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 sytems, 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

Type of action:
- [X] 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: **Burlington Resources Oil & Gas Company, LP** OGRID#: **14538**
Address: **PO Box 4289, Farmington, NM 87499**
Facility or well name: **ATLANTIC B COM 9A**
API Number: **3004522977** OCD Permit Number:
U/L or Qtr/Qtr: **J** Section: **34** Township: **31N** Range: **10W** County: **San Juan**
Center of Proposed Design: Latitude: **36.85197°N** Longitude: **-107.86685°W** NAD: [X] 1927 [ ] 1983
Surface Owner: [X] Federal [ ] State [ ] Private [ ] Tribal Trust or Indian Allotment

2
[ ] **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: [ ] Drilling [ ] Workover
[ ] Permanent [ ] Emergency [ ] Cavitation [ ] P&A
[ ] 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
[ ] **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: [ ] P&A [ ] Drilling a new well [ ] Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
[ ] Drying Pad [ ] Above Ground Steel Tanks [ ] Haul-off Bins [ ] Other _____
[ ] Lined [ ] Unlined Liner type: Thickness _____ mil [ ] LLDPE [ ] HDPE [ ] PVD [ ] Other _____
Liner Seams: [ ] Welded [ ] Factory [ ] Other _____

4
[X] **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: **120** bbl Type of fluid: **Produced Water**
Tank Construction material: **Metal**
[ ] Secondary containment with leak detection [X] 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 [X] Other **Unspecified**

5
[ ] **Alternative Method:**
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 **4' hog wire fencing topped with two strands barbed wire.**

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

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**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.**<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes | ☒ No |
| **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).**<br>- 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.**<br>*(Applies to temporary, emergency, or cavitation pits and below-grade tanks)*<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | ☐ Yes<br>☐ NA | ☒ No |
| **Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.**<br>*(Applied to permanent pits)*<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | ☐ Yes<br>☒ NA | ☐ No |
| **Within 500 horizonal 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.**<br>- NM Office of the State Engineer - iWATERS database search; 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**<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes | ☒ No |
| **Within 500 feet of a wetland.**<br>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | ☐ Yes | ☒ No |
| **Within the area overlying a subsurface mine.**<br>- Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division | ☐ Yes | ☒ No |
| **Within an unstable area.**<br>- 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**<br>- FEMA map | ☐ Yes | ☒ No |

11
**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.*

- [X] 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
- [X] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [X] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [X] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [X] 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 _____

12
**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 _____

13
**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 (I) 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

14
**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 [X] Below-grade Tank [ ] Closed-loop System [ ] Alternative

Proposed Closure Method:
- [X] Waste Excavation and Removal **(Below-Grade Tank)**
- [ ] 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.***

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

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**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: _____ Disposal Facility Permit #: _____

Disposal Facility Name: _____ Disposal Facility Permit #: _____

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 operations?
☐ 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 appropraite requirements of Subsection G of 19.15.17.13 NMAC

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**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.<br>- NM Office of the State Engineer - iWATERS database search; USGS: Data obtained from nearby wells | ☐ Yes ☐ No ☐ N/A |
| Ground water is between 50 and 100 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No ☐ N/A |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No ☐ 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).<br>- 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.<br>- Visual inspection (certification) of the proposed site; Aerial photo; satellite image | ☐ Yes ☐ 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 fee of any other fresh water well or spring, in existence at the time of the initial application.<br>- NM Office of the State Engineer - iWATERS database; 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.<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☐ No |
| Within 500 feet of a wetland<br>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Within the area overlying a subsurface mine.<br>- Written confiramtion or verification or map from the NM EMNRD-Mining and Mineral Division | ☐ Yes ☐ No |
| Within an unstable area.<br>- 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.<br>- FEMA map | ☐ Yes ☐ No |

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**On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) ***Instructions: Each of the following items must bee 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

19

**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): Crystal Tafoya  Title: Regulatory Technician

Signature: Crystal Tafoya  Date: 12/22/2008

e-mail address: crystal.tafoya@conocophillips.com  Telephone: 505-326-9837

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

**OCD Representative Signature:** [signature]  **Approval Date:** 12/09/14

**Title:** Environmental Engineer  **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 opeartions?

☐ Yes (If yes, please demonstrate complilane 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 ture, 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:

***New Mexico Office of the State Engineer***
**POD Reports and Downloads**

Township: 30N Range: 10W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

**WATER COLUMN REPORT 08/21/2008**

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

| POD Number | Tws | Rng | Sec | q | q | q | Zone | X | Y | Depth Well | Depth Water | Water Column (in feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 00050 | 30N | 10W | 02 | 1 | 3 | 2 | | | | 520 | 306 | 214 |
| SJ 03460 | 30N | 10W | 02 | 1 | 3 | 2 | | | | 520 | 500 | 20 |
| SJ 03230 | 30N | 10W | 03 | 1 | 2 | 1 | | | | 120 | 70 | 50 |
| SJ 03113 | 30N | 10W | 05 | 4 | 1 | 4 | | | | 42 | 30 | 12 |
| SJ 00589 | 30N | 10W | 08 | 1 | 1 | 1 | | | | 175 | 150 | 25 |
| SJ 00774 | 30N | 10W | 08 | 1 | 2 | 1 | | | | 195 | 160 | 35 |
| SJ 02316 | 30N | 10W | 08 | 1 | 3 | | | | | 210 | 98 | 112 |
| SJ 02102 | 30N | 10W | 08 | 1 | 3 | 4 | | | | 190 | 90 | 100 |
| SJ 01527 | 30N | 10W | 08 | 2 | 2 | | | | | 120 | 60 | 60 |
| SJ 01193 | 30N | 10W | 08 | 2 | 2 | | | | | 100 | 70 | 30 |
| SJ 02808 | 30N | 10W | 08 | 2 | 3 | 4 | | | | 165 | 105 | 60 |
| SJ 01102 | 30N | 10W | 08 | 2 | 4 | | | | | 200 | 159 | 41 |
| SJ 02998 | 30N | 10W | 08 | 3 | 3 | 1 | | | | 260 | 117 | 143 |
| SJ 02772 | 30N | 10W | 08 | 4 | 2 | 2 | | | | 200 | 160 | 40 |
| SJ 00523 | 30N | 10W | 08 | 4 | 4 | | | | | 160 | 120 | 40 |
| SJ 01362 | 30N | 10W | 20 | 1 | 3 | 3 | | | | 238 | 190 | 48 |
| SJ 03442 | 30N | 10W | 20 | 1 | 4 | 1 | | | | 200 | | |
| SJ 02782 | 30N | 10W | 20 | 1 | 4 | 4 | | | | 250 | | |
| SJ 02797 | 30N | 10W | 20 | 2 | 4 | 1 | | | | 70 | | |
| SJ 00024 | 30N | 10W | 23 | 2 | 4 | 2 | | | | 305 | | |
| SJ 00051 | 30N | 10W | 23 | 2 | 4 | 2 | | | | 305 | | |
| SJ 00197 | 30N | 10W | 23 | 4 | 2 | | | | | 975 | 500 | 475 |
| SJ 00010 | 30N | 10W | 24 | 2 | | | | | | 292 | | |
| SJ 01116 | 30N | 10W | 33 | 2 | 1 | | | | | 105 | 45 | 60 |
| SJ 01059 | 30N | 10W | 34 | 1 | 2 | 4 | | | | 115 | 75 | 40 |
| SJ 01182 | 30N | 10W | 34 | 1 | 3 | 3 | | | | 235 | 125 | 110 |

