

District I  
1625 N French Dr., Hobbs, NM 88240

District II  
1301 W Grand Ave., Artesia, NM 88210

District III  
1000 Rio Brazos Rd., 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  
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

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

- 7076
- Type of action:
- ☒ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
  - ☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
  - ☐ Modification to an existing permit
  - ☐ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

**Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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.

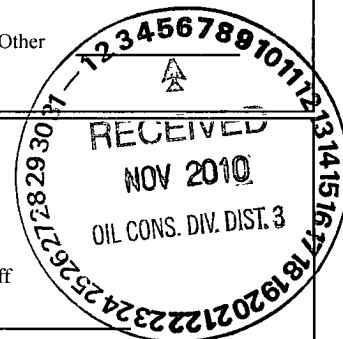
1	
Operator	<b>Burlington Resources Oil &amp; Gas Company, LP</b> OGRID#: <b>14538</b>
Address:	<b>PO Box 4289, Farmington, NM 87499</b>
Facility or well name:	<b>Mangum SRC 100</b>
API Number.	<b>30-045- 35212</b> OCD Permit Number
U/L or Qtr/Qtr	<b>A(NE/NE)</b> Section: <b>29</b> Township: <b>29N</b> Range: <b>11W</b> County: <b>San Juan</b>
Center of Proposed Design: Latitude	<b>36.70138</b> °N Longitude: <b>108.00876</b> °W NAD: <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983
Surface Owner	<input type="checkbox"/> Federal <input type="checkbox"/> State <input checked="" type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment

2	
<input type="checkbox"/> <b>Pit:</b> Subsection F or G of 19 15 17 11 NMAC	
Temporary	<input type="checkbox"/> Drilling <input type="checkbox"/> Workover
<input type="checkbox"/> Permanent	<input type="checkbox"/> Emergency <input type="checkbox"/> Cavitation <input type="checkbox"/> P&A
<input type="checkbox"/> Lined <input type="checkbox"/> Unlined	Liner type Thickness mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other
<input type="checkbox"/> String-Reinforced	
Liner Seams	<input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other Volume bbl Dimensions L x W x D

3	
<input checked="" type="checkbox"/> <b>Closed-loop System:</b> Subsection H of 19 15 17 11 NMAC	
Type of Operation	<input type="checkbox"/> P&A <input checked="" type="checkbox"/> Drilling a new well <input type="checkbox"/> Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
<input checked="" type="checkbox"/> Drying Pad <input checked="" type="checkbox"/> Above Ground Steel Tanks	<input type="checkbox"/> Haul-off Bins <input type="checkbox"/> Other
<input checked="" type="checkbox"/> Lined <input type="checkbox"/> Unlined	Liner type Thickness <b>20</b> mil <input checked="" type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVD <input type="checkbox"/> Other
Liner Seams	<input checked="" type="checkbox"/> Welded <input checked="" type="checkbox"/> Factory <input type="checkbox"/> Other

4	
<input type="checkbox"/> <b>Below-grade tank:</b> Subsection I of 19 15 17 11 NMAC	
Volume	bbl Type of fluid
Tank Construction material	
<input type="checkbox"/> Secondary containment with leak detection	<input type="checkbox"/> Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
<input type="checkbox"/> Visible sidewalls and liner	<input type="checkbox"/> Visible sidewalls only <input type="checkbox"/> Other
Liner Type	Thickness mil <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other

5	
<input type="checkbox"/> <b>Alternative Method:</b>	
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	



6 **Fencing:** Subsection D of 19 15 17 11 NMAC (*Applies to permanent pit, 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 \_\_\_\_\_

7 **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*)

8 **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 3 103 NMAC

9 **Administrative Approvals 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*

- ☐ Administrative approval(s) Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval (**Fencing/BGT Liner**)
- ☐ Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

10 **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. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau Office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17 10 NMAC for guidance. Siting criteria does not apply to drying pads or above grade-tanks associated with a closed-loop system.*

**Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.**

☐ Yes ☐ No

- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells

**Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).**

☐ Yes ☐ No

- Topographic map, Visual inspection (certification) of the proposed site

**Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.**

☐ Yes ☐ No

(*Applies to temporary, emergency, or cavitation pits and below-grade tanks*)

☐ NA

- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image

**Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.**

☐ Yes ☐ No

(*Applied to permanent pits*)

☐ NA

- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image

**Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.**

☐ Yes ☐ No

- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site

**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**

☐ Yes ☐ No

- Written confirmation or verification from the municipality, Written approval obtained from the municipality

**Within 500 feet of a wetland.**

☐ Yes ☐ No

- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site

**Within the area overlying a subsurface mine.**

☐ Yes ☐ No

- Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division

**Within an unstable area.**

☐ Yes ☐ No

- Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources, USGS; NM Geological Society, Topographic map

**Within a 100-year floodplain**

☐ Yes ☐ No

- FEMA map

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**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
- ☐ 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 \_\_\_\_\_ or Permit \_\_\_\_\_

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**Closed-loop Systems 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.*

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19 15 17 9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - 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 \_\_\_\_\_

☐ Previously Approved Operating and Maintenance Plan API \_\_\_\_\_

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**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<sub>2</sub>S, 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

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**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 ☒ Closed-loop System

☐ 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

☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

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**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 F 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 I of 19 15 17 13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19 15 17 13 D NMAC)

*Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.*

Disposal Facility Name Envirotech / JFJ Landfarm % IEL Disposal Facility Permit # NM-01-0011 / NM-01-0010B  
 Disposal Facility Name Basin Disposal Facility Disposal Facility Permit # NM-01-005

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and  
☐ Yes (If yes, please provide the information) ☐ No

*Required for impacted areas which will not be used for future service and operations*

- ☐ Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC  
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

**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 may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19 15 17 10 NMAC for guidance.*

Ground water is less than 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 type="checkbox"/> N/A
Ground water is between 50 and 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 type="checkbox"/> N/A
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 type="checkbox"/> N/A
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	<input 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 type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet 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, 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 adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality, Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 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 the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area - Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

**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 F of 19 15 17 13 NMAC  
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 Subsection F of 19 15 17 13 NMAC  
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F 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 I of 19 15 17 13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

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**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) Jamie Goodwin Title Regulatory Technician  
 Signature Jamie Goodwin Date 11/3/10  
 e-mail address Jamie.L.Goodwin@conocophillips.com Telephone 505-326-9784

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

**OCD Representative Signature:** Brampton Bell **Approval Date:** 12/9/10
**Title:** Enviro / Spec **OCD Permit Number:** \_\_\_\_\_

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**Closure Report (required within 60 days of closure completion):** Subsection K of 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:** \_\_\_\_\_

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**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 \_\_\_\_\_

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**Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

*Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.*

Disposal Facility Name \_\_\_\_\_ Disposal Facility Permit Number \_\_\_\_\_  
 Disposal Facility Name \_\_\_\_\_ Disposal Facility Permit Number \_\_\_\_\_

 Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

- ☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

*Required for impacted areas which will not be used for future service and operations*

- ☐ Site Reclamation (Photo Documentation)  
☐ Soil Backfilling and Cover Installation  
☐ Re-vegetation Application Rates and Seeding Technique

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**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)  
☐ Plot Plan (for on-site closures and temporary pits)  
☐ Confirmation Sampling Analytical Results (if applicable)  
☐ Waste Material Sampling Analytical Results (if applicable)  
☐ 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 \_\_\_\_\_ Longitude \_\_\_\_\_ NAD ☐ 1927 ☐ 1983

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**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 \_\_\_\_\_

# ConocoPhillips Company

## Closed Loop Design:

The closed loop design will not incorporate a temporary pit or below grade tank. The plan will utilize an above grade tank suitable for holding the cuttings and fluids generated during drilling operations. The volume of the tank shall be of a sufficient volume to maintain an adequate free board for periodic removal and disposal of cuttings and fluids.

