701 Tradewinds Boulevard, Suite 701
Midland, Texas 79706
Tel. 432-685-3898
www.ntglobal.com

October 24, 2018

APPROVED
By CHernandez at 1:23 pm, Nov 13, 2018

See email correspondence.

Ms. Christina Hernandez
New Mexico Oil Conservation District
Energy, Minerals and Natural Resources Department
1625 N. French Drive
Hobbs, NM 88240

Re: Site Assessment Report
Godfather 36 State Com No. 1H (API No. 3002540830000)
1RP-5227
Centennial Resource Development
Site Location: Unit C, Sec. 36, T 22-S, R 34-E
(Lat 32.3551254º, Long -103.4268036º)
Lea County, New Mexico

Dear Ms. Hernandez:

At the request of Centennial Resource Development, Inc. (Centennial), New Tech Global Environmental, LLC (NTGE) has prepared this letter to document assessment activities following a release at the Godfather 36 State Com No. 1H (Site). The Site is an active wellsite located within Unit C, Section 36, Township 22 South, Range 34 East, approximately 16.6 miles southwest of Eunice, New Mexico (Figures 1 and 2).

Background

According to Centennial personnel, on October 10, 2018, a release of approximately 926 barrels (bbls) of produced water occurred when the fracking operations of Centennial's Mortal Kombat 36 State Com 502H communicated with the Site causing the sucker rod packing to blow out, and resulted in the storage tanks overflowing. The majority of the release was contained within the tank battery berm with the exception of approximately 75 bbls spilling onto the pad and spreading to a few small areas off of the pad to the west.

Upon discovery, Centennial personnel initiated response actions to include the recovery of 825 bbls within the berm and 40 of the 75 bbls that spilled onto the pad with a vacuum truck. A small berm was built along the western edge of the pad to prevent further migration of the spill into native areas. The spill trajectory is illustrated on Figure 3, attached.

A C-141 Form was submitted to the New Mexico Oil Conservation District (NMOCD) on October 5, 2018 and remediation permit (RP) number 1RP-5227 was assigned.

Regulatory Limits

The NMOCD regulatory limits for constituents of concern (COC) commonly associated with E&P substance releases are established in Table 1 of NMAC Rule 19.15.29. The rule dictates the depth to groundwater be determined within .5 miles of the affected location. Depth to groundwater will then be used in conjunction with Table 1 to determine regulatory limits for COC.

Groundwater depths were determined using the New Mexico Office of State Engineers – Water Rights Reporting System. No wells were identified near the Site. However, Centennial agrees to remediate impacts to the lowest levels required by NMAC 19.15.29.

USGS topographic maps were used to identify water sources and significant watercourses within .5 miles of the lateral extents of the release. It was determined that no water sources or significant watercourses were identified within the area.

Site Assessment

On October 16 and 17, 2018, NTGE conducted Site assessment activities to determine the vertical and horizontal extents of impacts resulting from the release. A total of seven test pits were installed using a backhoe within the identified spill trajectory area to depths of 0 to 10 feet below ground surface (ft bgs). Soil samples were collected in 2 ft intervals and field screened for chlorides using Hach Quantab Chloride Strips to aid in sample selection. Test pit locations are illustrated on Figure 3, attached. Site Photographs taken at the time of sample collection are included in the attached photographic log.

Soil samples were placed directly into laboratory provided sample containers, stored on ice, and transported under proper chain-of-custody protocol to Xenco Laboratories for chemical analysis. Samples were analyzed for chlorides. Laboratory reports and chain of custody documents are attached. Soil analytical results are presented in Table 1, below.

Table 1 - Analytical Results – Site Assessment
Godfather 36 State Com 1H Release
Centennial Development Resources, Inc.
Lea County, New Mexico

Chloride Concentrations (mg/kg) at Test Pit Locations									
Depth (ft)	TP1	TP2	TP3	TP4	TP5	TP6	TP7	BKGD	Regulatory Limit
0	7.13	70.90	771.00	<4.95	<4.97	<4.96	<4.96	<5.00	650[A]
2	13.80	7.70	155.00	<4.95	<4.96	<5.00	<4.95	<5.02	
4	<4.99	<4.99	<4.98	<4.98	<4.98	<4.97	<4.98	<4.98	
6	175	<4.95	34.40	40.90	<5.03	<5.00	<4.99	<4.99	
8	139.00	---	---	---	55.00	<4.99	<5.03	<5.02	
10	39.30	---	---	---	<4.98	<4.95	17.60	<4.95	

— exceeded regulatory limit
mg/kg – milligram per kilogram
ft – feet
A – NMAC 19.15.29

Findings

After reviewing the laboratory results, it is determined that chloride levels of all samples within the spill trajectory, with the exception of TP3-0' (771 mg/kg), were below regulatory limits.

Corrective Action Plan

Due to the presence of elevated chloride concentrations at sample location TP3-0' remedial actions will be necessary to bring the Site into regulatory compliance.

NTGE recommends the following remedial actions:

1) Excavate soils in the area of TP3-0' to a depth of 2 ft bgs and use Hach Quantab Chloride Strips to field screen sidewalls until horizontal impacts have been removed.
2) Collect samples from the base and sidewalls of the excavation and analyze for chlorides to confirm removal of impacts has been achieved.
3) Once the confirmation samples are determined to be below regulatory limits, backfill excavation with clean soil from a NMOCD approved quarry.

NTGE also recommends that 6 inches of soil be scraped from the impacted area and removed and backfilled with clean soil to eliminate any visible surface staining.

Conclusions

Upon completion of remedial actions a *Remedial Action Report* documenting remedial actions and confirmation sample collection activities will be prepared.

If you have any questions regarding this report or need further information, please contact us at 432-685-3898.

