

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

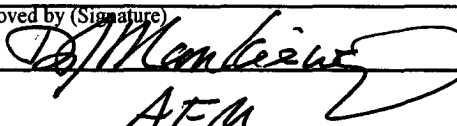
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF - 078051
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <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 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. NEAL 20M
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. 3004531987
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NE SW 1/4 Sec 33 T32N R11W Mer NMP At proposed prod. zone SW 1/4 Sec 33 T32N R11W Mer NMP 36.56600 N Lat, 107.59800 W Lon		10. Field and Pool, or Exploratory BASIN DAKOTA/BLANCO MESAVER
14. Distance in miles and direction from nearest town or post office* 11 MILES FROM AZTEC, NEW MEXICO		11. Sec., T., R., M., or Blk. and Survey or Area K Sec 33 T32N R11W Mer NMP
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 790	16. No. of Acres in Lease 320.00	12. County or Parish SAN JUAN
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 900	19. Proposed Depth 7814 MD 7716 TVD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6220 GL 6160	22. Approximate date work will start 01/20/2004	17. Spacing Unit dedicated to this well 320.00 W/2
		20. BLM/BIA Bond No. on file WY2924
		23. Estimated duration 8 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 10/28/2003
Title AUTHORIZED REPRESENTATIVE		
Approved by (Signature) 	Name (Printed/Typed) Office FFO	Date 5-19-04

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 #24588 verified by the BLM Well Information System
For BP AMERICA PRODUCTION COMPANY, sent to the Farmington

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".

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

NMOC

Additional data for EC transaction #29573 that would not fit on the form

32. Additional remarks, continued

Correct name is: Neal 20M

BP America Production Co. respectfully requests permission to drill the subject well to a total depth of approximately 7650'. Complete into the Basin Dakota Pool, set a bridge plug, complete into the MV, establish a production rate, drill out the bridge plug and commingle production downhole.

Application for Downhole Commingling authority (NMOCD order R-11363) will be submitted to all appropriate for approval after Permit to Drill has been approved.

If terrain allows, it is our intent to pre-set the 9 5/8" casing on the above mentioned well by drilling a surface hole with air/air mist in lieu of drilling mud and the surface casing be cemented with 94.5 cu/ft type I-II, 20% FLYASH, 14.5 PPG, 7.41 gas/sk, 1.61 cf/sk Yield, 80 DEG BHST ready mix cement. If the area will not allow for pre-set the approved cement program will be followed.

Attached please find corrected Form C-102 and amended Drilling, Completion and Cementing procedures.

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

¹ API Number 30-045-31987	² Pool Code 71599; 72319	³ Pool Name Basin Dakota; Blanco Mesaverde
⁴ Property Code 000919	⁵ Property Name Neal	⁶ Well Number # 20M
⁷ OGRID No. 000778	⁸ Operator Name BP AMERICA PRODUCTION COMPANY	⁹ Elevation 6160

¹⁰ Surface Location

UL or Lot No. K	Section 33	Township 32 N	Range 11 W	Lot Idn	Feet from the 2285	North/South line SOUTH	Feet from the 1595	East/West line WEST	County SAN JUAN
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¹¹ Bottom Hole Location If Different From Surface

⁷ 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	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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

	<p>¹⁶</p>	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p>Signature <u>Cherry Hlava</u></p> <p>Printed Name <u>Cherry Hlava</u></p> <p>Title <u>Regulatory Analyst</u></p> <p>Date <u>4-21-04</u></p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>February 20, 2004</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor</p> <p></p> <p>7016</p> <p>Certificate Number</p>	

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. NEAL 20M	
2. Name of Operator BP AMERICA PRODUCTION CO		9. API Well No. 30-045-31987-00-X1	
3a. Address P. O. BOX 3092 HOUSTON, TX 77253		10. Field and Pool, or Exploratory BASIN DAKOTA BLANCO MESAVERDE	
3b. Phone No. (include area code) Ph: 281.366.4081 Fx: 281.366.0700		11. County or Parish, and State SAN JUAN COUNTY, NM	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 33 T32N R11W SENW Lot F 1610FNL 1850FWL 36.56600 N Lat, 107.59800 W Lon			

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 A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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 recomple 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 recomple 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.)