Record Count: 26

*New Mexico Office of the State Engineer*
**POD Reports and Downloads**

Township: 31N Range: 10W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

**WATER COLUMN REPORT 08/20/2008**

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

| POD Number | Tws | Rng | Sec | q | q | q | Zone | X | Y | Depth Well | Depth Water | Water Column (in feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 00498 | 31N | 10W | 04 | 1 | 2 | | | | | 26 | 8 | 18 |
| SJ 03062 CLW263578 | 31N | 10W | 04 | 1 | 2 | 2 | | | | 47 | 40 | 7 |
| SJ 03062 | 31N | 10W | 04 | 1 | 2 | 2 | | | | 55 | 46 | 9 |
| SJ 02844 | 31N | 10W | 04 | 1 | 2 | 4 | | | | 37 | 21 | 16 |
| SJ 00573 | 31N | 10W | 04 | 1 | 4 | | | | | 37 | 12 | 25 |
| SJ 00595 | 31N | 10W | 04 | 1 | 4 | 2 | | | | 90 | 12 | 78 |
| SJ 00595 S | 31N | 10W | 04 | 1 | 4 | 2 | | | | 70 | 10 | 60 |
| SJ 00175 | 31N | 10W | 04 | 2 | | | | | | 28 | 13 | 15 |
| SJ 01563 | 31N | 10W | 04 | 2 | 1 | | | | | 44 | 28 | 16 |
| SJ 02089 | 31N | 10W | 04 | 2 | 1 | 1 | | | | 55 | 40 | 15 |
| SJ 03033 | 31N | 10W | 04 | 2 | 1 | 1 | | | | 52 | 30 | 22 |
| SJ 03034 | 31N | 10W | 04 | 2 | 1 | 2 | | | | 45 | 23 | 22 |
| SJ 01564 | 31N | 10W | 04 | 2 | 2 | | | | | 34 | 10 | 24 |
| SJ 00128 | 31N | 10W | 04 | 2 | 2 | | | | | 70 | 21 | 49 |
| SJ 02044 | 31N | 10W | 05 | 1 | 3 | | | | | 22 | 12 | 10 |
| SJ 01370 | 31N | 10W | 05 | 1 | 3 | 2 | | | | 48 | 28 | 20 |
| SJ 01967 X | 31N | 10W | 05 | 1 | 3 | 2 | | | | 25 | 10 | 15 |
| SJ 02843 | 31N | 10W | 05 | 1 | 3 | 2 | | | | 25 | 10 | 15 |
| SJ 02044 X | 31N | 10W | 05 | 1 | 3 | 4 | | | | 28 | 14 | 14 |
| SJ 02083 | 31N | 10W | 05 | 2 | 2 | 1 | | | | 23 | 10 | 13 |
| SJ 02069 | 31N | 10W | 05 | 2 | 2 | 1 | | | | 22 | 9 | 13 |
| SJ 03013 | 31N | 10W | 05 | 2 | 2 | 3 | | | | 19 | 7 | 12 |
| SJ 03109 | 31N | 10W | 05 | 2 | 2 | 3 | | | | 21 | 2 | 19 |
| SJ 03004 | 31N | 10W | 05 | 2 | 2 | 4 | | | | 18 | 6 | 12 |
| SJ 02945 | 31N | 10W | 05 | 2 | 2 | 4 | | | | 17 | 5 | 12 |
| SJ 03368 | 31N | 10W | 05 | 2 | 2 | 4 | | | | 19 | 6 | 13 |
| SJ 03549 | 31N | 10W | 05 | 2 | 4 | 4 | | | | 42 | 35 | 7 |
| SJ 02884 | 31N | 10W | 05 | 2 | 4 | 4 | | | | 75 | | |
| SJ 00304 | 31N | 10W | 05 | 3 | 4 | | | | | 18 | 5 | 13 |
| SJ 02399 | 31N | 10W | 05 | 3 | 4 | 1 | | | | 40 | 14 | 26 |
| SJ 02944 | 31N | 10W | 05 | 3 | 4 | 2 | | | | 100 | | |
| SJ 03112 | 31N | 10W | 05 | 3 | 4 | 2 | | | | 45 | 33 | 12 |

