

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

3572

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

- 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>Bruington 1M</b>	
API Number: <b>30-045-34975</b>	OCD Permit Number: _____
U/L or Qtr/Qtr: <b>A(NE/NE)</b>	Section: <b>25</b> Township: <b>31N</b> Range: <b>11W</b> County: <b>San Juan</b>
Center of Proposed Design: Latitude: <b>36.874659 °N</b>	Longitude: <b>107.936122 °W</b> NAD: <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983
Surface Owner: <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment	

2	
<input checked="" type="checkbox"/> <b>Pit:</b> Subsection F or G of 19.15.17.11 NMAC	
Temporary: <input checked="" 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 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"/> PVC <input type="checkbox"/> Other _____	
<input checked="" type="checkbox"/> String-Reinforced	
Liner Seams <input checked="" type="checkbox"/> Welded <input checked="" type="checkbox"/> Factory <input type="checkbox"/> Other _____ Volume: <b>7700</b> bbl Dimensions L <b>120'</b> x W <b>55'</b> x D <b>12'</b>	

3	
<input type="checkbox"/> <b>Closed-loop System:</b> Subsection H of 19.15.17.11 NMAC	
Type of Operation: <input type="checkbox"/> P&A <input 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 type="checkbox"/> Drying Pad <input type="checkbox"/> Above Ground Steel Tanks <input type="checkbox"/> Haul-off Bins <input type="checkbox"/> Other _____	
<input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type: _____ Thickness _____ mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVD <input type="checkbox"/> Other _____	
Liner Seams: <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other _____	

4	
<input checked="" type="checkbox"/> <b>Below-grade tank:</b> Subsection I of 19.15.17.11 NMAC	
Volume: <b>120</b> bbl	Type of fluid: <b>Produced Water</b>
Tank Construction material: <b>Metal</b>	
<input type="checkbox"/> Secondary containment with leak detection <input checked="" 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 <b>45</b> mil <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> Other <b>LLDPE</b>

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	<p><b>Fencing:</b> Subsection D of 19.15.17.11 NMAC (<i>Applies to permanent pit, temporary pits, and below-grade tanks</i>)</p> <p><input type="checkbox"/> Chain link, six feet in height, two strands of barbed wire at top (<i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i>)</p> <p><input type="checkbox"/> Four foot height, four strands of barbed wire evenly spaced between one and four feet</p> <p><input checked="" type="checkbox"/> Alternate Please specify <u>4' hogwire fence with a single strand of barbed wire on top.</u></p>																				
7	<p><b>Netting:</b> Subsection E of 19.15.17.11 NMAC (<i>Applies to permanent pits and permanent open top tanks</i>)</p> <p><input checked="" type="checkbox"/> Screen <input type="checkbox"/> Netting <input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Monthly inspections (<i>If netting or screening is not physically feasible</i>)</p>																				
8	<p><b>Signs:</b> Subsection C of 19.15.17.11 NMAC</p> <p><input type="checkbox"/> 12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers</p> <p><input checked="" type="checkbox"/> Signed in compliance with 19.15.3.103 NMAC</p>																				
9	<p><b>Administrative Approvals and Exceptions:</b></p> <p>Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.</p> <p><i>Please check a box if one or more of the following is requested, if not leave blank:</i></p> <p><input checked="" type="checkbox"/> 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)</p> <p><input type="checkbox"/> Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.</p>																				
10	<p><b>Siting Criteria (regarding permitting):</b> 19.15.17.10 NMAC</p> <p><i>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.</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 75%; vertical-align: top;"> <p><b>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</b></p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p> </td> <td style="width: 25%; text-align: right; vertical-align: top;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td style="vertical-align: top;"> <p><b>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).</b></p> <p>- Topographic map; Visual inspection (certification) of the proposed site</p> </td> <td style="text-align: right; vertical-align: top;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td style="vertical-align: top;"> <p><b>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</b></p> <p>(<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</p> </td> <td style="text-align: right; vertical-align: top;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   <input type="checkbox"/> NA </td> </tr> <tr> <td style="vertical-align: top;"> <p><b>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</b></p> <p>(<i>Applied to permanent pits</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</p> </td> <td style="text-align: right; vertical-align: top;"> <input type="checkbox"/> Yes <input type="checkbox"/> No  <input checked="" type="checkbox"/> NA </td> </tr> <tr> <td style="vertical-align: top;"> <p><b>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.</b></p> <p>- NM Office of the State Engineer - iWATERS database search; 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vertical-align: top;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td style="vertical-align: top;"> <p><b>Within an unstable area.</b></p> <p>- Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</p> </td> <td style="text-align: right; vertical-align: top;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td style="vertical-align: top;"> <p><b>Within a 100-year floodplain</b></p> <p>- FEMA map</p> </td> <td style="text-align: right; vertical-align: top;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> </table>	<p><b>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</b></p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p><b>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).</b></p> <p>- Topographic map; 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<p><b>Within a 100-year floodplain</b></p> <p>- FEMA map</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.*

- ☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC  
☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC  
☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC  
☐ Previously Approved Design (attach copy of design) API \_\_\_\_\_ 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 NMAC  
☐ 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 (1) of Subsection B of 19.15.17.9 NMAC  
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Climatological Factors Assessment  
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Quality Control/Quality Assurance Construction and Installation Plan  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Nuisance or Hazardous Odors, including H2S, Prevention Plan  
☐ Emergency Response Plan  
☐ Oil Field Waste Stream Characterization  
☐ Monitoring and Inspection Plan  
☐ Erosion Control Plan  
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

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 ☒ Below-grade Tank ☐ Closed-loop System  
☐ Alternative  
Proposed Closure Method: ☒ 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)

15  
**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: \_\_\_\_\_ 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 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

☐ Yes ☒ No

☐ 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

☐ Yes ☒ No

☐ 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

☒ 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).

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

☐ Yes ☒ No

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

- Visual inspection (certification) of the proposed site; Aerial photo; satellite image

☐ Yes ☒ No

☐ 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 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

☐ Yes ☒ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended

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

☐ Yes ☒ No

Within 500 feet of a wetland

- 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.

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

☐ Yes ☒ No

Within an unstable area.

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

☐ Yes ☒ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☒ No

**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

**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): Tamra Sessions Title: Staff Regulatory Technician  
 Signature: Tamra Sessions Date: 5-9-09  
 e-mail address: sessitd@conocophillips.com Telephone: 505-326-9834

