Form 3160-3
(August 1999)

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

5. Lease Serial No.
~~NMNM - 04208~~ NMSF077123

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

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

8. Lease Name and Well No.
WARREN LS 4B

2. Name of Operator
BP AMERICA PRODUCTION COMPANY
Contact: MARY CORLEY
E-Mail: corleyml@bp.com

9. API Well No.
30045 32423

3a. Address
P.O. BOX 3092
HOUSTON, TX 77253

3b. Phone No. (include area code)
Ph: 281.366.4491
Fx: 281.366.0700

10. Field and Pool, or Exploratory
BLANCO MESAVERDE

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

At surface NESE Lot I 1730FSL 725FEL 36.39600 N Lat, 107.45100 W Lon

At proposed prod. zone

11. Sec., T., R., M., or Blk. and Survey or Area
I Sec 14 T28N R9W Mer NMP
SME: BLM

14. Distance in miles and direction from nearest town or post office*
18 MILES FROM BLOOMFILED, NEW MEXICO

12. County or Parish
SAN JUAN

13. State
NM

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
725

16. No. of Acres in Lease
320.00

17. Spacing Unit dedicated to this well
320.00 E/2

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
1000

19. Proposed Depth
5027 MD

20. BLM/BIA Bond No. on file
WY2924

21. Elevations (Show whether DF, KB, RT, GL, etc.
6048 GL

22. Approximate date work will start
09/01/2004

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
(Electronic Submission)	MARY CORLEY	06/10/2004

Title
AUTHORIZED REPRESENTATIVE

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Manuel Gomez		8-27-04
Title AFM	Office 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 #31809 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	2 Pool Code	3 Pool Name
30-045-32423	72319	BLANCO MESAVERDE

4 Property Code	5 Property Name	6 Well Number
001212	Warren LS	# 4B

7 OGRID No.	8 Operator Name	9 Elevation
000778	BP AMERICA PRODUCTION COMPANY	6048

10 Surface Location

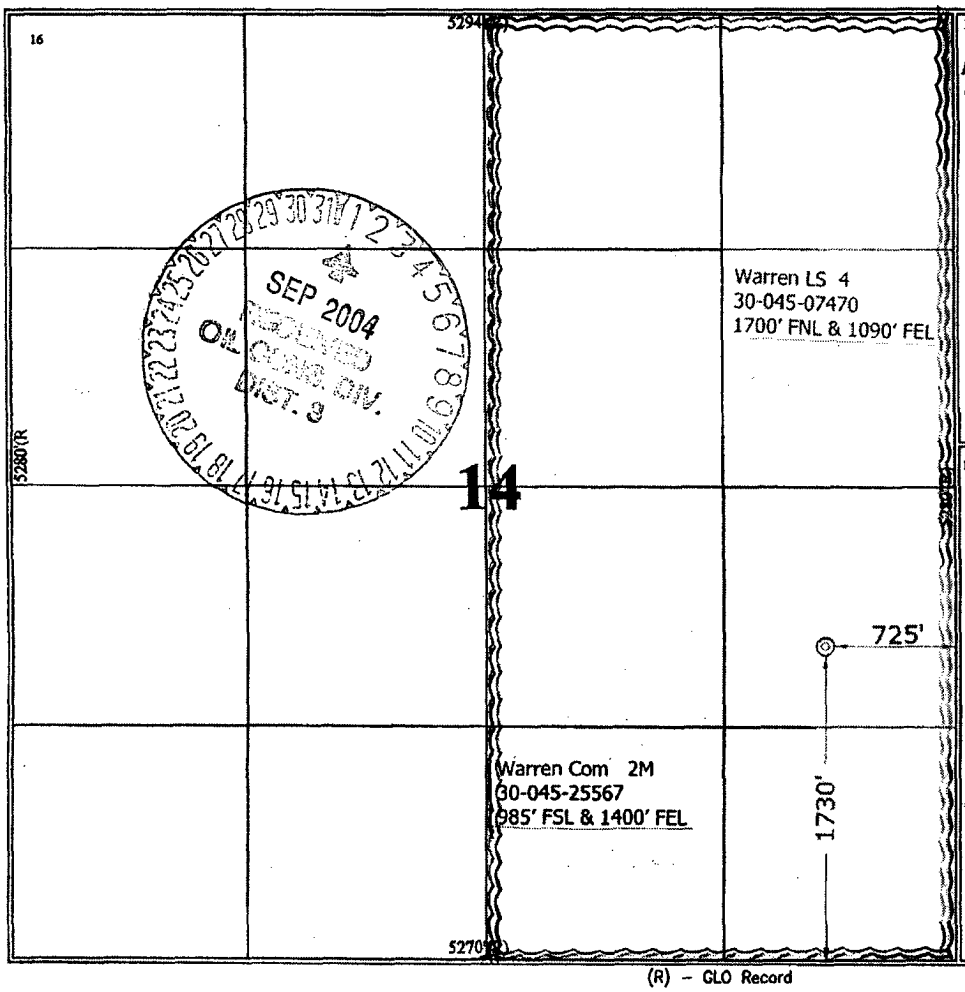
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	14	28 N	9 W		1730	SOUTH	725	EAST	SAN JUAN

