

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

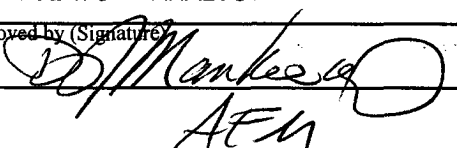
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. SF - 079319
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. SCHWERTFEGER A 2M
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. 3004532532
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SENW 2010FNL 1280FWL 36.61722 N Lat, 107.71833 W Lon At proposed prod. zone		10. Field and Pool, or Exploratory BASIN DAKOTA & BLANCO MV
14. Distance in miles and direction from nearest town or post office* 22 MILES S/E FROM AZTEC, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec 31 T28N R8W Mer NMP F
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1280	16. No. of Acres in Lease DEC 2004	12. County or Parish SAN JUAN
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 6718 MD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5911 GL	22. Approximate date work will start 11/05/2004	17. Spacing Unit dedicated to this well 291.16 W/2
		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:

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 08/12/2004
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 12/22/04
Title FFO		

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 #34477 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

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 30045-32532	² Pool Code 71599-72319	³ Pool Name Basin Dakota; Blanco Mesaverde
⁴ Property Code 001031	⁵ Property Name Schwerdtfeger A	⁶ Well Number # 2M
⁷ OGRID No. 000778	⁸ Operator Name BP AMERICA PRODUCTION COMPANY	⁹ Elevation 5911

¹⁰ Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	31	28 N	8 W		2010	NORTH	1280	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

¹² UL or lot no.	¹³ Section	¹⁴ Township	¹⁵ Range	¹⁶ Lot Idn	¹⁷ Feet from the	¹⁸ North/South line	¹⁹ Feet from the	²⁰ East/West line	²¹ County
²² Dedicated Acres 291.16	²³ Joint or Infill	²⁴ Consolidation Code	²⁵ 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>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>8-11-04</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>Date of Survey: <u>July 19, 2004</u></p> <p>Signature and Seal of Professional Surveyor: <u>Gray D. Vann</u></p> <p>Certificate Number: <u>7016</u></p>
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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

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.)		WELL API NO. NEW WELL
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator BP AMERICA PRODUCTION CO		6. State Oil & Gas Lease No.
3. Address of Operator P.O. BOX 3092 HOUSTON, TX 77079-2064		7. Lease Name or Unit Agreement Name Schwerdtfeger A
4. Well Location Unit Letter F : 2010 feet from the North line and 1280 feet from the West line Section 31 Township 28N Range 08W NMPM SAN JUAN County		8. Well Number 2 M
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 5911'		9. OGRID Number 000778
10. Pool name or Wildcat Basin Dakota & Blanco Mesaverde		
Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached) Pit Location: UL F Sect 31 Twp 28N Rng 08W 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 F Sect 31 Twp 28N Rng 08W ; 1910 feet from the North line and 1295 feet from the West line PLEASE SEE ATTACHED PAD LAYOUT		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data	
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/> PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPLETION <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>
OTHER: Lined Drilling Pit Permit <input checked="" type="checkbox"/>	OTHER: <input type="checkbox"/>

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 _____ TITLE Regulatory Analyst DATE 8/12/04