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

**OCD Representative Signature:** [Signature] **Approval Date:** 7-2-09

**Title:** Enviro Spec **OCD Permit Number:** \_\_\_\_\_

**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:** \_\_\_\_\_

**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.

**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

**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

**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: \_\_\_\_\_



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00185	DOM		SJ	3	2	35	31N	11W		236266	4083111*	54		
SJ 00287	DOM		SJ	4	2	3	24	31N	11W	237677	4085770*	38	6	32
SJ 00333	DOM		SJ	4	3	1	35	31N	11W	235559	4083040*	30	6	24
SJ 00363	DOM		SJ	4	1	3	26	31N	11W	235582	4084235*	25	5	20
SJ 00365	DOM		SJ	4	4	2	24	31N	11W	238505	4086140*	71	40	31
SJ 00371	DOM		SJ	2	1	3	26	31N	11W	235582	4084435*	29	9	20
SJ 00379	DOM		SJ	4	4	2	24	31N	11W	238505	4086140*	65	40	25
SJ 00405	DOM		SJ	4	3	4	24	31N	11W	238068	4085354*	69	42	27
SJ 00494	DOM		SJ		4	4	26	31N	11W	236686	4083894*	88	60	28
SJ 00555	DOM		SJ	4	2	2	24	31N	11W	238519	4086542*	60	19	41
SJ 00555 X	DOM		SJ		4	2	24	31N	11W	238406	4086241*	58	39	19
SJ 00561	DOM		SJ		3	4	26	31N	11W	236281	4083910*	38	20	18
SJ 00562	STK		SJ		3	4	26	31N	11W	236281	4083910*	40	20	20
SJ 00591	DOM		SJ	4	1	3	35	31N	11W	235554	4082642*	83	54	29
SJ 00610	MPP		SJ		2	4	26	31N	11W	236699	4084294*	80	50	30
SJ 00675	DOM		SJ	3	4	1	26	31N	11W	235800	4084621*	36	22	14
SJ 00705	DOM		SJ	1	1	3	26	31N	11W	235382	4084435*	18	8	10
SJ 00713	DOM		SJ		2	4	35	31N	11W	236659	4082698*	37	19	18
SJ 00913	DOM		SJ		3	4	24	31N	11W	237969	4085455*	81	55	26
SJ 00926	DOM		SJ		1	4	26	31N	11W	236294	4084309*	62	32	30
SJ 00939	DOM		SJ			3	35	31N	11W	235651	4082546*	60	30	30
SJ 00939 1	DOM		SJ		2	3	35	31N	11W	235856	4082728*	60	30	30
SJ 00940	DOM		SJ		1	3	35	31N	11W	235455	4082743*	64	15	49
SJ 00983	DOM		SJ			3	35	31N	11W	235651	4082546*	110	70	40
SJ 01042	DOM		SJ		4	4	26	31N	11W	236686	4083894*	100	30	70
SJ 01047	DOM		SJ	4	3	4	24	31N	11W	238068	4085354*	205	70	135
SJ 01144	DOM		SJ	4	4	1	35	31N	11W	235962	4083025*	55	30	25
SJ 01233	DOM		SJ		4	1	26	31N	11W	235901	4084722*	49	27	22
SJ 01319	DOM		SJ	2	2	2	35	31N	11W	236776	4083594*		155	

\*UTM location was derived from PLSS - see Help

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

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 01366		DOM	SJ	1	4	24	31N	11W		237985	4085856*	30	11	19
SJ 01375		DOM	SJ	2	2	24	31N	11W		238420	4086643*	30	11	19
SJ 01405		DOM	SJ	3	4	24	31N	11W		237969	4085455*	30	9	21
SJ 01455		DOM	SJ	4	3	4	24	31N	11W	238068	4085354*	101	66	35
SJ 01519		DOM	SJ	2	4	26	31N	11W		236699	4084294*	69	47	22
SJ 01545 X		DOM	SJ	3	3	26	31N	11W		235471	4083938*	27	10	17
SJ 01553		DOM	SJ	4	3	24	31N	11W		237559	4085470*	44	35	9
SJ 01559		DOM	SJ		2	24	31N	11W		238202	4086458*	50	27	23
SJ 01580		DOM	SJ	1	1	3	35	31N	11W	235354	4082842*	65	30	35
SJ 01600		DOM	SJ		1	24	31N	11W		237394	4086489*	30	6	24
SJ 01620		DOM	SJ	2	4	26	31N	11W		236699	4084294*	67	26	41
SJ 01628		DOM	SJ	2	4	26	31N	11W		236699	4084294*	66	25	41
SJ 01670		DOM	SJ		3	24	31N	11W		237351	4085687*	45	27	18
SJ 01744		DOM	SJ	2	2	24	31N	11W		238420	4086643*	44	20	24
SJ 01789		DOM	SJ	1	3	26	31N	11W		235483	4084336*	29	12	17
SJ 01817		MUL	SJ	4	2	23	31N	11W		236789	4086300*	65	20	45
SJ 01986		DOM	SJ	2	2	2	24	31N	11W	238519	4086742*	38	21	17
SJ 01986 S		DOM	SJ	2	2	2	24	31N	11W	238519	4086742*	45	30	15
SJ 02011		DOM	SJ		2	4	26	31N	11W	236699	4084294*	55	38	17
SJ 02124		DOM	SJ	1	1	24	31N	11W		237214	4086689*	55	40	15
SJ 02129		DOM	SJ	4	2	23	31N	11W		236789	4086300*	72	35	37
SJ 02161		DOM	SJ	4	3	23	31N	11W		235926	4085520*	40	25	15
SJ 02171		DOM	SJ	3	4	3	24	31N	11W	237458	4085369*	45	25	20
SJ 02499		DOM	SJ	1	1	2	25	31N	11W	237853	4085152*	66	45	21
SJ 02644		DOM	SJ	4	1	4	24	31N	11W	238084	4085755*	45	18	27
SJ 02758		DOM	SJ	2	4	2	24	31N	11W	238505	4086340*	69	51	18
SJ 02791		DOM	SJ	2	4	2	24	31N	11W	238505	4086340*	74	54	20
SJ 02827		DOM	SJ	2	1	1	35	31N	11W	235565	4083639*	60		
SJ 02834		DOM	SJ	3	3	3	25	31N	11W	236989	4083776*	200	160	40
SJ 02839		DOM	SJ	1	4	2	24	31N	11W	238305	4086340*	55	19	36
SJ 02846		DOM	SJ	3	3	2	24	31N	11W	237900	4086156*	45	18	27
SJ 02887		DOM	SJ	4	4	1	26	31N	11W	236000	4084621*	51	28	23

\*UTM location was derived from PLSS - see Help

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

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 02888	DOM		SJ	3	3	2	24	31N	11W	237900	4086156*	65		
SJ 02897	DOM		SJ	1	3	1	35	31N	11W	235359	4083240*	17	6	11
SJ 02898	DOM		SJ	4	1	2	26	31N	11W	236420	4085007*	50		
SJ 02902	DOM		SJ	3	1	1	35	31N	11W	235365	4083439*	19	5	14
SJ 02924	MUL		SJ	2	3	2	24	31N	11W	238100	4086356*	33	15	18
SJ 02928	DOM		SJ	2	3	2	24	31N	11W	238100	4086356*	70		
SJ 02932	DOM		SJ	2	1	3	35	31N	11W	235554	4082842*	27	14	13
SJ 02933	DOM		SJ	2	1	3	35	31N	11W	235554	4082842*	37	24	13
SJ 02978	PRO		SJ	3	1	2	23	31N	11W	236309	4086603*	800		
SJ 03045	DOM		SJ	4	4	1	25	31N	11W	237627	4084566*	200		
SJ 03126	DOM		SJ	1	1	1	26	31N	11W	235405	4085232*	41	21	20
SJ 03158			SJ	2	4	1	26	31N	11W	236000	4084821*	280	25	255
SJ 03165	DOM		SJ	4	4	2	35	31N	11W	236767	4082996*	20		
SJ 03166	DOM		SJ	4	4	2	35	31N	11W	236767	4082996*	20		
SJ 03198	DOM		SJ	1	3	3	25	31N	11W	236989	4083976*	600	100	500
SJ 03323	DOM		SJ	4	1	3	26	31N	11W	235582	4084235*	30	6	24
SJ 03371	DOM		SJ	3	1	1	35	31N	11W	235365	4083439*	21	5	16
SJ 03408	DOM		SJ	1	3	2	24	31N	11W	237900	4086356*	26	11	15
SJ 03438	DOM		SJ	4	4	4	24	31N	11W	238477	4085338*	40		
SJ 03450	DOM		SJ	3	3	3	25	31N	11W	236989	4083776*	144	95	49
SJ 03543	DOM		SJ	4	4	1	35	31N	11W	235962	4083025*	61	30	31
SJ 03560	DOM		SJ	2	3	2	35	31N	11W	236365	4083210*	62	32	30
SJ 03574	DOM		SJ	4	1	3	35	31N	11W	235554	4082642*	100		
SJ 03650	DOM		SJ	3	3	2	24	31N	11W	237900	4086156*	32	15	17
SJ 03676	DOM		SJ	1	3	2	35	31N	11W	236165	4083210*	52	19	33
SJ 03695 POD1	DOM		SJ	2	4	1	24	31N	11W	237696	4086371*	25	13	12
SJ 03696 POD1	DOM		SJ	2	4	1	24	31N	11W	237696	4086371*	24	12	12
SJ 03697 POD1	DOM		SJ	3	2	4	26	31N	11W	236598	4084193*	80	50	30
SJ 03707 POD1	STK		SJ	1	4	2	24	31N	11W	238305	4086340*	60	40	20
SJ 03755 POD1	DOM		SJ		4	1	24	31N	11W	237754	4086327	27	7	20
SJ 03760 POD1	DOM		SJ	1	4	1	35	31N	11W	235679	4082952	43	12	31
SJ 03827 POD1	DOM		SJ	2	4	4	23	31N	11W	236710	4085834	17	6	11

