

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>NM - 09717</b>
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well Gas <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 <b>BP America Production Company Attn: Mary Corley</b>		7. If Unit or CA Agreement, Name and No
3a. Address <b>P.O. Box 3092 Houston, Texas 77253</b>	3b. Phone No. (include area code) <b>281-366-4491</b>	8. Lease Name and Well No. <b>Fiorance H 37M</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>1490' FNL &amp; 2400' FEL Unit G</b> At proposed prod. Zone <b>700' FNL &amp; 1750' FEL Unit B</b>		9. API Well No. <b>3004531939</b>
14. Distance in miles and direction from nearest town or post office* <b>24 miles from Aztec, NM</b>		10. Field and Pool, or Exploratory <b>Basin Dakota &amp; Blanco Mesaverde</b>
15. Distance from proposed* Location to nearest Property or lease line, ft. (Also to nearest drig. Ujnit line, if any) <b>700' BHL</b>		11. Sec., T., R., M., or Blk, and survey or Area <b>6 Sec. 06, T30N, R08W</b>
16. No. of Acres in lease <b>327.11</b>		12. County or Parish <b>San Juan</b>
17. Spacing Unit dedicated to this well <b>327.11 E/2</b>		13. State <b>New Mexico</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>1300'</b>		20. BLM/BIA Bond No. on file <b>WY2924</b>
21. Elevations (show whether DF, KDB., RT, GL, etc.) <b>6010' GL</b>		22. Approximate date work will start* <b>December 01, 2003</b>
23. Estimated duration <b>7 Days</b>		

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 <i>Mary Corley</i>	Name (Printed/typed) <b>Mary Corley</b>	Date <b>10/02/2003</b>
Title <b>Senior Regulatory Analyst</b>		

Approved by (Signature) <i>David J. Montemayor</i>	Name (Printed/Typed) <b>David J. Montemayor</b>	Date <b>NOV 20 2003</b>
Title <b>AS/Dave J. Montemayor</b> 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.

\*(Instructions on reverse)

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

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

HOLD C104 FOR directional survey

NMOCD

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 30-045-31939		<sup>2</sup> Pool Code 71599 72319		<sup>3</sup> Pool Name BASIN DAKOTA & BLANCO MESAVERDE	
<sup>4</sup> Property Code 000541		<sup>5</sup> Property Name Florance H			<sup>6</sup> Well Number # 37M
<sup>7</sup> OGRID No. 000778		<sup>8</sup> Operator Name BP AMERICA PRODUCTION COMPANY			<sup>9</sup> Elevation 6010

<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
G(Lot 10)	6	30 N	8 W		1490	NORTH	2400	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
B (Lot 9)	6	30 N	8 W		700'	NORTH	1750'	EAST	SAN JUAN

<sup>12</sup> Dedicated Acres 327.11	<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> 	<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.  Signature: <i>Mary Corley</i> Printed Name: MARY CORLEY Title: Sr. Regulatory Analyst Date: 10.03.2003	
	<sup>18</sup> SURVEYOR CERTIFICATION 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.  August 16, 2003 Date of Survey Signature and Seal of Professional Surveyor  Certificate Number: 7016	

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

**Prospect Name:** Florance H  
**Lease:** Florance H  
  
**County:** San Juan  
**State:** New Mexico  
**Date:** October 1, 2003

**Well No:** 37M  
**Surface Location:** 6-30N-8W, 1490 FNL, 2400 FEL  
**BHL:** 6-30N-8W, 700 FNL, 1750 FEL  
**Field:** Blanco Mesaverde/Basin Dakota

**OBJECTIVE:** Drill 215' below the top of the Upper Two Wells (DKOT), set 41/2" production casing, Stimulate CH, MF, PL and DK intervals

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Estimated GL: 6010		Estimated KB: 6024	
Rotary	0 - TD				
<b>LOG PROGRAM</b>					
<b>TYPE</b>	<b>DEPTH INVERAL</b>	<b>MARKER</b>		<b>TVD</b>	<b>MD</b>
<u>OPEN HOLE</u>		Ojo Alamo		1614	1660
none		Kirkland		1739	1791
		Fruitland		2216	2293
		Fruitland Coal	*	2491	2582
		Pictured Cliffs	*	2845	2954
		Lewis Shale	#	3383	3519
		Cliff House	#	4393	4544
		Menefee Shale	#	4737	4888
<u>CASED HOLE</u>		Point Lookout	#	5081	5232
GR-CCL-TDT	TDT - TD to 7" shoe	Mancos		5439	5590
CBL	Identify 4 1/2" cement top	Greenhorn		7100	7251
		Bentonite Marker		7148	7299
		Two Wells	#	7210	7361
		Paguate	#	7279	7430
		Cubero Upper	#	7316	7467
		Cubero Lower	#	7339	7490
		<b>TOTAL DEPTH</b>		<b>7425</b>	<b>7576</b>
		# Probable completion interval		* Possible Pay	
<b>SPECIAL TESTS</b>		<b>DRILL CUTTING SAMPLES</b>		<b>DRILLING TIME</b>	
<b>TYPE</b>		<b>FREQUENCY</b>	<b>DEPTH</b>	<b>FREQUENCY</b>	<b>DEPTH</b>
None		10'	3483'-TD	Geograph	0-TD
<b>REMARKS:</b>					
- Please report any flares (magnitude & duration).					

