel

Date Received: 10/24/2019 11:18

Cooler Temperature: 0.6



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50712

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 10/23/2019 02:20 PM

Received By: Brianna Teel

Date Received: 10/24/2019 11:18 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 10/24/2019



Client: LT Environmental, Inc.

Date/ Time Received: 10/23/2019 12:25:00 PM

Work Order #: 640829

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 10/23/2019

Checklist reviewed by:

Jessica Kramer

Date: 10/24/2019

Certificate of Analysis Summary 645543



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery 2RP-5697

Project Id: 012919250

Date Received in Lab: Mon 12.09.2019 10:15

Contact: Dan Moir

Report Date: 12.15.2020 10:02

Project Location:

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645543-001	645543-002	645543-003	645543-004		
	<i>Field Id:</i>	BH01	BH01A	BH01B	BH01C		
	<i>Depth:</i>	1- ft	2- ft	3- ft	4- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	12.05.2019 13:10	12.05.2019 13:25	12.05.2019 13:35	12.05.2019 13:50		
BTEX by EPA 8021B	<i>Extracted:</i>	12.09.2019 14:00	12.09.2019 14:00	12.09.2019 14:00	12.09.2019 14:00		
	<i>Analyzed:</i>	12.10.2019 01:15	12.10.2019 02:19	12.10.2019 02:38	12.10.2019 02:58		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Toluene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
m,p-Xylenes		<0.00398 0.00398	<0.00397 0.00397	<0.00397 0.00397	<0.00397 0.00397		
o-Xylene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Total BTEX		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198		
Chloride by EPA 300	<i>Extracted:</i>	12.09.2019 17:14	12.09.2019 17:14	12.09.2019 17:14	12.09.2019 17:14		
	<i>Analyzed:</i>	12.09.2019 21:30	12.09.2019 21:49	12.09.2019 21:55	12.09.2019 22:01		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		4750 99.8	3970 99.2	1410 50.1	2910 101		
TPH by SW8015 Mod	<i>Extracted:</i>	12.09.2019 15:30	12.09.2019 15:30	12.09.2019 15:30	12.09.2019 17:00		
	<i>Analyzed:</i>	12.09.2019 23:32	12.09.2019 23:52	12.09.2019 23:52	12.10.2019 00:52		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<49.9 49.9	<50.0 50.0	<49.9 49.9		
Diesel Range Organics (DRO)		<50.2 50.2	<49.9 49.9	<50.0 50.0	52.0 49.9		
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<49.9 49.9	<50.0 50.0	<49.9 49.9		
Total GRO-DRO		<50.2 50.2	<49.9 49.9	<50.0 50.0	52.0 49.9		
Total TPH		<50.2 50.2	<49.9 49.9	<50.0 50.0	52.0 49.9		

BRL - Below Reporting Limit

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



Analytical Report 645543

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery 2RP-5697

012919250

12.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **645543**

PLU PC 28 Battery 2RP-5697

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 Eurofins Xenco, LLC Report Number(s) 645543. 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 Eurofins Xenco, LLC. 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. 645543 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 645543****WSP USA, Dallas, TX**

PLU PC 28 Battery 2RP-5697

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	12.05.2019 13:10	1 ft	645543-001
BH01A	S	12.05.2019 13:25	2 ft	645543-002
BH01B	S	12.05.2019 13:35	3 ft	645543-003
BH01C	S	12.05.2019 13:50	4 ft	645543-004

**CASE NARRATIVE****Client Name: WSP USA****Project Name: PLU PC 28 Battery 2RP-5697**Project ID: 012919250
Work Order Number(s): 645543Report Date: 12.15.2020
Date Received: 12.09.2019**Sample receipt non conformances and comments:**

V1.001 Revision - Revised report and invoice to reflect correct project name and number. Sample ID is BH01 not BH11 New version generated. JK 12/11/19

V1.002 Revision - Changed client name from LT Environmental to WSP USA JK 12/15/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109895 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3109908 Chloride by EPA 300

Lab Sample ID 645558-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 645543-001, -002, -003, -004.

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



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01**
Lab Sample Id: 645543-001

Matrix: Soil
Date Collected: 12.05.2019 13:10

Date Received: 12.09.2019 10:15
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 17:14

% Moisture:
Basis: Wet Weight

Seq Number: 3109908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4750	99.8	mg/kg	12.09.2019 21:30		10

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3109933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.09.2019 23:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.09.2019 23:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.09.2019 23:32	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.09.2019 23:32	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.09.2019 23:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.09.2019 23:32	
o-Terphenyl	84-15-1	108	%	70-135	12.09.2019 23:32	



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01**
Lab Sample Id: 645543-001

Matrix: Soil
Date Collected: 12.05.2019 13:10

Date Received: 12.09.2019 10:15
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2019 01:15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2019 01:15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2019 01:15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2019 01:15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2019 01:15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.10.2019 01:15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.10.2019 01:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.10.2019 01:15		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.10.2019 01:15		



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01A**
Lab Sample Id: 645543-002

Matrix: Soil
Date Collected: 12.05.2019 13:25

Date Received: 12.09.2019 10:15
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 17:14

% Moisture:
Basis: Wet Weight

Seq Number: 3109908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3970	99.2	mg/kg	12.09.2019 21:49		10

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3109933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.2019 23:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.2019 23:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.2019 23:52	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.09.2019 23:52	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.09.2019 23:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.09.2019 23:52	
o-Terphenyl	84-15-1	112	%	70-135	12.09.2019 23:52	



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01A**
Lab Sample Id: 645543-002

Matrix: Soil
Date Collected: 12.05.2019 13:25

Date Received: 12.09.2019 10:15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2019 02:19	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2019 02:19	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2019 02:19	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2019 02:19	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2019 02:19	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.10.2019 02:19	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.10.2019 02:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.10.2019 02:19	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.10.2019 02:19	



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01B**
Lab Sample Id: 645543-003

Matrix: Soil
Date Collected: 12.05.2019 13:35

Date Received: 12.09.2019 10:15
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 17:14

% Moisture:
Basis: Wet Weight

Seq Number: 3109908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1410	50.1	mg/kg	12.09.2019 21:55		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3109933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.2019 23:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.2019 23:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.2019 23:52	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.2019 23:52	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.2019 23:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.09.2019 23:52	
o-Terphenyl	84-15-1	112	%	70-135	12.09.2019 23:52	



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01B**
Lab Sample Id: 645543-003

Matrix: Soil
Date Collected: 12.05.2019 13:35

Date Received: 12.09.2019 10:15
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2019 02:38	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2019 02:38	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2019 02:38	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2019 02:38	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2019 02:38	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.10.2019 02:38	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.10.2019 02:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.10.2019 02:38		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2019 02:38		



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01C**
Lab Sample Id: 645543-004

Matrix: Soil
Date Collected: 12.05.2019 13:50

Date Received: 12.09.2019 10:15
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 17:14

% Moisture:
Basis: Wet Weight

Seq Number: 3109908

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2910	101	mg/kg	12.09.2019 22:01		10

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.2019 00:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	52.0	49.9	mg/kg	12.10.2019 00:52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.2019 00:52	U	1
Total GRO-DRO	PHC628	52.0	49.9	mg/kg	12.10.2019 00:52		1
Total TPH	PHC635	52.0	49.9	mg/kg	12.10.2019 00:52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.10.2019 00:52	
o-Terphenyl	84-15-1	106	%	70-135	12.10.2019 00:52	



Certificate of Analytical Results 645543

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **BH01C**
Lab Sample Id: 645543-004

Matrix: Soil
Date Collected: 12.05.2019 13:50

Date Received: 12.09.2019 10:15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2019 02:58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2019 02:58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2019 02:58	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2019 02:58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2019 02:58	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.10.2019 02:58	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.10.2019 02:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.10.2019 02:58	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.10.2019 02:58	

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: Chloride by EPA 300

Seq Number: 3109908

MB Sample Id: 7692028-1-BLK

Matrix: Solid

LCS Sample Id: 7692028-1-BKS

Prep Method: E300P

Date Prep: 12.09.2019

LCSD Sample Id: 7692028-1-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	261	104	261	104	90-110	0	20	mg/kg	12.09.2019 21:18	

Analytical Method: Chloride by EPA 300

Seq Number: 3109908

Parent Sample Id: 645543-001

Matrix: Soil

MS Sample Id: 645543-001 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645543-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4750	199	4860	55	4840	45	90-110	0	20	mg/kg	12.09.2019 21:36	X

Analytical Method: Chloride by EPA 300

Seq Number: 3109908

Parent Sample Id: 645558-001

Matrix: Soil

MS Sample Id: 645558-001 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645558-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	547	200	765	109	768	111	90-110	0	20	mg/kg	12.09.2019 22:33	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109933

MB Sample Id: 7692045-1-BLK

Matrix: Solid

LCS Sample Id: 7692045-1-BKS

Prep Method: SW8015P

Date Prep: 12.09.2019

LCSD Sample Id: 7692045-1-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)	<13.9	1000	996	100	999	100	70-135	0	35	mg/kg	12.09.2019 19:49	
Diesel Range Organics (DRO)	<11.5	1000	1110	111	1050	105	70-135	6	35	mg/kg	12.09.2019 19:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		121		119		70-135	%	12.09.2019 19:49
o-Terphenyl	108		124		112		70-135	%	12.09.2019 19:49

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

MB Sample Id: 7692044-1-BLK

Matrix: Solid

LCS Sample Id: 7692044-1-BKS

Prep Method: SW8015P

Date Prep: 12.09.2019

LCSD Sample Id: 7692044-1-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	977	98	70-135	8	35	mg/kg	12.10.2019 00:32	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	12.10.2019 00:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		127		118		70-135	%	12.10.2019 00:32
o-Terphenyl	113		120		121		70-135	%	12.10.2019 00:32

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

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

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

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109933

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.09.2019

MB Sample Id: 7692045-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.09.2019 19:49	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.09.2019

MB Sample Id: 7692044-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2019 00:12	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109933

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.09.2019

Parent Sample Id: 645527-020

MS Sample Id: 645527-020 S

MSD Sample Id: 645527-020 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<13.9	1000	985	99	957	96	70-135	3	35	mg/kg	12.09.2019 20:29	
Diesel Range Organics (DRO)	<11.5	1000	1020	102	1060	106	70-135	4	35	mg/kg	12.09.2019 20:29	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		116		70-135	%	12.09.2019 20:29
o-Terphenyl	115		118		70-135	%	12.09.2019 20:29

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.09.2019

Parent Sample Id: 645543-004

MS Sample Id: 645543-004 S

MSD Sample Id: 645543-004 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	993	99	986	99	70-135	1	35	mg/kg	12.10.2019 10:50	
Diesel Range Organics (DRO)	52.0	999	1180	113	1250	120	70-135	6	35	mg/kg	12.10.2019 10:50	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		118		70-135	%	12.10.2019 10:50
o-Terphenyl	118		121		70-135	%	12.10.2019 10:50

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

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

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

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

MB Sample Id: 7692023-1-BLK

Matrix: Solid

LCS Sample Id: 7692023-1-BKS

Prep Method: SW5030B

Date Prep: 12.09.2019

LCSD Sample Id: 7692023-1-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	0.0877	88	0.0960	96	70-130	9	35	mg/kg	12.09.2019 20:41	
Toluene	<0.00200	0.100	0.0898	90	0.0982	98	70-130	9	35	mg/kg	12.09.2019 20:41	
Ethylbenzene	<0.00200	0.100	0.0889	89	0.0971	97	71-129	9	35	mg/kg	12.09.2019 20:41	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.206	103	70-135	9	35	mg/kg	12.09.2019 20:41	
o-Xylene	<0.00200	0.100	0.0963	96	0.105	105	71-133	9	35	mg/kg	12.09.2019 20:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		103		70-130	%	12.09.2019 20:41
4-Bromofluorobenzene	109		120		118		70-130	%	12.09.2019 20:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

Parent Sample Id: 645527-023

Matrix: Soil

MS Sample Id: 645527-023 S

Prep Method: SW5030B

Date Prep: 12.09.2019

MSD Sample Id: 645527-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.101	102	0.0951	94	70-130	6	35	mg/kg	12.09.2019 21:19	
Toluene	<0.00199	0.0994	0.102	103	0.0967	96	70-130	5	35	mg/kg	12.09.2019 21:19	
Ethylbenzene	<0.00199	0.0994	0.0998	100	0.0947	94	71-129	5	35	mg/kg	12.09.2019 21:19	
m,p-Xylenes	<0.00398	0.199	0.210	106	0.200	99	70-135	5	35	mg/kg	12.09.2019 21:19	
o-Xylene	<0.00199	0.0994	0.108	109	0.103	102	71-133	5	35	mg/kg	12.09.2019 21:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.09.2019 21:19
4-Bromofluorobenzene	119		122		70-130	%	12.09.2019 21:19

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

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

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

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



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
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 281-3922
Hobbs, NM (575) 392-7550

Chain of Custody

Work Order No:

645543

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:	sljo@ltenv.com, dmoir@ltenv.com

Work Order Comments	
Program: UST/PST	☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting: Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other: ☐

Project Name:	FLU CUV SV PC 0034	Turn Around
Project Number:	011918.002	Routine ☐
P. O. Number:		Rush: 24H
Sampler's Name:	Spencer Lo	Due Date:

[illegible]

SAMPLE RECEIPT		Temp Blank:		Wet Loc:	
		Yes	No	Yes	No
Temperature (°C):	1.0	☒		☒	
Received Intact:	(Yes) No				
Cooler Custody Seals:	Yes (No) N/A				
Sample Custody Seals:	Yes (No) N/A				
		Thermometer ID			
		TNM007			
		Correction Factor:			
		-0.2			
		Total Containers:			
		4			

[illegible][illegible]

Total 200.7 / 6010 200.8 / 6020:
Circle Method(s) and Metal(s) to be

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 Ti Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
1631 / 245 1 / 7470 / 747

1631 / 245.1 / 7470 / 7471 : Hg

Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, 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
		12/9/2019			12/9/19 10:15

Certificate of Analysis Summary 645546

WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery 2RP-5697

Project Id: 012919250

Date Received in Lab: Mon 12.09.2019 10:15

Contact: Dan Moir

Report Date: 12.15.2020 10:10

Project Location:

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	645546-001					
	Field Id:	SW04					
	Depth:	0-5 ft					
	Matrix:	SOIL					
	Sampled:	12.06.2019 13:20					
BTEX by EPA 8021B	Extracted:	12.09.2019 14:00					
	Analyzed:	12.10.2019 03:36					
	Units/RL:	mg/kg RL					
Benzene		<0.00198 0.00198					
Toluene		<0.00198 0.00198					
Ethylbenzene		<0.00198 0.00198					
m,p-Xylenes		<0.00397 0.00397					
o-Xylene		<0.00198 0.00198					
Total Xylenes		<0.00198 0.00198					
Total BTEX		<0.00198 0.00198					
Chloride by EPA 300	Extracted:	12.09.2019 16:10					
	Analyzed:	12.09.2019 20:30					
	Units/RL:	mg/kg RL					
Chloride		352 9.88					
TPH by SW8015 Mod	Extracted:	12.09.2019 17:00					
	Analyzed:	12.10.2019 01:13					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

BRL - Below Reporting Limit

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





Analytical Report 645546

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery 2RP-5697

012919250

12.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **645546**

PLU PC 28 Battery 2RP-5697

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 Eurofins Xenco, LLC Report Number(s) 645546. 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 Eurofins Xenco, LLC. 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. 645546 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 645546

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW04	S	12.06.2019 13:20	0 - 5 ft	645546-001



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery 2RP-5697

Project ID: 012919250
Work Order Number(s): 645546

Report Date: 12.15.2020
Date Received: 12.09.2019

Sample receipt non conformances and comments:

Revised report and invoice to reflect correct project name and number. New version generated. JK 12/11/19
V1.002 Revision - Changed client name from LT Environmental to WSP USA JK 12/15/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109895 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 645546

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SW04**
Lab Sample Id: 645546-001

Matrix: Soil
Date Collected: 12.06.2019 13:20

Date Received: 12.09.2019 10:15
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3109906

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	352	9.88	mg/kg	12.09.2019 20:30		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.2019 01:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.10.2019 01:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.2019 01:13	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.10.2019 01:13	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.10.2019 01:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.10.2019 01:13	
o-Terphenyl	84-15-1	113	%	70-135	12.10.2019 01:13	



Certificate of Analytical Results 645546

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SW04**
Lab Sample Id: 645546-001

Matrix: Soil
Date Collected: 12.06.2019 13:20

Date Received: 12.09.2019 10:15
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2019 03:36	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2019 03:36	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2019 03:36	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2019 03:36	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2019 03:36	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.10.2019 03:36	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.10.2019 03:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.10.2019 03:36		
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.10.2019 03:36		

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

MB Sample Id: 7692026-1-BLK

Matrix: Solid

LCS Sample Id: 7692026-1-BKS

Prep Method: E300P

Date Prep: 12.09.2019

LCSD Sample Id: 7692026-1-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	260	104	263	105	90-110	1	20	mg/kg	12.09.2019 18:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Parent Sample Id: 645522-001

Matrix: Soil

MS Sample Id: 645522-001 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645522-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.14	199	210	102	209	102	90-110	0	20	mg/kg	12.09.2019 18:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Parent Sample Id: 645537-003

Matrix: Soil

MS Sample Id: 645537-003 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645537-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	110	199	327	109	328	110	90-110	0	20	mg/kg	12.09.2019 19:38	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

MB Sample Id: 7692044-1-BLK

Matrix: Solid

LCS Sample Id: 7692044-1-BKS

Prep Method: SW8015P

Date Prep: 12.09.2019

LCSD Sample Id: 7692044-1-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	977	98	70-135	8	35	mg/kg	12.10.2019 00:32	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	12.10.2019 00:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		127		118		70-135	%	12.10.2019 00:32
o-Terphenyl	113		120		121		70-135	%	12.10.2019 00:32

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Matrix: Solid

MB Sample Id: 7692044-1-BLK

Prep Method: SW8015P

Date Prep: 12.09.2019

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2019 00:12	

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

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

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

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Parent Sample Id: 645543-004

Matrix: Soil

MS Sample Id: 645543-004 S

Prep Method: SW8015P

Date Prep: 12.09.2019

MSD Sample Id: 645543-004 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	999	993	99	986	99	70-135	1	35	mg/kg	12.10.2019 10:50	
Diesel Range Organics (DRO)	52.0	999	1180	113	1250	120	70-135	6	35	mg/kg	12.10.2019 10:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		118		70-135	%	12.10.2019 10:50
o-Terphenyl	118		121		70-135	%	12.10.2019 10:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

MB Sample Id: 7692023-1-BLK

Matrix: Solid

LCS Sample Id: 7692023-1-BKS

Prep Method: SW5030B

Date Prep: 12.09.2019

LCSD Sample Id: 7692023-1-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	0.0877	88	0.0960	96	70-130	9	35	mg/kg	12.09.2019 20:41	
Toluene	<0.00200	0.100	0.0898	90	0.0982	98	70-130	9	35	mg/kg	12.09.2019 20:41	
Ethylbenzene	<0.00200	0.100	0.0889	89	0.0971	97	71-129	9	35	mg/kg	12.09.2019 20:41	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.206	103	70-135	9	35	mg/kg	12.09.2019 20:41	
o-Xylene	<0.00200	0.100	0.0963	96	0.105	105	71-133	9	35	mg/kg	12.09.2019 20:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		103		70-130	%	12.09.2019 20:41
4-Bromofluorobenzene	109		120		118		70-130	%	12.09.2019 20:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

Parent Sample Id: 645527-023

Matrix: Soil

MS Sample Id: 645527-023 S

Prep Method: SW5030B

Date Prep: 12.09.2019

MSD Sample Id: 645527-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.101	102	0.0951	94	70-130	6	35	mg/kg	12.09.2019 21:19	
Toluene	<0.00199	0.0994	0.102	103	0.0967	96	70-130	5	35	mg/kg	12.09.2019 21:19	
Ethylbenzene	<0.00199	0.0994	0.0998	100	0.0947	94	71-129	5	35	mg/kg	12.09.2019 21:19	
m,p-Xylenes	<0.00398	0.199	0.210	106	0.200	99	70-135	5	35	mg/kg	12.09.2019 21:19	
o-Xylene	<0.00199	0.0994	0.108	109	0.103	102	71-133	5	35	mg/kg	12.09.2019 21:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.09.2019 21:19
4-Bromofluorobenzene	119		122		70-130	%	12.09.2019 21:19

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

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

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

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

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
Midland, TX (432-704-5440) El Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 961-1111
Hobbs, NM (575-382-7550)

Chain of Custody

Work Order No: 645546

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:	slo@ltenv.com
Project Name:	dmoir@ltenv.com		

Work Order Comments	
Program: UST/PST	☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other: ☐

Project Name:	REV CUX JV PC 6024	Turn Around
Project Number:	012918092	Routine ☐
P.O. Number:		Rush: 24H
Sampler's Name:	Spencer Lo	Due Date:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):		1-0	☒	☐			
Received Intact:		☒ Yes ☐ No			Thermometer ID		
Cooler Custody Seals:		Yes ☒ No ☐ N/A			7MM007		
Sample Custody Seals:		Yes ☒ No ☐ N/A			Correction F Factor:	-0.2	
					Total Containers:	1	

[illegible][illegible]

Total 200.7 / 6010 200.8 / 6020:

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

[illegible]

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Fe Pb Mg Mn Mo N

1631 / 245.1 / 7470 / 7471 : Hg

the 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)	Date/Time	Received by: (Signature)	Date/Time
<i>[Signature]</i>	12/14/2019	<i>[Signature]</i>	12/19/2019

Revised Date: 02/2/2020

Certificate of Analysis Summary 645548

WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery 2RP-5697

Project Id: 012919250

Date Received in Lab: Mon 12.09.2019 10:15

Contact: Dan Moir

Report Date: 12.15.2020 10:11

Project Location:

Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 645548-001 Field Id: FS01 Depth: 5- ft Matrix: SOIL Sampled: 12.06.2019 12:20					
BTEX by EPA 8021B	Extracted: 12.09.2019 14:00 Analyzed: 12.10.2019 03:17 Units/RL: mg/kg RL					
Benzene	<0.00198 0.00198					
Toluene	<0.00198 0.00198					
Ethylbenzene	<0.00198 0.00198					
m,p-Xylenes	<0.00397 0.00397					
o-Xylene	<0.00198 0.00198					
Total Xylenes	<0.00198 0.00198					
Total BTEX	<0.00198 0.00198					
Chloride by EPA 300	Extracted: 12.09.2019 16:10 Analyzed: 12.09.2019 20:24 Units/RL: mg/kg RL					
Chloride	316 9.90					
TPH by SW8015 Mod	Extracted: 12.09.2019 17:00 Analyzed: 12.10.2019 01:33 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<50.2 50.2					
Diesel Range Organics (DRO)	<50.2 50.2					
Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2					
Total GRO-DRO	<50.2 50.2					
Total TPH	<50.2 50.2					

BRL - Below Reporting Limit

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





Analytical Report 645548

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery 2RP-5697

012919250

12.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **645548**

PLU PC 28 Battery 2RP-5697

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 Eurofins Xenco, LLC Report Number(s) 645548. 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 Eurofins Xenco, LLC. 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. 645548 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 645548

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	12.06.2019 12:20	5 ft	645548-001



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery 2RP-5697

Project ID: 012919250
Work Order Number(s): 645548

Report Date: 12.15.2020
Date Received: 12.09.2019

Sample receipt non conformances and comments:

Revised report and invoice to reflect correct project name and number. New version generated. JK 12/11/19
V1.002 Revision - Changed client name from LT Environmental to WSP USA JK 12/15/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109895 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 645548

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **FS01**
Lab Sample Id: 645548-001

Matrix: Soil
Date Collected: 12.06.2019 12:20

Date Received: 12.09.2019 10:15
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3109906

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	316	9.90	mg/kg	12.09.2019 20:24		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2019 01:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2019 01:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2019 01:33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.10.2019 01:33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.10.2019 01:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.10.2019 01:33	
o-Terphenyl	84-15-1	104	%	70-135	12.10.2019 01:33	



Certificate of Analytical Results 645548

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **FS01**
Lab Sample Id: 645548-001