\*UTM location was derived from PLSS - see Help



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

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 03844 POD1	DOM		SJ	3	3	2	24	31N	11W	237971	4086065	37	11	26
SJ 03845 POD1	DOM		SJ	4	3	2	24	31N	11W	238118	4086116	40	14	26

Average Depth to Water: **30 feet**

Minimum Depth: **5 feet**

Maximum Depth: **160 feet**

-----  
**Record Count:** 95

**PLSS Search:**

**Section(s):** 23, 24, 25, 26,  
35, 36      **Township:** 31N      **Range:** 11W

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

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 01349	DOM		SJ	3	3	1	19	31N	10W	238709	4086125*	78	67	11
SJ 01428	DOM		SJ		3	1	19	31N	10W	238810	4086226*	65	45	20
SJ 02909	DOM		SJ	1	1	1	19	31N	10W	238721	4086726*	60	47	13
SJ 02929	DOM		SJ	1	1	1	19	31N	10W	238721	4086726*	58	40	18
SJ 02979	DOM		SJ	1	1	1	19	31N	10W	238721	4086726*	57	43	14
SJ 03086	DOM		SJ	3	1	1	19	31N	10W	238721	4086526*	61	44	17
SJ 03103	DOM		SJ	1	1	1	19	31N	10W	238721	4086726*	53	33	20
SJ 03285	DOM		SJ	1	1	3	19	31N	10W	238697	4085924*	40		
SJ 03359	DOM		SJ	1	1	1	19	31N	10W	238721	4086726*	70		
SJ 03486	DOM		SJ	3	1	1	19	31N	10W	238721	4086526*	65	45	20
SJ 03487	DOM		SJ	3	1	1	19	31N	10W	238721	4086526*	65	45	20
SJ 03705 POD1	DOM		SJ	2	1	1	19	31N	10W	238921	4086726*	69	56	13

Average Depth to Water: **46 feet**

Minimum Depth: **33 feet**

Maximum Depth: **67 feet**

**Record Count: 12**

**PLSS Search:**

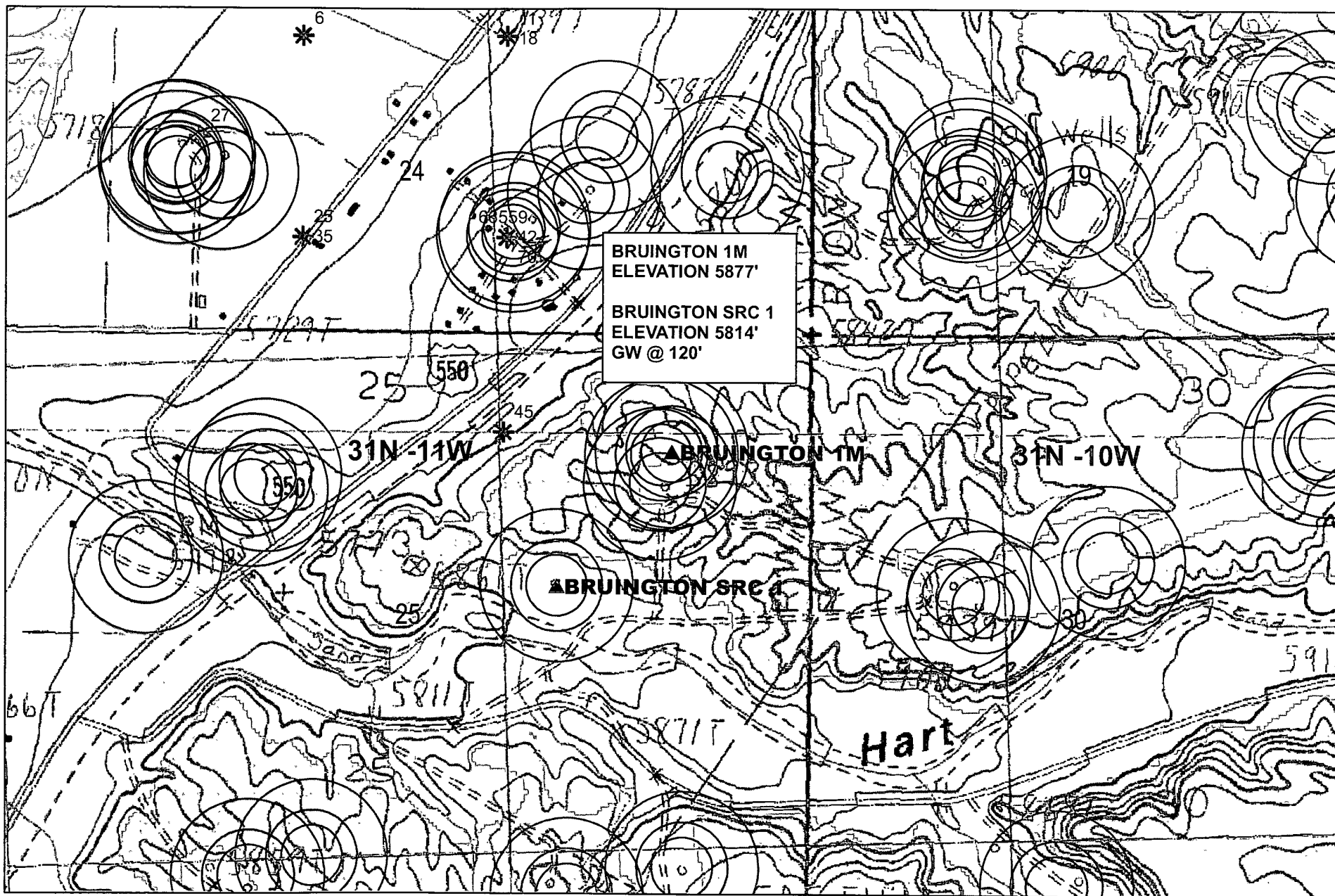
**Section(s): 19, 30, 31**

**Township: 31N**

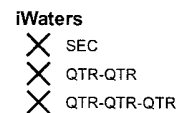
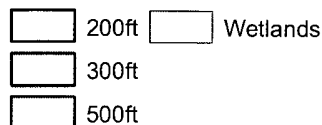
**Range: 10W**

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

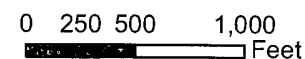
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data



Data Source  
Aerial flown locally Sedgewick in 2005  
Wetlands Data Aquired from U.S. Fish  
and Wildlife [Http://wetlandswms.er.usgs.gov](http://wetlandswms.er.usgs.gov)  
USGS Topo



1:10,000



NAD\_1983\_SP\_ NM West\_FIPS\_ 3003  
May 15, 2009

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS  
NORTHWESTERN NEW MEXICO

Operator Meridian Oil Inc. Location: Unit G Sec. 25 Twp 31 Rng 11

Name of Well/Wells or Pipeline Serviced \_\_\_\_\_

Bruington #1 ✓

Elevation \_\_\_\_\_ Completion Date 8-14-94 Total Depth 323 Land Type P

Casing Strings, Sizes, Types & Depths 8/5 Set 99' of 8" PVC Casing.

