

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 - 078513
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.
Contact: MARY CORLEY E-Mail: corleyml@bp.com		8. Lease Name and Well No. ARNAUD A 2S
3a. Address P.O. BOX 3092 HOUSTON, TX 77253	3b. Phone No. (include area code) Ph: 281.366.4491 Fx: 281.366.0700	9. API Well No. 3004531432
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SENW Lot 6 2065FNL 1670FWL 36.59200 N Lat, 107.48400 W Lon At proposed prod. zone		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
14. Distance in miles and direction from nearest town or post office* 22 MILES TO AZTEC, NEW MEXICO		11. Sec., T., R., M., or Blk. and Survey or Area Sec 17 T32N R9W Mer NMP F
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 905	16. No. of Acres in Lease 317.44	12. County or Parish SAN JUAN
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 1500	19. Proposed Depth 3877 MD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6872 GL	22. Approximate date work will start 04/18/2003	17. Spacing Unit dedicated to this well 317.44 w/2
		20. BLM/BIA Bond No. on file WY2924
		23. Estimated duration 3 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 03/04/2003
Title AUTHORIZED REPRESENTATIVE		
Approved by (Signature) /s/ David J. Mankiewicz	Name (Printed/Typed)	Date APR 15 2003
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 #19104 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 3165.6
and appeal pursuant to 43 CFR 3165.4

** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL **

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

API Number 30-045-31432		Pool Code 71629		Pool Name Basin Frontland Coal	
Property Code 000275		Property Name Arnaud A			Well Number # 2S
OGRID No. 000778		Operator Name BP AMERICA PRODUCTION COMPANY			Elevation 6872

10 Surface Location

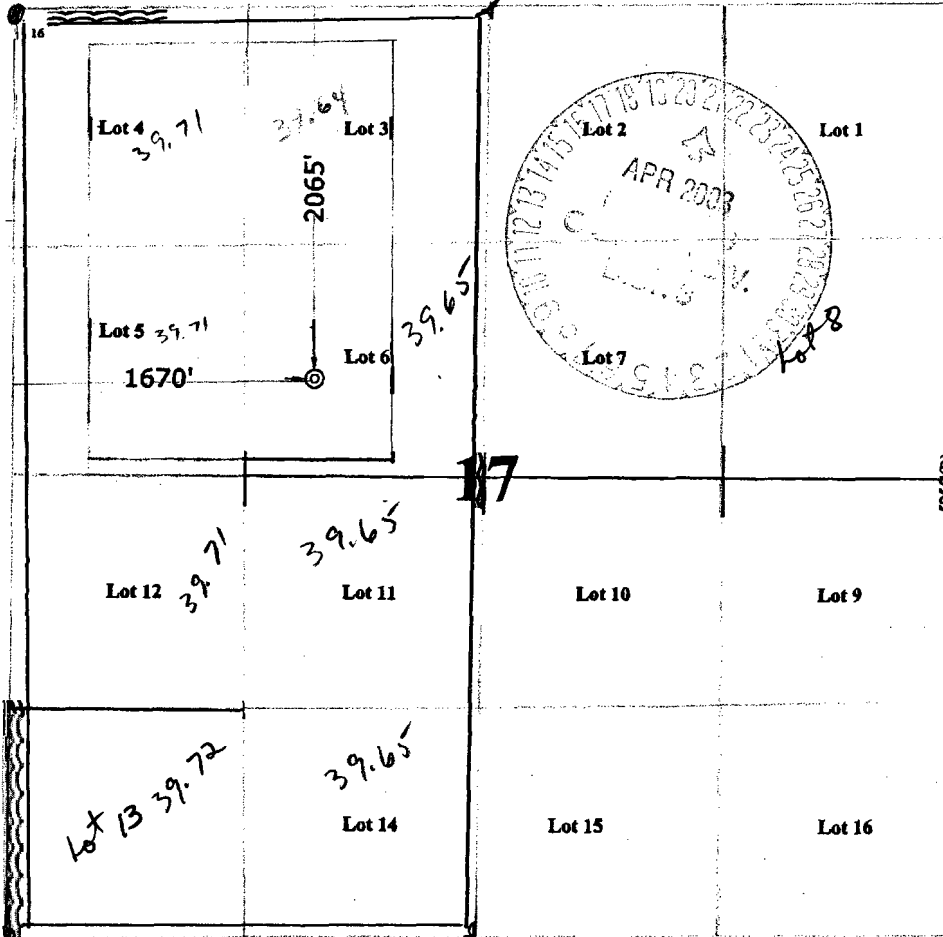
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F (Lot 6)	17	32 N	9 W		2065	NORTH	1670	WEST	SAN JUAN

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

Dedicated Acres 317.44	Joint or Infill	Consolidation Code	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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature: *Mary Corley*
 Printed Name: *Mary Corley*
 Title: *SE Regulatory Analyst*
 Date: *02-27-2003*

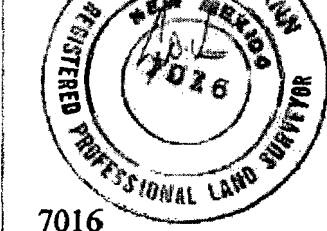
18 SURVEYOR CERTIFICATION

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.

