

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

54 Lease Serial No. **NMSF - 93313**

6. If Indian, Allottee or tribe Name

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**

7. If Unit or CA Agreement, Name and No

**MU-CA-NMNM-073171**

8. Lease Name and Well No.

**Atlantic B LS 8M**

9. API Well No.

**30-045-33377**

10. Field and Pool, or Exploratory

**Basin Dakota & Blanco Mesaverde**

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

At surface **1700' FSL & 1895' FWL NESW**

At proposed prod. Zone **2200' FSL & 1960' FWL NESW**

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

**SECTION 3 T30N & R10W**

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

**10.3 MILES EAST FROM AZTEC, NM**

12. County or Parish

**SAN JUAN**

13. State

**NEW MEXICO**

15. Distance from proposed\*

Location to nearest

Property or lease line, ft.

(Also to nearest drig. Ujnit line, if any) **680'**

16. No. of Acres in lease

**326**

17. Spacing Unit dedicated to this well

**325.44 W/2**

18. Distance from proposed location\*

to nearest well, drilling, completed,

applied for, on this lease, ft.

19. Proposed Depth

**7732' MD**

20. BLM/BIA Bond No. on file

**WY2924**

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

**6364' GL**

22. Approximate date work will start\*

**01/15/06**

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

Title

**Cherry Hlava**

**10/06/2005**

**Regulatory Analyst**

Approved by (Signature)

Name (Printed/Typed)

Date

Title

Office

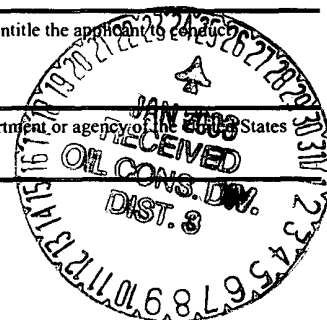
Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct Operations thereon.

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.

\*(Instructions on reverse)

HOLD COPY FOR Directional Survey



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>30-045-33371</b>	<sup>2</sup> Pool Code <b>71599; 72319</b>	<sup>3</sup> Pool Name <b>Basin Dakota; Blanco Mesaverde</b>
<sup>4</sup> Property Code <b>000282</b> ✓	<sup>5</sup> Property Name <b>Atlantic B LS</b>	<sup>6</sup> Well Number <b># 8M</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>6364</b> ✓

