

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

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

MAY 6 AM 10 03

RECEIVED

UTS FARMING

5. Lease Serial No. SF - 078039

6. If Indian, Allottee or tribe Name

7. If Unit or CA Agreement, Name and No

8. Lease Name and Well No.

Barnes LS 7N

9. API Well No.

30-045-32828

10. Field and Pool, or Exploratory

BASIN DAKOTA & BLANCO MESAVERDE

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

SECTION 23 T32N & R11W

M

12. County or Parish

SAN JUAN

13. State

NEW MEXICO

1a. Type of Work: ☒ DRILL

☐ REENTER

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

2. Name of Operator

BP AMERICA PRODUCTION COMPANY

3a. Address

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

3b. Phone No. (include area code)

281-366-4081

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

At surface 810' FSL & 745' FWL SWSW

At proposed prod. Zone 710' FSL & 1350' FWL SESW

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

16.8 MILES NORTH FROM AZTEC, NM

15. Distance from proposed\*

Location to nearest

Property or lease line, ft.

(Also to nearest drig. Ujnit line, if any) 710'

16. No. of Acres in lease

320

17. Spacing Unit dedicated to this well

320

W/P

18. Distance from proposed location\*

to nearest well, drilling, completed,

applied for, on this lease, ft.

19. Proposed Depth

7902' MD

7802' TVD

20. BLM/BIA Bond No. on file

WY2924

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

6362' GL

22. Approximate date work will start\*

07/15/05

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

Name (Printed/typed)

Date

Cherry Hlava

Cherry Hlava

05/04/2005

Title

Regulatory Analyst

Approved by (Signature)

Name (Printed/Typed)

Date

Jim Lab

5/31/05

Title

Office

Acting Field Manager - Minerals

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)

HOLD C104 FOR Directional Survey

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 <b>30-045-32828</b>	Point Code <b>71599; 72319</b>	Pool Name <b>Basin Dakota; Blanco Mesaverde</b>
Property Code <b>000300</b>	Property Name <b>Barnes LS</b>	Well Number <b>#7N</b>
OGRID No. <b>000778</b>	Operator Name <b>BP AMERICA PRODUCTION COMPANY</b>	Elevation <b>6362</b>

## Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>M</b>	<b>23</b>	<b>32 N</b>	<b>11 W</b>		<b>810</b>	<b>SOUTH</b>	<b>745</b>	<b>WEST</b>	<b>SAN JUAN</b>

## 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
<b>N</b>	<b>23</b>	<b>32N</b>	<b>11W</b>		<b>710'</b>	<b>South</b>	<b>1350'</b>	<b>WEST</b>	<b>San Juan</b>