ConocoPhillips Company may incorporate the use of a 20 mil, string reinforced, LLDPE liner with factory welded seams to line the drying pad in order to minimize the volume of fluids to be disposed of. The drying pad will be designed to prevent contamination of fresh water, protect public health and the environment, and have sumps to facilitate the collection of liquids derived from drilling cuttings, as specified per subsection H of 19.15.17.11. The cuttings pad will be constructed above grade and containment will be through the use of earthen berms of sufficient height to contain the cuttings and prevent run-off of surface water or fluids. The drying pad area will replace the area of the drill site previously designated for the reserve pit. It will be signed in compliance with 19.15.3.103.NMAC. Frac tanks will be utilized on site for fresh water storage.

## Closed Loop Operations and Maintenance:

The closed loop system will be operated and maintained for solids and liquid containment to prevent ground water contamination as follows:

- 1 Any free liquids will be recovered and reused or disposed of at the Basin Disposal Facility (Permit # NM-01-005) or JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B). Reuse may include the relocating of liquids to be used in other permitted drilling operations.
- 2 Drill solids will be recovered from location and hauled to Envirotech (Permit #NM-01-0011) or JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B) periodically as required to maintain a safe free board in the cuttings tank. No onsite trench burial of cuttings will occur.
- 3 In the event a drying pad is utilized, the cuttings will be picked up and transported to Basin Disposal Facility (Permit #NM-01-005) or JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B). The liner will be disposed of at the San Juan County Landfill located on CR 3100. The drying pad will be closed within 6 months from the date that the drilling rig is released. Berms constructed from native materials will be bladed on site to the location's contour.
- 4 Any drilling materials or trash will be stored and disposed of appropriately.
- 5 The NMOCD will be notified within 48 hours of the discovery of compromised integrity of the closed loop containment. Any required repairs will commence immediately.

## Closed Loop Closure Plan:

- 1 Upon completion of the drilling operations, all solids and liquids will be removed and disposed of to Envirotech (Permit #NM-01-0011) and/or Basin Disposal Facility (Permit # NM-01-005) and/or JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B). Equipment shall also be removed from location. In the event a drying pad is utilized, the solids contained on the pad shall remain on site to allow sufficient drying and will then be transported to Envirotech (Permit # NM-01-0011) or JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B) within 6 months from the date that the drilling rig is released.

- 2 After the drying pad is removed the surface below will be visually inspected for any contamination. If contamination is discovered a five point composite sample will be taken of the drying pad area using sampling tools and all samples tested per Subsection B of 19.15 17 13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15 17 13 i e , Dig and haul

Components	Tests Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	500

- 3 Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 4 Notification will be sent to OCD when the reclaimed area is seeded.
- 5 COP shall seed the disturbed areas the first growing season after the operator closes the drying pad. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

Type	Variety or Cultivator	PLS/A
Western wheatgrass	Arriba	3.0
Indian ricegrass	Paloma or Rimrock	3.0
Slender wheatgrass	San Luis	2.0
Crested wheatgrass	Hy-crest	3.0
Bottlebrush Squirrealtail	Unknown	2.0
Four-wing Saltbrush	Delar	25

**Species shall be planted in pounds of pure live seed per acre:**

**Present Pure Live Seed (PLS) = Purity X Germination/100**

**Two lots of seed can be compared on the basis of PLS as follows:**

Source No. One (poor quality)

Purity 50 percent

Germination 40 percent

Percent PLS 20 percent

**5 lb. bulk seed required to make**

**1 lb. PLS**

Source No. two (better quality)

Purity 80 percent

Germination 63 percent

Percent PLS 50 percent

**2 lb. bulk seed required to make**

**1 lb. PLS**