Bottom Hole Location If Different From Surface

7 UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320			

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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature: Mary Corley

Printed Name: MARY CORLEY

Title: SR. REGULATORY ANALYST

Date: 06.10.2004

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.

November 5, 2003
Date of Survey

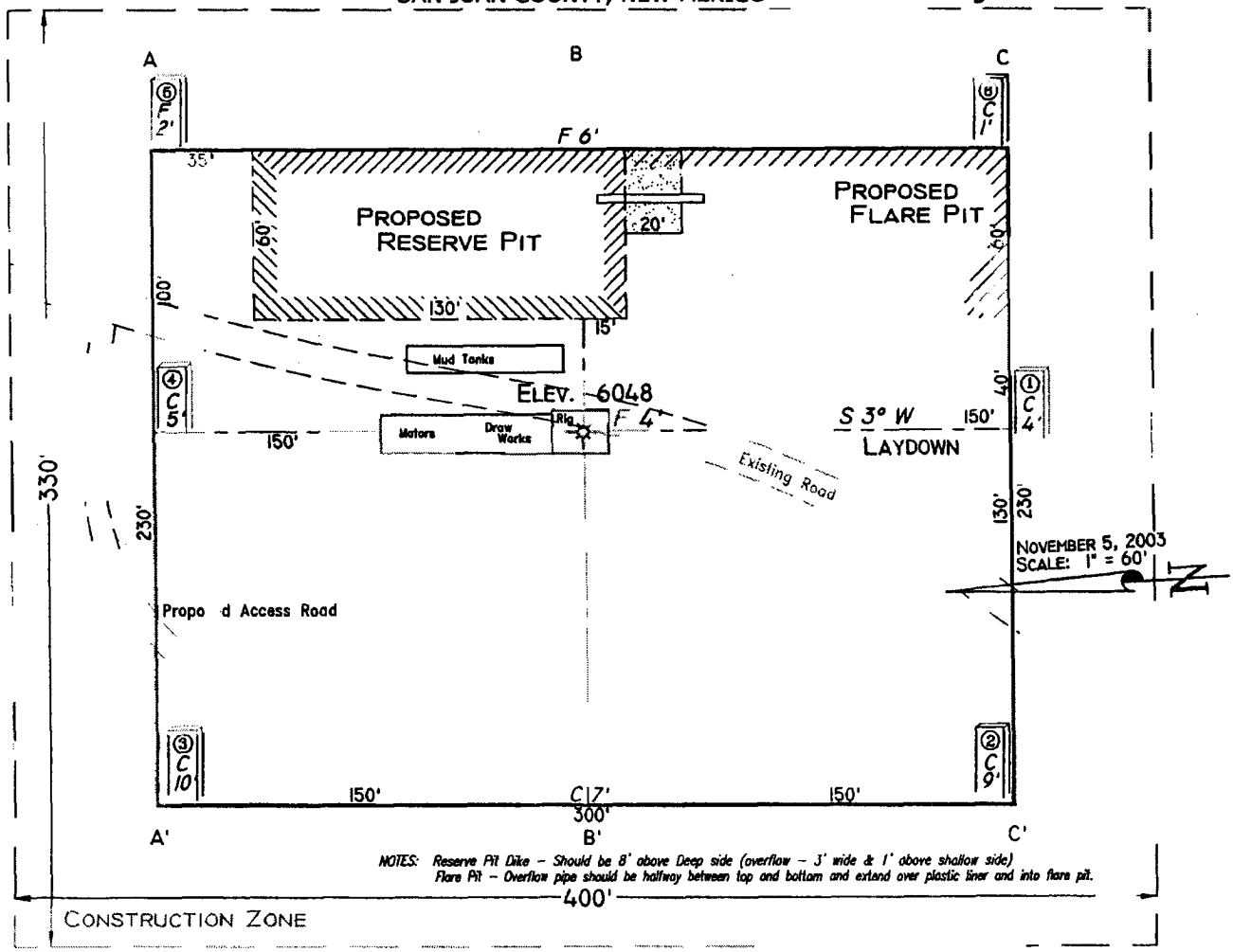
Signature and Seal of Professional Surveyor