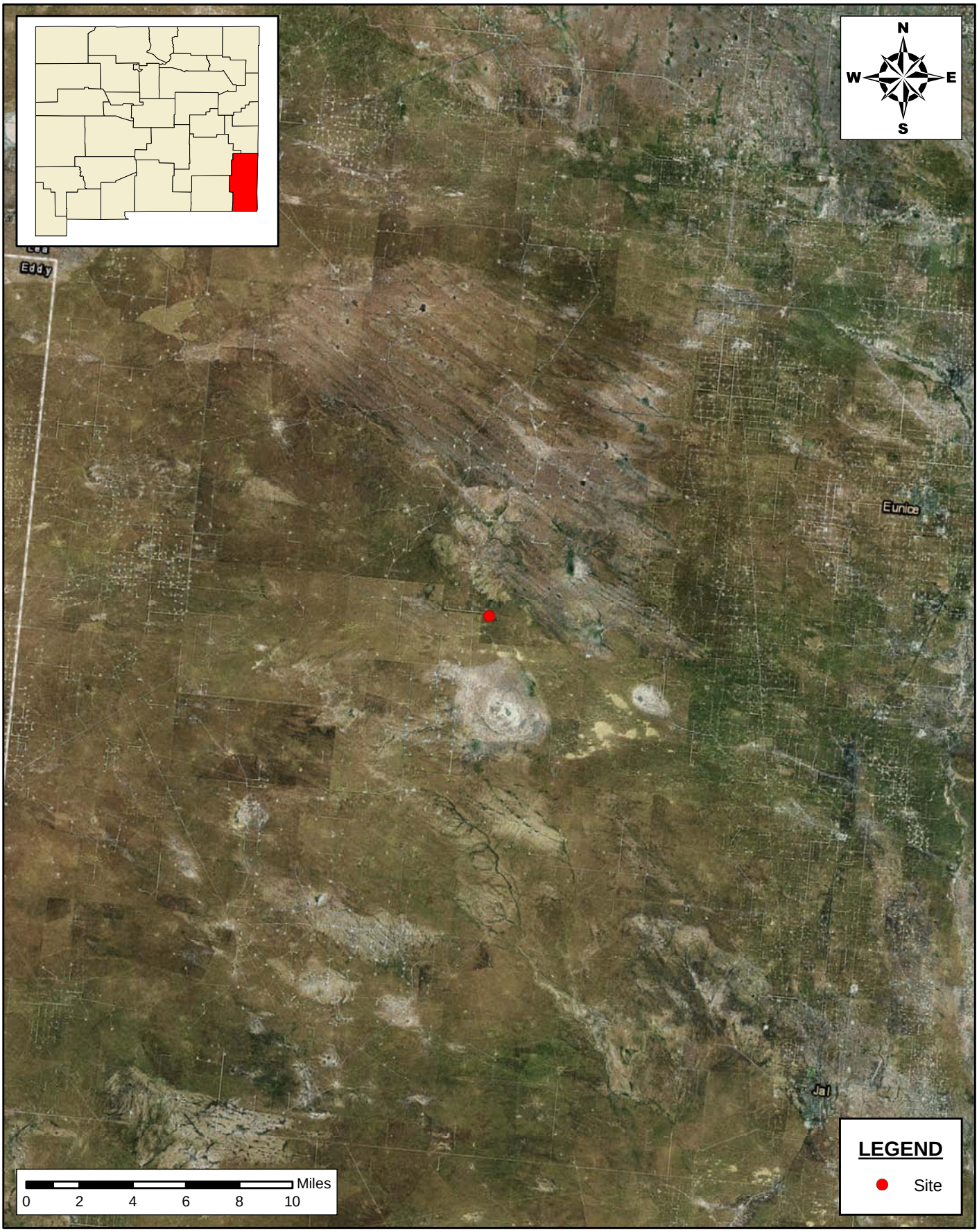
Sincerely,
NTG Environmental

Jay Loudermilk
Staff Scientist

Kari Lazo
Environmental Manager

Attachments: Figures
Photographic Log
Initial C-141 Form
Field Data Form
Laboratory Reports and Chain of Custody Documents

Figures



SITE LOCATION MAP
SITE ASSESSMENT REPORT
CENTENNIAL RESOURCES
GODFATHER 36 STATE COM 1H
LEA COUNTY, NEW MEXICO

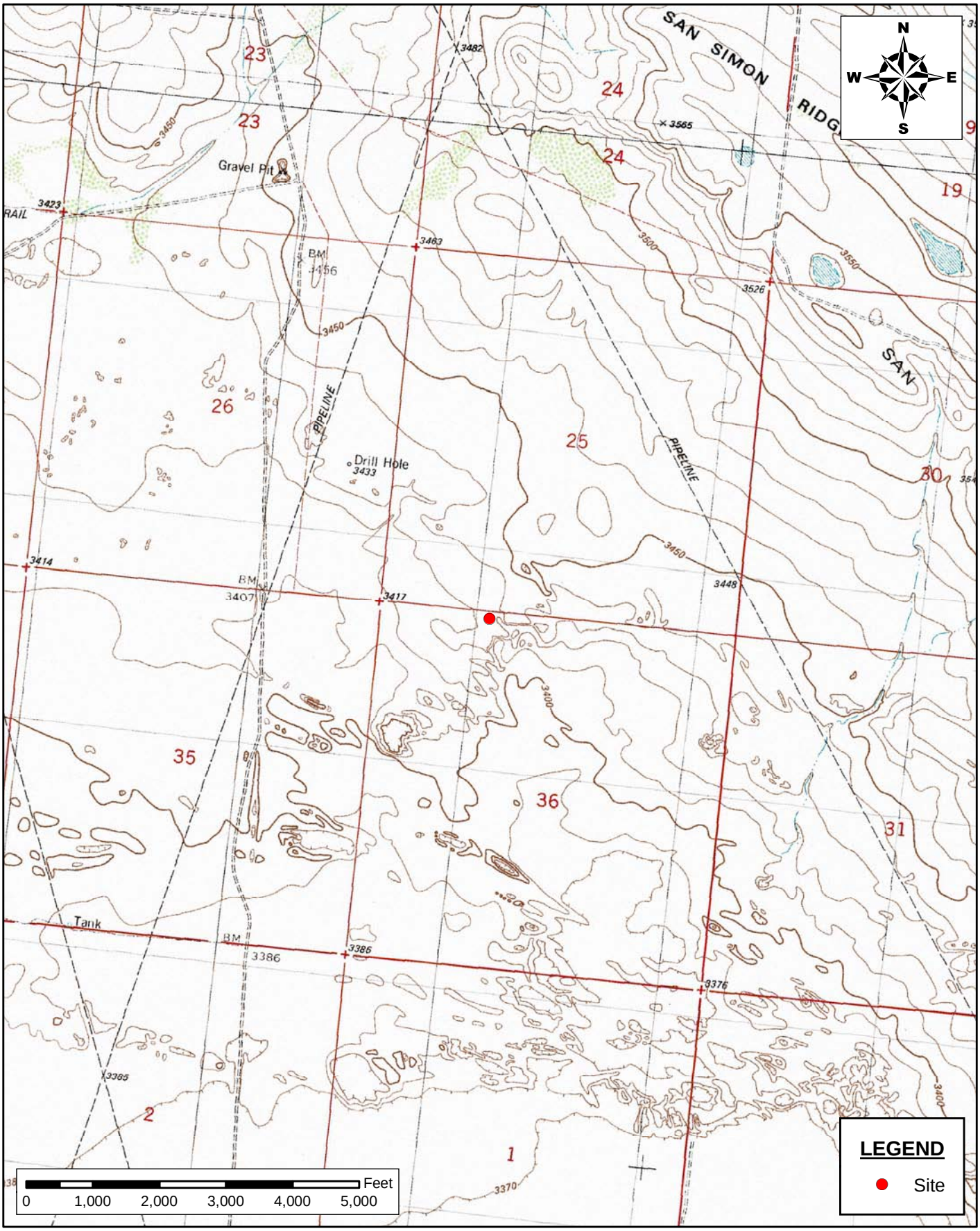
SCALE: AS SHOWN | DATE: 10/23/2018 | PROJECT #: CNTE-R1805612