January 28, 2003

Date of Survey

Signature and Seal of Professional Surveyor



7016
 Certificate Number

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

Prospect Name: Arnaud A
Lease:
County: San Juan
State: New Mexico
Date: February 20, 2003

Well No: 2S
Surface Location: Sec 17F, T32N, R9W; 2065' FNL, 1670' FWL
Field: Basin Fruitland Coal

OBJECTIVE: Drill to a TD of 3877' md, set 7" casing and perf and frac the Fruitland Coal interval.						
METHOD OF DRILLING				APPROXIMATE DEPTHS OF GEOLOGICAL MARKER		
TYPE OF TOOLS		DEPTH OF DRILLING		Estimated GL: 6872		Estimated KB: 6884
Rotary		0 - 3877' MD, 3889' KB				
LOG PROGRAM				MARKER	SUBSEA	MEAS. DEPTH
TYPE		DEPTH INTERVAL		Ojo Alamo	4737	2135
<u>OPEN HOLE</u>				Kirtland	4599	2273
Run 3-detector Litho-Density.		TD up to minimum charge.		Fruitland	3685	3187
(see Remarks section below).				Fruitland Coal	*# 3532	3340
<u>CASED HOLE</u>				Pictured Cliffs	* 3143	3729
REMARKS:				TOTAL DEPTH		
- Primary presentation is Bulk Density Presentation (5"=100') with <1.75 g/cc shaded as coal. High resolution pass across the Fruitland interval only. Three final prints to Dan Crosby in Houston.				2995		
				3877		
				# Probable completion interval		* Possible Pay
SPECIAL TESTS				DRILL CUTTING SAMPLES		DRILLING TIME
TYPE				FREQUENCY	DEPTH	FREQUENCY
None				none	none	Geograph 0-3877
REMARKS: Obtain reservoir pressures by individual coal seam before starting production.						
MUD PROGRAM:						
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 - 3877 (1)	Water/LSND	8.6-9.2		<6		
	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"			12.5"	1
Intermediate	3877	7"			8.75"	1
Production						
REMARKS:						
(1) Circulate Cement to Surface						
CORING PROGRAM:						
None						
COMPLETION PROGRAM:						
Rigless, Single Stage Limited Entry Hydraulic Frac						
GENERAL REMARKS:						
Notify BLM/NMOCDC 24 hours prior to Spud, BOP testing, and Casing and Cementing.						
Form 46 Reviewed by:			Logging program reviewed by: N/A			
PREPARED BY:		APPROVED:		DATE:		
Daniel Crosby				2/20/2003		
Form 46 12-00 MNP						

Cementing Program

Well Name:	Arnaud A 2S	Field:	Basin Fruitland Coal
Location:	Sec 17 - 32N - 9W, 2065' FNL, 1670" FWL	API No.	
County:	San Juan	Well Flac	
State:	New Mexico	Formation:	Fruitland Coal
		KB Elev (est)	6884
		GL Elev. (est)	6872

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	12.5	9.625	ST&C	Surface	NA	
Production -	3877	8.75	7	LT&C	Surface	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
Production -		7	20 K-55	3740	2270	234	0.0405	6.456

Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight	<u>Recommended Mud Properties Prio Cementing:</u>	
			PV	<20
			YP	<10
0 - SCP	Water/Spud	8.6-9.2	Fluid Loss	<6
SCP - TD	Water/LSND	8.6-9.2		
SCP - TD	Gas/Air/N2/Mist	NA		

Cementing Program:

	Surface	Production
Excess %, Lead	100	40
Excess %, Tail	NA	40
BHST (est deg. F)	75	120
Special Instructions	1,6,7	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	80 sx Class G Cement		83 cuft
TOC@Surface	+ 2% CaCl2 (accelerator)		
	0.25 #/sk Cellophane Flake (lost circulation additive)		0.347 cuft/ft OH
	0.1% D46 antifoam		
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

Cementing Program

- 1 Top Wooden Plug
- 1 Autofill insert float valve
- Centralizers, 1 per joint except top joint
- 1 Stop Ring
- 1 Thread Lock Compound

Production:

