

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0135  
Expires: November 30, 2000

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.**

5. Lease Serial No.  
MMSF079511A

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

7. If Unit or CA/Agreement, Name and/or No.  
NMNM73416

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.  
ARCHULETA 1C

2. Name of Operator  
BP AMERICA PRODUCTION CO

Contact: CHERRY HLAVA  
E-Mail: HlavaCL@bp.com

9. API Well No.  
30-045-32317-00-X1

3a. Address  
200 ENERGY CT  
FARMINGTON, NM 87402

3b. Phone No. (include area code)  
Ph: 281/366.4081

10. Field and Pool, or Exploratory  
BLANCO MESAVERDE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 19 T30N R8W NENW Lot C 355FNL 960FWL  
36.48200 N Lat, 107.43200 W Lon

11. County or Parish, and State

SAN JUAN COUNTY, NM

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

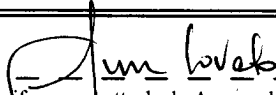
13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The original APD was submitted on 04/22/04 and approved 06/21/04. We respectfully request permission to change the original drilling plan from a slim hole to a conventional wellbore. Please see the revised drilling plan & cement program attached.

There is no change to the total depth or the well location.

14. I hereby certify that the foregoing is true and correct. <b>Electronic Submission #50970 verified by the BLM Well Information System For BP AMERICA PRODUCTION CO, sent to the Farmington Committed to AFMSS for processing by ADRIENNE BRUMLEY on 11/29/2004 (05AXB0361SE)</b>	
Name (Printed/Typed) CHERRY HLAVA	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 11/15/2004

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By 	Title Petr. Eng	Date 12/1/04
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office

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.

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

**Prospect Name:** Archuleta

**Lease:** Archuleta

**County:** San Juan

**State:** New Mexico

**Date:** November 11, 2004

**Well No:** 1 C

**Surface Location:** 19-30N-8W, 355 FNL, 960 FWL

**Field:** Blanco Mesaverde

**REVISED** 11/11/04

**OBJECTIVE:** Drill 400' below the top of the Point Lookout Sandstone, set 4-1/2" production liner, Stimulate CH, MF and PL intervals

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Estimated GL: 6278'		Estimated KB: 6289'	
Rotary	0 - TD				
<b>LOG PROGRAM</b>					
<b>TYPE</b>	<b>DEPTH INVERTAL</b>	<b>MARKER</b>		<b>SUBSEA</b>	<b>TVD</b>
<u>OPEN HOLE</u>		Ojo Alamo		4375	1917
None		Kirtland		4296	1996
		Fruitland		3744	2548
		Fruitland Coal	*	3581	2711
		Pictured Cliffs	*	3279	3013
		Lewis	*	3006	3286
		Cliff House	#	1748	4544
		Menefee	#	1417	4875
		Point Lookout	#	1069	5223
		Mancos		681	5611
		<b>TOTAL DEPTH</b>		669	5623
		# 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>					
- Please report any flares (magnitude & duration).					

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 - 2661 (1)	Water/LSND	8.6-9.2		<6	
2661 - 5623	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	9 5/8"	H-40 ST&C	32#	12.25"	1
Intermediate 1	2661	7"	J-55 ST&C	20#	8.75"	1,2
Production	5623	4-1/2"	J-55	10.5#	6.25"	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 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/JLP/JMP		November 11, 2004
Form 46 12-00 MNP		Version 3.0

# BP America Production Company

## BOP Pressure Testing Requirements

Well Name: Archuleta  
County: San Juan

1 C  
State: New Mexico

Formation	Estimated TVD/MD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1917		
Fruitland Coal	2711		
PC	3013		
Lewis Shale	3286		
Cliff House	4544	500	0
Menefee Shale	4876		
Point Lookout	5223	600	0
Mancos	5611		
Dakota	-	2600	1374

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

Requested BOP Pressure Test Exception: 750 psi

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

### 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 H2S 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.

## NEW MEXICO MULTIPOINT REQUIREMENTS

1. Existing Roads
  - A. The proposed location is staked as shown on the Certified Plat.
  - B. Route and distance from nearest town is identified on the form 3160-3, Item #14.
  - C. Access road(s) to location are identified on Exhibits A & B.
  - D. Not applicable unless exploratory well.
  - E. All existing roads within one-mile radius of the well site are shown on Exhibit B.
  - F. Improvements and/or maintenance of existing roads may be done as deemed necessary for BP America's operations, or as required by the surface management agency.
2. Access Roads
  - A. Width: 16' Driving Surface
  - B. Maximum Grades: 0 - 8%
  - C. Turnouts: None
  - D. Drainage will be used as required
  - E. Size and location of culverts, if needed, will be determined at the onsite inspection or during construction.
  - F. Surfacing materials may be applied to the proposed road and/or location if the conditions merit it.
  - G. Gates and/or cattle guards will be installed at fence crossings if deemed necessary by the land owner or the surface management agency.
  - H. The proposed new access road is center-line flagged if applicable.
3. Location and Existing Wells
  - A - H All existing wells, to the best of our knowledge, are identified on Exhibit C (9 Section Plat).
4. Location of Existing and/or Proposed Facilities
  - A. All existing facilities owned or controlled by BP America are shown on Exhibits D & E
  - B. If this proposed well is productive, BP America will own or have control of these facilities on location: storage tanks, well head production unit, and if applicable, a pump jack and/or