APD was submitted on 10/28/2003 (EC#24588)

Please note the following change in location for the subject well:
Change location from directional:
Surface: SENW Lot F 1610' FNL & 1850' FWL SEC 33 T32N; R11W
Bottom Hole: SWNW Lot E 1890' FNL 1255' FWL

To Straight hole: NESW 2285' FSL & 1595'FWL

Notice of Staking was submitted on March 10, 2004 with
Incorrect name: Neal "COM" 20M.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #29573 verified by the BLM Well Information System For BP AMERICA PRODUCTION CO, sent to the Farmington Committed to AFMSS for processing by ADRIENNE GARCIA on 05/03/2004 (04AXG2330SE)	
Name (Printed/Typed) CHERRY HLAVA	Title AUTHORIZED REPRESENTATIVE
Signature (Electronic Submission)	Date 04/21/2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By	Title AFM	Date 5-19-04
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 FFO	

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

NMOCD

(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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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.
NMSF078051

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.

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
NEAL 20M

2. Name of Operator

BP AMERICA PRODUCTION CO

Contact: CHERRY HLAVA

E-Mail: hlavacl@bp.com

9. API Well No.

30-045-31987-00-X1

3a. Address

P. O. BOX 3092
HOUSTON, TX 77253

3b. Phone No. (include area code)

Ph: 281.366.4081
Fx: 281.366.0700

10. Field and Pool, or Exploratory
BASIN DAKOTA
BLANCO MESAVERDE

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

Sec 33 T32N R11W SENW Lot F 1610FNL 1850FWL
36.56600 N Lat, 107.59800 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 A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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.)

Revised APD was submitted on 04/21/2004 (EC#29573)

This sundry is submitted to show correct surface hole size of 13.5" and corrected sacks of cement to 100.

Please see corrected cemented report attached.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #29885 verified by the BLM Well Information System
For BP AMERICA PRODUCTION CO, sent to the Farmington
Committed to AFMSS for processing by ADRIENNE GARCIA on 05/03/2004 (04AXG2331SE)

Name (Printed/Typed) CHERRY HLAVA

Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission)

Date 04/22/2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By



Title

AFM

Date

5-19-04

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

FFO

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**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

NMCCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.
NMSF078051

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side.8. Well Name and No.
NEAL 20M9. API Well No.
30-045-31987-00-X11. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other2. Name of Operator
BP AMERICA PRODUCTION COContact: CHERRY HLAVA
E-Mail: hlavacl@bp.com3a. Address
P. O. BOX 3092
HOUSTON, TX 772533b. Phone No. (include area code)
Ph: 281.366.4081
Fx: 281.366.070010. Field and Pool, or Exploratory
BASIN DAKOTA
BLANCO MESAVERDE

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

Sec 33 T32N R11W NESW 2285FSL 1595FWL

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
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	<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.)

Original APD was submitted on 10/28/2003 (EC#24588)

Change in loction sundry was filed on 4/21/04

The original APD stated the pipeline would be +/- 1300' and the road would be 1800'.
Because there was a change in the surface location (noted on EC 29573 dated 4/21/04)the current
pipeline length will be +/- 200' and there will be no new road.



14. I hereby certify that the foregoing is true and correct.

Electronic Submission #30216 verified by the BLM Well Information System
For BP AMERICA PRODUCTION CO, sent to the Farmington
Committed to AFMSS for processing by ADRIENNE GARCIA on 05/10/2004 (04AXG2404SE)


Name (Printed/Typed) CHERRY HLAVA

Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission)

Date 05/03/2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By 	Title AFM	Date 5-19-04
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 FFO	

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** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

NMOC

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

Prospect Name: Neal
Lease: Neal
County: San Juan
State: New Mexico
Date: April 12, 2004

Well No: 20M
Surface Location: 33-32N-11W, 2285 FSL, 1595 FWL
Field: Blanco Mesaverde/Basin Dakota

OBJECTIVE: Drill 230' below the top of the Two Wells (DKOT), set 4.5" production casing across Dakota. Drill out from beneath casing to a depth no deeper than 7650', or 106' below casing shoe. Test and produce open hole interval. Stimulate CH, MF, PL and DK intervals