Dedicated Acres <b>320</b>	Joint or Infill	Consolidation Code	Order No.
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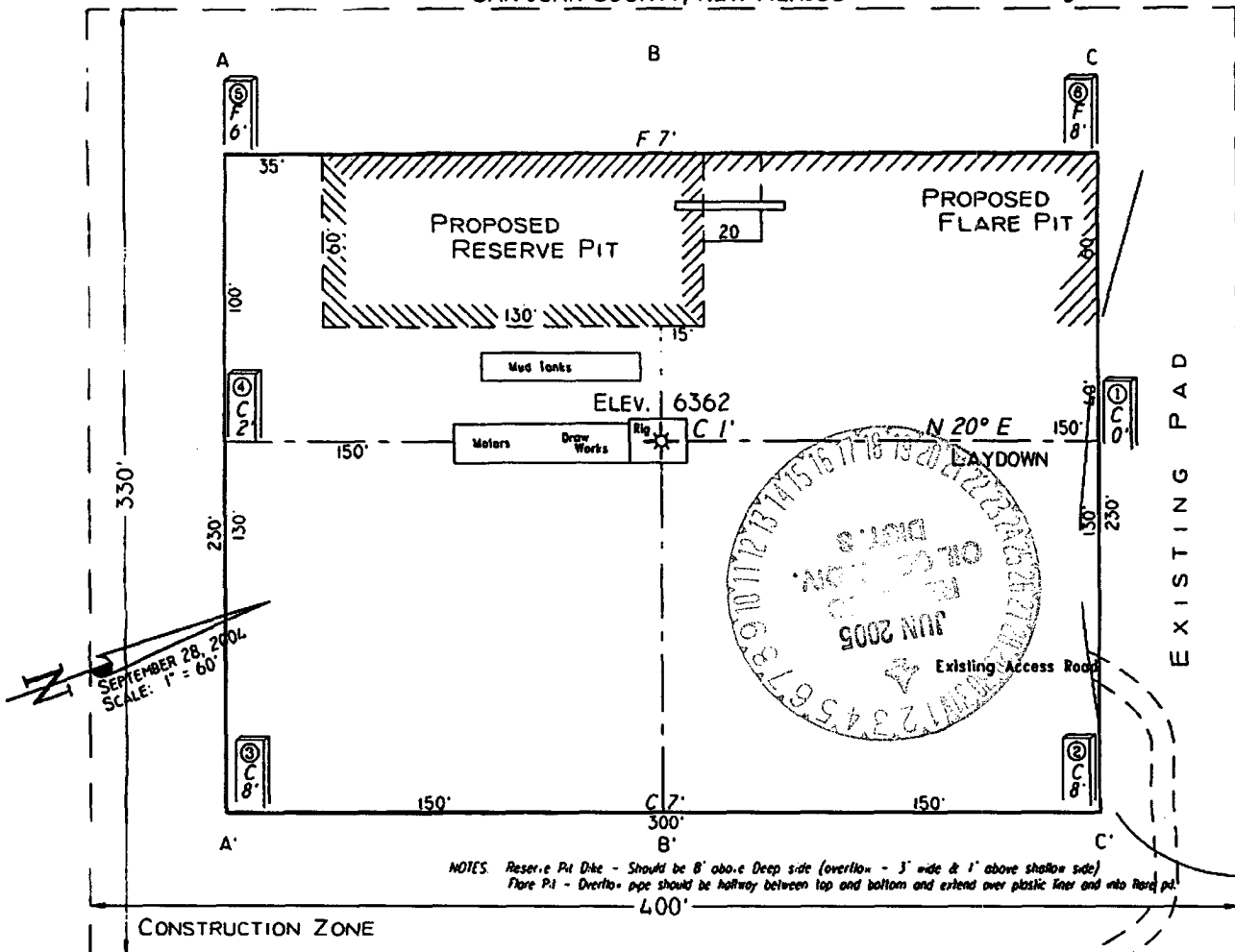
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p><b>17 OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Cherry Hava</i> Signature <b>Cherry Hava</b> Printed Name <b>Regulatory Analyst</b> Title <b>1-10-05</b> Date</p>
	<p><b>18 SURVEYOR CERTIFICATION</b> 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><b>September 28, 2004</b> Date of Survey Signature and Seal of Professional Surveyor  Certificate Number <b>7015</b></p>

PAD LAYOUT PLAN & PROFILE  
 BP AMERICA PRODUCTION COMPANY  
 Barnes LS # 7N  
 810' F/SL 745' F/WL  
 SEC. 23, T32N, R11W, N.M.P.M.  
 SAN JUAN COUNTY, NEW MEXICO

36.96556  
 107.96528

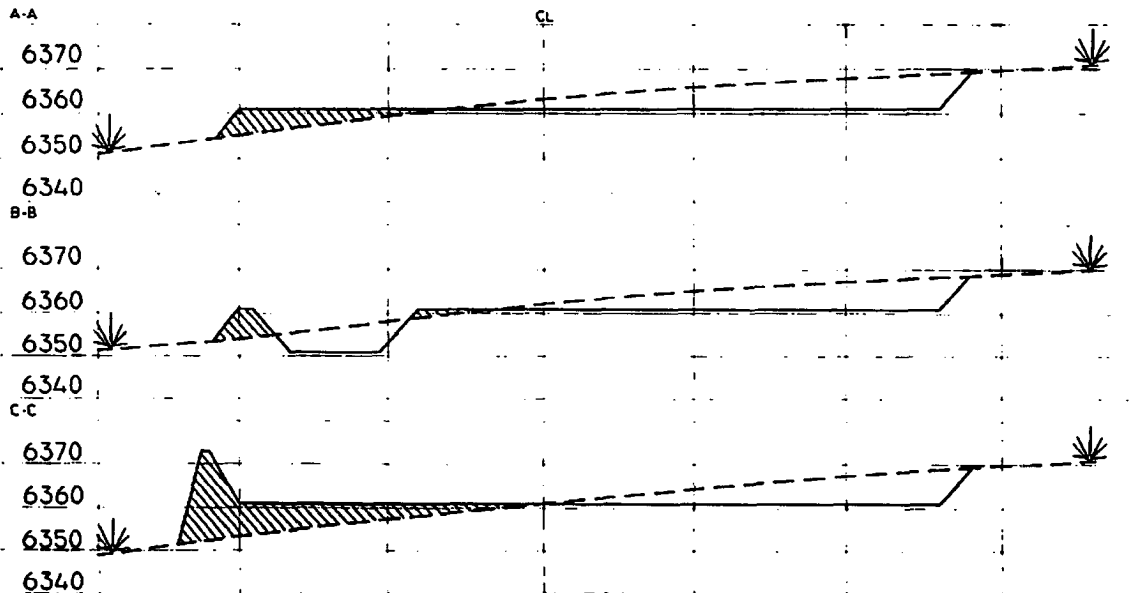
Lat: 36°57'56"  
 Long: 107°57'55"