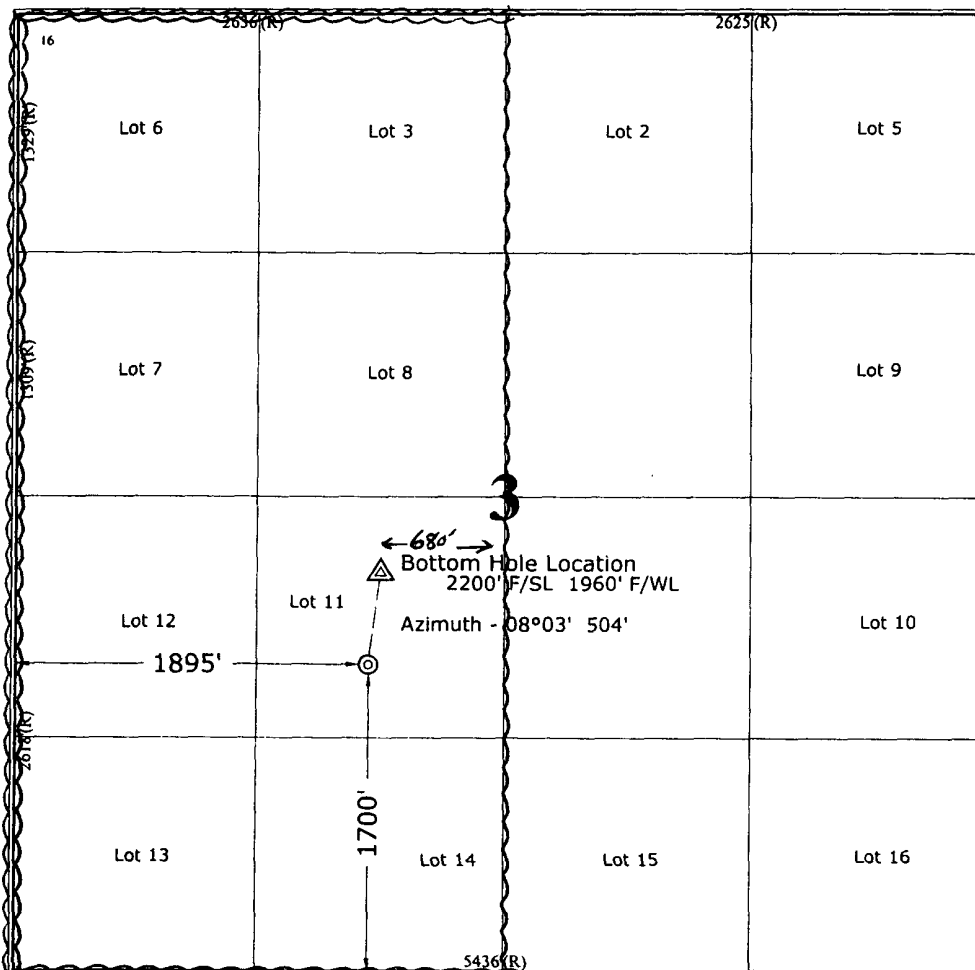

<sup>10</sup> Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>K (Lot 11)</b>	<b>3</b>	<b>30 N</b>	<b>10 W</b>		<b>1700</b>	<b>SOUTH</b>	<b>1895</b>	<b>WEST</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>K (Lot 11)</b>	<b>3</b>	<b>30 N</b>	<b>10 W</b>		<b>2200</b>	<b>SOUTH</b>	<b>1960</b>	<b>WEST</b>	<b>SAN JUAN</b>
<sup>12</sup> Dedicated Acres <b>325.94</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

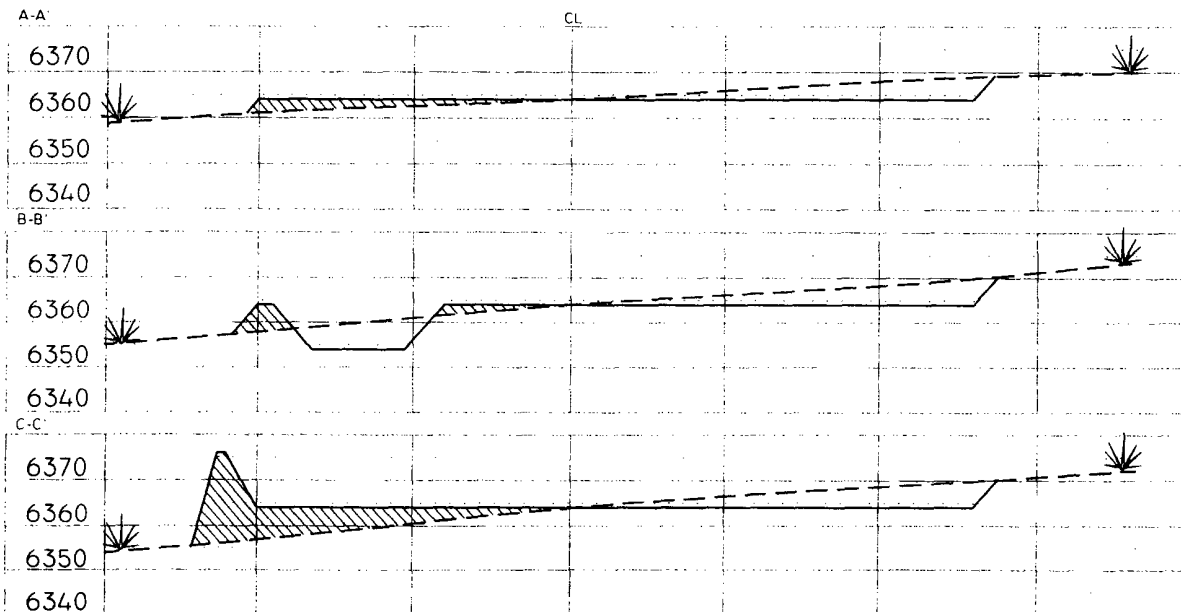
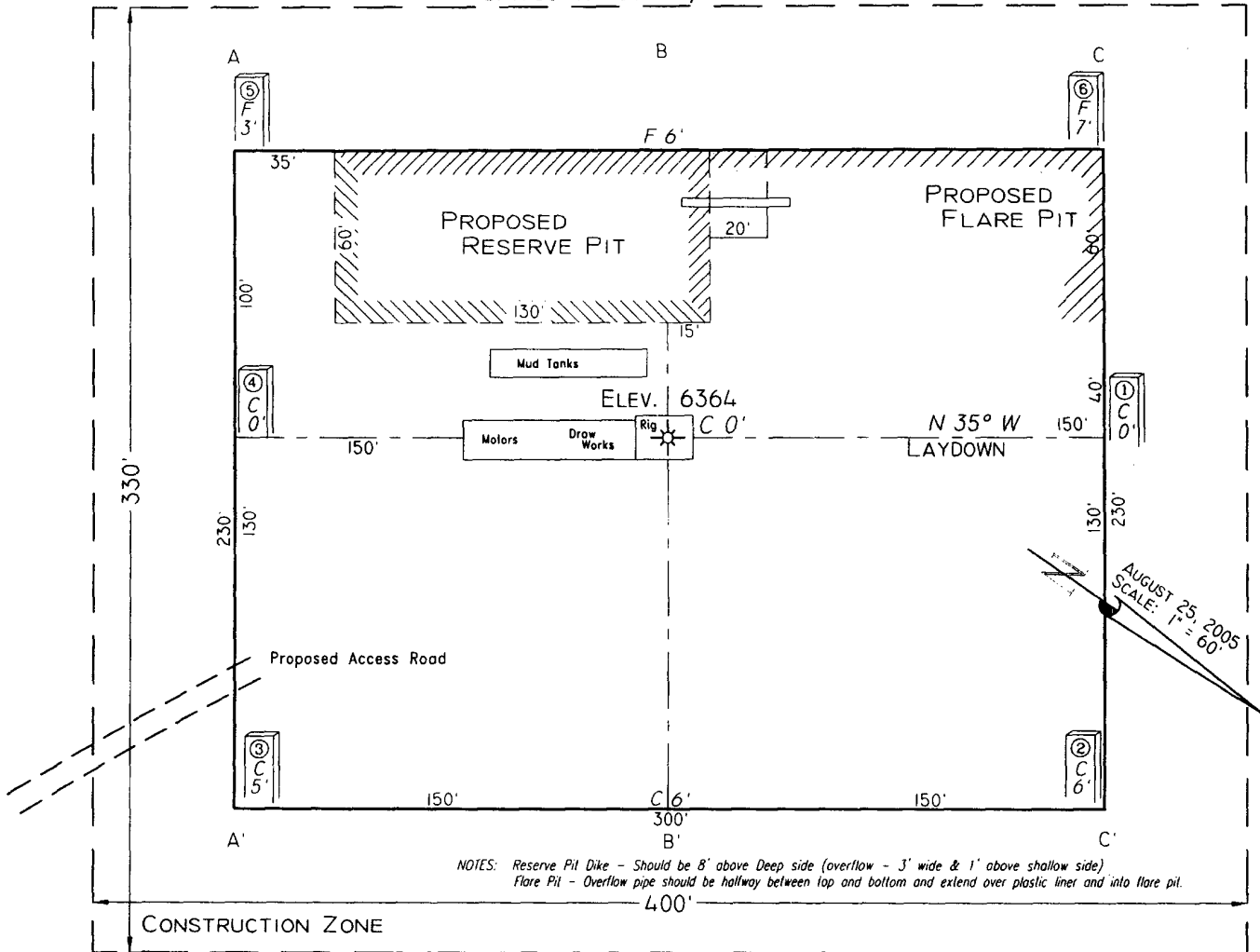
						<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  <b>Cherry Hlava</b> Signature <b>Cherry Hlava</b> Printed Name <b>Regulatory Analyst</b> Title <b>10-3-05</b> Date
						<sup>18</sup> SURVEYOR CERTIFICATION 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.  <b>August 25, 2005</b> Date of Survey  Signature and Seal of Professional Surveyor  <b>7016</b> Certificate Number