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Estimated GL: 6160'		Estimated KB: 6174'	
Rotary	0 - TD	MARKER		SUBSEA	TVD
LOG PROGRAM		Ojo Alamo		4433'	1741'
		Kirtland Shale		4358'	1816'
		Fruitland		3945'	2229'
		Fruitland Coal	*	3693'	2481'
		Pictured Cliffs	*	3336'	2838'
		Lewis Shale	#	3147'	3027'
		Cliff House	#	1795'	4379'
		Menefee Shale	#	1464'	4710'
		Point Lookout	#	1039'	5135'
		Mancos		687'	5488'
		Greenhorn		-1033'	7207'
		Bentonite Marker		-1086'	7260'
		Two Wells	#	-1140'	7314'
		Paguate	#	-1216'	7390'
		Cubero	#	-1240'	7414'
		Lower Cubero	#	-1260'	7434'
		Encinal Canyon	#	-1303'	7477'
		Casing point		-1370'	7544'
		Burro Canyon	#	-1375'	7549'
		TOTAL DEPTH		-1476'	7650'
		# Probable completion interval		* Possible Pay	
SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME	
TYPE		FREQUENCY	DEPTH	FREQUENCY	DEPTH
Production test of the open hole interval		10'	3127' to TD	Geograph	0-TD
REMARKS:					
- 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 - 3127 (1)	Water/LSND	8.6-9.2			
3127 - 7544	Gas/Air/Mist	Volume sufficient to maintain a stable and clean wellbore			
7544 - 7650	Gas/Air/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
Surface/Conductor	120	9 5/8"	H-40 ST&C	32#	13.5"
Intermediate	3127	7"	J/K-55 ST&C	20#	8.75"
Production	7544	4 1/2"	J-55	11.6#	6.25"
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:					
Test and produce open hole. Cased hole: Rigless, 3-4 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			
PREPARED BY:		APPROVED:		DATE:	
				April 12, 2004	
KAS/MNP/JMP				Version 1.0	
Form 46 12-00 MNP					

BOP Test Pressure

BP America Production Company BOP Pressure Testing Requirements

Well Name: Neal Com
County: San Juan

20M
State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1741		
Fruitland Coal	2481		
PC	2838		
Lewis Shale	3027		
Cliff House	4379	500	0
Menefee Shale	4710		
Point Lookout	5135	600	0
Mancos	5488		
Dakota	7314	2600	1500

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

Requested BOP Pressure Test Exception: 1500 psi

**SAN JUAN BASIN
Dakota/MV 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: Neal 20M
 Location: 33-32N-11W, 2285 FSL, 1595 FWL
 County: San Juan
 State: New Mexico

Field: Blanco Mesaverde / Basin Dakota
 API No.
 Well Flac
 Formation: Dakota MesaVerde
 KB Elev (est) 6174
 GL Elev. (est) 6160

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	12.25	9.625	ST&C	Surface	NA	
Intermediate	3127	8.75	7	ST&C	Surface	NA	
Production -	7650	6.25	4.5	ST&C	3027	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	254	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
------------------------	----------	------------

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

Recommended Mud Properties Prio Cementing:

PV <20
 YP <10
 Fluid Loss <15

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 60 sx Class C Cement 75 cuft
 TOC@Surface + 2% CaCl2 (accelerator)

0.3132 cuft/ft OH

Slurry Properties:

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

Cementing Program

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

Intermediate:

Fresh Water 20 bbl fresh water

Lead	270 sx Class "G" Cement	705 880 cuft
Slurry 1	+ 3% D79 extender	
TOC@Surface	+ 2% S1 Calcium Chloride	
	+ 1/4 #/sk. Cellophane Flake	
	+ 0.1% D46 antifoam'	
Tail	60 sx 50/50 Class "G"/Poz	75 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 (ft3/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 Stop Ring
 14 Centralizers (one in middle of first joint, then every third collar)
 2 Fluidmaster vane centralizers @ base of Ojo
 1 Top Rubber Plug
 1 Thread Lock Compound

Production:

Fresh Water 10 bbl CW100

Lead	170 LiteCrete D961 / D124 / D154	428 411 cuft
Slurry 1	+ 0.03 gps D47 antifoam	
TOC, 100' above 7" shoe	+ 0.5% D112 fluid loss	
	+ 0.11% D65 TIC	
Tail	170 sx 50/50 Class "G"/Poz	245 239 cuft
Slurry 2	+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
1662 ft fill	+ 0.1% D46 antifoam	+ 0.15% D65 TIC
	+ 1/4 #/sk. Cellophane Flake	+ 0.1% D800 retarder
	+ 0.25% D167 Fluid Loss	
		0.1026 cuft/ft OH