NOTES: Reserve Pit Dike - Should be 8' above Deep side (overflow - 3' wide & 1' above shallow side)  
 Flare Pit - Overflow pipe should be halfway between top and bottom and extend over plastic liner and into Ramp pit.

Area of Construction Zone - 330' x 400' or 3.03 acres, 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 on well pad and/or access road at least two (2) working days prior to construction.

Cuts and fills shown are approximate - final finished elevation is to be adjusted so earthwork will balance. Corner stakes are approximate and do not include additional areas needed for: side slopes and drainages. Final Pad Dimensions are to be verified by Contractor.

VANN SURVEYS  
 P. O. Box 1306  
 Farmington, NM

Additional Operator Remarks  
Barnes LS 7N  
APD

**Notice of Staking was submitted on 01/13/05. Surface owner agreement on file at BLM.**

BP America Production Company respectfully requests permission to directional drill the subject well to a total MD of approximately 7902' and 7802' TVD. Complete in the Basin Dakota Pool, isolate the Dakota; complete into the Blanco Mesaverde, 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 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.

**SUPPLEMENTAL TO SURFACE USE PLAN**

**New Facilities:**

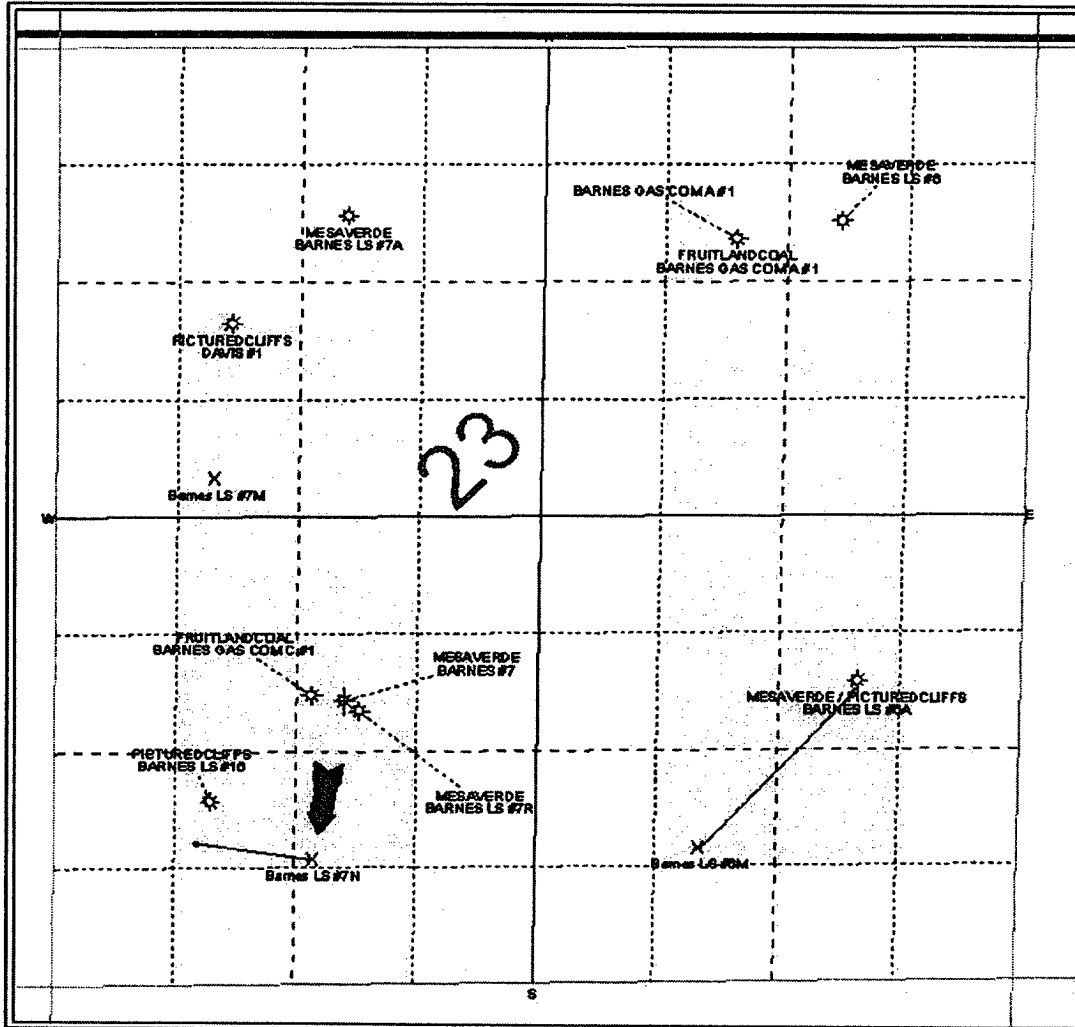
A 4.5" diameter buried steel pipeline that is +/- 200 feet in length will be constructed. The pipe wall thickness is .156 and the pipe wall strength is 42,000#. It will be adjacent to the access road and tie the well into an existing gas meter operated by BP America Production Company. The pipeline will 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 Field Services.