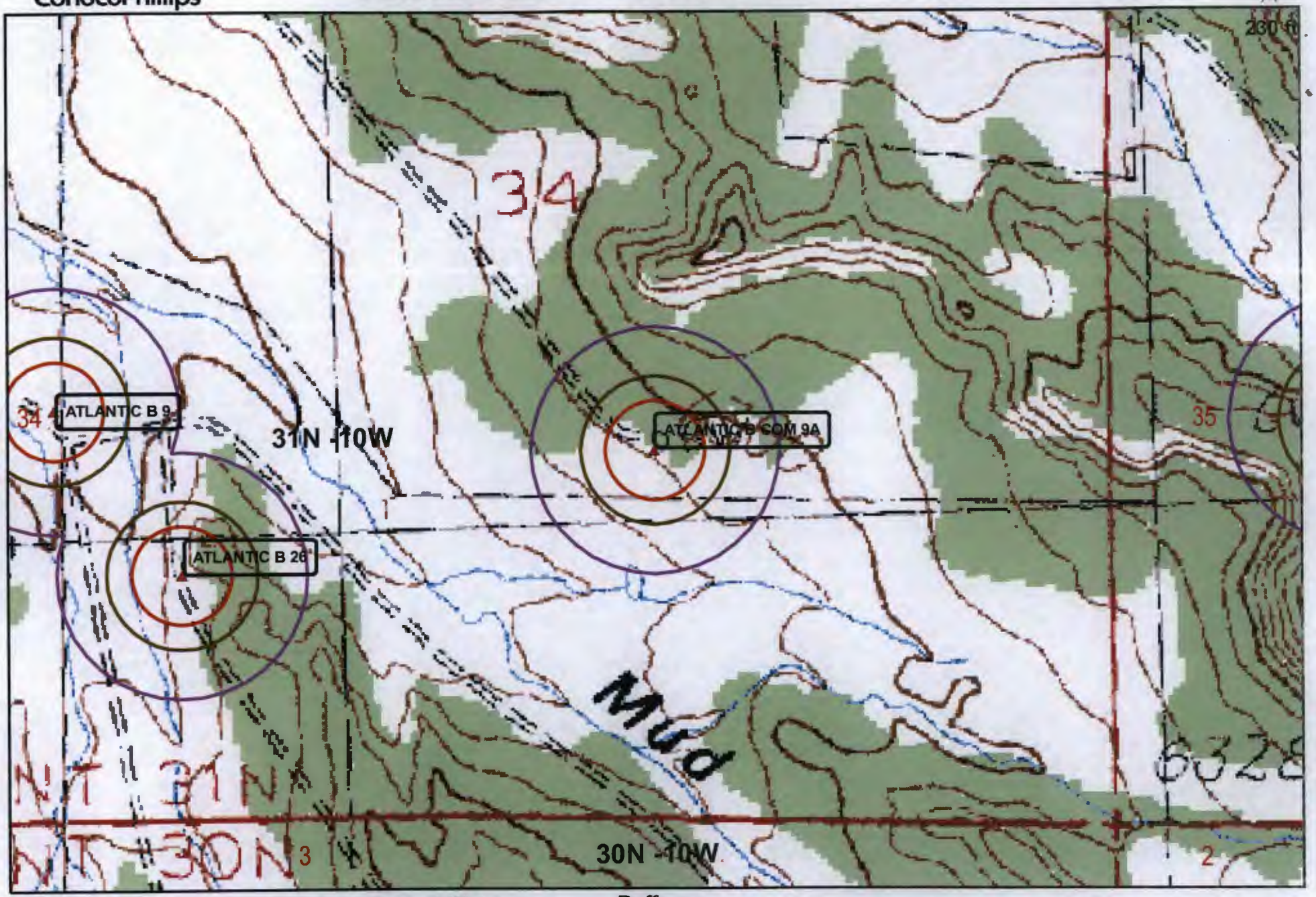
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SJ 01373 X | 31N | 10W | 05 | 3 4 3 | | | 35 | 10 | 25 |
| SJ 02107 | 31N | 10W | 05 | 4 3 | | | 35 | 16 | 19 |
| SJ 01373 | 31N | 10W | 05 | 4 3 | | | 6 | 3 | 3 |
| SJ 02037 | 31N | 10W | 05 | 4 3 | | | 39 | 11 | 28 |
| SJ 03452 | 31N | 10W | 05 | 4 4 2 | | | 61 | 30 | 31 |
| SJ 03336 | 31N | 10W | 05 | 4 4 3 | | | 58 | 28 | 30 |
| SJ 03246 | 31N | 10W | 05 | 4 4 3 | | | 65 | 15 | 50 |
| SJ 01958 | 31N | 10W | 06 | 2 | | | 103 | 83 | 20 |
| SJ 01977 | 31N | 10W | 06 | 2 3 | | | 93 | 33 | 60 |
| SJ 03308 | 31N | 10W | 06 | 2 4 3 | | | 100 | 60 | 40 |
| SJ 02150 | 31N | 10W | 07 | 2 2 | | | 41 | 23 | 18 |
| SJ 02389 | 31N | 10W | 07 | 2 2 3 | | | 48 | 31 | 17 |
| SJ 03079 | 31N | 10W | 07 | 2 2 3 | | | 50 | | |
| SJ 03330 | 31N | 10W | 07 | 3 3 1 | | | 400 | | |
| SJ 01521 | 31N | 10W | 07 | 4 | | | 45 | 29 | 16 |
| SJ 03802 POD1 | 31N | 10W | 07 | 4 3 2 | 269793 | 2149984 | 41 | 24 | 17 |
| SJ 00585 | 31N | 10W | 08 | | | | 40 | 23 | 17 |
| SJ 02304 | 31N | 10W | 08 | 1 2 | | | 35 | 29 | 6 |
| SJ 03057 | 31N | 10W | 08 | 1 3 4 | | | 19 | 6 | 13 |
| SJ 03714 POD1 | 31N | 10W | 08 | 3 1 1 | | | 21 | 6 | 15 |
| SJ 00054 | 31N | 10W | 10 | 2 | | | 455 | | |
| SJ 00830 -EXPLOR | 31N | 10W | 15 | 3 | | | 550 | | |
| SJ 01198 | 31N | 10W | 17 | 3 4 | | | 158 | 97 | 61 |
| SJ 02624 | 31N | 10W | 18 | 1 1 | | | 295 | 125 | 170 |
| SJ 01616 | 31N | 10W | 18 | 1 3 | | | 18 | 8 | 10 |
| SJ 01534 | 31N | 10W | 18 | 1 3 1 | | | 34 | 23 | 11 |
| SJ 03345 | 31N | 10W | 18 | 1 3 2 | | | 21 | 11 | 10 |
| SJ 01796 | 31N | 10W | 18 | 1 3 3 | | | 32 | 20 | 12 |
| SJ 01598 | 31N | 10W | 18 | 1 4 | | | 30 | 5 | 25 |
| SJ 01587 | 31N | 10W | 18 | 1 4 | | | 35 | 5 | 30 |
| SJ 03163 | 31N | 10W | 18 | 1 4 3 | | | 19 | 5 | 14 |
| SJ 01747 | 31N | 10W | 18 | 1 4 3 | | | 20 | 6 | 14 |
| SJ 01718 | 31N | 10W | 18 | 2 1 4 | | | 30 | 4 | 26 |
| SJ 03813 POD1 | 31N | 10W | 18 | 2 1 4 | 269778 | 2148065 | 16 | 6 | 10 |
| SJ 03070 | 31N | 10W | 18 | 2 3 2 | | | 21 | 1 | 20 |
| SJ 03324 | 31N | 10W | 18 | 2 3 2 | | | 43 | 20 | 23 |
| SJ 03474 | 31N | 10W | 18 | 2 4 2 | | | 35 | | |
| SJ 01625 | 31N | 10W | 18 | 3 1 | | | 21 | 6 | 15 |
| SJ 01500 | 31N | 10W | 18 | 3 1 | | | 26 | 15 | 11 |
| SJ 01550 | 31N | 10W | 18 | 3 1 | | | 22 | 7 | 15 |
| SJ 02821 | 31N | 10W | 18 | 3 1 1 | | | 24 | 8 | 16 |
| SJ 03119 | 31N | 10W | 18 | 3 1 2 | | | 10 | 8 | 2 |
| SJ 01552 | 31N | 10W | 18 | 3 1 4 | | | 30 | 22 | 8 |
| SJ 03114 | 31N | 10W | 18 | 3 2 1 | | | 16 | 8 | 8 |
| SJ 02749 | 31N | 10W | 18 | 3 2 2 | | | 16 | 10 | 6 |
| SJ 03722 POD1 | 31N | 10W | 18 | 3 2 3 | | | 20 | 6 | 14 |
| SJ 03721 POD1 | 31N | 10W | 18 | 3 2 3 | | | 25 | 10 | 15 |
| SJ 03435 | 31N | 10W | 18 | 3 2 3 | | | 10 | 6 | 4 |
| SJ 03622 | 31N | 10W | 18 | 3 2 3 | | | 20 | 6 | 14 |
| SJ 00611 S | 31N | 10W | 18 | 3 3 | | | 65 | 25 | 40 |
| SJ 00611 | 31N | 10W | 18 | 3 3 3 | | | 58 | 46 | 12 |
| SJ 00555 CLW225581 | 31N | 10W | 19 | 1 | | | 70 | 45 | 25 |
| SJ 02909 | 31N | 10W | 19 | 1 1 1 | | | 60 | 47 | 13 |
| SJ 02929 | 31N | 10W | 19 | 1 1 1 | | | 58 | 40 | 18 |
| SJ 02979 | 31N | 10W | 19 | 1 1 1 | | | 57 | 43 | 14 |
| SJ 03103 | 31N | 10W | 19 | 1 1 1 | | | 53 | 33 | 20 |
| SJ 03359 | 31N | 10W | 19 | 1 1 1 | | | 70 | | |
| SJ 03705 POD1 | 31N | 10W | 19 | 1 1 2 | | | 69 | 56 | 13 |
| SJ 03487 | 31N | 10W | 19 | 1 1 3 | | | 65 | 45 | 20 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SJ 03086 | | 31N | 10W | 19 | 1 | 1 | 3 | 61 | 44 | 17 |
| SJ 03486 | | 31N | 10W | 19 | 1 | 1 | 3 | 65 | 45 | 20 |
| SJ 01428 | | 31N | 10W | 19 | 1 | 3 | | 65 | 45 | 20 |
| SJ 01349 | | 31N | 10W | 19 | 1 | 3 | 3 | 78 | 67 | 11 |
| SJ 03285 | | 31N | 10W | 19 | 3 | 1 | 1 | 40 | | |
| SJ 02084 | | 31N | 10W | 25 | 4 | 4 | 2 | 315 | | |
| SJ 00967 | | 31N | 10W | 27 | 4 | 3 | | 130 | 90 | 40 |
| SJ 00990 | | 31N | 10W | 27 | 4 | 3 | | 162 | 110 | 52 |
| SJ 01483 | | 31N | 10W | 27 | 4 | 4 | 1 | 195 | 150 | 45 |
| SJ 02960 | | 31N | 10W | 27 | 4 | 4 | 2 | 200 | 150 | 50 |
| SJ 03178 | | 31N | 10W | 27 | 4 | 4 | 2 | 235 | 150 | 85 |
| SJ 03539 | | 31N | 10W | 27 | 4 | 4 | 3 | 205 | 124 | 81 |
| SJ 00163 | | 31N | 10W | 28 | 1 | 4 | 1 | 1538 | | |
| SJ 00163 | EXPL | 31N | 10W | 28 | 1 | 4 | 3 | 1538 | | |
| SJ 03459 | | 31N | 10W | 32 | 3 | 3 | 2 | 185 | 175 | 10 |
| SJ 00981 | | 31N | 10W | 34 | 2 | 1 | | 164 | 118 | 46 |
| SJ 01480 | | 31N | 10W | 34 | 2 | 1 | | 245 | 125 | 120 |
| SJ 03624 | | 31N | 10W | 34 | 2 | 1 | 2 | 165 | 65 | 100 |
| SJ 03387 | | 31N | 10W | 34 | 2 | 2 | 1 | 250 | 200 | 50 |
| SJ 03728 | POD1 | 31N | 10W | 35 | 1 | 3 | 3 | 365 | 230 | 135 |
| SJ 03545 | | 31N | 10W | 35 | 1 | 4 | 3 | 455 | 317 | 138 |
| SJ 03544 | | 31N | 10W | 35 | 1 | 4 | 4 | 325 | 220 | 105 |
| SJ 03571 | | 31N | 10W | 35 | 1 | 4 | 4 | 250 | | |
| SJ 03576 | | 31N | 10W | 35 | 2 | 3 | 3 | 450 | 137 | 313 |
| SJ 03570 | | 31N | 10W | 35 | 2 | 4 | 4 | 250 | | |
| SJ 03554 | | 31N | 10W | 35 | 4 | 2 | 1 | 454 | 317 | 137 |

