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.: SF - 078502

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.: VANDEWART 1N

2. Name of Operator: BP AMERICA PRODUCTION COMPANY
Contact: CHERRY HLAVA
E-Mail: hlavacl@bp.com

9. API Well No.: 30045 32302

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

3b. Phone No. (include area code): Ph: 281.366.4081, Fx: 281.366.0700

10. Field and Pool, or Exploratory: BASIN DAKOTA & BLANCO MESAVE

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface: NESE 1715FSL 775FEL 36.44130 N Lat, 107.38200 W Lon
At proposed prod. zone

11. Sec., T., R., M., or Blk. and Survey or Area: Sec 11 T29N R8W Mer NMP

14. Distance in miles and direction from nearest town or post office*: 20.6 MILES EAST FROM BLOOMFIELD, NM

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): 775'

16. No. of Acres in Lease

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.

19. Proposed Depth: 7652 MD

20. BLM/BIA Bond No. on file: WY2924

21. Elevations (Show whether DF, KB, RT, GL, etc.: 6385 GL

22. Approximate date work will start: 06/15/2004

23. Estimated duration: 7 DAYS

DEC 2004

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: 04/13/2004

Title: REGULATORY ANALYST

Approved by (Signature): [signature]
Name (Printed/Typed)
Date: 12/22/04

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 #29506 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
30-045-32302	71599 ; 72319	Basin Dakota ; Blanco Mesaverde

4 Property Code	5 Property Name	6 Well Number
001200	Vandewart	# 1N

7 OGRID No.	8 Operator Name	9 Elevation
000778	BP AMERICA PRODUCTION COMPANY	6385

10 Surface Location

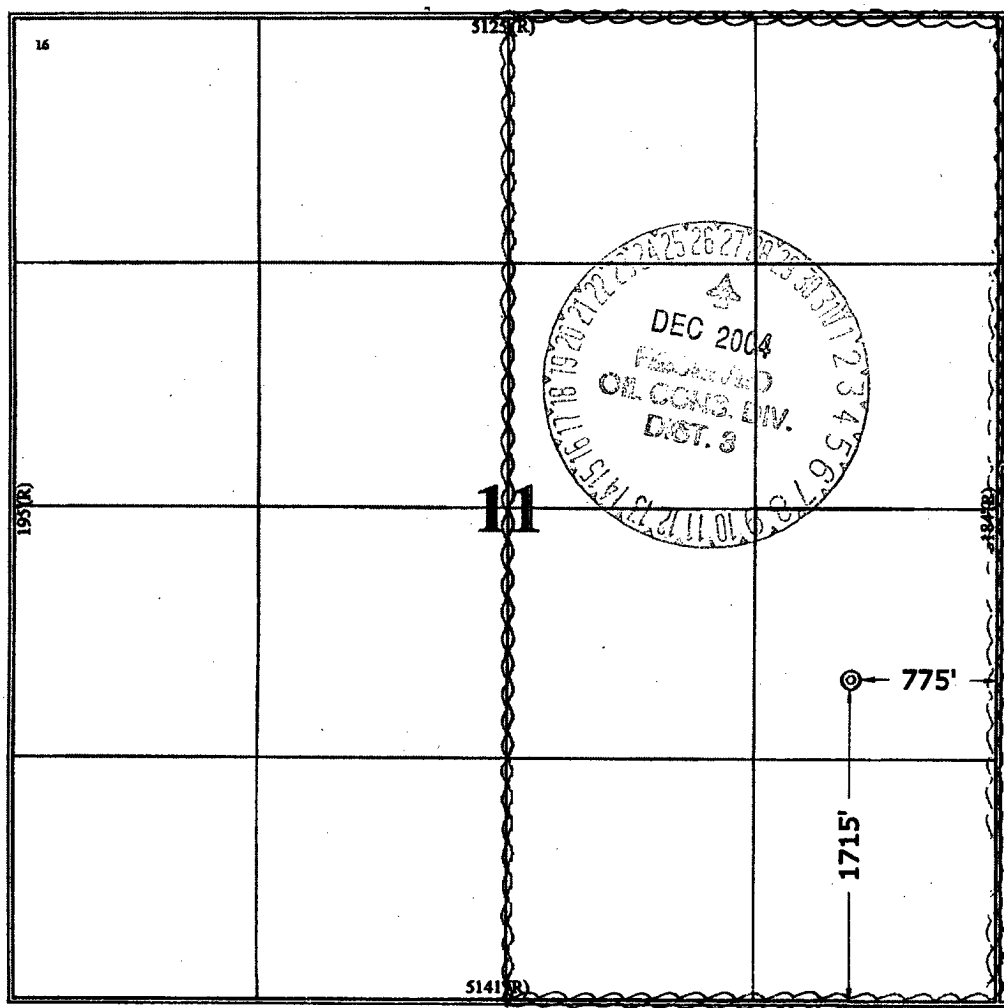
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	11	29 N	8 W		1715	SOUTH	775	EAST	SAN JUAN

