Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Jamon Hohensee Title: Sr. Environmental Analyst

Signature: [signature] Date: 8-13-21

email: jamon.hohensee@cdevinc.com Telephone: 432-241-4283

OCD Only

Received by: Chad Hensley Date: 09/16/2021

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: Chad Hensley Date: 09/16/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

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	nAPP2109842296
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Centennial Resource Production, Inc	OGRID: 372165
Contact Name: Jamon Hohensee	Contact Telephone: 432-241-4283
Contact email: jamon.hohensee@cdevinc.com	Incident # nAPP2109842296
Contact mailing address: 500 W. Illinois Ave, Suite 500, Midland Texas 79705	

Location of Release Source

Latitude 32.43125 Longitude -103.42602
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Chorizo 12 SC CTB	Site Type: Production Facility
Date Release Discovered: 3/29/21	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
N	36	21S	34E	Lea

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)10	Volume Recovered (bbls)9
	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:
When removing high volume transfer pump form the PW manifold the crew found a rag stuck in the valve. 10bbls were released with 9bbls inside the lined containment. A vacuum truck was called to the site and a reported 9bbls were recovered from the containment. An estimated 312 cubic feet were impacted from the PW on the pad. The cubic feet along with porosity and saturation % were used to estimate that 1bbl of PW impacted the surface. (312/5.61)*.2*.1=~1

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State of New Mexico
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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?
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: Jamon Hohensee Title: Sr. Environmental Analyst

Signature: _____ Date: 6-2-21

email: jamon.hohensee@cdevinc.com Telephone: 432-241-4283

OCD Only

Received by: _____ Date: _____

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Page 3

State of New Mexico
Oil Conservation Division

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

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

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

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

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

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State of New Mexico
Oil Conservation Division

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

Printed Name: Jamon Hohenstee Title: Sr. Environmental Analyst

Signature: Jamon H. Date: 8-13-21

email: jamon.hohenstee@cdevinc.com Telephone: 432-241-4283

OCD Only

Received by: _____ Date: _____

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State of New Mexico
Oil Conservation Division

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Remediation Plan

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

- [x] Detailed description of proposed remediation technique
- [x] Scaled sitemap with GPS coordinates showing delineation points
- [x] Estimated volume of material to be remediated
- [x] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [x] 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: Jamon Hohensee Title: Sr. Environmental Analyst

Signature: [signature] Date: 8-13-21

email: jamon.hohensee@edevinc.com Telephone: 432-241-4283

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

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State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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Printed Name: Jamon Hohensee Title: Sr. Environmental Analyst

Signature: [signature] Date: 8-13-21

email: jamon.hohensee@cdevinc.com Telephone: 432-241-4283

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: _____

Environmental & Safety Solutions, Inc.

CLOSURE REQUEST AND REMEDIATION SUMMARY REPORT

Centennial Resource Development, Inc.
Chorizo 12 SC CTB
Lea County, New Mexico
Unit Letter "N", Section 36, Township 21 South, Range 34 East
Latitude 32.43125º North, Longitude 103.42602º West
NMOCD Reference # nAPP2109842296

Prepared For:

Centennial Resource Development, Inc.
500 W. Illinois Avenue Suite 500
Midland, TX 79701

Prepared By:

Etech Environmental & Safety Solutions, Inc.
P.O. Box 62228
Midland, Texas 79711

August 2021

Wesley A. Desilets
Project Manager

Matthew Green, P.G.
Senior Project Manager

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FIGURES

TABLES

APPENDICES

INTRODUCTION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Centennial Resource Development, Inc. (Centennial), has prepared this Closure Request and Remediation Summary Report for the Release Site known as Chorizo 12 SC CTB. The legal description of the Release Site is Unit Letter "N", Section 36, Township 21 South, Range 34 East, in Lea County, New Mexico. The subject property is owned by The New Mexico State Land Office (NMSLO). The Release Site GPS coordinates are 32.43125° North and 103.42602° West. Please reference Figure 1 for the Site Location Map and Figure 2 for the Site Details & Confirmation Sample Map.

On March 29, 2021, Centennial discovered that a release had occurred due to an obstruction found in the valve during transfer pump removal activities. Approximately ten (10) barrels of produced water were released with nine (9) barrels recovered, resulting in a net loss of approximately one (1) barrel of produced water. On June 2, 2021, Centennial filed a *Release Notification and Corrective Action Form* (Form C-141) with the New Mexico Oil Conservation Division (NMOCD) and NMSLO documenting the release. The Form C-141 is provided as Appendix C. Photographic documentation for the site are provided as Appendix A.

