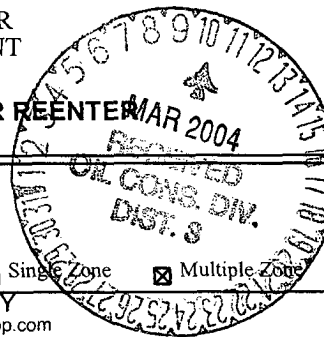


UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER



1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM - 013860-A
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator BP AMERICA PRODUCTION COMPANY Contact: MARY CORLEY E-Mail: corleyml@bp.com		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. BOX 3092 HOUSTON, TX 77253	3b. Phone No. (include area code) Ph: 281.366.4491 Fx: 281.366.0700	8. Lease Name and Well No. RUSSELL 4M
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNW Lot E 2255FNL 755FWL 36.38000 N Lat, 107.38300 W Lon At proposed prod. zone		9. API Well No. 30045-31722
14. Distance in miles and direction from nearest town or post office* 30 MILES TO BLOOMFIELD, NEW MEXICO		10. Field and Pool, or Exploratory BASIN DAKOTA/BLANCO MESAVERDE
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 755	16. No. of Acres in Lease 320.00	11. Sec., T., R., M., or Blk. and Survey or Area E Sec 25 T28N R8W Mer NMP
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 1400	19. Proposed Depth 7160 MD	12. County or Parish SAN JUAN
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6152 GL	22. Approximate date work will start 09/05/2003	13. State NM
		17. Spacing Unit dedicated to this well 320.00 w/2
		20. BLM/BIA Bond No. on file WY2924
		23. Estimated duration 7 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) MARY CORLEY	Date 06/13/2003
Title AUTHORIZED REPRESENTATIVE		
Approved (Signature) David J. Mankiewicz	Name (Printed/Typed)	Date MAR - 5 2004
Title		Office

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #23194 verified by the BLM Well Information System  
For BP AMERICA PRODUCTION COMPANY, sent to the Farmington

DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

This action is subject to technical and  
procedural requirements pursuant to 43 CFR 3165.3  
and appeal pursuant to 43 CFR 3165.4

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

NMOC

District I  
PO Box 1980, Hobbs NM 88241-1980  
District II  
PO Drawer KK, Artesia, NM 87211-0719  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102

Revised February 21, 1994

Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30045-31722		<sup>2</sup> Pool Code 71599-72319		<sup>3</sup> Pool Name BLANCO MESA VERDE & BASIN DAKOTA	
<sup>4</sup> Property Code 000997		<sup>5</sup> Property Name Russell			<sup>6</sup> Well Number # 4M
<sup>7</sup> OGRID No. 000778		<sup>8</sup> Operator Name BP AMERICA PRODUCTION COMPANY			<sup>9</sup> Elevation 6152

<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
E	25	28 N	8 W		2255	NORTH	755	WEST	SAN JUAN

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

<sup>7</sup> UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres 320	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
--------------------------------------	-------------------------------	----------------------------------	-------------------------

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

	<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Mary Corley</i> Signature Mary Corley Printed Name Regulatory Analyst Title 05.29.2003 Date</p>
	<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>April 28, 2003 Date of Survey Signature and Seal of Professional Surveyor GARY D. VANN REGISTERED PROFESSIONAL LAND SURVEYOR 7016 Certificate Number</p>