11 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 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



(R) – BLM Record

17 OPERATOR CERTIFICATION

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

Signature: Cherry Hlava

Printed Name: Cherry Hlava

Title: Regulatory Analyst

Date: 4-12-04

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.

Date of Survey: March 17, 2004

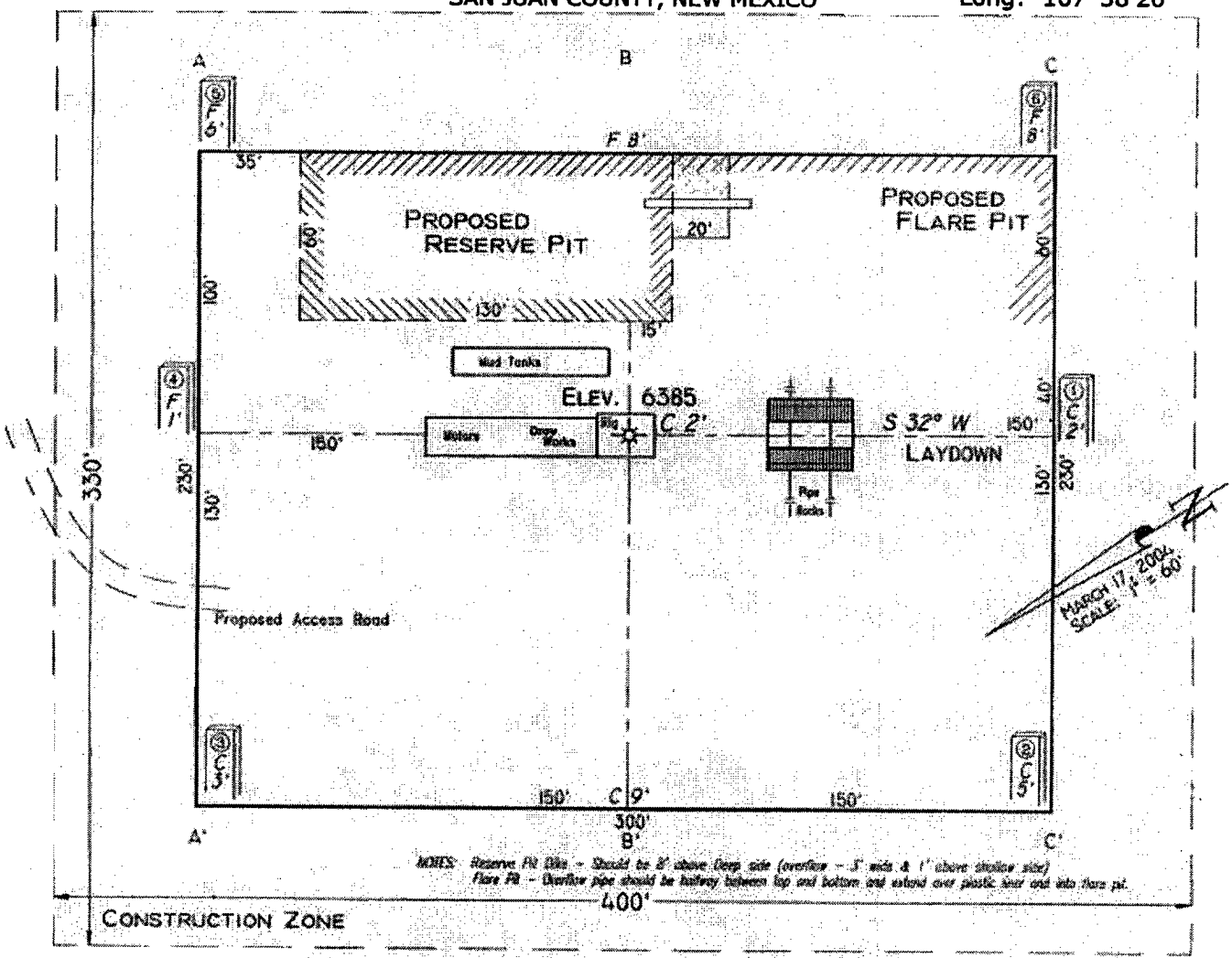
Signature and Seal of Professional Surveyor

