

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

RECEIVED

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

3: 54 Lease Serial No. SF - 078051

6. If Indian, Allottee or tribe Name

7. If Unit or CA Agreement, Name and No

1a. Type of Work: ☒ DRILL

1b. Type of Well: ☐ Oil Well ☒ Gas Well Gas ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.

Mudge Com B 2M

2. Name of Operator

BP America Production Company Attn: Mary Corley

9. API Well No.

3004531898

3a. Address

P.O. Box 3092 Houston, Texas 77253

3b. Phone No. (include area code)

281-366-4491

10. Field and Pool, or Exploratory

Basin Dakota & Blanco Mesaverde

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface 2370' FNL & 1680' FWL

At proposed prod. Zone

11. Sec., T., R., M., or Blk. and survey or Area

F Sec. 14, T31N, R11W

14. Distance in miles and direction from nearest town or post office*

7.5 miles from Aztec, NM

12. County or Parish

San Juan

13. State

New Mexico

15. Distance from proposed*
Location to nearest
Property or lease line, ft.
(Also to nearest drig. Ujnit line, if any)

960'

16. No. of Acres in lease

320

17. Spacing Unit dedicated to this well

320

W/2

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

980'

19. Proposed Depth

7263'

20. BLM/BIA Bond No. on file

WY2924

21. Elevations (show whether DF, KDB., RT, GL, etc.

5989' GL

22. Approximate date work will start*

November 20, 2003

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.

2. A Drilling Plan.

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).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

5. Operator certification.

6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Mary Corley

Name (Printed/typed)

Mary Corley

Date

09/17/2003

Title

Senior Regulatory Analyst

Approved (Signature)

David J. Mankiewicz

Name (Printed/Typed)

Date

NOV 25 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.

*(Instructions on reverse)

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

NMOC

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

HOLD C104 FOR Change in Status for the Mudge Com B #2 or #2A

Form C-102
Revised February 21, 1994
Instructions on back
o Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies
☐ AMENDED REPORT

(R) - BLM Record

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

Prospect Name: Mudge Com
Lease: Mudge Com
County: San Juan
State: New Mexico
Date: September 2, 2003

Well No: B 2M
Surface Location: 14-31N-11W, 2370 FNL, 1680 FWL
Field: Blanco Mesaverde/Basin Dakota

OBJECTIVE: Drill 200' 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: 5989		Estimated KB: 6003	
Rotary	0 - TD				
LOG PROGRAM		MARKER		SUBSEA	TVD.
		Ojo Alamo		4290'	1713'
		Kirkland		4142'	1861'
		Fruitland		3966'	2023'
		Fruitland Coal	*	3683'	2321'
		Pictured Cliffs	*	3346'	2657'
		Lewis Shale	#	3181'	2822'
		Cliff House	#	1863'	4140'
		Menefee Shale	#	1510'	4494'
		Point Lookout	#	1058'	4946'
		Mancos		780'	5223'
		Greenhorn		-962'	6965'
		Bentonite Marker		-1007'	7010'
		Two Wells	#	-1060'	7063'
		Paguate	#	-1146'	7149'
		Cubero Upper	#	-1176'	7179'
		Cubero Lower	#	-1196'	7199'
		TOTAL DEPTH		-1260'	7263'
		# Probable completion interval		* Possible Pay	
SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME	
TYPE		FREQUENCY	DEPTH	FREQUENCY	DEPTH
None		10'	2922'-TD	Geolograph	0-TD
REMARKS:					
- Please report any flares (magnitude & duration).					

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 - 2922 (1)	Water/LSND	8.6-9.2		<6	
2922 - 7263	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#	13.5"	1
Intermediate 1	2922	7"	J/K-55 ST&C	20#	8.75"	1,2
Production	7263	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

PREPARED BY:	APPROVED:	DATE:
HGJ/MNP/JMP		September 2, 2003
Form 46 12-00 MNP		Version 4.0

BP America Production Company

BOP Pressure Testing Requirements

Well Name: Mudge B
County: San Juan

2M
State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1713		
Fruitland Coal	2321		
PC	2657		
Lewis Shale	2822		
Cliff House	4140	500	0
Menefee Shale	4494		
Point Lookout	4946	600	0
Mancos	5223		
Dakota	7063	2600	1002

** 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: Mudge Com B2M
 Location: 14-31N-11W, 2370 FNL, 1680 FWL
 County: San Juan
 State: New Mexico

Field: Blanco Mesaverde / Basin Dakota
 API No.
 Well Flac
 Formation: Blanco Mesaverde/Basin Dakota
 KB Elev (est) 6003
 GL Elev. (est) 5989

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	2922	8.75	7	LT&C	Surface	NA	
Production -	7263	6.25	4.5	ST&C	2822	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	<u>Recommended Mud Properties Prio Cementing:</u>	
			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.	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

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		240 sx Class "G" Cement	626 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

Production:

Fresh Water	10 bbl	CW100	
Lead		190 LiteCrete D961 / D124 / D154	468 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC, 400' above 7" shoe		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		160 sx 50/50 Class "G"/Poz	221 cuft
Slurry 2		+ 5% D20 gel (extender)	
1540 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
			5223

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