(R) - BLM Record

**PAD LAYOUT PLAN & PROFILE**  
**BP AMERICA PRODUCTION COMPANY**  
 Atlantic B LS # 8M  
 1700' F/SL 1895' F/WL  
 SEC. 3, T30N, R10W, N.M.P.M.  
 SAN JUAN COUNTY, NEW MEXICO

Lat: 36.8381°  
 Long: 107.8728°

Lat: 36°50'17"  
 Long: 107°52'22"



VANN SURVEYS  
 P. O. Box 1306  
 Farmington, NM

# BP AMERICA PRODUCTION COMPANY

## DRILLING AND COMPLETION PROGRAM

9/27/2005

<b>Lease:</b>	Atlantic B LS	<b>Well Name &amp; No.</b>	Atlantic B LS #8M	<b>Field:</b>	Blanco Mesaverde/Basin Dakota
<b>County:</b>	San Juan, New Mexico	<b>Surface Location:</b>	3-30N-10W: 1700' FSL, 1895' FWL		
<b>Minerals:</b>	State	<b>Surface:</b>	Lat: 36.8379830 deg; Long: -107.8722117 deg		
<b>Rig :</b>	Aztec 184	<b>BH Location:</b>	3-30N-10W: 2200' FSL, 1960' FWL; Lat: 36.8393495 deg; Long: -107.8719666 deg		
<b>OBJECTIVE:</b>	Drill 270' 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:	6364	Estimated KB: 6,378.0'	
Rotary	0 - TD	Marker		SUBSEA	TVD

