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TALON LPE

Remediation and Closure Report

Cooter 16 State 1H Battery
Eddy County, New Mexico
2RP-5572

Prepared For:

Devon Energy Production Company
6488 Seven Rivers Hwy
Artesia, NM 88210

Prepared By:

TALON/LPE
408 W. Texas Avenue
Artesia, New Mexico 88210

April 29, 2020

Mr. Mike Bratcher
NMOCD District 2
811 S. 1st Street
Artesia, NM 88210

Subject: **Remediation and Closure Report**
Cooter 16 State 1H Battery
Eddy County, New Mexico
2RP-5572

Dear Mr. Bratcher,

Devon Energy Production Company (Devon Energy) has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above-referenced location. The incident description, soil sampling result, remedial action, and closure request is presented herein.

Site Information

The Cooter 16 State 1H Battery is located approximately twenty two (22) miles southeast of Malaga, New Mexico. The legal location for this release is Unit Letter N, Section 16, Township 25 South and Range 29 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.12360 North and -103.99290 West. A Site Map is presented in Appendix I.

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services, the soil in this area is made up of Potter-Simona Complex with 5 to 10 percent slopes, the reference soil data is presented in Appendix II. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology is Holocene to middle Pleistocene in age and is comprised of eolian sands and piedmont alluvial deposits. Drainage courses in this area are well drained.

Ground Water and Site Characterization

The New Mexico Office of the State Engineer Database indicates the nearest reported depth to groundwater is 30-feet below ground surface (BGS). See Appendix II for the referenced groundwater depth. This site is not located within a high Karst area.

If a release occurs within the following areas, the responsible party must treat the release as if it occurred less than 50 feet to the groundwater in Table I, New Mexico Oil Conservation Division (NMOCD) Rule 19.15.29 NMAC.

Approximate Depth to Groundwater	**30 Feet/BGS**
☐Yes ☒No	Within 300 feet of any continuously flowing watercourse or any other significant watercourse
☐Yes ☒No	Within 200 feet of any lakebed, sinkhole or a playa lake
☐Yes ☒No	Within 300 feet from an occupied permanent residence, school, hospital, institution or church
☐Yes ☒No	Within 500 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	Within 1000 feet of any freshwater well or spring
☐Yes ☒No	Within incorporated municipal boundaries or within a defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to Section 3-2703 NMSA 1978
☐Yes ☒No	Within 300 feet of a wetland
☐Yes ☒No	Within the area overlying a subsurface mine
☐Yes ☒No	Within an unstable area
☐Yes ☒No	Within a 100-year floodplain

Because the release did not occur in any of these areas and the depth to groundwater is greater than 100-feet deep, based on the site characterization data the clean up criteria for this site is as follows.

Table I
Closure Criteria for Soils Impacted by a Release

Depth below horizontal extents of release to ground water less than 10,000 mg/l TDS	Constituent	Method	Limit
≤ 50 feet	Total Chlorides	EPA 300.0 or SM4500 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

Incident Description

On July 19, 2019, a check valve on the water transfer pump malfunctioned causing it to backflow. Approximately 7.25 barrels (bbls) of produced water were released inside the engineered lined battery and 1 bbl of produced water were recovered. The site map is presented in Appendix I.

On February 25, 2020, Talon mobilized personnel to the site and conducted the liner inspection, taking photos for the record. Background samples around the battery were collected to ensure the integrity of the liner was not breached. No liner breaches were observed. Sample locations are shown on the attached site plan and the results of our sampling event are presented in the following data table.

Soil Sampling

2-27-20 Soil Sample Laboratory Results

Sample ID	Sample Date	Depth ft.(BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Cl mg/kg
NMOCD Table 1 Closure Criteria 19.15.29 NMAC			50 mg/kg	10 mg/kg	DRO + GRO combined = 100			100 mg/kg	600 mg/kg
N. Comp	2/25/2020	0-1'	ND	ND	25.2	21.8	ND	47	394
S. Comp-1	2/25/2020	0-1'	ND	ND	22.5	54.2	30.8	108	36.3
S. Comp-2	2/25/2020	0-1'	ND	ND	21.3	28.8	19.7	69.8	17.3
W. Comp-1	2/25/2020	0-1'	ND	ND	22.5	18.8	ND	41.3	48.5
W. Comp-2	2/25/2020	0-1'	ND	ND	25.6	40.4	23.5	89.5	58.4
E. Comp	2/25/2020	0-1'	ND	ND	ND	ND	ND	ND	10.2

ND-Analyte Not Detected

See Appendix V for the complete report of laboratory results.

Remedial Actions

- Stained Pea gravel was hand excavated from the interior of the lined area.
- No breaches were observed in exposed liner, photo documentation is presented in Appendix IV .
- Fresh Pea gravel was placed in lined area.

Closure

Based on this site characterization, liner inspection, and analytical results, we request that no further actions be required, and that closure with regard to the attached incident be granted.

Should you have any questions or if further information is required, please do not hesitate to contact our office at 575-746-8768.