GARY D. VANN
NEW MEXICO
7016
REGISTERED PROFESSIONAL LAND SURVEYOR

7016
Certificate Number

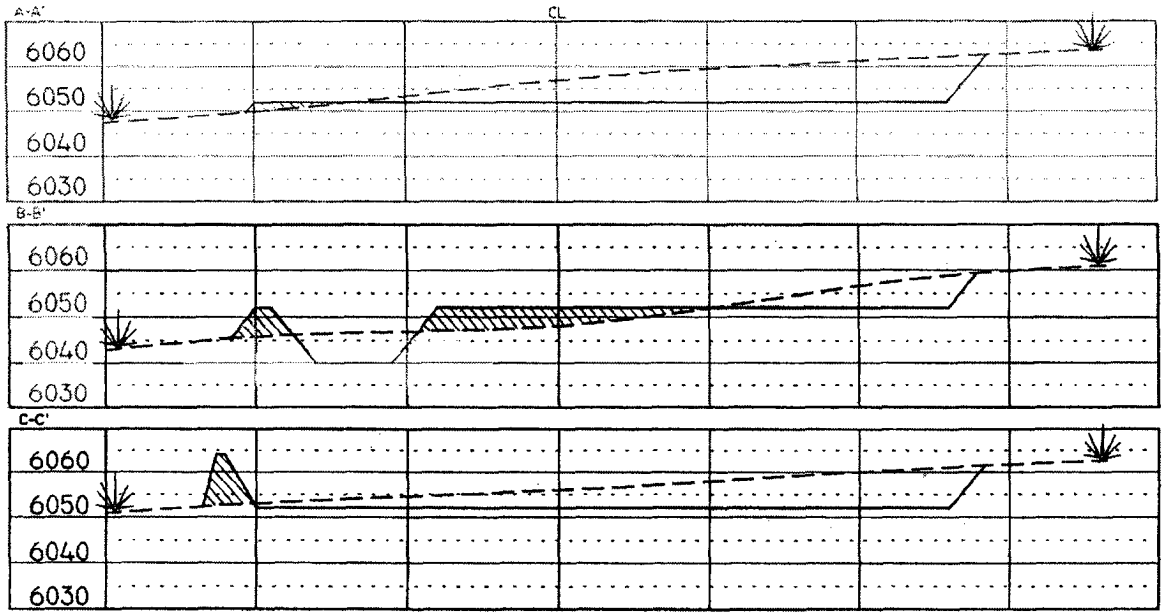
PAD LAYOUT PLAN & PROFILE
BP AMERICA PRODUCTION COMPANY
Warren LS # 4B
1730' F/SL 725' F/EL
SEC. 14, T28N, R9W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

Lat: 36°39'34"
Long: 107°45'05"



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

Prospect Name: **Warren LS** | **Well No:** **4 B**
Lease: Warren | **Surface Location:** 14-28N-9W; 1730 FSL, 725 FEL
County: San Juan | **Bottom Location:** Same as surface
State: New Mexico | **Field:** Blanco Mesaverde
Date: June 1, 2004

OBJECTIVE: Drill 400' below the top of the Point Lookout Sandstone, set 41/2" production liner, Stimulate CH, MF and PL intervals

METHOD OF DRILLING

TYPE OF TOOLS	DEPTH OF DRILLING
Rotary	0 - TD

LOG PROGRAM

TYPE	DEPTH INVERAL
OPEN HOLE	
None	
CASED HOLE	
GR-CCL-TDT	TDT – TD to 7" shoe
CBL	Identify 4 ½" cement top

REMARKS:
- Please report any flares (magnitude & duration).