NO GAS OR WATER BUT 10' (18'-28') OF BOULDERS WERE ENCOUNTERED DURING CASING.

If Casing Strings are cemented, show amounts & types used Cemented

WITH 20 SACKS.

If Cement or Bentonite Plugs have been placed, show depths & amounts used

None

Depths & thickness of water zones with description of water: Fresh, Clear,

Salty, Sulphur, Etc. 120' Fresh

Depths gas encountered: None

Ground bed depth with type & amount of coke breeze used: 323'

3600 lbs Loresco

Depths anodes placed: 303, 295, 288, 280, 270, 260, 235, 208, 220, 213, 205, 165, 155, 145, 135

Depths vent pipes placed: Surface to 323'

Vent pipe perforations: From 120' to 323'

Remarks: \_\_\_\_\_

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.  
If Federal or Indian, add Lease Number.

COPIES RECEIVED	4
DISTRIBUTION	
DATE	1
TIME	1
LAND OFFICE	2
OPERATOR	2

# NEW MEXICO OIL CONSERVATION COMMISSION WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease  
State ☒ Fee ☐  
5. State Oil & Gas Lease No.

1. TYPE OF WELL  
OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER ☐  
b. TYPE OF COMPLETION  
NIP ☐ WORK OVER ☒ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ OTHER ☐

2. Name of Operator  
Aztec Oil & Gas Company  
3. Address of Operator  
P. O. Drawer 570, Farmington, New Mexico  
4. Location of Well

7. Unit Agreement Name  
8. Farm or Lease Name  
Bruington  
9. Well No.  
#1 ☒  
10. Field and Pool, or Allotment  
Blanco Mesaverde

UNIT LETTER G LOCATED 1650 FEET FROM THE North LINE AND 1650 FEET FROM  
TWP. 25 31 North, 11 West, 31 North, 11 West

12. County  
San Juan

16. Date T.D. Reached 6-18-73 17. Date Compl. (Ready to Prod.) 6-21-73 18. Elevations (DF, RKB, RT, GR, etc.) 5814 GR ☒  
19. Elev. Casinghead  
20. Total Depth 4960' 21. Plug Back T.D. 4960' 22. If Multiple Compl., How Many  
23. Intervals Drilled By Rotary Tools ☒ Cable Tools  
24. Producing Interval(s) Completion — Top, Bottom, Name  
4705-4842, Mesaverde

25. Was Directional Survey Made  
Yes  
27. Was Well Cored  
No

26. Type Electric and Other Logs Run  
Rod Log & Gamma Ray

29. CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 1/2"	10.50#	4960'	6-3/4"	170 Sacks	

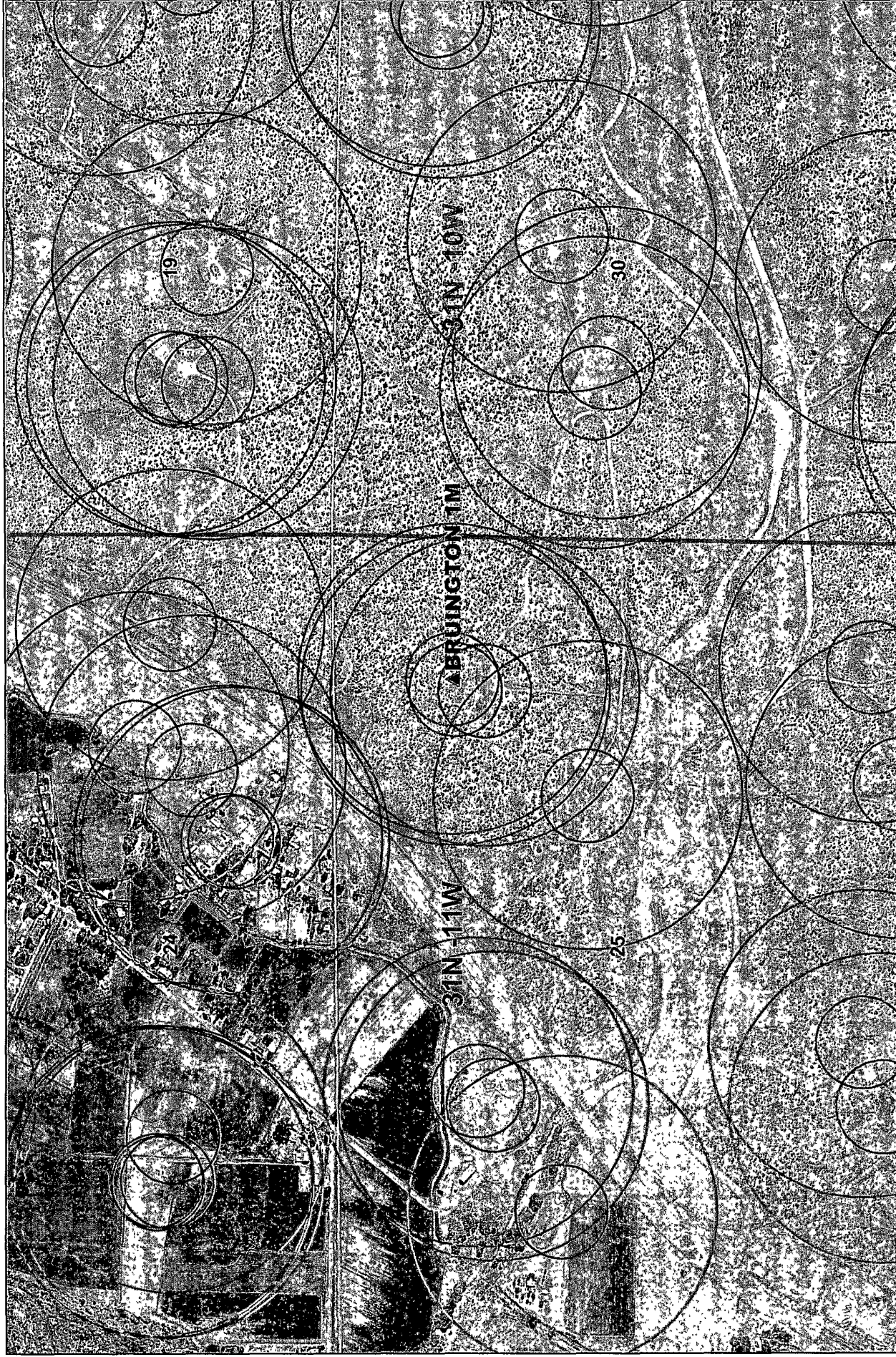
29. LINER RECORD				30. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SIZE	DEPTH SET	PACKER SET
				1 1/2"	4786	

31. Perforation (Interval, size and number)			32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
INTERVAL	SIZE	NUMBER	DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
4705-4714			4705-4842	63,010 Gals Water
4718-4730				40,000# 20/40 Sand
4738-4744				25,000# 10/20 Sand
4750-4760				
4768-4770		2 SPF		

33. PRODUCTION  
Date First Production 6-30-73 Production Method (Flowing, gas lift, pumping, Self and type pump) Flowing Well Status (Prod. or Shut-in) Shut In  
Hours Tested 3 Choke Size 3/4" Prod'n. For Test Period 4928 Oil — Bbl. 4928 Water — Bbl. 0 Gas — Oil Ratio 0  
Flow Testing Press. 571 Casing Pressure 155 Calculated 24-Hour Rate 4928 Gas — MCF 0 Water — Bbl. 0 Oil Gravity — API (Corr.) 0  
34. Disposition of Gas (Sold, used for fuel, vented, etc.) Vented Test Witnessed By CON. COM. DIST. 3

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.  
SIGNED Joe E. Hammond TITLE District Superintendent DATE July 3, 1973



Data Source  
 Aerial flown locally Sedgewick in 2005.  
 Wetlands Data Acquired from U.S. Fish  
 and Wildlife [Http://wetlands.wms.er.usgs.gov](http://wetlands.wms.er.usgs.gov)  
 USGS Topo