Respectfully submitted,

TALON/LPE

Rebecca Pons

Rebecca Pons
Project Manager

David J Adkins

David J. Adkins
District Manager

Attachments:

Appendix I	Site Maps, Karst Map, TOPO Map
Appendix II	Groundwater Data, FEMA Flood Zone, Soil Survey
Appendix III	Initial and Final C-141's
Appendix IV	Photographic Documentation
Appendix V	Laboratory Results

APPENDIX I

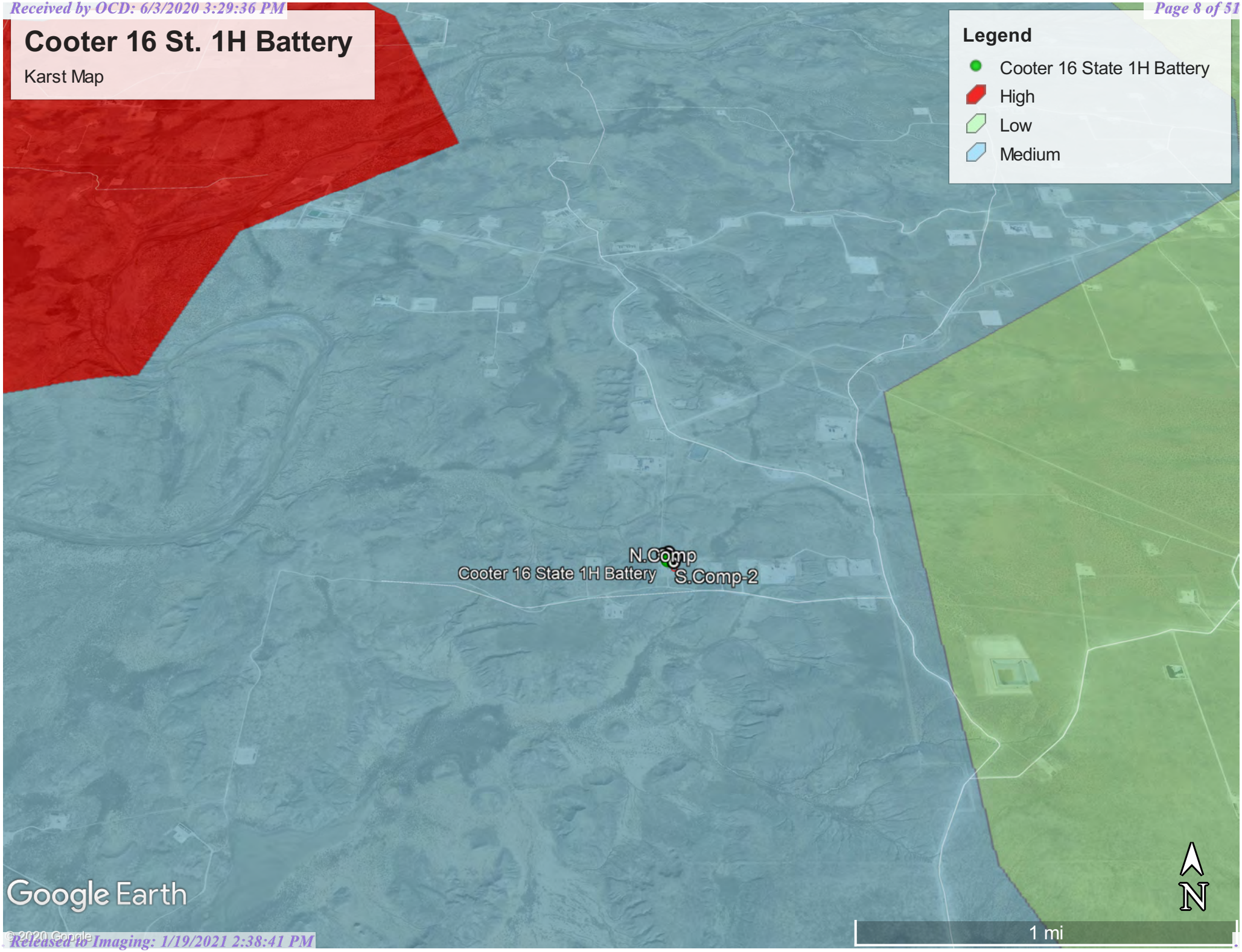
SITE MAPS

Cooter 16 St. 1H Battery

Sample Map

Cooter 16 St. 1H Battery

Karst Map



APPENDIX II

SOIL SURVEY,

GROUNDWATER DATA

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01337		C	ED		2	1	30	25S	29E	591926	3552642*	180	30	150
C 01880		C	ED	3	3	2	06	25S	29E	592161	3558605*	85	40	45
C 02371		C	ED		2	3	15	25S	29E	596741	3555106*	200	60	140
C 02459		C	ED	4	4	1	02	25S	29E	598422	3558663*	150		
C 02518		C	ED		3	4	08	25S	29E	593895	3556300*	462		
C 02680		CUB	ED		2	3	15	25S	29E	596741	3555106*	200		
C 04324 POD10		CUB	ED	1	1	1	09	25S	29E	594563	3557603	65	60	5
C 04324 POD11		CUB	ED	1	1	1	09	25S	29E	594576	3557619	61	61	0
C 04324 POD12		CUB	ED	2	2	2	08	25S	29E	594476	3557627	65	60	5
C 04324 POD6		CUB	ED	1	1	1	09	25S	29E	594538	3557657	62	61	1
C 04324 POD8		CUB	ED	4	4	4	05	25S	29E	594442	3557807	69	65	4
C 04324 POD9		CUB	ED	1	1	1	09	25S	29E	594590	3557676	72	62	10

Average Depth to Water: **55 feet**

Minimum Depth: **30 feet**

Maximum Depth: **65 feet**

Record Count: 12

PLSS Search:

