

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. SF - 077112
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: CHERRY HLAVA E-Mail: hlavacl@bp.com		8. Lease Name and Well No. LACKEY 1N
3a. Address P.O. BOX 3092 HOUSTON, TX 77253-3092	3b. Phone No. (include area code) Ph: 281.366.4081 Fx: 281.366.0700	9. API Well No. 30-045-32554
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SENE 2300FNL 960FEL 36.64690 N Lat, 107.75370 W Lon At proposed prod. zone NWSE 2440FSL 1550FEL 36.64690 N Lat, 107.75370 W Lon		10. Field and Pool, or Exploratory BASIN DAKOTA & BLANCO MV
14. Distance in miles and direction from nearest town or post office* 20.8 MILES SOUTH FROM BLOOMFIELD, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec 23 T28N R9W Mer NMP
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 960'	16. No. of Acres in Lease	12. County or Parish SAN JUAN
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 1000'	19. Proposed Depth 7075 MD 6943 TVD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6118 GL	22. Approximate date work will start 11/05/2004	17. Spacing Unit dedicated to this well 320.00 E/P
23. Estimated duration 7 DAYS		20. BLM/BIA Bond No. on file WY2924

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 (Electronic Submission)	Name (Printed/Typed) CHERRY HLAVA	Date 08/27/2004
Title REGULATORY ANALYST		
Approved by (Signature) Original Signed: Stephen Mason	Name (Printed/Typed)	Date DEC 08 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 #35304 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 **

NMOCD

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 30-045-32554		² Pool Code 71599; 72319		³ Pool Name Basin Dakota; Blanco mesaverde	
⁴ Property Code 000783		⁵ Property Name Lackey			⁶ Well Number # 1N
⁷ OGRID No. 000778		⁸ Operator Name BP AMERICA PRODUCTION COMPANY			⁹ Elevation 6118

¹⁰ Surface Location

UL or Lot No. H	Section 23	Township 28 N	Range 9 W	Lot Idn	Feet from the 2300	North/South line NORTH	Feet from the 960	East/West line EAST	County SAN JUAN
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. J	Section 23	Township 28N	Range 9W	Lot Idn	Feet from the 2440'	North/South line South	Feet from the 1550'	East/West line East	County San Juan
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¹² Dedicated Acres 320	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
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>17 OPERATOR CERTIFICATION 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> Printed Name <u>Cherry Hlava</u> Title <u>Regulatory Analyst</u> Date <u>Aug 25, 2004</u></p>
	<p>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.</p> <p>Date of Survey <u>July 20, 2004</u> Signature and Seal of Professional Surveyor Certificate Number <u>7016</u></p>

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
March 4, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.

NEW WELL

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name
Lackey

8. Well Number

1 N

9. OGRID Number

000778

10. Pool name or Wildcat

Basin Dakota & Blanco Mesaverde

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:

Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

BP AMERICA PRODUCTION CO

3. Address of Operator

P.O. BOX 3092 HOUSTON, TX 77079-2064

4. Well Location

Unit Letter H : 2300 feet from the North line and 960 feet from the East line

Section 23

Township 28N

Range 09W

NMPM SAN JUAN

County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

6118'

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit Location: UL H Sect 23 Twp 28N Rng 09W Pit type DRILL Depth to Groundwater >100' Distance from nearest fresh water well >1000'

Distance from nearest surface water >1000' Below-grade Tank Location UL H Sect 23 Twp 28N Rng 09W ;

2240 feet from the North line and 945 feet from the East line Please see attached Pad Layout

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: Lined Drilling Pit Permit ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Please reference BP America's San Juan Basin Drilling/Workover Pit construction Plan on file with the NMOCD. Pit construction Plan issued date of 04/15/2004. Pit will be closed according to closure plan on file.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Cherry Hlava TITLE Regulatory Analyst DATE 8/26/04

Type or print name Cherry Hlava E-mail address: hlavacl@bp.com Telephone No. 281-366-4081