LOG PROGRAM		Ojo Alamo		4,704'	1,674'	1,693'
Type	Depth Interval	Kirtland		4,586'	1,792'	1,813'
Single Run		Fruitland	*	3,837'	2,541'	2,574'
		Fruitland Coal	*	3,564'	2,814'	2,851'
		Pictured Cliffs	*	3,323'	3,055'	3,095'
		Lewis	*	3,116'	3,262'	3,304'
Cased Hole		Cliff House	#	1,793'	4,585'	4,628'
RST- CBL	TD to 7" shoe	Menefee	#	1,483'	4,895'	4,938'
	Identify 4 1/2" cement top	Point Lookout	#	1,083'	5,295'	5,338'

<b>REMARKS:</b>	Mancos		773'	5,605'	5,648'
The recommended TD for this well can be no further east than the recommended footage.	Greenhorn		-937'	7,315'	7,358'
Report all flares.	Graneros (bent,mkr)		-992'	7,370'	7,413'
	Two Wells	#	-1,041'	7,419'	7,462'
	Paguete	#	-1,136'	7,514'	7,557'
The recommended TD is intended to penetrate the uppermost BRCN (~10') so that the entire ENCN can be produced. Offsetting wells to the west, south & north encountered no water flow in the BRCN. See attached cross-section (note Sunray E #2B drilled into MRSN w/ air).	Cubero	#	-1,176'	7,554'	7,597'
	L. Cubero	#	-1,202'	7,580'	7,623'
	Encinal Cyn	#	-1,236'	7,614'	7,657'
	<b>TOTAL DEPTH:</b>		-1,311'	7,689'	7,732'
	# Probable completion interval		# Possible Pay		

SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME	
TYPE		FREQUENCY	DEPTH	FREQUENCY	DEPTH
None		30'/10' intervals	3,404' to TD	Geograph	0 - TD
<b>REMARKS:</b>					

MUD PROGRAM:					
Interval	TypeMud	#/gal	Vis, sec/qt	/30 min	Other Specification
200' - 270'	Spud	8.8 - 9.0	Sufficient to clean hole.		
3,404'	Water/LSND	8.4 - 9.0		<9	Sweep hole while whilst water drilling, LCM onsite
7,732'	Air	1	1000 cfm for hammer		Volume sufficient to maintain a stable and clean wellbore

CASING PROGRAM:							
CasingString	Depth	Size	Casing Size	Grade, Thread	Weight	Landing Point	Cement
Surface/Conductor	200' - 270'	13 1/2"	9-5/8"	H-40 ST&C	32#		cmt to surface
Intermediate 1	3,404'	8-3/4"	7"	J/K-55 ST&C	20#	100' below LWIS	cmt to surface
Production	7,732'	6-1/4"	4-1/2"	P-110	11.6#	DKOT	150' inside Intermediate - TOC survey required

<b>CORING PROGRAM:</b>	None
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<b>COMPLETION PROGRAM:</b>	Rigless, 2-3 Stage Limited Entry Hydraulic Frac, FMC Unihead
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<b>GENERAL REMARKS:</b>	Notify BLM/NMOC 24 hours prior to Spud, BOP testing, and Casing and Cementing.
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BOP Pressure Testing Requirements			
Formation	Depth	Anticipated bottom hole pressure	Max anticipated surface pressure**
Cliffhouse	4,585'	500	0
Point Lookout	5,295'	600	0
Dakota	7,419'	2600	967.82

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:	DATE:	APPROVED:	DATE:
HGJ	JMP	27-Sep-05		
Form 46 7-84bw	For Drilling Dept.		For Production Dept.	

# Cementing Program

Well Name: Atlantic B LS #8M  
 Location: 3-30N-10W: 1700' FSL, 1895' FWL  
 County: San Juan  
 State: New Mexico

Well Flac  
 Formation: Blanco Mesaverde/Basin Dakota  
 KB Elev (est) 6378  
 GL Elev. (est) 6364

## 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	3404	8.75	7	ST&C	Surface	NA	
Production -	7732	6.25	4.5	ST&C	3304	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
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
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	154 sx Class C Cement		195 cuft
TOC@Surface	+ 2% CaCl2 (accelerator)		

0.4887 cuft/ft OH

## Slurry Properties:

	Density (lb/gal)	Yield (ft3/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