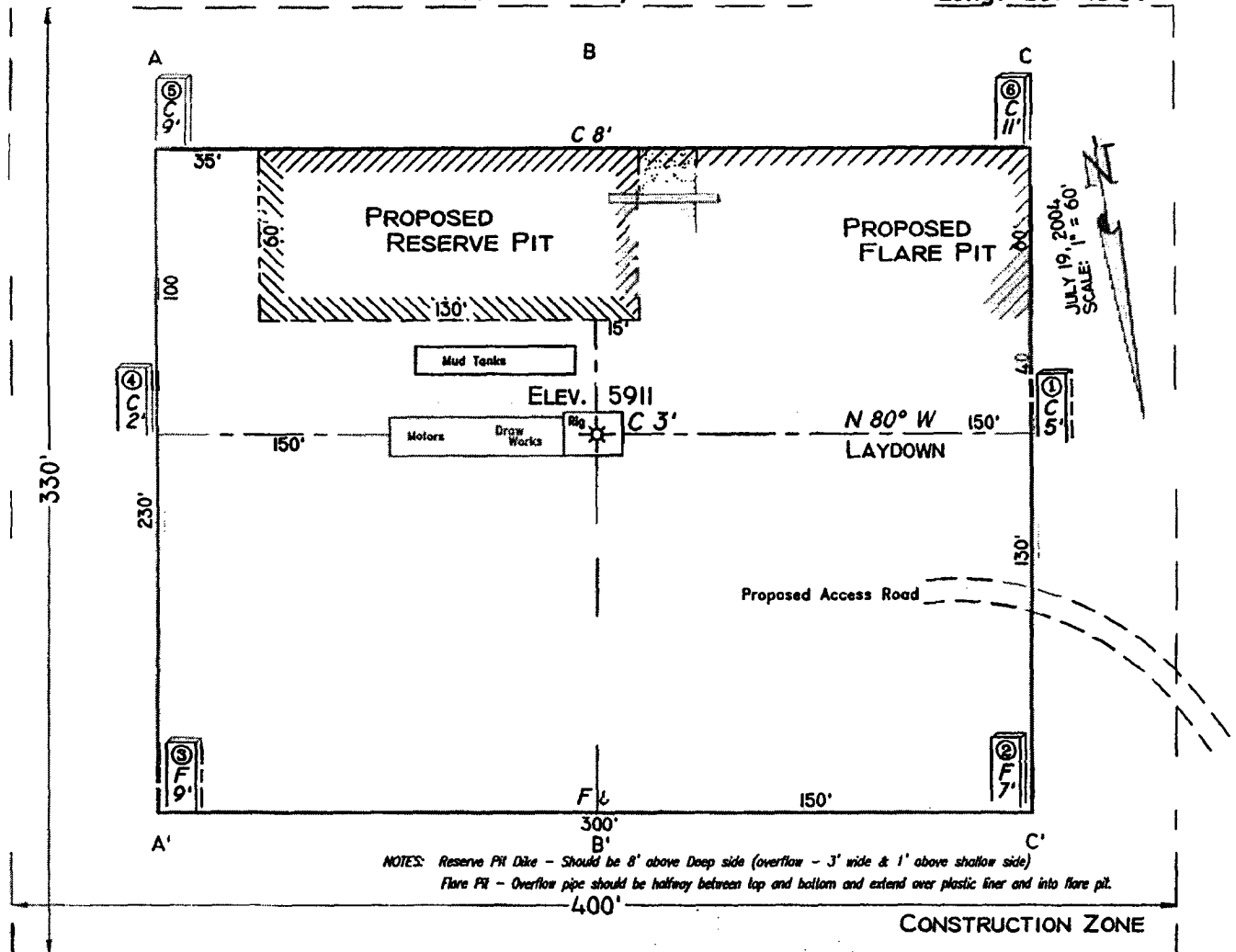
Type or print name Cherry Hlava E-mail address: hlavacl@bp.com Telephone No. 281-366-4081

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APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 48 DATE DEC 27 2004
Conditions of approval, if any:

PAD LAYOUT PLAN & PROFILE
BP AMERICA PRODUCTION COMPANY
Schwerdtfeger A #2M
2010' F/NL 1280' F/WL
SEC. 31, T28N, R8W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