Cementing Program

Slurry Properties:	Density (lb/gal)	Yield (ft ³ /sk)	Water (gal/sk)	
Slurry 1	9.5	2.52	6.38	0.1169 cuft/ft csg ann
Slurry 2	13	1.44	6.5	Top of Mancos 5488

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

BP America Production Company

BOP Pressure Testing Requirements

Well Name: Neal
County: San Juan

20M
State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1730		
Fruitland Coal	2611		
PC	2912		
Lewis Shale	3033		
Cliff House	4453	500	0
Menefee Shale	4767		
Point Lookout	5210	600	0
Mancos	5557		
Dakota	7374	2600	1449

** 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

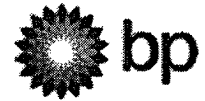
Interval

BOP Equipment

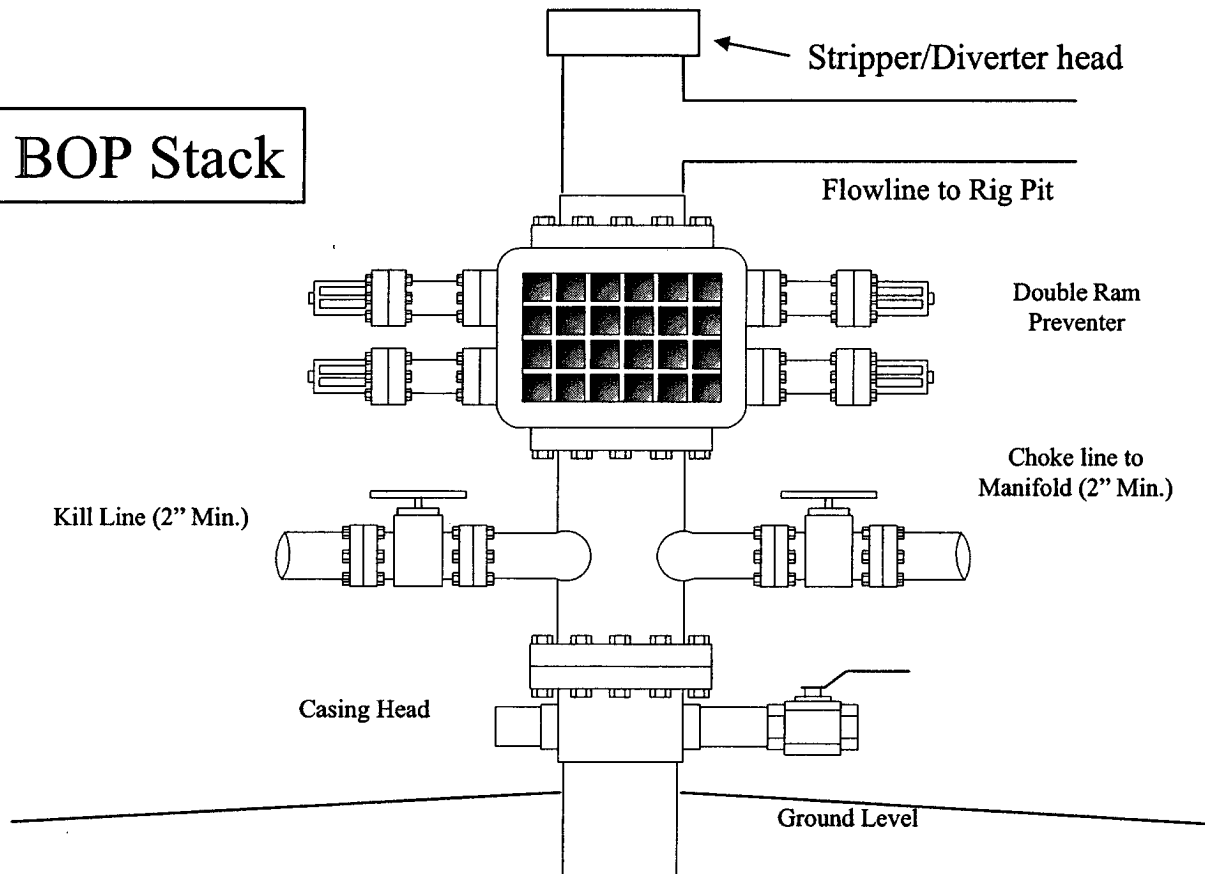
Below conductor casing to total depth 11" nominal or 7 1/16", 3000 psi
double ram preventer with rotating
head.

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.

BP American Production Company
Well Control Equipment Schematic



BOP Stack



Choke & Kill Manifold