Township: 25S **Range:** 29E

***UTM location was derived from PLSS - see Help**

Eddy Area, New Mexico

PS—Potter-Simona complex, 5 to 25 percent slopes

Map Unit Setting

National map unit symbol: 1w57
Elevation: 2,750 to 5,000 feet
Mean annual precipitation: 8 to 16 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Potter and similar soils: 80 percent
Simona and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Potter

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope
Landform position (three-dimensional): Side slope, crest, nose slope, head slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 10 inches: gravelly loam
H2 - 10 to 60 inches: cemented material

Properties and qualities

Slope: 5 to 25 percent
Depth to restrictive feature: About 10 inches to petrocalcic
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 60 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Very low (about 1.2 inches)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 15, Sep 15, 2019

APPENDIX III

C-141

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	NAB1922428005
District RP	2RP-5572
Facility ID	
Application ID	pAB1922427755

Release Notification PY7L3-190730-C-1410

Responsible Party

Responsible Party Devon Energy Production Company	OGRID 6137
Contact Name Amanda T. Davis	Contact Telephone 575-748-0176
Contact email amanda.davis@dvn.com	Incident # *(assigned by OCD)* NAB1922428005
Contact mailing address 6488 Seven Rivers HWY	

Location of Release Source

Latitude 32.12360 Longitude -103.99290
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Cooter 16 State 1H Battery **	Site Type Oil
Date Release Discovered 7/19/19	API# *(if applicable)* **30-015-37625 AB

Unit Letter	Section	Township	Range	County
N	16	25S	29E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 7.25	Volume Recovered (bbls) 1
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: The check valve on the water transfer pump malfunctioned and caused it to backflow. Spill stayed within dirt lined containment. Spill areas 32'x36'x1/2", 36'x4'x12".

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Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922428005
District RP	2RP-5572
Facility ID	
Application ID	pAB1922427755

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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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:

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: Kendra DeHoyos Title: EHS Associate

Signature: Kendra DeHoyos Date: 7/23/2019

email: kendra.dehoyos@dvn.com Telephone: 575-748-3371

OCD Only

Received by: Amalia Bustamante Date: 8/12/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922428005
District RP	2RP-5572
Facility ID	
Application ID	pAB1922427755

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?	30 (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
1. Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922428005
District RP	2RP-5572
Facility ID	
Application ID	pAB1922427755

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: Rebecca Pons Title: Project Manager

Signature: Rebecca Pons Date: 4/29/2020

email: Rpons@talonlpe.com Telephone: 575-441-0980

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922428005
District RP	2RP-5572
Facility ID	
Application ID	pAB1922427755

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: Rebecca Pons Title: Project Manager

Signature: Rebecca Pons Date: 4/29/2020

email: Rpons@ talonlpe.com Telephone: 575-441-0980

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922428005
District RP	2RP-5572
Facility ID	
Application ID	pAB1922427755

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Rebecca Pons Title: Project Manager

Signature: Rebecca Pons Date: 4/29/2020

email: Rpons@talon.lpe.com Telephone: 575-441-0980

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX IV

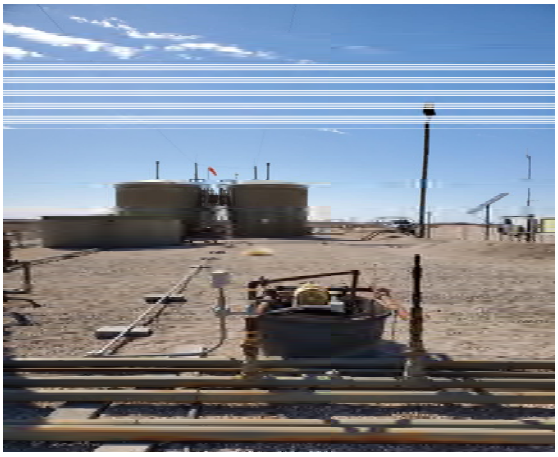
PHOTOGRAPHIC DOCUMENTATION

Devon Cooter State Battery

PHOTO DOCUMENTATION

Location Signage

Interior Staining



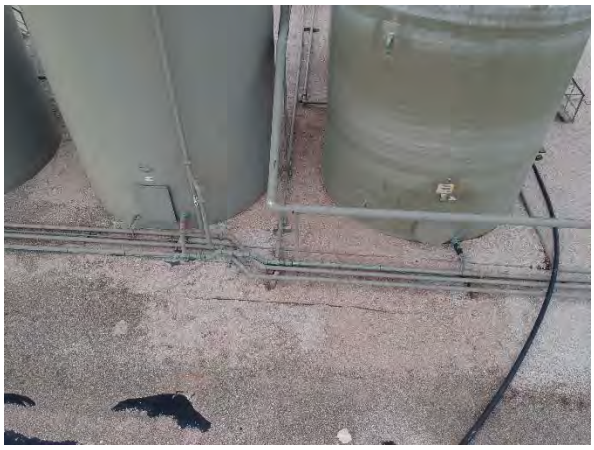
Lined Battery

Lined Berm

Devon Cooter State Battery

Completion Photos

Post clean-up at source



Post removal of staining

Completion Photo of fresh material

Aerial confirmation of lined containment

APPENDIX V

LABORATORY DATA

Analytical Report 653630

for

Talon LPE-Artesia

Project Manager: Chris Jones

Cooter 16St 1H

700794.313.01

03.04.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

03.04.2020

Project Manager: **Chris Jones**
Talon LPE-Artesia
408 West Texas St.
Artesia, NM 88210

Reference: XENCO Report No(s): **653630**
Cooter 16St 1H
Project Address: Eddy County

Chris Jones:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 653630. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 653630 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

A Small Business and Minority Company

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

Sample Cross Reference 653630

Talon LPE-Artesia, Artesia, NM

Cooter 16St 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
N. COMP	S	02.25.2020 10:30		653630-001
S. COMP-1	S	02.25.2020 10:40		653630-002
S. COMP-2	S	02.25.2020 10:50		653630-003
W. COMP-1	S	02.25.2020 10:55		653630-004
W. COMP-2	S	02.25.2020 11:05		653630-005
E.COMP	S	02.25.2020 11:15		653630-006

CASE NARRATIVE

Client Name: Talon LPE-Artesia

Project Name: Cooter 16St 1H

Project ID:	*700794.313.01*	Report Date:	*03.04.2020*
Work Order Number(s):	*653630*	Date Received:	*02.25.2020*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118030 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 653630-006.

