

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. NMSF - 076337 877231A
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator BP-AMERICA PRODUCTION COMPANY		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. BOX 3092 HOUSTON, TX 77253		8. Lease Name and Well No. SHAW GAS COM 1C
3b. Phone No. (include area code) Ph: 281.366.4491 Fx: 281.366.0700		9. API Well No. 3004532184
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SENE Lot H 1915FNL 855FEL 36.48800 N Lat, 107.44600 W Lon At proposed prod. zone		10. Field and Pool, or Exploratory BLANCO MESAVERDE
14. Distance in miles and direction from nearest town or post office* 18.7 MILES FROM AZTEC, NEW MEXICO		11. Sec., T., R., M., or Blk. and Survey or Area H Sec 14 T30N R9W Mer NMP SME: BLM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 725		12. County or Parish SAN JUAN
16. No. of Acres in Lease 317.65		13. State NM
17. Spacing Unit dedicated to this well 320 317.65 N2		18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 1108
19. Proposed Depth 5450 MD		20. BLM/BIA Bond No. on file WY2924
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6010 GL		22. Estimated duration 5 DAYS
22. Approximate date work will start 03/08/2004		23. Estimated duration 5 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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- 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 02/16/2004
Title AUTHORIZED REPRESENTATIVE		
Approved by (Signature) David J. Mankiewicz	Name (Printed/Typed)	Date MAR - 4 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 #27940 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 review pursuant to 43 CFR 3165.3  
and appeal pursuant to 43 CFR 3165.4

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

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

NMOCD

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 DepartmentOIL 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

API Number <b>30-045-32184</b>	Pool Code <b>72319</b>	Pool Name <b>BLANCO MESEVERDE</b>
Property Code <b>001045</b>	Property Name <b>Shaw Gas Com</b>	Well Number <b># 1C</b>
GRID No. <b>000 7178</b>	Operator Name <b>BP AMERICA PRODUCTION COMPANY</b>	Elevation <b>6010</b>

## 10 Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>H</b>	<b>14</b>	<b>30 N</b>	<b>9 W</b>		<b>1915</b>	<b>NORTH</b>	<b>855</b>	<b>EAST</b>	<b>SAN JUAN</b>

## 11 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

12 Dedicated Acres <b>317.65</b>	13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
**320**  
 OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16 		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature: <i>Wayne Corley</i> Printed Name: <i>Wayne Corley</i> Title: <i>SE. Regional Survey Analyst</i> Date: <i>02.09.2004</i>
18 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. Date of Survey: <b>December 12, 2003</b> Signature and Seal of Professional Surveyor: <i>GARY D. VANN</i> 		

(R) - BLM Record

100%

664 225

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

**Prospect Name:** Shaw GC  
**Lease:** Florance  
**County:** San Juan  
**State:** New Mexico  
**Date:** January 19, 2004

**Well No:** 1 C  
**Surface Location:** 14-30N-9W; 1915 FNL, 855 FWL  
**Field:** Blanco Mesaverde

**OBJECTIVE:** Drill 400' below the top of the Point Lookout Sandstone, set 2 7/8" Production long string, Stimulate CH, MF and PL intervals

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Estimated GL: 6060		Estimated KB: 6074	
Rotary	0 - TD				
<b>LOG PROGRAM</b>		<b>MARKER</b>		<b>SUBSEA</b>	<b>TVD</b>
<b>TYPE</b>	<b>DEPTH INVERT</b>	Ojo Alamo		4449	1625
<u>OPEN HOLE</u>		Kirtland		4346	1728
None		Fruitland		3826	2248
		Fruitland Coal	*	3554	2520
		Pictured Cliffs	*	3242	2832
		Lewis	*	3067	3007
<u>CASED HOLE</u>		Cliff House	#	1726	4348
GR-CCL	TD to 5 1/2" shoe	Menefee	#	1414	4660
		Point Lookout	#	1024	5050
		Mancos		704	5370
<b>REMARKS:</b>					
- Please report any flares (magnitude & duration).					
		<b>TOTAL DEPTH</b>		624	5450
		# 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		None	Production hole	Geologist	0-TD
<b>REMARKS:</b>					

MUD PROGRAM:					
Approx. Interval	Type Mud	Weight, #/gal	Vis, sec/qt	W/L cc's/30 min	Other Specification
0 - 120	Spud	8.6-9.2			
120 - 2470 (1)	Water/LSND	8.6-9.2		<6	
2470 - 5450	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.