APPROXIMATE DEPTHS OF GEOLOGICAL MARKER

Estimated GL: 6048 Estimated KB: 6062

MARKER		SUBSEA	TVD
Ojo Alamo		4552	1410
Kirtland		4606	1456
Fruitland		4173	1889
Fruitland Coal	*	3923	2139
Pictured Cliffs	*	3704	2358
Lewis	*	3481	2581
Cliff House	#	2152	3910
Menefee	#	2014	4048
Point Lookout	#	1435	4627
Mancos		1081	4981
TOTAL DEPTH		1035	5027

Probable completion interval * Possible Pay

SPECIAL TESTS

TYPE
None

REMARKS:

DRILL CUTTING SAMPLES

FREQUENCY	DEPTH
None	Production hole

DRILLING TIME

FREQUENCY	DEPTH
Geolograph	0-TD

MUD PROGRAM:

Approx. Interval			Type Mud	Weight, #/gal	Vis, sec/qt	W/L cc's/30 min	Other Specification
0	- ~~120~~ 235		Spud	8.6-9.2			
120	- 2089	(1)	Water/LSND	8.6-9.2		<6	
2089	- 5027		Gas/Air/N2/Mist	Volume sufficient to maintain a stable and clean wellbore			

REMARKS:
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.

CASING PROGRAM: (Normally, tubular goods allocation letter specifies casing sizes to be used. Hole sizes will be governed by Contract)

Casing String	Estimated Depth	Casing Size	Grade	Weight	Hole Size	Landing Pt, Cmt, Etc.
Surface/Conductor	~~120~~ 235	9 5/8"	H-40 ST&C	32#	12.25"	1
Intermediate 1	2089	7"	J/K-55 ST&C	20#	8.75"	1,2
Production	5027	4 1/2"	J-55	10.5#	6.25"	3,4

REMARKS:
(1) Circulate Cement to Surface
(2) Set casing 50' above Fruitland Coal
(3) Bring cement 100' above 7" shoe
(4) 100' Overlap

CORING PROGRAM:
None

COMPLETION PROGRAM:
Rigless, 2-3 Stage Limited Entry Hydraulic Frac

GENERAL REMARKS:
Notify BLM/NMOCD 24 hours prior to Spud, BOP testing, and Casing and Cementing.

Form 46 Reviewed by: Logging program reviewed by: N/A

PREPARED BY:	APPROVED:	DATE:	
HGJ/MNP/JMP		June 1, 2004 Version 1.0	

Form 46 12-00 MNP

BP America Production Company
BOP Pressure Testing Requirements

Well Name: Warren LS 4 B
County: San Juan **State:** New Mexico

Formation	Estimated TVD/MD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1410		
Fruitland Coal	2139		
PC	2358		
Lewis Shale	2581		
Cliff House	3910	500	0
Menefee Shale	4048		
Point Lookout	4627	600	0
Mancos	4981		

** Note: Determined using the following formula: ABHP – (.22*TVD) = ASP

Requested BOP Pressure Test Exception: 750 psi

SAN JUAN BASIN
Mesaverde Formation
Pressure Control Equipment

Background

The objective Mesaverde 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 rigs 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 Mesaverde. No abnormal temperature, pressure, or H2S anticipated.

Equipment Specification

Interval	BOP Equipment
Below conductor casing to total depth	9", 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 750 psi (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include 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 Submitted 11/24/2003.

BP America Production Company respectfully request permission to drill the subject well to a total depth of approximately 5027' and complete in the Blanco Mesaverde Pool.

As an alternate to the drilling of the surface hole with drilling mud as stated on the attached Form 46, BP request permission to either drill with drilling mud or with air/air mist. Additionally, BP request as a possible alternate to the cementing of the surface casing to be either the cementing program stated on the attachment or with approximately 90 CU/FT TYPE I-II, 20% FLYASH, 14.5 PPG, 7.41 GAL/SK, 1.61 CF/SK YIELD, 80 DEG BHST READY MIX CMT.