Batch: LBA-3118395 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected.
Samples affected are: 653630-006.

Lab Sample ID 653630-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes 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: 653630-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results
653630
Talon LPE-Artesia, Artesia, NM
Cooter 16St 1H

Sample Id: **N. COMP** Matrix: Soil Sample Depth:

Lab Sample Id: 653630-001 Date Collected: 02.25.2020 10:30 Date Received: 02.25.2020 13:55

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3117800 Date Prep: 02.26.2020 15:50

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**394**	25.3	4.34	mg/kg	02.26.2020 18:44		5

Analytical Method: TPH by SW8015 Mod Prep Method: 8015

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3118031 Date Prep: 02.27.2020 14:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697666

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**25.2**	50.0	15.0	mg/kg	02.28.2020 04:45	J	1
Diesel Range Organics (DRO)	C10C28DRO	**21.8**	50.0	15.0	mg/kg	02.28.2020 04:45	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.28.2020 04:45	U	1
Total TPH	PHC635	**47.0**		15.0	mg/kg	02.28.2020 04:45	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	74	70 - 135	%		
o-Terphenyl	73	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3118395 Date Prep: 03.02.2020 08:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	03.03.2020 08:53	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	03.03.2020 08:53	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	03.03.2020 08:53	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	03.03.2020 08:53	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	03.03.2020 08:53	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	03.03.2020 08:53	U	
Total BTEX		<0.000344		0.000344	mg/kg	03.03.2020 08:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	82	70 - 130	%		

Certificate of Analytical Results
653630

Talon LPE-Artesia, Artesia, NM
Cooter 16St 1H

Sample Id: **S. COMP-1** Matrix: Soil Sample Depth:

Lab Sample Id: 653630-002 Date Collected: 02.25.2020 10:40 Date Received: 02.25.2020 13:55

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3117800 Date Prep: 02.26.2020 15:50

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**36.3**	25.3	4.34	mg/kg	02.26.2020 18:50		5

Analytical Method: TPH by SW8015 Mod Prep Method: 8015

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3118031 Date Prep: 02.27.2020 14:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697666

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**22.5**	49.9	15.0	mg/kg	02.28.2020 05:06	J	1
Diesel Range Organics (DRO)	C10C28DRO	**54.2**	49.9	15.0	mg/kg	02.28.2020 05:06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**30.8**	49.9	15.0	mg/kg	02.28.2020 05:06	J	1
Total TPH	PHC635	**108**		15.0	mg/kg	02.28.2020 05:06		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	71	70 - 135	%		
o-Terphenyl	71	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3118395 Date Prep: 03.02.2020 08:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.00196	0.0102	0.00196	mg/kg	03.03.2020 09:14	U	5
Toluene	108-88-3	<0.00232	0.0102	0.00232	mg/kg	03.03.2020 09:14	U	5
Ethylbenzene	100-41-4	<0.00288	0.0102	0.00288	mg/kg	03.03.2020 09:14	U	5
m,p-Xylenes	179601-23-1	<0.00517	0.0204	0.00517	mg/kg	03.03.2020 09:14	U	5
o-Xylene	95-47-6	<0.00176	0.0102	0.00176	mg/kg	03.03.2020 09:14	U	5
Total Xylenes	1330-20-7	<0.00176		0.00176	mg/kg	03.03.2020 09:14	U	
Total BTEX		<0.00176		0.00176	mg/kg	03.03.2020 09:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	86	70 - 130	%		

Certificate of Analytical Results
653630

Talon LPE-Artesia, Artesia, NM
Cooter 16St 1H

Sample Id: **S. COMP-2** Matrix: Soil Sample Depth:

Lab Sample Id: 653630-003 Date Collected: 02.25.2020 10:50 Date Received: 02.25.2020 13:55

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3117800 Date Prep: 02.26.2020 15:50

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**17.3**	4.95	0.850	mg/kg	02.26.2020 16:14		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3118031 Date Prep: 02.27.2020 14:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697666

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.3**	49.8	14.9	mg/kg	02.28.2020 05:27	J	1
Diesel Range Organics (DRO)	C10C28DRO	**28.8**	49.8	14.9	mg/kg	02.28.2020 05:27	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**19.7**	49.8	14.9	mg/kg	02.28.2020 05:27	J	1
Total TPH	PHC635	**69.8**		14.9	mg/kg	02.28.2020 05:27		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	70	70 - 135	%		
o-Terphenyl	71	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3118395 Date Prep: 03.02.2020 08:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	03.03.2020 09:34	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	03.03.2020 09:34	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	03.03.2020 09:34	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	03.03.2020 09:34	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	03.03.2020 09:34	U	1
Total Xylenes	1330-20-7	<0.000343		0.000343	mg/kg	03.03.2020 09:34	U	
Total BTEX		<0.000343		0.000343	mg/kg	03.03.2020 09:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	70 - 130	%		
4-Bromofluorobenzene	85	70 - 130	%		