Matrix: Soil
Date Collected: 12.06.2019 12:20

Date Received: 12.09.2019 10:15
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2019 03:17	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2019 03:17	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2019 03:17	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2019 03:17	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2019 03:17	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.10.2019 03:17	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.10.2019 03:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.10.2019 03:17	
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.10.2019 03:17	

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

MB Sample Id: 7692026-1-BLK

Matrix: Solid

LCS Sample Id: 7692026-1-BKS

Prep Method: E300P

Date Prep: 12.09.2019

LCSD Sample Id: 7692026-1-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	260	104	263	105	90-110	1	20	mg/kg	12.09.2019 18:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Parent Sample Id: 645522-001

Matrix: Soil

MS Sample Id: 645522-001 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645522-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.14	199	210	102	209	102	90-110	0	20	mg/kg	12.09.2019 18:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Parent Sample Id: 645537-003

Matrix: Soil

MS Sample Id: 645537-003 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645537-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	110	199	327	109	328	110	90-110	0	20	mg/kg	12.09.2019 19:38	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

MB Sample Id: 7692044-1-BLK

Matrix: Solid

LCS Sample Id: 7692044-1-BKS

Prep Method: SW8015P

Date Prep: 12.09.2019

LCSD Sample Id: 7692044-1-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	977	98	70-135	8	35	mg/kg	12.10.2019 00:32	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	12.10.2019 00:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		127		118		70-135	%	12.10.2019 00:32
o-Terphenyl	113		120		121		70-135	%	12.10.2019 00:32

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Matrix: Solid

MB Sample Id: 7692044-1-BLK

Prep Method: SW8015P

Date Prep: 12.09.2019

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2019 00:12	

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

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

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

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Parent Sample Id: 645543-004

Matrix: Soil

MS Sample Id: 645543-004 S

Prep Method: SW8015P

Date Prep: 12.09.2019

MSD Sample Id: 645543-004 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	999	993	99	986	99	70-135	1	35	mg/kg	12.10.2019 10:50	
Diesel Range Organics (DRO)	52.0	999	1180	113	1250	120	70-135	6	35	mg/kg	12.10.2019 10:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		118		70-135	%	12.10.2019 10:50
o-Terphenyl	118		121		70-135	%	12.10.2019 10:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

MB Sample Id: 7692023-1-BLK

Matrix: Solid

LCS Sample Id: 7692023-1-BKS

Prep Method: SW5030B

Date Prep: 12.09.2019

LCSD Sample Id: 7692023-1-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	0.0877	88	0.0960	96	70-130	9	35	mg/kg	12.09.2019 20:41	
Toluene	<0.00200	0.100	0.0898	90	0.0982	98	70-130	9	35	mg/kg	12.09.2019 20:41	
Ethylbenzene	<0.00200	0.100	0.0889	89	0.0971	97	71-129	9	35	mg/kg	12.09.2019 20:41	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.206	103	70-135	9	35	mg/kg	12.09.2019 20:41	
o-Xylene	<0.00200	0.100	0.0963	96	0.105	105	71-133	9	35	mg/kg	12.09.2019 20:41	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		103		70-130	%	12.09.2019 20:41
4-Bromofluorobenzene	109		120		118		70-130	%	12.09.2019 20:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

Parent Sample Id: 645527-023

Matrix: Soil

MS Sample Id: 645527-023 S

Prep Method: SW5030B

Date Prep: 12.09.2019

MSD Sample Id: 645527-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.101	102	0.0951	94	70-130	6	35	mg/kg	12.09.2019 21:19	
Toluene	<0.00199	0.0994	0.102	103	0.0967	96	70-130	5	35	mg/kg	12.09.2019 21:19	
Ethylbenzene	<0.00199	0.0994	0.0998	100	0.0947	94	71-129	5	35	mg/kg	12.09.2019 21:19	
m,p-Xylenes	<0.00398	0.199	0.210	106	0.200	99	70-135	5	35	mg/kg	12.09.2019 21:19	
o-Xylene	<0.00199	0.0994	0.108	109	0.103	102	71-133	5	35	mg/kg	12.09.2019 21:19	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.09.2019 21:19
4-Bromofluorobenzene	119		122		70-130	%	12.09.2019 21:19

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

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

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

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



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
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Chain of Custody

Work Order No: 645548

Project Manager: Dan Moir
 Company Name: LT Environmental, Inc., Permian office
 Address: 3300 North A Street
 City, State ZIP: Midland, TX 79705
 Phone: (432) 236-3849
 Email: slo@ltenv.com, dmoir@ltenv.com

Bill to: (if different)

Kyle Littlell

Company Name: XTO Energy

3104 East Green Street

Address:

City, State ZIP:

Carlsbad, NM 88220

Email:

slo@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: ☐ PST ☐ PRP ☐ Brownfields ☐ SRC ☐ Superfund

State of Project:

Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐

Deliverables: EDD ☐ ADAPT ☐ Other: ☐

ANALYSIS REQUEST

Work Order Notes

Project Name: PLV CVX JV PC 001H
 Project Number: 012918092
 P.O. Number:
 Sampler's Name: Spencer Lo
 Turn Around: Routine ☐
 Rush: 24H

Temperature (°C): 1.0
 Received Intact: Yes ☒ No ☐
 Cooler Custody Seals: Yes ☒ No ☐
 Sample Custody Seals: Yes ☒ No ☐
 Thermometer ID: TMM007
 Correction Factor: -0.2
 Total Containers: 1

SAMPLE RECEIPT
 Temp Blank: Yes ☒ No ☐
 Wet Ice: Yes ☒ No ☐
 Due Date:

Sample Identification

Matrix

Date Sampled

Time Sampled

Depth

Number of Containers

TPH (EPA 8015)

BTEX (EPA 0=8021)

Chloride (EPA 300.0)

TAT starts the day received by the lab, if received by 4:30pm

Sample Comments

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Total 200.7 / 6010 200.8 / 6020:

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

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 Ti Sn U V Zn

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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 \$6 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

Certificate of Analysis Summary 645561

WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery 2RP-5697

Project Id: 012919250

Date Received in Lab: Mon 12.09.2019 10:15

Contact: Dan Moir

Report Date: 12.15.2020 10:12

Project Location:

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	645561-001					
	Field Id:	SW02					
	Depth:	0-5 ft					
	Matrix:	SOIL					
	Sampled:	12.06.2019 13:00					
BTEX by EPA 8021B	Extracted:	12.09.2019 14:00					
	Analyzed:	12.10.2019 04:14					
	Units/RL:	mg/kg RL					
Benzene		<0.00198 0.00198					
Toluene		<0.00198 0.00198					
Ethylbenzene		<0.00198 0.00198					
m,p-Xylenes		<0.00395 0.00395					
o-Xylene		<0.00198 0.00198					
Total Xylenes		<0.00198 0.00198					
Total BTEX		<0.00198 0.00198					
Chloride by EPA 300	Extracted:	12.09.2019 16:10					
	Analyzed:	12.09.2019 20:35					
	Units/RL:	mg/kg RL					
Chloride		101 9.92					
TPH by SW8015 Mod	Extracted:	12.09.2019 17:00					
	Analyzed:	12.10.2019 01:53					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

BRL - Below Reporting Limit

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





Environment Testing
Xenco

Analytical Report 645561

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery 2RP-5697

012919250

12.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **645561**

PLU PC 28 Battery 2RP-5697

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 Eurofins Xenco, LLC Report Number(s) 645561. 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 Eurofins Xenco, LLC. 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. 645561 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 645561

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW02	S	12.06.2019 13:00	0 - 5 ft	645561-001



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery 2RP-5697

Project ID: 012919250
Work Order Number(s): 645561

Report Date: 12.15.2020
Date Received: 12.09.2019

Sample receipt non conformances and comments:

Revised report and invoice to reflect correct project name and number. New version generated. JK 12/11/19
V1.002 Revision - Changed client name from LT Environmental to WSP USA JK 12/15/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109895 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 645561

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SW02**
Lab Sample Id: 645561-001

Matrix: Soil
Date Collected: 12.06.2019 13:00

Date Received: 12.09.2019 10:15
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3109906

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	101	9.92	mg/kg	12.09.2019 20:35		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.2019 01:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.10.2019 01:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.2019 01:53	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.10.2019 01:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.10.2019 01:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.10.2019 01:53	
o-Terphenyl	84-15-1	105	%	70-135	12.10.2019 01:53	



Certificate of Analytical Results 645561

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SW02**
Lab Sample Id: 645561-001

Matrix: Soil
Date Collected: 12.06.2019 13:00

Date Received: 12.09.2019 10:15
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2019 04:14	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2019 04:14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2019 04:14	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	12.10.2019 04:14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2019 04:14	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.10.2019 04:14	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.10.2019 04:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.10.2019 04:14	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.10.2019 04:14	

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Matrix: Solid

Prep Method: E300P

Date Prep: 12.09.2019

MB Sample Id: 7692026-1-BLK

LCS Sample Id: 7692026-1-BKS

LCSD Sample Id: 7692026-1-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	260	104	263	105	90-110	1	20	mg/kg	12.09.2019 18:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Matrix: Soil

Prep Method: E300P

Date Prep: 12.09.2019

Parent Sample Id: 645522-001

MS Sample Id: 645522-001 S

MSD Sample Id: 645522-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.14	199	210	102	209	102	90-110	0	20	mg/kg	12.09.2019 18:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Matrix: Soil

Prep Method: E300P

Date Prep: 12.09.2019

Parent Sample Id: 645537-003

MS Sample Id: 645537-003 S

MSD Sample Id: 645537-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	110	199	327	109	328	110	90-110	0	20	mg/kg	12.09.2019 19:38	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.09.2019

MB Sample Id: 7692044-1-BLK

LCS Sample Id: 7692044-1-BKS

LCSD Sample Id: 7692044-1-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	977	98	70-135	8	35	mg/kg	12.10.2019 00:32	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	12.10.2019 00:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		127		118		70-135	%	12.10.2019 00:32
o-Terphenyl	113		120		121		70-135	%	12.10.2019 00:32

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.09.2019

MB Sample Id: 7692044-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2019 00:12	

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

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

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

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Parent Sample Id: 645543-004

Matrix: Soil

MS Sample Id: 645543-004 S

Prep Method: SW8015P

Date Prep: 12.09.2019

MSD Sample Id: 645543-004 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	999	993	99	986	99	70-135	1	35	mg/kg	12.10.2019 10:50	
Diesel Range Organics (DRO)	52.0	999	1180	113	1250	120	70-135	6	35	mg/kg	12.10.2019 10:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		118		70-135	%	12.10.2019 10:50
o-Terphenyl	118		121		70-135	%	12.10.2019 10:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

MB Sample Id: 7692023-1-BLK

Matrix: Solid

LCS Sample Id: 7692023-1-BKS

Prep Method: SW5030B

Date Prep: 12.09.2019

LCSD Sample Id: 7692023-1-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	0.0877	88	0.0960	96	70-130	9	35	mg/kg	12.09.2019 20:41	
Toluene	<0.00200	0.100	0.0898	90	0.0982	98	70-130	9	35	mg/kg	12.09.2019 20:41	
Ethylbenzene	<0.00200	0.100	0.0889	89	0.0971	97	71-129	9	35	mg/kg	12.09.2019 20:41	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.206	103	70-135	9	35	mg/kg	12.09.2019 20:41	
o-Xylene	<0.00200	0.100	0.0963	96	0.105	105	71-133	9	35	mg/kg	12.09.2019 20:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		103		70-130	%	12.09.2019 20:41
4-Bromofluorobenzene	109		120		118		70-130	%	12.09.2019 20:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

Parent Sample Id: 645527-023

Matrix: Soil

MS Sample Id: 645527-023 S

Prep Method: SW5030B

Date Prep: 12.09.2019

MSD Sample Id: 645527-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.101	102	0.0951	94	70-130	6	35	mg/kg	12.09.2019 21:19	
Toluene	<0.00199	0.0994	0.102	103	0.0967	96	70-130	5	35	mg/kg	12.09.2019 21:19	
Ethylbenzene	<0.00199	0.0994	0.0998	100	0.0947	94	71-129	5	35	mg/kg	12.09.2019 21:19	
m,p-Xylenes	<0.00398	0.199	0.210	106	0.200	99	70-135	5	35	mg/kg	12.09.2019 21:19	
o-Xylene	<0.00199	0.0994	0.108	109	0.103	102	71-133	5	35	mg/kg	12.09.2019 21:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.09.2019 21:19
4-Bromofluorobenzene	119		122		70-130	%	12.09.2019 21:19

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

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

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

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

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
Phoenix, AZ (480-355-0900) Atlanta GA (770-449-8800) Tampa, FL (813) 281-1111
Hobbs, NM (575-392-7550)

Work Order No:

Let's see

Chain of Custody

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:	slo@lienry.com , dmoir@lienry.com
Project Name:	0111 CWR TV 2 - IL		

Work Order Comments	
Program: UST/PST	☐ RRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

Project Number:	012918092	Turn Around
P.O. Number:		Routine ☐
Sampler's Name:	Spencer Lo	Rush: ☒
		Due Date:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):		1.0					
Received Intact:		Yes	No		Thermometer ID TMM067		
Cooler Custody Seals:		Yes	No		Correction Factor: -0.2		
Sample Custody Seals:		Yes	No		Total Containers: 1		

[illegible][illegible]

Total	200.7 / 6010	200.8 / 6020:
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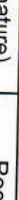
8RCRA	13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ce	Cr	Co	Cu	Fe	Pb	Mn	Ni	Mo	Se	Si	V	Zn
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Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, but not analyzed. These terms will be enforced unless previously negotiated.

Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	12/9/2019			12/9/19 10:15

Certificate of Analysis Summary 645563

WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery 2RP-5697

Project Id: 012919250

Date Received in Lab: Mon 12.09.2019 10:15

Contact: Dan Moir

Report Date: 12.15.2020 10:14

Project Location:

Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 645563-001 Field Id: SW03 Depth: 0-5 ft Matrix: SOIL Sampled: 12.06.2019 12:53					
BTEX by EPA 8021B	Extracted: 12.09.2019 14:00 Analyzed: 12.10.2019 04:33 Units/RL: mg/kg RL					
Benzene	<0.00200 0.00200					
Toluene	<0.00200 0.00200					
Ethylbenzene	<0.00200 0.00200					
m,p-Xylenes	<0.00400 0.00400					
o-Xylene	<0.00200 0.00200					
Total Xylenes	<0.00200 0.00200					
Total BTEX	<0.00200 0.00200					
Chloride by EPA 300	Extracted: 12.09.2019 16:10 Analyzed: 12.09.2019 20:41 Units/RL: mg/kg RL					
Chloride	268 9.98					
TPH by SW8015 Mod	Extracted: 12.09.2019 17:00 Analyzed: 12.10.2019 01:53 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<49.9 49.9					
Diesel Range Organics (DRO)	<49.9 49.9					
Motor Oil Range Hydrocarbons (MRO)	<49.9 49.9					
Total GRO-DRO	<49.9 49.9					
Total TPH	<49.9 49.9					

BRL - Below Reporting Limit

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





Analytical Report 645563

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery 2RP-5697

012919250

12.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **645563**

PLU PC 28 Battery 2RP-5697

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 Eurofins Xenco, LLC Report Number(s) 645563. 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 Eurofins Xenco, LLC. 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. 645563 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 645563

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW03	S	12.06.2019 12:53	0 - 5 ft	645563-001



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery 2RP-5697

Project ID: 012919250
Work Order Number(s): 645563

Report Date: 12.15.2020
Date Received: 12.09.2019

Sample receipt non conformances and comments:

Revised report and invoice to reflect correct project name and number. New version generated. JK 12/11/19
V1.002 Revision - Changed client name from LT Environmental to WSP USA JK 12/15/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109895 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 645563

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SW03**
Lab Sample Id: 645563-001

Matrix: Soil
Date Collected: 12.06.2019 12:53

Date Received: 12.09.2019 10:15
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3109906

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	268	9.98	mg/kg	12.09.2019 20:41		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 12.09.2019 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109944

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.2019 01:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.2019 01:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.2019 01:53	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.10.2019 01:53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.10.2019 01:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.10.2019 01:53	
o-Terphenyl	84-15-1	113	%	70-135	12.10.2019 01:53	



Certificate of Analytical Results 645563

WSP USA, Dallas, TX

PLU PC 28 Battery 2RP-5697

Sample Id: **SW03**
Lab Sample Id: 645563-001

Matrix: Soil
Date Collected: 12.06.2019 12:53

Date Received: 12.09.2019 10:15
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.09.2019 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3109895

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2019 04:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2019 04:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2019 04:33	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.10.2019 04:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2019 04:33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.10.2019 04:33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.10.2019 04:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.10.2019 04:33	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.10.2019 04:33	

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

MB Sample Id: 7692026-1-BLK

Matrix: Solid

LCS Sample Id: 7692026-1-BKS

Prep Method: E300P

Date Prep: 12.09.2019

LCSD Sample Id: 7692026-1-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	260	104	263	105	90-110	1	20	mg/kg	12.09.2019 18:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Parent Sample Id: 645522-001

Matrix: Soil

MS Sample Id: 645522-001 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645522-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.14	199	210	102	209	102	90-110	0	20	mg/kg	12.09.2019 18:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3109906

Parent Sample Id: 645537-003

Matrix: Soil

MS Sample Id: 645537-003 S

Prep Method: E300P

Date Prep: 12.09.2019

MSD Sample Id: 645537-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	110	199	327	109	328	110	90-110	0	20	mg/kg	12.09.2019 19:38	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

MB Sample Id: 7692044-1-BLK

Matrix: Solid

LCS Sample Id: 7692044-1-BKS

Prep Method: SW8015P

Date Prep: 12.09.2019

LCSD Sample Id: 7692044-1-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	977	98	70-135	8	35	mg/kg	12.10.2019 00:32	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1090	109	70-135	1	35	mg/kg	12.10.2019 00:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		127		118		70-135	%	12.10.2019 00:32
o-Terphenyl	113		120		121		70-135	%	12.10.2019 00:32

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Matrix: Solid

MB Sample Id: 7692044-1-BLK

Prep Method: SW8015P

Date Prep: 12.09.2019

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2019 00:12	

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

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

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

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



WSP USA

PLU PC 28 Battery 2RP-5697

Analytical Method: TPH by SW8015 Mod

Seq Number: 3109944

Parent Sample Id: 645543-004

Matrix: Soil

MS Sample Id: 645543-004 S

Prep Method: SW8015P

Date Prep: 12.09.2019

MSD Sample Id: 645543-004 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	999	993	99	986	99	70-135	1	35	mg/kg	12.10.2019 10:50	
Diesel Range Organics (DRO)	52.0	999	1180	113	1250	120	70-135	6	35	mg/kg	12.10.2019 10:50	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		118		70-135	%	12.10.2019 10:50
o-Terphenyl	118		121		70-135	%	12.10.2019 10:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

MB Sample Id: 7692023-1-BLK

Matrix: Solid

LCS Sample Id: 7692023-1-BKS

Prep Method: SW5030B

Date Prep: 12.09.2019

LCSD Sample Id: 7692023-1-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	0.0877	88	0.0960	96	70-130	9	35	mg/kg	12.09.2019 20:41	
Toluene	<0.00200	0.100	0.0898	90	0.0982	98	70-130	9	35	mg/kg	12.09.2019 20:41	
Ethylbenzene	<0.00200	0.100	0.0889	89	0.0971	97	71-129	9	35	mg/kg	12.09.2019 20:41	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.206	103	70-135	9	35	mg/kg	12.09.2019 20:41	
o-Xylene	<0.00200	0.100	0.0963	96	0.105	105	71-133	9	35	mg/kg	12.09.2019 20:41	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		103		70-130	%	12.09.2019 20:41
4-Bromofluorobenzene	109		120		118		70-130	%	12.09.2019 20:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3109895

Parent Sample Id: 645527-023

Matrix: Soil

MS Sample Id: 645527-023 S

Prep Method: SW5030B

Date Prep: 12.09.2019

MSD Sample Id: 645527-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.101	102	0.0951	94	70-130	6	35	mg/kg	12.09.2019 21:19	
Toluene	<0.00199	0.0994	0.102	103	0.0967	96	70-130	5	35	mg/kg	12.09.2019 21:19	
Ethylbenzene	<0.00199	0.0994	0.0998	100	0.0947	94	71-129	5	35	mg/kg	12.09.2019 21:19	
m,p-Xylenes	<0.00398	0.199	0.210	106	0.200	99	70-135	5	35	mg/kg	12.09.2019 21:19	
o-Xylene	<0.00199	0.0994	0.108	109	0.103	102	71-133	5	35	mg/kg	12.09.2019 21:19	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.09.2019 21:19
4-Bromofluorobenzene	119		122		70-130	%	12.09.2019 21:19

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

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

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

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

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-1111

Chain of Custody

Work Order No: 645 563

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:	sl@ltenv.com, dmoir@ltenv.com

Work Order Comments			
Program: UST/PST	☐ RRP	☐ Brownfields	☐ RC ☐ Superfund
State of Project:			
Reporting Level II	☐ Level III	☐ ST/UST	☐ RRP ☐ Level IV
Deliverables: EDD	☐	ADAPT	☐ Other:

ANALYSIS REQUEST										Work Order Notes
Project Name:	KLU CVX JV PL 003 #					Turn Around				TAT starts the day received by the lab, if received by 4:30pm
Project Number:	012418092					Routine ☐				
P.O. Number:						Rush: 24H				
Sampler's Name:	Spencer Lo					Due Date:				
SAMPLE RECEIPT										
Temperature (°C):	1.0		Temp Blank: ☒ Yes ☐ No		Wet Ice: ☒ Yes ☐ No		Thermometer ID			
Received Intact:	☒ Yes ☐ No									
Cooler Custody Seals:	☒ Yes ☐ No		N/A		Correction Factor:		-0.2			
Sample Custody Seals:	☒ Yes ☐ No		N/A		Total Containers:		1			
Number of Containers										EPA 8015) EPA 0=8021) e (EPA 300.0)

[illegible][illegible]

signature of this document, a 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
<i>[Signature]</i>	<i>[Signature]</i>	12/9/2019	<i>[Signature]</i>	<i>[Signature]</i>	12/9/19 10:15

Revised Data 06/14/18 Rev. 2017

Certificate of Analysis Summary 671625



WSP USA, Dallas, TX

Project Name: PLU PC 28 BATT

Project Id: 012919250

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 09.02.2020 12:25

Report Date: 12.15.2020 10:15

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	671625-001	671625-002	671625-003	671625-004		
	<i>Field Id:</i>	CH01	CH01 A	CH02	CH02 A		
	<i>Depth:</i>	1- ft	7- ft	1- ft	7.5- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	09.01.2020 13:00	09.01.2020 14:00	09.01.2020 10:00	09.01.2020 12:30		
BTEX by EPA 8021B	<i>Extracted:</i>	09.02.2020 14:29	09.02.2020 14:29	09.02.2020 14:29	09.02.2020 14:29		
	<i>Analyzed:</i>	09.02.2020 18:11	09.02.2020 23:31	09.02.2020 18:52	09.02.2020 19:12		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200		
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200		
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200		
m,p-Xylenes		<0.00398 0.00398	<0.00401 0.00401	<0.00396 0.00396	<0.00400 0.00400		
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200		
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200		
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	09.02.2020 15:24	09.02.2020 15:24	09.02.2020 15:24	09.02.2020 15:24		
	<i>Analyzed:</i>	09.02.2020 16:19	09.02.2020 16:36	09.02.2020 16:41	09.02.2020 16:47		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		325 9.96	594 9.92	596 9.98	114 9.88		
TPH by SW8015 Mod	<i>Extracted:</i>	09.02.2020 14:00	09.02.2020 14:00	09.02.2020 14:00	09.02.2020 14:00		
	<i>Analyzed:</i>	09.02.2020 15:43	09.03.2020 09:14	09.02.2020 21:47	09.02.2020 16:23		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<49.8 49.8	<50.1 50.1	<49.9 49.9		
Diesel Range Organics (DRO)		563 50.1	90.7 49.8	214 50.1	<49.9 49.9		
Motor Oil Range Hydrocarbons (MRO)		84.8 50.1	<49.8 49.8	<50.1 50.1	<49.9 49.9		
Total GRO-DRO		563 50.1	90.7 49.8	214 50.1	<49.9 49.9		
Total TPH		648 50.1	90.7 49.8	214 50.1	<49.9 49.9		