SUPPLEMENTAL TO SURFACE USE PLAN

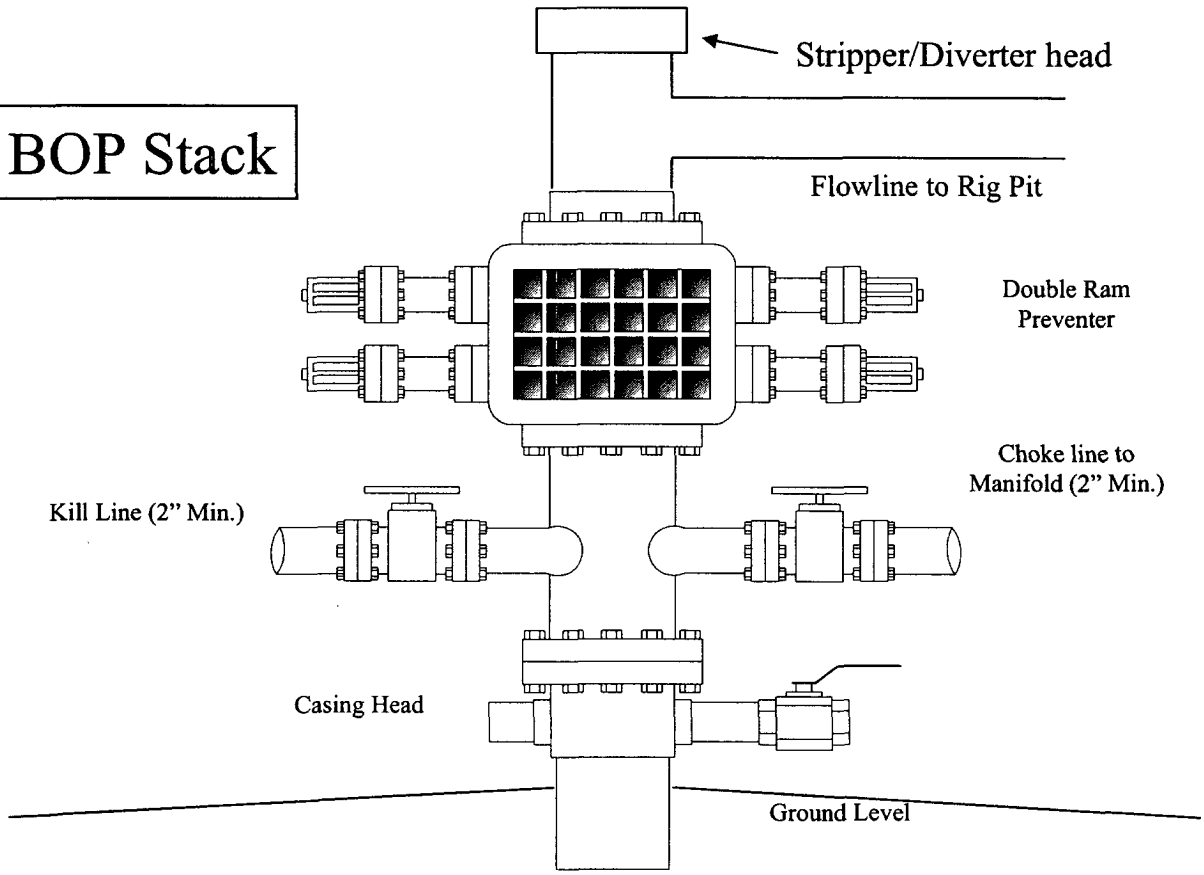
New facilities:

A 4 1/2" diameter buried steel pipeline that is + or - 1320 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 well 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 to El Paso Field Services (Gulf Terra), refer to the attached survey plat.

