

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

JUL 25 2016

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.

15559

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

OIL CONS. DIV DIST. 3

JUL 25 2016

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#1
API Number: 30-043-20144 OCD Permit Number: _____
U/L or Qtr/Qtr A Section 23 Township 23N Range 3W County: Sandoval
Center of Proposed Design: Latitude 36.213883 Longitude -107.120783 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 _____

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

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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. **Variations 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

<p>Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><u>Temporary Pit Non-low chloride drilling fluid</u></p>	
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><u>Permanent Pit or Multi-Well Fluid Management Pit</u></p>	
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> 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 H₂S, 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 | <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> 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 | <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> 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 | <input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> 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 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within 300 feet of a wetland.
US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance | <input type="checkbox"/> Yes <input type="checkbox"/> No |

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

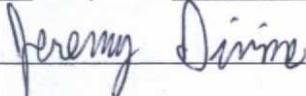
16. **On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- 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:**

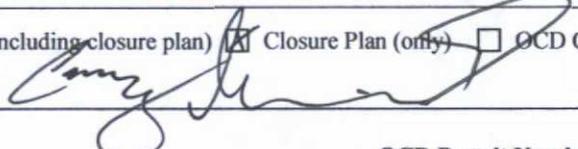
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Jeremy Divine Title: Foreman

Signature:  Date: 7/22/2016

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

18. **OCD Approval:** Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)

OCD Representative Signature:  Approval Date: 8/4/16

Title: Environmental Spec 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: _____

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 36.213883 Longitude -107.120783 NAD: 1927 1983

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): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Jeremy Divine

From: Jeremy Divine
Sent: Tuesday, July 19, 2016 10:31 AM
To: 'Hobson Sandoval'; 'Jason Sandoval'; 'rswitzer@blm.gov'; Smith, Cory, EMNRD
Cc: Trey Tixier; 'Isaac Garcia'; Felipe Aragon
Subject: Chacon Jicarilla Apache D#1 BGT

All,

We are scheduled to pull the BGT on the CJA D#1 on Thursday morning 7/21 at 9:00 am. We will be conducting field sampling and removing contaminated soil until areas are clean. Once field analysis are below standards, five point composite samples will be taken to the lab for analysis. Let me know if you have any questions or would like to re schedule.

Thanks

Jeremy Divine
Cell. 432 557 6778
jdivine@crowquest.com
4001 N. Butler, Building 7101
Farmington, NM 87499

CrownQuest Operating

Roddy Production Co.

Jeremy Divine

From: Jeremy Divine
Sent: Tuesday, July 19, 2016 12:41 PM
To: Smith, Cory, EMNRD
Subject: Chacon Jicarilla Apache D#1 (30-043-20144, UL-O, S-23, T23N, R3W) BGT Closure Plan and Aerial Photo to nearest water well

Hi Cory,

Here is the BGT closure plan and aerial photo to the nearest water well. I could not find anything on Iwaters but we are checking with the Jicarilla to see if they have any info. Let me know if you need me to revise anything and I'll drop a copy off at your office.

Thanks

Jeremy Divine
Cell. 432 557 6778
[Jdivine@crowquest.com](mailto:jdivine@crowquest.com)
4001 N. Butler, Building 7101
Farmington, NM 87499

CrownQuest Operating
Roddy Production Co.

**RODDY PRODUCTION CO.
CHACON JICARILLA APACHE**

D#1

875' FNL X 1140' FEL S-23, T23N R3W

API 30-043-20144

P&A Reclamation Plan

PURPOSE AND SCOPE

The purpose of this Reclamation Plan is to ensure final reclamation of the Chacon Jicarilla Apache D#1 well pad site, associated access road and well tie pipeline based on the BLM/Jicarilla Apache Nation/Roddy Production on-site inspection conducted on **Date**.

PROPOSED RECLAMATION PLAN

NOTE: NO disturbance will occur outside the areas currently disturbed by the well location, access road and pipeline ROW boundaries.

Roddy Production will comply with the requirements in accordance with the approved Sundry Notice associated with this submittal.

- Contact BLM/ Jicarilla Apache Nation 48 hours prior to commencing earthwork.
- Reclamation to be completed within 1 year of plugging date.
- Remove all underground production piping.
- Plug cathodic ground bed if present on location.
- Remove Power poles, rectifier and radio equipment.
- Remove all rig anchors on the location.
- Strip available topsoil from areas that will be disturbed during the reclamation of this well site. Stockpiled topsoil will be kept separate from fill material.
- Remove all gravel on well pad surface. Gravel may be used as fill material at the base of the cut slope to re-establish the natural topography.
- Use fill material on the well location to reconstruct natural topography.
- Rip the access road to eliminate surface compaction hard pan. Where the road has become imbedded (below natural grade), fill material will be hauled in to re-establish the natural grade of the road prior to disturbance.
- After location has been re-contoured, rip, disk and seed the location and access road to establish a proper seedbed. Seeds will be planted with a disk type seed drill.
- Install a woven wire fence at and across the access road leading to the well site at the intersection of the main road and take off point(s) to discourage access on rehabilitated access road.
- Install a sign on fence, i.e. "Seeded Area -- Do Not Disturb".