# Cementing Program

## Intermediate:

Fresh Water	20 bbl	fresh water	
Lead		284 sx Class "G" Cement	746 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	0.1503 cuft/ft OH
		+ 2% CaCl2 (accelerator)	0.1746 cuft/ft csg ann
		+ 5 lb/sk Gilsonite	
Slurry Properties:	Density	Yield	Water
	(lb/gal)	(ft3/sk)	(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		182 LiteCrete D961 / D124 / D154	460 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC, 400' above 7" shoe		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		158 sx 50/50 Class "G"/Poz	228 cuft
Slurry 2		+ 5% D20 gel (extender)	
1584 ft fill		+ 0.1% D46 antifoam	
		+ 1/4 #/sk. Cellophane Flake	
		+ 0.25% D167 Fluid Loss	
		+ 5 lb/sk Gilsonite	
		+0.1% d800, retarder	
		+0.15% D65, dispersant	
			0.1026 cuft/ft OH
Slurry Properties:	Density	Yield	Water
	(lb/gal)	(ft3/sk)	(gal/sk)
Slurry 1	9.5	2.52	6.38
Slurry 2	13	1.44	6.5
			Top of Mancos
			5648
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		

## **FEDERAL CEMENTING REQUIREMENTS**

- 1. All permeable zones containing fresh water and other usable water containing 10,000 PPM or less total dissolved solids will be isolated and protected from contamination by cement circulated in place for the protection of permeable zones per the NTL-FRA 90-1 Section III A.**
  - 2. The hole size will be no smaller than 1 ½" larger diameter than the casing O.D. across all water zones.**
  - 3. An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement.**
  - 4. An adequate number of casing centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. The adequate number of centralizers to use will be determined by API SPEC 10D.**
  - 5. Centralizers will impart a swirling action around the casing and will be used just below and into the base of the lowest usable water zone.**
  - 6. A chronological log will be kept recording the pump and slurry information and will be sent to the BLM with the subsequent sundry.**
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**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**