BRL - Below Reporting Limit

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



Analytical Report 671625

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 BATT

012919250

12.15.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **671625**

PLU PC 28 BATT

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 Eurofins Xenco, LLC Report Number(s) 671625. 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 Eurofins Xenco, LLC. 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. 671625 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 671625****WSP USA, Dallas, TX**

PLU PC 28 BATT

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CH01	S	09.01.2020 13:00	1 ft	671625-001
CH01 A	S	09.01.2020 14:00	7 ft	671625-002
CH02	S	09.01.2020 10:00	1 ft	671625-003
CH02 A	S	09.01.2020 12:30	7.5 ft	671625-004



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 BATT

Project ID: 012919250
Work Order Number(s): 671625

Report Date: 12.15.2020
Date Received: 09.02.2020

Sample receipt non conformances and comments:

V1.001 Revision - Changed client name from LT Environmental to WSP USA JK 12/15/20

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH01**
Lab Sample Id: 671625-001

Matrix: Soil
Date Collected: 09.01.2020 13:00

Date Received: 09.02.2020 12:25
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 15:24

% Moisture:
Basis: Wet Weight

Seq Number: 3136283

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	325	9.96	mg/kg	09.02.2020 16:19		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 09.02.2020 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3136233

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	09.02.2020 15:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	563	50.1	mg/kg	09.02.2020 15:43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	84.8	50.1	mg/kg	09.02.2020 15:43		1
Total GRO-DRO	PHC628	563	50.1	mg/kg	09.02.2020 15:43		1
Total TPH	PHC635	648	50.1	mg/kg	09.02.2020 15:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	09.02.2020 15:43	
o-Terphenyl	84-15-1	107	%	70-135	09.02.2020 15:43	



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH01**
Lab Sample Id: 671625-001

Matrix: Soil
Date Collected: 09.01.2020 13:00

Date Received: 09.02.2020 12:25
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 14:29

% Moisture:
Basis: Wet Weight

Seq Number: 3136275

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.02.2020 18:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.02.2020 18:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.02.2020 18:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.02.2020 18:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.02.2020 18:11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.02.2020 18:11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.02.2020 18:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	09.02.2020 18:11		
1,4-Difluorobenzene	540-36-3	102	%	70-130	09.02.2020 18:11		



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH01 A**
Lab Sample Id: 671625-002

Matrix: Soil
Date Collected: 09.01.2020 14:00

Date Received: 09.02.2020 12:25
Sample Depth: 7 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 15:24

% Moisture:
Basis: Wet Weight

Seq Number: 3136283

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	594	9.92	mg/kg	09.02.2020 16:36		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 09.02.2020 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3136233

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	09.03.2020 09:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	90.7	49.8	mg/kg	09.03.2020 09:14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	09.03.2020 09:14	U	1
Total GRO-DRO	PHC628	90.7	49.8	mg/kg	09.03.2020 09:14		1
Total TPH	PHC635	90.7	49.8	mg/kg	09.03.2020 09:14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.03.2020 09:14	
o-Terphenyl	84-15-1	96	%	70-135	09.03.2020 09:14	



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH01 A**
Lab Sample Id: 671625-002

Matrix: Soil
Date Collected: 09.01.2020 14:00

Date Received: 09.02.2020 12:25
Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 14:29

% Moisture:
Basis: Wet Weight

Seq Number: 3136275

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.02.2020 23:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.02.2020 23:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.02.2020 23:31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.02.2020 23:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.02.2020 23:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.02.2020 23:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.02.2020 23:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	09.02.2020 23:31	
4-Bromofluorobenzene	460-00-4	101	%	70-130	09.02.2020 23:31	



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH02**
Lab Sample Id: 671625-003

Matrix: Soil
Date Collected: 09.01.2020 10:00

Date Received: 09.02.2020 12:25
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 15:24

% Moisture:
Basis: Wet Weight

Seq Number: 3136283

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	596	9.98	mg/kg	09.02.2020 16:41		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 09.02.2020 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3136233

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	09.02.2020 21:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	214	50.1	mg/kg	09.02.2020 21:47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	09.02.2020 21:47	U	1
Total GRO-DRO	PHC628	214	50.1	mg/kg	09.02.2020 21:47		1
Total TPH	PHC635	214	50.1	mg/kg	09.02.2020 21:47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	09.02.2020 21:47	
o-Terphenyl	84-15-1	100	%	70-135	09.02.2020 21:47	



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH02**
Lab Sample Id: 671625-003

Matrix: Soil
Date Collected: 09.01.2020 10:00

Date Received: 09.02.2020 12:25
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 14:29

% Moisture:
Basis: Wet Weight

Seq Number: 3136275

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.02.2020 18:52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.02.2020 18:52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.02.2020 18:52	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	09.02.2020 18:52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.02.2020 18:52	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.02.2020 18:52	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.02.2020 18:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.02.2020 18:52	
4-Bromofluorobenzene	460-00-4	94	%	70-130	09.02.2020 18:52	



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH02 A**
Lab Sample Id: 671625-004

Matrix: Soil
Date Collected: 09.01.2020 12:30

Date Received: 09.02.2020 12:25
Sample Depth: 7.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 15:24

% Moisture:
Basis: Wet Weight

Seq Number: 3136283

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	114	9.88	mg/kg	09.02.2020 16:47		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 09.02.2020 14:00

% Moisture:
Basis: Wet Weight

Seq Number: 3136233

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.02.2020 16:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.02.2020 16:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.02.2020 16:23	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.02.2020 16:23	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.02.2020 16:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	09.02.2020 16:23	
o-Terphenyl	84-15-1	97	%	70-135	09.02.2020 16:23	



Certificate of Analytical Results 671625

WSP USA, Dallas, TX

PLU PC 28 BATT

Sample Id: **CH02 A**
Lab Sample Id: 671625-004

Matrix: Soil
Date Collected: 09.01.2020 12:30

Date Received: 09.02.2020 12:25
Sample Depth: 7.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 09.02.2020 14:29

% Moisture:
Basis: Wet Weight

Seq Number: 3136275

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.02.2020 19:12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.02.2020 19:12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.02.2020 19:12	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.02.2020 19:12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.02.2020 19:12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.02.2020 19:12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.02.2020 19:12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	09.02.2020 19:12		
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.02.2020 19:12		

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



WSP USA
PLU PC 28 BATT

Analytical Method: Chloride by EPA 300

Seq Number: 3136283

MB Sample Id: 7710696-1-BLK

Matrix: Solid

LCS Sample Id: 7710696-1-BKS

Prep Method: E300P

Date Prep: 09.02.2020

LCSD Sample Id: 7710696-1-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	266	106	268	107	90-110	1	20	mg/kg	09.02.2020 16:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3136283

Parent Sample Id: 671625-001

Matrix: Soil

MS Sample Id: 671625-001 S

Prep Method: E300P

Date Prep: 09.02.2020

MSD Sample Id: 671625-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	325	200	533	104	533	104	90-110	0	20	mg/kg	09.02.2020 16:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3136283

Parent Sample Id: 671630-007

Matrix: Soil

MS Sample Id: 671630-007 S

Prep Method: E300P

Date Prep: 09.02.2020

MSD Sample Id: 671630-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	215	199	420	103	420	103	90-110	0	20	mg/kg	09.02.2020 17:43	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3136233

MB Sample Id: 7710673-1-BLK

Matrix: Solid

LCS Sample Id: 7710673-1-BKS

Prep Method: SW8015P

Date Prep: 09.02.2020

LCSD Sample Id: 7710673-1-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	832	83	823	82	70-135	1	35	mg/kg	09.02.2020 11:50	
Diesel Range Organics (DRO)	<50.0	1000	940	94	920	92	70-135	2	35	mg/kg	09.02.2020 11:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		111		108		70-135	%	09.02.2020 11:50
o-Terphenyl	100		110		107		70-135	%	09.02.2020 11:50

Analytical Method: TPH by SW8015 Mod

Seq Number: 3136233

Matrix: Solid

MB Sample Id: 7710673-1-BLK

Prep Method: SW8015P

Date Prep: 09.02.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	09.02.2020 11:30	

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

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

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

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



WSP USA
PLU PC 28 BATT

Analytical Method: TPH by SW8015 Mod

Seq Number: 3136233

Parent Sample Id: 671640-001

Matrix: Soil

MS Sample Id: 671640-001 S

Prep Method: SW8015P

Date Prep: 09.02.2020

MSD Sample Id: 671640-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	835	84	813	81	70-135	3	35	mg/kg	09.02.2020 15:03	
Diesel Range Organics (DRO)	<49.9	998	939	94	922	92	70-135	2	35	mg/kg	09.02.2020 15:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		111		70-135	%	09.02.2020 15:03
o-Terphenyl	113		110		70-135	%	09.02.2020 15:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3136275

MB Sample Id: 7710698-1-BLK

Matrix: Solid

LCS Sample Id: 7710698-1-BKS

Prep Method: SW5035A

Date Prep: 09.02.2020

LCSD Sample Id: 7710698-1-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	0.0961	96	0.0968	97	70-130	1	35	mg/kg	09.02.2020 16:14	
Toluene	<0.00200	0.100	0.0905	91	0.0925	93	70-130	2	35	mg/kg	09.02.2020 16:14	
Ethylbenzene	<0.00200	0.100	0.0942	94	0.0961	96	71-129	2	35	mg/kg	09.02.2020 16:14	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.194	97	70-135	2	35	mg/kg	09.02.2020 16:14	
o-Xylene	<0.00200	0.100	0.0954	95	0.0975	98	71-133	2	35	mg/kg	09.02.2020 16:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		101		70-130	%	09.02.2020 16:14
4-Bromofluorobenzene	98		92		92		70-130	%	09.02.2020 16:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3136275

Parent Sample Id: 671625-001

Matrix: Soil

MS Sample Id: 671625-001 S

Prep Method: SW5035A

Date Prep: 09.02.2020

MSD Sample Id: 671625-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0927	93	0.105	105	70-130	12	35	mg/kg	09.03.2020 01:54	
Toluene	<0.00199	0.0994	0.0863	87	0.0963	96	70-130	11	35	mg/kg	09.03.2020 01:54	
Ethylbenzene	<0.00199	0.0994	0.0903	91	0.0943	94	71-129	4	35	mg/kg	09.03.2020 01:54	
m,p-Xylenes	<0.00398	0.199	0.178	89	0.185	93	70-135	4	35	mg/kg	09.03.2020 01:54	
o-Xylene	<0.00199	0.0994	0.0912	92	0.0897	90	71-133	2	35	mg/kg	09.03.2020 01:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		101		70-130	%	09.03.2020 01:54
4-Bromofluorobenzene	91		88		70-130	%	09.03.2020 01:54

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

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

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

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



Chain of Custody

Work Order No: 671625

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
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

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Page 1 of 1

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

Program: UST/PST	☐ PRP	☐ Brownfields	☐ RC	☐ Superfund
State of Project:				
Reporting Level II	☐ Level III	☐ ST/UST	☐ RRP	☐ Level IV
Deliverables: EDD	☐ ADAPT	Other:		

Project Name:	PU 8C 28 BATT	Turn Around	☒ Routine	ANALYSIS REQUEST																Work Order Notes
Project Number:	28P-5697	Rush:																		
P.O. Number:	612919250	Due Date:																		
Sampler's Name:	Benjamin Beilli																			

SAMPLE RECEIPT		Temp Blank:	☒ Yes	☐ No	Wet Ice:	☒ Yes	☐ No																
Temperature (°C):	2.4/2.2	Thermometer ID	TNM007																				
Received Inact:	☒ Yes	☐ No																					
Cooler Custody Seals:	☒ Yes	☐ No	Correction Factor:	-0.2																			
Sample Custody Seals:	☒ Yes	☐ No	Total Containers:	4																			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)																
CH01	S	9/1/20	13:00	1'	1	X	X	X																
CH01A			14:00	7'																				
CH02			10:00	1'																				
CH02A			12:30	7.5'																				
					9/1/20																			

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti 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 Ti U

1631 / 245.1 / 7470 / 7471 : Hg

Office: 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
<i>[Signature]</i>	<i>[Signature]</i>	9-2-20/11:00 AM	<i>[Signature]</i>	<i>[Signature]</i>	9/2/20 12:30 S

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09.02.2020 12.25.00 PM

Work Order #: 671625

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 09.02.2020

Checklist reviewed by:



Jessica Kramer

Date: 09.03.2020

ATTACHMENT 4B: LABORATORY ANALYTICAL REPORTS - NCE2002742193

Certificate of Analysis Summary 643720



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery - Spill Date 11/13/2019

Project Id:

Date Received in Lab: Tue 11.19.2019 15:40

Contact: Dan Moir

Report Date: 11.24.2020 09:39

Project Location:

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	643720-001	643720-002	643720-003	643720-004	643720-005	643720-006
	<i>Field Id:</i>	SS01	SS02	SS03	SS04	SS05	SS06
	<i>Depth:</i>	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.18.2019 10:15	11.18.2019 10:30	11.18.2019 10:45	11.18.2019 11:00	11.18.2019 11:15	11.18.2019 11:30
BTEX by EPA 8021B	<i>Extracted:</i>	11.19.2019 17:11	11.19.2019 17:11	11.19.2019 17:11	11.19.2019 17:11	11.19.2019 17:11	11.19.2019 17:11
	<i>Analyzed:</i>	11.20.2019 00:36	11.20.2019 01:14	11.20.2019 01:33	11.20.2019 01:52	11.20.2019 02:11	11.20.2019 00:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		0.00469 0.00200	15.3 1.00	10.2 0.402	8.49 0.201	15.9 1.01	0.0130 0.00198
Toluene		0.00310 0.00200	107 1.00	68.1 0.402	79.1 D 1.00	92.0 1.01	0.0221 0.00198
Ethylbenzene		<0.00200 0.00200	30.0 1.00	22.8 0.402	16.9 0.201	25.9 1.01	0.00580 0.00198
m,p-Xylenes		0.00208 0.00200	129 1.00	93.6 0.402	69.0 0.201	105 1.01	0.0277 0.00198
o-Xylene		<0.00200 0.00200	43.1 1.00	33.4 0.402	24.3 0.201	35.8 1.01	0.00954 0.00198
Total Xylenes		0.00208 0.00200	172 1.00	127 0.402	93.3 0.201	141 1.01	0.0372 0.00198
Total BTEX		0.00987 0.00200	324 1.00	228 0.402	198 0.201	275 1.01	0.0781 0.00198
Chloride by EPA 300	<i>Extracted:</i>	11.19.2019 18:11	11.19.2019 18:11	11.19.2019 18:11	11.19.2019 18:11	11.19.2019 18:11	11.19.2019 18:11
	<i>Analyzed:</i>	11.19.2019 20:16	11.19.2019 20:22	11.19.2019 20:27	11.19.2019 20:33	11.19.2019 20:39	11.19.2019 20:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		56.7 10.0	8450 504	5100 504	12000 202	718 49.9	2580 99.6
TPH by SW8015 Mod	<i>Extracted:</i>	11.19.2019 16:30	11.19.2019 16:30	11.19.2019 16:30	11.19.2019 16:30	11.19.2019 16:30	11.19.2019 16:30
	<i>Analyzed:</i>	11.20.2019 01:10	11.20.2019 11:07	11.20.2019 11:47	11.20.2019 12:27	11.20.2019 13:38	11.20.2019 10:27
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	7400 249	4020 251	2600 251	4480 251	<50.2 50.2
Diesel Range Organics (DRO)		<50.2 50.2	17500 249	10500 251	6560 251	8800 251	148 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	1320 249	839 251	524 251	816 251	57.5 50.2
Total GRO-DRO		<50.2 50.2	24900 249	14500 251	9160 251	13300 251	148 50.2
Total TPH		<50.2 50.2	26200 249	15400 251	9680 251	14100 251	206 50.2

BRL - Below Reporting Limit

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



Analytical Report 643720

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery - Spill Date 11/13/2019

11.24.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **643720**

PLU PC 28 Battery - Spill Date 11/13/2019

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 Eurofins Xenco, LLC Report Number(s) 643720. 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 Eurofins Xenco, LLC. 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. 643720 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 643720****WSP USA, Dallas, TX**

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	11.18.2019 10:15	0.5 ft	643720-001
SS02	S	11.18.2019 10:30	0.5 ft	643720-002
SS03	S	11.18.2019 10:45	0.5 ft	643720-003
SS04	S	11.18.2019 11:00	0.5 ft	643720-004
SS05	S	11.18.2019 11:15	0.5 ft	643720-005
SS06	S	11.18.2019 11:30	0.5 ft	643720-006



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery - Spill Date 11/13/2019

Project ID:
Work Order Number(s): 643720

Report Date: 11.24.2020
Date Received: 11.19.2019

Sample receipt non conformances and comments:

Corrected project name per clients email request. New version generated. JK 12/09/19

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3108004 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3108033 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 643720-002.

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 643720-002,643720-003,643720-005.



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS01** Matrix: Soil Date Received: 11.19.2019 15:40
 Lab Sample Id: 643720-001 Date Collected: 11.18.2019 10:15 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.19.2019 18:11 % Moisture:
 Seq Number: 3108003 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.7	10.0	mg/kg	11.19.2019 20:16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 11.19.2019 16:30 % Moisture:
 Seq Number: 3108033 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.20.2019 01:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.20.2019 01:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.20.2019 01:10	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.20.2019 01:10	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.20.2019 01:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	11.20.2019 01:10	
o-Terphenyl	84-15-1	80	%	70-135	11.20.2019 01:10	



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS01**
Lab Sample Id: 643720-001

Matrix: Soil
Date Collected: 11.18.2019 10:15

Date Received: 11.19.2019 15:40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2019 17:11

% Moisture:
Basis: Wet Weight

Seq Number: 3108004

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00469	0.00200	mg/kg	11.20.2019 00:36		1
Toluene	108-88-3	0.00310	0.00200	mg/kg	11.20.2019 00:36		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.20.2019 00:36	U	1
m,p-Xylenes	179601-23-1	0.00208	0.00200	mg/kg	11.20.2019 00:36		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.20.2019 00:36	U	1
Total Xylenes	1330-20-7	0.00208	0.00200	mg/kg	11.20.2019 00:36		1
Total BTEX		0.00987	0.00200	mg/kg	11.20.2019 00:36		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	11.20.2019 00:36		
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.20.2019 00:36		



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS02** Matrix: Soil Date Received: 11.19.2019 15:40
 Lab Sample Id: 643720-002 Date Collected: 11.18.2019 10:30 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.19.2019 18:11 % Moisture:
 Seq Number: 3108003 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8450	504	mg/kg	11.19.2019 20:22		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 11.19.2019 16:30 % Moisture:
 Seq Number: 3108033 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	7400	249	mg/kg	11.20.2019 11:07		5
Diesel Range Organics (DRO)	C10C28DRO	17500	249	mg/kg	11.20.2019 11:07		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1320	249	mg/kg	11.20.2019 11:07		5
Total GRO-DRO	PHC628	24900	249	mg/kg	11.20.2019 11:07		5
Total TPH	PHC635	26200	249	mg/kg	11.20.2019 11:07		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	191	%	70-135	11.20.2019 11:07	**
o-Terphenyl	84-15-1	137	%	70-135	11.20.2019 11:07	**



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS02**
Lab Sample Id: 643720-002

Matrix: Soil
Date Collected: 11.18.2019 10:30

Date Received: 11.19.2019 15:40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2019 17:11

% Moisture:
Basis: Wet Weight

Seq Number: 3108004

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	15.3	1.00	mg/kg	11.20.2019 01:14		500
Toluene	108-88-3	107	1.00	mg/kg	11.20.2019 01:14		500
Ethylbenzene	100-41-4	30.0	1.00	mg/kg	11.20.2019 01:14		500
m,p-Xylenes	179601-23-1	129	1.00	mg/kg	11.20.2019 01:14		500
o-Xylene	95-47-6	43.1	1.00	mg/kg	11.20.2019 01:14		500
Total Xylenes	1330-20-7	172	1.00	mg/kg	11.20.2019 01:14		500
Total BTEX		324	1.00	mg/kg	11.20.2019 01:14		500
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.20.2019 01:14		
4-Bromofluorobenzene	460-00-4	103	%	70-130	11.20.2019 01:14		



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS03** Matrix: Soil Date Received: 11.19.2019 15:40
 Lab Sample Id: 643720-003 Date Collected: 11.18.2019 10:45 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.19.2019 18:11 % Moisture:
 Seq Number: 3108003 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5100	504	mg/kg	11.19.2019 20:27		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 11.19.2019 16:30 % Moisture:
 Seq Number: 3108033 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	4020	251	mg/kg	11.20.2019 11:47		5
Diesel Range Organics (DRO)	C10C28DRO	10500	251	mg/kg	11.20.2019 11:47		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	839	251	mg/kg	11.20.2019 11:47		5
Total GRO-DRO	PHC628	14500	251	mg/kg	11.20.2019 11:47		5
Total TPH	PHC635	15400	251	mg/kg	11.20.2019 11:47		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	139	%	70-135	11.20.2019 11:47	**
o-Terphenyl	84-15-1	108	%	70-135	11.20.2019 11:47	



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS03**
Lab Sample Id: 643720-003

Matrix: Soil
Date Collected: 11.18.2019 10:45

Date Received: 11.19.2019 15:40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2019 17:11

% Moisture:
Basis: Wet Weight

Seq Number: 3108004

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	10.2	0.402	mg/kg	11.20.2019 01:33		200
Toluene	108-88-3	68.1	0.402	mg/kg	11.20.2019 01:33		200
Ethylbenzene	100-41-4	22.8	0.402	mg/kg	11.20.2019 01:33		200
m,p-Xylenes	179601-23-1	93.6	0.402	mg/kg	11.20.2019 01:33		200
o-Xylene	95-47-6	33.4	0.402	mg/kg	11.20.2019 01:33		200
Total Xylenes	1330-20-7	127	0.402	mg/kg	11.20.2019 01:33		200
Total BTEX		228	0.402	mg/kg	11.20.2019 01:33		200
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.20.2019 01:33		
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.20.2019 01:33		



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS04** Matrix: Soil Date Received: 11.19.2019 15:40
 Lab Sample Id: 643720-004 Date Collected: 11.18.2019 11:00 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.19.2019 18:11 % Moisture:
 Seq Number: 3108003 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12000	202	mg/kg	11.19.2019 20:33		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 11.19.2019 16:30 % Moisture:
 Seq Number: 3108033 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	2600	251	mg/kg	11.20.2019 12:27		5
Diesel Range Organics (DRO)	C10C28DRO	6560	251	mg/kg	11.20.2019 12:27		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	524	251	mg/kg	11.20.2019 12:27		5
Total GRO-DRO	PHC628	9160	251	mg/kg	11.20.2019 12:27		5
Total TPH	PHC635	9680	251	mg/kg	11.20.2019 12:27		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.20.2019 12:27	
o-Terphenyl	84-15-1	90	%	70-135	11.20.2019 12:27	



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS04**
Lab Sample Id: 643720-004

Matrix: Soil
Date Collected: 11.18.2019 11:00

Date Received: 11.19.2019 15:40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2019 17:11

% Moisture:
Basis: Wet Weight

Seq Number: 3108004

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	8.49	0.201	mg/kg	11.20.2019 01:52		100
Toluene	108-88-3	79.1	1.00	mg/kg	11.20.2019 13:02	D	500
Ethylbenzene	100-41-4	16.9	0.201	mg/kg	11.20.2019 01:52		100
m,p-Xylenes	179601-23-1	69.0	0.201	mg/kg	11.20.2019 01:52		100
o-Xylene	95-47-6	24.3	0.201	mg/kg	11.20.2019 01:52		100
Total Xylenes	1330-20-7	93.3	0.201	mg/kg	11.20.2019 01:52		100
Total BTEX		198	0.201	mg/kg	11.20.2019 13:02		500
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.20.2019 01:52		
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.20.2019 01:52		