☐ 300ft ☐ City Limits  
☐ 1000ft

1:10,000

0 250 500 1,000 Feet

NAD\_1983\_SP\_  
 NM West\_FIPS\_  
 3003  
 May 15, 2009



# BRUINGTON 1M Mines, Mills & Quarries

## Mines, Mills & Quarries Commodity Groups

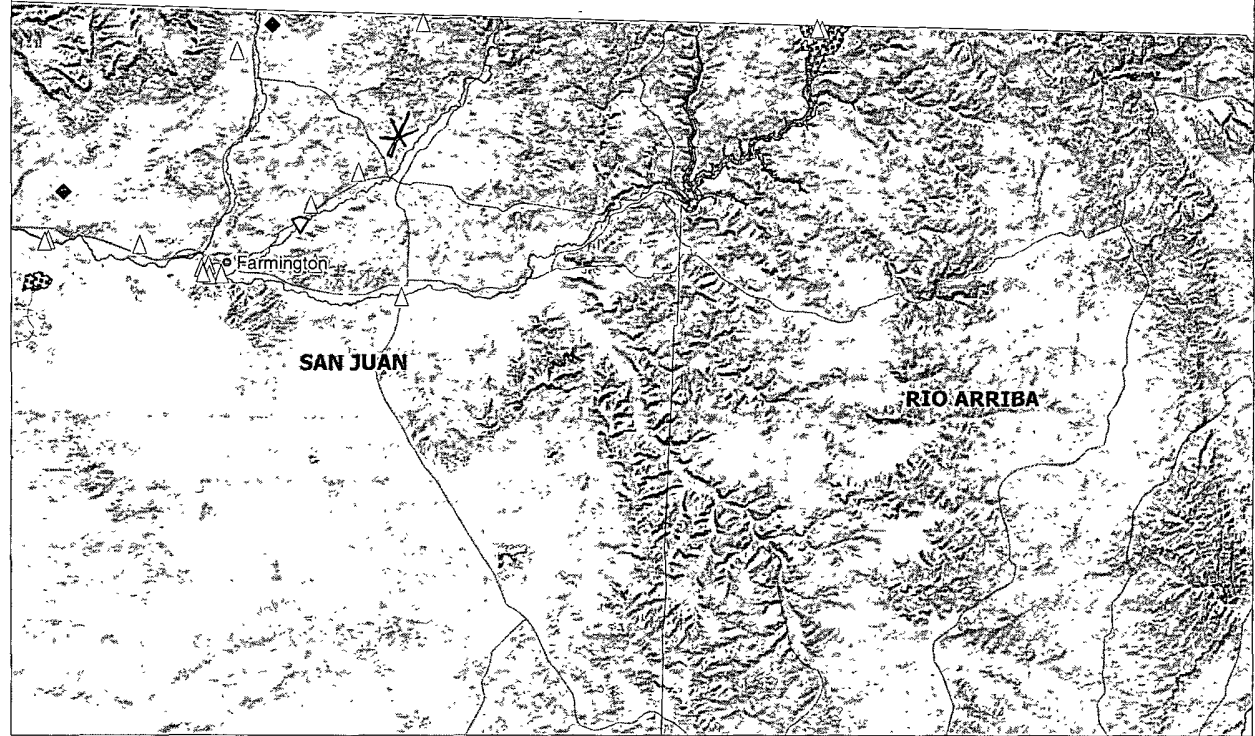
- △ Aggregate & Stone Mines
- ◆ Coal Mines
- ☆ Industrial Minerals Mines
- ◇ Industrial Minerals Mills
- ▣ Metal Mines and Mill Concentrate
- Potash Mines & Refineries
- ⌘ Smelters & Refinery Ops.
- ✱ Uranium Mines
- ⊕ Uranium Mills

## Population

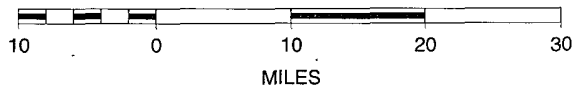
- Cities - major

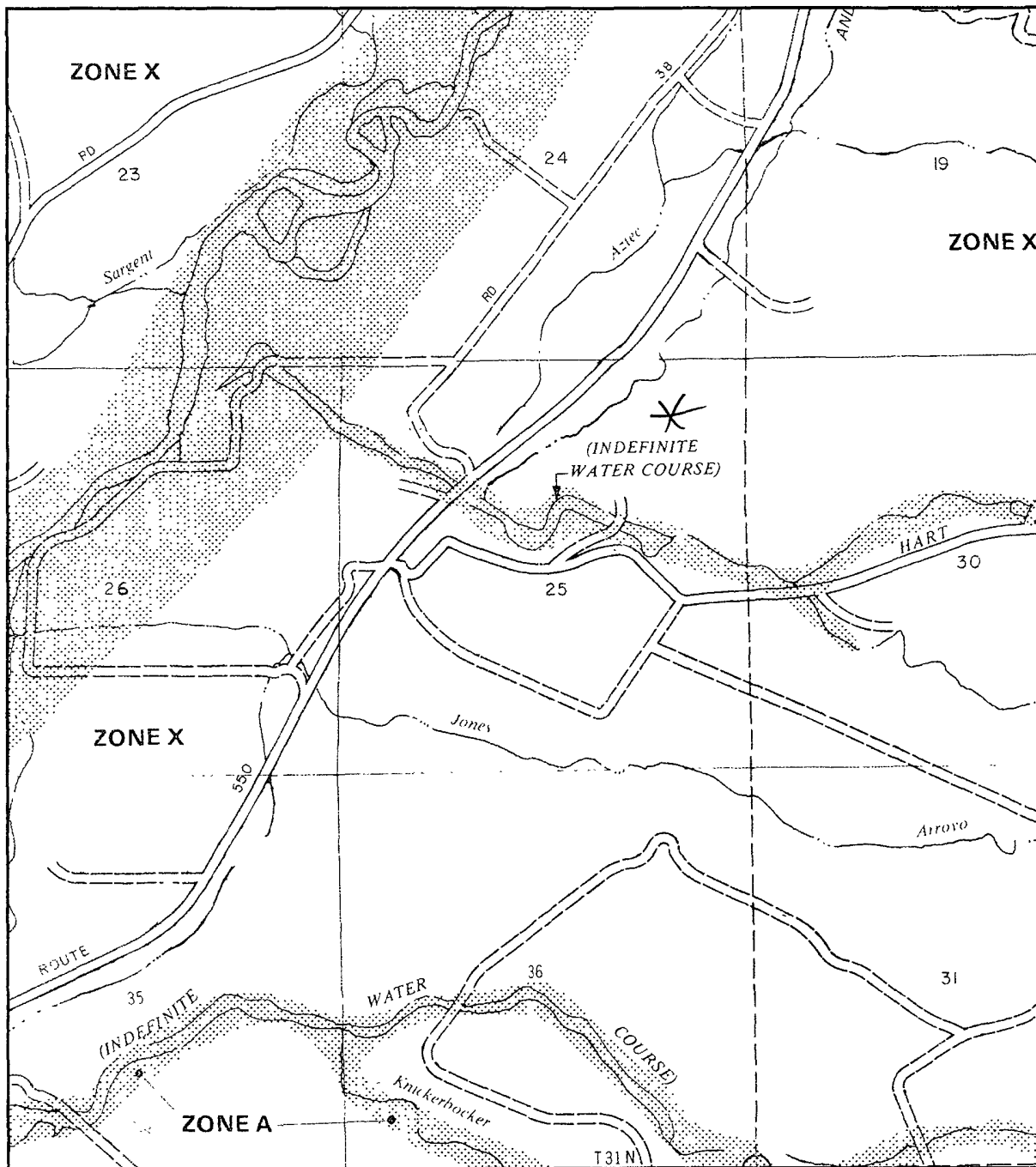
## Transportation

- ⦶ Railways
- Interstate Highways
- Major Roads

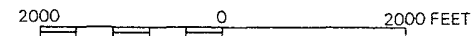


SCALE 1 : 878,847





APPROXIMATE SCALE



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](http://www.msc.fema.gov)



### **Siting Criteria Compliance Demonstration & Hydro Geologic Analysis**

The Bruington 1M is not located in an unstable area. The location is not over a mine and is not on the side of a hill as indicated on the Mines, Mills and Quarries Map and Topographic Map. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse as indicated on the Topographic Map. The location is not within a 100-year floodplain area as indicated on the FEMA Map. The Cathodic well data from the Bruington SRC 1 has an elevation of 5814' and groundwater depth of 120'. The subject well has an elevation of 5877' which is greater than the Bruington SRC 1, therefore the groundwater depth is greater than 180'. There are iWATERS data points located in the area as indicated on the TOPO Map. The hydro geologic analysis indicates the groundwater depth and the Nacimiento formation will create a stable area for this new location.