NMOCD SITE CLASSIFICATION

A search of the groundwater database maintained by United States Geological Survey (USGS) did not identify any registered water wells within a quarter (1/4) mile of the Chorizo 12 SC CTB Release Site. A further search of the USGS database identified the closest registered water well is USGS Well #: 322657103255201 located approximately one (1) mile southwest of the Release Site. The average depth to groundwater for USGS Well #: 322657103255201 should be encountered at approximately ninety-nine (99) feet below ground surface (bgs). No water wells were observed within one thousand (1,000) feet of the Release Site. No surface water was observed within one thousand (1,000) feet of the release. Based on the NMOCD site classification system, the Chorizo 12 SC CTB Release Site soil remediation levels are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)
- TPH – 100 mg/Kg (ppm)
- Chloride – 600 mg/Kg (ppm)

SUMMARY OF SOIL REMEDIATION ACTIVITIES

On June 1 & 2, 2021, Etech commenced excavation activities at the Release Site utilizing a backhoe and manual means. Excavation activities were conducted in a manner that protected the integrity of the production equipment. Etech hand spotted around all surface equipment and excavated by hand all impacted material within two (2) feet of any production equipment. Excavated soil was stockpiled on site awaiting disposal. Following excavation activities, one (1) composite confirmation soil sample (BH-1 @ 2') was collected from the base of the excavated area and four (4) composite horizontal soil samples were collected from the sidewalls of the excavation. The soil samples were submitted to Pace Analytical and analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) using EPA Method SW 846-8021B, Total Petroleum Hydrocarbons (TPH) using EPA Method SW 846-8015M, and chloride using EPA Method E

300.0. A review of laboratory analytical results indicated that all collected soil samples were below applicable NMOCD regulatory limits. Please reference Figure 2 for site details and confirmation sample locations.

Table 1 summarizes the Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil. Analytical reports are provided as Appendix B.

SOIL DISPOSAL AND BACKFILL ACTIVIES

On August 9, 2021, Etech transported the impacted stockpiled soil to the Sundance disposal facility in Lea County, NM.

On August 9 & 10, 2021, the excavated area was backfilled with non-impacted like soil from a local source and the site was contoured to fit the surrounding area.

SITE CLOSURE REQUEST

Based on the analytical results, Centennial requests NMOCD and NMSLO grant Site Closure Status to the Chorizo 12 SC CTB incident number nAPP2109842296.

LIMITATIONS

Etech has prepared this Closure Request and Remediation Summary Report to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Etech has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Centennial Resource Development, Inc. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Etech and/or Centennial Resource Development, Inc.