(R) - GLO Record

**BP AMERICA PRODUCTION COMPANY  
DRILLING AND COMPLETION PROGRAM**

**Prospect Name:** Russell  
**Lease:** Russell  
**County:** San Juan  
**State:** New Mexico  
**Date:** May 20, 2003

**Well No:** 4M  
**Surface Location:** 25-28N-8W, 2255 FNL, 755 FWL  
**Field:** Blanco Mesaverde/Basin Dakota

<b>OBJECTIVE:</b> Drill 240' below the top of the Two Wells (DKOT), set 4.5" production casing across Dakota, Stimulate CH, MF, PL and DK intervals							
<b>METHOD OF DRILLING</b>				<b>APPROXIMATE DEPTHS OF GEOLOGICAL MARKER</b>			
TYPE OF TOOLS		DEPTH OF DRILLING		Estimated GL: 6152		Estimated KB: 6166	
Rotary		0 - TD					
<b>LOG PROGRAM</b>							
<b>TYPE</b>		<b>DEPTH INVERAL</b>		<b>MARKER</b>		<b>SUBSEA</b>	
<u>OPEN HOLE</u>						<b>MEAS. DEPTH</b>	
none				Ojo Alamo		4457' 1709'	
				Kirtland Shale		4356' 1810'	
				Fruitland		4039' 2127'	
				Fruitland Coal		* 3769' 2397'	
				Pictured Cliffs		* 3503' 2663'	
				Lewis Shale		# 3400' 2766'	
				Cliff House		# 1991' 4175'	
				Menefee Shale		# 1769' 4397'	
<u>CASED HOLE</u>				Point Lookout		# 1273' 4893'	
GR-CCL-TDT		TDT - TD to 7" shoe		Mancos		890' 5276'	
CBL		Identify 4.5" cement top		Greenhorn		-643' 6809'	
				Bentonite Marker		-700' 6866'	
				Two Wells		# -754' 6920'	
				Pagate		# -835' 7001'	
				Cubero		# -875' 7041'	
				Lower Cubero		# -904' 7070'	
				Encinal Canyon		# -928' 7094'	
				<b>TOTAL DEPTH</b>		<b>7160'</b>	
<b>REMARKS:</b>							
- Please report any flares (magnitude & duration).							
				# Probable completion interval * Possible Pay			
<b>SPECIAL TESTS</b>				<b>DRILL CUTTING SAMPLES</b>		<b>DRILLING TIME</b>	
TYPE				FREQUENCY DEPTH		FREQUENCY DEPTH	
None				none Production hole		Geograph 0-TD	
<b>REMARKS:</b>							
<b>MUD PROGRAM:</b>							
<b>Approx. Interval</b>		<b>Type Mud</b>	<b>Weight, #/gal</b>	<b>Vis, sec/qt</b>	<b>W/L cc's/30 min</b>	<b>Other Specification</b>	
0 - 120		Spud	8.6-9.2				
120 - 2866 (1)		Water/LSND	8.6-9.2				
2866 - 7160		Gas/Air/Mist	Volume sufficient to maintain a stable and clean wellbore				
<b>REMARKS:</b>							
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.							
<b>CASING PROGRAM:</b> (Normally, tubular goods allocation letter specifies casing sizes to be used. Hole sizes will be governed by Contract)							
<b>Casing String</b>	<b>Estimated Depth</b>	<b>Casing Size</b>	<b>Grade</b>	<b>Weight</b>	<b>Hole Size</b>	<b>Landing Pt, Cmt, Etc.</b>	
Surface/Conductor	120	9 5/8"	H-40 ST&C	32#	13.5"	1	
Intermediate	2866	7"	J/K-55 ST&C	20#	8.75"	1,2	
Production	7160	4 1/2"	J-55	11.6#	6.25"	3	
<b>REMARKS:</b>							
(1) Circulate Cement to Surface							
(2) Set casing 100' into Lewis Shale							
(3) Bring cement 100' above 7" shoe							
<b>CORING PROGRAM:</b>							
None							
<b>COMPLETION PROGRAM:</b>							
Rigless, 3-4 Stage Limited Entry Hydraulic Frac							
<b>GENERAL REMARKS:</b>							
Notify BLM/NMOCDD 24 hours prior to Spud, BOP testing, and Casing and Cementing.							
Form 46 Reviewed by:				Logging program reviewed by: N/A			
<b>PREPARED BY:</b>		<b>APPROVED:</b>		<b>DATE:</b>			
KAS/MNP/JMP				May 20, 2003			
				<b>Version 1.0</b>			
Form 46 12-00 MNP							

# BP America Production Company

## BOP Pressure Testing Requirements

Well Name: Russell  
County: San Juan

4M  
State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1709		
Fruitland Coal	2397		
PC	2663		
Lewis Shale	2766		
Cliff House	4175	500	0
Menefee Shale	4397		
Point Lookout	4893	600	0
Mancos	5276		
Dakota	6920	2600	1500

\*\* Note: Determined using the following formula:  $ABHP - (.22 \times TVD) = ASP$

Requested BOP Pressure Test Exception: 1500 psi

**SAN JUAN BASIN**  
**Dakota Formation**  
**Pressure Control Equipment**

### Background

The objective Dakota formation maximum surface pressure is anticipated to be less than 1000 psi, based on shut-in surface pressures from adjacent wells. Pressure control equipment working pressure minimum requirements are therefore 2000 psi. Equipment to be used will conform to API RP-53 (Figure 2.C.2) for a 2000 psi system per Federal Onshore Order No. 2. Due to available conventional equipment within the area, 3000 psi rated pressure control equipment will typically be utilized in a double ram type arrangement. Regional drilling rights to be utilized have substructure height limitations which exclude the use of annular preventers; therefore a rotating head will be installed above these rams. This pressure control equipment will be utilized for conventional drilling below conductor to total depth in the Basin Dakota. No abnormal temperature, pressure, or H2S anticipated.

### Equipment Specification

#### Interval

#### BOP Equipment

Below conductor casing to total depth	11" nominal or 7 1/16", 3000 psi double ram preventer with rotating head.
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All ram type preventers and related control equipment will be hydraulically tested to 250 psi (low pressure) and 2000 psi (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include kelly cock, upper kelly cock with a handle available, floor safety valves and choke manifold which will also be tested to equivalent pressure.