New Tech Global Environmental, LLC
911 Regional Park Drive
Houston, Texas 77060
T - 281.872.9300
F - 281.872.4521
Web: www.ntglobal.com

NOTES:
1. Base Image: ESRI Maps & Data 2017
2. Map Projection: NAD 1983 UTM Zone 15N

DRAWING NUMBER:
FIGURE 1
SHEET NUMBER:
1 of 1

Document Path: P:\2018 PROJECTS\CENTENNIAL RESOURCES (CNTE)\RSC\CNTE-R1805612 Godfather 36 State Com 1H\7- Figures\Geodatabase\CNTE-R1805612_FIG 1_SLMap_10232018.mxd



AREA MAP
SITE ASSESSMENT REPORT
CENTENNIAL RESOURCES
GODFATHER 36 STATE COM 1H
LEA COUNTY, NEW MEXICO

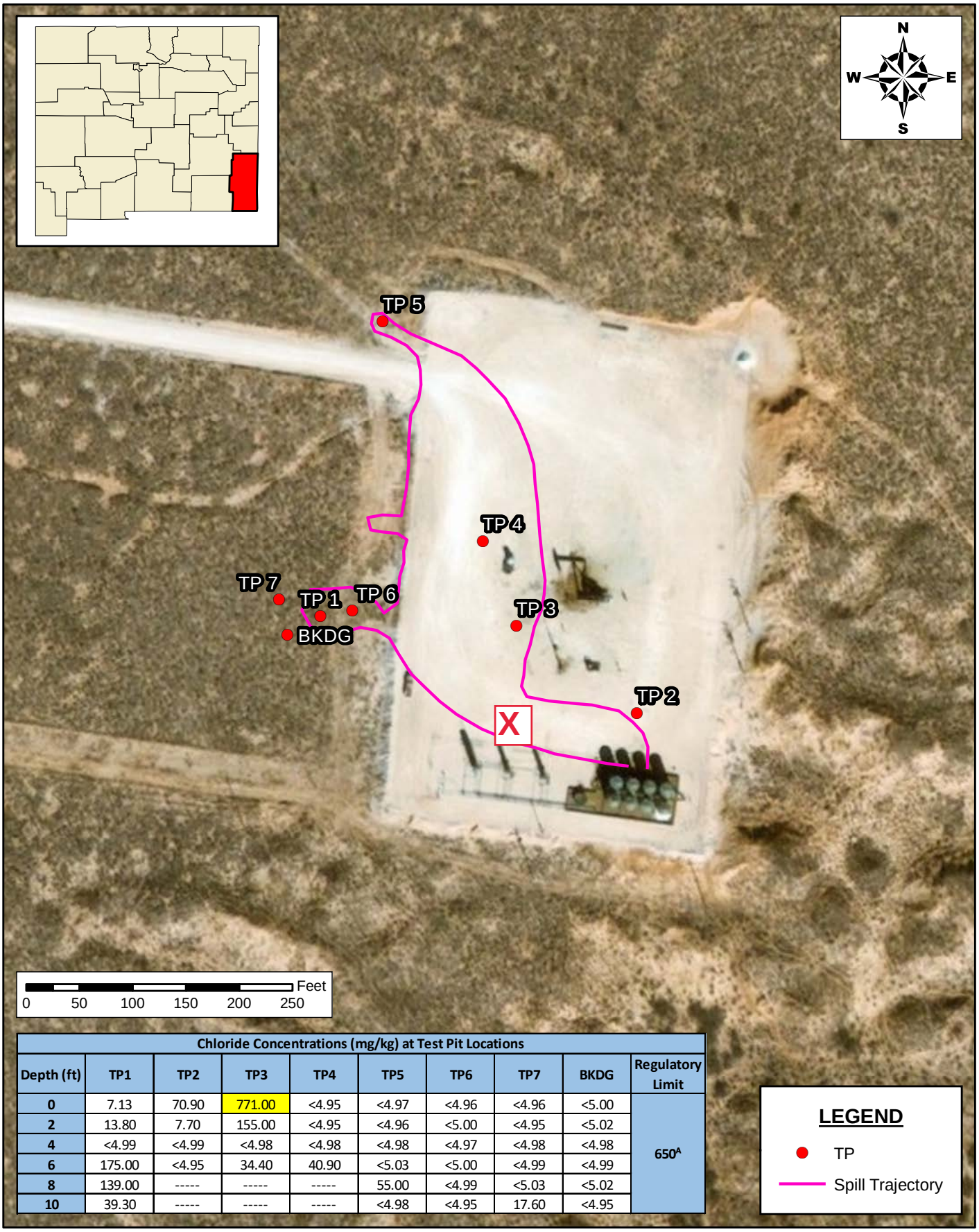
SCALE: AS SHOWN | DATE: 10/23/2018 | PROJECT #: CNTE-R1805612

New Tech Global Environmental, LLC
911 Regional Park Drive
Houston, Texas 77060
T - 281.872.9300
F - 281.872.4521
Web: www.ntglobal.com

NOTES:
1. Base Image: USDA, NRCS-NCGC 2002
2. Map Projection: NAD 1983 UTM Zone 15N

DRAWING NUMBER:
FIGURE 2
SHEET NUMBER:
1 of 1

Document Path: P:\2018 PROJECT S\CENTENNIAL RESOURCES (CNTE)\RSC\CNTE-R1805612 Godfather 36 State Com 1H\7- Figures\Geodatabase\CNTE-R1805612_FIG 2_AMap_10232018.mxd