Waste Material Handling and Disposal

All surface equipment and trash, if any, will be removed from the location and disposed of at an approved waste disposal facility.

If contaminated soil is discovered during the reclamation of this well location, Roddy Production will follow NTL 93-1 "Guidelines for Unlined Surface Impoundments Closure" for testing requirements and allowable threshold limits.

Surface Reconstruction and Stabilization

The long term objective of final reclamation is to set the course for eventual ecosystem restoration including the restoration of natural vegetation. Roddy Production will avoid disturbance to the mature vegetation that has become well established on the pad perimeter to the extent practicable, and will focus reclamation efforts toward de-compaction, removing sharp, angular features to more closely approximate the natural contours, re-establishing natural drainage patterns, and re-vegetating the abandoned well pad and associated access road.

Well Pad Reclamation

(Note: some steps may occur in a different sequence than listed below or may occur simultaneously as the case may be):

The following activities would take place before commencing with any dirt work to restore the pad surface:

- The BLM/ Jicarilla Apache Nation Authorized Officer will be notified at least 48 hours prior to construction.
- Pre-construction conditions will be documented and pictures taken from the four cardinal directions for future reference.
- The P&A marker will remain as is. All pertinent well information is permanently imprinted onto the marker for future reference.
- Temporary and/or permanent storm water and erosion control (Best Management Practices (BMPs)) will be employed at appropriate locations around the pad as dictated by local drainage patterns and expected areas of disturbance and slopes AND across the access road. BMP selection will be determined by local factors and will be a combination of sediment and erosions controls that are deemed effective and low maintenance. Straw wattles, diversion ditches, mulch, soil blankets, and/or other suitable BMPs may be used in various combinations, as appropriate, during and after construction activities. All temporary measures will be maintained and if necessary, removed prior to submitting a Final Abandonment Notice (FAN) for approval.
- Remove all gravel on well pad surface. Gravel may be used at the base of the cut slope underneath the fill material to re-establish the natural topography.
- Topsoil from well pad will be stripped, stockpiled and kept separately from spoil material.
- Use fill material to reconstruct natural topography.
- Those areas where healthy, mature, and weed-free vegetation has established along the pad perimeter will remain undisturbed to the extent possible.
- Natural drainage patterns will be restored, as practical, as near as possible to pre-disturbance conditions.
- The pad surface will be ripped by Bulldozer or Grader to reduce compaction and to establish a suitable root zone in preparation for topsoil replacement.
- Topsoil will be redistributed evenly across the pad surface and disked to prepare the soil for seeding.

- All disturbed areas will be seeded in accordance with current industry BMP's. Drill seeding will follow the contour of the slope and under no circumstances will seed be drilled up and down the contours.

Access Road Reclamation

- Upon completion of all well pad reclamation activities, the associated access road will be reclaimed using much the same methods as described above. The road will be ripped and scarified to reduce compaction, and any sharp or angular cuts or fills would be restored as near as possible to pre-disturbance contours. Natural drainage patterns will be restored, to the extent practical, as near as possible to pre-disturbance conditions. Where the road has become imbedded (below natural grade), fill material will be hauled in to re-establish the natural grade of the road prior to disturbance. **NO disturbance will occur outside the areas currently disturbed by the access road boundaries.**

Established vegetation along the roadsides will remain undisturbed where possible to encourage native plant growth onto the new disturbance and to maintain erosion and sediment control. Straw wattles and/or diversion ditches will be placed at appropriate locations along the road as needed to prevent sediment transport to local drainages. Other suitable BMPs may be used in various combinations, as appropriate, during and after construction activities.

To discourage future use of the road, a temporary woven wire fence will be constructed at and across the access road leading to the well site at the intersection of the main road and take off point(s) to discourage access on rehabilitated access road and will serve as a barricade to discourage access to the newly reclaimed road and will be left in place until the road & well pad have been stabilized.

A sign will be installed on the fence, i.e. "Seeded Area -- Do Not Disturb" or equivalent.

Re-establishing Surface Hydrology

Natural drainage patterns will be restored as near as possible to pre-construction conditions, except where restoring the natural drainage will cause excessive disturbance and disrupt the natural rehabilitation processes that have already been established. In those areas, additional means for ensuring proper drainage, such as water bars or diversion ditches, may be employed.

Eroded areas will be filled in using fill material from the well location and Best Management Practices (BMP's) for Storm water pollution prevention such as silt traps, excelsior mats, wattles/sediment control logs and straw distributed on the surface and crimped or harrowed into the soil after drill seeding.

Given that the well pad will effectively be inaccessible following road reclamation and because the only potential pollution source will be runoff sediment; the temporary storm water BMPs will be removed upon completion of construction activities. Drainage, sediment, and erosion controls will be managed through vegetative practices and/or biodegradable materials (i.e. soil blankets, straw wattles, crimped straw, mulch, brush and woody debris, pocking, etc.).