Record Count: 117

ConocoPhillips

# USGS TOPO MAP ATLANTIC B COM 9A




Wetlands data aquired from U.S. Fish and Wildlife
http://wetlandswms.er.usgs.gov

**Ground Water**
- iWaters
- COP

**Buffers**
- 200ft
- 300ft
- 500ft
- Wetlands

0 500 1,000 Feet

1:6,000

NAD_1983_StatePlane_NMWest_FIPS_3003

8/08

ConocoPhillips

# AERIAL MAP ATLANTIC B COM 9A

Data Source
Aerial flown locally Sedgewick in 2005.

1000FT

300FT

0 500 1,000 Feet

1:6,000

NAD_1983_SP_
NM West_FIPS_3003

8/08

# Mines, Mills and Quarries Web Map

**ATLANTIC B COM 9A**

Unit Letter: J, Section: 34, Town: 031N, Range: 010W

**lines, Mills & Quarries Commodity Groups**

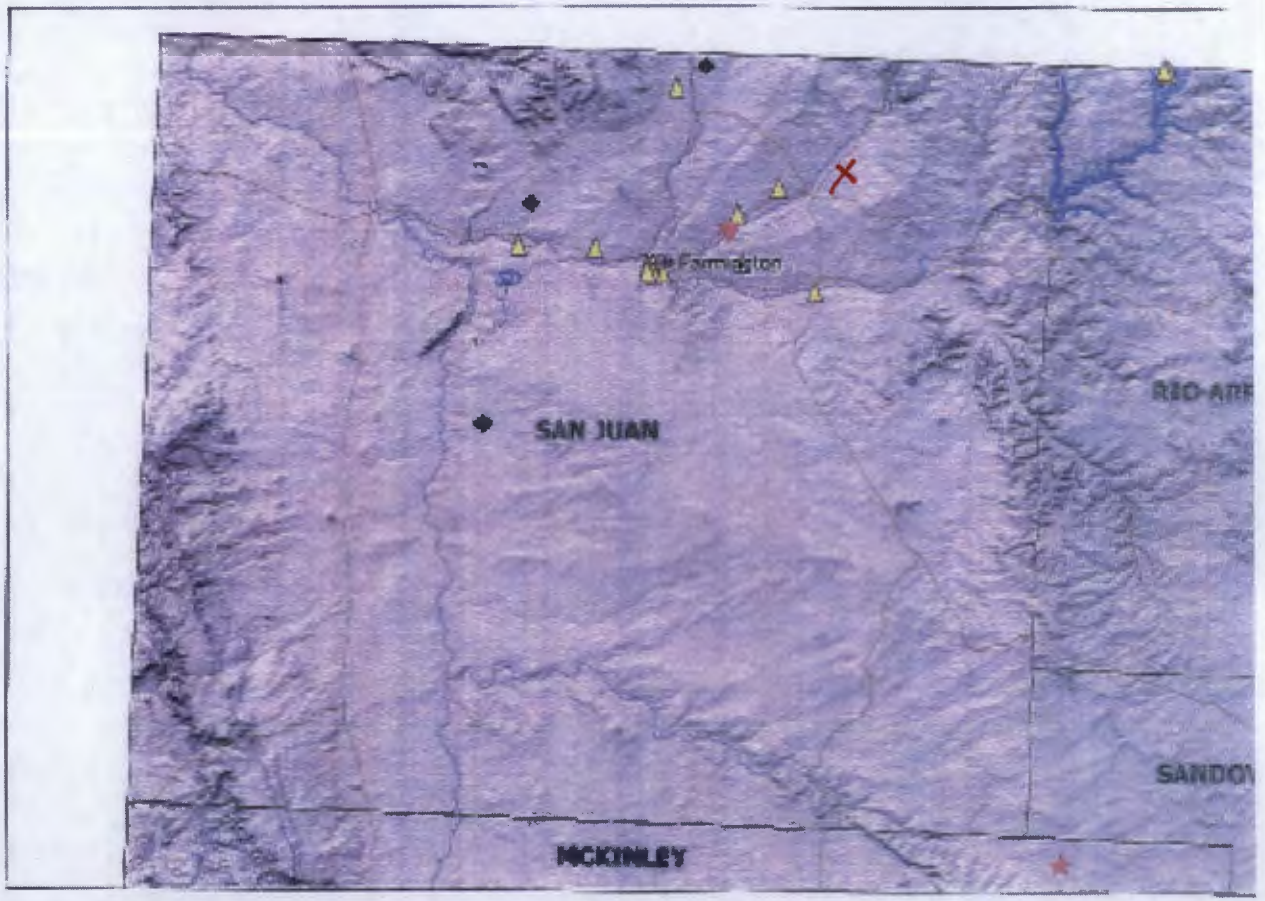
- Aggregate & Stone Mines
- Coal Mines
- Industrial Minerals Mines
- Industrial Minerals Mills
- Metal Mines and Mill Concentrate
- Potash Mines & Refineries
- Smelters & Refinery Ops.
- Uranium Mines
- Uranium Mills