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4	<4.99	<4.99	<4.98	<4.98	<4.98	<4.97	<4.98	<4.98	
6	175.00	<4.95	34.40	40.90	<5.03	<5.00	<4.99	<4.99	
8	139.00	-----	-----	-----	55.00	<4.99	<5.03	<5.02	
10	39.30	-----	-----	-----	<4.98	<4.95	17.60	<4.95	

LEGEND

- TP
- Spill Trajectory

SCALED SITE MAP
SITE ASSESSMENT REPORT
CENTENNIAL RESOURCES
GODFATHER 36 STATE COM 1H
LEA COUNTY, NEW MEXICO

SCALE: 1:1,500 | DATE: 10/24/2018 | PROJECT #: CNTE-R1805612

New Tech Global Environmental, LLC
911 Regional Park Drive
Houston, Texas 77060
T - 281.872.9300
F - 281.872.4521
Web: www.ntglobal.com

NOTES:
1. Base Image: ESRI Maps & Data 2017
2. Map Projection: NAD 1983 UTM Zone 15N

DRAWING NUMBER:
FIGURE 3
SHEET NUMBER:
1 of 1

Document Path: P:\2018 PROJECTS\CENTENNIAL RESOURCES (CNTE)\RSC\CNTE-R1805612 Godfather 36 State Com 1H\7- Figures\Geodatabase\CNTE-R1805612_FIG 3_ScaledSiteMap_10232018.mxd

Photographic Log

PHOTOGRAPHIC LOG

CENTENNIAL RESOURCE DEVELOPMENT, INC.

Photograph No. 1

Facility: Godfather 36 State Com No. 1H

County: Lea, NM

Date: 10/01/2018

Photographer: Zane Kurtz

Description:
View of spill trajectory and initial response actions looking south.

Photograph No. 2

Facility: Godfather 36 State Com No. 1H

County: Lea, NM

Date: 10/01/2018

Photographer: Zane Kurtz

Description:
View of spill trajectory and initial response actions looking east.

Photograph No. 3

Facility: Godfather 36 State Com No. 1H

County: Lea, NM

Date: 10/16/2018

Photographer: Jay Loudermilk

Description:
View of TP1, TP6, and TP7 sample locations looking east.

PHOTOGRAPHIC LOG

CENTENNIAL RESOURCE DEVELOPMENT, INC.

Photograph No. 4

Facility: Godfather 36 State Com No. 1H

County: Lea, NM

Date: 10/16/2018

Photographer: Jay Loudermilk

Description:
View of TP2 sample location looking south.

Photograph No. 5

Facility: Godfather 36 State Com No. 1H

County: Lea, NM

Date: 10/16/2018

Photographer: Jay Loudermilk

Description:
View of TP3 sample location looking north.

Photograph No. 6

Facility: Godfather 36 State Com No. 1H

County: Lea, NM

Date: 10/16/2018

Photographer: Jay Loudermilk

Description:
View of TP4 sample location looking south.

PHOTOGRAPHIC LOG

CENTENNIAL RESOURCE DEVELOPMENT, INC.

Photograph No. 7

Facility: Godfather 36 State Com No. 1H

County: Lea, NM

Date: 10/16/2018

Photographer: Jay Loudermilk

Description:
View of TP5 sample location looking south.

C-141 Form

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	nCH1828530607
District RP	1RP-5227
Facility ID	
Application ID	pCH1828531065

Release Notification

Responsible Party

Responsible Party: Centennial Resource Development	OGRID: 260511 372165
Contact Name: Zane Kurtz	Contact Telephone: 432-701-5672
Contact email: Zane.Kurtz@cdevinc.com	Incident # NCH1828530607 GODFATHER 36 STATE COM 1H @ 30-025-42083
Contact mailing address: 500 W Illinois Avenue, Suite 500, Midland, Texas 79701	

Location of Release Source

Latitude 32.35512540 Longitude -103.42680360
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Godfather 36 State Com 1H	Site Type: Producing Oil Well
Date Release Discovered: 10-1-2018	API# *(if applicable)*: 3002542083000

Unit Letter	Section	Township	Range	County
C	36	22 S	34 E	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): Approx 926	Volume Recovered (bbls): 900
	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: While frac'n our Mortal Combat 36 State Com 502H they communicated, and it blew out the stuffing box and overflowed the tanks due to not being able to kill the well. Vac trucks were called to immediately start recovering fluid and sucking out the lined containment. All was contained in the metal lined containment except approximately 75 bbls which ran out onto the pad. 40 bbls of the 75 that ran over was recovered. About 35 bbls soaked into the pad and ran off pad to the west a bit.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? This is a spill of over 25 bbls and some managed to go off the pad and into the pasture area where livestock grazes. No immediate watercourses are nearby.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? No. Environmental department was not given immediate notice and the quantity was unknown until vac truck hauler tickets were accounted for.	

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: Zane Kurtz Title: Environmental Rep

Signature: Zane Kurtz Date: 10-5-2018

email: Zane.Kurtz@cdevinc.com Telephone: 432-701-5672

OCD Only

Received by: **RECEIVED** By CHernandez at 8:19 am, Oct 12, 2018

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
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: JayLoudermilk Title: Staff Scientist

Signature: Date: 10/24/2018

email: jloudermilk@ntglobal.com Telephone: 432-312-8049

OCD Only

Received by: REVIEWED By CHernandez at 12:31 pm, Nov 13, 2018 Date:

Field Data Form

FIELD SCREENING

NTG ENVIRONMENTAL, LLC

NTG ENVIRONMENTAL

Date	Project No.	Project Name
10/16/13		GodCather 36 Fed com 1
Page 1 of 2	Client: Centennial	Location: New Mexico

Sampling Time	Sample ID	Depth	PID Reading	Strip Reading (mg/kg)	Strip Reading	Strip Range(LR/HR)
9:45	TP1	0'		<320	1.0	LR
9:50		2'		<320	0.2	LR
9:55		4'		<320	0.4	LR
10:00		6'		<320	1.0	LR
10:05		8'		<320	0.8	LR
10:10		10'		<320	0.6	LR
10:15		12'		<320	0.2	LR
10:20	BKGD	0'		<320	0.2	LR
10:25		2'		<320	0.2	LR
10:30		4'		<320	0.2	LR
10:35		6'		<320	0.2	LR
10:40		8'		<320	0.2	LR
10:45		10'		<320	0.2	LR
10:50		12'		<320	0.2	LR
12:30	TP2	0'		320	1.6	LR
12:35		2'		<320	1.2	LR
12:40		4'		<320	1.0	LR
12:45		6'		<320	1.0	LR
12:50	TP3	0'		650	2.6	LR
12:55		2'		370	1.8	LR
13:00		4'		<320	1.2	LR
13:05		6'		<320	1.0	LR
13:10		8'		<320	1.0	LR
13:15						