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS05** Matrix: Soil Date Received: 11.19.2019 15:40
 Lab Sample Id: 643720-005 Date Collected: 11.18.2019 11:15 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.19.2019 18:11 % Moisture:
 Seq Number: 3108003 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	718	49.9	mg/kg	11.19.2019 20:39		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 11.19.2019 16:30 % Moisture:
 Seq Number: 3108033 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	4480	251	mg/kg	11.20.2019 13:38		5
Diesel Range Organics (DRO)	C10C28DRO	8800	251	mg/kg	11.20.2019 13:38		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	816	251	mg/kg	11.20.2019 13:38		5
Total GRO-DRO	PHC628	13300	251	mg/kg	11.20.2019 13:38		5
Total TPH	PHC635	14100	251	mg/kg	11.20.2019 13:38		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	137	%	70-135	11.20.2019 13:38	**
o-Terphenyl	84-15-1	127	%	70-135	11.20.2019 13:38	



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS05**
Lab Sample Id: 643720-005

Matrix: Soil
Date Collected: 11.18.2019 11:15

Date Received: 11.19.2019 15:40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2019 17:11

% Moisture:
Basis: Wet Weight

Seq Number: 3108004

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	15.9	1.01	mg/kg	11.20.2019 02:11		500
Toluene	108-88-3	92.0	1.01	mg/kg	11.20.2019 02:11		500
Ethylbenzene	100-41-4	25.9	1.01	mg/kg	11.20.2019 02:11		500
m,p-Xylenes	179601-23-1	105	1.01	mg/kg	11.20.2019 02:11		500
o-Xylene	95-47-6	35.8	1.01	mg/kg	11.20.2019 02:11		500
Total Xylenes	1330-20-7	141	1.01	mg/kg	11.20.2019 02:11		500
Total BTEX		275	1.01	mg/kg	11.20.2019 02:11		500

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.20.2019 02:11	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.20.2019 02:11	



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS06** Matrix: Soil Date Received: 11.19.2019 15:40
 Lab Sample Id: 643720-006 Date Collected: 11.18.2019 11:30 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.19.2019 18:11 % Moisture:
 Seq Number: 3108003 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2580	99.6	mg/kg	11.19.2019 20:45		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 11.19.2019 16:30 % Moisture:
 Seq Number: 3108033 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.20.2019 10:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	148	50.2	mg/kg	11.20.2019 10:27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	57.5	50.2	mg/kg	11.20.2019 10:27		1
Total GRO-DRO	PHC628	148	50.2	mg/kg	11.20.2019 10:27		1
Total TPH	PHC635	206	50.2	mg/kg	11.20.2019 10:27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	73	%	70-135	11.20.2019 10:27	
o-Terphenyl	84-15-1	76	%	70-135	11.20.2019 10:27	



Certificate of Analytical Results 643720

WSP USA, Dallas, TX

PLU PC 28 Battery - Spill Date 11/13/2019

Sample Id: **SS06**
Lab Sample Id: 643720-006

Matrix: Soil
Date Collected: 11.18.2019 11:30

Date Received: 11.19.2019 15:40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2019 17:11

% Moisture:
Basis: Wet Weight

Seq Number: 3108004

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0130	0.00198	mg/kg	11.20.2019 00:55		1
Toluene	108-88-3	0.0221	0.00198	mg/kg	11.20.2019 00:55		1
Ethylbenzene	100-41-4	0.00580	0.00198	mg/kg	11.20.2019 00:55		1
m,p-Xylenes	179601-23-1	0.0277	0.00198	mg/kg	11.20.2019 00:55		1
o-Xylene	95-47-6	0.00954	0.00198	mg/kg	11.20.2019 00:55		1
Total Xylenes	1330-20-7	0.0372	0.00198	mg/kg	11.20.2019 00:55		1
Total BTEX		0.0781	0.00198	mg/kg	11.20.2019 00:55		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	11.20.2019 00:55		
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.20.2019 00:55		

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



WSP USA

PLU PC 28 Battery - Spill Date 11/13/2019

Analytical Method: Chloride by EPA 300

Seq Number: 3108003

MB Sample Id: 7690696-1-BLK

Matrix: Solid

LCS Sample Id: 7690696-1-BKS

Prep Method: E300P

Date Prep: 11.19.2019

LCSD Sample Id: 7690696-1-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	254	102	253	101	90-110	0	20	mg/kg	11.19.2019 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3108003

Parent Sample Id: 643713-001

Matrix: Soil

MS Sample Id: 643713-001 S

Prep Method: E300P

Date Prep: 11.19.2019

MSD Sample Id: 643713-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	300	198	508	105	509	106	90-110	0	20	mg/kg	11.19.2019 18:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3108003

Parent Sample Id: 643716-001

Matrix: Soil

MS Sample Id: 643716-001 S

Prep Method: E300P

Date Prep: 11.19.2019

MSD Sample Id: 643716-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1080	200	1270	95	1280	101	90-110	1	20	mg/kg	11.19.2019 19:35	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3108033

MB Sample Id: 7690720-1-BLK

Matrix: Solid

LCS Sample Id: 7690720-1-BKS

Prep Method: SW8015P

Date Prep: 11.19.2019

LCSD Sample Id: 7690720-1-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	1140	114	1090	109	70-135	4	35	mg/kg	11.19.2019 11:27	
Diesel Range Organics (DRO)	<50.0	1000	1160	116	1250	125	70-135	7	35	mg/kg	11.19.2019 11:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		132		129		70-135	%	11.19.2019 11:27
o-Terphenyl	118		132		129		70-135	%	11.19.2019 11:27

Analytical Method: TPH by SW8015 Mod

Seq Number: 3108033

Matrix: Solid

MB Sample Id: 7690720-1-BLK

Prep Method: SW8015P

Date Prep: 11.19.2019

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.19.2019 11:07	

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

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

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

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



WSP USA

PLU PC 28 Battery - Spill Date 11/13/2019

Analytical Method: TPH by SW8015 Mod

Seq Number: 3108033

Parent Sample Id: 643713-001

Matrix: Soil

MS Sample Id: 643713-001 S

Prep Method: SW8015P

Date Prep: 11.19.2019

MSD Sample Id: 643713-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	937	94	863	86	70-135	8	35	mg/kg	11.19.2019 17:52	
Diesel Range Organics (DRO)	<50.1	1000	1090	109	992	99	70-135	9	35	mg/kg	11.19.2019 17:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		110		70-135	%	11.19.2019 17:52
o-Terphenyl	120		111		70-135	%	11.19.2019 17:52

Analytical Method: BTEX by EPA 8021B

Seq Number: 3108004

MB Sample Id: 7690695-1-BLK

Matrix: Solid

LCS Sample Id: 7690695-1-BKS

Prep Method: SW5030B

Date Prep: 11.19.2019

LCSD Sample Id: 7690695-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.101	101	70-130	2	35	mg/kg	11.19.2019 15:03	
Toluene	<0.00200	0.100	0.101	101	0.100	100	70-130	1	35	mg/kg	11.19.2019 15:03	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0996	100	71-129	1	35	mg/kg	11.19.2019 15:03	
m,p-Xylenes	<0.00200	0.200	0.213	107	0.211	106	70-135	1	35	mg/kg	11.19.2019 15:03	
o-Xylene	<0.00200	0.100	0.106	106	0.105	105	71-133	1	35	mg/kg	11.19.2019 15:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		103		70-130	%	11.19.2019 15:03
4-Bromofluorobenzene	104		111		110		70-130	%	11.19.2019 15:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3108004

Parent Sample Id: 643713-001

Matrix: Soil

MS Sample Id: 643713-001 S

Prep Method: SW5030B

Date Prep: 11.19.2019

MSD Sample Id: 643713-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.103	104	0.0909	91	70-130	12	35	mg/kg	11.19.2019 18:19	
Toluene	<0.00198	0.0992	0.101	102	0.0849	85	70-130	17	35	mg/kg	11.19.2019 18:19	
Ethylbenzene	<0.00198	0.0992	0.0989	100	0.0758	76	71-129	26	35	mg/kg	11.19.2019 18:19	
m,p-Xylenes	<0.00198	0.198	0.209	106	0.159	80	70-135	27	35	mg/kg	11.19.2019 18:19	
o-Xylene	<0.00198	0.0992	0.105	106	0.0807	81	71-133	26	35	mg/kg	11.19.2019 18:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		106		70-130	%	11.19.2019 18:19
4-Bromofluorobenzene	116		118		70-130	%	11.19.2019 18:19

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

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

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

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



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 Crasabad, 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: 643720

Page 1 of 1

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Project Manager: Dan Moir
Company Name: LT Environmental
Address: 3300 North A Street
City, State ZIP: Midland, TX, 79705
Phone: 432.236.3819

Project Name: PLU CUX JV PC 003H
Project Number:
Project Location: Spiner Lo
Sampler's Name: PO #:
Bill to: (if different) Kyle Little
Company Name: XTO
Address: 3104 E Green Street
City, State ZIP: Crasabad, NM 88220
Email: sloc@henv.com, dmoir@henv.com

Work Order Comments

Program: ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☒ ADAPT ☐ Other:

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

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

Sample Comments

Chloride (EPA 300)
TPH (EPA 8015)
BTEX (EPA 8021)

Number of Containers

Turn Around
Routine ☒
Rush:
Due Date:

Temp Blank: Yes ☐ No ☒
Wet Ice: Yes ☐ No ☒
Thermometer ID: TMM007
Received Intact: Yes ☒ No ☐
Cooler Custody Seals: Yes ☒ No ☐
Sample Custody Seals: Yes ☒ No ☐
Correction Factor: -0.2
Total Containers: 6

Matrix
Date Sampled
Time Sampled
Depth

501 11-18-19 10:15 0.5'
502 11-18-19 10:30 0.5'
503 11-18-19 10:45 0.5'
504 11-18-19 11:00 0.5'
505 11-18-19 11:15 0.5'
506 11-18-19 11:30 0.5'

Total 200.7 / 6010 200.8 / 6020:

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

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 Ti Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	11/19/19 15:40
<i>[Signature]</i>	<i>[Signature]</i>	
<i>[Signature]</i>	<i>[Signature]</i>	
<i>[Signature]</i>	<i>[Signature]</i>	

Revised Date 02/26/19 Rev. 2019.1

Certificate of Analysis Summary 657565



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery

Project Id: 012919281

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 04.01.2020 10:10

Report Date: 11.24.2020 09:41

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657565-001	657565-002	657565-003	657565-004	657565-005	657565-006
	<i>Field Id:</i>	PH01	PH01A	PH01B	PH02	PH02A	PH02B
	<i>Depth:</i>	2- ft	4- ft	6- ft	2- ft	4- ft	5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.30.2020 09:50	03.30.2020 12:10	03.30.2020 12:20	03.30.2020 10:00	03.30.2020 10:20	03.30.2020 10:30
BTEX by EPA 8021B	<i>Extracted:</i>	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46
	<i>Analyzed:</i>	04.05.2020 07:07	04.05.2020 07:27	04.05.2020 07:48	04.05.2020 04:44	04.05.2020 08:49	04.05.2020 09:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.0200 0.0200
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.0200 0.0200
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.0200 0.0200
m,p-Xylenes		<0.00403 0.00403	<0.00402 0.00402	<0.00403 0.00403	<0.00399 0.00399	<0.00403 0.00403	0.145 0.0400
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	0.0489 0.0200
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	0.194 0.0200
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	0.194 0.0200
Chloride by EPA 300	<i>Extracted:</i>	04.06.2020 10:36	04.06.2020 10:36	04.06.2020 10:36	04.06.2020 10:36	04.06.2020 10:36	04.06.2020 10:36
	<i>Analyzed:</i>	04.07.2020 07:50	04.07.2020 08:07	04.07.2020 08:12	04.07.2020 08:18	04.07.2020 08:23	04.06.2020 22:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		122 10.0	72.3 9.88	37.1 9.98	33.1 9.98	274 9.98	7520 D 198
TPH by SW8015 Mod SUB: T104704400-20-21	<i>Extracted:</i>	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00
	<i>Analyzed:</i>	04.04.2020 03:43	04.04.2020 04:05	04.04.2020 04:27	04.04.2020 04:49	04.04.2020 05:10	04.04.2020 05:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	130 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	1320 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	134 50.0
Total GRO-DRO		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	1450 50.0
Total TPH		<50.0 50.0	<49.9 49.9	<50.0 50.0	<49.8 49.8	<50.0 50.0	1580 50.0

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 657565



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery

Project Id: 012919281

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 04.01.2020 10:10

Report Date: 11.24.2020 09:41

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657565-007	657565-008	657565-009	657565-010		
	<i>Field Id:</i>	PH02C	PH03	PH03A	PH03B		
	<i>Depth:</i>	6- ft	2- ft	4- ft	6- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	03.30.2020 10:40	03.30.2020 10:45	03.30.2020 10:50	03.30.2020 11:00		
BTEX by EPA 8021B	<i>Extracted:</i>	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46		
	<i>Analyzed:</i>	04.05.2020 09:29	04.05.2020 09:50	04.05.2020 10:10	04.05.2020 10:31		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
m,p-Xylenes		<0.00403 0.00403	<0.00402 0.00402	<0.00402 0.00402	<0.00404 0.00404		
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Chloride by EPA 300	<i>Extracted:</i>	04.06.2020 10:36	04.06.2020 10:36	04.06.2020 10:36	04.06.2020 10:36		
	<i>Analyzed:</i>	04.06.2020 22:32	04.06.2020 22:38	04.06.2020 22:44	04.06.2020 22:50		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		28.4 10.1	36.1 10.0	21.2 9.94	16.4 9.98		
TPH by SW8015 Mod SUB: T104704400-20-21	<i>Extracted:</i>	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00		
	<i>Analyzed:</i>	04.04.2020 05:54	04.04.2020 06:15	04.04.2020 06:37	04.04.2020 06:59		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0		
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0		
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0		
Total GRO-DRO		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0		
Total TPH		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0		

BRL - Below Reporting Limit

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



Environment Testing
Xenco

Analytical Report 657565

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery

012919281

11.24.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **657565**

PLU PC 28 Battery

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 Eurofins Xenco, LLC Report Number(s) 657565. 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 Eurofins Xenco, LLC. 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. 657565 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 657565****WSP USA, Dallas, TX**

PLU PC 28 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	03.30.2020 09:50	2 ft	657565-001
PH01A	S	03.30.2020 12:10	4 ft	657565-002
PH01B	S	03.30.2020 12:20	6 ft	657565-003
PH02	S	03.30.2020 10:00	2 ft	657565-004
PH02A	S	03.30.2020 10:20	4 ft	657565-005
PH02B	S	03.30.2020 10:30	5 ft	657565-006
PH02C	S	03.30.2020 10:40	6 ft	657565-007
PH03	S	03.30.2020 10:45	2 ft	657565-008
PH03A	S	03.30.2020 10:50	4 ft	657565-009
PH03B	S	03.30.2020 11:00	6 ft	657565-010



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery

Project ID: 012919281
Work Order Number(s): 657565

Report Date: 11.24.2020
Date Received: 04.01.2020

Sample receipt non conformances and comments:

V1.001 Revision (client email) Updated project name and PO

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3121964 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH01**
Lab Sample Id: 657565-001

Matrix: Soil
Date Collected: 03.30.2020 09:50

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	122	10.0	mg/kg	04.07.2020 07:50		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 03:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 03:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 03:43	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 03:43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 03:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-130	04.04.2020 03:43	
o-Terphenyl	84-15-1	117	%	70-130	04.04.2020 03:43	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH01**
Lab Sample Id: 657565-001

Matrix: Soil
Date Collected: 03.30.2020 09:50

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 07:07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 07:07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 07:07	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.05.2020 07:07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 07:07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 07:07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 07:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.05.2020 07:07	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.05.2020 07:07	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH01A**
Lab Sample Id: 657565-002

Matrix: Soil
Date Collected: 03.30.2020 12:10

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.3	9.88	mg/kg	04.07.2020 08:07		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 04:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	04.04.2020 04:05	
o-Terphenyl	84-15-1	108	%	70-130	04.04.2020 04:05	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH01A**
Lab Sample Id: 657565-002

Matrix: Soil
Date Collected: 03.30.2020 12:10

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.2020 07:27	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.2020 07:27	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.2020 07:27	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.2020 07:27	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.2020 07:27	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.2020 07:27	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.2020 07:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.05.2020 07:27		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.2020 07:27		



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH01B**
Lab Sample Id: 657565-003

Matrix: Soil
Date Collected: 03.30.2020 12:20

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	37.1	9.98	mg/kg	04.07.2020 08:12		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 04:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	04.04.2020 04:27	
o-Terphenyl	84-15-1	107	%	70-130	04.04.2020 04:27	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH01B**
Lab Sample Id: 657565-003

Matrix: Soil
Date Collected: 03.30.2020 12:20

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 07:48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 07:48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 07:48	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.05.2020 07:48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 07:48	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 07:48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 07:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.05.2020 07:48	
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.05.2020 07:48	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02**
Lab Sample Id: 657565-004

Matrix: Soil
Date Collected: 03.30.2020 10:00

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.1	9.98	mg/kg	04.07.2020 08:18		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.04.2020 04:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.04.2020 04:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.04.2020 04:49	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.04.2020 04:49	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.04.2020 04:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.04.2020 04:49	
o-Terphenyl	84-15-1	105	%	70-130	04.04.2020 04:49	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02**
Lab Sample Id: 657565-004

Matrix: Soil
Date Collected: 03.30.2020 10:00

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.2020 04:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.05.2020 04:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.2020 04:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.05.2020 04:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.05.2020 04:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.05.2020 04:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.05.2020 04:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.05.2020 04:44		
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.05.2020 04:44		



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02A**
Lab Sample Id: 657565-005

Matrix: Soil
Date Collected: 03.30.2020 10:20

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	274	9.98	mg/kg	04.07.2020 08:23		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 05:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 05:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 05:10	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 05:10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 05:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	04.04.2020 05:10	
o-Terphenyl	84-15-1	107	%	70-130	04.04.2020 05:10	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02A**
Lab Sample Id: 657565-005

Matrix: Soil
Date Collected: 03.30.2020 10:20

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 08:49	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 08:49	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 08:49	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.05.2020 08:49	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 08:49	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 08:49	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 08:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	70-130	04.05.2020 08:49		
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.05.2020 08:49		



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02B**
Lab Sample Id: 657565-006

Matrix: Soil
Date Collected: 03.30.2020 10:30

Date Received: 04.01.2020 10:10
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7520	198	mg/kg	04.07.2020 10:35	D	20

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	130	50.0	mg/kg	04.04.2020 05:32		1
Diesel Range Organics (DRO)	C10C28DRO	1320	50.0	mg/kg	04.04.2020 05:32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	134	50.0	mg/kg	04.04.2020 05:32		1
Total GRO-DRO	PHC628	1450	50.0	mg/kg	04.04.2020 05:32		1
Total TPH	PHC635	1580	50.0	mg/kg	04.04.2020 05:32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-130	04.04.2020 05:32	
o-Terphenyl	84-15-1	115	%	70-130	04.04.2020 05:32	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02B**
Lab Sample Id: 657565-006

Matrix: Soil
Date Collected: 03.30.2020 10:30

Date Received: 04.01.2020 10:10
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	04.05.2020 09:09	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	04.05.2020 09:09	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	04.05.2020 09:09	U	1
m,p-Xylenes	179601-23-1	0.145	0.0400	mg/kg	04.05.2020 09:09		1
o-Xylene	95-47-6	0.0489	0.0200	mg/kg	04.05.2020 09:09		1
Total Xylenes	1330-20-7	0.194	0.0200	mg/kg	04.05.2020 09:09		1
Total BTEX		0.194	0.0200	mg/kg	04.05.2020 09:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.05.2020 09:09	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.05.2020 09:09	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02C**
Lab Sample Id: 657565-007

Matrix: Soil
Date Collected: 03.30.2020 10:40

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.4	10.1	mg/kg	04.06.2020 22:32		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.04.2020 05:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 05:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 05:54	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 05:54	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 05:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	04.04.2020 05:54	
o-Terphenyl	84-15-1	105	%	70-130	04.04.2020 05:54	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH02C**
Lab Sample Id: 657565-007

Matrix: Soil
Date Collected: 03.30.2020 10:40

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 09:29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 09:29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 09:29	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.05.2020 09:29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 09:29	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 09:29	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 09:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.05.2020 09:29	
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.05.2020 09:29	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH03**
Lab Sample Id: 657565-008

Matrix: Soil
Date Collected: 03.30.2020 10:45

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.1	10.0	mg/kg	04.06.2020 22:38		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.04.2020 06:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.04.2020 06:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.04.2020 06:15	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.04.2020 06:15	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.04.2020 06:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	04.04.2020 06:15	
o-Terphenyl	84-15-1	103	%	70-130	04.04.2020 06:15	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH03**
Lab Sample Id: 657565-008

Matrix: Soil
Date Collected: 03.30.2020 10:45

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.2020 09:50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.2020 09:50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.2020 09:50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.2020 09:50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.2020 09:50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.2020 09:50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.2020 09:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.05.2020 09:50	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.05.2020 09:50	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH03A**
Lab Sample Id: 657565-009

Matrix: Soil
Date Collected: 03.30.2020 10:50

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.2	9.94	mg/kg	04.06.2020 22:44		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 06:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 06:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 06:37	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 06:37	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 06:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.04.2020 06:37	
o-Terphenyl	84-15-1	105	%	70-130	04.04.2020 06:37	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH03A**
Lab Sample Id: 657565-009

Matrix: Soil
Date Collected: 03.30.2020 10:50

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.2020 10:10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.2020 10:10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.2020 10:10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.2020 10:10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.2020 10:10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.2020 10:10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.2020 10:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.05.2020 10:10	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.05.2020 10:10	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH03B**
Lab Sample Id: 657565-010

Matrix: Soil
Date Collected: 03.30.2020 11:00

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.06.2020 10:36

% Moisture:
Basis: Wet Weight

Seq Number: 3122154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.4	9.98	mg/kg	04.06.2020 22:50		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 06:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	04.04.2020 06:59	
o-Terphenyl	84-15-1	107	%	70-130	04.04.2020 06:59	



Certificate of Analytical Results 657565

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH03B**
Lab Sample Id: 657565-010

Matrix: Soil
Date Collected: 03.30.2020 11:00

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 10:31	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 10:31	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 10:31	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.05.2020 10:31	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 10:31	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 10:31	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 10:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.2020 10:31	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.05.2020 10:31	

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



WSP USA
PLU PC 28 Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3122154

MB Sample Id: 7700620-1-BLK

Matrix: Solid

LCS Sample Id: 7700620-1-BKS

Prep Method: E300P

Date Prep: 04.06.2020

LCSD Sample Id: 7700620-1-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	260	104	261	104	90-110	0	20	mg/kg	04.07.2020 07:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3122154

Parent Sample Id: 657565-001

Matrix: Soil

MS Sample Id: 657565-001 S

Prep Method: E300P

Date Prep: 04.06.2020

MSD Sample Id: 657565-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	122	199	337	108	338	109	90-110	0	20	mg/kg	04.07.2020 07:56	

Analytical Method: Chloride by EPA 300

Seq Number: 3122154

Parent Sample Id: 657719-001

Matrix: Soil

MS Sample Id: 657719-001 S

Prep Method: E300P

Date Prep: 04.06.2020

MSD Sample Id: 657719-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	102	200	320	109	320	109	90-110	0	20	mg/kg	04.06.2020 23:02	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122022

MB Sample Id: 7700560-1-BLK

Matrix: Solid

LCS Sample Id: 7700560-1-BKS

Prep Method: SW8015P

Date Prep: 04.03.2020

LCSD Sample Id: 7700560-1-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	957	96	1060	106	70-130	10	20	mg/kg	04.03.2020 22:15	
Diesel Range Organics (DRO)	<50.0	1000	1030	103	1150	115	70-130	11	20	mg/kg	04.03.2020 22:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		102		110		70-130	%	04.03.2020 22:15
o-Terphenyl	109		118		122		70-130	%	04.03.2020 22:15

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122022

Matrix: Solid

MB Sample Id: 7700560-1-BLK

Prep Method: SW8015P

Date Prep: 04.03.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.03.2020 21:53	

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

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

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

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



WSP USA
PLU PC 28 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122022

Parent Sample Id: 657559-001

Matrix: Soil

MS Sample Id: 657559-001 S

Prep Method: SW8015P

Date Prep: 04.03.2020

MSD Sample Id: 657559-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	930	93	912	91	70-130	2	20	mg/kg	04.03.2020 23:20	
Diesel Range Organics (DRO)	1640	998	2520	88	2490	85	70-130	1	20	mg/kg	04.03.2020 23:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		94		70-130	%	04.03.2020 23:20
o-Terphenyl	92		92		70-130	%	04.03.2020 23:20