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## ***Hydrogeological Report for Bruington 1M***

### **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 intertongues 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, interbedded black and gray shale with discontinuous, white, medium- to very coarse grained arkosic sandstone (Stone et 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 conducive 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

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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., Craig, 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.

## Sessions, Tamra D

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**From:** Sessions, Tamra D  
**Sent:** Tuesday, May 19, 2009 4:14 PM  
**To:** 'mark\_kelly@nm.blm.gov'  
**Subject:** Surface Owner Notification

The following wells will have a temporary pit that will be closed on-site. Please let me know if you have any questions.

Bruington 1M

San Juan 30-6 Unit 98M

Thank you,

*Tamra Sessions*  
Staff Regulatory Technician  
**CONOCOPHILLIPS COMPANY / SJBU**  
505-326-9834  
Tamra.D.Sessions@conocophillips.com

**District I**

1625 N. French Dr., Hobbs, NM 88240

**District II**

1301 W. Grand Avenue, 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 & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 7 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number		<sup>2</sup> Pool Code		<sup>3</sup> Pool Name BASIN DAKOTA / BLANCO MESAVERDE	
<sup>4</sup> Property Code		<sup>5</sup> Property Name BRUINGTON			<sup>6</sup> Well Number 1M
<sup>7</sup> OGRID No.		<sup>8</sup> Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP			<sup>9</sup> Elevation 5877

<sup>10</sup> SURFACE LOCATION

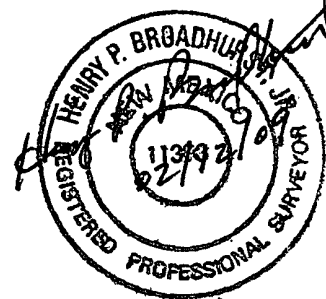
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	25	31-N	11-W		787	NORTH	923	EAST	SAN JUAN

<sup>11</sup> Bottom Hole Location If Different From Surface

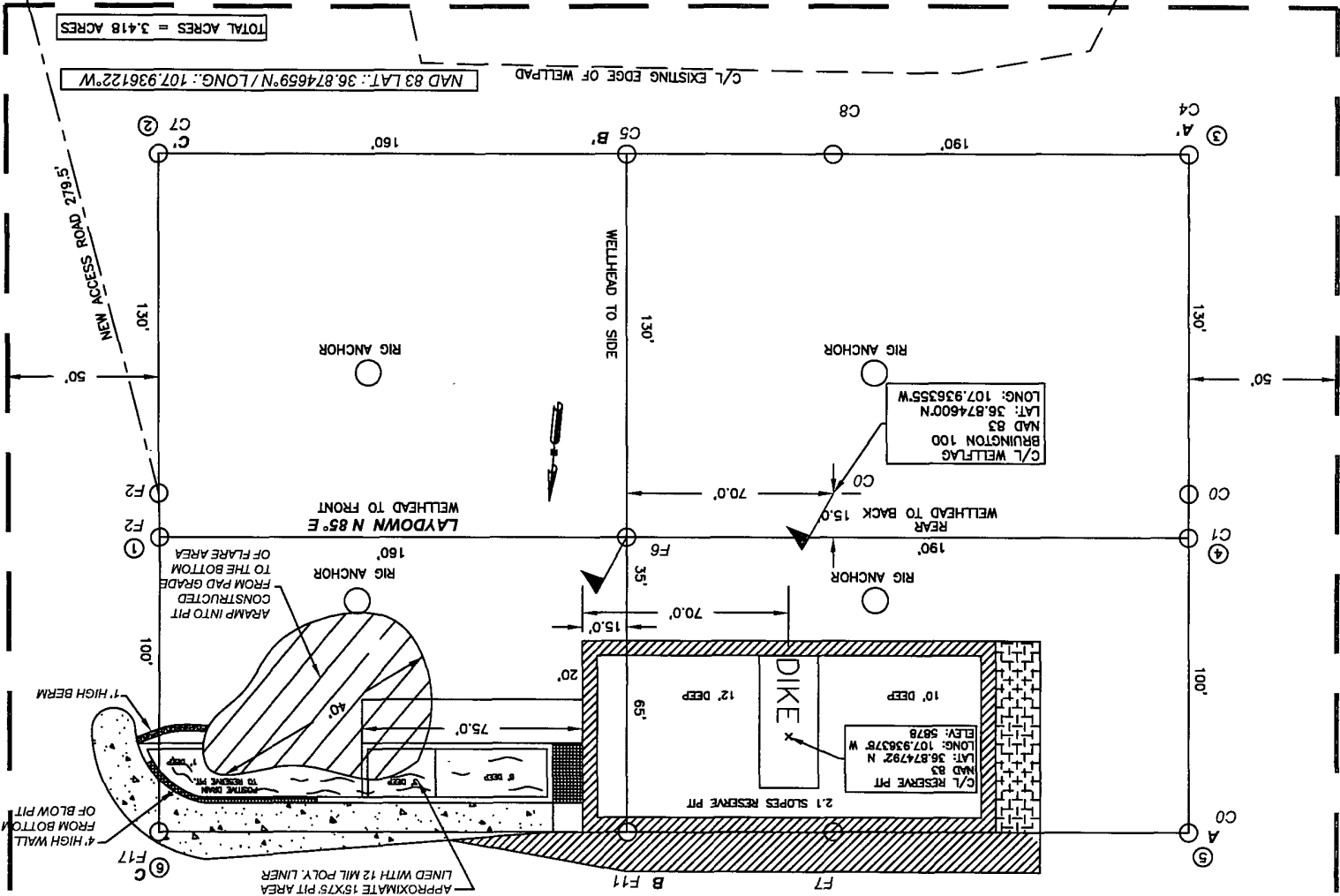
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	25	31-N	11-W		1930	NORTH	710	EAST	SAN JUAN

<sup>12</sup> Dedicated Acres 320.00	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN  
CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<sup>16</sup> BLM 1953 N 89°29'15" W N 89°35' W	N/2 DEDICATED ACREAGE MULTIPLE FEE LEASES SECTION 25, T-31-N, R-11-W	5366.4' (M) 5368.4' (R)	787'	BLM 1953	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
					Signature Printed Name Title and E-mail Address Date
		WELL FLAG NAD 83 LAT: 36.874659° N LONG: 107.936122° W NAD 27 LAT: 36°52.479366' N LONG: 107°56.130028' W S 10°09'33" E 1163.0'	923' 2624.2' (R) 2625.6' (M)	710' 0'22" E 0'23'21" E	USA SF-078097-A
		BOTTOM HOLE NAD 83 LAT: 36.871515° N LONG: 107.935416° W NAD 27 LAT: 36°52.290731' N LONG: 107°56.087697' W		W.C. BLM 1953	Date of Survey: 2/6/09 Signature and Seal of Professional Surveyor: 
					Certificate Number: NM 11393