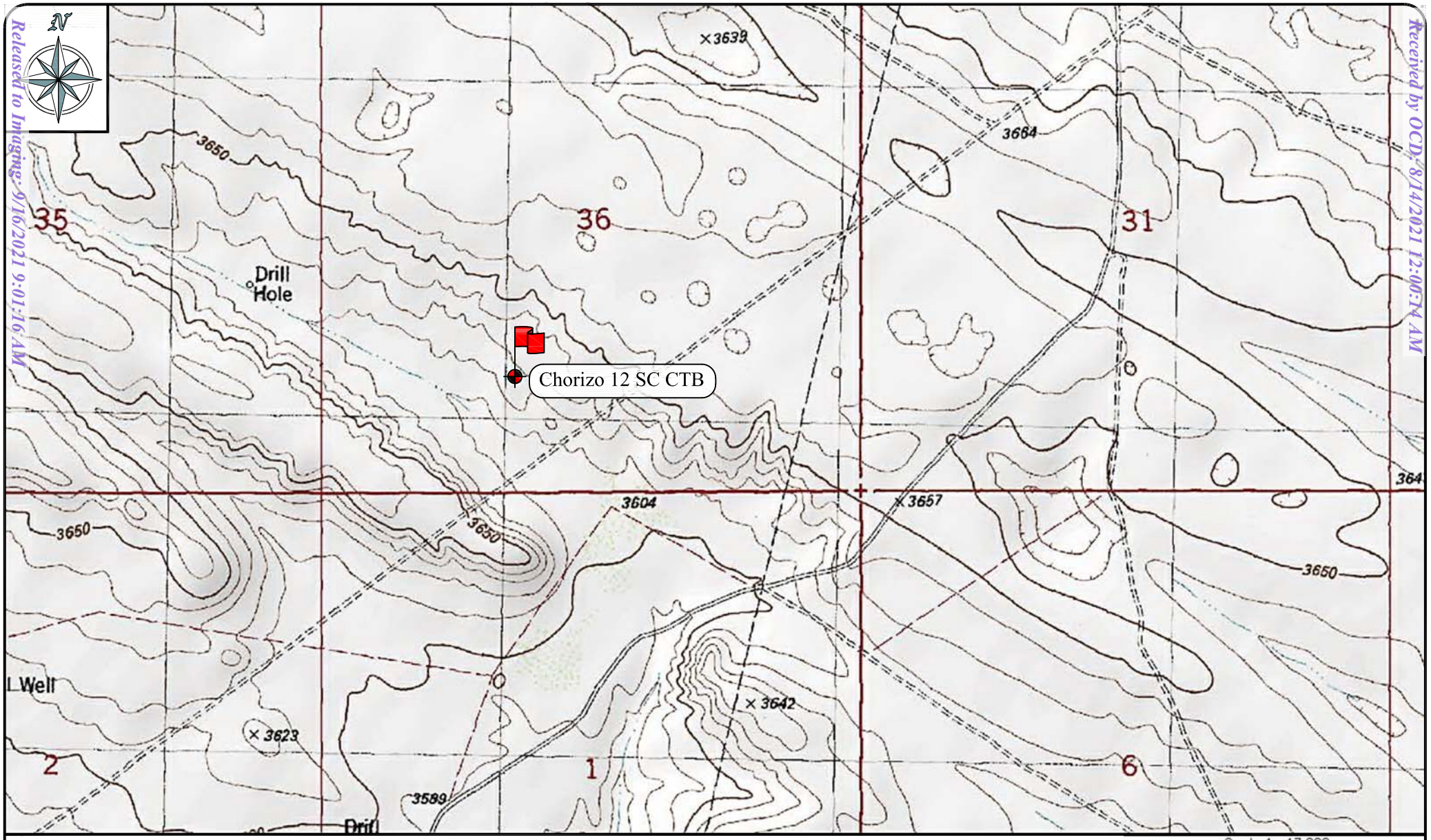
DISTRIBUTION

Copy 1: New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1624 N. French Drive
Hobbs, New Mexico 88210

Copy 2: Ryan Mann
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, NM 88240

Copy 3: Jamon Hohensee
Centennial Resource Development, Inc.
500 W. Illinois Avenue Suite 500
Midland, TX 79701

Copy 4: Etech Environmental & Safety Solutions, Inc.
P.O. Box 62228
Midland, TX 79711



Scale 1 : 17,600

1" = 166.5 ft Data Zoom 13-5

Site - Chorizo 12 SC CTB
Site Location Map
Centennial Resource Development, Inc.
Lea County, NM
N 32.43125°, W 103.42602°
August 2021