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121964

MB Sample Id: 7700539-1-BLK

Matrix: Solid

LCS Sample Id: 7700539-1-BKS

Prep Method: SW5030B

Date Prep: 04.04.2020

LCSD Sample Id: 7700539-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.107	107	70-130	4	35	mg/kg	04.05.2020 03:02	
Toluene	<0.00200	0.100	0.105	105	0.101	101	70-130	4	35	mg/kg	04.05.2020 03:02	
Ethylbenzene	<0.00200	0.100	0.0983	98	0.0945	95	71-129	4	35	mg/kg	04.05.2020 03:02	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.193	97	70-135	4	35	mg/kg	04.05.2020 03:02	
o-Xylene	<0.00200	0.100	0.103	103	0.0988	99	71-133	4	35	mg/kg	04.05.2020 03:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		105		70-130	%	04.05.2020 03:02
4-Bromofluorobenzene	95		91		91		70-130	%	04.05.2020 03:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121964

Parent Sample Id: 657559-008

Matrix: Soil

MS Sample Id: 657559-008 S

Prep Method: SW5030B

Date Prep: 04.04.2020

MSD Sample Id: 657559-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0941	93	0.0918	92	70-130	2	35	mg/kg	04.05.2020 04:03	
Toluene	<0.00202	0.101	0.0863	85	0.0860	86	70-130	0	35	mg/kg	04.05.2020 04:03	
Ethylbenzene	<0.00202	0.101	0.0792	78	0.0797	80	71-129	1	35	mg/kg	04.05.2020 04:03	
m,p-Xylenes	<0.00404	0.202	0.161	80	0.164	82	70-135	2	35	mg/kg	04.05.2020 04:03	
o-Xylene	<0.00202	0.101	0.0830	82	0.0830	83	71-133	0	35	mg/kg	04.05.2020 04:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	04.05.2020 04:03
4-Bromofluorobenzene	91		92		70-130	%	04.05.2020 04:03

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

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

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

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

XENCO

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
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Chain of CustodyWork Order No: 16575165Page 1 of 1

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 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	

Program: ☒ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund State of Project:	
Reporting Level II ☐	Level III ☐
Deliverables: EDD ☐	ADAPT ☐
Other: ☐	

ANALYSIS REQUEST**Work Order Notes**

Project Name:	PLU PC 28 BATT	Turn Around	☒
Project Number:	01249250	Routine	☒
P.O. Number:	241-5697	Rush:	
Sampler's Name:	Benjamin Beill	Due Date:	

SAMPLE RECEIPT	Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	1.0	Thermometer ID		
Received Intact:	☒ Yes ☐ No	Correction Factor:		
Cooler Custody Seals:	☒ Yes ☐ No	Total Containers:		
Sample Custody Seals:	☒ Yes ☐ No	1310		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)										
P101	S	3/30/20	0950	2'	1	X	X	X										
P101A				4'														
P101B				6'														
P102				2'														
P102A				4'														
P102B				5'														
P102C				6'														
P103				2'														
P103A				4'														
P103B				6'														

Sample Comments

TAT starts the day received by the lab, if received by 4:30pm

Discard 1/2

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

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 \$3 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
<i>[Signature]</i>	<i>[Signature]</i>	4/1/20 0949	<i>[Signature]</i>	<i>[Signature]</i>	4/1/20 10:10



Inter-Office Shipment

Page 1 of 1

IOS Number **61359**

Date/Time: 04/01/20 14:07

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
657565-001	S	PH01	03/30/20 09:50	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-002	S	PH01A	03/30/20 12:10	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-003	S	PH01B	03/30/20 12:20	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-004	S	PH02	03/30/20 10:00	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-005	S	PH02A	03/30/20 10:20	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-006	S	PH02B	03/30/20 10:30	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-007	S	PH02C	03/30/20 10:40	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-008	S	PH03	03/30/20 10:45	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-009	S	PH03A	03/30/20 10:50	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	
657565-010	S	PH03B	03/30/20 11:00	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/13/20	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 04/01/2020

Received By:

Brianna Teel

Date Received: _____

Cooler Temperature: _____



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 61359

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Elizabeth McClellan

Date Sent: 04/01/2020 02:07 PM

Received By:

Date Received:

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	Yes
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: _____

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.01.2020 10.10.00 AM

Work Order #: 657565

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 04.01.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.02.2020

Certificate of Analysis Summary 664100



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery

Project Id: 012919281

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 06.10.2020 16:47

Report Date: 11.24.2020 09:42

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	664100-001	664100-002	664100-003	664100-004		
	<i>Field Id:</i>	BH01	BH01A	BH02	BH02A		
	<i>Depth:</i>	1- ft	4- ft	1- ft	3- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	06.10.2020 13:07	06.10.2020 13:19	06.10.2020 13:58	06.10.2020 14:04		
BTEX by EPA 8021B	<i>Extracted:</i>	06.11.2020 10:33	06.11.2020 10:33	06.11.2020 10:33	06.11.2020 10:33		
	<i>Analyzed:</i>	06.11.2020 13:24	06.11.2020 13:45	06.11.2020 14:05	06.11.2020 14:26		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200		
m,p-Xylenes		<0.00401 0.00401	<0.00403 0.00403	<0.00402 0.00402	<0.00401 0.00401		
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	06.11.2020 15:00	06.11.2020 15:00	06.11.2020 15:00	06.11.2020 15:00		
	<i>Analyzed:</i>	06.11.2020 16:32	06.11.2020 16:53	06.11.2020 17:00	06.11.2020 17:07		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		183 9.96	126 10.1	58.4 10.1	297 10.1		
TPH by SW8015 Mod	<i>Extracted:</i>	06.11.2020 16:50	06.11.2020 16:50	06.11.2020 17:00	06.11.2020 17:00		
	<i>Analyzed:</i>	06.11.2020 16:52	06.11.2020 16:52	06.11.2020 17:53	06.11.2020 18:13		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.2 50.2	<49.8 49.8	<49.8 49.8		
Diesel Range Organics (DRO)		<50.2 50.2	<50.2 50.2	<49.8 49.8	<49.8 49.8		
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<49.8 49.8	<49.8 49.8		
Total GRO-DRO		<50.2 50.2	<50.2 50.2	<49.8 49.8	<49.8 49.8		
Total TPH		<50.2 50.2	<50.2 50.2	<49.8 49.8	<49.8 49.8		

BRL - Below Reporting Limit

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



Analytical Report 664100

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery

012919281

11.24.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **664100**

PLU PC 28 Battery

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 Eurofins Xenco, LLC Report Number(s) 664100. 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 Eurofins Xenco, LLC. 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. 664100 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	06.10.2020 13:07	1 ft	664100-001
BH01A	S	06.10.2020 13:19	4 ft	664100-002
BH02	S	06.10.2020 13:58	1 ft	664100-003
BH02A	S	06.10.2020 14:04	3 ft	664100-004



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery

Project ID: 012919281
Work Order Number(s): 664100

Report Date: 11.24.2020
Date Received: 06.10.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH01**
Lab Sample Id: 664100-001

Matrix: Soil
Date Collected: 06.10.2020 13:07

Date Received: 06.10.2020 16:47
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3128747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	183	9.96	mg/kg	06.11.2020 16:32		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 06.11.2020 16:50

% Moisture:
Basis: Wet Weight

Seq Number: 3128764

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	06.11.2020 16:52	
o-Terphenyl	84-15-1	82	%	70-135	06.11.2020 16:52	



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH01**
Lab Sample Id: 664100-001

Matrix: Soil
Date Collected: 06.10.2020 13:07

Date Received: 06.10.2020 16:47
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 10:33

% Moisture:
Basis: Wet Weight

Seq Number: 3128753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.11.2020 13:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.11.2020 13:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.11.2020 13:24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.11.2020 13:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.11.2020 13:24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.11.2020 13:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.11.2020 13:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	06.11.2020 13:24	
4-Bromofluorobenzene	460-00-4	95	%	70-130	06.11.2020 13:24	



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH01A**
Lab Sample Id: 664100-002

Matrix: Soil
Date Collected: 06.10.2020 13:19

Date Received: 06.10.2020 16:47
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3128747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	126	10.1	mg/kg	06.11.2020 16:53		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 06.11.2020 16:50

% Moisture:
Basis: Wet Weight

Seq Number: 3128769

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	06.11.2020 16:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	06.11.2020 16:52	
o-Terphenyl	84-15-1	99	%	70-135	06.11.2020 16:52	



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH01A**
Lab Sample Id: 664100-002

Matrix: Soil
Date Collected: 06.10.2020 13:19

Date Received: 06.10.2020 16:47
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 10:33

% Moisture:
Basis: Wet Weight

Seq Number: 3128753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	06.11.2020 13:45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	06.11.2020 13:45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	06.11.2020 13:45	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	06.11.2020 13:45	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	06.11.2020 13:45	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	06.11.2020 13:45	U	1
Total BTEX		<0.00202	0.00202	mg/kg	06.11.2020 13:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	06.11.2020 13:45		
1,4-Difluorobenzene	540-36-3	109	%	70-130	06.11.2020 13:45		



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH02**
Lab Sample Id: 664100-003

Matrix: Soil
Date Collected: 06.10.2020 13:58

Date Received: 06.10.2020 16:47
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3128747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.4	10.1	mg/kg	06.11.2020 17:00		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 06.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3128764

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.11.2020 17:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.11.2020 17:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.11.2020 17:53	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	06.11.2020 17:53	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.11.2020 17:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	06.11.2020 17:53	
o-Terphenyl	84-15-1	77	%	70-135	06.11.2020 17:53	



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH02**
Lab Sample Id: 664100-003

Matrix: Soil
Date Collected: 06.10.2020 13:58

Date Received: 06.10.2020 16:47
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 10:33

% Moisture:
Basis: Wet Weight

Seq Number: 3128753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.11.2020 14:05	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.11.2020 14:05	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.11.2020 14:05	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.11.2020 14:05	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.11.2020 14:05	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.11.2020 14:05	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.11.2020 14:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.11.2020 14:05		
4-Bromofluorobenzene	460-00-4	95	%	70-130	06.11.2020 14:05		



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH02A**
Lab Sample Id: 664100-004

Matrix: Soil
Date Collected: 06.10.2020 14:04

Date Received: 06.10.2020 16:47
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3128747

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	297	10.1	mg/kg	06.11.2020 17:07		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 06.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3128764

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	06.11.2020 18:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	06.11.2020 18:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	06.11.2020 18:13	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	06.11.2020 18:13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	06.11.2020 18:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	06.11.2020 18:13	
o-Terphenyl	84-15-1	75	%	70-135	06.11.2020 18:13	



Certificate of Analytical Results 664100

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH02A**
Lab Sample Id: 664100-004

Matrix: Soil
Date Collected: 06.10.2020 14:04

Date Received: 06.10.2020 16:47
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 06.11.2020 10:33

% Moisture:
Basis: Wet Weight

Seq Number: 3128753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.11.2020 14:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.11.2020 14:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.11.2020 14:26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.11.2020 14:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.11.2020 14:26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.11.2020 14:26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.11.2020 14:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.11.2020 14:26		
1,4-Difluorobenzene	540-36-3	111	%	70-130	06.11.2020 14:26		

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



WSP USA
PLU PC 28 Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3128747

Matrix: Solid

Prep Method: E300P

Date Prep: 06.11.2020

MB Sample Id: 7705314-1-BLK

LCS Sample Id: 7705314-1-BKS

LCSD Sample Id: 7705314-1-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	243	97	249	100	90-110	2	20	mg/kg	06.11.2020 16:18	

Analytical Method: Chloride by EPA 300

Seq Number: 3128747

Matrix: Soil

Prep Method: E300P

Date Prep: 06.11.2020

Parent Sample Id: 664100-001

MS Sample Id: 664100-001 S

MSD Sample Id: 664100-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	183	200	383	100	384	101	90-110	0	20	mg/kg	06.11.2020 16:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3128747

Matrix: Soil

Prep Method: E300P

Date Prep: 06.11.2020

Parent Sample Id: 664140-005

MS Sample Id: 664140-005 S

MSD Sample Id: 664140-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21000	200	21200	100	21200	100	90-110	0	20	mg/kg	06.11.2020 18:17	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128764

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.11.2020

MB Sample Id: 7705320-1-BLK

LCS Sample Id: 7705320-1-BKS

LCSD Sample Id: 7705320-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1020	102	979	98	70-135	4	35	mg/kg	06.11.2020 14:40	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1030	103	70-135	1	35	mg/kg	06.11.2020 14:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		110		105		70-135	%	06.11.2020 14:40
o-Terphenyl	93		94		96		70-135	%	06.11.2020 14:40

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128769

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.11.2020

MB Sample Id: 7705315-1-BLK

LCS Sample Id: 7705315-1-BKS

LCSD Sample Id: 7705315-1-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	1100	110	1100	110	70-135	0	35	mg/kg	06.11.2020 14:40	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1150	115	70-135	1	35	mg/kg	06.11.2020 14:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		135		132		70-135	%	06.11.2020 14:40
o-Terphenyl	116		121		121		70-135	%	06.11.2020 14:40

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

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

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

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



WSP USA
PLU PC 28 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128764

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.11.2020

MB Sample Id: 7705320-1-BLK

Parameter

	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.11.2020 14:20	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128769

Matrix: Solid

Prep Method: SW8015P

Date Prep: 06.11.2020

MB Sample Id: 7705315-1-BLK

Parameter

	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	06.11.2020 14:20	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128764

Matrix: Soil

Prep Method: SW8015P

Date Prep: 06.11.2020

Parent Sample Id: 664100-001

MS Sample Id: 664100-001 S

MSD Sample Id: 664100-001 SD

Parameter

	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	924	93	934	93	70-135	1	35	mg/kg	06.11.2020 17:12	
Diesel Range Organics (DRO)	<49.8	996	993	100	982	98	70-135	1	35	mg/kg	06.11.2020 17:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		91		70-135	%	06.11.2020 17:12
o-Terphenyl	81		79		70-135	%	06.11.2020 17:12

Analytical Method: TPH by SW8015 Mod

Seq Number: 3128769

Matrix: Soil

Prep Method: SW8015P

Date Prep: 06.11.2020

Parent Sample Id: 664100-002

MS Sample Id: 664100-002 S

MSD Sample Id: 664100-002 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)	<50.1	1000	1080	108	1090	109	70-135	1	35	mg/kg	06.11.2020 17:12	
Diesel Range Organics (DRO)	<50.1	1000	1110	111	1150	115	70-135	4	35	mg/kg	06.11.2020 17:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		119		70-135	%	06.11.2020 17:12
o-Terphenyl	103		105		70-135	%	06.11.2020 17:12

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

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

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

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



WSP USA
PLU PC 28 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3128753

Matrix: Solid

Prep Method: SW5035A

Date Prep: 06.11.2020

MB Sample Id: 7705310-1-BLK

LCS Sample Id: 7705310-1-BKS

LCSD Sample Id: 7705310-1-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	0.105	105	70-130	0	35	mg/kg	06.11.2020 18:09	
Toluene	<0.00200	0.100	0.100	100	0.0997	100	70-130	0	35	mg/kg	06.11.2020 18:09	
Ethylbenzene	<0.00200	0.100	0.0944	94	0.0941	94	71-129	0	35	mg/kg	06.11.2020 18:09	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.194	97	70-135	0	35	mg/kg	06.11.2020 18:09	
o-Xylene	<0.00200	0.100	0.0986	99	0.0980	98	71-133	1	35	mg/kg	06.11.2020 18:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		104		102		70-130	%	06.11.2020 18:09
4-Bromofluorobenzene	96		94		89		70-130	%	06.11.2020 18:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3128753

Matrix: Soil

Prep Method: SW5035A

Date Prep: 06.11.2020

Parent Sample Id: 664100-001

MS Sample Id: 664100-001 S

MSD Sample Id: 664100-001 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	0.115	115	0.0991	99	70-130	15	35	mg/kg	06.11.2020 12:23	
Toluene	<0.00200	0.0998	0.106	106	0.0951	95	70-130	11	35	mg/kg	06.11.2020 12:23	
Ethylbenzene	<0.00200	0.0998	0.0938	94	0.0903	90	71-129	4	35	mg/kg	06.11.2020 12:23	
m,p-Xylenes	<0.00399	0.200	0.193	97	0.186	93	70-135	4	35	mg/kg	06.11.2020 12:23	
o-Xylene	<0.00200	0.0998	0.0974	98	0.0935	94	71-133	4	35	mg/kg	06.11.2020 12:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		100		70-130	%	06.11.2020 12:23
4-Bromofluorobenzene	96		93		70-130	%	06.11.2020 12:23

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

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

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

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



Chain of Custody

Work Order No:

664100

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

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LI Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 701-2610	Email:	dmoir@lienv.com mcafee@lienv.com

Program: ☐ UST/ST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund State of Project: NM	
Reporting Level: ☐ Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	PLU PC 28 Battery	Turn Around	☒
Project Number:	012919281	Rush:	☒
P.O. Number:		Due Date:	
Sampler's Name:	Robert McAfee		

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	2.6/8.4	Thermometer ID				
Received Intact:	Yes	No	Correction Factor: -0.2			
Cooler Custody Seals:	Yes	No	N/A	Total Containers:		
Sample Custody Seals:	Yes	No	N/A	4		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E	BTEX (	Chloride	Sample Comments										
BH01	S	06/10/20	1307	1'	1	X	X	X	discrete ↓										
BH01A			1319	4'	1	X	X	X											
BH02			1358	1'		X	X	X											
BH02A	↑	↑	1404	3'	↑	X	X	X											
BPM																			

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	Ti	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	Ti	U												
Office: 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
<i>Robert McAfee</i>	<i>[Signature]</i>	6/10/20 16:47			
		2			
		4			
		6			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06.10.2020 04.47.00 PM

Work Order #: 664100

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 06.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 06.11.2020

Certificate of Analysis Summary 667224

WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery

Project Id: 012918281

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 07.15.2020 09:30

Report Date: 11.24.2020 09:40

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	667224-001	667224-002				
	Field Id:	BH03	BH03A				
	Depth:	1.5- ft	6- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	07.13.2020 09:28	07.13.2020 09:47				
BTEX by EPA 8021B	Extracted:	07.15.2020 12:37	07.15.2020 12:37				
	Analyzed:	07.15.2020 16:36	07.15.2020 16:57				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00202 0.00202	<0.00200 0.00200				
	Toluene	<0.00202 0.00202	<0.00200 0.00200				
	Ethylbenzene	<0.00202 0.00202	<0.00200 0.00200				
	m,p-Xylenes	<0.00403 0.00403	<0.00400 0.00400				
	o-Xylene	<0.00202 0.00202	<0.00200 0.00200				
	Total Xylenes	<0.00202 0.00202	<0.00200 0.00200				
	Total BTEX	<0.00202 0.00202	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	07.15.2020 16:02	07.15.2020 16:02				
	Analyzed:	07.15.2020 17:41	07.15.2020 17:47				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	195 10.1	788 10.1				
TPH by SW8015 Mod	Extracted:	07.15.2020 11:15	07.15.2020 11:15				
	Analyzed:	07.15.2020 14:14	07.15.2020 14:35				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<49.9 49.9	<50.2 50.2				
	Diesel Range Organics (DRO)	<49.9 49.9	<50.2 50.2				
	Motor Oil Range Hydrocarbons (MRO)	<49.9 49.9	<50.2 50.2				
	Total GRO-DRO	<49.9 49.9	<50.2 50.2				
	Total TPH	<49.9 49.9	<50.2 50.2				

BRL - Below Reporting Limit

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





Analytical Report 667224

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery

012918281

11.24.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **667224**

PLU PC 28 Battery

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 Eurofins Xenco, LLC Report Number(s) 667224. 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 Eurofins Xenco, LLC. 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. 667224 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 667224

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH03	S	07.13.2020 09:28	1.5 ft	667224-001
BH03A	S	07.13.2020 09:47	6 ft	667224-002



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28 Battery

Project ID: 012918281
Work Order Number(s): 667224

Report Date: 11.24.2020
Date Received: 07.15.2020

Sample receipt non conformances and comments:

V1.001 revision (client email) Changed samples IDs

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 667224

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH03**
Lab Sample Id: 667224-001

Matrix: Soil
Date Collected: 07.13.2020 09:28

Date Received: 07.15.2020 09:30
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 07.15.2020 16:02

% Moisture:
Basis: Wet Weight

Seq Number: 3131770

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	195	10.1	mg/kg	07.15.2020 17:41		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 07.15.2020 11:15

% Moisture:
Basis: Wet Weight

Seq Number: 3131775

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.15.2020 14:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.15.2020 14:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.15.2020 14:14	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	07.15.2020 14:14	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.15.2020 14:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	07.15.2020 14:14	
o-Terphenyl	84-15-1	101	%	70-135	07.15.2020 14:14	



Certificate of Analytical Results 667224

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH03**
Lab Sample Id: 667224-001

Matrix: Soil
Date Collected: 07.13.2020 09:28

Date Received: 07.15.2020 09:30
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 07.15.2020 12:37

% Moisture:
Basis: Wet Weight

Seq Number: 3131767

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.15.2020 16:36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.15.2020 16:36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.15.2020 16:36	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.15.2020 16:36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.15.2020 16:36	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.15.2020 16:36	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.15.2020 16:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.15.2020 16:36	
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.15.2020 16:36	



Certificate of Analytical Results 667224

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH03A**
Lab Sample Id: 667224-002

Matrix: Soil
Date Collected: 07.13.2020 09:47

Date Received: 07.15.2020 09:30
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 07.15.2020 16:02

% Moisture:
Basis: Wet Weight

Seq Number: 3131770

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	788	10.1	mg/kg	07.15.2020 17:47		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 07.15.2020 11:15

% Moisture:
Basis: Wet Weight

Seq Number: 3131775

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	07.15.2020 14:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	07.15.2020 14:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	07.15.2020 14:35	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	07.15.2020 14:35	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	07.15.2020 14:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.15.2020 14:35	
o-Terphenyl	84-15-1	107	%	70-135	07.15.2020 14:35	



Certificate of Analytical Results 667224

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **BH03A**
Lab Sample Id: 667224-002

Matrix: Soil
Date Collected: 07.13.2020 09:47

Date Received: 07.15.2020 09:30
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 07.15.2020 12:37

% Moisture:
Basis: Wet Weight

Seq Number: 3131767

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.2020 16:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.2020 16:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.2020 16:57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.15.2020 16:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.2020 16:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.2020 16:57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.2020 16:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.15.2020 16:57	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.15.2020 16:57	

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



WSP USA
PLU PC 28 Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3131770

MB Sample Id: 7707423-1-BLK

Matrix: Solid

LCS Sample Id: 7707423-1-BKS

Prep Method: E300P

Date Prep: 07.15.2020

LCSD Sample Id: 7707423-1-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	253	101	264	106	90-110	4	20	mg/kg	07.15.2020 16:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3131770

Parent Sample Id: 667020-001

Matrix: Soil

MS Sample Id: 667020-001 S

Prep Method: E300P

Date Prep: 07.15.2020

MSD Sample Id: 667020-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	200	209	105	208	104	90-110	0	20	mg/kg	07.15.2020 16:51	

Analytical Method: Chloride by EPA 300

Seq Number: 3131770

Parent Sample Id: 667339-001

Matrix: Soil

MS Sample Id: 667339-001 S

Prep Method: E300P

Date Prep: 07.15.2020

MSD Sample Id: 667339-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	382	200	587	103	586	103	90-110	0	20	mg/kg	07.15.2020 18:09	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3131775

MB Sample Id: 7707420-1-BLK

Matrix: Solid

LCS Sample Id: 7707420-1-BKS

Prep Method: SW8015P

Date Prep: 07.15.2020

LCSD Sample Id: 7707420-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1020	102	1010	101	70-135	1	35	mg/kg	07.15.2020 10:48	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1050	105	70-135	5	35	mg/kg	07.15.2020 10:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		109		110		70-135	%	07.15.2020 10:48
o-Terphenyl	102		105		103		70-135	%	07.15.2020 10:48