**NEW ACCESS 279.5'**



C/L WELLHEAD  
BRINGTON SRC #2

**CHENAULT CONSULTING INC.**  
P.O. BOX 328  
BLOOMFIELD, NM, 87413  
PHONE (505) 325-7707

199

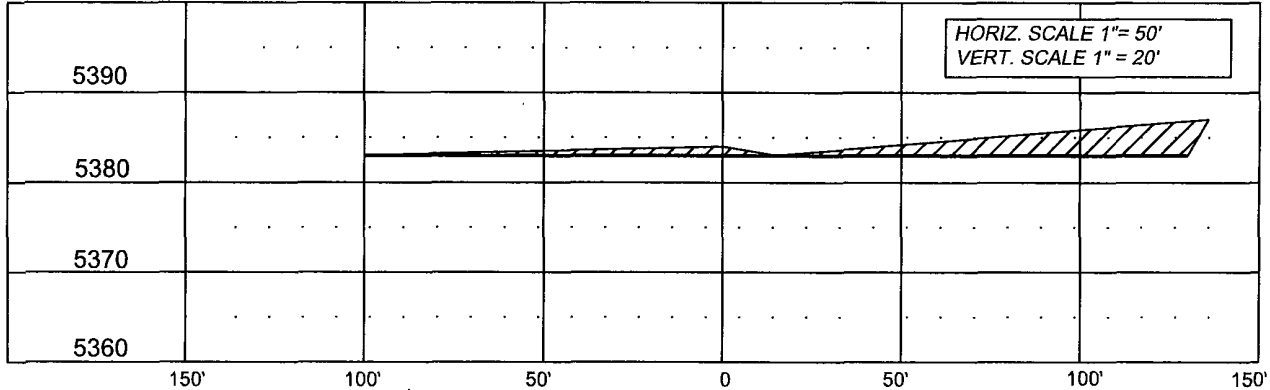
**NOTES:**

1. RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW--3' WIDE AND 1' ABOVE SHALLOW SIDE).
2. C.C.I. SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**BRUINGTON 1M**  
**787' FNL, 923' FEL**  
**SECTION 25, T-31-N, R-11-W, N.M.P.M.,**  
**SAN JUAN COUNTY, NEW MEXICO**  
**GROUND ELEV.: 5877 FIN. ELEV.: 5883 NAVD88**

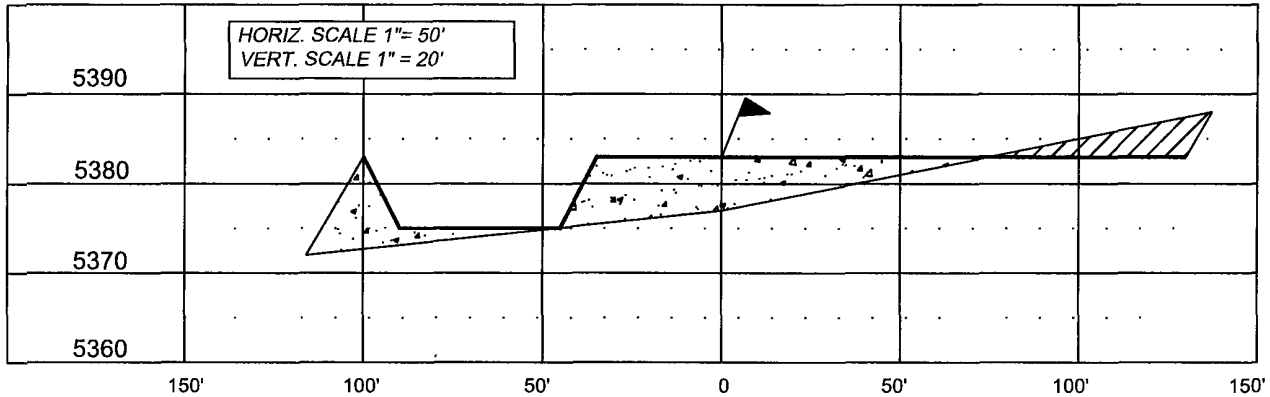
A - A'

C/L



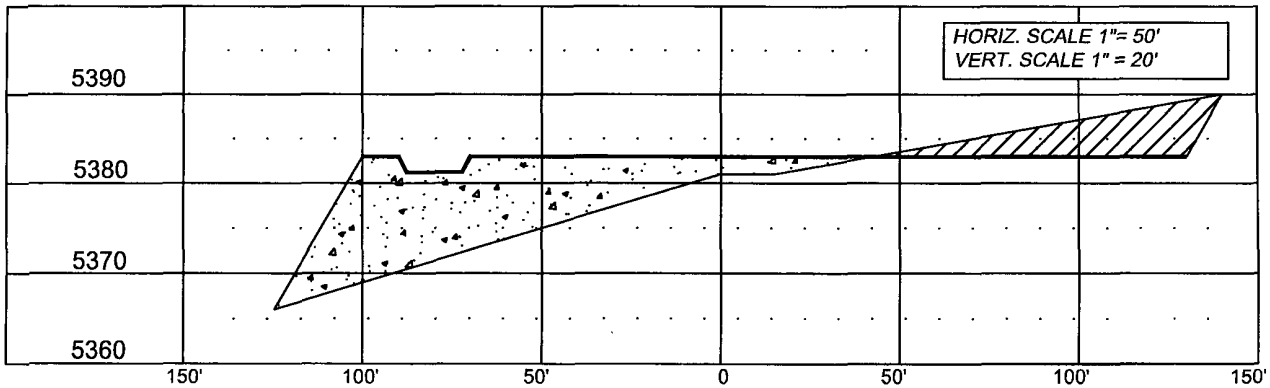
B - B'

C/L



C - C'

C/L



NOTE: CCI IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD PRIOR TO CONSTRUCTION

**REVISIONS**

NO.	DESCRIPTION	REVISED BY	DATE
1	ISSUED FOR REVIEW	AF	10/22/08
2	WELL MOVE	LH	2/12/09

**CCI**

P.O. BOX 328  
 BLOOMFIELD, NM, 87413  
 PHONE: (505) 325-7707

**CHENAULT CONSULTING INC.**

**Burlington Resources Oil & Gas Company, LP**  
**San Juan Basin**  
**Pit Design and Construction Plan**

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

**General Plan:**

1. BR will design and construct a properly sized and approved temporary pit which will contain liquids and solids and should prevent contamination of fresh water and protect public health and environment.
2. Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration.
3. BR will sign the well location in compliance with 19.15.3.103 NMAC.
4. BR shall construct all new fences around the temporary pit utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post. Temporary pits will be fenced at all times excluding drilling or workover operations, when the front side of the fence will be temporarily removed for operational purposes.
5. BR shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure.
6. BR shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot.
7. Pit walls will be walked down by a crawler type tractor following construction.
8. All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
9. Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided.
10. All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep.
11. BR will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used whenever possible. BR will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. BR will minimize the number of field seams in corners and irregularly shaped areas.
12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
13. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
14. The volume of the pit shall not exceed 10 acre-feet, including freeboard.
15. Temporary blow pits will be constructed to allow gravity flow to discharge into lined drill pit.
16. The lower half of the blow pit (nearest lined pit) will be lined with a 20-mil, string reinforced, LLDPE liner. The upper half of the blow pit will remain unlined as allowed in Rule 19.15.17.11 F.11.
17. BR will not allow freestanding liquids to remain on the unlined portion of a temporary blow pit.