Comments	Reported By (print, sign, date)

FIELD SCREENING

NTG ENVIRONMENTAL, LLC

Date	Project No.	Project Name
Page 2 of 2	Client	Location

Sampling Time	Sample ID	Depth	PID Reading	Strip Reading (mg/kg)	Strip Reading	Strip Range(LR/HR)
13:15	TP4	0'		<320	0.8	LR
13:20		2'		320	1.6	LR
13:25		4'		<320	1.4	LR
13:30		6'		<320	1.2	LR
13:35		8'		<320	0.8	LR
10:00	TP5	0'		<320	0.2	LR
10:05		2'		<320	0.4	LR
10:10		4'		<320	0.2	LR
10:15		6'		<320	0.2	LR
10:20		8'		<320	0.4	LR
10:25		10'		<320	0.2	LR
10:30	TP6	0'		<320	0.2	LR
10:35		2'		<320	0.2	LR
10:40		4'		<320	0.2	LR
10:45		6'		<320	0.2	LR
10:50		8'		<320	0.2	LR
10:55		10'		<320	0.4	LR
11:00	TP7	0'		<320	0.2	LR
11:05		2'		<320	0.2	LR
11:10		4'		<320	0.2	LR
11:15		6'		<320	0.2	LR
11:20		8'		<320	0.2	LR
11:25		10'		<320	0.4	LR

Comments	Reported By (print, sign, date)

6' on grid
10' on grid

Laboratory Reports and Chain of Custody Document

Analytical Report 602694

for

Centennial Resource Production LLC

Project Manager: Zane Kurtz

Godfather 36 SC 1H

23-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

23-OCT-18

Project Manager: **Zane Kurtz**
Centennial Resource Production LLC
400 West Illinios, Suite 1601
Midland, TX 79701

Reference: XENCO Report No(s): **602694**
Godfather 36 SC 1H
Project Address:

Zane Kurtz:

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) 602694. 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. 602694 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

Sample Cross Reference 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BKGD 0'	S	10-16-18 10:20	0 ft	602694-001
BKGD 2'	S	10-16-18 10:25	2 ft	602694-002
BKGD 4'	S	10-16-18 10:30	4 ft	602694-003
BKGD 6'	S	10-16-18 10:35	6 ft	602694-004
BKGD 8'	S	10-16-18 10:40	8 ft	602694-005
BKGD 10'	S	10-16-18 10:45	10 ft	602694-006
TP1 0'	S	10-16-18 09:45	0 ft	602694-007
TP1 2'	S	10-16-18 09:50	2 ft	602694-008
TP1 4'	S	10-16-18 09:55	4 ft	602694-009
TP1 6'	S	10-16-18 10:00	6 ft	602694-010
TP1 8'	S	10-16-18 10:05	8 ft	602694-011
TP1 10'	S	10-16-18 10:10	10 ft	602694-012
TP2 0'	S	10-16-18 12:30	0 ft	602694-013
TP2 2'	S	10-16-18 12:35	2 ft	602694-014
TP2 4'	S	10-16-18 12:40	4 ft	602694-015
TP2 6'	S	10-16-18 12:45	6 ft	602694-016
TP3 0'	S	10-16-18 12:50	0 ft	602694-017
TP3 2'	S	10-16-18 12:55	2 ft	602694-018
TP3 4'	S	10-16-18 13:00	4 ft	602694-019
TP3 6'	S	10-16-18 13:05	6 ft	602694-020
TP4 0'	S	10-16-18 13:10	0 ft	602694-021
TP4 2'	S	10-16-18 13:15	2 ft	602694-022
TP4 4'	S	10-16-18 13:20	4 ft	602694-023
TP4 6'	S	10-16-18 13:25	6 ft	602694-024
TP5 0'	S	10-17-18 10:00	0 ft	602694-025
TP5 2'	S	10-17-18 10:05	2 ft	602694-026
TP5 4'	S	10-17-18 10:10	4 ft	602694-027
TP5 6'	S	10-17-18 10:15	6 ft	602694-028
TP5 8'	S	10-17-18 10:20	8 ft	602694-029
TP5 10'	S	10-17-18 10:25	10 ft	602694-030
TP6 0'	S	10-17-18 10:45	0 ft	602694-031
TP6 2'	S	10-17-18 10:50	2 ft	602694-032
TP6 4'	S	10-17-18 10:55	4 ft	602694-033
TP6 6'	S	10-17-18 11:00	6 ft	602694-034
TP6 8'	S	10-17-18 11:05	8 ft	602694-035
TP6 10'	S	10-17-18 11:10	10 ft	602694-036
TP7 0'	S	10-17-18 11:15	0 ft	602694-037
TP7 2'	S	10-17-18 11:20	2 ft	602694-038
TP7 4'	S	10-17-18 11:25	4 ft	602694-039
TP7 6'	S	10-17-18 11:30	6 ft	602694-040
TP7 8'	S	10-17-18 11:35	8 ft	602694-041
TP7 10'	S	10-17-18 11:40	10 ft	602694-042

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 602694

Centennial Resource Production LLC, Midland, TX

Project Name: Godfather 36 SC 1H

Project Id:
Contact: Zane Kurtz
Project Location:

Date Received in Lab: Thu Oct-18-18 08:00 am
Report Date: 23-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	602694-001		602694-002		602694-003		602694-004		602694-005		602694-006	
	Field Id:	BKGD 0'		BKGD 2'		BKGD 4'		BKGD 6'		BKGD 8'		BKGD 10'	
	Depth:	0- ft		2- ft		4- ft		6- ft		8- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-16-18 10:20		Oct-16-18 10:25		Oct-16-18 10:30		Oct-16-18 10:35		Oct-16-18 10:40		Oct-16-18 10:45	
Inorganic Anions by EPA 300	***Extracted:***	Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20	
	Analyzed:	Oct-19-18 09:20		Oct-19-18 10:39		Oct-19-18 10:29		Oct-19-18 10:34		Oct-19-18 10:55		Oct-19-18 21:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		BRL	5.00	BRL	5.02	BRL	4.98	BRL	4.99	BRL	5.02	BRL	4.95