**opulation**

- Cities - major

**ranaportation**

- Railways
- Interstate Highways
- Major Roads

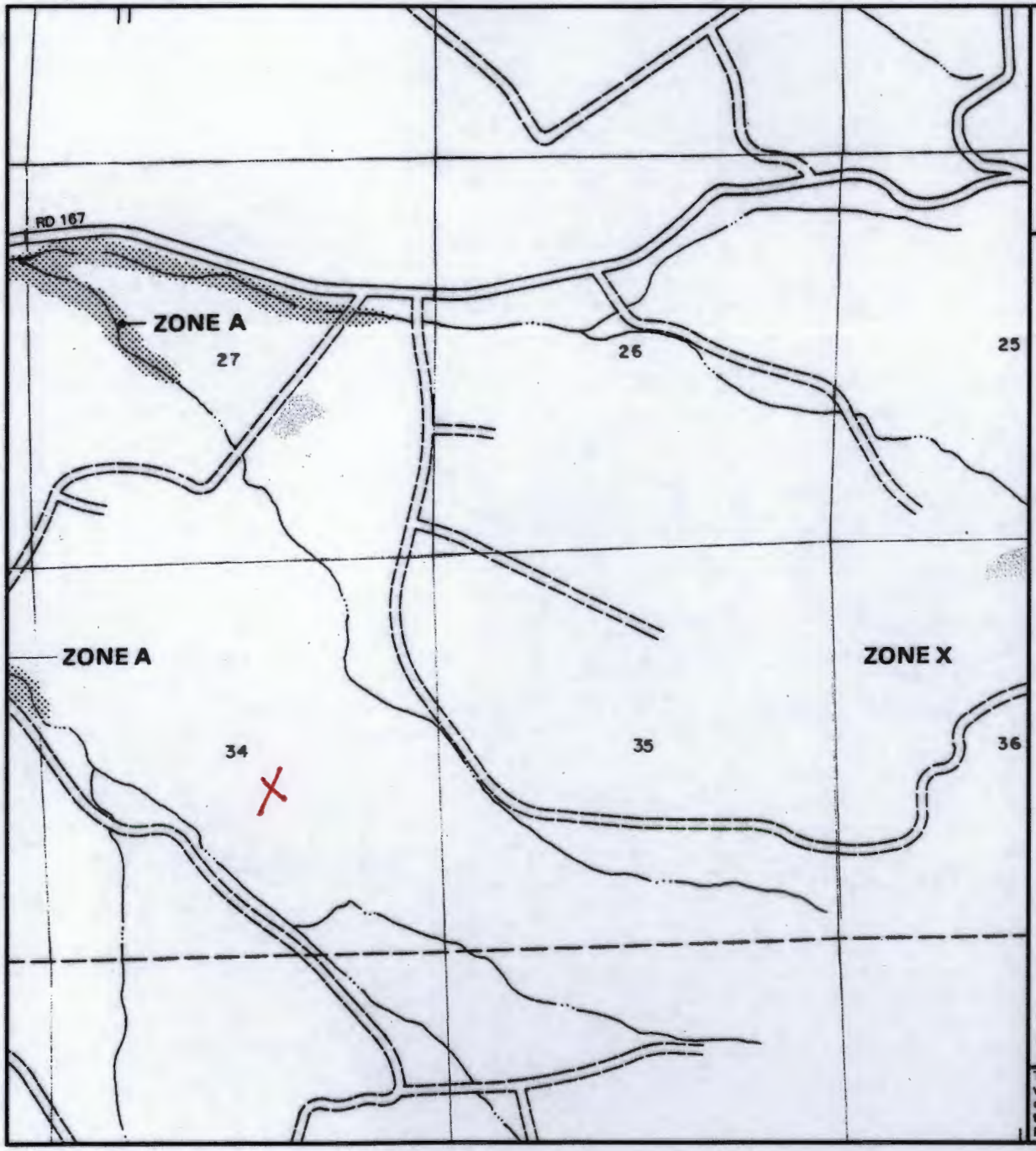



SCALE 1 : 1,180,383

20 0 20 40 60

MILES

Atlantic B Com 9A




N

APPROXIMATE SCALE

2000 0 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**

**FLOOD INSURANCE RATE MAP**

**SAN JUAN COUNTY, NEW MEXICO**
**UNINCORPORATED AREAS**

**PANEL 350 OF 1450**
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

**COMMUNITY-PANEL NUMBER**
350064 0350 B

**EFFECTIVE DATE:**
AUGUST 4, 1988

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

## ATLANTIC B COM 9A

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'ATLANTIC B COM 9A', which is located at 36.85197 degrees North latitude and 107.86685 degrees West longitude. This location is located on the Turley 7.5' USGS topographic quadrangle. This location is in section 34 of Township 31 North Range 10 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in San Juan County, New Mexico. The nearest town is Cedar Hill, located 6.2 miles to the north. The nearest large town (population greater than 10,000) is Farmington, located 20.5 miles to the west (National Atlas). The nearest highway is State Highway 173, located 3.7 miles to the south. The location is on BLM land and is 341 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Animas. Colorado, New Mexico, Sub-basin. This location is located 1913 meters or 6274 feet above sea level and receives 14.5 inches of rain each year. The vegetation at this location is classified as Colorado Plateau Pinon-Juniper Woodland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 131 feet. This estimation is based on the data published on the New Mexico Engineer's iWaters Database website and water depth data from ConocoPhillips' cathodic wells. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest stream is 515 feet to the south and is classified by the USGS as an intermittent stream. The nearest perennial stream is 598 feet to the southwest. The nearest water body is 527 feet to the southwest. It is classified by the USGS as an intermittent lake and is 0.1 acres in size. The nearest spring is 4,332 feet to the northeast. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 2,472 feet to the northeast. The nearest wetland is a 0.3 acre other located 15,597 feet to the south. The slope at this location is 0 degrees to the southwest as calculated from USGS 30M National Elevation Dataset. This information is also discerned from the aerial and topographic map included. The surface geology at this location is NACIMIENTO FORMATION--Shale and sandstone with a Shale dominated formations of all ages substrate. The soil at this location is 'Blanco-Fruitland association, gently sloping' and is well drained and not hydric with moderate erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 7.8 miles to the north as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Regional Geological context:

The Nacimiento Formation is of Paleocene age (Baltz, 1967, p. 35). It crops out in a broad band inside the southern and western margins of the central basin and in a narrow band along the west face of the Nacimiento Uplift. The Nacimiento is a nonresistant unit and typically erodes to low, rounded hills or forms badland topography.
The Nacimiento Formation occurs in approximately only the southern two-thirds of the San Juan Basin where it conformably overlies and inter-tongues with the Ojo Alamo Sandstone (Fassett, 1974, p. 229). The Nacimiento Formation grades laterally into the main part of the Animas Formation (Fassett and Hinds, 1971, p. 34); thus, in this area, the two formations occupy the same stratigraphic interval.
Strata of the Nacimiento Formation were deposited in lakebeds in the central basin area with lesser deposition in stream channels (Brimhall, 1973, p. 201). In general, the Nacimiento consists of drab, inter-bedded black and gray shale with discontinuous, white, medium- to very coarse grained arkosic sandstone (Stone e al., 1983, p.30). Stone et al. indicated that the formation may contain more sandstone than commonly reported because some investigators assume the slope-forming strata in the unit area shales, whereas in many places the strata actually are poorly consolidated sandstones.
Total thickness of the Nacimiento Formation ranges from about 500 to 1,300 feet. The unit generally thickens from the basin margins toward the basin center (Steven et al., 1974). The sandstone deposits within the Nacimiento Formation are much thinner than the total thickness of the formation because their environment of deposition was localized stream channels (Brimhall, 1973, p. 201). The thickness of the combined San Jose, Animas, and Nacimiento Formations ranges from 500 to more than 3.500 feet.

Hydraulic Properties:

Reported well yields for 53 wells completed in either the Animas or Nacimiento Formations range from 2 to 90 gallons per minute and the median yield is 7.5 gallons per minute. The primary use of water from Nacimiento and Animas Formations is domestic and livestock supplies. There are no known aquifer tests for the Animas or Nacimiento Formations, but specific capacities reported for six wells range from 0.24 to 2.30 gallons per minute per foot of drawdown (Levings et al., 1990).
The Animas and Nacimiento Formations are in many ways hydrologically similar to the San Jose Formation because sands in both units produce approximately the same quantities of water. However, the greater percentage of fine materials in the Animas and Nacimiento Formations may restrict downward vertical leakage to the Ojo Alamo Sandstone or Kirtland Shale. The poorly cemented fine material is highly erodible, forms a badland terrain, and supports only spotty vegetation. These conditions are more conductive to runoff than retention of precipitation.