(This space for State use)

APPROVED BY

TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3

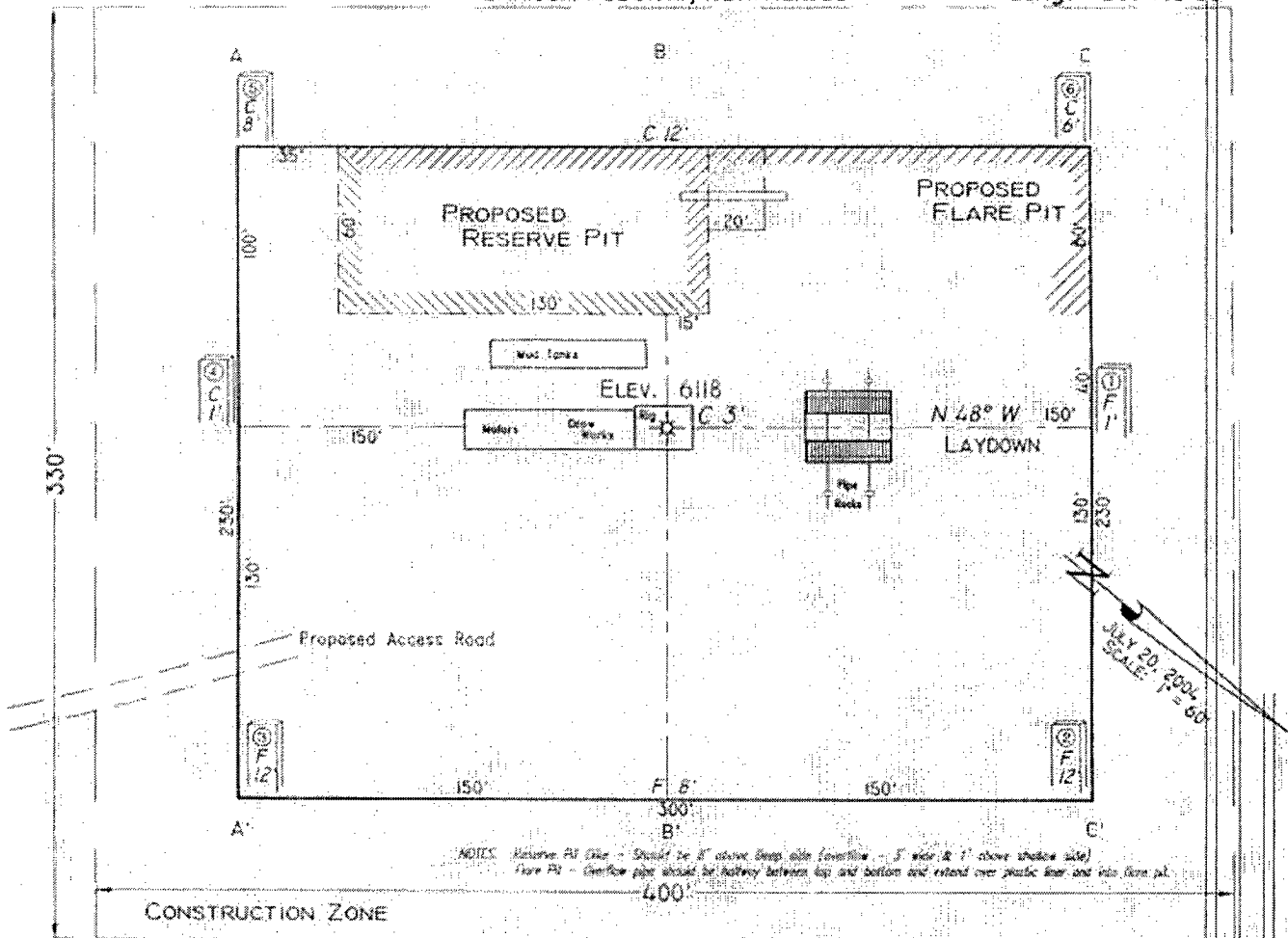
DATE

Conditions of approval, if any:

DEC 10 2004

PAD LAYOUT PLAN & PROFILE
BP AMERICA PRODUCTION COMPANY
 Lackey #1N
 2300' F/NL 960' F/EL
 SEC. 23, T28N, R9W, N.M.P.M.
 SAN JUAN COUNTY, NEW MEXICO

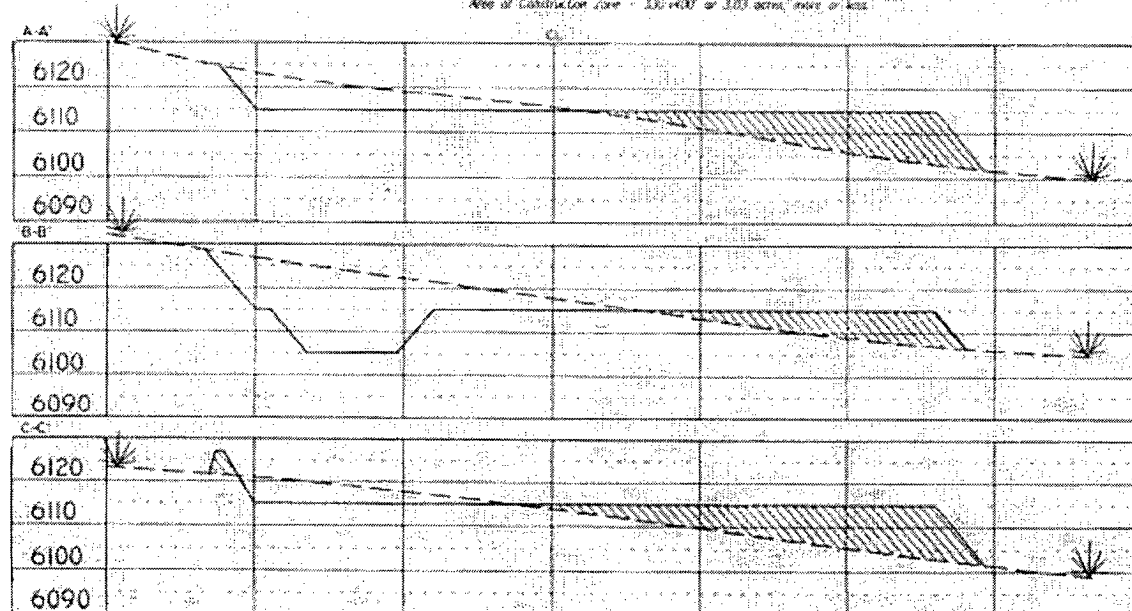
Lat: 36°38'55"
 Long: 107°45'08"



NOTES: Reserve Pit (R) - Should be 1' above deep side (overflow - 5' wide & 1' above shallow side)
 Flare Pit (F) - Overflow pipe should be halfway between top and bottom and extend over plastic liner and into storm pit.

Area of Construction Zone = 132' x 100' or 13,200 sq. ft. more or less

SCALE: 1"=60' HORIZ.
 1"=40' VERT.



NOTE: Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables as well as pad and/or access road at least ten (10) working days prior to construction.

Cuts and fills shown are approximate - final finished elevation is to be indicated by earthwork with balance. Corner stakes are approximate and do not include additional dead line for side slopes and ditches. Final Pad Dimensions are to be verified by Contractor.