GARY D. VANN NEW MEXICO 7016 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate Number: 7016

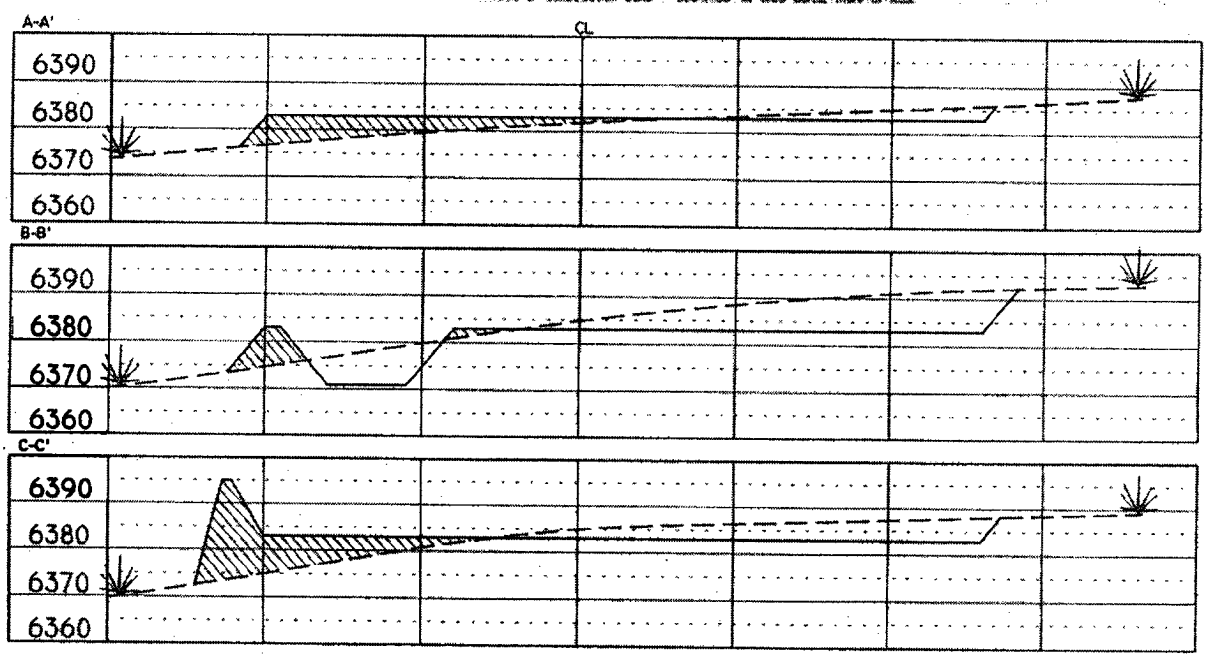
PAD LAYOUT PLAN & PROFILE
BP AMERICA PRODUCTION COMPANY
Vandewart # 1N
1715' F/SL 775' F/EL
SEC. 11, T29N, R8W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

Lat: 36°44'13"
Long: 107°38'20"



Area of Construction Zone - 300'x400' or 1.83 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

Additional Operator Remarks:

Notice of Staking was submitted on 03/31/2004

BP America Production Company respectfully requests permission to drill the subject well to a total depth of approximately 7682 feet and complete into the Basin Dakota, 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.

Application for Downhole commingling authority (NMOCD order R-11363) will be submitted to NMOCD after Permit to Drill has been approved.
SUPPLEMENTAL TO SURFACE USE PLAN

New Facilities:
A 4 diameter buried steel pipeline that is + or - 800 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 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.

If the casing is pre-set, a 12 1/4" hole will be drilled.