- compressor. Also there will be buried production lines from the wellhead to the production unit and/or storage tanks. BP America will submit a Sundry Notice when off-pad plans are finalized.
- C. Rehabilitation, whether the well is productive or not, will be made on all unused areas in accordance with surface owner or manager approval.
5. Location and Type of Water supply  
Water will be obtained from a privately permitted water source through a contract water hauling company, It will be hauled in vacuum trucks via the access road (Exhibit A). The appropriate permits for this activity have been obtained by the water transporter.
6. Source of Construction Materials  
A - D No off-site materials will be needed to build the proposed location or access road.
7. Methods of Handling Waste Disposal  
A closed loop mud system will be used during drilling operations. All drill cuttings will be trenched, and buried on location. Drilling fluids will be stored for reuse or disposed of at an approved disposal facility. A reserve pit for produced water containment will be constructed during completion operations. The reserve pit will be fenced on three sides and the 4<sup>th</sup> side will be fenced upon removal of the rig. The pit will be allowed to sit for 90 days and then pulled as required by NTL-2B. Produced water will be disposed of at an approved injection well or an evaporation site. Sanitary facilities and a steel mesh portable trash container will remain on location throughout drilling operations and will be removed to a designated disposal area. The well site will be properly cleaned upon removal of the rig.
8. Ancillary Facilities  
To the best of our knowledge, no ancillary facilities will be needed at this time.
9. Well Site Layout  
A - C Cross-sections etc. See Exhibit D. Exact location of rig related equipment will be determined when BP America contracts a drilling rig; however, all this equipment will be contained on location. The location diagram reflects actual area of well pad. Total disturbed area will vary due to cut and fill slopes.  
D. Reserve Pit(s):  
Unlined \_\_\_\_\_  
Lined   X   (8-10 mil reinforced plastic, size sufficient to cover pit area and fit underneath a rig tank.)
10. Plans for Restoration of Surfaces  
Restoration of the surface will be conducted after the reserve pit has dried. The pit will then be cleaned up and back filled and the entire disturbed area will be re-contoured. The topsoil stockpile will then be uniformly placed over this area and reseeded of the site will be carried out as instructed by the appropriate management agency. Methods to protect against erosion will be employed. After final abandonment, additional restoration efforts will be applied.
11. Surface Ownership:                     Bureau of Land Management
12. Other Information  
A. General Description  
1. Archaeological clearance, topography, soil character, and flora and fauna are detained in the archeologist's report forwarded by an approved contact archaeologist to the appropriate management agency.  
2. Land uses include recreation, grazing and oil and gas development.
13. Operator's Representative and Certification

BP America Production Company  
Pat Draughon, Resource Manager  
P. O. Box 3092  
Houston, TX 77253

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan area, to the best of my knowledge, are true and correct; and, that the work associated with the operations proposed herein will be performed by BP AMERICA PRODUCTION COMPANY and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

Date: 11/15/2004

By *Cherry Hlava*

For Pat Draughon, Resource Manager

# Cementing Program

**REVISED 11/15/04**

Well Name: Archuleta 1C	Field: Blanco Mesaverde
Location: 19-30N-08W, 355 FNL, 960 FWL	API No.
County: San Juan	Well Flac
State: New Mexico	Formation: MesaVerde
	KB Elev (est) 6289
	GL Elev. (est) 6278

**Casing Program:**

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)
Surface	120	12.25	9.625	ST&C	Surface	NA
Intermediate	2661	8.75	7	LT&C	Surface	NA
Production -	5623	6.25	4.5		2561	2561

**Casing Properties:**

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		1400	254	0.0787
Intermediate		7	20 K-55	3740	2270		234	0.0405
Production -		4.5	11.6 J-55	5350	4960		154	0.0155

**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	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

**Surface:**

Preflush	20 bbl.	FreshWater	
Slurry 1	<b>59 sx Class C Cement</b>		75 cuft
TOC@Surface	+ 2% CaCl2 (accelerator)		
			0.3132 cuft/ft OH
			100 % excess

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	15.2	1.27	5.8

**Casing Equipment:**

- 9-5/8", 8R, ST&C
- 1 Guide Shoe
- 1 Top Wooden Plug
- 1 Autofill insert float valve

# Cementing Program

Centralizers, as needed  
1 Stop Ring  
1 Thread Lock Compound

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## Intermediate:

Fresh Water                      20 bbl                      fresh water

Lead	<b>243 sx Class "G" Cement</b>	634 cuft
Slurry 1	+ 3% D79 extender	
TOC@Surface	+1/4 #/sk. Cellophane Flake	
	+ 0.1% D46 antifoam'	
	<b>59 sx 50/50 Class "G"/Poz</b>	
Tail	+ 2% gel (extender)	75 cuft
Slurry 2	0.1% D46 antifoam	
	+1/4 #/sk. Cellophane Flake	0.1503 cuft/ft OH
500 ft fill	+ 2% S1 Calcium Chloride	0.1746 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

Casing Equipment:                      7", 8R, ST&C

1 Float Shoe  
1 Float Collar  
1 Stop Ring  
Centralizers, as needed  
1 Top Rubber Plug  
1 Thread Lock Compound

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## Production:

Fresh Water                      10 bbl                      CW100

Slurry	<b>175 LiteCrete D961 / D124 / D154</b>	442 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)	0.1026 cuft/ft OH
Slurry	9.5	2.52	6.38	40 % excess
				0.1169 cuft/ft csg ann

Casing Equipment:                      4-1/2", 8R, ST&C

1 Float Shoe  
1 Float Collar  
1 Stop Ring  
Centralizers, as needed  
1 Top Rubber Plug



# **Cementing Program**

1 Thread Lock Compound