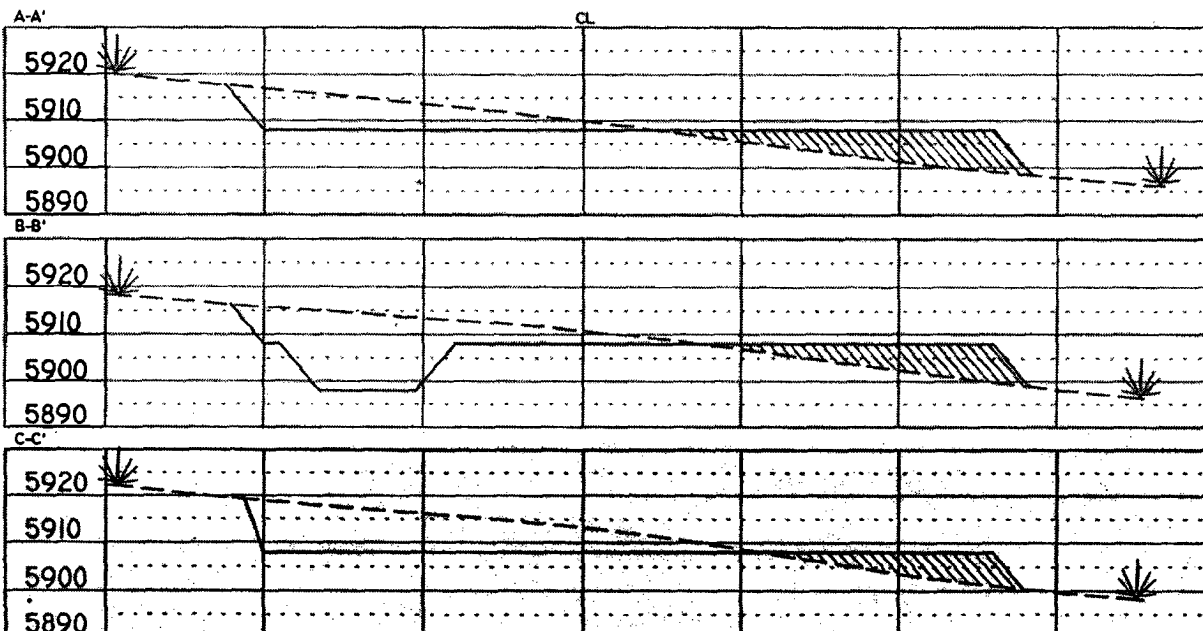
Lat: 36°37'10"
Long: 107°43'36"



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 flare pit.

