

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 - 078039
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: corleym@bp.com		8. Lease Name and Well No. BARNES LS 8N
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. 3004531254
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SESE Lot P 730FSL 1100FEL 36.57100 N Lat, 107.57300 W Lon At proposed prod. zone SWSE Lot O 770FSL 1974FEL 36.57100 N Lat, 107.57300 W Lon		10. Field and Pool, or Exploratory BASIN DAKOTA/BLANCO MESAVERDE
14. Distance in miles and direction from nearest town or post office* 15 MILES FROM AZTEC, NEW MEXICO		11. Sec., T., R., M., or Blk. and Survey or Area Sec 26 T32N R11W Mer NMP P
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 730	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. 800	19. Proposed Depth 7757 MD 7642 TVD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6301 GL	22. Approximate date work will start 12/15/2002	17. Spacing Unit dedicated to this well 320.00 <i>sh</i>
		20. BLM/BIA Bond No. on file WY2924
		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:

- 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 10/28/2002
Title AUTHORIZED REPRESENTATIVE		
Approved by (Signature)	Name (Printed/Typed)	Date
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 #15544 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 3165.3  
and appeal pursuant to 43 CFR 3165.4

\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\*

HOLD COW 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**

<sup>1</sup> API Number <b>30-045-31254</b>		<sup>2</sup> Pool Code <b>71599 &amp; 72319</b>		<sup>3</sup> Pool Name <b>BASIN DAKOTA &amp; BLANCO MESA UGARS</b>	
<sup>4</sup> Property Code <b>000300</b>		<sup>5</sup> Property Name <b>BARNES LS</b>			<sup>6</sup> Well Number <b># 8N</b>
<sup>7</sup> OGRID No. <b>000778</b>		<sup>8</sup> Operator Name <b>BP AMERICA PRODUCTION COMPANY</b>			<sup>9</sup> Elevation <b>6301</b>

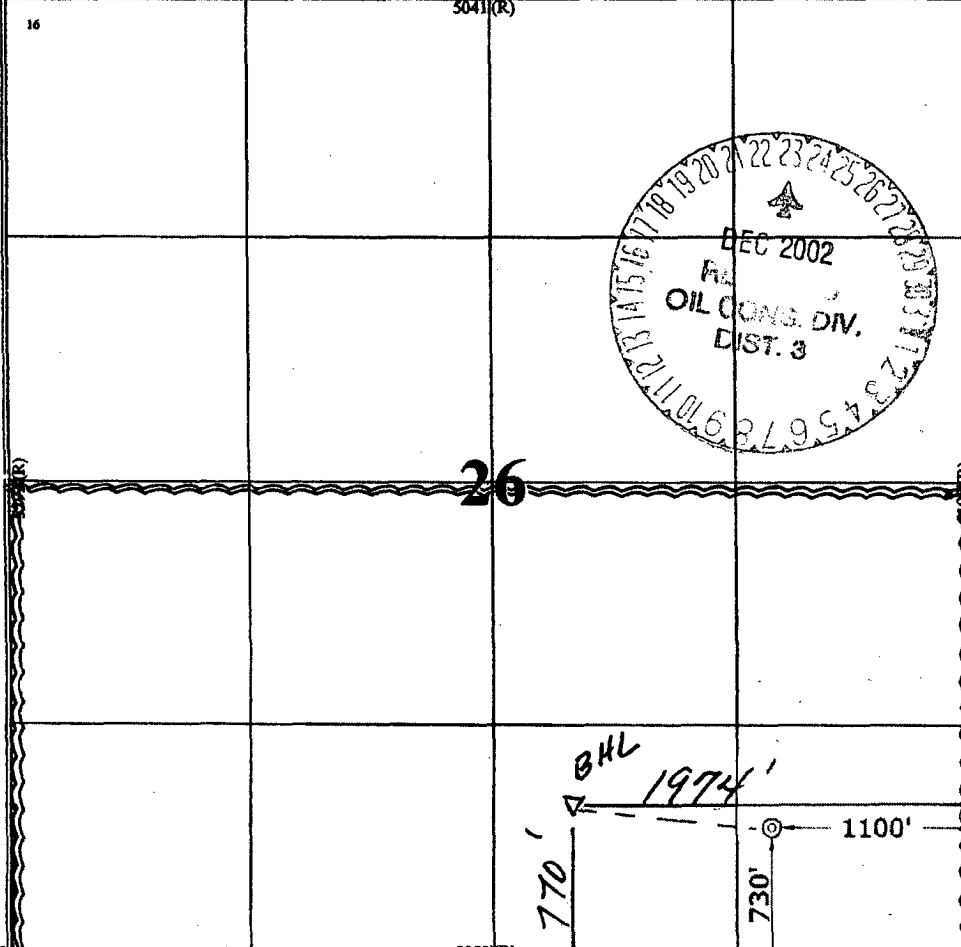
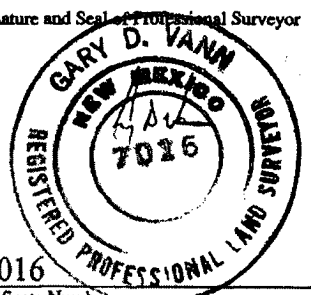
<sup>10</sup> Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>P</b>	<b>26</b>	<b>32 N</b>	<b>11 W</b>		<b>730</b>	<b>SOUTH</b>	<b>1100</b>	<b>EAST</b>	<b>SAN JUAN</b>