CASING PROGRAM: (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	8 5/8"	X-42 ST&C	20#	12.25"	1
Intermediate 1	2470	5 1/2"	J-55 ST&C	15.5#	7.875"	1,2
Production	5450	2 7/8"	J-55	6.5#	4.75"	3,4

**REMARKS:**  
 (1) Circulate Cement to Surface  
 (2) Set casing 50' above Fruitland Coal  
 (3) Bring cement 100' above 5 1/2" shoe  
 (4) 100' Overlap

**CORING PROGRAM:**  
 None

**COMPLETION PROGRAM:**  
 Rigless, 2-3 Stage Limited Entry Hydraulic Frac

**GENERAL REMARKS:**  
 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>
HGJ/MNP/JMP		January 19, 2004
Form 46 12-00 MNP		Version 1.0

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

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**Background**

The objective Mesaverde 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 rigs 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 Mesaverde. No abnormal temperature, pressure, or H<sub>2</sub>S anticipated.

**Equipment Specification**

**Interval**

**BOP Equipment**

Below conductor casing to total depth	9", 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 750 psi (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include kelly cock with a handle available, floor safety valves and choke manifold which will also be tested to equivalent pressure.

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**FEDERAL CEMENTING REQUIREMENTS**

1. All permeable zones containing fresh water and other usable water containing 10,000 PPM or less total dissolved solids will be isolated and protected from contamination by cement circulated in place for the protection of permeable zones per the NTL-FRA 90-1 Section III A.
2. The hole size will be no smaller than 1 1/2" larger diameter than the casing O.D. across all water zones.
3. An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement.
4. An adequate number of casing centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. The adequate number of centralizers to use will be determined by API SPEC 10D.
5. Centralizers will be used just below and into the base of the lowest usable water zone.
6. A chronological log will be kept recording the pump and slurry information and will be sent to the BLM with the subsequent sundry.

## Cementing Program

Well Name: Shaw GC 1C  
 Location: 14-30N-09W, 1915 FNL, 855 FWL  
 County: San Juan  
 State: New Mexico

Field: Blanco Mesaverde  
 API No.  
 Well Flac  
 Formation: MesaVerde  
 KB Elev (est) 6074  
 GL Elev. (est) 6060

### Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)
Surface	120	12 1/4	8 5/8	ST&C	Surface	NA
Intermediate	2470	7 7/8	5 1/2	ST&C	Surface	NA
Production -	5450	4 3/4	2 7/8		2370	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	8 5/8	24	X42	2950	1370	244	0.06368	7.972
Intermediate	5 1/2	15.5	J55	4810	4040	202	0.0238	5.067
Production -	2 7/8	6.5	J-55	7264	7676	72	0.00579	2.375

### Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight	Recommended Mud Properties Prio Cementing:
0 - SCP	Water/Spud	8.6-9.2	Fluid Loss <6
SCP - ICP	Water/LSND	8.6-9.2	
ICP - TD	Gas/Air Mist	NA	

### Cementing Program:

	Surface	Intermediate	Production
Excess %, Lead	100	100	40
Excess %, Tail	NA	0	40
BHST (est deg. F)	72	110	159
Time Between Stages, (hr)	NA	NA	NA
Special Instructions	1,6	1,6	2,6

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.

### Surface:

Preflush	20 bbl.	FreshWater	
Slurry 1	90 sx Class G Cement		95 cuft
TOC@Surface	+ 3% CaCl <sub>2</sub> (accelerator)		
	0.25 #/sk Cellophane Flake (lost circulation additive)		0.3961 cuft/ft OH
	0.1% D46 antifoam		100 % excess
Slurry Properties:	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water (gal/sk)
Slurry 1	15.8	1.16	4.95

### Intermediate:

## Cementing Program

Fresh Water                      20 bbl                      fresh water

Lead	260 sx Class "G" Cement	665 cuft
Slurry 1	+ 3% D79 extender	
TOC@Surface	+ 1/4 #/sk. Cellophane Flake	
	+ 0.1% D46 antifoam'	
Tail	70 sx 50/50 Class "G"/Poz	87 cuft
Slurry 2	+ 2% gel (extender)	
	0.1% D46 antifoam	
500 ft fill	+ 1/4 #/sk. Cellophane Flake	0.1733 cuft/ft OH
	+ 2% S1 Calcium Chloride	0.2009 cuft/ft csg ann
		80 % excess

