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-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Below grade tank registration
- ☐ Permit of a pit or proposed alternative method
- ☒ Closure of a pit, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Roddy Production Co. OGRID #: 36845
Address: PO Box 2221 Farmington NM 87499-2221
Facility or well name: Chacon Jicarilla Apache D #4
API Number: 30-039-21258 OCD Permit Number:
U/L or Qtr/Qtr P Section 9 Township 23N Range 3W County: Rio Arriba
Center of Proposed Design: Latitude 36.233781 Longitude -107.156220 NAD: ☐ 1927 ☐ 1983
Surface Owner: ☐ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ Lined ☐ Unlined Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____bbl Dimensions: L_____ x W_____ x D_____

3.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 60 bbl Type of fluid: Produced Water
Tank Construction material: Fiberglass
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____mil ☐ HDPE ☐ PVC ☐ Other _____

NMOCD
DEC 20 2018
DISTRICT III

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*
☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☒ Alternate. Please specify 4' Hog wire fence

43

6.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. **(Does not apply to below grade tanks)** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☐ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
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, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.

Proposed Closure: 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit ☐ Alternative

Proposed Closure Method:
- ☐ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
  - ☐ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method

14.

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

16.

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

18.

OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan ~~(only)~~ ☐ OCD Conditions (see attachment)

OCD Representative Signature: _____ **Approval Date:** 12/24/2018

Title: Environmental Specialist **OCD Permit Number:** _____

19.

Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** 11/7/2018

20.

Closure Method:

☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

21.

Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☒ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☒ Disposal Facility Name and Permit Number
- ☒ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude 36.233781 Longitude -107.156220 NAD: ☐ 1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Jeremy Divine Title: Foreman

Signature: Jeremy Divine Date: 12-20-18

e-mail address: jdivine@crownquest.com Telephone: 432 557 6778

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

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Roddy Production Company	Contact Jeremy Divine
Address P.O. Box 2221 Farmington NM 87499	Telephone No. 432 557 6778
Facility Name Chacon Jicarilla Apache D#4	Facility Type Below Grade Tank

Surface Owner Jicarilla Apache Nation	Mineral Owner Natural Resources (Jicarilla Apache)	API No. 30-039-21258

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	9	23N	03W	990	South	990'	East	Rio Arriba

Latitude 36.233781 **Longitude** -107.156220

NATURE OF RELEASE

Type of Release: N/A	Volume of Release: Unknown	Volume Recovered: 0
Source of Release: Below Grade Tank	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery:
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☐ No	If YES, Volume Impacting the Watercourse. Unknown	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

BGT closure. Test bottom and sidewalls

Describe Area Affected and Cleanup Action Taken.*

Lab analysis confirmed TPH and chlorides were below Jicarilla EPO and NMOCD closure criteria. Backfilled area with soil from approved Jicarilla Apache borrow pit.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Jeremy Divine	OIL CONSERVATION DIVISION	
Printed Name: Jeremy Divine	Approved by Environmental Specialist:	
Title: Foreman	Approval Date:	Expiration Date:
E-mail Address: jdivine@crownquest.com	Conditions of Approval:	Attached ☐
Date: 12-20-18 Phone:432 557 6778		

* Attach Additional Sheets If Necessary

Jeremy Divine

From: Jeremy Divine
Sent: Monday, October 8, 2018 6:37 AM
To: Kurt Sandoval; Scott, Sarah; Guillermo (guillermo.deherrera@jicarillaoga.com); Alfred Vigil; 'Hobson Sandoval'; Orson Harrison; Jason Sandoval; Bryce Hammond, BLM Supervisor; Waymore Callado; Smith, Cory, EMNRD; Fields, Vanessa, EMNRD
Cc: deedra.mike@bia.gov; marlena.reval@bia.gov; Trey Tixier
Subject: Roddy Production BGT Closures
Attachments: Chacon Jicarilla Apache D#11 Notification and BGT Closure Plan.pdf; Chacon Jicarilla Apache D#10 Notification and BGT Closure Plan.pdf; Chacon Jicarilla Apache D#7 Notification and BGT Closure Plan.pdf; Chacon Jicarilla Apache D#4 Notification and BGT Closure Plan.pdf

All,

Attached are Roddy Productions notifications and BGT closure plans for the Chacon Jicarilla Apache D#11, D#7, D#4 and D#10. The NMOCD has approved with the conditions we follow the most stringent standard due to lack of depth to groundwater information. If warranted Roddy Production will research and provide more conclusive depth to groundwater information. If there are no objections we plan on starting Wednesday October 10th at 8:30 am on the Chacon Jicarilla Apache D#10. We will have 2 crews available to pull tanks, field sample and excavate if necessary. Trey Tixier will be our company representative, his number is 505 793 3794. Unless otherwise directed, hard copies will be sent by certified mail to BIA Jicarilla Agency,
JOGA and Jicarilla EPO office. Revised Site Security Diagrams will be submitted to the Farmington District office when complete. Please let me know if we need to reschedule or if you have any questions.

Sincerely,

Jeremy Divine
Cell. 432 557 6778
Jdivine@crownquest.com
4001 N. Butler, Building 7101
Farmington, NM 87499
CrownQuest Operating
Roddy Production Co.

CROWNQUEST

CROWNQUEST OPERATING, LLC

October 2, 2018

Attn: BIA Jicarilla Agency

P.O. Box 167

Dulce, NM 87528

RE: Chacon Jicarilla Apache D#4 BGT Closure

To whom it may concern,

This is Roddy Productions notification of our intent to close the Below Grade Tank on the Chacon Jicarilla Apache D#4 API# 30-039-21258, S-9, T23N, R3W, contract #412 Included is the closure and reclamation plan. If approved we plan to start closing Wednesday Oct. 10th , 2018. All activities will be coordinated with the Jicarilla Apache Nation, BLM and NMOCD. Please contact me if you have any questions or concerns.