<sup>11</sup> Bottom Hole Location If Different From Surface

<sup>7</sup> UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>0</b>	<b>26</b>	<b>32 N</b>	<b>11 W</b>		<b>770</b>	<b>SOUTH</b>	<b>1974</b>	<b>EAST</b>	<b>SAN JUAN</b>
<sup>12</sup> Dedicated Acres <b>320</b>		<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code		<sup>15</sup> 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

<div><p>16</p></div>	<div><p><sup>17</sup> 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><i>Mary Corley</i> Signature <b>MARY CORLEY</b> Printed Name <b>Sr. Regulatory Analyst</b> Title <b>10-28-2001</b> Date</p></div>
	<div><p><sup>18</sup> 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><b>September 24, 2002</b> Date of Survey <b>GARY D. VANN</b> Signature and Seal of Professional Surveyor  <b>7016</b> Certificate Number</p></div>



**BP AMERICA  
PRODUCTION COMPANY**

**Barnes LS # 8N  
SE 1/4 Section 26,  
T32N, R11W, N.M.P.M.**

**100' New BLM Road Construction  
T32N, R11W, Sec. 26  
SE 1/4 SE 1/4**

**APD MAP # 1**

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		5. Lease Serial No. NMSF078039
2. Name of Operator BP AMERICA PRODUCTION CO		6. If Indian, Allottee or Tribe Name
3a. Address P. O. BOX 3092 HOUSTON, TX 77253		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 281.366.4491 Fx: 281.366.0700		8. Well Name and No. BARNES LS 8N
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 26 T32N R11W SESE Lot P 730FSL 1100FEL 36.57100 N Lat, 107.57300 W Lon		9. API Well No. 30-045-31254-00-X1
		10. Field and Pool, or Exploratory BASIN DAKOTA BLANCO MESAVERDE
		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.)

APD filed 10/28/2002.

Please note the following correction to our surface casing setting depth and cement volumes:

Casing String: 200'  
Cement: Preflush 20 bbl. FreshWater  
Slurry 1: 110 SXS Class G Cement 125 cuft

The remaining data on the original cementing report are noted.



14. I hereby certify that the foregoing is true and correct. <b>Electronic Submission #16637 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 12/10/2002 (03AXG0358SE)</b>	
Name (Printed/Typed) MARY CORLEY	Title AUTHORIZED REPRESENTATIVE
Signature (Electronic Submission)	Date 12/05/2002

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By <i>[Signature]</i>	Title <b>ACTING Assistant Field Manager (Minerals)</b> Date <b>12/19/02</b>
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

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.

**\*\* REVISED \*\* REVISED \*\* REVISED \*\* REVISED \*\* REVISED \*\* REVISED \*\* REVISED \*\* REVISED \*\***

NMOCD

# Cementing Program

<b>Well Name:</b> Barnes LS 8N <b>Location:</b> 26-32N-11W, 730 FSL, 1100 FEL <b>County:</b> San Juan <b>State:</b> New Mexico	<b>Field:</b> Blanco Mesaverde / Basin Dakota <b>API No.</b> <b>Well Flac</b> <b>Formation:</b> Dakota MesaVerde <b>KB Elev (est)</b> 6316 <b>GL Elev. (est)</b> 6302
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## 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	20	12.25	9.625	ST&C	Surface	NA	
Intermediate	3478	8.75	7	LT&C	Surface	NA	
Production -	7757	6.25	4.5	?	3378	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
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 Lost <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	20 sx Class G Cement	13 cuft
TOC@Surface	+ 2% CaCl <sub>2</sub> (accelerator)	
	0.25 #/sk Cellophane Flake (lost circulation additive)	0.3132 cuft/ft OH
	0.1% D46 antifoam	
Slurry Properties:	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)
	Water (gal/sk)	
Slurry 1	15.8	1.16
		4.95