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

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

**General Plan:**

1. BR will operate and maintain a temporary pit to contain liquids and solids and maintain the integrity of the liner and liner system to prevent contamination of fresh water and protect public health and environment.
2. BR will conserve drilling fluids by transferring liquids to pits ahead of the rigs whenever possible. All other drilling fluids will be disposed at Basin Disposal Inc., permit # NM-01-005.
3. BR will not discharge or store any hazardous waste in any temporary pit.
4. If any pit liner's integrity is compromised, or if any penetration of the liner occurs above the liquid's surface, then BR shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner.
5. If a leak develops below the liquid's level, BR shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. BR shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks less than 25 barrels. BR shall notify the Aztec Division office 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.
6. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
7. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
8. BR shall immediately remove any visible layer of oil from the surface of the temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from the pit's surface. An oil absorbent boom will stored on-site until closure of pit.
9. Only fluids generated during the drilling or workover process may be discharged into a temporary pit.
10. BR will maintain the temporary pit free of miscellaneous solid waste or debris.
11. During drilling operations, BR will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged in the IADC reports. BR will file this log with the Aztec Division office upon closure of the pit.
12. After drilling operations, BR will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at BR's office electronically and will be filed with the Aztec Division office upon closure of the pit.
13. BR shall maintain at least two feet of freeboard for a temporary pit.
14. BR shall remove all free liquids from a temporary pit within 30 days from the date the operator releases the drilling rig.
15. BR shall remove all free liquids from a cavitation pit within 48 hours after completing cavitation. BR may request additional time to remove liquids from the Aztec Division office if it is not feasible to remove liquids within 48 hours.

# **Burlington Resources Oil & Gas Company, LP**

## **San Juan Basin**

### **Closure Plan**

In accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of temporary pits on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

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 pit closure. Closure report will be filed on C-144 and incorporate the following:

- Details on Capping and Covering, where applicable.
- Plot Plan (Pit Diagram)
- Inspection Reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

#### **General Plan:**

1. All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011).
2. The preferred method of closure for all temporary pits will be on-site burial, assuming that all the criteria listed in sub-section (B) of 19.15.17.13 are met.
3. The surface owner shall be notified of BR's closing of the temporary pit prior to closure as per the approved closure plan via certified mail, return receipt requested.
4. Within 6 months of the Rig Off status occurring BR will ensure that temporary pits are closed, re-contoured, and reseeded.
5. 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.
6. Liner of temporary pit shall be removed above "mud level" after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove "All" of the liner i.e., edges of liner entrenched or buried. All excessive liner will be disposed of at the San Juan County Landfill located on CR 3100.
7. Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.
8. A five point composite sample will be taken of the pit 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	1000/500

9. Upon completion of solidification and testing standards being passed, the pit area will be backfilled with compacted, non-waste containing, earthen material. 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. If standard testing fails BR will dig and haul all contents pursuant to 19.15.17.13.i.a. After doing such, confirmation sampling will be conducted to ensure a release has not occurred.
10. During the stabilization process if the liner is ripped by equipment the Aztec OCD office will be notified within 48 hours and the liner will be repaired if possible. If the liner can not be repaired then all contents will be excavated and removed.
11. Dig and Haul Material will be transported to the Envirotech Land Farm located 16 miles south of Bloomfield on Angel Peak Road, CR 7175. Permit # NM010011
12. 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.
13. Notification will be sent to OCD when the reclaimed area is seeded.
14. 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 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 Squirreltail	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)		Source No. two (better quality)	
Purity	50 percent	Purity	80 percent
Germination	40 percent	Germination	63 percent
Percent PLS	20 percent	Percent PLS	50 percent
<b>5 lb. bulk seed required to make</b>		<b>2 lb. bulk seed required to make</b>	
<b>1 lb. PLS</b>		<b>1 lb. PLS</b>	

15. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

**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.

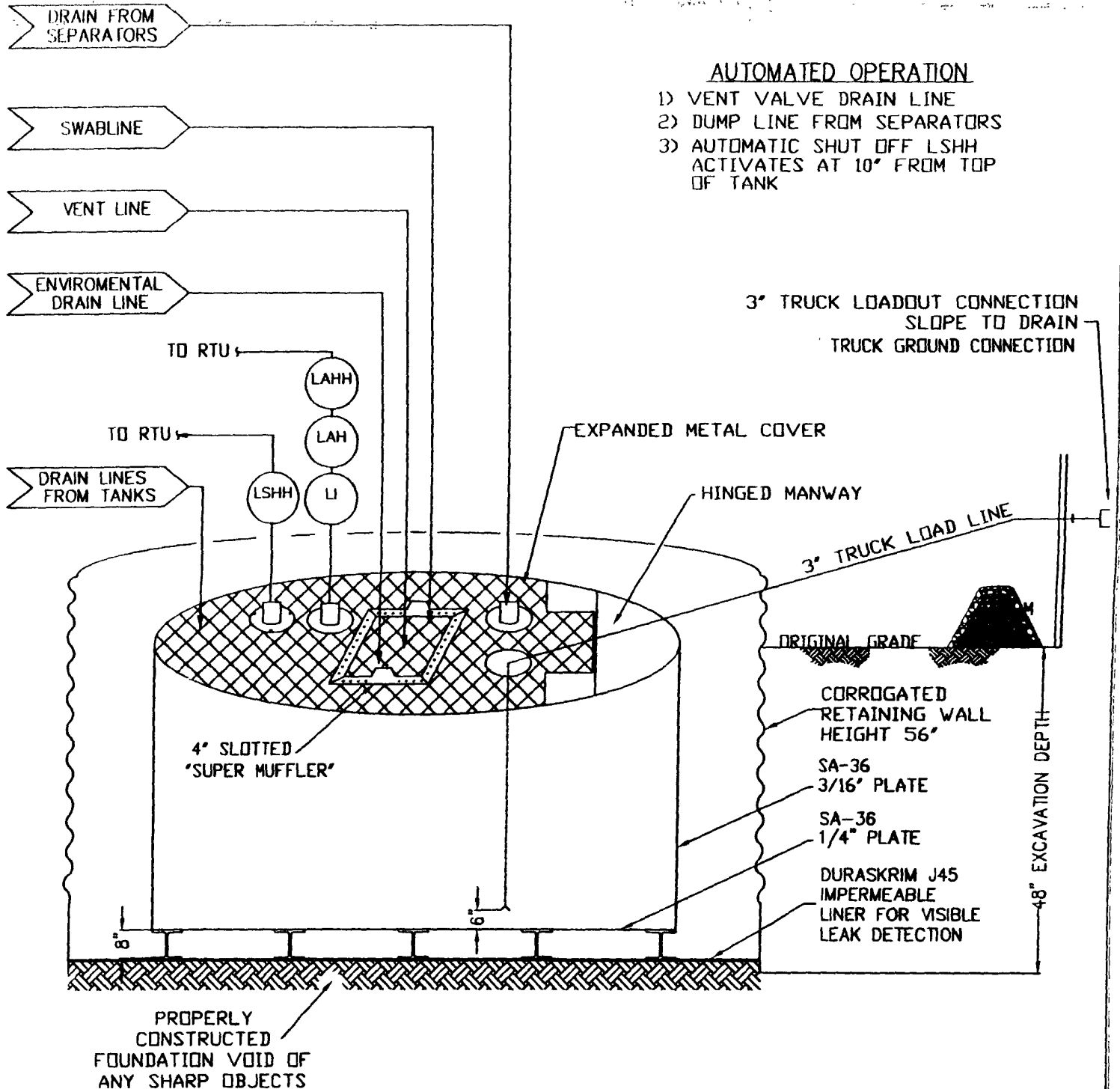
9. BR has equipped the below-grade tanks with the ability to detect high level in the tank and provide alarm notification and shutdown process streams into the tank. Once high level is detected RTU logic closes the inlet separator sales valve and does not permit vent valve to open. This shutdown of the 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 ASTM D3083 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 DRAIN LINE
- 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®

# J30BB, J36BB & J45BB

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/yd <sup>2</sup> )	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 31 DD	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 statutes. 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 Industries Inc.'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 of 19.15.17.11 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