References:

Baltz, E.H., 1967, Stratigraphy and regional tectonic implications of part of Upper Cretaceous rocks, east-central San Juan Basin, New Mexico: USGS Professional Paper 552, 101 p.
Brimhall, R.M., 1973, Ground-water hydrology of Tertiary rocks of the San Juan Basin, New Mexico, in Fassett, J.E., ed., Cretaceous and Tertiary rocks of the Southern Colorado Plateau: Four Corners Geological Society Memoir, p. 197-207.
Fassett, J.E., 1974, Cretaceous and Tertiary rocks of the eastern San Juan Basin, New Mexico and Colorado, in Guidebook of Ghost Ranch, central-northern New Mexico: New Mexico Geological Society, 25th Field Conference, p. 225-230.
Fassett, J.E., and Hinds, J.S., 1971, Geology and fuel resources of the Fruitland Formation and Kirtland Shale of the San Juan Basin, New Mexico and Colorado: USGS Professional Paper 676, 76 p.
Levings, G.W., Craigg, S.d., Dam, W.L., Kernodle, J.M., and Thorn, C.R., 1990, Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan structural basin, New Mexico, Colorado, Arizona, and Utah: USGS Hydrologic Investigations Atlas HA-720-A, 2 sheets.
Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T., 1983, Hydrogeology and water resources of San Juan Basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Hydrologic Report 6.

**Burlington Resources Oil & Gas Company, LP**
**San Juan Basin**
**Below Grade Tank Design and Construction**

In accordance with NMAC 19.15.17 the following information describes the design and construction of below grade tanks on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all below grade tanks (BGT). A separate plan will be submitted for any BGT which does not conform to this plan.

General Plan:

1. BR will design and construct a properly sized and approved BGT which will contain liquids and should prevent contamination of fresh water to protect the public health and environment.

2. BR signage will comply with 19.15.3.103 NMAC when BR is the operator. If BR is not the operator it will comply with 19.15.17.11NMAC. BR includes Emergency Contact information on all signage.

3. BR has approval to use alternative fencing that provides better protection. BR constructs fencing around the BGT using 4 foot hog wire fencing topped with two strands of barbed wire, or with a pipe top rail. A six foot chain link fence topped with three strands of barbed wire will be use if the well location is within 1000 feet of permanent residence, school, hospital, institution or church. BR ensures that all gates associated with the fence are closed and locked when responsible personnel are not onsite.

4. BR will construct a screened, expanded metal covering, on the top of the BGT.

5. BR shall ensure that a below-grade tank is constructed of materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight as shown on design drawing and specification sheet.

6. The BR below-grade tank system shall have a properly constructed foundation consisting of a level base free of rocks, debris, sharp edges or irregularities to prevent punctures, cracks or indentations of the liner or tank bottom as shown on design drawing.

7. BR shall operate and install the below-grade tank to prevent the collection of surface water run-on. BR has built in shut off devices that do not allow a below-grade tank to overflow. BR constructs berms and corrugated retaining walls at least 6" above ground to keep from surface water run-on entering the below grade tank as shown on the design plan.

8. BR will construct and use a below-grade tank that does not have double walls. The below-grade tank's side walls will be open for visual inspection for leaks, the below-grade tank's bottom is elevated a minimum of six inches above the underlying ground surface and the below-grade tank is underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected.

9. BR has equipped the below-grade tanks with the ability to detect high level in the tank and provide alarm notification and shutdown process streams into the tank. Once high level is detected RTU logic closes the inlet separator sales valve and does not permit vent valve to open. This shutdown of the sales valve and gagging of the vent valves prevents any hydrocarbon process streams from entering the pit tank once a high level is detected. Furthermore, an electronic page is sent to the BR MSO for that well site and to the designated contract "Water-Hauling" Company indicating a high level and that action must be taken to address this alarm. The environmental drain line from BR's compressor skid under normal operating conditions is in the open position. The environmental drain line is in place to capture any collected rain water or spilled lubricants from our compressor skids. The swab drain line is a manually operated drain and by normal operating procedures is in the closed position. The tank drain line is also a manually operated drain and during normal operations it is in the closed position.

10. The geomembrane liner consists of a 45-mil flexible LLDPE material manufactured by Raven Industries as J45BB. This product is a four layer reinforced laminated containing no adhesives. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications. The J45BB is reinforced with 1300 denier (minimum) tri-directional scrim reinforcement. It exceeds ASTMD3083 standard by 10%. J45BB has a warranty for 20 years from Raven Industries and is attached. It is typically used in Brine Pond, Oilfield Pit liner and other industrial applications. The manufacture specific sheet is attached and the design attached displays the proper installation of the liner.

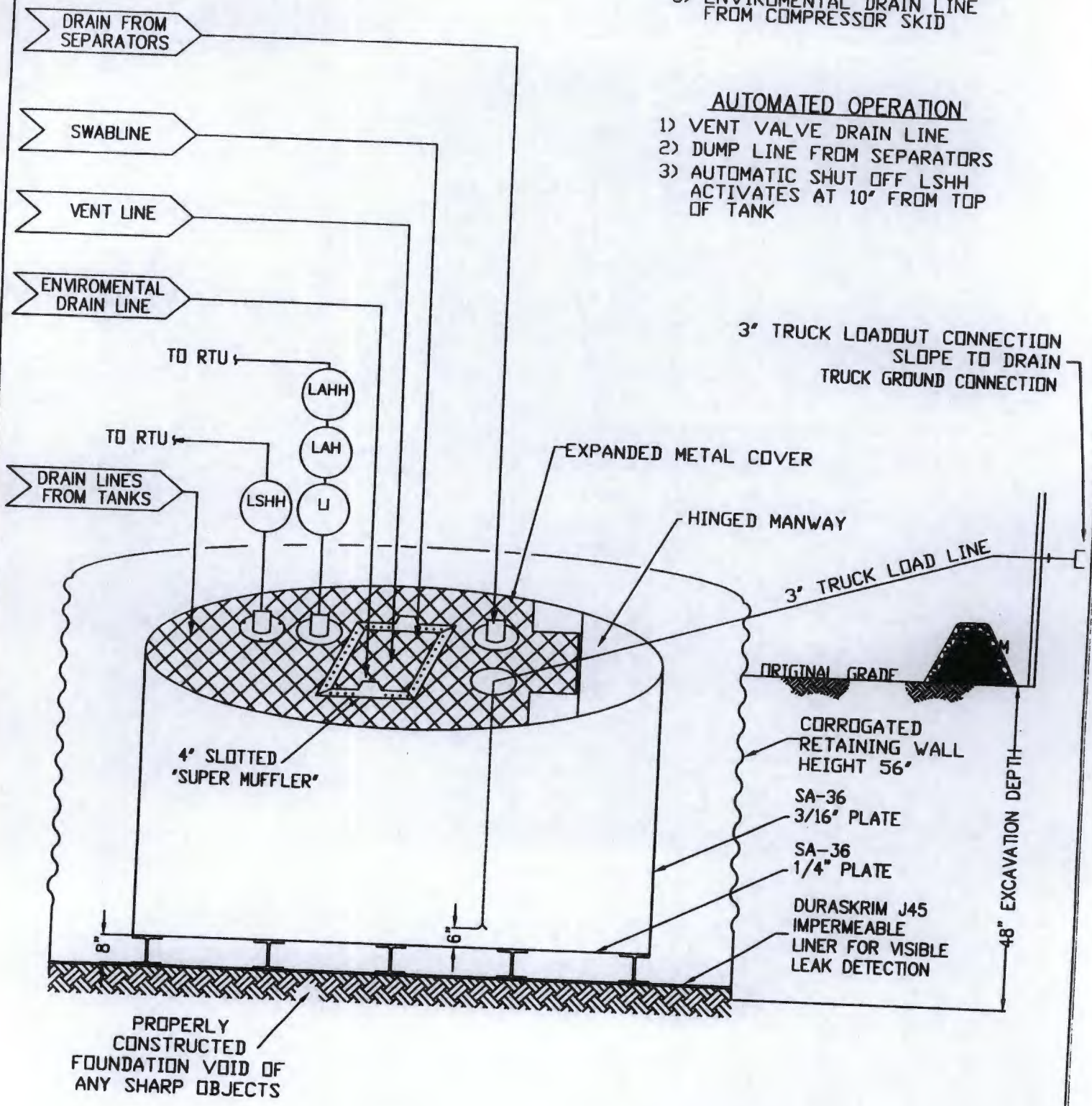
11. The general specification for design and construction are attached in the BR document.