Sincerely,

Jeremy Divine

Roddy Production/CrownQuest Operating

432 557 6778

jdivine@crownquest.com

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BIA Jicarilla Agency
P.O. Box 167
Dulce, NM 87528

9590 9403 0657 5183 5072 46

2. Article Number *(Transfer from service label)*

7013 1090 0001 7317 9278

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

OCT 17 2018

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☒ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Restricted Delivery

PS Form 3811, April 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hobson Sandoval
Jicarilla Apache Nation
Environmental Protection Office
P.O. Box 503
Dulce, NM 87528

9590 9403 0657 5183 5072 39

2. Article Number *(Transfer from service label)*

7013 1090 0001 7317 9261

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

10/17/18

D. Is delivery address different from item 1? ☒ Yes
If YES, enter delivery address below: ☐ No

P.O. Box 507
Dulce, NM 87528

3. Service Type

- ☒ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, April 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Guillermo DeHerrera
Jicarilla Apache Nation
Oil & Gas Administration
P.O. Box 146 #6 Dolce Rock Dr.
Dulce, NM 87528

9590 9403 0657 5183 5072 22

2. Article Number *(Transfer from service label)*

7013 1090 0001 7317 9254

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

OCT 15 2018

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☒ Adult Signature
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- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, April 2015 PSN 7530-02-000-9053 Domestic Return Receipt

Closure and Reclamation Plan
Roddy Production Co., Inc.
Chacon Jicarilla Apache D#4 Production Single Wall BGT
API 30-039-21258, S-09, T23N, R3W, Contract #412

In Accordance with Rule 19.15.17.13 NMAC, the following plan describes the general closure requirements of below grade tanks on Roddy Production Co. locations in the San Juan Basin of New Mexico. This is Roddy Production's standard closure plan for all BGT's under Rule 19.15.17 NMAC and operated by Roddy Production Co. For closures that do not conform to this standard closure plan, a separate BGT specific closure plan will be developed and utilized.

Closure Conditions and Timing for BGT:

- Within 60 days of cessation of operation Roddy Production will:
  - Remove all Liquids/ sludge and dispose of in a division approved manner
- Within 72 hrs or 1 week prior to closure Roddy Production will:
  - Give notice to surface owners by certified mail. For public entities by email as specified on variance page.
  - Give notice to District Division verbally and in writing/email
- Within 6 months of cessation of operation Roddy Production will:
  - Remove BGT and dispose, recycle, reuse or reclaim in a division approved manner
  - Remove unused onsite equipment associated with the BGT
- Within 60 Days of closure Roddy Production will:
  - Send the District Division a closure report per 19.15.17.13.F

General Plan Requirements:

1. Prior to initiating any BGT closure except in case of emergency, Roddy Production will notify the surface owner of the intent to close the BGT by certified mail no later than 72 hrs or 1 week before closure and a copy of this notification will be included in the closure report. In case of emergency, the surface owner of record will be notified as soon as practical.

2. Notice of the closure will be given to the Aztec District office between 72 hrs and 1 week of the scheduled closure via email or phone. The notification of closure will include the following.

   a. Operators Name (Roddy Production)
   b. Well name and API number
   c. Location (USTR)

3. All liquids will be removed from the BGT following cessation of operation. Produced water will be disposed of at one of the following NMOCD approved facilities depending on the proximity to the BGT site: Agua Moss Pretty Lady SWD #1 (Permit#1034-A), Agua Moss Sunco SWD #1 (Permit# CL1-005) or Basin Disposal (Permit #-NM 01-005), T-n-T Environmental (permit# NM-01-0008)

4. Solids and sludge's will be shoveled or vacuumed out for disposal at Envirotech (Permit # -NM01-0011), or JFJ Land Farm/ Industrial Ecosystems Inc. (Permit # NM 01-0010B)

5. Roddy Production will obtain prior approval from NMOCD to dispose, recycle, reuse or reclaim the BGT and provide documentation of the disposition of the BGT in the closure report. Steel materials will be recycled or reused as approved by the Division. Fiberglass tanks will be empty, cut up or shredded and EPA cleaned without soils or contaminated material for disposal as solid waste. Fiberglass and liner materials will meet the conditions of 19.15.35 NMAC. Disposal will be at a licensed disposal facility, presently San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426

6. Any Equipment associated with the BGT that is no longer required for some other purpose, following the closure will be removed from location.

7. Following the removal of the tank and any liner material, Roddy Production will test the soils beneath the BGT as follows: If depth to groundwater cannot be identified the most stringent standard will be followed.

TABLE I

Closure criteria for soils beneath Below Grade Tanks, Drying pads associated with Closed Loop systems and pits where contents are removed

Depth below bottom of pit to groundwater less than 10,000 mg/L TDS	Constituent	Method*	Limit**
≤ 50 feet	Chloride	EPA 300.0	600 mg/kg
	TPH	EPA SW-846 Method 418.1	100 mg/kg
	BTEX	EPA SW-846 Method 801B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
51 feet-100 feet	Chloride	EPA 300.0	10,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 801B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
> 100 feet	Chloride	EPA 300.0	20,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 801B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

* Or test method approved by the division

** Numerical limits or natural background, whichever is greater

a) At a minimum, a five point composite sample will be taken to include any obvious stained or wet soils or any other evidence of contamination.

b) The laboratory sample shall be analyzed for the constituents listed in Table I of 19.15.17.13

(1) Or other test methods approved by the Division

(2) Numerical limits or natural background level, whichever is greater

(19.15.17.13 MAC-Ro, 19.15.17.13 NMAC 3/28/2013)

8. If the Division and/or Roddy Production determine there is a release, Roddy Production will comply with 19.15.17.13.C.3b
9. Upon completion of the tank removal, the excavation will be backfilled with non-waste earthen material and covered with a minimum of one foot of top soil or background thickness whichever is greater and to existing grade. The surface will be re-contoured to match the native grade and prevent ponding.