APD/ROW



BP AMERICA PRODUCTION COMPANY											
DRILLING AND COMPLETION PROGRAM											
11/24/2004											
<b>Lease:</b>	Barnes LS		<b>Well Name &amp; No.</b>	Barnes LS #7N		<b>Field:</b>	Blanco Mesaverde/Basin Dakota				
<b>County:</b>	San Juan, New Mexico		<b>Surface Location:</b>	23-32N-11W: 810' FSL, 745' FWL							
<b>Minerals:</b>	BLM		<b>Surface:</b>	Lat: 36.9653821 deg; Long: -107.9645837 deg							
<b>Rig :</b>	Aztec 184		<b>BH Location:</b>	23-32N-11W: 710' FSL, 1350' FWL; 36.9651370 deg; -107.9625144 deg							
<b>OBJECTIVE:</b>	Drill 240' 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							
<b>TYPE OF TOOLS</b>		<b>DEPTH OF DRILLING</b>		<b>Actual GL:</b> 6362		<b>Estimated KB:</b> 6,376.0'					
Rotary		0 - TD		<b>Marker</b>		<b>SUBSEA</b>		<b>TVD</b>	<b>APPROX MD</b>		
LOG PROGRAM				Ojo Alamo							
<b>Type</b>	<b>Depth Interval</b>			Kirtland		5,083'		1,293'	1,293'		
Single Run				Fruitland		5,008'		1,368'	1,369'		
				Fruitland Coal		3,902'		2,474'	2,525'		
				Pictured Cliffs		3,661'		2,715'	2,786'		
				Lewis		3,269'		3,107'	3,199'		
				Cliff House		3,080'		3,296'	3,393'		
Cased Hole				Menefee		1,749'		4,627'	4,727'		
TDT- CBL						1,355'		5,021'	5,120'		
	TD to 7" shoe			Point Lookout		# 1,003'		5,373'	5,473'		
	Identify 4 1/2" cement top										
<b>REMARKS:</b>				Mancos							
- Please report any flares (magnitude & duration).				Greenhorn		646'		5,730'	5,830'		
				Graneros (bent,mkr)		-1,062'		7,438'	7,538'		
				Two Wells		-1,115'		7,491'	7,591'		
				Pagate		# -1,186'		7,562'	7,662'		
				Cubero		# -1,256'		7,632'	7,732'		
				L. Cubero		# -1,287'		7,663'	7,763'		
				Encinal Cyn		# -1,319'		7,695'	7,795'		
						# -1,350'		7,726'	7,826'		
				<b>TOTAL DEPTH:</b>				-1,426'		7,802'	7,902'
								# 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>Start depth to TD</b>	<b>FREQUENCY</b>		<b>DEPTH</b>		
None				30'/10' intervals		3,493'	Geograph		0 - TD		
<b>REMARKS:</b>											
<b>MUD PROGRAM:</b>											
<b>Interval</b>	<b>Type</b> <input type="checkbox"/> Mud	<b>#/gal</b>	<b>Vis, <input type="checkbox"/> sec/qt</b>	<b>/30 min</b>	<b>Other Specification</b>						
200'	Spud	8.8 - 9.0	Sufficient to clean hole.								
3,493'	Water/LSND	8.4 - 9.0		<9	Sweep hole while whilst water drilling, LCM onsite						
7,902'	Air	1	1000 cfm for hammer		Volume sufficient to maintain a stable and clean wellbore						
<b>CASING PROGRAM:</b>											
<b>Casing</b> <input type="checkbox"/> String	<b>Depth</b>	<b>Size</b>	<b>Casing Size</b>	<b>Grade, Thread</b>	<b>Weight</b>	<b>Landing Point</b>	<b>Cement</b>				
Surface/Conductor	200'	13 1/2"	9-5/8"	H-40 ST&C	32#		cmt to surface				
Intermediate 1	3,493'	8-3/4"	7"	J/K-55 ST&C	20#	100' below LWIS	cmt to surface				
Production	7,902'	6-1/4"	4-1/2"	J-55	11.6#	DKOT	150' inside Intermediate - TOC survey required				
<b>CORING PROGRAM:</b>											
None											
<b>COMPLETION PROGRAM:</b>											
Rigless, 2-3 Stage Limited Entry Hydraulic Frac, FMC Unihead											
<b>GENERAL REMARKS:</b>											
Notify BLM/NMOCOD 24 hours prior to Spud, BOP testing, and Casing and Cementing.											
<b>BOP Pressure Testing Requirements</b>											
<b>Formation</b>	<b>Depth</b>	<b>Anticipated bottom hole pressure</b>				<b>Max anticipated surface pressure**</b>					
Cliffhouse	4,627'	500									
Point Lookout	5,373'	600				0					
Dakota	7,562'	2600				936.36					
Requested BOP Pressure Test Exception = 1500 psf				** Note: Determined using the following formula: ABHP - (.22*TVD) = ASP							
<b>Form 46 Reviewed by:</b>		<b>Logging program reviewed by:</b>		<b>DATE:</b>		<b>APPROVED:</b>		<b>DATE:</b>			
HGJ JMP				24-Nov-04							
Form 46 7-84bw		For Drilling Dept.				For Production Dept.					