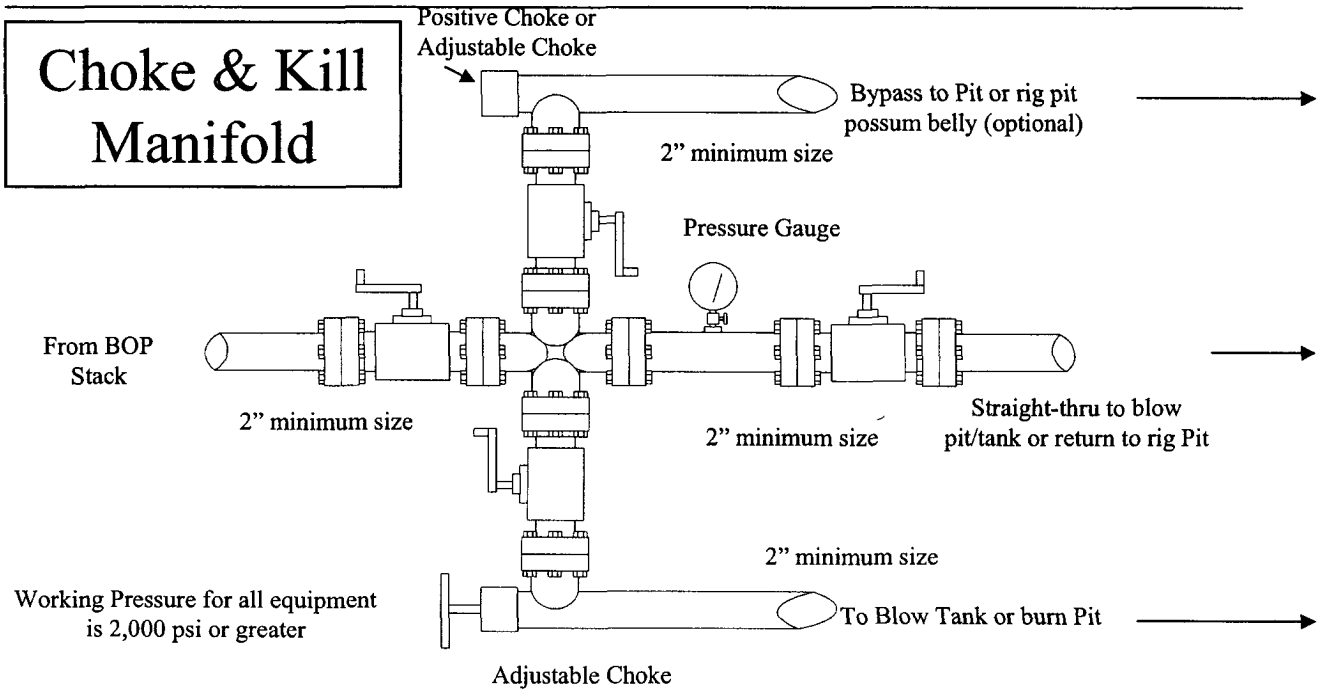
BP American Production Company

Well Control Equipment Schematic

BOP Stack



Choke & Kill Manifold



Cementing Program

Well Name:	Warren LS 4B	Field:	Blanco Mesaverde
Location:	14-28N-09W, 1730 FSL, 1725 FEL	API No.	
County:	San Juan	Well Flac	
State:	New Mexico	Formation:	MesaVerde
		KB Elev (est)	6062
		GL Elev. (est)	6048

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	~~120~~ 235	12.25	9.625	ST&C	Surface	NA	
Intermediate	2089	8.75	7	~~ST&C~~ LT&C	Surface	NA	
Production -	5027	6.25	4.5		1989	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~~ 2270	1400	254	0.0787	8.845
Intermediate	7	20	K-55	3740	2270	~~254~~ 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
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	100	40
Excess %, Tail	NA	0	40
BHST (est deg. F)	72	110	159
Time Between Stages, (hr)	NA	NA	NA
Special Instructions	1,6	1,6	2,6

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 minmize drillout.

Surface:

Preflush	20 bbl.	FreshWater	
Slurry 1	60 sx Class C Cement		75 cuft
TOC@Surface	+ 2% CaCl2 (accelerator)		
			0.3132 cuft/ft OH
			100 % excess

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	180 sx	Class "G" Cement	463 cuft
	Slurry 1		+ 3% D79 extender	
	TOC@Surface		+1/4 #/sk. Cellophane Flake	
			+ 0.1% D46 antifoam'	
		60 sx	50/50 Class "G"/Poz	
	Tail		+ 2% gel (extender)	75 cuft
	Slurry 2		0.1% D46 antifoam	
	500 ft fill		+1/4 #/sk. Cellophane Flake	0.1503 cuft/ft OH
			+ 2% S1 Calcium Chloride	0.1746 cuft/ft csg ann
				80 % excess

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	11.7	2.61	17.77
Slurry 2	13.5	1.27	5.72

Casing Equipment: 7", 8R, ST&C

1 Float Shoe
1 Float Collar
1 Stop Ring
Centralizers, one every other joint to base of Ojo
2 Turbolizers across Ojo
Centalizers, one every 4th joint from Ojo to base of surface casing
1 Top Rubber Plug
1 Thread Lock Compound

Production:

	Fresh Water	10 bbl	CW100	
	Slurry	180	LiteCrete D961 / D124 / D154	
			+ 0.03 gps D47 antifoam	438 cuft
			+ 0.5% D112 fluid loss	
	TOC@Liner Top		+ 0.11% D65 TIC	
				0.1026 cuft/ft OH
				40 % excess
				0.1169 cuft/ft csg ann

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry	9.5	2.52	6.38

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