Certificate of Analytical Results
653630

Talon LPE-Artesia, Artesia, NM
Cooter 16St 1H

Sample Id: **W. COMP-1** Matrix: Soil Sample Depth:

Lab Sample Id: 653630-004 Date Collected: 02.25.2020 10:55 Date Received: 02.25.2020 13:55

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3117800 Date Prep: 02.26.2020 15:50

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**48.5**	4.98	0.855	mg/kg	02.26.2020 17:42		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3118031 Date Prep: 02.27.2020 14:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697666

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**22.5**	50.0	15.0	mg/kg	02.28.2020 05:49	J	1
Diesel Range Organics (DRO)	C10C28DRO	**18.8**	50.0	15.0	mg/kg	02.28.2020 05:49	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.28.2020 05:49	U	1
Total TPH	PHC635	**41.3**		15.0	mg/kg	02.28.2020 05:49	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	71	70 - 135	%		
o-Terphenyl	71	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3118395 Date Prep: 03.02.2020 08:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	03.03.2020 09:54	U	1
Toluene	108-88-3	<0.000454	0.00199	0.000454	mg/kg	03.03.2020 09:54	U	1
Ethylbenzene	100-41-4	<0.000563	0.00199	0.000563	mg/kg	03.03.2020 09:54	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00398	0.00101	mg/kg	03.03.2020 09:54	U	1
o-Xylene	95-47-6	<0.000343	0.00199	0.000343	mg/kg	03.03.2020 09:54	U	1
Total Xylenes	1330-20-7	<0.000343		0.000343	mg/kg	03.03.2020 09:54	U	
Total BTEX		<0.000343		0.000343	mg/kg	03.03.2020 09:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	70 - 130	%		
4-Bromofluorobenzene	87	70 - 130	%		

Certificate of Analytical Results
653630

Talon LPE-Artesia, Artesia, NM
Cooter 16St 1H

Sample Id: **W. COMP-2** Matrix: Soil Sample Depth:

Lab Sample Id: 653630-005 Date Collected: 02.25.2020 11:05 Date Received: 02.25.2020 13:55

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3117800 Date Prep: 02.26.2020 15:50

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**58.4**	5.05	0.867	mg/kg	02.26.2020 18:57		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3118031 Date Prep: 02.27.2020 14:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697666

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	**25.6**	50.0	15.0	mg/kg	02.28.2020 06:10	J	1
Diesel Range Organics (DRO)	C10C28DRO	**40.4**	50.0	15.0	mg/kg	02.28.2020 06:10	J	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**23.5**	50.0	15.0	mg/kg	02.28.2020 06:10	J	1
Total TPH	PHC635	**89.5**		15.0	mg/kg	02.28.2020 06:10		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	72	70 - 135	%		
o-Terphenyl	73	70 - 135	%		

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3118395 Date Prep: 03.02.2020 08:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000384	0.00200	0.000384	mg/kg	03.03.2020 10:14	U	1
Toluene	108-88-3	<0.000455	0.00200	0.000455	mg/kg	03.03.2020 10:14	U	1
Ethylbenzene	100-41-4	<0.000564	0.00200	0.000564	mg/kg	03.03.2020 10:14	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00399	0.00101	mg/kg	03.03.2020 10:14	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	03.03.2020 10:14	U	1
Total Xylenes	1330-20-7	<0.000344		0.000344	mg/kg	03.03.2020 10:14	U	
Total BTEX		<0.000344		0.000344	mg/kg	03.03.2020 10:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	70 - 130	%		
4-Bromofluorobenzene	82	70 - 130	%		

Certificate of Analytical Results
653630
Talon LPE-Artesia, Artesia, NM
Cooter 16St 1H

Sample Id: **E.COMP** Matrix: Soil Sample Depth:

Lab Sample Id: 653630-006 Date Collected: 02.25.2020 11:15 Date Received: 02.25.2020 13:55

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: CHE % Moist: Tech: CHE

Seq Number: 3117802 Date Prep: 02.26.2020 16:05

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697558

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**10.2**	5.02	0.862	mg/kg	02.26.2020 18:26		1

Analytical Method: TPH by SW8015 Mod Prep Method: 8015

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3118030 Date Prep: 02.27.2020 12:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697662

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	49.9	15.0	mg/kg	02.27.2020 20:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	49.9	15.0	mg/kg	02.27.2020 20:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	49.9	15.0	mg/kg	02.27.2020 20:39	U	1
Total TPH	PHC635	<15.0		15.0	mg/kg	02.27.2020 20:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	71	70 - 135	%		
o-Terphenyl	69	70 - 135	%		**

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3118395 Date Prep: 03.02.2020 08:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	03.02.2020 22:17	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	03.02.2020 22:17	UX	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	03.02.2020 22:17	UX	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	03.02.2020 22:17	UX	1
o-Xylene	95-47-6	<0.000345	0.00200	0.000345	mg/kg	03.02.2020 22:17	U	1
Total Xylenes	1330-20-7	<0.000345		0.000345	mg/kg	03.02.2020 22:17	U	
Total BTEX		<0.000345		0.000345	mg/kg	03.02.2020 22:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	70 - 130	%		
4-Bromofluorobenzene	53	70 - 130	%		**