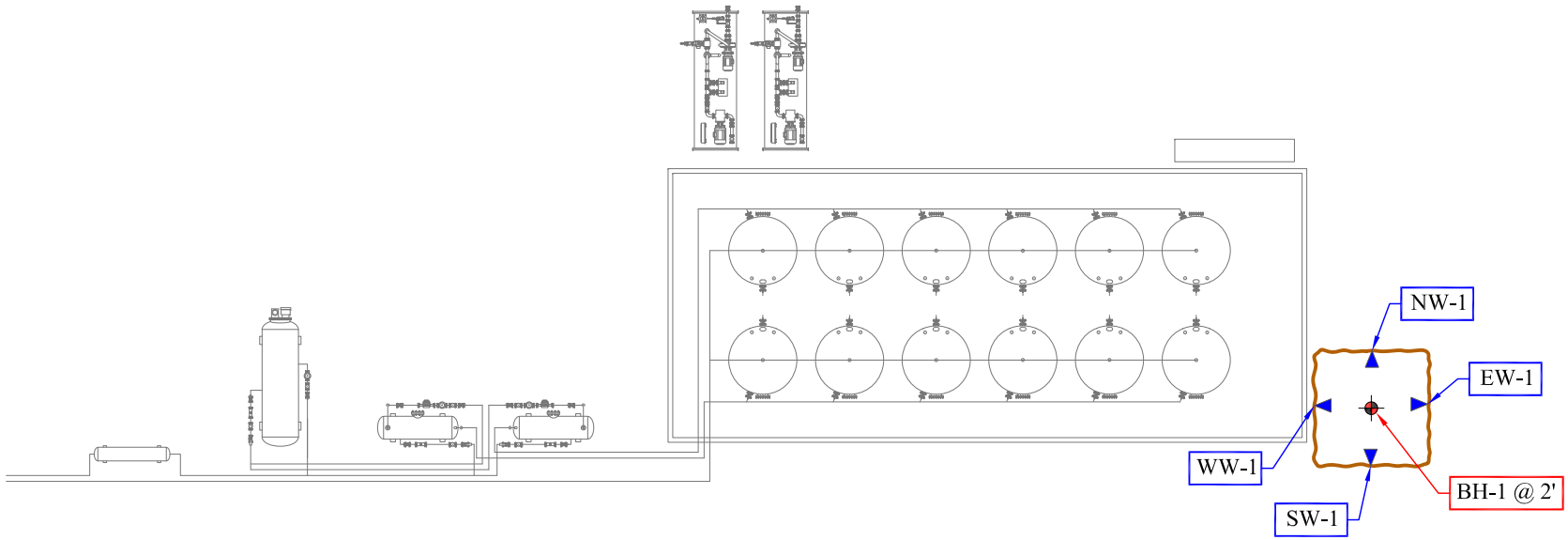
Legend

= Site Location

eTECH Environmental & Safety Solutions, Inc

CDEV ID No.: 93981

Figure 1



Site - Chorizo 12 SC CTB
Site Details & Confirmation Sample Map
Centennial Resource Development, Inc.
Lea County, NM
N 32.43125°, W 103.42602°
August 2021

Legend

= Bottom Hole Sampling Point

= Side Wall Sampling Point

Excavation Perimeter

0 40 80

Scale: 1:40 ft

eTECH Environmental & Safety Solutions, Inc.

CDEV ID No.: 93981

Figure 2

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH, AND CHLORIDE IN SOIL
CONFIRMATION SAMPLES

CENTENNIAL RESOURCE DEVELOPMENT, INC.

CHORIZO 12 SC CTB

LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

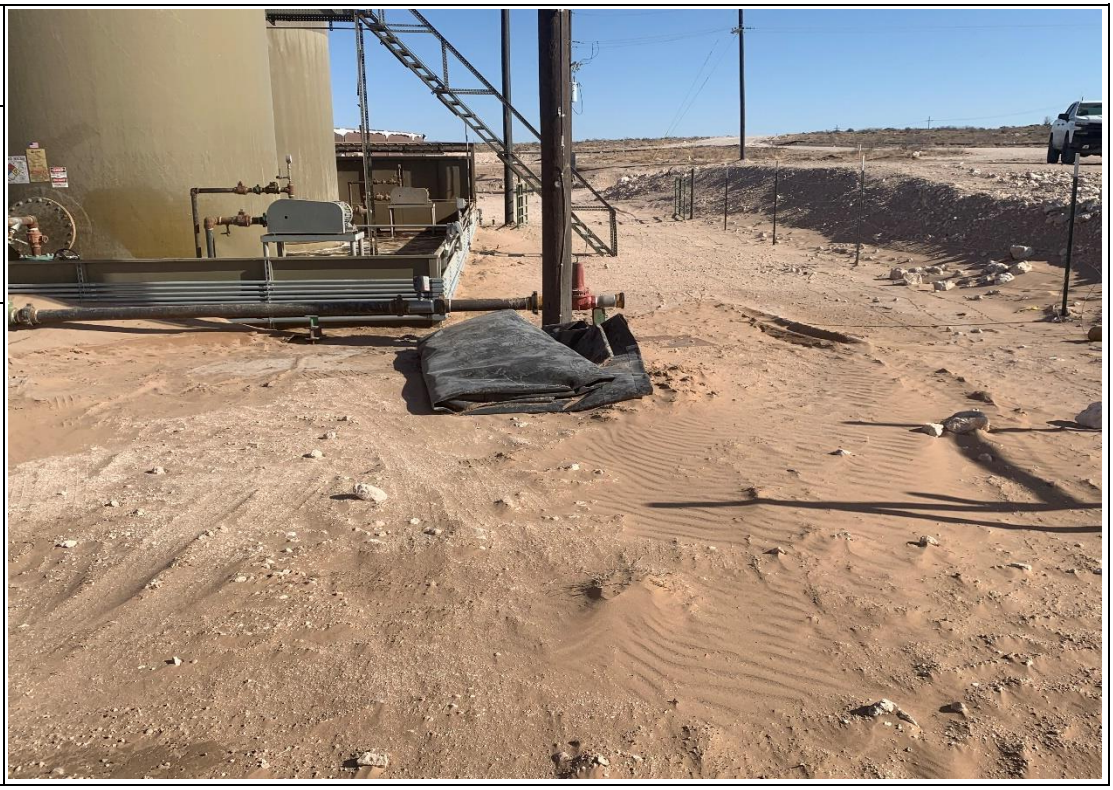
SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021B						METHOD: SW 8015M					E 300.0
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TPH ORO C_{28}-C_{36}	TOTAL TPH C_6-C_{36}	CHLORIDE
Limits		**10 mg/Kg**						**50 mg/Kg**				**100 mg/Kg**	**600 mg/Kg**
Bottom Hole Sample Results													
BH-1 @ 2'	6/1/2021	ND	ND	ND	ND	ND	ND	ND	ND	6.79	9.11	15.90	59.7
Sidewall Sample Results													
NW-1	6/1/2021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	56.5
SW-1	6/1/2021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	243
EW-1	6/1/2021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	45.9
WW-1	6/1/2021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35.6