VANN SURVEYS
 P.O. Box 1306
 Farmington, NM

BP AMERICA PRODUCTION COMPANY											
DRILLING AND COMPLETION PROGRAM											
8/25/2004											
Lease:	Lackey		Well Name & No.	Lackey #1N		Field:	Blanco Mesaverde/Basin Dakota				
County:	San Juan, New Mexico		Surface Location:	23-28N-9W:2300' FNL, 960' FEL							
Minerals:	State		Surface:	Lat: 36.6484763 deg; Long: -107.7517686 deg							
Rig :	Aztec 184		BH Location:	2440' FSL, 1550' FEL; Lat: 36.6469743 deg; Long: -107.7537814 deg							
OBJECTIVE:	Drill 230' below the top of the Two Wells Mbr, set 4-1/2" production casing, Stimulate DK, MF, and PL intervals.										
METHOD OF DRILLING				APPROXIMATE DEPTHS OF GEOLOGICAL MARKER							
TYPE OF TOOLS		DEPTH OF DRILLING		Actual GL: 6103		Estimated KB: 6,117.0'					
Rotary		0 - TD		Marker		SUBSEA		TVD	APPROX. MD		
LOG PROGRAM											
Type		Depth Interval									
Single Run				Ojo Alamo		4,764'		1,353'	1,380'		
				Kirtland		4,617'		1,500'	1,537'		
				Fruitland		4,210'		1,907'	1,972'		
				Fruitland Coal		3,850'		2,267'	2,357'		
				Pictured Cliffs		3,730'		2,387'	2,480'		
				Lewis		3,568'		2,549'	2,647'		
Cased Hole				Cliff House		2,384'		3,733'	3,865'		
TDT- CBL		TD to 7" shoe		Menefee		2,047'		4,070'	4,204'		
		Identify 4 1/2" cement top		Point Lookout		1,477'		4,640'	4,772'		
REMARKS: - Please report any flares (magnitude & duration).				Mancos		1,120'		4,997'	5,129'		
				Greenhorn		-472'		6,589'	6,721'		
				Graneros (bent,mkr)		-534'		6,651'	6,783'		
				Two Wells		# -596'		6,713'	6,845'		
				Paguate		# -644'		6,761'	6,893'		
				Cubero		# -692'		6,809'	6,941'		
				L. Cubero		# -733'		6,850'	6,982'		
				Encinal Cyn		# -766'		6,883'	7,015'		
				TOTAL DEPTH:				-826'	6,943'	7,075'	
								# Probable completion interval			
SPECIAL TESTS				DRILL CUTTING SAMPLES			DRILLING TIME				
TYPE				FREQUENCY		DEPTH		FREQUENCY		DEPTH	
None				30'/10' intervals		2766 to TD		Geolograph		0 - TD	
REMARKS:											
MUD PROGRAM:											
Interval	Type <input type="checkbox"/> Mud	#/gal	Vis, <input type="checkbox"/> sec/qt	/30 min	Other Specification						
200'	Spud	8.8 - 9.0	Sufficient to clean hole.								
2,766'	Water/LSND	8.4 - 9.0	<9		Sweep hole while whilst water drilling, LCM onsite						
7,075'	Air	1	1000 cfm for hammer		Volume sufficient to maintain a stable and clean wellbore						
CASING PROGRAM:											
Casing <input type="checkbox"/> String	Depth	Size	Casing Size	Grade, Thread	Weight	Landing Point	Cement				
Surface/Conductor	200'	13 1/2"	9-5/8"	H-40 ST&C	32#			cmt to surface			
Intermediate 1	2,766'	8-3/4"	7"	J/K-55 ST&C	20#	100' below LWIS		cmt to surface			
Production	7,075'	6-1/4"	4-1/2"	J-55	11.6#	DKOT		150' inside Intermediate - TOC survey required			
CORING PROGRAM:											
None											
COMPLETION PROGRAM:											
Rigless, 2-3 Stage Limited Entry Hydraulic Frac, FMC Unihead											
GENERAL REMARKS:											
Notify BLM/NMOCD 24 hours prior to Spud, BOP testing, and Casing and Cementing.											
BOP Pressure Testing Requirements											
Formation	TVDepth	Anticipated bottom hole pressure				Max anticipated surface pressure**					
Cliffhouse	3,733'	500				0					
Point Lookout	4,640'	600				0					
Dakota	6,713'	2600				1123.14					
Requested BOP Pressure Test Exception = 1500 psi				** Note: Determined using the following formula: ABHP - (.22*TVTD) = ASP							
Form 46 Reviewed by:		Logging program reviewed by:									
PREPARED BY:		APPROVED:			DATE:		APPROVED:		DATE:		
HGJ	JMP				25-Aug-04						
Form 46 7-84bw		For Drilling Dept.			For Production Dept.						