Area of Construction Zone - 330'x400' 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 sideslopes and drainages. 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													
8/5/2004													
Lease:	Schwerdtfeger A	Well Name & No.	Schwerdtfeger A #2M	Field:	Blanco Mesaverde/Basin Dakota								
County:	San Juan, New Mexico	Surface Location:	31-28N-8W:2010' FNL, 1280' FWL										
Minerals:	State	Surface:	Lat: 36.6194178 deg; Long: -107.7259853 deg										
Rig :	Aztec 184	BH Location:	vertical										
OBJECTIVE:	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								
TYPE OF TOOLS		DEPTH OF DRILLING			Actual GL:	5911	Estimated KB: 5,925.0'						
Rotary		0 - TD			Marker		SUBSEA	TVD	APPROX. MD				
LOG PROGRAM					Ojo Alamo		4,744'	1,181'	1,181'				
Type	Depth Interval				Kirtland		4,604'	1,321'	1,321'				
Single Run					Fruitland	*	4,251'	1,674'	1,674'				
					Fruitland Coal	*	3,912'	2,013'	2,013'				
					Pictured Cliffs	*	3,785'	2,140'	2,140'				
					Lewis	*	3,625'	2,300'	2,300'				
Cased Hole					Cliff House	#	2,410'	3,515'	3,515'				
TDT- CBL	TD to 7" shoe				Menefee	#	2,084'	3,841'	3,841'				
	Identify 4 1/2" cement top				Point Lookout	#	1,522'	4,403'	4,403'				
REMARKS: - Please report any flares (magnitude & duration).					Mancos		1,151'	4,774'	4,774'				
					Greenhorn		-428'	6,353'	6,353'				
					Graneros (bent,mkr)		-488'	6,413'	6,413'				
					Two Wells	#	-553'	6,478'	6,478'				
					Paguate	#	-607'	6,532'	6,532'				
					Cubero	#	-657'	6,582'	6,582'				
					L. Cubero	#	-695'	6,620'	6,620'				
					Encinal Cyn	#	-729'	6,654'	6,654'				
					TOTAL DEPTH:			-793'	6,718'	6,718'			
					# Probable completion interval				* Possible Pay				
					SPECIAL TESTS					DRILL CUTTING SAMPLES		DRILLING TIME	
					TYPE					FREQUENCY	DEPTH	FREQUENCY	DEPTH
					None					30'/10' intervals	2400' - TD	Geograph	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.										
2,400'	Water/LSND	8.4 - 9.0		<9	Sweep hole while whilst water drilling, LCM onsite								
6,718'	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	2,400'	8-3/4"	7"	J/K-55 ST&C	20#	100' below LWIS	cmt to surface						
Production	6,718'	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/NMOCDD 24 hours prior to Spud, BOP testing, and Casing and Cementing.													
BOP Pressure Testing Requirements													
Formation	Depth	Anticipated bottom hole pressure				Max anticipated surface pressure**							
Cliffhouse	3,515'	500				0							
Point Lookout	4,403'	600				0							
Dakota	6,478'	2600				1174.84							
Requested BOP Pressure Test Exception = 1500 psi					** Note: Determined using the following formula: ABHP - (.22*TVD) = ASP								
Form 46 Reviewed by:		Logging program reviewed by:											
PREPARED BY:		APPROVED:		DATE:		APPROVED:		DATE:					
HGJ JMP				5-Aug-04									
Form 46 7-84bw		For Drilling Dept.				For Production Dept.							

Cementing Program

Well Name: Schwerdtfeger A #2M		Well Flac
Location: 31-28N-8W:2010' FNL, 1280' FWL		Formation: Dakota MesaVerde
County: San Juan		KB Elev (est) 5925
State: New Mexico		GL Elev. (est) 5911

Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread TOC (ft.)	Stage Too Cmt Or TOL (ft. (bbl.))
Surface	200	13.5	9.625	ST&C Surface	NA
Intermediate	2400	8.75	7	LT&C Surface	NA
Production -	6718	6.25	4.5	ST&C 2300	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	2270	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	Recommended Mud Properties Prio Cementing:
0 - SCP	Water/Spud	8.6-9.2	PV <20
SCP - ICP	Water/LSND	8.6-9.2	YP <10
ICP - ICP2	Gas/Air Mist	NA	Fluid L <15
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	128	190
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	160 sx Class C Cement	195 cuft
TOC@Surface	+ 2% CaCl ₂ (accelerator)	
		0.4887 cuft/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
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Lead	190 sx Class "G" Cement	482 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

Cementing Program

+1/4 #/sk. Cellophane Flake
+ 2% CaCl₂ (accelerator) 0.1746 cuft/ft csg ann

Slurry Properties:	Density (lb/gal)	Yield (ft ³ /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 Slurry 1 TOC, 100' above 7" shoe	170 LiteCrete D961 / D124 / D154 + 0.03 gps D47 antifoam + 0.5% D112 fluid loss + 0.11% D65 TIC	413 cuft
---	--	----------

Tail Slurry 2 1444 ft fill	150 sx 50/50 Class "G"/Poz + 5% D20 gel (extender) + 0.1% D46 antifoam + 1/4 #/sk. Cellophane Flake + 0.25% D167 Fluid Loss	207 cuft + 5 #/sk D24 gilsonite + 0.15% D65 TIC + 0.1% D800 retarder
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0.1026 cuft/ft OH

Slurry Properties:	Density (lb/gal)	Yield (ft ³ /sk)	Water (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
4774

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.

Additional Operator Remarks:

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

BP America Production Company respectfully requests permission to drill the subject well to a total depth of approximately 6718 feet 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 - 600 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.