Bold and Yellow Highlighted indicates Analyte Above NMOCD Regulatory Limit

Project Name: *Chorizo 12 SC CTB*
Project No: *13982*

Photographic Documentation

Photo No: **1.**	
Direction Taken: Southwest	
Description: View of the release area.	

Photo No: **2.**	
Direction Taken: North	
Description: View of the release area.	

Project Name: *Chorizo 12 SC CTB*
Project No: *13982*

Photographic Documentation

Photo No: **3.**	
Direction Taken: West	
Description: View of the excavated area.	

Photo No: **4.**	
Direction Taken: North	
Description: View of the excavated area.	

Project Name: *Chorizo 12 SC CTB*
Project No: *13982*

Photographic Documentation

Photo No: **5.**	
Direction Taken: Southwest	
Description: View of the remediated area.	

Photo No: **6.**	
Direction Taken: Southwest	
Description: View of the remediated area.	

ANALYTICAL REPORT

June 14, 2021

Etech Environmental- Midland, TX

Sample Delivery Group:	L1362552
Samples Received:	06/05/2021
Project Number:	13982
Description:	Chorizo 12SC 501H, 502H, 503H PW

Report To: Tim McMinn
PO Box 62228
Midland, TX 79711

Entire Report Reviewed By:

Jennifer Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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BH-1 @ 2' L1362552-01 Solid

Collected by: Tim M | Collected date/time: 06/01/21 13:00 | Received date/time: 06/05/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1684916	1	06/08/21 20:46	06/08/21 20:56	KDW	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1687222	1	06/12/21 01:19	06/12/21 23:40	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1685613	1	06/09/21 09:22	06/11/21 02:55	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1685537	1	06/09/21 15:25	06/09/21 22:35	JN	Mt. Juliet, TN

NW-1 L1362552-02 Solid

Collected by: Tim M | Collected date/time: 06/01/21 13:20 | Received date/time: 06/05/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1684916	1	06/08/21 20:46	06/08/21 20:56	KDW	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1687222	1	06/12/21 01:19	06/12/21 23:49	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1685613	1	06/09/21 09:22	06/11/21 03:17	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1685537	1	06/09/21 15:25	06/09/21 22:48	JN	Mt. Juliet, TN

SW-1 L1362552-03 Solid

Collected by: Tim M | Collected date/time: 06/01/21 13:30 | Received date/time: 06/05/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1684916	1	06/08/21 20:46	06/08/21 20:56	KDW	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1687222	1	06/12/21 01:19	06/12/21 23:59	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1685613	1	06/09/21 09:22	06/11/21 03:39	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1685537	1	06/09/21 15:25	06/09/21 23:02	JN	Mt. Juliet, TN

EW-1 L1362552-04 Solid

Collected by: Tim M | Collected date/time: 06/01/21 13:45 | Received date/time: 06/05/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1684917	1	06/08/21 18:16	06/08/21 20:45	KDW	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1687222	1	06/12/21 01:19	06/13/21 00:28	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1685613	1	06/09/21 09:22	06/11/21 04:00	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1685537	1	06/09/21 15:25	06/09/21 23:16	JN	Mt. Juliet, TN