Additional Operator Remarks:

Notice of Staking was submitted on 08/05/2004.

BP America Production Company respectfully requests permission to drill this directional well to a total depth of approximately 7075' MD and complete into the Basin Dakota Pool, produce the well to establish a production rate, perform a deliverability test, isolate the Dakota then complete into the Blanco Mesaverde Pool and commingle production downhole.

SUPPLEMENTAL TO SURFACE USE PLAN

New Facilities:

A 4" diameter buried steel pipeline that is + or - 1000 feet in length will be constructed. The pipe wall thickness is .156 and the pipe wall strength is 42,000#. It will be adjacent to the access road and tie the well into an existing gas meter operated by BP America Production Company. The pipeline will not be used to transport gas to drill the well. After the well is spud the pipeline will be authorized by a right-of-way issued by El Paso Services.

If conditions allow, 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 gal/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.

Also attached if the Pit application for NMOCD purposes.

APD/ROW

Cementing Program

Well Name: Lackey #1N		Well Flac
Location: 23-28N-9W-2300' FNL, 960' FEL		Formation: Dakota Mesa Verde
County: San Juan		KB Elev (est) 6117
State: New Mexico		GL Elev. (est) 6103

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)	Cmt Cr. Out (bbl.)
Surface	200	13.5	9.625	ST&C	Surface	NA	
Intermediate	2776	8.75	7	ST&C	Surface	NA	
Production -	7075	6.25	4.5	ST&C	2676	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.)
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	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.	Fresh Water	
Slurry 1	154 sx Class C Cement		195 cuft
TOC@Surface	+ 2% CaCl ₂ (accelerator)		
			0.4887 cu/ft OH
Slurry Properties:	Density (lb/gal)	Yield (ft ³ /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 Centralizers, 1 per joint except top joint 1 Stop Ring 1 Thread Lock Compound		

Intermediate:			
Fresh Water	20 bbl	fresh water	
Lead		221 sx Class "G" Cement	581 cuft
Slurry 1		+ 3% D79 extender	
TOC@Surface		+ 1/4 #/sk. Celophane Flake	
		+ 5 lb/sk Gilsontite	
Tail		59 sx 50/50 Class "G"/Poz	75 cuft
Slurry 2		+ 2% gel (extender)	
500 ft fill		+ 1/4 #/sk. Celophane Flake	0.1503 cu/ft OH
		+ 2% CaCl ₂ (accelerator)	0.1746 cu/ft csg ann
		+ 5 lb/sk Gilsontite	
Slurry Properties:	Density (lb/gal)	Yield (ft ³ /sk)	Water (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		181 LiteCrete D981 / D124 / D154	456 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC, 400' above 7" shoe		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		157 sx 50/50 Class "G"/Poz	227 cuft

Cementing Program

Slurry 2				
	1578 ft fill	+ 5% D20 gel (extender) + 0.1% D46 antifoam + 1/4 #/sk. Callophane Flake + 0.25% D167 Fluid Loss + 5 lb/sk Gilsomite + 0.1% d800, retarder + 0.15% D65, dispersant		0.1026 cuft/ft OH
Slurry Properties:	Density (lb/gal)	Yield (ft ³ /sk)	Water (gal/sk)	0.1169 cuft/ft csg ann
Slurry 1	9.5	2.52	6.38	
Slurry 2	13	1.44	6.5	Top of Mancos 4997
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 1 Top Rubber Plug 1 Thread Lock Compound			