Certificate of Analytical Results
653630
Talon LPE-Artesia, Artesia, NM
Cooter 16St 1H

Sample Id: **7697557-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7697557-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3117800 Date Prep: 02.26.2020 15:50
Subcontractor: SUB: T104704400-19-19 Prep seq: 7697557

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	02.26.2020 15:55	U	1

Sample Id: **7697558-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7697558-1-BLK Date Collected: Date Received:
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: CHE % Moist: Tech: CHE
Seq Number: 3117802 Date Prep: 02.26.2020 16:05
Subcontractor: SUB: T104704400-19-19 Prep seq: 7697558

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.858	5.00	0.858	mg/kg	02.26.2020 16:15	U	1

Sample Id: **7697662-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7697662-1-BLK Date Collected: Date Received:
Analytical Method: TPH by SW8015 Mod Prep Method: 8015
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3118030 Date Prep: 02.27.2020 12:00
Subcontractor: SUB: T104704400-19-19 Prep seq: 7697662

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	02.27.2020 11:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.27.2020 11:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.27.2020 11:57	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	81	70 - 135	%		
o-Terphenyl	81	70 - 135	%		

Certificate of Analytical Results
653630

Talon LPE-Artesia, Artesia, NM

Cooter 16St 1H

Sample Id: **7697666-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 7697666-1-BLK Date Collected: Date Received:

Analytical Method: TPH by SW8015 Mod Prep Method: 8015

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3118031 Date Prep: 02.27.2020 14:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697666

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	50.0	15.0	mg/kg	02.27.2020 21:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	50.0	15.0	mg/kg	02.27.2020 21:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	50.0	15.0	mg/kg	02.27.2020 21:21	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	77	70 - 135	%		
o-Terphenyl	79	70 - 135	%		

Sample Id: **7697961-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 7697961-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3118395 Date Prep: 03.02.2020 08:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7697961

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000385	0.00200	0.000385	mg/kg	03.02.2020 21:56	U	1
Toluene	108-88-3	<0.000456	0.00200	0.000456	mg/kg	03.02.2020 21:56	U	1
Ethylbenzene	100-41-4	<0.000565	0.00200	0.000565	mg/kg	03.02.2020 21:56	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00400	0.00101	mg/kg	03.02.2020 21:56	U	1
o-Xylene	95-47-6	<0.000344	0.00200	0.000344	mg/kg	03.02.2020 21:56	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	83	70 - 130	%		

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

Form 2 - Surrogate Recoveries

Project Name: Cooter 16St 1H

Work Orders : 653630 **Project ID:** 700794.313.01

Lab Batch #: 3118395 **Sample:** 7697961-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03.02.2020 19:57 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3118395 **Sample:** 7697961-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03.02.2020 20:17 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3118395 **Sample:** 653630-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03.02.2020 20:38 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0284	0.0300	95	70-130	

Lab Batch #: 3118395 **Sample:** 653630-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03.02.2020 20:58 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	70-130	

Lab Batch #: 3118395 **Sample:** 7697961-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03.02.2020 21:56 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	70-130	
4-Bromofluorobenzene	0.0249	0.0300	83	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Cooter 16St 1H

Work Orders : 653630 **Project ID:** 700794.313.01

Lab Batch #: 3118030 **Sample:** 7697662-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.27.2020 11:57 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	162	200	81	70-135	
o-Terphenyl	81.2	100	81	70-135	

Lab Batch #: 3118030 **Sample:** 7697662-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.27.2020 12:17 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	177	200	89	70-135	
o-Terphenyl	87.1	100	87	70-135	

Lab Batch #: 3118030 **Sample:** 7697662-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.27.2020 12:38 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	167	200	84	70-135	
o-Terphenyl	82.0	100	82	70-135	

Lab Batch #: 3118030 **Sample:** 653577-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.27.2020 13:20 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	144	199	72	70-135	
o-Terphenyl	73.9	99.7	74	70-135	

Lab Batch #: 3118030 **Sample:** 653577-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.27.2020 13:41 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	147	199	74	70-135	
o-Terphenyl	73.1	99.6	73	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Cooter 16St 1H

Work Orders : 653630 **Project ID:** 700794.313.01

Lab Batch #: 3118031 **Sample:** 7697666-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.27.2020 21:21 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	154	200	77	70-135	
o-Terphenyl	79.0	100	79	70-135	

Lab Batch #: 3118031 **Sample:** 7697666-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.27.2020 21:41 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	159	200	80	70-135	
o-Terphenyl	78.8	100	79	70-135	

Lab Batch #: 3118031 **Sample:** 7697666-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02.27.2020 22:02 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	166	200	83	70-135	
o-Terphenyl	82.5	100	83	70-135	

Lab Batch #: 3118031 **Sample:** 653680-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.27.2020 22:44 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	144	199	72	70-135	
o-Terphenyl	69.9	99.7	70	70-135	

Lab Batch #: 3118031 **Sample:** 653680-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02.27.2020 23:05 **SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	151	199	76	70-135	
o-Terphenyl	70.7	99.6	71	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Cooter 16St 1H

Work Order #: 653630 **Project ID:** 700794.313.01

Analyst: KTL **Date Prepared:** 03.02.2020 **Date Analyzed:** 03.02.2020

Lab Batch ID: 3118395 **Sample:** 7697961-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000385	0.100	0.106	106	0.100	0.111	111	5	70-130	35	
Toluene	<0.000456	0.100	0.106	106	0.100	0.106	106	0	70-130	35	
Ethylbenzene	<0.000565	0.100	0.100	100	0.100	0.0991	99	1	70-130	35	
m,p-Xylenes	<0.00101	0.200	0.200	100	0.200	0.197	99	2	70-130	35	
o-Xylene	<0.000344	0.100	0.102	102	0.100	0.0999	100	2	70-130	35	