For those portions of the former BGT area that are no longer required for production activities, Roddy Production will seed the disturbed areas the first favorable growing season after the BGT is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other Division approved methods. Roddy Production will notify the Division when reclamation or re-vegetation is complete.

Reclamation of the BGT shall be considered complete when:

a. Vegetative cover reflects a life form ratio of +/- 50% of pre disturbance levels.
b. Total percentage plant cover of at least 70% of pre disturbance levels (excluding noxious weeds)

OR

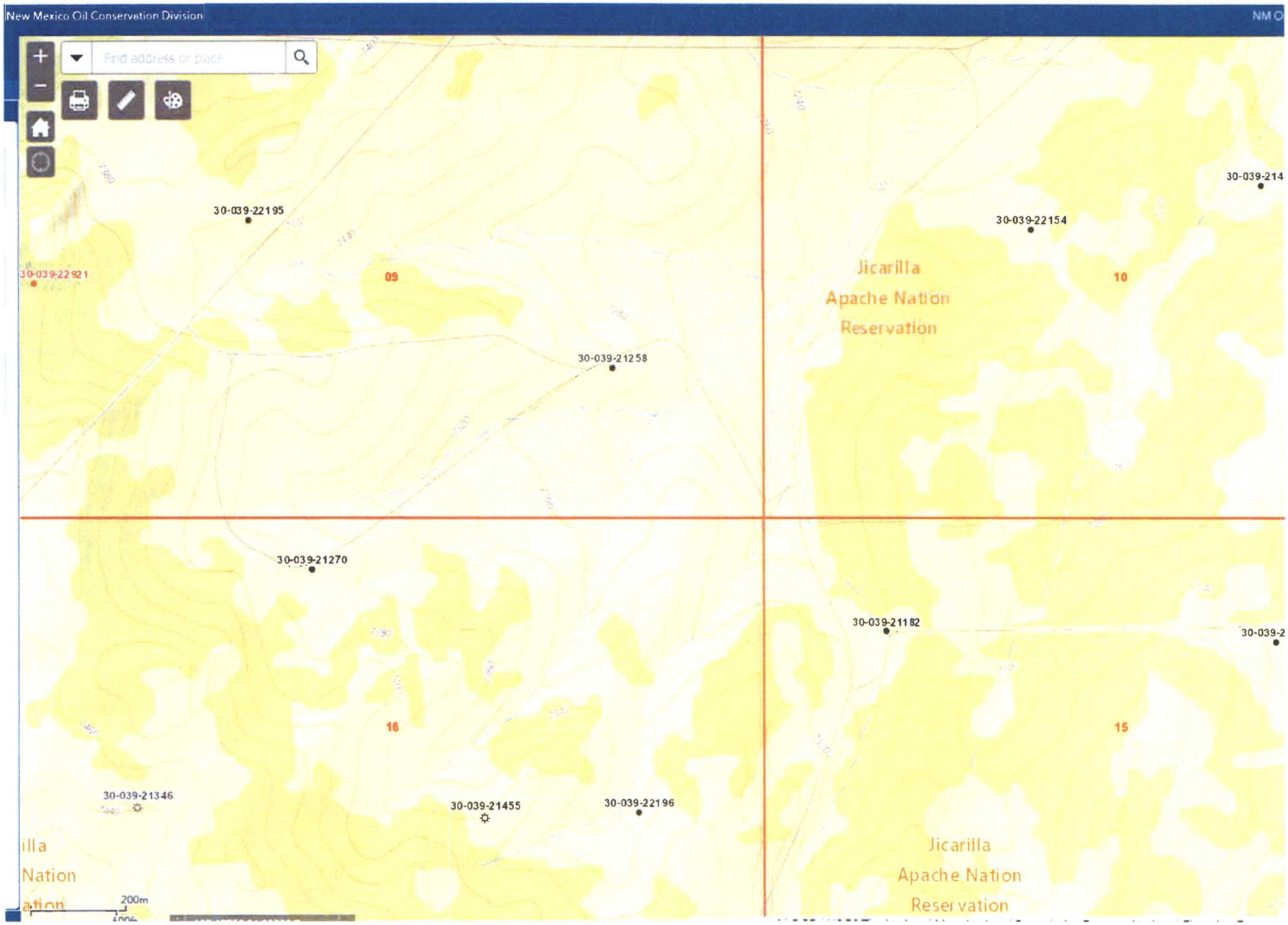
c. Pursuant to 19.15.17.13.H.5d Roddy Production will comply with obligations imposed by other applicable federal or tribal agencies in which their re-vegetation and reclamation requirements provide equal or better protection of fresh water, human health and the environment.

10. For those portions of the former BGT area required for production activities, reseeding will be done at well abandonment, and following the procedure noted above.

Closure Report:
All closure activities will include proper documentation and will be submitted to the NMOCD within 60 days of the BGT closure on a Closure Report Using Division Form C-144. The report will include the following:

- Proof of Closure Notice (Surface Owner & NMOCD)
- Backfilling and cover installation
- Confirmation sampling analytical results
- Disposal Facility Name(s) and permit number(s)
- Application Rate & seeding techniques
- Photo documentation of reclamation

Chacon Jicarilla Apache D#4, API 30-039-21258, Distance to water course 260'



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

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00403		SJ	SA	3	2	2	15	23N	03W	307811	4011399*	1403		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

Basin/County Search:

Basin: San Juan

PLSS Search:

Section(s): 09, 16, 15, 14 Township: 23N Range: 03W

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

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

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 01859		SJ	RA			4	21	24N	03W	306247	4018537*	324	200	124
SJ 02130		SJ	RA		2	2	15	24N	03W	308117	4021115*	273	100	173
SJ 02172		SJ	RA	4	4	2	12	24N	03W	311460	4022170*	340	140	200
SJ 02217		SJ	RA	2	2	2	05	24N	03W	305069	4024489*	550	120	430
SJ 02515		SJ	RA	3	4	4	03	24N	03W	308060	4023025*	1000	650	350
SJ 02515 DCL	O		RA	3	4	4	03	24N	03W	308060	4023025*	1000	650	350
SJ 02516		SJ	RA	1	3	1	06	24N	03W	302693	4024121*	1000	650	350
SJ 02516 DCL	O		RA	1	3	1	06	24N	03W	302693	4024121*	1000	650	350
SJ 02952		SJ	RA	2	2	1	26	24N	03W	308951	4017983*	400		
SJ 02953		SJ	RA	1	4	3	13	24N	03W	310404	4019967*	70		
SJ 02954		SJ	RA	4	2	4	35	24N	03W	309703	4015355*	380		
SJ 02955		SJ	RA	1	1	4	35	24N	03W	309101	4015562*	350		
SJ 02956		SJ	RA	2	2	1	26	24N	03W	308951	4017983*	360		
SJ 02958		SJ	RA	2	3	4	24	24N	03W	310971	4018350*	168		
SJ 04218 POD1		SJ	RA	4	2	2	03	24N	03W	308344	4024332	394	326	68
SJ 04219 POD1		SJ	RA		2	1	09	24N	03W	305757	4022868	334	196	138

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

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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00403		SJ	SA	3	2	2	15	23N	03W	307811	4011399*	1403		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

Basin/County Search:

Basin: San Juan

PLSS Search:

Section(s): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

Township: 23N

Range: 03W

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

Minimum Depth: **100 feet**

Maximum Depth: **650 feet**

Record Count: 16

Basin/County Search:

Basin: San Juan

PLSS Search:

Section(s): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36 **Township:** 24N **Range:** 03W

envirotech

November 30, 2018 Project Number: 07151-0026

Mr. Jeremy Divine
CrownQuest Operating, LLC.
4001 N. Butler, Building 7101
Farmington, New Mexico 87401

Email: jdivine@crownquest.com
Phone: (432) 557-6778

RE: BELOW-GRADE TANK CLOSURE DOCUMENTATION FOR THE CHACON JICARILLA APACHE D #4 WELL SITE LOCATED AT SECTION 9, TOWNSHIP 23 NORTH, RANGE 3 WEST, RIO ARRIBA COUNTY, NEW MEXICO

Dear Mr. Divine:

Enclosed please find the *Vicinity map, Site Map, Field Notes, Summary of Analytical Results* and *Analytical Results* for below-grade tank (BGT) closure activities conducted at the Chacon Jicarilla Apache D #4 well site located in Section 9, Township 23 North, Range 3 West, Rio Arriba County, New Mexico (site).

Upon Envirotech personnel's arrival on October 10, 2018, a brief site assessment and Job Safety Analysis (JSA) was conducted. The BGT closure standard for the site was determined to be 100 parts per million (ppm) total petroleum hydrocarbons (TPH), 10 ppm benzene, and 50 ppm total benzene, toluene, ethylbenzene, and xylene (total BTEX), and 600 ppm chlorides in accordance with *Table I of 19.15.17 NMAC* standards.

Prior to Envirotech's arrival, the BGT was removed. One (1) five (5)-point composite sample was collected from directly beneath the former BGT and from the walls; see enclosed ***Field Notes***. The samples were identified as *D4 Bottom,* and *D4 Walls;* see enclosed ***Site Map.*** The two (2) samples were placed into individual laboratory provided four (4)-ounce glass jars, capped headspace free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory to be analyzed for TPH using USEPA Method 8015D (GRO, DRO, and ORO), benzene and total BTEX using USEPA Method 8021B, and Chloride using USEPA Method 300.0. The samples returned results below the regulatory standards for benzene, total BTEX, and chlorides, and a range of 46 mg/kg to 87.2 mg/kg for TPH; see enclosed ***Summary of Analytical Results*** and ***Analytical Results***.

Based on the onsite observation and analytical results, Envirotech, Inc. recommends *No Further Action* in regards to this project.