**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

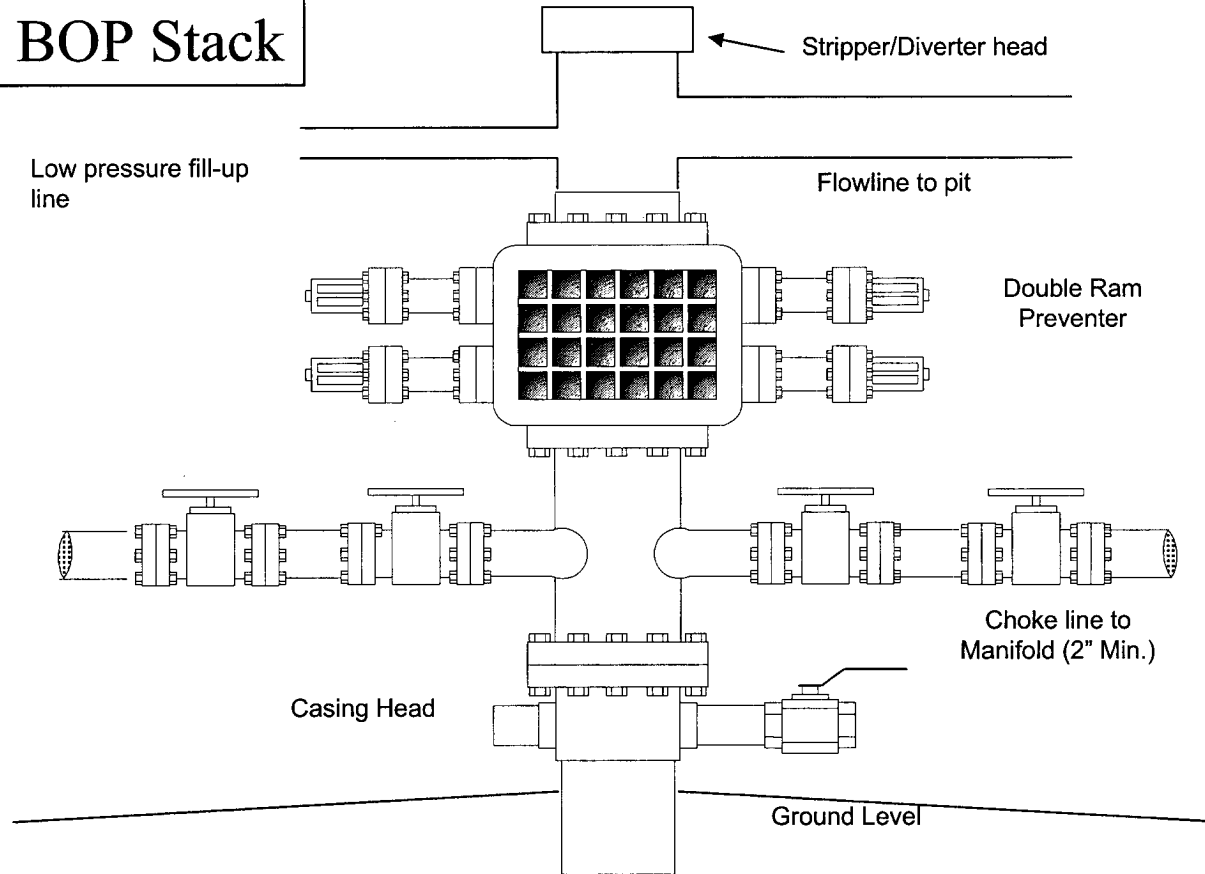
Below conductor casing to total depth	11" nominal or 7 1/16", 3000 psi double ram preventer with rotating head.
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All ram type preventers and related control equipment will be hydraulically tested to 250 psi (low pressure) and 2000 psi (high pressure), 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 America Production Company
Well Control Equipment Schematic



BOP Stack



Choke & Kill Manifold