Analyst: CHE **Date Prepared:** 02.26.2020 **Date Analyzed:** 02.26.2020

Lab Batch ID: 3117800 **Sample:** 7697557-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	254	102	250	254	102	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Cooter 16St 1H

Work Order #: 653630 **Project ID:** 700794.313.01

Analyst: CHE **Date Prepared:** 02.26.2020 **Date Analyzed:** 02.26.2020

Lab Batch ID: 3117802 **Sample:** 7697558-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	252	101	250	252	101	0	90-110	20	

Analyst: ARM **Date Prepared:** 02.27.2020 **Date Analyzed:** 02.27.2020

Lab Batch ID: 3118030 **Sample:** 7697662-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	2000	1670	84	2000	1620	81	3	70-135	20	
Diesel Range Organics (DRO)	<15.0	2000	1790	90	2000	1720	86	4	70-135	20	

Analyst: ARM **Date Prepared:** 02.27.2020 **Date Analyzed:** 02.27.2020

Lab Batch ID: 3118031 **Sample:** 7697666-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	2000	1640	82	2000	1620	81	1	70-135	20	
Diesel Range Organics (DRO)	<15.0	2000	1660	83	2000	1710	86	3	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Cooter 16St 1H

Work Order # : 653630 **Project ID:** 700794.313.01

Lab Batch ID: 3118395 **QC- Sample ID:** 653630-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03.02.2020 **Date Prepared:** 03.02.2020 **Analyst:** KTL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000384	0.0998	0.0820	82	0.0996	0.0764	77	7	70-130	35	
Toluene	<0.000455	0.0998	0.0620	62	0.0996	0.0494	50	23	70-130	35	X
Ethylbenzene	<0.000564	0.0998	0.0669	67	0.0996	0.0543	55	21	70-130	35	X
m,p-Xylenes	<0.00101	0.200	0.126	63	0.199	0.100	50	23	70-130	35	X
o-Xylene	<0.000344	0.0998	0.0832	83	0.0996	0.0720	72	14	70-130	35	

Lab Batch ID: 3117800 **QC- Sample ID:** 653630-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02.26.2020 **Date Prepared:** 02.26.2020 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	17.3	248	278	105	248	277	105	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200*|(C-F) / (C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A) / E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Cooter 16St 1H

Work Order # : 653630 **Project ID:** 700794.313.01

Lab Batch ID: 3117800 **QC- Sample ID:** 653630-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02.26.2020 **Date Prepared:** 02.26.2020 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	48.5	249	311	105	249	311	105	0	90-110	20	

Lab Batch ID: 3117802 **QC- Sample ID:** 653687-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02.26.2020 **Date Prepared:** 02.26.2020 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	342	250	580	95	250	579	95	0	90-110	20	

Lab Batch ID: 3117802 **QC- Sample ID:** 653745-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02.26.2020 **Date Prepared:** 02.26.2020 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	297	250	538	96	250	539	97	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200*|(C-F) / (C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A) / E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Cooter 16St 1H

Work Order # : 653630 **Project ID:** 700794.313.01

Lab Batch ID: 3118030 **QC- Sample ID:** 653577-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02.27.2020 **Date Prepared:** 02.27.2020 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	19.7	1990	1530	76	1990	1540	76	1	70-135	20	
Diesel Range Organics (DRO)	22.6	1990	1540	76	1990	1540	76	0	70-135	20	

Lab Batch ID: 3118031 **QC- Sample ID:** 653680-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02.27.2020 **Date Prepared:** 02.27.2020 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	23.9	1990	1550	77	1990	1560	77	1	70-135	20	
Diesel Range Organics (DRO)	<15.0	1990	1510	76	1990	1510	76	0	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200*|(C-F) / (C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A) / E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 653630

www.xenco.com Page 1 of 1

Project Manager:	CHRIS JONES	Bill to: (if different)	
Company Name:	TALON LPE	Company Name:	
Address:	408 W. TEXAS	Address:	
City, State ZIP:	ARTESIA NM 88210	City, State ZIP:	
Phone:	575-631-6977	Email:	CJones@talonLPE.com

Work Order Comments

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

Project Name:	COOTER 16 St. 1H	Turn Around	
Project Number:	700794.313.01	Routine	☒
Project Location	EDDY COUNTY	Rush:	
Sampler's Name:	MICHAEL COLLIER	Due Date:	
PO #:	700794.313.01	Quote #:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	2.9	Thermometer ID	TNM007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	6	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX	TPH	TOTAL CHLORIDES	Sample Comments
	N. COMP	SOIL	2-25-20	10:30am	N/A	1	✓	✓	✓	
	S. COMP-1			10:40am						
	S. COMP-2			10:50am						
	W. COMP-1			10:55am						
	W. COMP-2			11:05am						
	E. COMP	SOIL	2-25-20	11:15am	N/A	1	✓	✓	✓	

ANALYSIS REQUEST

Preservative Codes

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

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

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

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2/25/20 13:55	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Inter-Office Shipment

IOS Number **58927**

Date/Time: 02/25/20 15:21
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Martha Castro
Delivery Priority:
Air Bill No.: 777860524719