## MANUAL OPERATION

1) PRODUCTION TANKS DRAINLINE
2) SWABLINE DRAIN LINE
3) ENVIROMENTAL DRAIN LINE FROM COMPRESSOR SKID

## AUTOMATED OPERATION

1) VENT VALVE DRAIN LINE
2) DUMP LINE FROM SEPARATORS
3) AUTOMATIC SHUT OFF LSHH ACTIVATES AT 10" FROM TOP OF TANK




**ConocoPhillips**

San Juan Business Unit

## PRODUCED WATER PIT TANK

OPEN TOP GRAVITY FLOW TANK
INTERNALLY COATED WITH
12-14 MILS AMERON AMERCOAT 385

# DURA-SKRIM® J30, J36 & J45

| PROPERTIES | TEST METHOD | J30BB | | J36BB | | J45BB | |
|---|---|---|---|---|---|---|---|
| | | Min. Roll Averages | Typical Roll Averages | Min. Roll Averages | Typical Roll Averages | Min. Roll Averages | Typical Roll Averages |
| Appearance | | Black/Black | | Black/Black | | Black/Black | |
| Thickness | ASTM D 5199 | 27 mil | 30 mil | 32 mil | 36 mil | 40 mil | 45 mil |
| Weight Lbs Per MSF (oz/yd²) | ASTM D 5261 | 126 lbs (18.14) | 140 lbs (20.16) | 151 lbs (21.74) | 168 lbs (24.19) | 189 lbs (27.21) | 210 lbs (30.24) |
| Construction | | **Extrusion laminated with encapsulated tri-directional scrim reinforcement | | | | | |
| Ply Adhesion | ASTM D 413 | 16 lbs | 20 lbs | 19 lbs | 24 lbs | 25 lbs | 31 lbs |
| 1" Tensile Strength | ASTM D 7003 | 88 lbf MD 63 lbf DD | 110 lbf MD 79 lbf DD | 90 lbf MD 70 lbf DD | 113 lbf MD 87 lbf DD | 110 lbf MD 84 lbf DD | 138 lbf MD 105 lbf DD |
| 1" Tensile Elongation @ Break, % (Film Break) | ASTM D 7003 | 550 MD 550 DD | 750 MD 750 DD | 550 MD 550 DD | 750 MD 750 DD | 550 MD 550 DD | 750 MD 750 DD |
| 1" Tensile Elongation @ Peak, % (Scrim Break) | ASTM D 7003 | 20 MD 20 DD | 33 MD 33 DD | 20 MD 20 DD | 30 MD 31DD | 20 MD 20 DD | 36 MD 36 DD |
| Tongue Tear Strength | ASTM D 5884 | 75 lbf MD 75 lbf DD | 97 lbf MD 90 lbf DD | 75 lbf MD 75 lbf DD | 104 lbf MD 92 lbf DD | 100 lbf MD 100 lbf DD | 117 lbf MD 118 lbf DD |
| Grab Tensile | ASTM D 7004 | 180 lbf MD 180 lbf DD | 218 lbf MD 210 lbf DD | 180 lbf MD 180 lbf DD | 222 lbf MD 223 lbf DD | 220 lbf MD 220 lbf DD | 257 lbf MD 258 lbf DD |
| Trapezoid Tear | ASTM D 4533 | 120 lbf MD 120 lbf DD | 146 lbf MD 141 lbf DD | 130 lbf MD 130 lbf DD | 189 lbf MD 172 lbf DD | 160 lbf MD 160 lbf DD | 193 lbf MD 191 lbf DD |
| * Dimensional Stability | ASTM D 1204 | <1 | <0.5 | <1 | <0.5 | <1 | <0.5 |
| Puncture Resistance | ASTM D 4833 | 50 lbf | 64 lbf | 65 lbf | 83 lbf | 80 lbf | 99 lbf |
| Maximum Use Temperature | | 180° F | 180° F | 180° F | 180° F | 180° F | 180° F |
| Minimum Use Temperature | | -70° F | -70° F | -70° F | -70° F | -70° F | -70° F |

MD = Machine Direction
DD = Diagonal Directions

Note: Minimum Roll Averages are set to take into account product variability in addition to testing variability between laboratories.

*Dimensional Stability Maximum Value

**DURA-SKRIM J30BB, J36BB & J45BB are a four layer reinforced laminate containing no adhesives. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications. DURA-SKRIM J30BB, J36BB & J45BB are reinforced with a 1300 denier (minimum) tri-directional scrim reinforcement.

Note: RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO. no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.

**PLANT LOCATION**

Sioux Falls, South Dakota

**SALES OFFICE**

P.O. Box 5107
Sioux Falls, SD 57117-5107
(605) 335-0174
(605) 331-0333 FAX
**800-635-3456**

RAVEN INDUSTRIES

08/06

# RAVEN INDUSTRIES INC.
# EXPOSED GEOMEMBRANE LIMITED WARRANTY

Raven Industries Inc. warrants Dura-Skrim J30BB, J36BB, and J45BB to be free from manufacturing defects and to be able to withstand normal exposure to sunlight for a period of 20 years from the date of sale for normal use in approved applications in the U.S and Canada, excluding Hawaii. This warranty is effective for products sold and shipped from January 1, 2008 to December 31, 2008. These dates will be updated prior to December 31, 2008.

This Limited Warranty does not include damages or defects in the Raven geomembrane resulting from acts of God, casualty or catastrophe including but not limited to: earthquakes, floods, piercing hail, or tornadoes. The term "normal use" as used herein does not include, among other things improper handling during transportation, unloading, storage or installation, the exposure of Raven geomembranes to harmful chemicals, atypical atmospheric conditions, abuse of Raven geomembranes by machinery, equipment or people; improper site preparation or covering materials, excessive pressures or stresses from any source or improper application or installation. Raven geomembrane material warranty is intended for commercial use only and is not in effect for the consumer as defined in the Magnuson Moss Warranty or any similar federal, state, or local statues. The parties expressly agree that the sale hereunder is for commercial or industrial use only.