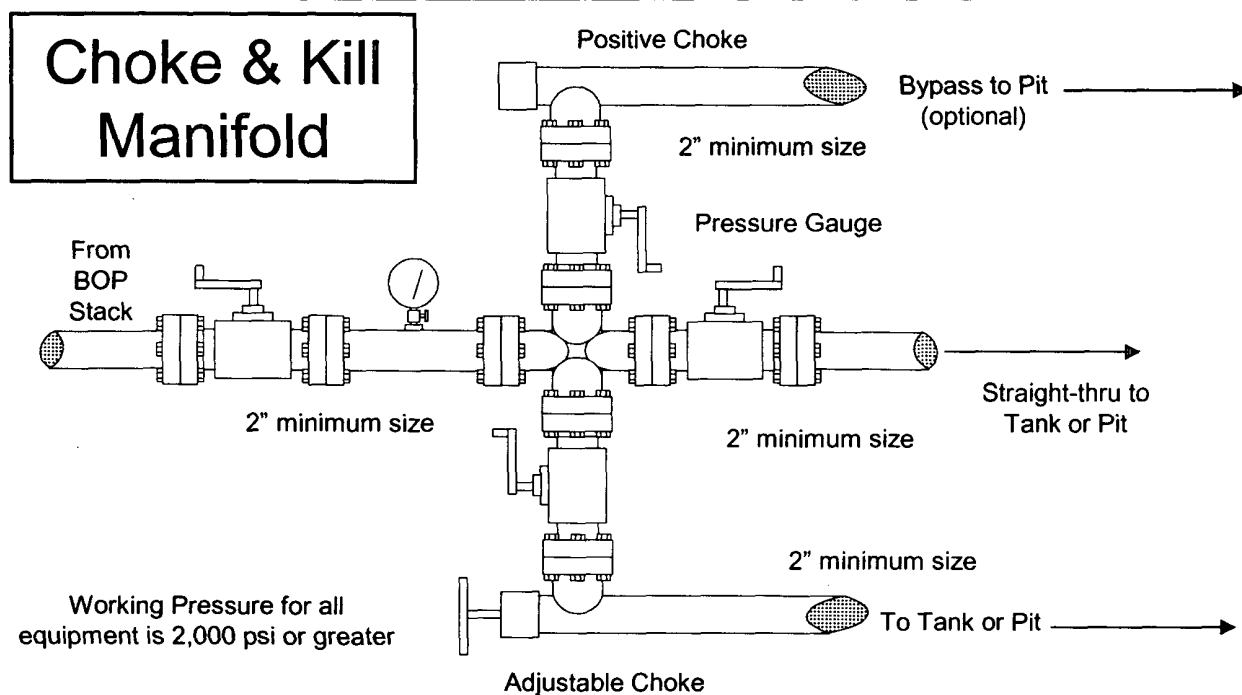
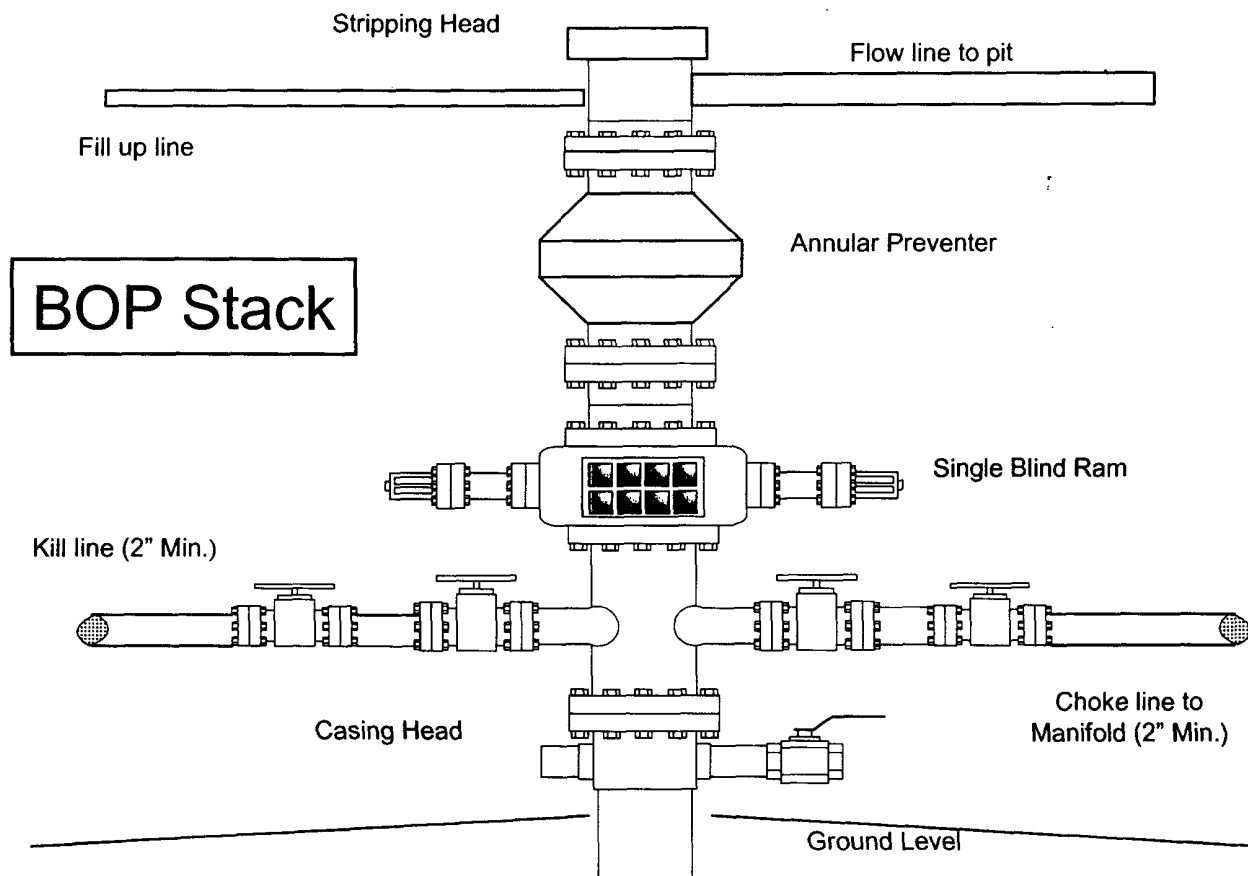
**BOP Equipment**

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



**Additional Operator Remarks**  
**Atlantic B LS 8M**  
**APD**

**NOTICE OF STAKING WAS SUBMITTED ON 9/6/05**

BP America Production Company respectfully requests permission to directional drill the subject well to a total depth of approximately 7732' MD & 7689' 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 +/- 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 Field Services.

**APD/ROW**

C. HARRADEN/ October 13, 2005 *CH*

BP AMERICA PROD. CO./ Atlantic B LS #8M

**STIPULATION/CONDITION OF APPROVAL**

This well is located in an area where the San Jose fresh water aquifer is shallow. In order to protect the integrity of this aquifer, a minimum surface csg. depth of 276' is stipulated as a condition of approval for this APD.