All drainage, sediment, and erosion controls will be implemented in accordance with Roddy Production standard Storm water Management Plan.

Site Preparation, Soil Management and Handling

Fill material will be pushed into cuts and over the back slope as necessary and any sharp, angular cuts and fills will be smoothed to conform as nearly as practical to the adjacent landform. The pad and road surfaces will then be ripped, scarified, and/or disked to a depth adequate for establishing a suitable root zone.

All salvaged topsoil material will be reused and spread evenly over the disturbed areas. Prior to seeding, all disturbed areas will be left with a rough surface to facilitate moisture and seed retention, and vegetative slash/brush will be placed at expected discharge areas to minimize sediment transport. The topsoil in the area is generally deep and no soil amendments are expected or proposed.

Revegetation

Following soil preparations, a range drill (disk type seed drill) will be used to apply the approved seed mix over the disturbed areas. The drill will be equipped with a depth regulator to ensure even planting depths appropriate to the plant species and soil types. Should broadcast seeding be deemed more appropriate in some areas, the seed application rates will be doubled and a rake or harrow used to incorporate the seed into the soil. Any steep slopes, greater than 2:1, will be blanketed for soil stabilization and seed retention.

The seed mixture and application rates for the Jicarilla Apache Nation (south reservation blend <12" Precip) Vegetative Community will be as follows:

Species	Variety	Pound/Acre (PLS)
Blue Grama	Hachita	.6
Galleta	Viva	.8
Indian Rice Grass	Paloma or Nezpar	1.1
Western Wheatgrass	Arriba or Barton	3.2
Pubescent Wheatgrass	Luna	2.1
Crested Wheatgrass	Ephraim or Hycrest	1.5
Blue Flax	Appar	.3
Palmar Penstemon	Cedar	1.0
		Total: 10.6

* Seed mix is available locally or from Southwest Seed in Dolores, CO.

Seed mixtures will be certified weed-free and the seeding records (bag labels) or other official documentation will be available to the Authorized Officer prior to seeding.

Seeding will be accomplished as soon as reasonably possible following completion of earthwork activities, generally within 7 days. The Authorized Officer will be notified forty-eight (48) hours prior to commencing with seed application.

Weed Management

Roddy Production's objective is to implement an integrated weed management program to control weed populations and establish desirable vegetation utilizing the following strategies:

- Control the introduction and spread of weeds through early detection.
- Establish desirable native vegetation on disturbed areas through successful re-vegetation efforts.
- Treat and control known weed populations.

Among the measures that will be implemented to prevent the introduction or establishment of weeds in areas not already infested include:

- Identification and eradication of new infestations as quickly as practical.
- Implement successful re-seeding efforts as quickly as practical in areas that have been disturbed.

Local factors, such as soil type and stability; grade; associated vegetation; existing and proposed land use; proximity to water; weed type and stage of growth; and severity of infestation; will be considered in selecting the appropriate weed management method(s). The management method(s) selected will be the least environmentally damaging, yet practical and reasonable in achieving the desired results.

Roddy Production will utilize chemical treatment as the preferred method of weed management and control. The proper use of herbicides at the optimum time can be an effective method for controlling persistent weeds. A Pesticide Use Proposal (PUP) will be pre-approved by the BLM prior to any chemical treatment. The use and handling of herbicides will be in accordance with all application rates, restrictions, and warnings listed on the label and MSDS. Preparation and application of all herbicides will be licensed by the State of Colorado Department of Agriculture, and a Daily Weed Pesticide Application Record will be completed and retained for all spraying activities.

Other methods to be used for weed control will include the following:

- Remove soil, seeds, and vegetative matter prior to entering or leaving the project site on all construction equipment and transport vehicles, trucks, pickups, and other vehicles.
- Ensure that all seed mixes, straw, and/or mulch used in reclamation are certified weed-free.
- Promptly establishing vegetation on disturbed areas.
- Treating and/or removing weeds prior to ground-disturbing activities to limit seed production and dispersal.
- Treating noxious weeds that have escaped the project area onto adjacent areas to prevent further expansion into un-infested areas and re-infestation of the treated area.

Monitoring

After the earthwork and seeding is completed, Roddy Production will submit a Sundry Notice informing the BLM that reclamation has been completed and which includes a request for an inspection of the earthwork and seeding.

A joint inspection may be conducted by Roddy Production, Jicarilla Apache Nation and the BLM.

After establishment of a self-sustaining, vigorous, diverse, native plant community is established on site, with a density sufficient to control erosion and non-native plant invasion and to re-establish wildlife or forage production vegetation, then Roddy Production will submit a Sundry Notice (FAN) requesting

approval of the remediated well location and access road. Photos of the location and access road will be submitted as supporting documentation for the FAN Sundry Notice.

END OF PLAN

Closure and Reclamation Plan
Roddy Production Co., Inc.
Chacon Jicarilla Apache D#1 Production Single Wall BGT
API 30-043-20144, UL-A, S-23, T23N, R3W

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), T-n-T Environmental (permit# NM-01-0008) 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