Fresh Water 10 bbl CW100

Lead	280 sx Class "G" Cement	706 cuft
Slurry 1	+ 3% D79 extender	
TOC@Surface	+ 2% S1 Calcium Chloride	
	+1/4 #/sk. Cellophane Flake	
	+ 0.1% D46 antifoam'	
Tail	90 sx 50/50 Class "G"/Poz	105 cuft
Slurry 2	+ 2% gel (extender)	
500 ft fill	0.1% D46 antifoam	0.1503 cuft/ft OH
	+1/4 #/sk. Cellophane Flake	0.1746 cuft/ft csg ann
	+ 2% CaCl2 (accelerator)	

Slurry Properties:

	Density (lb/gal)	Yield (ft ³ /sk)	Water (gal/sk)
Slurry 1	11.4	2.61	17.77
Slurry 2	13.5	1.27	5.72

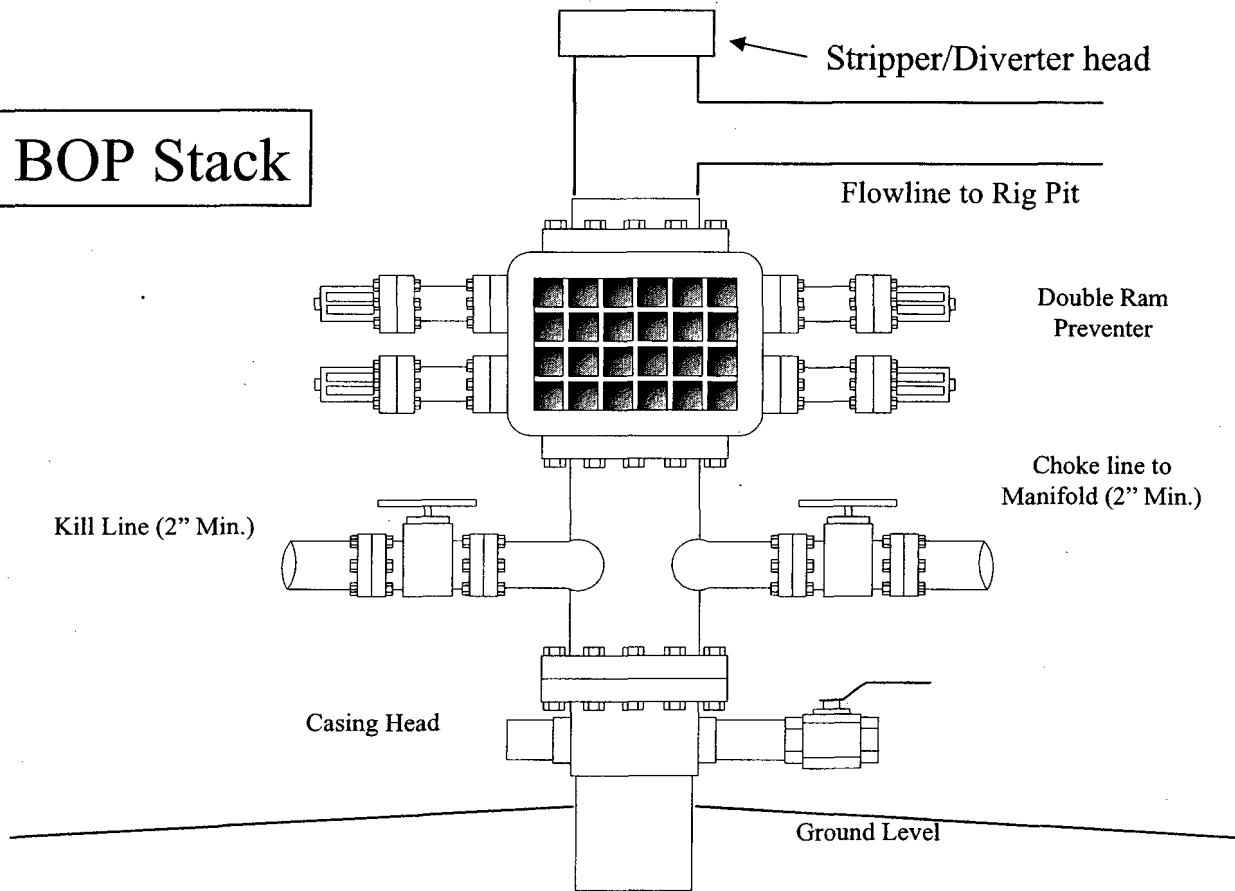
Casing Equipment:

- 7", 8R, ST&C
- 1 Float Shoe (autofill with minimal LCM in mud)
- 1 Float Collar (autofill with minimal LCM in mud)
- 1 Top Rubber Plug
- 1 Thread Lock Compound

BP American Production Company
Well Control Equipment Schematic



BOP Stack



Choke & Kill Manifold