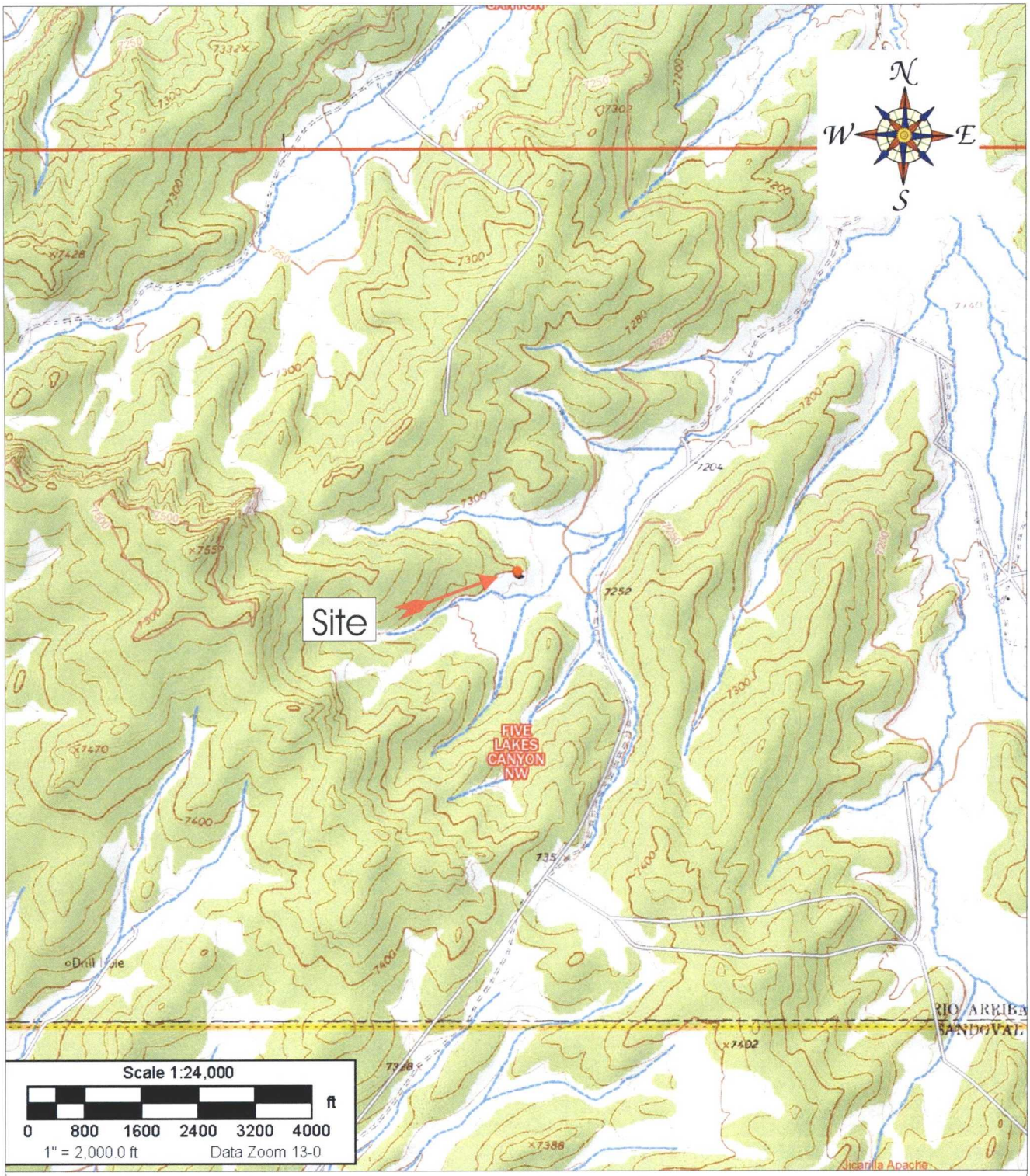
We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully submitted,
ENVIROTECH, INC.

Brittany Hall
Environmental Field Technician
bhall@envirotech-inc.com

Enclosure(s): *Vicinity Map*
Site Map
Field Notes
Summary of Analytical Results
Analytical Results

Cc: Client File Number 07151



Source: 7.5 Minute, Five Lakes Canyon NW, New Mexico U.S.G.S. Topographic Quadrangle Map
Scale: 1:24,000 1" = 2,000

CrownQuest Operating, LLC. Chacon Jicarilla Apache D #4 Well Site Section 9, Township 23N, Range 3W, Rio Arriba County, New Mexico	envirotech ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 Farmington, New Mexico 87401 505.632.0615	Vicinity Map Figure #1	
Project Number: 07151-0026 | Date Drawn: 11/13/18		DRAWN BY: Brittany Hall	PROJECT MANAGER: Felipe Aragon

LEGEND

X D4 Walls

X D4 Bottom

⊕ Well Head

SITE MAP
CrownQuest Operating, LLC.
Chacon Jicarilla Apache D #4 Well Site
SECTION 9, TWP 23 NORTH, RANGE 3 WEST
RIO ARRIBA COUNTY, NEW MEXICO

SCALE: NTS	FIGURE NO. 2	REV
PROJECT NO07151-0026		

REVISIONS

NO.	DATE	BY	DESCRIPTION

MAP DRWN	BH	11/14/18	BASE DRWN	BH	11/14/18

envirotech

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

CLIENT: Crown Quest
CLIENT/JOB #: 07151-2023
START DATE: 10/10/18
FINISH DATE:
Page # ____ of ____

envirotech
(505) 632-0615 (800) 362-1879
5796 U.S. Hwy 64, Farmington, NM 87401

Environmental Specialist: DC
C.O.C. No:
LAT 36.233781
LONG -107.150220

FIELD REPORT: BELOW GROUND TANK VERIFICATION

LOCATION NAME: Jicarilla Apache D WELL #: #4 Temp Pit: PERM Pit:
QUAD/UNIT: SEC: 9 TWP: 23N RNG: 3W PM: NM
QTR/FOOTAGE: CNTY: Rio Arriba ST: NM

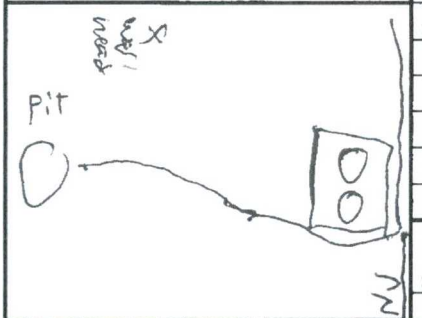
Excavation Approx: 15 Feet X 15 Feet X 3 Feet Deep Cubic Yardage:
Disposal Facility: Remediation Method:
Land Owner: Jicarilla Apache API: 30-039-21258 Pit Volume:
Construction Material: Double Walled, With Leak Detection:

	Temporary Pit Groundwater < or = 50 feet deep	Chloride 600mg/kg, TPH 100 mg/kg, BTEX 50 mg/kg, Benzene 10 mg/kg
	Temporary Pit Groundwater 51-100 feet deep	Chloride 10,000 mg/kg, TPH 2,500 mg/kg, GRO+DRO 1,000 mg/kg, BTEX 50 mg/kg, Benzene 10 mg/kg
	Temporary Pit Groundwater > or = 100 feet deep	Chloride 20,000 mg/kg, TPH 2,500 mg/kg, GRO+DRO 1,000 mg/kg, BTEX 50 mg/kg, Benzene 10 mg/kg
X	Permanent Pit Or BGT	TPH 100 mg/kg, benzene 10 mg/kg, BTEX 50 mg/kg, CL- 60