WW-1 L1362552-05 Solid

Collected by: Tim M | Collected date/time: 06/01/21 11:45 | Received date/time: 06/05/21 12:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1684917	1	06/08/21 18:16	06/08/21 20:45	KDW	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1687222	1	06/12/21 01:19	06/13/21 00:37	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1685613	1	06/09/21 09:22	06/11/21 04:22	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1685537	1	06/09/21 15:25	06/09/21 23:29	JN	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Ds
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jennifer Gambill
Project Manager

Wet Chemistry by Method 9056A

Client ID	Lab Sample ID	Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
BH-1 @ 2'	L1362552-01	Chloride	59.7		23.6	1	06/12/2021 23:40	WG1687222
NW-1	L1362552-02	Chloride	56.5		28.6	1	06/12/2021 23:49	WG1687222
SW-1	L1362552-03	Chloride	243		26.4	1	06/12/2021 23:59	WG1687222
EW-1	L1362552-04	Chloride	45.9		25.7	1	06/13/2021 00:28	WG1687222
WW-1	L1362552-05	Chloride	35.6		25.4	1	06/13/2021 00:37	WG1687222

Semi-Volatile Organic Compounds (GC) by Method 8015M

Client ID	Lab Sample ID	Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
BH-1 @ 2'	L1362552-01	C10-C28 Diesel Range	6.79		4.71	1	06/09/2021 22:35	WG1685537
BH-1 @ 2'	L1362552-01	C28-C36 Motor Oil Range	9.11		4.71	1	06/09/2021 22:35	WG1685537

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	84.9		1	06/08/2021 20:56	WG1684916

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	59.7		23.6	1	06/12/2021 23:40	WG1687222

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000589	1	06/11/2021 02:55	WG1685613
Toluene	ND		0.00589	1	06/11/2021 02:55	WG1685613
Ethylbenzene	ND		0.000589	1	06/11/2021 02:55	WG1685613
Total Xylene	ND		0.00177	1	06/11/2021 02:55	WG1685613
TPH (GC/FID) Low Fraction	ND		0.118	1	06/11/2021 02:55	WG1685613
(S) a,a,a-Trifluorotoluene(FID)	*114*		*77.0-120*		*06/11/2021 02:55*	WG1685613
(S) a,a,a-Trifluorotoluene(PID)	*111*		*72.0-128*		*06/11/2021 02:55*	WG1685613

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	6.79		4.71	1	06/09/2021 22:35	WG1685537
C28-C36 Motor Oil Range	9.11		4.71	1	06/09/2021 22:35	WG1685537
(S) o-Terphenyl	*72.5*		*18.0-148*		*06/09/2021 22:35*	WG1685537

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	69.9		1	06/08/2021 20:56	WG1684916

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	56.5		28.6	1	06/12/2021 23:49	WG1687222

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000716	1	06/11/2021 03:17	WG1685613
Toluene	ND		0.00716	1	06/11/2021 03:17	WG1685613
Ethylbenzene	ND		0.000716	1	06/11/2021 03:17	WG1685613
Total Xylene	ND		0.00215	1	06/11/2021 03:17	WG1685613
TPH (GC/FID) Low Fraction	ND		0.143	1	06/11/2021 03:17	WG1685613
(S) a,a,a-Trifluorotoluene(FID)	*114*		*77.0-120*		*06/11/2021 03:17*	WG1685613
(S) a,a,a-Trifluorotoluene(PID)	*110*		*72.0-128*		*06/11/2021 03:17*	WG1685613

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		5.73	1	06/09/2021 22:48	WG1685537
C28-C36 Motor Oil Range	ND		5.73	1	06/09/2021 22:48	WG1685537
(S) o-Terphenyl	*60.3*		*18.0-148*		*06/09/2021 22:48*	WG1685537

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	75.8		1	06/08/2021 20:56	WG1684916

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	243		26.4	1	06/12/2021 23:59	WG1687222

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000660	1	06/11/2021 03:39	WG1685613
Toluene	ND		0.00660	1	06/11/2021 03:39	WG1685613
Ethylbenzene	ND		0.000660	1	06/11/2021 03:39	WG1685613
Total Xylene	ND		0.00198	1	06/11/2021 03:39	WG1685613
TPH (GC/FID) Low Fraction	ND		0.132	1	06/11/2021 03:39	WG1685613
(S) a,a,a-Trifluorotoluene(FID)	*114*		*77.0-120*		*06/11/2021 03:39*	WG1685613
(S) a,a,a-Trifluorotoluene(PID)	*111*		*72.0-128*		*06/11/2021 03:39*	WG1685613