Analytical Method: TPH by SW8015 Mod

Seq Number: 3131775

Matrix: Solid

MB Sample Id: 7707420-1-BLK

Prep Method: SW8015P

Date Prep: 07.15.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	07.15.2020 10:27	

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

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

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

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



WSP USA

PLU PC 28 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3131775

Parent Sample Id: 667020-001

Matrix: Soil

MS Sample Id: 667020-001 S

Prep Method: SW8015P

Date Prep: 07.15.2020

MSD Sample Id: 667020-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	871	87	880	88	70-135	1	35	mg/kg	07.15.2020 11:50	
Diesel Range Organics (DRO)	<50.1	1000	1030	103	1020	102	70-135	1	35	mg/kg	07.15.2020 11:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		113		70-135	%	07.15.2020 11:50
o-Terphenyl	112		109		70-135	%	07.15.2020 11:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3131767

MB Sample Id: 7707425-1-BLK

Matrix: Solid

LCS Sample Id: 7707425-1-BKS

Prep Method: SW5035A

Date Prep: 07.15.2020

LCSD Sample Id: 7707425-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.114	114	70-130	3	35	mg/kg	07.15.2020 12:27	
Toluene	<0.00200	0.100	0.105	105	0.108	108	70-130	3	35	mg/kg	07.15.2020 12:27	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.102	102	71-129	2	35	mg/kg	07.15.2020 12:27	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.207	104	70-135	2	35	mg/kg	07.15.2020 12:27	
o-Xylene	<0.00200	0.100	0.0972	97	0.101	101	71-133	4	35	mg/kg	07.15.2020 12:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		101		70-130	%	07.15.2020 12:27
4-Bromofluorobenzene	94		98		102		70-130	%	07.15.2020 12:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3131767

Parent Sample Id: 667020-001

Matrix: Soil

MS Sample Id: 667020-001 S

Prep Method: SW5035A

Date Prep: 07.15.2020

MSD Sample Id: 667020-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.124	124	0.118	117	70-130	5	35	mg/kg	07.15.2020 13:10	
Toluene	<0.00201	0.100	0.117	117	0.114	113	70-130	3	35	mg/kg	07.15.2020 13:10	
Ethylbenzene	<0.00201	0.100	0.108	108	0.106	105	71-129	2	35	mg/kg	07.15.2020 13:10	
m,p-Xylenes	<0.00402	0.201	0.217	108	0.212	105	70-135	2	35	mg/kg	07.15.2020 13:10	
o-Xylene	<0.00201	0.100	0.106	106	0.104	103	71-133	2	35	mg/kg	07.15.2020 13:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		70-130	%	07.15.2020 13:10
4-Bromofluorobenzene	101		100		70-130	%	07.15.2020 13:10

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

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 505-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 233-3333
Hobbs, NM (575) 392-7550

Work Order No: 007229

Page 1 of 1

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Chain of Custody

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 701-2610	Email:	dmoir@ltenv.com rmcatfee@ltenv.com

Work Order Comments			
Program: UST/PST	☐ PRP	☐ Brownfields	☐ RC ☐ Superfund
State of Project:	NM		
Reporting Level I	☐ Level III	☐ PST/UST	☐ RRP ☐ Level IV
Deliverables: EDD	☐	ADAPT	☐ Other:

[illegible][illegible]

Circle Method(s) and Metal(s) to be analyzed	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 SiO ₂ Na Sr II Sn U V Zn	8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471 : Hg
TCLP / SPLP 6010: 8RCRA		

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 \$9 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
		7/15/20 09:30			

Printed/Type: 05/4/18 Date: 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07.15.2020 09.30.00 AM

Work Order #: 667224

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 07.15.2020

Checklist reviewed by:



Jessica Kramer

Date: 07.16.2020

Certificate of Analysis Summary 645818



LT Environmental, Inc., Arvada, CO

Project Name: PLU PC 28 Fed Battery

Project Id: 012919281

Date Received in Lab: Tue 12.10.2019 16:45

Contact: Dan Moir

Report Date: 11.24.2020 12:11

Project Location:

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645818-001	645818-002	645818-003	645818-004		
	<i>Field Id:</i>	FS02	FS01	FS05	FS03		
	<i>Depth:</i>	1- ft	1- ft	1- ft	1- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	12.10.2019 10:35	12.10.2019 10:50	12.10.2019 13:10	12.10.2019 13:20		
BTEX by EPA 8021B	<i>Extracted:</i>	12.10.2019 19:43	12.10.2019 19:43	12.10.2019 19:43	12.10.2019 19:43		
	<i>Analyzed:</i>	12.11.2019 01:48	12.11.2019 02:07	12.11.2019 02:26	12.11.2019 02:45		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		0.144 0.0998	5.18 0.198	2.89 0.199	1.57 0.200		
Toluene		4.96 0.200	34.4 0.198	57.2 D 0.994	20.2 0.200		
Ethylbenzene		3.56 0.200	10.4 0.198	19.0 0.199	6.94 0.200		
m,p-Xylenes		15.1 0.399	45.5 0.395	104 D 1.99	30.1 0.400		
o-Xylene		8.39 0.200	15.8 0.198	28.8 0.199	11.9 0.200		
Total Xylenes		23.5 0.200	61.3 0.198	133 0.199	42.0 0.200		
Total BTEX		32.2 0.0998	111 0.198	212 0.199	70.7 0.200		
Chloride by EPA 300	<i>Extracted:</i>	12.10.2019 17:44	12.10.2019 17:44	12.10.2019 17:44	12.10.2019 17:44		
	<i>Analyzed:</i>	12.10.2019 23:44	12.11.2019 00:04	12.11.2019 00:11	12.11.2019 00:17		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		2190 49.5	7400 49.9	2150 50.0	4440 49.7		
TPH by SW8015 Mod	<i>Extracted:</i>	12.10.2019 16:45	12.10.2019 17:00	12.10.2019 17:00	12.10.2019 17:00		
	<i>Analyzed:</i>	12.11.2019 12:52	12.11.2019 08:26	12.11.2019 13:12	12.11.2019 08:46		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		1160 251	1930 49.9	3920 250	1330 49.8		
Diesel Range Organics (DRO)		5540 251	4540 49.9	9910 250	2770 49.8		
Motor Oil Range Hydrocarbons (MRO)		551 251	340 49.9	747 250	220 49.8		
Total GRO-DRO		6700 251	6470 49.9	13800 250	4100 49.8		
Total TPH		7250 251	6810 49.9	14600 250	4320 49.8		

BRL - Below Reporting Limit

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



Environment Testing
Xenco

Analytical Report 645818

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU PC 28 Fed Battery

012919281

11.24.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **645818**

PLU PC 28 Fed Battery

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 Eurofins Xenco, LLC Report Number(s) 645818. 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 Eurofins Xenco, LLC. 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. 645818 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02	S	12.10.2019 10:35	1 ft	645818-001
FS01	S	12.10.2019 10:50	1 ft	645818-002
FS05	S	12.10.2019 13:10	1 ft	645818-003
FS03	S	12.10.2019 13:20	1 ft	645818-004

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU PC 28 Fed Battery**Project ID: 012919281
Work Order Number(s): 645818Report Date: 11.24.2020
Date Received: 12.10.2019**Sample receipt non conformances and comments:**

Per clients email, corrected samples as follows below. New version generated JK 12/18/19

FS03 --> FS04

FS04 --> FS05

V1.002 REVISION - CORRECTED SAMPLE IDS**Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3110075 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3110172 TPH by SW8015 Mod

Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 645694-014 SD.



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS02** Matrix: Soil Date Received: 12.10.2019 16:45
 Lab Sample Id: 645818-001 Date Collected: 12.10.2019 10:35 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.10.2019 17:44 % Moisture:
 Seq Number: 3110096 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2190	49.5	mg/kg	12.10.2019 23:44		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 12.10.2019 16:45 % Moisture:
 Seq Number: 3110172 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1160	251	mg/kg	12.11.2019 12:52		5
Diesel Range Organics (DRO)	C10C28DRO	5540	251	mg/kg	12.11.2019 12:52		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	551	251	mg/kg	12.11.2019 12:52		5
Total GRO-DRO	PHC628	6700	251	mg/kg	12.11.2019 12:52		5
Total TPH	PHC635	7250	251	mg/kg	12.11.2019 12:52		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	12.11.2019 12:52	
o-Terphenyl	84-15-1	110	%	70-135	12.11.2019 12:52	



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS02**
Lab Sample Id: 645818-001

Matrix: Soil
Date Collected: 12.10.2019 10:35

Date Received: 12.10.2019 16:45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2019 19:43

% Moisture:
Basis: Wet Weight

Seq Number: 3110075

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.144	0.0998	mg/kg	12.11.2019 01:48		100
Toluene	108-88-3	4.96	0.200	mg/kg	12.11.2019 01:48		100
Ethylbenzene	100-41-4	3.56	0.200	mg/kg	12.11.2019 01:48		100
m,p-Xylenes	179601-23-1	15.1	0.399	mg/kg	12.11.2019 01:48		100
o-Xylene	95-47-6	8.39	0.200	mg/kg	12.11.2019 01:48		100
Total Xylenes	1330-20-7	23.5	0.200	mg/kg	12.11.2019 01:48		100
Total BTEX		32.2	0.0998	mg/kg	12.11.2019 01:48		100
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.11.2019 01:48		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2019 01:48		



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS01** Matrix: Soil Date Received: 12.10.2019 16:45
 Lab Sample Id: 645818-002 Date Collected: 12.10.2019 10:50 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.10.2019 17:44 % Moisture:
 Seq Number: 3110096 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7400	49.9	mg/kg	12.11.2019 00:04		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 12.10.2019 17:00 % Moisture:
 Seq Number: 3110188 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1930	49.9	mg/kg	12.11.2019 08:26		1
Diesel Range Organics (DRO)	C10C28DRO	4540	49.9	mg/kg	12.11.2019 08:26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	340	49.9	mg/kg	12.11.2019 08:26		1
Total GRO-DRO	PHC628	6470	49.9	mg/kg	12.11.2019 08:26		1
Total TPH	PHC635	6810	49.9	mg/kg	12.11.2019 08:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	12.11.2019 08:26	
o-Terphenyl	84-15-1	111	%	70-135	12.11.2019 08:26	



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS01**
Lab Sample Id: 645818-002

Matrix: Soil
Date Collected: 12.10.2019 10:50

Date Received: 12.10.2019 16:45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2019 19:43

% Moisture:
Basis: Wet Weight

Seq Number: 3110075

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	5.18	0.198	mg/kg	12.11.2019 02:07		100
Toluene	108-88-3	34.4	0.198	mg/kg	12.11.2019 02:07		100
Ethylbenzene	100-41-4	10.4	0.198	mg/kg	12.11.2019 02:07		100
m,p-Xylenes	179601-23-1	45.5	0.395	mg/kg	12.11.2019 02:07		100
o-Xylene	95-47-6	15.8	0.198	mg/kg	12.11.2019 02:07		100
Total Xylenes	1330-20-7	61.3	0.198	mg/kg	12.11.2019 02:07		100
Total BTEX		111	0.198	mg/kg	12.11.2019 02:07		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.11.2019 02:07	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.11.2019 02:07	



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS05** Matrix: Soil Date Received: 12.10.2019 16:45
 Lab Sample Id: 645818-003 Date Collected: 12.10.2019 13:10 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.10.2019 17:44 % Moisture:
 Seq Number: 3110096 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2150	50.0	mg/kg	12.11.2019 00:11		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 12.10.2019 17:00 % Moisture:
 Seq Number: 3110188 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	3920	250	mg/kg	12.11.2019 13:12		5
Diesel Range Organics (DRO)	C10C28DRO	9910	250	mg/kg	12.11.2019 13:12		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	747	250	mg/kg	12.11.2019 13:12		5
Total GRO-DRO	PHC628	13800	250	mg/kg	12.11.2019 13:12		5
Total TPH	PHC635	14600	250	mg/kg	12.11.2019 13:12		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.11.2019 13:12	
o-Terphenyl	84-15-1	134	%	70-135	12.11.2019 13:12	



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS05**
Lab Sample Id: 645818-003

Matrix: Soil
Date Collected: 12.10.2019 13:10

Date Received: 12.10.2019 16:45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2019 19:43

% Moisture:
Basis: Wet Weight

Seq Number: 3110075

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	2.89	0.199	mg/kg	12.11.2019 02:26		100
Toluene	108-88-3	57.2	0.994	mg/kg	12.11.2019 13:03	D	500
Ethylbenzene	100-41-4	19.0	0.199	mg/kg	12.11.2019 02:26		100
m,p-Xylenes	179601-23-1	104	1.99	mg/kg	12.11.2019 13:03	D	500
o-Xylene	95-47-6	28.8	0.199	mg/kg	12.11.2019 02:26		100
Total Xylenes	1330-20-7	133	0.199	mg/kg	12.11.2019 13:03		500
Total BTEX		212	0.199	mg/kg	12.11.2019 13:03		500

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.11.2019 02:26	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.2019 02:26	



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS03** Matrix: Soil Date Received: 12.10.2019 16:45
 Lab Sample Id: 645818-004 Date Collected: 12.10.2019 13:20 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.10.2019 17:44 % Moisture:
 Seq Number: 3110096 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4440	49.7	mg/kg	12.11.2019 00:17		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 12.10.2019 17:00 % Moisture:
 Seq Number: 3110188 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1330	49.8	mg/kg	12.11.2019 08:46		1
Diesel Range Organics (DRO)	C10C28DRO	2770	49.8	mg/kg	12.11.2019 08:46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	220	49.8	mg/kg	12.11.2019 08:46		1
Total GRO-DRO	PHC628	4100	49.8	mg/kg	12.11.2019 08:46		1
Total TPH	PHC635	4320	49.8	mg/kg	12.11.2019 08:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	12.11.2019 08:46	
o-Terphenyl	84-15-1	95	%	70-135	12.11.2019 08:46	



Certificate of Analytical Results 645818

LT Environmental, Inc., Arvada, CO

PLU PC 28 Fed Battery

Sample Id: **FS03**
Lab Sample Id: 645818-004

Matrix: Soil
Date Collected: 12.10.2019 13:20

Date Received: 12.10.2019 16:45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2019 19:43

% Moisture:
Basis: Wet Weight

Seq Number: 3110075

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	1.57	0.200	mg/kg	12.11.2019 02:45		100
Toluene	108-88-3	20.2	0.200	mg/kg	12.11.2019 02:45		100
Ethylbenzene	100-41-4	6.94	0.200	mg/kg	12.11.2019 02:45		100
m,p-Xylenes	179601-23-1	30.1	0.400	mg/kg	12.11.2019 02:45		100
o-Xylene	95-47-6	11.9	0.200	mg/kg	12.11.2019 02:45		100
Total Xylenes	1330-20-7	42.0	0.200	mg/kg	12.11.2019 02:45		100
Total BTEX		70.7	0.200	mg/kg	12.11.2019 02:45		100
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.11.2019 02:45		
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.2019 02:45		

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



LT Environmental, Inc.

PLU PC 28 Fed Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3110096

MB Sample Id: 7692149-1-BLK

Matrix: Solid

LCS Sample Id: 7692149-1-BKS

Prep Method: E300P

Date Prep: 12.10.2019

LCSD Sample Id: 7692149-1-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	270	108	268	107	90-110	1	20	mg/kg	12.10.2019 22:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3110096

Parent Sample Id: 645819-001

Matrix: Soil

MS Sample Id: 645819-001 S

Prep Method: E300P

Date Prep: 12.10.2019

MSD Sample Id: 645819-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1060	201	1250	95	1220	80	90-110	2	20	mg/kg	12.10.2019 23:10	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110172

MB Sample Id: 7692181-1-BLK

Matrix: Solid

LCS Sample Id: 7692181-1-BKS

Prep Method: SW8015P

Date Prep: 12.10.2019

LCSD Sample Id: 7692181-1-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)	<13.9	1000	1180	118	1050	105	70-135	12	35	mg/kg	12.11.2019 07:46	
Diesel Range Organics (DRO)	17.5	1000	1270	127	1220	122	70-135	4	35	mg/kg	12.11.2019 07:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		133		131		70-135	%	12.11.2019 07:46
o-Terphenyl	116		129		131		70-135	%	12.11.2019 07:46

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110188

MB Sample Id: 7692151-1-BLK

Matrix: Solid

LCS Sample Id: 7692151-1-BKS

Prep Method: SW8015P

Date Prep: 12.10.2019

LCSD Sample Id: 7692151-1-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	1010	101	910	91	70-135	10	35	mg/kg	12.11.2019 07:46	
Diesel Range Organics (DRO)	<50.0	1000	895	90	866	87	70-135	3	35	mg/kg	12.11.2019 07:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	79		102		95		70-135	%	12.11.2019 07:46
o-Terphenyl	82		94		94		70-135	%	12.11.2019 07:46

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110172

Matrix: Solid

MB Sample Id: 7692181-1-BLK

Prep Method: SW8015P

Date Prep: 12.10.2019

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2019 07:26	

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

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

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

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



LT Environmental, Inc.
PLU PC 28 Fed Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110188

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.10.2019

MB Sample Id: 7692151-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

12.11.2019 15:38

Flag**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3110172

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.10.2019

Parent Sample Id: 645694-014

MS Sample Id: 645694-014 S

MSD Sample Id: 645694-014 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<13.9

**Spike
Amount**

1000

**MS
Result**

966

**MS
%Rec**

97

**MSD
Result**

1120

**MSD
%Rec**

113

Limits

70-135

%RPD

15

**RPD
Limit**

35

Units

mg/kg

**Analysis
Date**

12.11.2019 14:53

Flag

Diesel Range Organics (DRO)

47.7

1000

1040

99

1220

118

70-135

16

35

mg/kg

12.11.2019 14:53

Surrogate

1-Chlorooctane

**MS
%Rec**

122

**MS
Flag****MSD
%Rec**

137

**MSD
Flag**

**

Limits

70-135

Units

%

**Analysis
Date**

12.11.2019 14:53

o-Terphenyl

114

140

**

70-135

%

12.11.2019 14:53

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110188

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.10.2019

Parent Sample Id: 645825-001

MS Sample Id: 645825-001 S

MSD Sample Id: 645825-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<49.9

**Spike
Amount**

997

**MS
Result**

906

**MS
%Rec**

91

**MSD
Result**

862

**MSD
%Rec**

86

Limits

70-135

%RPD

5

**RPD
Limit**

35

Units

mg/kg

**Analysis
Date**

12.11.2019 08:06

Flag

Diesel Range Organics (DRO)

<49.9

997

839

84

755

76

70-135

11

35

mg/kg

12.11.2019 08:06

Surrogate

1-Chlorooctane

**MS
%Rec**

97

**MS
Flag****MSD
%Rec**

90

**MSD
Flag****Limits**

70-135

Units

%

**Analysis
Date**

12.11.2019 08:06

o-Terphenyl

96

85

70-135

%

12.11.2019 08:06

Analytical Method: BTEX by EPA 8021B

Seq Number: 3110075

Matrix: Solid

Prep Method: SW5030B

Date Prep: 12.10.2019

MB Sample Id: 7692122-1-BLK

LCS Sample Id: 7692122-1-BKS

LCSD Sample Id: 7692122-1-BSD

Parameter

Benzene

**MB
Result**

<0.00200

**Spike
Amount**

0.100

**LCS
Result**

0.0900

**LCS
%Rec**

90

**LCSD
Result**

0.0860

**LCSD
%Rec**

86

Limits

70-130

%RPD

5

**RPD
Limit**

35

Units

mg/kg

**Analysis
Date**

12.10.2019 23:09

Flag

Toluene

<0.00200

0.100

0.0903

90

0.0806

81

70-130

11

35

mg/kg

12.10.2019 23:09

Ethylbenzene

<0.00200

0.100

0.0882

88

0.0716

72

71-129

21

35

mg/kg

12.10.2019 23:09

m,p-Xylenes

<0.00400

0.200

0.186

93

0.144

72

70-135

25

35

mg/kg

12.10.2019 23:09

o-Xylene

<0.00200

0.100

0.0945

95

0.0763

76

71-133

21

35

mg/kg

12.10.2019 23:09

Surrogate

1,4-Difluorobenzene

**MB
%Rec**

99

**MB
Flag****LCS
%Rec**

103

**LCS
Flag****LCSD
%Rec**

103

**LCSD
Flag****Limits**

70-130

Units

%

**Analysis
Date**

12.10.2019 23:09

4-Bromofluorobenzene

109

115

117

70-130

%

12.10.2019 23:09

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

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

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

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



LT Environmental, Inc.

PLU PC 28 Fed Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3110075

Parent Sample Id: 645698-010

Matrix: Soil

MS Sample Id: 645698-010 S

Prep Method: SW5030B

Date Prep: 12.10.2019

MSD Sample Id: 645698-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0788	79	0.0808	81	70-130	3	35	mg/kg	12.10.2019 23:47	
Toluene	<0.00200	0.100	0.0773	77	0.0745	75	70-130	4	35	mg/kg	12.10.2019 23:47	
Ethylbenzene	<0.00200	0.100	0.0714	71	0.0763	77	71-129	7	35	mg/kg	12.10.2019 23:47	
m,p-Xylenes	<0.00401	0.200	0.150	75	0.150	75	70-135	0	35	mg/kg	12.10.2019 23:47	
o-Xylene	<0.00200	0.100	0.0769	77	0.0765	77	71-133	1	35	mg/kg	12.10.2019 23:47	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		70-130	%	12.10.2019 23:47
4-Bromofluorobenzene	120		115		70-130	%	12.10.2019 23:47

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

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

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

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



Chain of Custody

Work Order No:

045818

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 Crashtad, 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

Page 1 of 1

Project Manager:	Don Moir	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc.	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3101 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Corbado, NM 88220
Phone:	(432) 236-3649	Email:	sl0@xenco.com, dmoir@xenco.com

Project Name:	Plu PC 28 Fed Battery	Turn Around	☐
Project Number:	01219281	Routine	☐
Project Location:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temperature (°C):	Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No	ANALYSIS REQUEST	Preservative Codes
	Received intact:	Thermometer ID					
	Cooler Custody Seals:	Yes ☒ No ☐ N/A	Correction Factor:	T-1111-003 -0.2			
	Sample Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	4			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300)	Sample Comments
FS01		S	12-10-19	1035	1'	1	X	X	X	
FS02		S	12-10-19	1050	1'	1	X	X	X	
FS03		S	12-10-19	1310	1'	1	X	X	X	
FS04		S	12-10-19	1320	1'	1	X	X	X	

Total 200.7 / 6010 200.8 / 6020:

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

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 Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	12/10/19 10:45			



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/10/2019 04:45:00 PM

Work Order #: 645818

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist**Comments**

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 12/10/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/11/2019

Certificate of Analysis Summary 650483



WSP USA, Dallas, TX

Project Name: PLU PC 28

Project Id: 012919281

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue 01.28.2020 11:00

Report Date: 11.24.2020 12:09

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	650483-001	650483-002	650483-003	650483-004	650483-005	
	Field Id:	FS02	FS01	FS05	FS03	FS04	
	Depth:	1- ft	1- ft	1- ft	1- ft	1- ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	01.27.2020 14:30	01.27.2020 14:45	01.27.2020 15:00	01.27.2020 15:15	01.27.2020 15:30	
BTEX by EPA 8021B	Extracted:	01.28.2020 13:00	01.28.2020 13:00	01.28.2020 13:00	01.28.2020 13:00	01.28.2020 13:00	
	Analyzed:	01.28.2020 16:40	01.28.2020 18:37	01.28.2020 18:57	01.28.2020 17:01	01.28.2020 17:21	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.0833 0.0833	<0.0502 0.0502	0.956 0.200	0.0225 0.0208	0.0242 0.0208	
Toluene		<0.0833 0.0833	1.31 0.201	20.9 0.200	1.89 0.0833	2.08 0.0833	
Ethylbenzene		0.113 0.0833	1.02 0.201	10.1 0.200	1.88 0.0833	2.06 0.0833	
m,p-Xylenes		0.375 0.167	5.94 0.402	37.9 0.400	3.28 0.167	10.1 0.167	
o-Xylene		0.620 0.0833	2.98 0.201	15.7 0.200	4.52 0.0833	4.71 0.0833	
Total Xylenes		0.995 0.0833	8.92 0.201	53.6 0.200	7.80 0.0833	14.8 0.0833	
Total BTEX		1.11 0.0833	11.3 0.0502	85.6 0.200	11.6 0.0208	19.0 0.0208	
Chloride by EPA 300	Extracted:	01.28.2020 13:00	01.28.2020 13:00	01.28.2020 13:00	01.28.2020 13:00	01.28.2020 13:00	
	Analyzed:	01.28.2020 14:46	01.28.2020 14:51	01.28.2020 15:07	01.28.2020 15:12	01.28.2020 15:17	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		2900 49.7	3880 50.2	1070 49.9	1240 49.6	1780 50.1	
TPH by SW8015 Mod	Extracted:	01.28.2020 12:00	01.28.2020 12:00	01.28.2020 12:00	01.28.2020 12:00	01.28.2020 12:00	
	Analyzed:	01.28.2020 13:55	01.28.2020 14:15	01.28.2020 17:09	01.28.2020 14:35	01.28.2020 14:55	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		140 50.1	367 50.3	2660 251	970 50.2	686 50.3	
Diesel Range Organics (DRO)		1290 50.1	2190 50.3	8150 251	4340 50.2	3700 50.3	
Motor Oil Range Hydrocarbons (MRO)		97.8 50.1	150 50.3	608 251	455 50.2	458 50.3	
Total GRO-DRO		1430 50.1	2560 50.3	10800 251	5310 50.2	4390 50.3	
Total TPH		1530 50.1	2710 50.3	11400 251	5770 50.2	4840 50.3	

BRL - Below Reporting Limit

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



Analytical Report 650483

for

WSP USA

Project Manager: Dan Moir

PLU PC 28

012919281

11.24.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **650483**

PLU PC 28

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 Eurofins Xenco, LLC Report Number(s) 650483. 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 Eurofins Xenco, LLC. 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. 650483 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 650483****WSP USA, Dallas, TX**

PLU PC 28

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02	S	01.27.2020 14:30	1 ft	650483-001
FS01	S	01.27.2020 14:45	1 ft	650483-002
FS05	S	01.27.2020 15:00	1 ft	650483-003
FS03	S	01.27.2020 15:15	1 ft	650483-004
FS04	S	01.27.2020 15:30	1 ft	650483-005



CASE NARRATIVE

Client Name: WSP USA

Project Name: PLU PC 28

Project ID: 012919281
Work Order Number(s): 650483

Report Date: 11.24.2020
Date Received: 01.28.2020

Sample receipt non conformances and comments:

V1.001 REVISION - CORRECTED CLIENT AND SAMPLE ID

V1.002 REVISION - Corrected sample IDs

V1.003 REVISION - CORRECTED SAMPLE IDS

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3114753 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3114766 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 650483-003.