<b>MUD PROGRAM:</b>						
Approx. Interval	Type Mud	Weight, #/ga	Vis, sec/qt	W/L cc's/30 min	Other Specification	
0 - 120	Spud	8.6-9.2				
120 - 3624 (1)	Water/LSND	8.6-9.2		<6		
3624 - 7576	Gas/Air/N2/Mist	Volume sufficient to maintain a stable and clean wellbore				

**REMARKS:**  
(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)						
Casing String	Estimated Depth	Casing Size	Grade	Weight	Hole Size	Landing Pt, Cmt, Etc.
Surface/Conductor	120	9 5/8"	H-40 ST&C	32#	13.5"	1
Intermediate	3624	7"	J/K-55 ST&C	20#	8.75"	1,2
Production	7576	4 1/2"	J-55	11.6#	6.25"	3

**REMARKS:**  
(1) Circulate Cement to Surface  
(2) Set casing 100' into Lewis Shale  
(3) Bring cement 100' above 7" shoe

**CORING PROGRAM:**  
None

**COMPLETION PROGRAM:**  
Rigless, 3-4 Stage Limited Entry Hydraulic Frac

**GENERAL REMARKS:**  
Notify BLM/NMOCD 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>
HGJ/MNP/JMP		October 2, 2003
		Version 5.0

Form 46 12-00 MNP

# BP America Production Company

## BOP Pressure Testing Requirements

Well Name: Florance H  
County: San Juan

37M  
State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1660		
Fruitland Coal	2582		
PC	2954		
Lewis Shale	3519		
Cliff House	4544	500	0
Menefee Shale	4888		
Point Lookout	5232	600	0
Mancos	5590		
Dakota	7361	2600	946

\*\* 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.

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: Florance H37M  
 Location: 6-30N-8W, 1490 FNL, 2400 FeL  
 County: San Juan  
 State: New Mexico

Field: Blanco Mesaverde / Basin Dakota  
 API No.  
 Well Flac  
 Formation: Dakota Mesa Verde  
 KB Elev (est) 6024  
 GL Elev. (est) 6010

## 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	3624	8.75	7	ST&C	Surface	NA	
Production -	7576	6.25	4.5	ST&C	3524	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	2270	3370	1400	254	0.0787
Intermediate	7	20	K-55	3740	2270	254	234	0.0405
Production -	4.5	11.6	J-55	5350	4960	154	154	0.0155

## Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight	Recommended Mud Properties Prio Cementing:
			PV <20 YP <10 Fluid Los: <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.	Fresh Water	
Slurry 1	110 sx Class G Cement		128
TOC@Surface	+ 3% CaCl2 (accelerator)		117 cuft
	+ 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

## 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

# Cementing Program

## Intermediate:

Fresh Water	20 bbl	fresh water	
Lead		310 sx Class "G" Cement	815
Slurry 1		+ 3% D79 extender	811 cuft
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

## Production:

Fresh Water	10 bbl	CW100	
Lead		170 LiteCrete D961 / D124 / D154	428
Slurry 1		+ 0.03 gps D47 antifoam	428 cuft
TOC, 400' above 7" shoe		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		150 sx 50/50 Class "G"/Poz	214
Slurry 2		+ 5% D20 gel (extender)	213 cuft
1486 ft fill		+ 0.1% D46 antifoam	
		+ 1/4 #/sk. Cellophane Flake	
		+ 0.25% D167 Fluid Loss	
		+ 5 lb/sk Gilsonite	
		+ 0.1% d800, retarder	
		+ 0.15% D65, dispersant	
			0.1026 cuft/ft OH
Slurry Properties:	Density	Yield	Water
	(lb/gal)	(ft3/sk)	(gal/sk)
Slurry 1	9.5	2.52	6.38
Slurry 2	13	1.44	6.5
			0.1169 cuft/ft csg ann
			Top of Mancos
			5590

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