Barnes LS 7N



BP Ameri

Barn

32-11 6

Acres



POST

Pd

WEI  
X Water  
\* Gas Well  
\* Abandon

deviated well  
SHL-610 FSL 145 FV  
BHL-710 FSL 1250 FV

Or



# Cementing Program

Well Name: Barnes LS #7N  
 Location: 23-32N-11W: 810' FSL, 745' FWL  
 County: San Juan  
 State: New Mexico

Well Flac  
 Formation: Blanco Mesaverde/Basin Dakota  
 KB Elev (est) 6376  
 GL Elev. (est) 6362

## 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	200	13.5	9.625	ST&C	Surface	NA	
Intermediate	3493	8.75	7	ST&C	Surface	NA	
Production -	7902	6.25	4.5	ST&C	3393	NA	

## Casing Properties:

Casing Properties:		(No Safety Factor Included)						
Casing String	Size	Weight	Grade	Burst	Collapse	Joint St.	Capacity	Drift
	(in.)	(lb/ft)		(psi)	(psi.)	(1000 lbs.)	(bbl/ft.)	(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	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. FreshWater

Slurry 1 154 sx Class C Cement  
 TOC@Surface + 2% CaCl2 (accelerator)

195 cuft

0.4887 cuft/ft OH

## Slurry Properties:

	Density (lb/gal)	Yield (ft <sup>3</sup> /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 293 sx Class "G" Cement 770 cuft  
 Slurry 1 + 3% D79 extender  
 TOC@Surface + 1/4 #/sk. Cellophane Flake  
 + 5 lb/sk Gilsonite

Tail 59 sx 50/50 Class "G"/Poz 75 cuft  
 Slurry 2 + 2% gel (extender)  
 500 ft fill + 1/4 #/sk. Cellophane Flake  
 + 2% CaCl2 (accelerator)  
 + 5 lb/sk Gilsonite

0.1503 cuft/ft OH  
 0.1746 cuft/ft csg ann

## Slurry Properties:

	Density (lb/gal)	Yield (ft3/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 171 LiteCrete D961 / D124 / D154 432 cuft  
 Slurry 1 + 0.03 gps D47 antifoam  
 TOC, 150' above 7" shoe + 0.5% D112 fluid loss  
 + 0.11% D65 TIC

Tail 157 sx 50/50 Class "G"/Poz 226 cuft  
 Slurry 2 + 5% D20 gel (extender)  
 1572 ft fill + 0.1% D46 antifoam  
 + 1/4 #/sk. Cellophane Flake  
 + 0.25% D167 Fluid Loss  
 + 5 lb/sk Gilsonite

458 F3



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

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**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 single 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 H<sub>2</sub>S anticipated.

**Equipment Specification**

**Interval**

**BOP Equipment**

Below conductor casing to total depth

11" nominal or 7 1/16", 2000 psi Single ram preventer with 3000 psi annular preventer and rotating head.

All ram type and annular preventers as well as related control equipment will be hydraulically tested to 250 psi (low pressure) and 1500 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