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		5.28	1	06/09/2021 23:02	WG1685537
C28-C36 Motor Oil Range	ND		5.28	1	06/09/2021 23:02	WG1685537
(S) o-Terphenyl	*60.8*		*18.0-148*		*06/09/2021 23:02*	WG1685537

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	77.7		1	06/08/2021 20:45	WG1684917

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	45.9		25.7	1	06/13/2021 00:28	WG1687222

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000644	1	06/11/2021 04:00	WG1685613
Toluene	ND		0.00644	1	06/11/2021 04:00	WG1685613
Ethylbenzene	ND		0.000644	1	06/11/2021 04:00	WG1685613
Total Xylene	ND		0.00193	1	06/11/2021 04:00	WG1685613
TPH (GC/FID) Low Fraction	ND		0.129	1	06/11/2021 04:00	WG1685613
(S) a,a,a-Trifluorotoluene(FID)	*115*		*77.0-120*		*06/11/2021 04:00*	WG1685613
(S) a,a,a-Trifluorotoluene(PID)	*112*		*72.0-128*		*06/11/2021 04:00*	WG1685613

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		5.15	1	06/09/2021 23:16	WG1685537
C28-C36 Motor Oil Range	ND		5.15	1	06/09/2021 23:16	WG1685537
(S) o-Terphenyl	*71.2*		*18.0-148*		*06/09/2021 23:16*	WG1685537

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.7		1	06/08/2021 20:45	WG1684917

Wet Chemistry by Method 9056A

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	35.6		25.4	1	06/13/2021 00:37	WG1687222

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000636	1	06/11/2021 04:22	WG1685613
Toluene	ND		0.00636	1	06/11/2021 04:22	WG1685613
Ethylbenzene	ND		0.000636	1	06/11/2021 04:22	WG1685613
Total Xylene	ND		0.00191	1	06/11/2021 04:22	WG1685613
TPH (GC/FID) Low Fraction	ND		0.127	1	06/11/2021 04:22	WG1685613
(S) a,a,a-Trifluorotoluene(FID)	*116*		*77.0-120*		*06/11/2021 04:22*	WG1685613
(S) a,a,a-Trifluorotoluene(PID)	*112*		*72.0-128*		*06/11/2021 04:22*	WG1685613

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		5.08	1	06/09/2021 23:29	WG1685537
C28-C36 Motor Oil Range	ND		5.08	1	06/09/2021 23:29	WG1685537
(S) o-Terphenyl	*57.5*		*18.0-148*		*06/09/2021 23:29*	WG1685537

Method Blank (MB)

(MB) R3664892-1 06/08/21 20:56

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00300			

L1362550-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1362550-06 06/08/21 20:56 • (DUP) R3664892-3 06/08/21 20:56

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	80.9	81.0	1	0.132		10

Laboratory Control Sample (LCS)

(LCS) R3664892-2 06/08/21 20:56

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3664890-1 06/08/21 20:45

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00300			

L1362556-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1362556-06 06/08/21 20:45 • (DUP) R3664890-3 06/08/21 20:45

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	95.3	95.2	1	0.0901		10

Laboratory Control Sample (LCS)

(LCS) R3664890-2 06/08/21 20:45

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3666572-1 06/12/21 19:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1362550-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1362550-02 06/12/21 22:05 • (DUP) R3666572-3 06/12/21 22:33

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	45.0	42.3	1	6.20		15

L1362556-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1362556-02 06/13/21 00:56 • (DUP) R3666572-6 06/13/21 01:06

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	68.7	71.1	1	3.44		15

Laboratory Control Sample (LCS)

(LCS) R3666572-2 06/12/21 20:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	199	99.4	80.0-120	

L1362550-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1362550-02 06/12/21 22:05 • (MS) R3666572-4 06/12/21 22:43 • (MSD) R3666572-5 06/12/21 22:52

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	577	45.0	624	611	100	98.1	1	80.0-120			2.12	15

Method Blank (MB)

(MB) R3667006-3 06/11/21 00:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*115*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*112*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3667006-1 06/10/21 23:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0508	102	76.0-121	
Toluene	0.0500	0.0506	101	80.0-120	
Ethylbenzene	0.0500	0.0517	103	80.0-124	
Total Xylene	0.150	0.145	96.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*113*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*110*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3667006-2 06/11/21 00:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.85	106	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*118*	*72.0-128*	

Method Blank (MB)