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 602694

Centennial Resource Production LLC, Midland, TX

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Date Received in Lab: Thu Oct-18-18 08:00 am
Report Date: 23-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	602694-007		602694-008		602694-009		602694-010		602694-011		602694-012	
	Field Id:	TP1 0'		TP1 2'		TP1 4'		TP1 6'		TP1 8'		TP1 10'	
	Depth:	0- ft		2- ft		4- ft		6- ft		8- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-16-18 09:45		Oct-16-18 09:50		Oct-16-18 09:55		Oct-16-18 10:00		Oct-16-18 10:05		Oct-16-18 10:10	
Inorganic Anions by EPA 300	***Extracted:***	Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20		Oct-18-18 15:20	
	Analyzed:	Oct-19-18 22:00		Oct-19-18 22:06		Oct-19-18 22:11		Oct-19-18 22:16		Oct-19-18 22:22		Oct-19-18 22:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		7.13	5.01	13.8	5.01	BRL	4.99	175	4.96	139	4.96	39.3	4.95

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 602694

Centennial Resource Production LLC, Midland, TX

Project Name: Godfather 36 SC 1H

Project Id:
Contact: Zane Kurtz
Project Location:

Date Received in Lab: Thu Oct-18-18 08:00 am
Report Date: 23-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	602694-013		602694-014		602694-015		602694-016		602694-017		602694-018	
	Field Id:	TP2 0'		TP2 2'		TP2 4'		TP2 6'		TP3 0'		TP3 2'	
	Depth:	0- ft		2- ft		4- ft		6- ft		0- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-16-18 12:30		Oct-16-18 12:35		Oct-16-18 12:40		Oct-16-18 12:45		Oct-16-18 12:50		Oct-16-18 12:55	
Inorganic Anions by EPA 300	***Extracted:***	Oct-18-18 15:20		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30	
	Analyzed:	Oct-19-18 22:32		Oct-20-18 01:59		Oct-20-18 02:15		Oct-20-18 02:20		Oct-20-18 02:26		Oct-20-18 02:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		70.9	5.00	7.70	4.95	BRL	4.99	BRL	4.95	771	25.0	155	4.97

Jessica Kramer
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Certificate of Analysis Summary 602694

Centennial Resource Production LLC, Midland, TX

Project Name: Godfather 36 SC 1H

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Date Received in Lab: Thu Oct-18-18 08:00 am
Report Date: 23-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	602694-019		602694-020		602694-021		602694-022		602694-023		602694-024	
	Field Id:	TP3 4'		TP3 6'		TP4 0'		TP4 2'		TP4 4'		TP4 6'	
	Depth:	4- ft		6- ft		0- ft		2- ft		4- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-16-18 13:00		Oct-16-18 13:05		Oct-16-18 13:10		Oct-16-18 13:15		Oct-16-18 13:20		Oct-16-18 13:25	
Inorganic Anions by EPA 300	***Extracted:***	Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30	
	Analyzed:	Oct-20-18 02:47		Oct-20-18 02:52		Oct-20-18 02:57		Oct-20-18 03:03		Oct-20-18 03:08		Oct-22-18 12:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		BRL	4.98	34.4	5.03	BRL	4.95	BRL	4.95	BRL	4.98	40.9	5.03

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 602694

Centennial Resource Production LLC, Midland, TX

Project Name: Godfather 36 SC 1H

Project Id:
Contact: Zane Kurtz
Project Location:

Date Received in Lab: Thu Oct-18-18 08:00 am
Report Date: 23-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	602694-025		602694-026		602694-027		602694-028		602694-029		602694-030	
	Field Id:	TP5 0'		TP5 2'		TP5 4'		TP5 6'		TP5 8'		TP5 10'	
	Depth:	0- ft		2- ft		4- ft		6- ft		8- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-17-18 10:00		Oct-17-18 10:05		Oct-17-18 10:10		Oct-17-18 10:15		Oct-17-18 10:20		Oct-17-18 10:25	
Inorganic Anions by EPA 300	***Extracted:***	Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30	
	Analyzed:	Oct-22-18 12:22		Oct-22-18 12:43		Oct-22-18 12:48		Oct-22-18 12:54		Oct-22-18 12:59		Oct-22-18 13:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		BRL	4.97	BRL	4.96	BRL	4.98	BRL	5.03	55.0	5.03	BRL	4.98

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 602694

Centennial Resource Production LLC, Midland, TX

Project Name: Godfather 36 SC 1H

Project Id:
Contact: Zane Kurtz
Project Location:

Date Received in Lab: Thu Oct-18-18 08:00 am
Report Date: 23-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	602694-031		602694-032		602694-033		602694-034		602694-035		602694-036	
	Field Id:	TP6 0'		TP6 2'		TP6 4'		TP6 6'		TP6 8'		TP6 10'	
	Depth:	0- ft		2- ft		4- ft		6- ft		8- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-17-18 10:45		Oct-17-18 10:50		Oct-17-18 10:55		Oct-17-18 11:00		Oct-17-18 11:05		Oct-17-18 11:10	
Inorganic Anions by EPA 300	***Extracted:***	Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 08:30		Oct-19-18 13:00		Oct-19-18 13:00		Oct-19-18 13:00	
	Analyzed:	Oct-22-18 13:15		Oct-22-18 13:31		Oct-22-18 13:36		Oct-20-18 04:54		Oct-20-18 05:10		Oct-20-18 05:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		BRL	4.96	BRL	5.00	BRL	4.97	BRL	5.00	BRL	4.99	BRL	4.95

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 602694

Centennial Resource Production LLC, Midland, TX

Project Name: Godfather 36 SC 1H

Project Id:
Contact: Zane Kurtz
Project Location:

Date Received in Lab: Thu Oct-18-18 08:00 am
Report Date: 23-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	602694-037		602694-038		602694-039		602694-040		602694-041		602694-042	
	Field Id:	TP7 0'		TP7 2'		TP7 4'		TP7 6'		TP7 8'		TP7 10'	
	Depth:	0- ft		2- ft		4- ft		6- ft		8- ft		10- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-17-18 11:15		Oct-17-18 11:20		Oct-17-18 11:25		Oct-17-18 11:30		Oct-17-18 11:35		Oct-17-18 11:40	
Inorganic Anions by EPA 300	***Extracted:***	Oct-19-18 13:00		Oct-19-18 13:00		Oct-19-18 13:00		Oct-19-18 13:00		Oct-19-18 13:00		Oct-19-18 13:00	
	Analyzed:	Oct-20-18 05:20		Oct-20-18 05:26		Oct-20-18 17:16		Oct-20-18 17:21		Oct-20-18 17:27		Oct-20-18 17:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		BRL	4.96	BRL	4.95	BRL	4.98	BRL	4.99	BRL	5.03	17.6	4.95