# Cementing Program

Well Name: Russell 4M	Field: Blanco Mesaverde / Basin Dakota
Location: 25-28N-8W, 2255 FNL, 755 FWL	API No.
County: San Juan	Well Flac
State: New Mexico	Formation: Dakota MesaVerde
	KB Elev (est) 6166
	GL Elev. (est) 6152

## Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)	Cmt Cir. Out (bbl.)
Surface	120	13.5	9.625	ST&C	Surface	NA	
Intermediate	2866	8.75	7	LT&C	Surface	NA	
Production -	7160	6.25	4.5	ST&C	2766	NA	

## Casing Properties:

(No Safety Factor Included)

Casing String	Size (in.)	Weight (lb/ft)	Grade	Burst (psi.)	Collapse (psi.)	Joint St. (1000 lbs.)	Capacity (bbl/ft.)	Drift (in.)
Surface		9.625	32 H-40	3370	1400	254	0.0787	8.845
Intermediate		7	20 K-55	3740	2270	234	0.0405	6.456
Production -		4.5	11.6 J-55	5350	4960	154	0.0155	3.875

## Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight	Recommended Mud Properties Prio Cementing:
			PV <20
			YP <10
			Fluid Loss: <15
0 - SCP	Water/Spud	8.6-9.2	
SCP - ICP	Water/LSND	8.6-9.2	
ICP - ICP2	Gas/Air Mist	NA	
ICP2 - TD	LSND	8.6 - 9.2	

## Cementing Program:

	Surface	Intermediate	Production
Excess %, Lead	100	75	40
Excess %, Tail	NA	0	40
BHST (est deg. F)	75	120	183
Special Instructions	1,6,7	1,6,8	2,4,6

1. Do not wash pumps and lines.
2. Wash pumps and lines.
3. Reverse out
4. Run Blend Test on Cement
5. Record Rate, Pressure, and Density on 3.5" disk
6. Confirm densitometer with pressurized mud scales
7. 1" cement to surface if cement is not circulated.
8. If cement is not circulated to surface, run temp. survey 10-12 hr. after landing plug.

## Notes:

\*Do not wash up on top of plug. Wash lines before displacing production cement job to minimize drillout.

## Surface:

Preflush	20 bbl.	FreshWater	
Slurry 1	110 sx Class G Cement		117 cuft
TOC@Surface	+ 3% CaCl2 (accelerator)		
	+ 0.25 #/sk Cellophane Flake (lost circulation additive)		0.4887 cuft/ft OH
Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	15.8	1.16	4.95

# Cementing Program

Casing Equipment: 9-5/8", 8R, ST&C  
 1 Guide Shoe  
 1 Top Wooden Plug  
 1 Autofill insert float valve  
 Centralizers, 1 per joint except top joint  
 1 Stop Ring  
 1 Thread Lock Compound

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## Intermediate:

Fresh Water	20 bbl	fresh water	
Lead		240 sx Class "G" Cement	612 cuft
Slurry 1		+ 3% D79 extender	
TOC@Surface		+1/4 #/sk. Cellophane Flake	
		+ 5 lb/sk Gilsonite	
Tail		60 sx 50/50 Class "G"/Poz	75 cuft
Slurry 2		+ 2% gel (extender)	
500 ft fill		+1/4 #/sk. Cellophane Flake	0.1503 cuft/ft OH
		+ 2% CaCl2 (accelerator)	0.1746 cuft/ft csg ann
		+ 5 lb/sk Gilsonite	

Slurry Properties:	Density	Yield	Water
	(lb/gal)	(ft3/sk)	(gal/sk)
Slurry 1	11.4	2.63	15.8
Slurry 2	13.5	1.27	5.72

Casing Equipment: 7", 8R, ST&C  
 1 Float Shoe (autofill with minimal LCM in mud)  
 1 Float Collar (autofill with minimal LCM in mud)  
 1 Stop Ring  
 Centralizers one in middle of first joint, then every third collar  
 1 Top Rubber Plug  
 1 Thread Lock Compound

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## Production:

Fresh Water	10 bbl	CW100	
Lead		200 LiteCrete D961 / D124 / D154	483 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC, 400' above 7" shoe		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		140 sx 50/50 Class "G"/Poz	199 cuft
Slurry 2		+ 5% D20 gel (extender)	
1384 ft fill		+ 0.1% D46 antifoam	
		+ 1/4 #/sk. Cellophane Flake	
		+ 0.25% D167 Fluid Loss	
		+ 5 lb/sk Gilsonite	

# Cementing Program

+0.1% d800, retarder  
+0.15% D65, dispersant

0.1026 cuft/ft OH

## Slurry Properties:

	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water (gal/sk)	
Slurry 1	9.5	2.52	6.38	0.1169 cuft/ft csg ann
Slurry 2	13	1.44	6.5	Top of Mancos 5276

## Casing Equipment:

4-1/2", 8R, ST&C  
1 Float Shoe (autofill with minimal LCM in mud)  
1 Float Collar (autofill with minimal LCM in mud)  
1 Stop Ring  
Centralizers, every 4th joint in mud drilled holes, none in air drilled holes.  
1 Top Rubber Plug  
1 Thread Lock Compound