Field: SAN JUAN, New Mexico  
 Site: SEC3-T30N-R10W  
 Well: Atlantic B LS #8M  
 Wellpath: OH  
 Plan: Plan #1



#### SECTION DETAILS

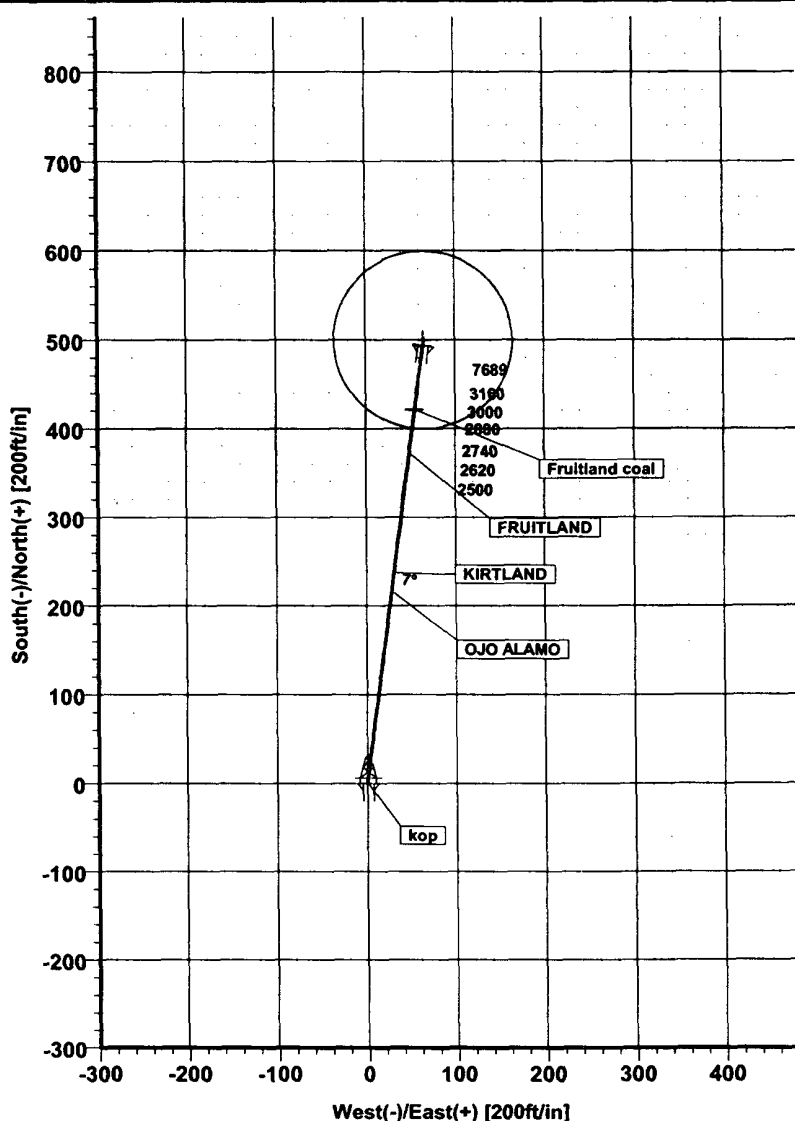
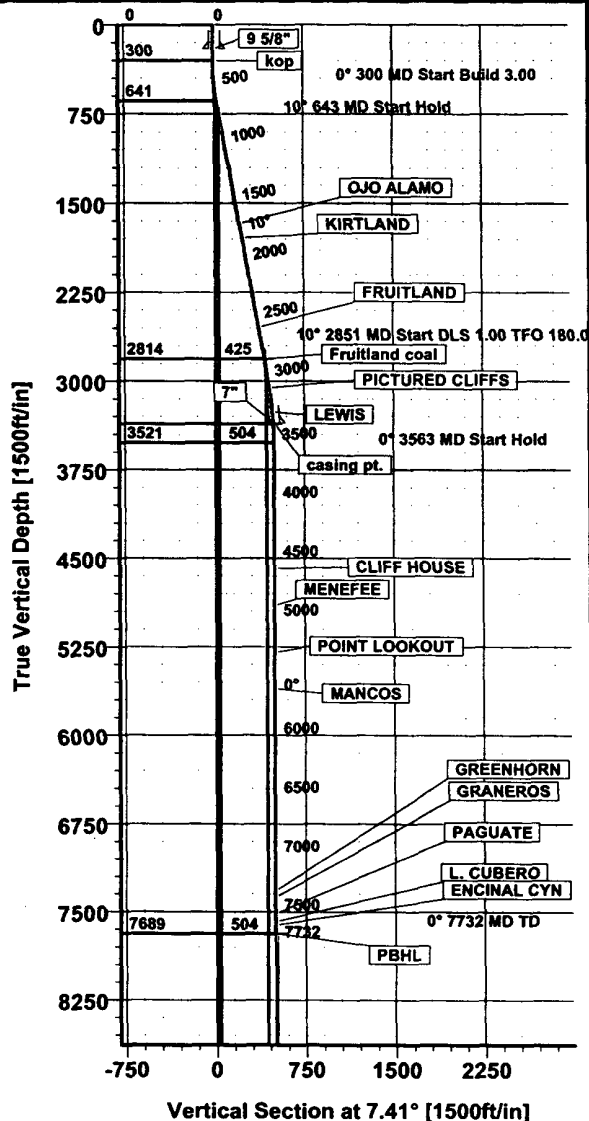
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	643.04	10.29	7.41	641.20	30.47	3.96	3.00	7.41	30.73	
4	2851.37	10.29	7.41	2814.00	421.70	54.84	0.00	0.00	425.25	Fruitland coal
5	3404.35	4.76	7.41	3362.00	493.49	64.18	1.00	180.00	497.65	casing pt.
6	3563.06	0.00	0.00	3520.53	500.03	65.03	3.00	180.00	504.24	
7	7731.53	0.00	0.00	7689.00	500.03	65.03	0.00	0.00	504.24	PBHL

#### TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Fruitland coal	2814.00	421.70	54.84	2124776.49	2711775.09	Point
casing pt.	3362.00	493.49	64.18	2124848.27	2711784.43	Point
PBHL	7689.00	500.00	65.00	2124854.78	2711785.25	Point

#### WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Atlantic B LS #8M	0.00	0.00	2124354.82	2711720.26	36°50'16.738N	107°52'19.962W	N/A





# Scientific Drilling Planning Report



Company: BP Date: 9/20/2005 Time: 20:33:25 Page: 1  
Field: SAN JUAN, New Mexico Co-ordinate(NE) Reference: Well: Atlantic B LS #8M, Grid North  
Site: SEC3-T30N-R10W Vertical (TVD) Reference: SITE 6378.0  
Well: Atlantic B LS #8M Section (VS) Reference: Well (0.00N,0.00E,7.41Azi)  
Wellpath: OH Plan: Plan #1

Field: SAN JUAN, New Mexico  
SAN JUAN COUNTY, NEW MEXICO  
USA

Map System: US State Plane Coordinate System 1983  
Geo Datum: GRS 1980  
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Western Zone  
Coordinate System: Well Centre  
Geomagnetic Model: bggm2005

Site: SEC3-T30N-R10W

SAN JUA NEW MEXICO

Site Position: Northing: ft Latitude:  
From: Lease Line Easting: ft Longitude:  
Position Uncertainty: 0.00 ft North Reference: Grid  
Ground Level: 6364.00 ft Grid Convergence: -0.02 deg

Well: Atlantic B LS #8M

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 2124354.82 ft Latitude: 36 50 16.738 N  
+E/-W 0.00 ft Easting: 2711720.26 ft Longitude: 107 52 19.962 W  
Position Uncertainty: 0.00 ft

Wellpath: OH

Drilled From: Surface  
Tie-on Depth: 0.00 ft  
Above System Datum: Mean Sea Level  
Declination: 10.69 deg  
Mag Dip Angle: 63.70 deg  
+E/-W Direction deg

Current Datum: SITE Height 6378.00 ft  
Magnetic Data: 9/20/2005  
Field Strength: 51417 nT  
Vertical Section: Depth From (TVD) +N/-S  
ft ft  
0.00 0.00 0.00 7.41

Plan: Plan #1

Date Composed: 9/20/2005  
Version: 5  
Tied-to: From Surface

## Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
643.04	10.29	7.41	641.20	30.47	3.96	3.00	3.00	0.00	7.41	
2851.37	10.29	7.41	2814.00	421.70	54.84	0.00	0.00	0.00	0.00	Fruitland coal
3404.35	4.76	7.41	3362.00	493.49	64.18	1.00	-1.00	0.00	180.00	casing pt.
3563.06	0.00	0.00	3520.53	500.03	65.03	3.00	-3.00	-4.67	180.00	
7731.53	0.00	0.00	7689.00	500.03	65.03	0.00	0.00	0.00	0.00	PBHL

## Section 1 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

## Section 2 : Start Build 3.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
400.00	3.00	7.41	399.95	2.60	0.34	2.62	3.00	3.00	0.00	0.00
500.00	6.00	7.41	499.63	10.38	1.35	10.46	3.00	3.00	0.00	0.00
600.00	9.00	7.41	598.77	23.32	3.03	23.51	3.00	3.00	0.00	0.00
643.04	10.29	7.41	641.20	30.47	3.96	30.73	3.00	3.00	0.00	0.00