FIELD 418.1 ANLAYSIS

SAMPLE DESCRIPTION	TIME	SAMPLE ID	LAB #	WEIGHT	mL FREON	DILUTION	READING	CALC. (mg/kg)
walls	16:02							
bottom	16:03							

PERIMETER



FIELD CHLORIDES RESULTS

SAMPLE ID	READING	CALC. (mg/kg)

PID RESULTS

SAMPLE ID	RESULTS (mg/kdg)

PROFILE

LAB SAMPLES

SAMPLE ID	ANALYSIS	US EPA
	BENZENE	8021B/8015M
	BTEX	8021B/80260B
	GRO & DRO	8015M
	CHLORIDES	EPA300
	TPH	418.1

NOTES: field samples not taken/analyzed. Samples taken to lab

WO #: Who ordered/Site Rep.:

Ramona Cordero
Analyst Signature

10/10/18
Date

Printed Name

Pit Closure Verification 2015

Table 1, Summary of Analytical Results
Crown Quest Operating, LLC.
Chacon Jicarilla Apache D #4
BGT Closure Report
Project Number 07151-0026

Date	Sample Description	Sample Number	USEPA Method 418.1/8015 TPH (GRO, DRO & ORO) (ppm)	USEPA Method 300.0 Chloride (ppm)	USEPA Method 8260	
					Benzene (ppm)	BTEX (ppm)
NA	Table 1 19.15.17 NMAC	NA	100	600	10	50
10/10/2018	D4 Bottom	1	46	ND	ND	ND
10/10/2018	D4 Walls	2	87	ND	ND	ND

Bold-Parameter Above NMOCD Standards
ND- Below Laboratory Detection Limits

envirotech
Analytical Laboratory

Analytical Report

Report Summary

Client: Crown Quest Operating

Chain Of Custody Number:

Samples Received: 10/11/2018 12:37:00PM

Job Number: 07151-0023

Work Order: P810029

Project Name/Location: Crown Quest BGT Sampling

Report Reviewed By: Date: 10/26/18

Walter Hinchman, Laboratory Director

Date: 10/26/18

Tim Cain, Project Manager

Supplement to analytical report generated on: 10/26/18 11:48 am

Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.
Envirotech, Inc, currently holds the appropriate and available Utah TNI certification NM009792018-1 for the data reported.

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

envirotech
Analytical Laboratory

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
D4 Bottom	P810029-01A	Soil	10/10/18	10/11/18	Glass Jar, 4 oz.
	P810029-01B	Soil	10/10/18	10/11/18	Glass Jar, 4 oz.
D4 Walls	P810029-02A	Soil	10/10/18	10/11/18	Glass Jar, 4 oz.
	P810029-02B	Soil	10/10/18	10/11/18	Glass Jar, 4 oz.

envirotech
Analytical Laboratory

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

D4 Bottom
P810029-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*102 %*		*50-150*	*1842006*	*10/15/18*	*10/16/18*	*EPA 8021B*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1842004	10/15/18	10/15/18	EPA 300.0/9056A	
Total Petroleum Hydrocarbons by 418.1									
Total Petroleum Hydrocarbons	**46.0**	40.0	mg/kg	1	1842002	10/15/18	10/15/18	EPA 418.1	

envirotech
Analytical Laboratory

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

D4 Walls
P810029-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1842006	10/15/18	10/16/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*101 %*	*50-150*		*1842006*	*10/15/18*	*10/16/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1842006	10/15/18	10/16/18	EPA 8015D	
Diesel Range Organics (C10-C28)	**31.3**	25.0	mg/kg	1	1843014	10/24/18	10/25/18	EPA 8015D	
Oil Range Organics (C28-C40+)	**55.9**	50.0	mg/kg	1	1843014	10/24/18	10/25/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.7 %*	*50-150*		*1842006*	*10/15/18*	*10/16/18*	*EPA 8015D*	
Surrogate: n-Nonane		*150 %*	*50-200*		*1843014*	*10/24/18*	*10/25/18*	*EPA 8015D*	*CV2*
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1842004	10/15/18	10/15/18	EPA 300.0/9056A	

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1842006 - Purge and Trap EPA 5030A										
Blank (1842006-BLK1)				Prepared: 10/15/18 1 Analyzed: 10/16/18 1						
Benzene	ND	100	ug/kg							
Toluene	ND	100	"							
Ethylbenzene	ND	100	"							
p,m-Xylene	ND	200	"							
o-Xylene	ND	100	"							
Total Xylenes	ND	100	"							
Total BTEX	ND	100	"							
Surrogate: 4-Bromochlorobenzene-PID	*8120*		"	*8000*		*101*	*50-150*			
LCS (1842006-BS1)				Prepared: 10/15/18 1 Analyzed: 10/16/18 1						
Benzene	6120	100	ug/kg	5000		122	70-130			
Toluene	6160	100	"	5000		123	70-130			
Ethylbenzene	6200	100	"	5000		124	70-130			
p,m-Xylene	12700	200	"	10000		127	70-130			
o-Xylene	6110	100	"	5000		122	70-130			
Total Xylenes	18800	100	"	15000		125	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*8180*		"	*8000*		*102*	*50-150*			
Matrix Spike (1842006-MS1)	**Source: P810029-01**			Prepared: 10/15/18 1 Analyzed: 10/16/18 1						
Benzene	4890	100	ug/kg	5000	ND	97.8	54.3-133			
Toluene	4920	100	"	5000	ND	98.4	61.4-130			
Ethylbenzene	4940	100	"	5000	ND	98.9	61.4-133			
p,m-Xylene	10100	200	"	10000	ND	101	63.3-131			
o-Xylene	4870	100	"	5000	ND	97.4	63.3-131			
Total Xylenes	15000	100	"	15000	ND	100	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	*8110*		"	*8000*		*101*	*50-150*			
Matrix Spike Dup (1842006-MSD1)	**Source: P810029-01**			Prepared: 10/15/18 1 Analyzed: 10/17/18 1						
Benzene	4930	100	ug/kg	5000	ND	98.7	54.3-133	0.868	20	D1
Toluene	4950	100	"	5000	ND	99.0	61.4-130	0.605	20	D1
Ethylbenzene	4960	100	"	5000	ND	99.3	61.4-133	0.422	20	D1
p,m-Xylene	10200	200	"	10000	ND	102	63.3-131	0.237	20	D1
o-Xylene	4940	100	"	5000	ND	98.8	63.3-131	1.42	20	D1
Total Xylenes	15100	100	"	15000	ND	101	63.3-131	0.624	20	D1
Surrogate: 4-Bromochlorobenzene-PID	*8180*		"	*8000*		*102*	*50-150*			