# 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		300 sx Class "G" Cement	782 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	Yield	Water
	(lb/gal)	(ft3/sk)	(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	411 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC, 100' above 7" shoe		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		150 sx 50/50 Class "G"/Poz	203 cuft
Slurry 2		+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
1415 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

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Slurry Properties:	Density (lb/gal)	Yield (ft <sup>3</sup> /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 5842

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  
DRILLING AND COMPLETION PROGRAM**

<b>Prospect Name:</b> Barnes LS	<b>Well No:</b> 8N
<b>Lease:</b> Barnes LS	<b>Surface Location:</b> 26-32N-11W, 730 FSL, 1100 FEL
<b>County:</b> San Juan	<b>Field:</b> Blanco Mesaverde/Basin Dakota
<b>State:</b> New Mexico	<b>Bottom Location:</b> 26-32N-11W, 770 FSL, 1974FEL
<b>Date:</b> October 10, 2002	

<b>OBJECTIVE:</b> Drill 50' below the base of the Lower Cubero, set 41/2" production casing, Stimulate CH, MF, PL and DK intervals					
<b>METHOD OF DRILLING</b>			<b>APPROXIMATE DEPTHS OF GEOLOGICAL MARKER</b>		
TYPE OF TOOLS	DEPTH OF DRILLING		Estimated GL: 6302	Estimated KB: 6316	
Rotary	0 - TD				
<b>LOG PROGRAM</b>			<b>MARKER</b>	<b>TVD</b>	<b>MEAS. DEPTH</b>
<b>TYPE</b>	<b>DEPTH INTERVAL</b>		Ojo Alamo	1499	1536
<u>OPEN HOLE</u>			Kirtland	1729	1775
GR-Induction	TD to 7" shoe		Fruitland	2461	2536
Density/Neutron	TD to 7" shoe		Fruitland Coal	*	2619
			Pictured Cliffs	*	3185
			Lewis Shale	#	3374
			Cliff House	#	4703
			Menefee Shale	#	5100
<u>CASED HOLE</u>			Point Lookout	#	5449
GR-CCL-TDT	TDT - TD to 7" shoe		Mancos	5727	5842
CBL	Identify 4 1/2" cement top		Greenhorn	7370	7485
			Bentonite Marker	7422	7537
<b>REMARKS:</b>			Two Wells	#	7589
- Please report any flares (magnitude & duration).			Paguate	#	7677
			Upper Cubero	*	7702
			Lower Cubero	*	7707
			<b>TOTAL DEPTH</b>		<b>7757</b>
			# Probable completion interval * Possible Pay		
<b>SPECIAL TESTS</b>			<b>DRILL CUTTING SAMPLES</b>		<b>DRILLING TIME</b>
TYPE			FREQUENCY	DEPTH	FREQUENCY DEPTH
None			none	Production hole	Geologist 0-TD
<b>REMARKS:</b>					
<b>MUD PROGRAM:</b>					
<b>Approx. Interval</b>	<b>Type Mud</b>	<b>Weight, #/ga</b>	<b>Vis, sec/qt</b>	<b>W/L cc's/30 min</b>	<b>Other Specification</b>
0 - 200	Spud	8.6-9.2			
200 - 3478 (1)	Water/LSND	8.6-9.2		<6	
3478 - 7757	Gas/Air/N2/Mist	Volume sufficient to maintain a stable and clean wellbore			
<b>REMARKS:</b>					
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.					
<b>CASING PROGRAM:</b> (Normally, tubular goods allocation letter specifies casing sizes to be used. Hole sizes will be governed by Contract)					
<b>Casing String</b>	<b>Estimated Depth</b>	<b>Casing Size</b>	<b>Grade</b>	<b>Weight</b>	<b>Hole Size</b>
Surface/Conductor	200	9 5/8"	H-40 ST&C	32#	13.5"
Intermediate	3478	7"	J/K-55 ST&C	20#	8.75"
Production	7757	4 1/2"	J-55	11.6#	6.25"
<b>REMARKS:</b>					
(1) Circulate Cement to Surface					
(2) Set casing 100' into Lewis Shale					
(3) Bring cement 100' above 7" shoe					
<b>CORING PROGRAM:</b>					
None					
<b>COMPLETION PROGRAM:</b>					
Rigless, 4-6 Stage Limited Entry Hydraulic Frac					
<b>GENERAL REMARKS:</b>					
Notify BLM/NMOCDD 24 hours prior to Spud, BOP testing, and Casing and Cementing.					
Form 46 Reviewed by:			Logging program reviewed by: N/A		
<b>PREPARED BY:</b>		<b>APPROVED:</b>		<b>DATE:</b>	
HGJ/MNP				10 <sup>th</sup> October 2002	
Form 46 12-00 MNP				Version 1.0	



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