(MB) R3665390-1 06/09/21 20:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.393	J	0.274	4.00
(S) o-Terphenyl	*74.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3665390-2 06/09/21 20:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	42.6	85.2	50.0-150	
(S) o-Terphenyl			*94.6*	*18.0-148*	

L1362556-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1362556-07 06/10/21 01:04 • (MS) R3665390-3 06/10/21 01:18 • (MSD) R3665390-4 06/10/21 01:32

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	62.5	ND	48.2	32.5	77.1	52.4	1	50.0-150		J3	38.9	20
(S) o-Terphenyl					*82.4*	*54.3*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

PBELAB

Pace

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP
10014 S. County Road 1213
Midland, Texas 79706

Centennial Phone: 432-661-4184

Project Manager: Tim McMinn

Company Name: Etech Environmental and Safety Solutions, Inc.

Company Address: 13000 W CR 100

City/State/Zip: Odessa, Texas 79765

Telephone No: (432)230-3763 Fax No:

Sampler Signature:

e-mail: Matt@etechenv.com
tim@etechenv.com

Project Name: Chorizo 12 SC 501H, 502H, 503H Pk

Project #: 13982

Project Loc: Lea County, NM

PO #: 93981

Report Format: [X] Standard [ ] TRRP [ ] NPDES

L1362552

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1	TOTAL: 8015M	8015B	TX 1005 Ext	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX (8021B) 5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
-01	BH-1 @ 2'			6/1/21	1300		1	X								S	X										X			X				X
-02	NW-1			6/1/21	1320		1	X								S	X										X			X				X
-03	SW-1			6/1/21	1330		1	X								S	X										X			X				X
-04	EW-1			6/2/21	1345		1	X								S	X										X			X				X
-05	WW-1			6/2/21	1145		1	X								S	X										X			X				X

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

Special Instructions:
Bill to Centennial Resource

	Date	Time		Date	Time
Relinquished by:	6-4-21	1128	Received by:		
Relinquished by:	6.4.21	1800	Received by:		
Relinquished by:	Date	Time	Received by PBEL:	6-5-21	1200 GP ~~0930~~

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt:
Received: °C
Adjusted: °C Factor

3.8-1=2.7 07 60

District I
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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	nAPP2109842296
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Centennial Resource Production, Inc	OGRID: 372165
Contact Name: Jamon Hohensee	Contact Telephone: 432-241-4283
Contact email: jamon.hohensee@cdevinc.com	Incident # nAPP2109842296
Contact mailing address: 500 W. Illinois Ave, Suite 500, Midland Texas 79705	

Location of Release Source

Latitude 32.43125 Longitude -103.42602
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Chorizo 12 SC CTB	Site Type: Production Facility
Date Release Discovered: 3/29/21	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
K	36	21S	34E	Lea

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)10	Volume Recovered (bbls)9
	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:
When removing high volume transfer pump form the PW manifold the crew found a rag stuck in the valve. 10bbls were released with 9bbls inside the lined containment. A vacuum truck was called to the site and a reported 9bbls were recovered from the containment. An estimated 312 cubic feet were impacted from the PW on the pad. The cubic feet along with porosity and saturation % were used to estimate that 1bbl of PW impacted the surface. (312/5.61)*.2*.1=~1

Form C-141
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State of New Mexico
Oil Conservation Division

Incident ID	NAPP2109842296
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?
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: Jamon Hohensee Title: Sr. Environmental Analyst

Signature: _____ Date: 6-2-21

email: jamon.hohensee@cdevinc.com Telephone: 432-241-4283

OCD Only

Received by: Ramona Marcus Date: 6/3/2021

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

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

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

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

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

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

Form C-141
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State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ 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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Form C-141
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State of New Mexico
Oil Conservation Division

Incident ID	
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Facility ID	
Application ID	

Closure

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

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

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

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

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

☐ Description of remediation activities

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

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

Operator: CENTENNIAL RESOURCE PRODUCTION, LLC 1001 17th Street, Suite 1800 Denver, CO 80202	OGRID: 372165
	Action Number: 30325
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	The submitted C-141 is accepted with the following condition(s): The lateral and longitudinal information does not match the ULSTR regarding the release location. Please correct the conflicting information and report back to OCD. The latitude and longitude information has resulted in the following ULSTR: N-36-21S-34E. When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.	6/3/2021

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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
CENTENNIAL RESOURCE PRODUCTION, LLC 1001 17th Street, Suite 1800 Denver, CO 80202	372165
	Action Number: 41861
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	None	9/16/2021