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1842006 - Purge and Trap EPA 5030A										
Blank (1842006-BLK1)				Prepared: 10/15/18 1 Analyzed: 10/16/18 1						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.49*		"	*8.00*		*93.7*	*50-150*			
LCS (1842006-BS2)				Prepared: 10/15/18 1 Analyzed: 10/16/18 1						
Gasoline Range Organics (C6-C10)	48.7	20.0	mg/kg	50.0		97.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.59*		"	*8.00*		*94.9*	*50-150*			
Matrix Spike (1842006-MS2)		**Source: P810029-01**		Prepared: 10/15/18 1 Analyzed: 10/16/18 1						
Gasoline Range Organics (C6-C10)	52.7	20.0	mg/kg	50.0	ND	105	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.64*		"	*8.00*		*95.5*	*50-150*			
Matrix Spike Dup (1842006-MSD2)		**Source: P810029-01**		Prepared: 10/15/18 1 Analyzed: 10/16/18 1						
Gasoline Range Organics (C6-C10)	48.5	20.0	mg/kg	50.0	ND	97.1	70-130	8.19	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.73*		"	*8.00*		*96.6*	*50-150*			

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1843014 - DRO Extraction EPA 3570										
Blank (1843014-BLK1)				Prepared: 10/24/18 0 Analyzed: 10/24/18 2						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40+)	ND	50.0	"							
Surrogate: n-Nonane	*73.3*		"	*50.0*		*147*	*50-200*			*CV2*
LCS (1843014-BS1)				Prepared: 10/24/18 0 Analyzed: 10/24/18 2						
Diesel Range Organics (C10-C28)	457	25.0	mg/kg	500		91.3	38-132			
Surrogate: n-Nonane	*71.4*		"	*50.0*		*143*	*50-200*			*CV2*
Matrix Spike (1843014-MS1)	**Source: P810028-01**			Prepared: 10/24/18 0 Analyzed: 10/25/18 0						
Diesel Range Organics (C10-C28)	598	25.0	mg/kg	500	196	80.4	38-132			
Surrogate: n-Nonane	*71.7*		"	*50.0*		*143*	*50-200*			*CV2*
Matrix Spike Dup (1843014-MSD1)	**Source: P810028-01**			Prepared: 10/24/18 0 Analyzed: 10/25/18 0						
Diesel Range Organics (C10-C28)	574	25.0	mg/kg	500	196	75.6	38-132	4.15	20	
Surrogate: n-Nonane	*71.7*		"	*50.0*		*143*	*50-200*			*CV2*

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Analytical Laboratory

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1842004 - Anion Extraction EPA 300.0/9056A										
Blank (1842004-BLK1)				Prepared & Analyzed: 10/15/18 1						
Chloride	ND	20.0	mg/kg							
LCS (1842004-BS1)				Prepared & Analyzed: 10/15/18 1						
Chloride	257	20.0	mg/kg	250		103	90-110			
Matrix Spike (1842004-MS1)	**Source: P810041-01**			Prepared & Analyzed: 10/15/18 1						
Chloride	388	20.0	mg/kg	250	135	101	80-120			
Matrix Spike Dup (1842004-MSD1)	**Source: P810041-01**			Prepared & Analyzed: 10/15/18 1						
Chloride	380	20.0	mg/kg	250	135	97.9	80-120	2.23	20	

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Analytical Laboratory

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

Total Petroleum Hydrocarbons by 418.1 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1842002 - 418 Freon Solid Extraction										
Blank (1842002-BLK1)				Prepared: 10/15/18 0 Analyzed: 10/15/18 1						
Total Petroleum Hydrocarbons	ND	40.0	mg/kg							
LCS (1842002-BS1)				Prepared: 10/15/18 0 Analyzed: 10/15/18 1						
Total Petroleum Hydrocarbons	1060	40.0	mg/kg	1000		106	80-120			
Matrix Spike (1842002-MS1)		**Source: P810028-01**		Prepared: 10/15/18 0 Analyzed: 10/15/18 1						
Total Petroleum Hydrocarbons	1410	40.0	mg/kg	1000	490	92.0	70-130			
Matrix Spike Dup (1842002-MSD1)		**Source: P810028-01**		Prepared: 10/15/18 0 Analyzed: 10/15/18 1						
Total Petroleum Hydrocarbons	1330	40.0	mg/kg	1000	490	84.2	70-130	5.69	30	

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Analytical Laboratory

Crown Quest Operating	Project Name:	Crown Quest BGT Sampling	
PO 2221	Project Number:	07151-0023	**Reported:**
Farmington NM, 87499	Project Manager:	Felipe Aragon	10/26/18 11:49

Notes and Definitions

D1	Duplicates or Matrix Spike Duplicates or Laboratory Control Sample Duplicates Relative Percent Difference is outside of control limits.
CV2	CV recovery was above quality control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
**	Methods marked with ** are non-accredited methods.