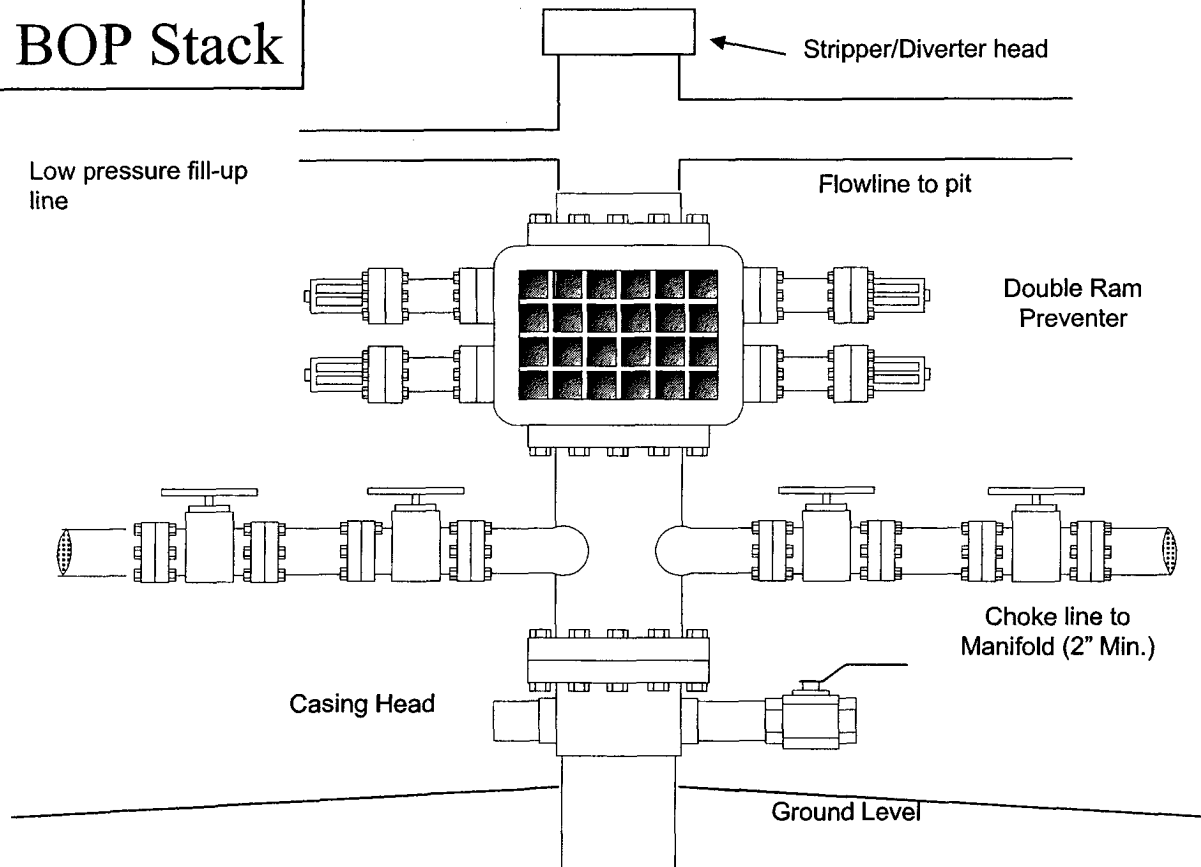
If conditions allow, it is our intent to pre-set the 9 5/8" casing on the above mentioned well by drilling a surface hole with air/air mist in lieu of drilling mud and the surface casing be cemented with 94.5 cu/ft type I-II, 20% FLYASH, 14.5 PPG, 7.41 gal/sk, 1.61 cf/sk Yield, 80 DEG BHST ready mix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

APD/ROW

BP America Production Company
Well Control Equipment Schematic



BOP Stack



Choke & Kill Manifold