Jessica Kramer
Project Assistant

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**BKGD 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-001	Date Collected:	10.16.18 10.20	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	5.00	mg/kg	10.19.18 09.20	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**BKGD 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-002	Date Collected:	10.16.18 10.25	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	5.02	mg/kg	10.19.18 10.39	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**BKGD 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-003	Date Collected:	10.16.18 10.30	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.98	mg/kg	10.19.18 10.29	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**BKGD 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-004	Date Collected:	10.16.18 10.35	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.99	mg/kg	10.19.18 10.34	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**BKGD 8'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-005	Date Collected:	10.16.18 10.40	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	5.02	mg/kg	10.19.18 10.55	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**BKGD 10'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-006	Date Collected:	10.16.18 10.45	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.95	mg/kg	10.19.18 21.55	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP1 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-007	Date Collected:	10.16.18 09.45	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.13**	5.01	mg/kg	10.19.18 22.00		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP1 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-008	Date Collected:	10.16.18 09.50	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.8**	5.01	mg/kg	10.19.18 22.06		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP1 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-009	Date Collected:	10.16.18 09.55	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.99	mg/kg	10.19.18 22.11	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP1 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-010	Date Collected:	10.16.18 10.00	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**175**	4.96	mg/kg	10.19.18 22.16		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP1 8'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-011	Date Collected:	10.16.18 10.05	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**139**	4.96	mg/kg	10.19.18 22.22		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP1 10'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-012	Date Collected:	10.16.18 10.10	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.3**	4.95	mg/kg	10.19.18 22.27		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP2 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-013	Date Collected:	10.16.18 12.30	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.18.18 15.20	Basis:	Wet Weight
Seq Number:	3066897				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.9**	5.00	mg/kg	10.19.18 22.32		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP2 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-014	Date Collected:	10.16.18 12.35	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.70**	4.95	mg/kg	10.20.18 01.59		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP2 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-015	Date Collected:	10.16.18 12.40	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.99	mg/kg	10.20.18 02.15	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP2 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-016	Date Collected:	10.16.18 12.45	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.95	mg/kg	10.20.18 02.20	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP3 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-017	Date Collected:	10.16.18 12.50	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**771**	25.0	mg/kg	10.20.18 02.26		5

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP3 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-018	Date Collected:	10.16.18 12.55	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**155**	4.97	mg/kg	10.20.18 02.31		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP3 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-019	Date Collected:	10.16.18 13.00	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.98	mg/kg	10.20.18 02.47	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP3 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-020	Date Collected:	10.16.18 13.05	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**34.4**	5.03	mg/kg	10.20.18 02.52		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP4 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-021	Date Collected:	10.16.18 13.10	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.95	mg/kg	10.20.18 02.57	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP4 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-022	Date Collected:	10.16.18 13.15	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.95	mg/kg	10.20.18 03.03	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP4 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-023	Date Collected:	10.16.18 13.20	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.98	mg/kg	10.20.18 03.08	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP4 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-024	Date Collected:	10.16.18 13.25	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**40.9**	5.03	mg/kg	10.22.18 12.38		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP5 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-025	Date Collected:	10.17.18 10.00	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.97	mg/kg	10.22.18 12.22	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP5 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-026	Date Collected:	10.17.18 10.05	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.96	mg/kg	10.22.18 12.43	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP5 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-027	Date Collected:	10.17.18 10.10	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.98	mg/kg	10.22.18 12.48	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP5 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-028	Date Collected:	10.17.18 10.15	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	5.03	mg/kg	10.22.18 12.54	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP5 8'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-029	Date Collected:	10.17.18 10.20	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.0**	5.03	mg/kg	10.22.18 12.59		1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP5 10'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-030	Date Collected:	10.17.18 10.25	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.98	mg/kg	10.22.18 13.04	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP6 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-031	Date Collected:	10.17.18 10.45	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.96	mg/kg	10.22.18 13.15	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP6 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-032	Date Collected:	10.17.18 10.50	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	5.00	mg/kg	10.22.18 13.31	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP6 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-033	Date Collected:	10.17.18 10.55	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 08.30	Basis:	Wet Weight
Seq Number:	3067035				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.97	mg/kg	10.22.18 13.36	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP6 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-034	Date Collected:	10.17.18 11.00	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	5.00	mg/kg	10.20.18 04.54	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP6 8'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-035	Date Collected:	10.17.18 11.05	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.99	mg/kg	10.20.18 05.10	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP6 10'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-036	Date Collected:	10.17.18 11.10	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.95	mg/kg	10.20.18 05.15	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP7 0'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-037	Date Collected:	10.17.18 11.15	Sample Depth:	0 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.96	mg/kg	10.20.18 05.20	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP7 2'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-038	Date Collected:	10.17.18 11.20	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.95	mg/kg	10.20.18 05.26	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP7 4'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-039	Date Collected:	10.17.18 11.25	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.98	mg/kg	10.20.18 17.16	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP7 6'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-040	Date Collected:	10.17.18 11.30	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	4.99	mg/kg	10.20.18 17.21	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP7 8'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-041	Date Collected:	10.17.18 11.35	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	BRL	5.03	mg/kg	10.20.18 17.27	U	1

Certificate of Analytical Results 602694

Centennial Resource Production LLC, Midland, TX

Godfather 36 SC 1H

Sample Id:	**TP7 10'**	Matrix:	Soil	Date Received:	10.18.18 08.00
Lab Sample Id:	602694-042	Date Collected:	10.17.18 11.40	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.19.18 13.00	Basis:	Wet Weight
Seq Number:	3067042				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.6**	4.95	mg/kg	10.20.18 17.32		1

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.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 602694

Centennial Resource Production LLC

Godfather 36 SC 1H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3066897 Matrix: Solid Date Prep: 10.18.18

MB Sample Id: 7664412-1-BLK LCS Sample Id: 7664412-1-BKS LCSD Sample Id: 7664412-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	274	110	275	110	90-110	0	20	mg/kg	10.19.18 09:09	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3067035 Matrix: Solid Date Prep: 10.19.18

MB Sample Id: 7664533-1-BLK LCS Sample Id: 7664533-1-BKS LCSD Sample Id: 7664533-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	265	106	90-110	1	20	mg/kg	10.20.18 01:48	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3067042 Matrix: Solid Date Prep: 10.19.18

MB Sample Id: 7664551-1-BLK LCS Sample Id: 7664551-1-BKS LCSD Sample Id: 7664551-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	262	105	90-110	2	20	mg/kg	10.20.18 04:43	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3066897 Matrix: Soil Date Prep: 10.18.18