Should defects or premature loss of use within the scope of the above Limited Warranty occur, Raven Industries Inc. will, at its option, repair or replace the Raven geomembrane on a pro-rata basis at the then current price in such manner as to charge the Purchaser/User only for that portion of the warranted life which has elapsed since purchase of the material. Raven Industries Inc. will have the right to inspect and determine the cause of any alleged defect in the Raven geomembrane and to take appropriate steps to repair or replace the Raven geomembrane if a defect exists which is covered under this warranty. This Limited Warranty extends only to Raven's geomembrane, and does not extend to the installation service of third parties nor does it extend to materials furnished or installed by others in connection with the intended use of the Raven geomembranes.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail, to the General Manager of Engineered Films Division of Raven Industries Inc. within ten (10) days of becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have any rights under this warranty. Raven Industries Inc. shall not be obligated to perform repairs or replacements under this warranty unless and until the area to be repaired or replaced is clean, dry, and unencumbered. This includes, but is not limited to, the area made available for repair and/or replacement of Raven geomembrane to be free from all water, dirt, sludge, residuals and liquids of any kind. If after inspection it is determined that there is no claim under this Limited Warranty, Purchaser shall reimburse Raven Industries Inc. for its costs associated with the site inspection.

In the event the exclusive remedy provided herein fails in its essential purpose, and in that event only, the Purchaser shall be entitled to a return of the purchase price for so much of the material as Raven Industries Inc. determines to have violated the warranty provided herein. Raven Industries Inc. shall not be liable for direct, indirect, special, consequential or incidental damages resulting from a breach of this warranty including, but not limited to, damages for loss of production, lost profits, personal injury or property damage. Raven Industries Inc. shall not be obligated to reimburse Purchaser for any repairs, replacement, modifications or alterations made by Purchaser unless Raven Industries Inc. specifically authorized, in writing, said repairs, replacements, modifications or alteration in advance of them having been made. Raven Industry's liability under this warranty shall in no event exceed the replacement cost of the material sold to the Purchaser for the particular installation in which it failed.

Raven Industries Inc. neither assumes nor authorizes any person other than the undersigned of Raven Industries Inc. to assume for it any other or additional liability in connection with the Raven geomembrane made on the basis of the Limited Warranty. The Limited Warranty on the Raven geomembrane herein is given in lieu of all other possible material warranties, either expressed or implied, and by accepting delivery of the material; Purchaser waives all other possible warranties, except those specifically given. This Limited Warranty may only be modified by written document mutually executed by Owner and Raven Industries Inc.

Limited Warranty is extended to the purchaser/owner and is non-transferable and non-assignable; i.e., there are no third-party beneficiaries to this warranty.

Purchaser acknowledges by acceptance that the Limited Warranty given herein is accepted in preference to any and other possible materials warranties.

THIS LIMITED WARRANTY SHALL BE GOVERNED BY SOUTH DAKOTA LAW AND VENUE FOR ALL LEGAL PROCEEDINGS IN CONNECTION WITH THIS LIMITED WARRANTY SHALL BE IN MINNEHAHA COUNTY, SOUTH DAKOTA. RAVEN INDUSTRIES INC. MAKES NO WARRANTY OF ANY KIND OTHER THAN THAT GIVEN ABOVE AND HEREBY DISCLAIMS ALL WARRANTIES, BOTH EXPRESSED OR IMPLIED, OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS IS THE ONLY WARRANTY THAT APPLIES TO THE MATERIALS REFERRED TO HEREIN AND RAVEN INDUSTRIES INC. DISCLAIMS ANY LIABILITY FOR ANY WARRANTIES GIVEN BY ANY OTHER PERSON OR ENTITY, EITHER WRITTEN OR ORAL.

**RAVEN INDUSTRIES' WARRANTY BECOMES AN OBLIGATION OF RAVEN INDUSTRIES INC. TO PERFORM UNDER THE WARRANTY ONLY UPON RECEIPT OF FINAL PAYMENT AND EXECUTION BY A DULY AUTHORIZED OFFICER OF RAVEN INDUSTRIES INC.**

**Burlington Resources Oil & Gas Company, LP**
**San Juan Basin**
**Below Grade Tank Maintenance and Operating Plan**

In accordance with Rule 19.15.17 the following information describes the operation and maintenance of Below Grade Tank (BGT) on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all BGT. A separate plan will be submitted for any BGT which does not conform to this plan.

General Plan:

1. BR will operate and maintain a BGT to contain liquids and solids and maintain the integrity of the liner, liner system and secondary containment system to prevent contamination of fresh water and protect public health and environment. BR will accomplish this by performing an inspection on a monthly basis, installing cathodic protection, and automatic overflow shutoff devices as seen on the design plan.

2. BR will not discharge into or store any hazardous waste in the BGT.

3. BR shall operate and install the below-grade tank to prevent the collection of surface water run-on. BR has built in shut off devices that do not allow a below-grade tank to overflow. BR constructs berms and corrugated retaining walls at least 6" above ground to keep from surface water run-on entering the below grade tank as shown on the design plan.

4. As per 19.17.15.12 Subsection D, Paragraph 3, BR will inspect the below-grade tank at least monthly reviewing several items which include 1) containment berms adequate and no oil present, 2) tanks had no visible leaks or sign of corrosion, 3) tank valves, flanges, and hatches had no visible leaks and 4) no evidence of significant spillage of produced liquids. In addition, BR's multi-skilled operators (MSOs) are required to visit each well location once per week. If detected on either inspection, BR shall remove any visible or measurable layer of oil from the fluid surface of a below-grade tank in an effort to prevent significant accumulation of oil overtime. The written record of the monthly inspections will include the items listed above and will be maintained for five years.

5. BR shall require and maintain a 10" adequate freeboard to prevent overtopping of the below-grade tank.

6. If the below grade tank develops a leak, or if any penetration of the pit liner or below grade tank, occurs below the liquid's surface, then BR shall remove all liquid above the damage or leak line within 48 hours. BR shall notify the appropriate district office. BR shall repair or replace the pit liner or below grade tank, within 48 hours of discovery. If the below grade tank or pit liner does not demonstrate integrity, BR shall promptly remove and install a below grade tank or pit liner that complies with Subsection I of 19.15.17.11 NMAC. BR shall notify the appropriate district office of a discovery of leaks less than 25 barrels as required pursuant to Subsection B of 19.15.3.116 NMAC shall be reported within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), and Subparagraph (d) of 19.15.3.116 NMAC shall be reported to the division's Environmental Bureau Chief.

**Burlington Resources Oil & Gas Company, LP**
**San Juan Basin**
**Below Grade Tank Closure Plan**

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure requirements of Below Grade Tanks (BGTs) on Burlington Resources Oil & Gas Company, LP locations hereinafter known as BR locations. This is BR's standard procedure for all BGTs. A separate plan will be submitted for any BGT which does not conform to this plan.

General Requirements:

1. BR shall close a below-grade tank within the time periods provided in Subsection A of 19.15.17.13 NMAC. This will include a) below-grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I o f19.15.17.11 NMAC within five years, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) permitted below-grade tanks within 60 days of cessation of the below-grade tank's operation., or c) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, BR will file the C144 Closure Report as required.

2. BR shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.

3. BR will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. Documentation of how the below-grade tank was disposed of or recycled will be provided in the closure report.

4. If there is any on-site equipment associated with a below-grade tank, then BR shall remove the equipment, unless the equipment is required for some other purpose.

5. BR shall test the soils beneath the below-grade tank to determine whether a release has occurred. BR shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100 mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. BR shall notify the division of its results on form C-141.

6. If BR or the division determines that a release has occurred, then BR shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

7. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, then BR shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.

8. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following:
    i. Operator's name
    ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.

9. The surface owner shall be notified of BR's closing of the below-grade tank prior to closure as per the approved closure plan via certified mail, return receipt requested.

10. 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 place 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.

11. BR shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will used on federally jurisdicted lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private 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. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. BR will repeat seeding or planting will be continued until successful vegetative growth occurs.

12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.

13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
    - Soil Backfilling and Cover Installation
    - Re-vegetation application rates and seeding techniques
    - Photo documentation of the site reclamation
    - Confirmation Sampling Results
    - Proof of closure notice