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
653630-001	S	N. COMP	02/25/20 10:30	E300	Inorganic Anions by EPA 300/300.1	03/02/20	03/24/20	JKR	CL	
653630-001	S	N. COMP	02/25/20 10:30	SW8015MOD_NM	TPH by SW8015 Mod	03/02/20	03/10/20	JKR	PHCC10C28 PHCC28C35	
653630-001	S	N. COMP	02/25/20 10:30	SW8021B	BTEX by EPA 8021B	03/02/20	03/10/20	JKR	BR4FBZ BZ BZME EBZ X	
653630-002	S	S. COMP-1	02/25/20 10:40	SW8015MOD_NM	TPH by SW8015 Mod	03/02/20	03/10/20	JKR	PHCC10C28 PHCC28C35	
653630-002	S	S. COMP-1	02/25/20 10:40	E300	Inorganic Anions by EPA 300/300.1	03/02/20	03/24/20	JKR	CL	
653630-002	S	S. COMP-1	02/25/20 10:40	SW8021B	BTEX by EPA 8021B	03/02/20	03/10/20	JKR	BR4FBZ BZ BZME EBZ X	
653630-003	S	S. COMP-2	02/25/20 10:50	E300	Inorganic Anions by EPA 300/300.1	03/02/20	03/24/20	JKR	CL	
653630-003	S	S. COMP-2	02/25/20 10:50	SW8015MOD_NM	TPH by SW8015 Mod	03/02/20	03/10/20	JKR	PHCC10C28 PHCC28C35	
653630-003	S	S. COMP-2	02/25/20 10:50	SW8021B	BTEX by EPA 8021B	03/02/20	03/10/20	JKR	BR4FBZ BZ BZME EBZ X	
653630-004	S	W. COMP-1	02/25/20 10:55	E300	Inorganic Anions by EPA 300/300.1	03/02/20	03/24/20	JKR	CL	
653630-004	S	W. COMP-1	02/25/20 10:55	SW8015MOD_NM	TPH by SW8015 Mod	03/02/20	03/10/20	JKR	PHCC10C28 PHCC28C35	
653630-004	S	W. COMP-1	02/25/20 10:55	SW8021B	BTEX by EPA 8021B	03/02/20	03/10/20	JKR	BR4FBZ BZ BZME EBZ X	
653630-005	S	W. COMP-2	02/25/20 11:05	E300	Inorganic Anions by EPA 300/300.1	03/02/20	03/24/20	JKR	CL	
653630-005	S	W. COMP-2	02/25/20 11:05	SW8015MOD_NM	TPH by SW8015 Mod	03/02/20	03/10/20	JKR	PHCC10C28 PHCC28C35	
653630-005	S	W. COMP-2	02/25/20 11:05	SW8021B	BTEX by EPA 8021B	03/02/20	03/10/20	JKR	BR4FBZ BZ BZME EBZ X	
653630-006	S	E.COMP	02/25/20 11:15	SW8021B	BTEX by EPA 8021B	03/02/20	03/10/20	JKR	BR4FBZ BZ BZME EBZ X	
653630-006	S	E.COMP	02/25/20 11:15	SW8015MOD_NM	TPH by SW8015 Mod	03/02/20	03/10/20	JKR	PHCC10C28 PHCC28C35	
653630-006	S	E.COMP	02/25/20 11:15	E300	Inorganic Anions by EPA 300/300.1	03/02/20	03/24/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Martha Castro

Date Relinquished: 02/25/2020

Received By: Brianna Teel

Date Received: 02/26/2020 11:51

Cooler Temperature: 0.5

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 58927

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Martha Castro **Date Sent:** 02/25/2020 03:21 PM

Received By: Brianna Teel **Date Received:** 02/26/2020 11:51 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.5	
#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: 02/26/2020

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Talon LPE-Artesia

Date/ Time Received: 02.25.2020 01.55.00 PM

Work Order #: 653630

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)?	2.9	
#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?	**No**	
#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**	Samples Succontracted 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: Martha Castro Date: 02.25.2020

Checklist reviewed by: Jessica Kramer Date: 02.26.2020

Jessica Kramer

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAB1922428005
District RP	2RP-5572
Facility ID	
Application ID	pAB1922427755

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Rebecca Pons Title: Project Manager

Signature: Rebecca Pons Date: 4/29/2020

email: Rpons@talon.lpe.com Telephone: 575-441-0980

OCD Only

Received by: Robert Hamlet Date: 1/19/2021

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

Closure Approved by: Robert Hamlet Date: 1/19/2021

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

From:	Hamlet, Robert, EMNRD
To:	DeHoyos, Kendra
Cc:	Bratcher, Mike, EMNRD; Eads, Cristina, EMNRD; "spills@slo.state.nm.us"
Subject:	Closure Approval - Devon - Cooter 16 St 1H Battery (Incident #NAB1922428005)
Date:	Tuesday, January 19, 2021 1:53:00 PM
Attachments:	Closure Approval - Devon - Cooter 16 St 1H Battery (NAB1922428005).pdf

Kendra,

We have received your closure report and final C-141 for **Incident #NAB1922428005 Cooter 16 St 1H Battery**, thank you. This closure is approved.

Please let me know if you have any further questions.

Regards,

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
505.748.1283 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

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 8581

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
DEVON ENERGY PRODUCTION COMPAN	333 West Sheridan Ave.	Oklahoma City, OK73102	6137	8581	C-141

OCD Reviewer	Condition
rhamlet	We have received your closure report and final C-141 for Incident #NAB1922428005 Cooter 16 St 1H Battery, thank you. This closure is approved.