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	11.7	2.61	17.77
Slurry 2	13.5	1.27	5.72

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**Production:**

Fresh Water                      10 bbl                      CW100

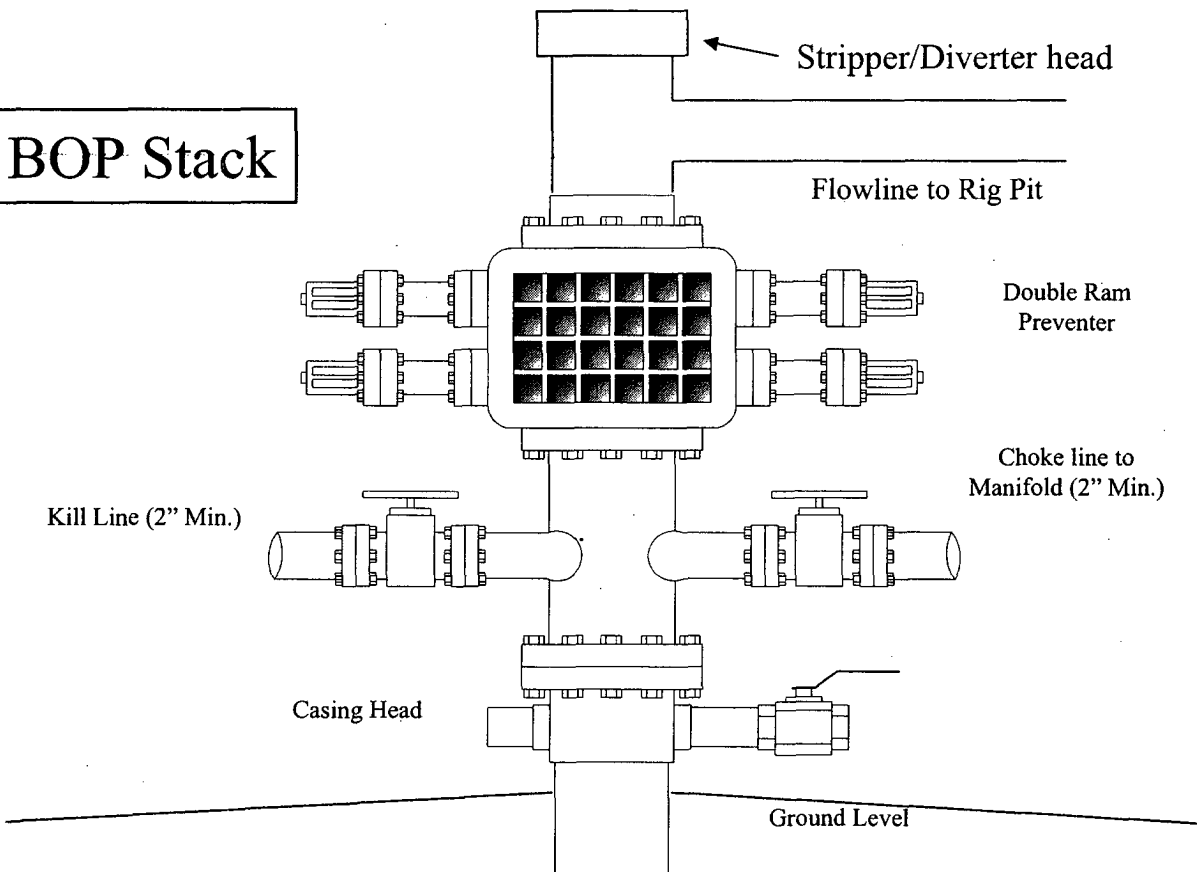
Slurry	140 LiteCrete D961 / D124 / D154	338 cuft
	+ 0.03 gps D47 antifoam	
	+ 0.5% D112 fluid loss	
TOC@Liner Top	+ 0.11% D65 TIC	

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)	0.078 cuft/ft OH
Slurry	9.5	2.52	6.38	40 % excess
				0.0886 cuft/ft csg ann

**BP American Production Company**  
Well Control Equipment Schematic



**BOP Stack**



**Choke & Kill Manifold**