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS02**
Lab Sample Id: 650483-001

Matrix: Soil
Date Collected: 01.27.2020 14:30

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2900	49.7	mg/kg	01.28.2020 14:46		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 01.28.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114766

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	140	50.1	mg/kg	01.28.2020 13:55		1
Diesel Range Organics (DRO)	C10C28DRO	1290	50.1	mg/kg	01.28.2020 13:55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	97.8	50.1	mg/kg	01.28.2020 13:55		1
Total GRO-DRO	PHC628	1430	50.1	mg/kg	01.28.2020 13:55		1
Total TPH	PHC635	1530	50.1	mg/kg	01.28.2020 13:55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	01.28.2020 13:55	
o-Terphenyl	84-15-1	118	%	70-135	01.28.2020 13:55	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS02**
Lab Sample Id: 650483-001

Matrix: Soil
Date Collected: 01.27.2020 14:30

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0833	0.0833	mg/kg	01.28.2020 16:40	U	1
Toluene	108-88-3	<0.0833	0.0833	mg/kg	01.28.2020 16:40	U	1
Ethylbenzene	100-41-4	0.113	0.0833	mg/kg	01.28.2020 16:40		1
m,p-Xylenes	179601-23-1	0.375	0.167	mg/kg	01.28.2020 16:40		1
o-Xylene	95-47-6	0.620	0.0833	mg/kg	01.28.2020 16:40		1
Total Xylenes	1330-20-7	0.995	0.0833	mg/kg	01.28.2020 16:40		1
Total BTEX		1.11	0.0833	mg/kg	01.28.2020 16:40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.28.2020 16:40	
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.28.2020 16:40	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS01**
Lab Sample Id: 650483-002

Matrix: Soil
Date Collected: 01.27.2020 14:45

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3880	50.2	mg/kg	01.28.2020 14:51		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 01.28.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114766

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	367	50.3	mg/kg	01.28.2020 14:15		1
Diesel Range Organics (DRO)	C10C28DRO	2190	50.3	mg/kg	01.28.2020 14:15		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	150	50.3	mg/kg	01.28.2020 14:15		1
Total GRO-DRO	PHC628	2560	50.3	mg/kg	01.28.2020 14:15		1
Total TPH	PHC635	2710	50.3	mg/kg	01.28.2020 14:15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	01.28.2020 14:15	
o-Terphenyl	84-15-1	110	%	70-135	01.28.2020 14:15	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS01**
Lab Sample Id: 650483-002

Matrix: Soil
Date Collected: 01.27.2020 14:45

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0502	0.0502	mg/kg	01.28.2020 18:37	U	100
Toluene	108-88-3	1.31	0.201	mg/kg	01.28.2020 18:37		100
Ethylbenzene	100-41-4	1.02	0.201	mg/kg	01.28.2020 18:37		100
m,p-Xylenes	179601-23-1	5.94	0.402	mg/kg	01.28.2020 18:37		100
o-Xylene	95-47-6	2.98	0.201	mg/kg	01.28.2020 18:37		100
Total Xylenes	1330-20-7	8.92	0.201	mg/kg	01.28.2020 18:37		100
Total BTEX		11.3	0.0502	mg/kg	01.28.2020 18:37		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.28.2020 18:37	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.28.2020 18:37	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS05**
Lab Sample Id: 650483-003

Matrix: Soil
Date Collected: 01.27.2020 15:00

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1070	49.9	mg/kg	01.28.2020 15:07		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 01.28.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114766

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	2660	251	mg/kg	01.28.2020 17:09		5
Diesel Range Organics (DRO)	C10C28DRO	8150	251	mg/kg	01.28.2020 17:09		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	608	251	mg/kg	01.28.2020 17:09		5
Total GRO-DRO	PHC628	10800	251	mg/kg	01.28.2020 17:09		5
Total TPH	PHC635	11400	251	mg/kg	01.28.2020 17:09		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	150	%	70-135	01.28.2020 17:09	**
o-Terphenyl	84-15-1	121	%	70-135	01.28.2020 17:09	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS05**
Lab Sample Id: 650483-003

Matrix: Soil
Date Collected: 01.27.2020 15:00

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.956	0.200	mg/kg	01.28.2020 18:57		100
Toluene	108-88-3	20.9	0.200	mg/kg	01.28.2020 18:57		100
Ethylbenzene	100-41-4	10.1	0.200	mg/kg	01.28.2020 18:57		100
m,p-Xylenes	179601-23-1	37.9	0.400	mg/kg	01.28.2020 18:57		100
o-Xylene	95-47-6	15.7	0.200	mg/kg	01.28.2020 18:57		100
Total Xylenes	1330-20-7	53.6	0.200	mg/kg	01.28.2020 18:57		100
Total BTEX		85.6	0.200	mg/kg	01.28.2020 18:57		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.28.2020 18:57	
1,4-Difluorobenzene	540-36-3	95	%	70-130	01.28.2020 18:57	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS03**
Lab Sample Id: 650483-004

Matrix: Soil
Date Collected: 01.27.2020 15:15

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	49.6	mg/kg	01.28.2020 15:12		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 01.28.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114766

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	970	50.2	mg/kg	01.28.2020 14:35		1
Diesel Range Organics (DRO)	C10C28DRO	4340	50.2	mg/kg	01.28.2020 14:35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	455	50.2	mg/kg	01.28.2020 14:35		1
Total GRO-DRO	PHC628	5310	50.2	mg/kg	01.28.2020 14:35		1
Total TPH	PHC635	5770	50.2	mg/kg	01.28.2020 14:35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	01.28.2020 14:35	
o-Terphenyl	84-15-1	106	%	70-135	01.28.2020 14:35	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS03**
Lab Sample Id: 650483-004

Matrix: Soil
Date Collected: 01.27.2020 15:15

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0225	0.0208	mg/kg	01.28.2020 17:01		1
Toluene	108-88-3	1.89	0.0833	mg/kg	01.28.2020 17:01		1
Ethylbenzene	100-41-4	1.88	0.0833	mg/kg	01.28.2020 17:01		1
m,p-Xylenes	179601-23-1	3.28	0.167	mg/kg	01.28.2020 17:01		1
o-Xylene	95-47-6	4.52	0.0833	mg/kg	01.28.2020 17:01		1
Total Xylenes	1330-20-7	7.80	0.0833	mg/kg	01.28.2020 17:01		1
Total BTEX		11.6	0.0208	mg/kg	01.28.2020 17:01		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	01.28.2020 17:01		
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.28.2020 17:01		



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS04**
Lab Sample Id: 650483-005

Matrix: Soil
Date Collected: 01.27.2020 15:30

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114737

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1780	50.1	mg/kg	01.28.2020 15:17		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 01.28.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114766

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	686	50.3	mg/kg	01.28.2020 14:55		1
Diesel Range Organics (DRO)	C10C28DRO	3700	50.3	mg/kg	01.28.2020 14:55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	458	50.3	mg/kg	01.28.2020 14:55		1
Total GRO-DRO	PHC628	4390	50.3	mg/kg	01.28.2020 14:55		1
Total TPH	PHC635	4840	50.3	mg/kg	01.28.2020 14:55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	01.28.2020 14:55	
o-Terphenyl	84-15-1	105	%	70-135	01.28.2020 14:55	



Certificate of Analytical Results 650483

WSP USA, Dallas, TX

PLU PC 28

Sample Id: **FS04**
Lab Sample Id: 650483-005

Matrix: Soil
Date Collected: 01.27.2020 15:30

Date Received: 01.28.2020 11:00
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 01.28.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3114753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0242	0.0208	mg/kg	01.28.2020 17:21		1
Toluene	108-88-3	2.08	0.0833	mg/kg	01.28.2020 17:21		1
Ethylbenzene	100-41-4	2.06	0.0833	mg/kg	01.28.2020 17:21		1
m,p-Xylenes	179601-23-1	10.1	0.167	mg/kg	01.28.2020 17:21		1
o-Xylene	95-47-6	4.71	0.0833	mg/kg	01.28.2020 17:21		1
Total Xylenes	1330-20-7	14.8	0.0833	mg/kg	01.28.2020 17:21		1
Total BTEX		19.0	0.0208	mg/kg	01.28.2020 17:21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.28.2020 17:21	
4-Bromofluorobenzene	460-00-4	120	%	70-130	01.28.2020 17:21	

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



WSP USA

PLU PC 28

Analytical Method: Chloride by EPA 300

Seq Number: 3114737

MB Sample Id: 7695325-1-BLK

Matrix: Solid

LCS Sample Id: 7695325-1-BKS

Prep Method: E300P

Date Prep: 01.28.2020

LCSD Sample Id: 7695325-1-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	249	100	249	100	90-110	0	20	mg/kg	01.28.2020 13:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3114737

Parent Sample Id: 650282-006

Matrix: Soil

MS Sample Id: 650282-006 S

Prep Method: E300P

Date Prep: 01.28.2020

MSD Sample Id: 650282-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.6	200	215	98	209	95	90-110	3	20	mg/kg	01.28.2020 13:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3114737

Parent Sample Id: 650481-001

Matrix: Soil

MS Sample Id: 650481-001 S

Prep Method: E300P

Date Prep: 01.28.2020

MSD Sample Id: 650481-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.96	198	187	93	182	91	90-110	3	20	mg/kg	01.28.2020 14:24	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3114766

MB Sample Id: 7695384-1-BLK

Matrix: Solid

LCS Sample Id: 7695384-1-BKS

Prep Method: SW8015P

Date Prep: 01.28.2020

LCSD Sample Id: 7695384-1-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	1230	123	1240	124	70-135	1	35	mg/kg	01.28.2020 10:37	
Diesel Range Organics (DRO)	<50.0	1000	1190	119	1190	119	70-135	0	35	mg/kg	01.28.2020 10:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		116		118		70-135	%	01.28.2020 10:37
o-Terphenyl	117		110		105		70-135	%	01.28.2020 10:37

Analytical Method: TPH by SW8015 Mod

Seq Number: 3114766

Matrix: Solid

MB Sample Id: 7695384-1-BLK

Prep Method: SW8015P

Date Prep: 01.28.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.28.2020 12:34	

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

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

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

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



WSP USA

PLU PC 28

Analytical Method: TPH by SW8015 Mod

Seq Number: 3114766

Parent Sample Id: 650479-001

Matrix: Soil

MS Sample Id: 650479-001 S

Prep Method: SW8015P

Date Prep: 01.28.2020

MSD Sample Id: 650479-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1060	106	1030	103	70-135	3	35	mg/kg	01.28.2020 12:54	
Diesel Range Organics (DRO)	<50.1	1000	1050	105	1040	104	70-135	1	35	mg/kg	01.28.2020 12:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		127		70-135	%	01.28.2020 12:54
o-Terphenyl	124		121		70-135	%	01.28.2020 12:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3114753

MB Sample Id: 7695397-1-BLK

Matrix: Solid

LCS Sample Id: 7695397-1-BKS

Prep Method: SW5030B

Date Prep: 01.28.2020

LCSD Sample Id: 7695397-1-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	0.0928	93	0.0917	92	70-130	1	35	mg/kg	01.28.2020 12:56	
Toluene	<0.00200	0.100	0.0906	91	0.0886	89	70-130	2	35	mg/kg	01.28.2020 12:56	
Ethylbenzene	<0.00200	0.100	0.0859	86	0.0845	85	71-129	2	35	mg/kg	01.28.2020 12:56	
m,p-Xylenes	<0.00400	0.200	0.177	89	0.174	87	70-135	2	35	mg/kg	01.28.2020 12:56	
o-Xylene	<0.00200	0.100	0.0888	89	0.0870	87	71-133	2	35	mg/kg	01.28.2020 12:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		102		70-130	%	01.28.2020 12:56
4-Bromofluorobenzene	95		96		95		70-130	%	01.28.2020 12:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3114753

Parent Sample Id: 650479-001

Matrix: Soil

MS Sample Id: 650479-001 S

Prep Method: SW5030B

Date Prep: 01.28.2020

MSD Sample Id: 650479-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.121	122	70-130	9	35	mg/kg	01.28.2020 13:37	
Toluene	<0.00200	0.100	0.108	108	0.117	118	70-130	8	35	mg/kg	01.28.2020 13:37	
Ethylbenzene	<0.00200	0.100	0.104	104	0.112	113	71-129	7	35	mg/kg	01.28.2020 13:37	
m,p-Xylenes	<0.00400	0.200	0.212	106	0.230	116	70-135	8	35	mg/kg	01.28.2020 13:37	
o-Xylene	<0.00200	0.100	0.105	105	0.114	115	71-133	8	35	mg/kg	01.28.2020 13:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		70-130	%	01.28.2020 13:37
4-Bromofluorobenzene	100		97		70-130	%	01.28.2020 13:37

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

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

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

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



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
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-1111
Hobbs, NM (575-392-7550)

Chain of Custody

Work Order No: 1050483

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
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:	slo@ltenv.com , dmoir@ltenv.com

Work Order Comments	
Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project: Reporting: Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	

ANALYSIS REQUEST

Work Order Notes

Project Name:	PLU PC 28	Turn Around
Project Number:	012919281	Routine ☐
P.O. Number:		Rush: 24H
Sampler's Name:	Spencer LO	Due Date:

SAMPLE RECEIPT	Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	0.4	Thermometer ID		
Received Intact:	☒ Yes ☐ No	Correction Factor:		
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:		
Sample Custody Seals:	Yes ☒ No ☐	5		

[illegible][illegible]

Total	200.7 / 6010	200.8 / 6020:	
8RCRA	13PPM	lexas	11
SD	AS	Ba	Be
Da	De	B	Cu
Ca	Cl	Cu	Ca
Co	Cr	Co	Cr
Pb	Mn	Mo	Ni
Se	As	At	Il
U			
1631 / 245.1 / 7470	1631 / 245.1 / 7470	1631 / 245.1 / 7471	1631 / 245.1 / 7471 : Hg

[illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xencio, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencio 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 Xencio. A charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xencio, 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
		1/28/20 11:00			

Revised Date 05/14/18 Rev. 2018B

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.28.2020 11.00.00 AM

Work Order #: 650483

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 01.28.2020

Checklist reviewed by:



Jessica Kramer

Date: 01.29.2020

Certificate of Analysis Summary 657559



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery

Project Id: 012919281

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 04.01.2020 10:10

Report Date: 11.19.2020 14:41

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657559-001	657559-002	657559-003	657559-004	657559-005	657559-006
	<i>Field Id:</i>	FS01A	FS02A	FS03A	FS04A	SW01	SW02
	<i>Depth:</i>	1.5-2 ft	1.5-2 ft	1.5-3 ft	3-6 ft	0-2 ft	0-6 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.31.2020 09:20	03.31.2020 09:40	03.31.2020 10:00	03.31.2020 10:10	03.31.2020 12:10	03.31.2020 12:30
BTEX by EPA 8021B	<i>Extracted:</i>	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 17:49	04.04.2020 17:49	04.04.2020 17:49	04.04.2020 17:49
	<i>Analyzed:</i>	04.05.2020 11:32	04.05.2020 11:52	04.05.2020 03:42	04.05.2020 05:04	04.05.2020 05:24	04.05.2020 05:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00402 0.00402	0.00426 0.00403	<0.00400 0.00400	<0.00404 0.00404	<0.00400 0.00400	<0.00403 0.00403
o-Xylene		<0.00201 0.00201	0.0155 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Total Xylenes		<0.00201 0.00201	0.0198 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Total BTEX		<0.00201 0.00201	0.0198 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19
	<i>Analyzed:</i>	04.06.2020 20:26	04.06.2020 20:32	04.06.2020 20:37	04.06.2020 20:43	04.06.2020 20:59	04.06.2020 21:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		5640 49.5	4900 49.8	50.8 9.88	69.0 9.96	136 10.0	52.0 9.92
TPH by SW8015 Mod SUB: T104704400-20-21	<i>Extracted:</i>	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00
	<i>Analyzed:</i>	04.03.2020 22:58	04.04.2020 00:04	04.04.2020 00:26	04.04.2020 00:47	04.04.2020 01:09	04.04.2020 01:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8
Diesel Range Organics (DRO)		1640 50.0	1370 49.8	89.3 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		185 50.0	176 49.8	<50.0 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8
Total GRO-DRO		1640 50.0	1370 49.8	89.3 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8
Total TPH		1830 50.0	1550 49.8	89.3 50.0	<50.0 50.0	<50.0 50.0	<49.8 49.8

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 657559



WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery

Project Id: 012919281

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 04.01.2020 10:10

Report Date: 11.19.2020 14:41

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657559-007	657559-008	657559-009	657559-010	657559-011	657559-012
	<i>Field Id:</i>	SW03	PH04	PH04A	PH04B	PH05	PH05A
	<i>Depth:</i>	0-2 ft	2- ft	4- ft	6- ft	2- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	03.31.2020 12:45	03.31.2020 13:00	03.31.2020 13:20	03.31.2020 13:30	03.31.2020 13:50	03.31.2020 14:00
BTEX by EPA 8021B	<i>Extracted:</i>	04.04.2020 17:49	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46	04.04.2020 16:46
	<i>Analyzed:</i>	04.05.2020 06:05	04.05.2020 05:04	04.05.2020 05:25	04.05.2020 05:45	04.05.2020 06:06	04.05.2020 06:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00404 0.00404	<0.00404 0.00404	<0.00397 0.00397	<0.00402 0.00402	<0.00400 0.00400	<0.00401 0.00401
o-Xylene		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19	04.05.2020 16:19
	<i>Analyzed:</i>	04.06.2020 21:21	04.06.2020 21:27	04.06.2020 21:32	04.06.2020 21:38	04.06.2020 21:43	04.06.2020 21:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		21.5 9.98	345 9.98	258 9.96	526 9.98	374 9.90	382 9.88
TPH by SW8015 Mod SUB: T104704400-20-21	<i>Extracted:</i>	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 15:00	04.03.2020 13:00	04.03.2020 13:00
	<i>Analyzed:</i>	04.04.2020 01:53	04.04.2020 02:15	04.04.2020 02:37	04.04.2020 02:59	04.03.2020 20:26	04.03.2020 20:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	58.7 50.0	<49.9 49.9	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<49.9 49.9	<50.0 50.0	<49.9 49.9	<50.0 50.0
Total GRO-DRO		<50.0 50.0	<49.8 49.8	<49.9 49.9	58.7 50.0	<49.9 49.9	<50.0 50.0
Total TPH		<50.0 50.0	<49.8 49.8	<49.9 49.9	58.7 50.0	<49.9 49.9	<50.0 50.0

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 657559

WSP USA, Dallas, TX

Project Name: PLU PC 28 Battery

Project Id: 012919281

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 04.01.2020 10:10

Report Date: 11.19.2020 14:41

Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 657559-013 Field Id: PH05B Depth: 6- ft Matrix: SOIL Sampled: 03.31.2020 14:20					
BTEX by EPA 8021B	Extracted: 04.04.2020 16:46 Analyzed: 04.05.2020 06:46 Units/RL: mg/kg RL					
Benzene	<0.00198 0.00198					
Toluene	<0.00198 0.00198					
Ethylbenzene	<0.00198 0.00198					
m,p-Xylenes	<0.00396 0.00396					
o-Xylene	<0.00198 0.00198					
Total Xylenes	<0.00198 0.00198					
Total BTEX	<0.00198 0.00198					
Chloride by EPA 300	Extracted: 04.05.2020 16:19 Analyzed: 04.06.2020 21:54 Units/RL: mg/kg RL					
Chloride	199 10.0					
TPH by SW8015 Mod SUB: T104704400-20-21	Extracted: 04.03.2020 13:00 Analyzed: 04.03.2020 21:10 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<50.0 50.0					
Diesel Range Organics (DRO)	<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)	<50.0 50.0					
Total GRO-DRO	<50.0 50.0					
Total TPH	<50.0 50.0					

BRL - Below Reporting Limit

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





Analytical Report 657559

for

WSP USA

Project Manager: Dan Moir

PLU PC 28 Battery

012919281

11.19.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.19.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **657559**

PLU PC 28 Battery

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 Eurofins Xenco, LLC Report Number(s) 657559. 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 Eurofins Xenco, LLC. 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. 657559 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 657559****WSP USA, Dallas, TX**

PLU PC 28 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01A	S	03.31.2020 09:20	1.5 - 2 ft	657559-001
FS02A	S	03.31.2020 09:40	1.5 - 2 ft	657559-002
FS03A	S	03.31.2020 10:00	1.5 - 3 ft	657559-003
FS04A	S	03.31.2020 10:10	3 - 6 ft	657559-004
SW01	S	03.31.2020 12:10	0 - 2 ft	657559-005
SW02	S	03.31.2020 12:30	0 - 6 ft	657559-006
SW03	S	03.31.2020 12:45	0 - 2 ft	657559-007
PH04	S	03.31.2020 13:00	2 ft	657559-008
PH04A	S	03.31.2020 13:20	4 ft	657559-009
PH04B	S	03.31.2020 13:30	6 ft	657559-010
PH05	S	03.31.2020 13:50	2 ft	657559-011
PH05A	S	03.31.2020 14:00	4 ft	657559-012
PH05B	S	03.31.2020 14:20	6 ft	657559-013

**CASE NARRATIVE****Client Name: WSP USA****Project Name: PLU PC 28 Battery**Project ID: 012919281
Work Order Number(s): 657559Report Date: 11.19.2020
Date Received: 04.01.2020**Sample receipt non conformances and comments:**

V1.001 Revision (client email) Corrected sample names as follows

FS06 --> FS01

FS07--> FS02

FS08 --> FS03

FS09 --> FS04

V1.002 Revision (client email) Updated project number and PO

V1.003 Revision (client email) Changed client name and sample IDs

FS01 ¿ FS01A

FS02 ¿ FS02A

FS03 ¿ FS03A

FS04 ¿ FS04A

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3121964 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3121965 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS01A**
Lab Sample Id: 657559-001