Parent Sample Id: 602694-001 MS Sample Id: 602694-001 S MSD Sample Id: 602694-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	259	104	262	105	90-110	1	20	mg/kg	10.19.18 09:26	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3066897 Matrix: Soil Date Prep: 10.18.18

Parent Sample Id: 602694-002 MS Sample Id: 602694-002 S MSD Sample Id: 602694-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.862	251	260	104	273	109	90-110	5	20	mg/kg	10.19.18 10:45	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 602694

Centennial Resource Production LLC

Godfather 36 SC 1H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3067035 Matrix: Soil Date Prep: 10.19.18

Parent Sample Id: 602694-014 MS Sample Id: 602694-014 S MSD Sample Id: 602694-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.70	248	268	105	269	105	90-110	0	20	mg/kg	10.20.18 02:04	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3067035 Matrix: Soil Date Prep: 10.19.18

Parent Sample Id: 602694-025 MS Sample Id: 602694-025 S MSD Sample Id: 602694-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.853	249	260	104	261	105	90-110	0	20	mg/kg	10.22.18 12:27	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3067042 Matrix: Soil Date Prep: 10.19.18

Parent Sample Id: 602694-034 MS Sample Id: 602694-034 S MSD Sample Id: 602694-034 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	271	108	265	106	90-110	2	20	mg/kg	10.20.18 04:59	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P

Seq Number: 3067042 Matrix: Soil Date Prep: 10.19.18

Parent Sample Id: 602695-002 MS Sample Id: 602695-002 S MSD Sample Id: 602695-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	73.2	250	335	105	331	103	90-110	1	20	mg/kg	10.20.18 17:48	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 160261694

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Project Manager:	Zane Kurtz	Bill to: (if different)	
Company Name:	Centennial Resource Develop	Company Name:	
Address:	500W Illinois STE 500	Address:	
City, State ZIP:	Midland, TX 79701	City, State ZIP:	
Phone:	(432) 315-0113	Email:	Zane.Kurtz@CDevinc.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:	GodFather 36 SC 11H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 48hr	
Sampler's Name:	Jay Loudermilk	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	1.3	Thermometer ID	T8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	0.0
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chlorides	Sample Comments
BKGD 0'	SS	10/16/18	10:20	0'	1	X	
BKGD 2'			10:25	2'	1	X	
BKGD 4'			10:30	4'	1	X	
BKGD 6'			10:35	6'	1	X	
BKGD 8'			10:40	8'	1	X	
BKGD 10'			10:45	10'	1	X	
TP1 0'			9:45	0'	1	X	
TP1 2'			9:50	2'	1	X	
TP1 4'			9:55	4'	1	X	
TP1 6'	↓	↓	10:00	6'	1	X	

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

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10/18 0800	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

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Chain of Custody

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

Work Order No: 602694

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Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

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:		Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 48HR	
Sampler's Name:		Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	0.3	Thermometer ID	IR8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	0.0	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chlorides	Sample Comments
TP1 8'	SS	10/16/19	10:05	8'	1	X	
TP1 10'	SS		10:10	10	1	X	
TP2 0'			12:30	0	1	X	
TP2 2'			12:35	2	1	X	
TP2 4'			12:40	4	1	X	
TP2 6'			12:45	6	1	X	
TP3 0'			12:50	0	1	X	
TP3 2'			12:55	2	1	X	
TP3 4'			13:00	4	1	X	
TP3 6'			13:05	6	1	X	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10/18 0800	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

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Chain of Custody

Work Order No: 602694

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www.xenco.com Page 3 of 5

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

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:		Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 48HR	
Sampler's Name:		Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.3	Thermometer ID	IR8
Received Intact:	~~Yes~~ No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	0.0
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chlorides													**Sample Comments**
TP4 01	SS	10/16/18	13:10	01	1	X													
TP4 2'			13:15	2	1	X													
TP4 4'			13:20	4	1	X													
TP4 6'			13:25	6	1	X													
TP5 0'		10/17/18	10:00	0	1	X													
TP5 2'			10:05	2	1	X													
TP5 4'			10:10	4	1	X													
TP5 6'			10:15	6	1	X													
TP5 8'			10:20	8	1	X													
TP5 10'			10:25	10	1	X													

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10/18 0800	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

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CHAIN OF CUSTODY

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Revision 2016.1

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Dallas, TX (214) 902-0300 | Lubbock, TX (806) 794-1296 | San Antonio, TX (210) 509-3334 | Service Center - Baton Rouge, LA (832) 712-8143 | Service Center- Hobbs, NM (575) 392-7550

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Xenco Quote #	Xenco Job # 602694

Client / Reporting Information

Company Name / Branch:

Company Address:

Email: Phone No:

Project Contact:

Samplers's Name:

Project Information

Project Name/Number:

Project Location:

Invoice To:

PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface Water
SL - Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides								Field Comments
1	TP6 0'	0	10/17/18	10:45	SS	1									X								
2	TP6 2'	2	10/17/18	10:50		1									X								
3	TP6 4'	4	10/17/18	10:55		1									X								
4	TP6 6'	6	10/17/18	11:00		1									X								
5	TP6 8'	8		11:05		1									X								
6	TP6 10'	10		11:10		1									X								
7	TP7 0'	0		11:15		1									X								
8	TP7 2'	2		11:20		1									X								
9	TP7 4'	4		11:25		1									X								
10	TP7 6'	6		11:30		1									X								

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [x] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] Level II Report with TRRP checklist

Notes:

TAT Starts Day received by Lab, if received by 5:00 pm

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		10/18 0800	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			

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CHAIN OF CUSTODY

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Revision 2016.1

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Xenco Quote # | Xenco Job # 602694

Client / Reporting Information

Company Name / Branch:
Company Address:
Email: Phone No:
Project Contact:
Samplers's Name:

Project Information

Project Name/Number:
Project Location:
Invoice To:
PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface Water
SL - Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	Field Comments
1	TP7 8'	8'	10/17/18	11:35	SS	1									X	
2	TP7 10'	10'	10/17/18	11:40	SS	1									X	
3															X	
4															X	
5																
6																
7																
8																
9																
10																

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [x] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] Level II Report with TRRP checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		10/18 0800	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			0-3 RS 0.0

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Centennial Resource Production LLC

Date/ Time Received: 10/18/2018 08:00:00 AM

Work Order #: 602694

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#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)?	**N/A**
#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: Brianna Teel Date: 10/18/2018

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 10/18/2018

Jessica Kramer