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865
Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879
envirotech-inc.com
laboratory@envirotech-inc.com

Project Information | Chain of Custody | Page 1 of 1

Client: Crown Quest	**Report Attention**
Project: Crown Quest BGT Sampling	Report due by:
Project Manager: F.Aragon	Email:
Address:	Address:
City, State, Zip	City, State, Zip
Phone:	Phone:
Email: Gcrabtree Admin Dcarter Faragon	

Lab Use Only		TAT		EPA Program		
Lab WO#	Job Number	1D	3D	RCRA	CWA	SDWA
P810029	07151-0023					

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	Cl-	TPH-418	BTEX by 8021B	Benzene by 8021B								Remarks
16:03	10/10/2018	S	2	~~D11~~ Bottom D4	1	X	X	X	X								2 4 oz Jars, Cool
16:02	10/10/2018	S	2	D4 Walls	2	X	X	X	X								2 4 oz Jars, Cool

Analysis and Method: State — NM: X; CO; UT; AZ

Additional Instructions: Vig ice in cooler

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Damon Carter

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Damon Carter	10/11/18	12:37	M	10/11/18	1237
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
Received on ice: Y / N
T1 T2 T3
AVG Temp °C 4.0

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboraotry is limited to the amount paid for on the report.

envirotech Analytical Laboratory
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envirotech-inc.com
laboratory@envirotech-inc.com

Jeremy Divine

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Thursday, November 1, 2018 10:23 AM
To: Jeremy Divine; Kurt Sandoval; Guillermo (guillermo.deherrera@jicarillaoga.com); Alfred Vigil; Fields, Vanessa, EMNRD; Scott, Sarah; 'Hobson Sandoval'; Orson Harrison; Bryce Hammond, BLM Supervisor; Jason Sandoval
Cc: Trey Tixier
Subject: RE: Roddy Production BGT Analysis

Jeremy,

Please include the below JEPO approval in your closure documents.

Thank you,

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Jeremy Divine <jdivine@crownquest.com>
Sent: Thursday, November 1, 2018 10:06 AM
To: Kurt Sandoval <kurt.sandoval@bia.gov>; Guillermo (guillermo.deherrera@jicarillaoga.com) <guillermo.deherrera@jicarillaoga.com>; Alfred Vigil <alfredvigiljr@jicarillaoga.com>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Scott, Sarah <sscott@blm.gov>; 'Hobson Sandoval' <hsandoval2012@gmail.com>; Orson Harrison <orsonharrison@jicarillaoga.com>; Bryce Hammond, BLM Supervisor <brycehammond@jicarillaoga.com>; Jason Sandoval <jasonsandoval@jicarillaoga.com>
Cc: Trey Tixier <ttixier@crownquest.com>; Jeremy Divine <jdivine@crownquest.com>
Subject: [EXT] FW: Roddy Production BGT Analysis

All,

Hobson Sandoval has given Roddy Production permission to back fill the Chacon Jicarilla Apache D#4, #7, #10 and #11. If there are no objections, Roddy Production will start backfilling next week when road conditions improve. Please let me know if you have any questions.

Jeremy Divine
Cell. 432 557 6778
Jdivine@crownquest.com
4001 N. Butler, Building 7101
Farmington, NM 87499
CrownQuest Operating
Roddy Production Co.

From: Hobson Sandoval <hsandoval2012@gmail.com>
Sent: Wednesday, October 31, 2018 3:29 PM

To: Jeremy Divine <jdivine@crownquest.com>
Subject: Fwd: Roddy Production BGT Analysis

---------- Forwarded message ---------
From: **Hobson Sandoval** <hsandoval2012@gmail.com>
Date: Tue, Oct 30, 2018 at 5:33 PM
Subject: Re: Roddy Production BGT Analysis
To: Jason Sandoval <jasonsandoval@jicarillaoga.com>, Cordell Tecube <cltecube@yahoo.com>, <vanessa.fields@state.nm.us>

I have reviewed the soil samples taken under the 4 BGTs and they are well below the OCD closure standards. Therefore , you have Jicarilla Apache Environmental Protection Office (EPO) approval to 1) backfill with clean clay soil and 2) install steel AGT at these four sites. You can back fill with clean clay soil from the huge soil pile that is close to D11.

On Tue, Oct 30, 2018 at 11:53 AM Jason Sandoval <jasonsandoval@jicarillaoga.com> wrote:

Received, thank you.

Jason Sandoval
Compliance & Enforcement
Jicarillla Oil & Gas Administration
jasonsandoval@jicarillaoga.com
(575) 419 - 0347 Cell
(575) 759 - 3485 Office

On Tue, Oct 30, 2018, 11:50 Jeremy Divine <jdivine@crownquest.com> wrote:

All,

Attached are lab analysis for the Chacon Jicarilla Apache D#4, D#7, D#10 and #11 BGT's. All sampling was witnessed by Jicarilla Oil & Gas Administration and Jicarilla EPO. Results are below the <50' depth to groundwater criteria on all wells except the Chacon Jicarilla Apache D #10. Analysis for the CJA D#10 is below the 51' to 100' depth to groundwater criteria for TPH, DRO+GRO and well below the criteria of <50' DTGW for chlorides. Roddy Production is seeking approval to backfill and install steel above grade water tanks. Please let me know if you have any questions or need more information.

Sincerely,

Jeremy Divine

Cell. 432 557 6778

Jdivine@crownquest.com

4001 N. Butler, Building 7101

Farmington, NM 87499

CrownQuest Operating

Roddy Production Co.