Matrix: Soil
Date Collected: 03.31.2020 09:20

Date Received: 04.01.2020 10:10
Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5640	49.5	mg/kg	04.06.2020 20:26		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 22:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	1640	50.0	mg/kg	04.03.2020 22:58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	185	50.0	mg/kg	04.03.2020 22:58		1
Total GRO-DRO	PHC628	1640	50.0	mg/kg	04.03.2020 22:58		1
Total TPH	PHC635	1830	50.0	mg/kg	04.03.2020 22:58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	04.03.2020 22:58	
o-Terphenyl	84-15-1	124	%	70-130	04.03.2020 22:58	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS01A**
Lab Sample Id: 657559-001

Matrix: Soil
Date Collected: 03.31.2020 09:20

Date Received: 04.01.2020 10:10
Sample Depth: 1.5 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.2020 11:32	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.2020 11:32	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.2020 11:32	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.2020 11:32	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.2020 11:32	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.2020 11:32	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.2020 11:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.05.2020 11:32		
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.05.2020 11:32		



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS02A**
Lab Sample Id: 657559-002

Matrix: Soil
Date Collected: 03.31.2020 09:40

Date Received: 04.01.2020 10:10
Sample Depth: 1.5 - 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4900	49.8	mg/kg	04.06.2020 20:32		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.04.2020 00:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	1370	49.8	mg/kg	04.04.2020 00:04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	176	49.8	mg/kg	04.04.2020 00:04		1
Total GRO-DRO	PHC628	1370	49.8	mg/kg	04.04.2020 00:04		1
Total TPH	PHC635	1550	49.8	mg/kg	04.04.2020 00:04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-130	04.04.2020 00:04	
o-Terphenyl	84-15-1	105	%	70-130	04.04.2020 00:04	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS02A**
Lab Sample Id: 657559-002

Matrix: Soil
Date Collected: 03.31.2020 09:40

Date Received: 04.01.2020 10:10
Sample Depth: 1.5 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 11:52	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 11:52	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 11:52	U	1
m,p-Xylenes	179601-23-1	0.00426	0.00403	mg/kg	04.05.2020 11:52		1
o-Xylene	95-47-6	0.0155	0.00202	mg/kg	04.05.2020 11:52		1
Total Xylenes	1330-20-7	0.0198	0.00202	mg/kg	04.05.2020 11:52		1
Total BTEX		0.0198	0.00202	mg/kg	04.05.2020 11:52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.05.2020 11:52	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.05.2020 11:52	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS03A**
Lab Sample Id: 657559-003

Matrix: Soil
Date Collected: 03.31.2020 10:00

Date Received: 04.01.2020 10:10
Sample Depth: 1.5 - 3 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.8	9.88	mg/kg	04.06.2020 20:37		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 00:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	89.3	50.0	mg/kg	04.04.2020 00:26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 00:26	U	1
Total GRO-DRO	PHC628	89.3	50.0	mg/kg	04.04.2020 00:26		1
Total TPH	PHC635	89.3	50.0	mg/kg	04.04.2020 00:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	04.04.2020 00:26	
o-Terphenyl	84-15-1	106	%	70-130	04.04.2020 00:26	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS03A**
Lab Sample Id: 657559-003

Matrix: Soil
Date Collected: 03.31.2020 10:00

Date Received: 04.01.2020 10:10
Sample Depth: 1.5 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 17:49

% Moisture:
Basis: Wet Weight

Seq Number: 3121965

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.2020 03:42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.05.2020 03:42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.2020 03:42	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.05.2020 03:42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.05.2020 03:42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.05.2020 03:42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.05.2020 03:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.05.2020 03:42	
4-Bromofluorobenzene	460-00-4	91	%	70-130	04.05.2020 03:42	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS04A**
Lab Sample Id: 657559-004

Matrix: Soil
Date Collected: 03.31.2020 10:10

Date Received: 04.01.2020 10:10
Sample Depth: 3 - 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	69.0	9.96	mg/kg	04.06.2020 20:43		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 00:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-130	04.04.2020 00:47	
o-Terphenyl	84-15-1	107	%	70-130	04.04.2020 00:47	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **FS04A**
Lab Sample Id: 657559-004

Matrix: Soil
Date Collected: 03.31.2020 10:10

Date Received: 04.01.2020 10:10
Sample Depth: 3 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 17:49

% Moisture:
Basis: Wet Weight

Seq Number: 3121965

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.05.2020 05:04	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.05.2020 05:04	
4-Bromofluorobenzene	460-00-4	91	%	70-130	04.05.2020 05:04	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **SW01**
Lab Sample Id: 657559-005

Matrix: Soil
Date Collected: 03.31.2020 12:10

Date Received: 04.01.2020 10:10
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	136	10.0	mg/kg	04.06.2020 20:59		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 01:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 01:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 01:09	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 01:09	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 01:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.04.2020 01:09	
o-Terphenyl	84-15-1	105	%	70-130	04.04.2020 01:09	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **SW01**
Lab Sample Id: 657559-005

Matrix: Soil
Date Collected: 03.31.2020 12:10

Date Received: 04.01.2020 10:10
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 17:49

% Moisture:
Basis: Wet Weight

Seq Number: 3121965

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.2020 05:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.05.2020 05:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.2020 05:24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.05.2020 05:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.05.2020 05:24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.05.2020 05:24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.05.2020 05:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.05.2020 05:24		
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.05.2020 05:24		



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **SW02**
Lab Sample Id: 657559-006

Matrix: Soil
Date Collected: 03.31.2020 12:30

Date Received: 04.01.2020 10:10
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.0	9.92	mg/kg	04.06.2020 21:05		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.04.2020 01:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.04.2020 01:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.04.2020 01:31	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.04.2020 01:31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.04.2020 01:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-130	04.04.2020 01:31	
o-Terphenyl	84-15-1	108	%	70-130	04.04.2020 01:31	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **SW02**
Lab Sample Id: 657559-006

Matrix: Soil
Date Collected: 03.31.2020 12:30

Date Received: 04.01.2020 10:10
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 17:49

% Moisture:
Basis: Wet Weight

Seq Number: 3121965

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 05:45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 05:45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 05:45	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.05.2020 05:45	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 05:45	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 05:45	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 05:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.05.2020 05:45	
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.05.2020 05:45	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **SW03**
Lab Sample Id: 657559-007

Matrix: Soil
Date Collected: 03.31.2020 12:45

Date Received: 04.01.2020 10:10
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.5	9.98	mg/kg	04.06.2020 21:21		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.04.2020 01:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 01:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 01:53	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.04.2020 01:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.04.2020 01:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	04.04.2020 01:53	
o-Terphenyl	84-15-1	104	%	70-130	04.04.2020 01:53	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **SW03**
Lab Sample Id: 657559-007

Matrix: Soil
Date Collected: 03.31.2020 12:45

Date Received: 04.01.2020 10:10
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 17:49

% Moisture:
Basis: Wet Weight

Seq Number: 3121965

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 06:05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 06:05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 06:05	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.05.2020 06:05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 06:05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 06:05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 06:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	116	%	70-130	04.05.2020 06:05		
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.05.2020 06:05		



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WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH04**
Lab Sample Id: 657559-008

Matrix: Soil
Date Collected: 03.31.2020 13:00

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	345	9.98	mg/kg	04.06.2020 21:27		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.04.2020 02:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.04.2020 02:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.04.2020 02:15	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.04.2020 02:15	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.04.2020 02:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	04.04.2020 02:15	
o-Terphenyl	84-15-1	118	%	70-130	04.04.2020 02:15	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH04**
Lab Sample Id: 657559-008

Matrix: Soil
Date Collected: 03.31.2020 13:00

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.05.2020 05:04	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.2020 05:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.2020 05:04	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.05.2020 05:04	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH04A**
Lab Sample Id: 657559-009

Matrix: Soil
Date Collected: 03.31.2020 13:20

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	258	9.96	mg/kg	04.06.2020 21:32		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.04.2020 02:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.04.2020 02:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.04.2020 02:37	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.04.2020 02:37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.04.2020 02:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-130	04.04.2020 02:37	
o-Terphenyl	84-15-1	101	%	70-130	04.04.2020 02:37	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH04A**
Lab Sample Id: 657559-009

Matrix: Soil
Date Collected: 03.31.2020 13:20

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.05.2020 05:25	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.05.2020 05:25	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.05.2020 05:25	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.05.2020 05:25	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.05.2020 05:25	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.05.2020 05:25	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.05.2020 05:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.2020 05:25	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.05.2020 05:25	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH04B**
Lab Sample Id: 657559-010

Matrix: Soil
Date Collected: 03.31.2020 13:30

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	526	9.98	mg/kg	04.06.2020 21:38		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 15:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122022

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	58.7	50.0	mg/kg	04.04.2020 02:59		1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.04.2020 02:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.04.2020 02:59	U	1
Total GRO-DRO	PHC628	58.7	50.0	mg/kg	04.04.2020 02:59		1
Total TPH	PHC635	58.7	50.0	mg/kg	04.04.2020 02:59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-130	04.04.2020 02:59	
o-Terphenyl	84-15-1	112	%	70-130	04.04.2020 02:59	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH04B**
Lab Sample Id: 657559-010

Matrix: Soil
Date Collected: 03.31.2020 13:30

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.2020 05:45	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.2020 05:45	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.2020 05:45	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.2020 05:45	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.2020 05:45	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.2020 05:45	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.2020 05:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.05.2020 05:45		
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.05.2020 05:45		



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH05**
Lab Sample Id: 657559-011

Matrix: Soil
Date Collected: 03.31.2020 13:50

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	374	9.90	mg/kg	04.06.2020 21:43		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 13:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122021

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.03.2020 20:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.03.2020 20:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.03.2020 20:26	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.03.2020 20:26	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.03.2020 20:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-130	04.03.2020 20:26	
o-Terphenyl	84-15-1	114	%	70-130	04.03.2020 20:26	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH05**
Lab Sample Id: 657559-011

Matrix: Soil
Date Collected: 03.31.2020 13:50

Date Received: 04.01.2020 10:10
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.2020 06:06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.05.2020 06:06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.2020 06:06	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.05.2020 06:06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.05.2020 06:06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.05.2020 06:06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.05.2020 06:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	04.05.2020 06:06	
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.05.2020 06:06	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH05A**
Lab Sample Id: 657559-012

Matrix: Soil
Date Collected: 03.31.2020 14:00

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	382	9.88	mg/kg	04.06.2020 21:49		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 13:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122021

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 20:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-130	04.03.2020 20:48	
o-Terphenyl	84-15-1	102	%	70-130	04.03.2020 20:48	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH05A**
Lab Sample Id: 657559-012

Matrix: Soil
Date Collected: 03.31.2020 14:00

Date Received: 04.01.2020 10:10
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.2020 06:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.05.2020 06:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.2020 06:26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.05.2020 06:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.05.2020 06:26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.05.2020 06:26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.05.2020 06:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.05.2020 06:26	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.05.2020 06:26	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH05B**
Lab Sample Id: 657559-013

Matrix: Soil
Date Collected: 03.31.2020 14:20

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 04.05.2020 16:19

% Moisture:
Basis: Wet Weight

Seq Number: 3122141

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	199	10.0	mg/kg	04.06.2020 21:54		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 04.03.2020 13:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3122021

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.03.2020 21:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.03.2020 21:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.03.2020 21:10	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.03.2020 21:10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.03.2020 21:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-130	04.03.2020 21:10	
o-Terphenyl	84-15-1	105	%	70-130	04.03.2020 21:10	



Certificate of Analytical Results 657559

WSP USA, Dallas, TX

PLU PC 28 Battery

Sample Id: **PH05B**
Lab Sample Id: 657559-013

Matrix: Soil
Date Collected: 03.31.2020 14:20

Date Received: 04.01.2020 10:10
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

Analyst: MAB

Date Prep: 04.04.2020 16:46

% Moisture:
Basis: Wet Weight

Seq Number: 3121964

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.05.2020 06:46	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.05.2020 06:46	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.05.2020 06:46	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	04.05.2020 06:46	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.05.2020 06:46	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.05.2020 06:46	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.05.2020 06:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.05.2020 06:46	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.05.2020 06:46	

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



WSP USA PLU PC 28 Battery

Analytical Method: Chloride by EPA 300

Seq Number: 3122141

MB Sample Id: 7700533-1-BLK

Matrix: Solid

LCS Sample Id: 7700533-1-BKS

Prep Method: E300P

Date Prep: 04.05.2020

LCSD Sample Id: 7700533-1-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	266	106	268	107	90-110	1	20	mg/kg	04.06.2020 19:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3122141

Parent Sample Id: 657559-004

Matrix: Soil

MS Sample Id: 657559-004 S

Prep Method: E300P

Date Prep: 04.05.2020

MSD Sample Id: 657559-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	69.0	200	282	107	283	107	90-110	0	20	mg/kg	04.06.2020 20:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3122141

Parent Sample Id: 657765-074

Matrix: Soil

MS Sample Id: 657765-074 S

Prep Method: E300P

Date Prep: 04.05.2020

MSD Sample Id: 657765-074 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	29.4	200	243	107	246	108	90-110	1	20	mg/kg	04.06.2020 19:32	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122021

MB Sample Id: 7700557-1-BLK

Matrix: Solid

LCS Sample Id: 7700557-1-BKS

Prep Method: SW8015P

Date Prep: 04.03.2020

LCSD Sample Id: 7700557-1-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	934	93	985	99	70-130	5	20	mg/kg	04.03.2020 12:21	
Diesel Range Organics (DRO)	<50.0	1000	980	98	1030	103	70-130	5	20	mg/kg	04.03.2020 12:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		99		104		70-130	%	04.03.2020 12:21
o-Terphenyl	121		115		112		70-130	%	04.03.2020 12:21

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122022

MB Sample Id: 7700560-1-BLK

Matrix: Solid

LCS Sample Id: 7700560-1-BKS

Prep Method: SW8015P

Date Prep: 04.03.2020

LCSD Sample Id: 7700560-1-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	957	96	1060	106	70-130	10	20	mg/kg	04.03.2020 22:15	
Diesel Range Organics (DRO)	<50.0	1000	1030	103	1150	115	70-130	11	20	mg/kg	04.03.2020 22:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		102		110		70-130	%	04.03.2020 22:15
o-Terphenyl	109		118		122		70-130	%	04.03.2020 22:15

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

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

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

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



WSP USA
PLU PC 28 Battery

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122021

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.03.2020

MB Sample Id: 7700557-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

04.03.2020 11:58

Flag**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3122022

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.03.2020

MB Sample Id: 7700560-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

**MB
Result**

<50.0

Units

mg/kg

**Analysis
Date**

04.03.2020 21:53

Flag**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3122021

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.03.2020

Parent Sample Id: 657364-041

MS Sample Id: 657364-041 S

MSD Sample Id: 657364-041 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<49.8

**Spike
Amount**

996

**MS
Result**

917

**MS
%Rec**

92

**MSD
Result**

1050

**MSD
%Rec**

105

Limits

70-130

%RPD

14

**RPD
Limit**

20

Units

mg/kg

**Analysis
Date**

04.03.2020 13:27

Flag

Diesel Range Organics (DRO)

<49.8

996

985

99

1140

114

70-130

15

20

mg/kg

04.03.2020 13:27

Surrogate

1-Chlorooctane

**MS
%Rec**

98

**MS
Flag****MSD
%Rec**

111

**MSD
Flag****Limits**

70-130

Units

%

**Analysis
Date**

04.03.2020 13:27

o-Terphenyl

106

125

70-130

%

04.03.2020 13:27

Analytical Method: TPH by SW8015 Mod

Seq Number: 3122022

Matrix: Soil

Prep Method: SW8015P

Date Prep: 04.03.2020

Parent Sample Id: 657559-001

MS Sample Id: 657559-001 S

MSD Sample Id: 657559-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

**Parent
Result**

<49.9

**Spike
Amount**

998

**MS
Result**

930

**MS
%Rec**

93

**MSD
Result**

912

**MSD
%Rec**

91

Limits

70-130

%RPD

2

**RPD
Limit**

20

Units

mg/kg

**Analysis
Date**

04.03.2020 23:20

Flag

Diesel Range Organics (DRO)

1640

998

2520

88

2490

85

70-130

1

20

mg/kg

04.03.2020 23:20

Surrogate

1-Chlorooctane

**MS
%Rec**

97

**MS
Flag****MSD
%Rec**

94

**MSD
Flag****Limits**

70-130

Units

%

**Analysis
Date**

04.03.2020 23:20

o-Terphenyl

92

92

70-130

%

04.03.2020 23:20

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

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

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

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



WSP USA
PLU PC 28 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121964

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.04.2020

MB Sample Id: 7700539-1-BLK

LCS Sample Id: 7700539-1-BKS

LCSD Sample Id: 7700539-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.107	107	70-130	4	35	mg/kg	04.05.2020 03:02	
Toluene	<0.00200	0.100	0.105	105	0.101	101	70-130	4	35	mg/kg	04.05.2020 03:02	
Ethylbenzene	<0.00200	0.100	0.0983	98	0.0945	95	71-129	4	35	mg/kg	04.05.2020 03:02	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.193	97	70-135	4	35	mg/kg	04.05.2020 03:02	
o-Xylene	<0.00200	0.100	0.103	103	0.0988	99	71-133	4	35	mg/kg	04.05.2020 03:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		105		70-130	%	04.05.2020 03:02
4-Bromofluorobenzene	95		91		91		70-130	%	04.05.2020 03:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121965

Matrix: Solid

Prep Method: SW5030B

Date Prep: 04.04.2020

MB Sample Id: 7700540-1-BLK

LCS Sample Id: 7700540-1-BKS

LCSD Sample Id: 7700540-1-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	0.117	117	0.116	116	70-130	1	35	mg/kg	04.04.2020 22:36	
Toluene	<0.00200	0.100	0.106	106	0.106	106	70-130	0	35	mg/kg	04.04.2020 22:36	
Ethylbenzene	<0.00200	0.100	0.0986	99	0.0978	98	71-129	1	35	mg/kg	04.04.2020 22:36	
m,p-Xylenes	<0.00400	0.200	0.191	96	0.190	95	70-135	1	35	mg/kg	04.04.2020 22:36	
o-Xylene	<0.00200	0.100	0.0987	99	0.0975	98	71-133	1	35	mg/kg	04.04.2020 22:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		109		109		70-130	%	04.04.2020 22:36
4-Bromofluorobenzene	91		84		84		70-130	%	04.04.2020 22:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121964

Matrix: Soil

Prep Method: SW5030B

Date Prep: 04.04.2020

Parent Sample Id: 657559-008

MS Sample Id: 657559-008 S

MSD Sample Id: 657559-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0941	93	0.0918	92	70-130	2	35	mg/kg	04.05.2020 04:03	
Toluene	<0.00202	0.101	0.0863	85	0.0860	86	70-130	0	35	mg/kg	04.05.2020 04:03	
Ethylbenzene	<0.00202	0.101	0.0792	78	0.0797	80	71-129	1	35	mg/kg	04.05.2020 04:03	
m,p-Xylenes	<0.00404	0.202	0.161	80	0.164	82	70-135	2	35	mg/kg	04.05.2020 04:03	
o-Xylene	<0.00202	0.101	0.0830	82	0.0830	83	71-133	0	35	mg/kg	04.05.2020 04:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	04.05.2020 04:03
4-Bromofluorobenzene	91		92		70-130	%	04.05.2020 04:03

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

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

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

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



WSP USA
PLU PC 28 Battery

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121965

Parent Sample Id: 657499-002

Matrix: Soil

MS Sample Id: 657499-002 S

Prep Method: SW5030B

Date Prep: 04.04.2020

MSD Sample Id: 657499-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.118	118	0.113	114	70-130	4	35	mg/kg	04.04.2020 23:17	
Toluene	<0.00199	0.0996	0.104	104	0.100	101	70-130	4	35	mg/kg	04.04.2020 23:17	
Ethylbenzene	<0.00199	0.0996	0.0944	95	0.0917	92	71-129	3	35	mg/kg	04.04.2020 23:17	
m,p-Xylenes	<0.00398	0.199	0.181	91	0.176	89	70-135	3	35	mg/kg	04.04.2020 23:17	
o-Xylene	<0.00199	0.0996	0.0952	96	0.0917	92	71-133	4	35	mg/kg	04.04.2020 23:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		70-130	%	04.04.2020 23:17
4-Bromofluorobenzene	86		85		70-130	%	04.04.2020 23:17

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

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

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

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



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
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 575-392-7550

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Chain of Custody

Work Order No: 00727

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 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	dbelill@ltenv.com

Work Order Comments									
Program: UST/PST ☐ PRP ☐ brownfields ☐ RC ☐ Superfund ☐									
State of Project:									
Reporting Level: I ☐ Level II ☐ Level III ☐ ST/UST ☐ PRP ☐ Level IV ☐									
Deliverables: EDD ☐ ADAPT ☐ Other:									

ANALYSIS REQUEST

Work Order Notes

Project Name:	PLU PC 28 Battery	Turn Around
Project Number:	012919 250	Routine ☒
P.O. Number:	28P-5697	Rush:
Sampler's Name:	Benjamin Beill	Due Date:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	1.0		☒				
Received In tact:	Yes No				Thermometer ID		
Cooler Custody Seals:	Yes No				Correction Factor:		
Sample Custody Seals:	Yes No				Total Containers:		

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (%)	BTEX	Chloride	Sample Comments
FS06	S	3/3/20	0920	1.5'-2'	1	X	X	X	Composite
FS07			0940	1.5'-2'					
FS08			1000	1.5'-3'					
FS09			1010	3'-6'					
SW01			1210	0-2'					Discrete
SW02			1230	0-6'					
SW03			1245	0-2'					
PH04			1300	2'					
PH04A			1320	4'					Discrete
PH04B			1330	6'					

Total	200.7 / 6010	200.8 / 6020:
-------	--------------	---------------

[illegible]

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

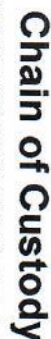
TCCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag I I U

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
1 		4/12/20 0943	2 		4/12/20 1010
3			4		
5			6		

Revised Date 05/11/18 Rev. 2011



Work Order No.:

15755

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
Midland, TX (432) 704-5440 El Paso, TX (915) 565-3443 Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 365-0900 Atlanta, GA (770) 449-8800 Tampa, FL (81

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Work Order Comments									
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐									
State of Project:									
Reporting: Level II ☐ Level III ☐ UST/UST ☐ RRP ☐ Level IV ☐									
Deliverables: EDD ☐ ADAPT ☐ Other:									

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

[illegible]

Total 200.7 / 6010 200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed
 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 Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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 		4/11/20 09:48	2 		4/11/20 10:10
3			4		
5			6		



Inter-Office Shipment

Page 1 of 1

IOS Number **61358**

Date/Time: 04/01/20 14:01

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
657559-001	S	FS06	03/31/20 09:20	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-002	S	FS07	03/31/20 09:40	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-003	S	FS08	03/31/20 10:00	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-004	S	FS09	03/31/20 10:10	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-005	S	SW01	03/31/20 12:10	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-006	S	SW02	03/31/20 12:30	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-007	S	SW03	03/31/20 12:45	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-008	S	PH04	03/31/20 13:00	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-009	S	PH04A	03/31/20 13:20	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-010	S	PH04B	03/31/20 13:30	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-011	S	PH05	03/31/20 13:50	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-012	S	PH05A	03/31/20 14:00	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	
657559-013	S	PH05B	03/31/20 14:20	SW8015MOD_NM	TPH by SW8015 Mod	04/07/20	04/14/20	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 04/01/2020

Received By:

Brianna Teel

Date Received: _____

Cooler Temperature: _____



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 61358

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Elizabeth McClellan

Date Sent: 04/01/2020 02:01 PM

Received By:

Date Received:

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	Yes
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: _____

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.01.2020 10.10.00 AM

Work Order #: 657559

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 04.01.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.02.2020

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 13003

CONDITIONS OF APPROVAL

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707		OGRID: 5380	Action Number: 13003	Action Type: C-141
OCD Reviewer	Condition			
chensley	The OCD needs further sampling of FS05 to a depth > 1 foot to ensure contaminants weren't left in place in the soil on closure report.			