BP AMERICA PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM

Prospect Name: Vandewart
Lease: Vandewart
County: San Juan
State: New Mexico

Well No: 1 N
Surface Location: 11-29N-8W, 1715 FSL, 775 FEL
Field: Blanco Mesaverde/Basin Dakota

Date: April 6, 2004

OBJECTIVE: Drill 260' below the top of the Two Wells; set 41/2" production casing. Stimulate CH, MF, PL and DK intervals

METHOD OF DRILLING

TYPE OF TOOLS	DEPTH OF DRILLING
Rotary	0 - TD

LOG PROGRAM

TYPE	DEPTH INTERVAL
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: 6385' Estimated KB: 6399'

MARKER		SUBSEA	TVD.
Ojo Alamo		4320'	2079'
Kirkland		4153'	2246'
Fruitland		3782'	2617'
Fruitland Coal	*	3507'	2892'
Pictured Cliffs	*	3307'	3092'
Lewis Shale	#	3024'	3375'
Cliff House	#	1778'	4621'
Menefee Shale	#	1466'	4933'
Point Lookout	#	1112'	5288'
Mancos		745'	5654'
Greenhorn		-884'	7283'
Bentonite Marker		-947'	7346'
Two Wells	#	-993'	7392'
Paguate	#	-1080'	7479'
Cubero Upper	#	-1105'	7504'
Cubero Lower	#	-1141'	7540'
Encinal Canyon	#	-1186'	7585'
TOTAL DEPTH		-1253'	7652'

Probable completion interval * Possible Pay

SPECIAL TESTS

TYPE
None

REMARKS:

DRILL CUTTING SAMPLES

FREQUENCY	DEPTH
10'	3475' -TD

DRILLING TIME

FREQUENCY	DEPTH
Geolograph	0-TD

MUD PROGRAM:

Approx. Interval			Type Mud	Weight, #/ga	Vis, sec/qt	W/L cc's/30 min	Other Specification
0	- 120		Spud	8.6-9.2			
120	- 3475	(1)	Water/LSND	8.6-9.2		<6	
3475	- 7652		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	9 5/8"	H-40 ST&C	32#	13.5"	1
Intermediate 1	3475	7"	J/K-55 ST&C	20#	8.75"	1,2
Production	7652	4 1/2"	J-55	11.6#	6.25"	3

REMARKS:
(1) Circulate Cement to Surface
(2) Set casing 100' into Lewis Shale
(3) Bring cement 100' above 7" shoe

CORING PROGRAM:
None

COMPLETION PROGRAM:
Rigless, 3-4 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		April 6, 2004 Version 1.0	

Form 46 12-00 MNP

BP America Production Company
BOP Pressure Testing Requirements

Well Name: Vanderwart 1 N
County: San Juan **State:** New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	2079		
Fruitland Coal	2892		
PC	3092		
Lewis Shale	3375		
Cliff House	4621	500	0
Menefee Shale	4933		
Point Lookout	5288	600	0
Mancos	5654		
Dakota	7392	2600	1449

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

Requested BOP Pressure Test Exception: 1500 psi

SAN JUAN BASIN
Dakota/MV 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.

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.

Cementing Program

Well Name:	Vanderwart 1N	Field:	Blanco Mesaverde / Basin Dakota
Location:	11-29N-08W, 1715 FSL, 775 FEL	API No.	
County:	San Juan	Well Flac	
State:	New Mexico	Formation:	Dakota MesaVerde
		KB Elev (est)	6399
		GL Elev. (est)	6385

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	~~12.25~~ 13.5	9.625	ST&C	Surface	NA	
Intermediate	3475	8.75	7	~~ST~~LT&C	Surface	NA	
Production -	7652	6.25	4.5	ST&C	3375	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~~ 3270	1400	254	0.0787	8.845
Intermediate	7	20	K-55	3740	2270	~~234~~ 231	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	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 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

Slurry Properties:	Density (lb/gal)	Yield (ft3/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	300 sx	Class "G" Cement	~~772~~ 783 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 (lb/gal)	Yield (ft3/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 centalizers @ base of Ojo
1 Top Rubber Plug
1 Thread Lock Compound

Production:

Fresh Water	10 bbl	CW100	
Lead	160	LiteCrete D961 / D124 / D154	~~385~~ 403 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	215 cuft
Slurry 2		+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
1498 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

Slurry Properties:	Density (lb/gal)	Yield (ft3/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 5654

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.

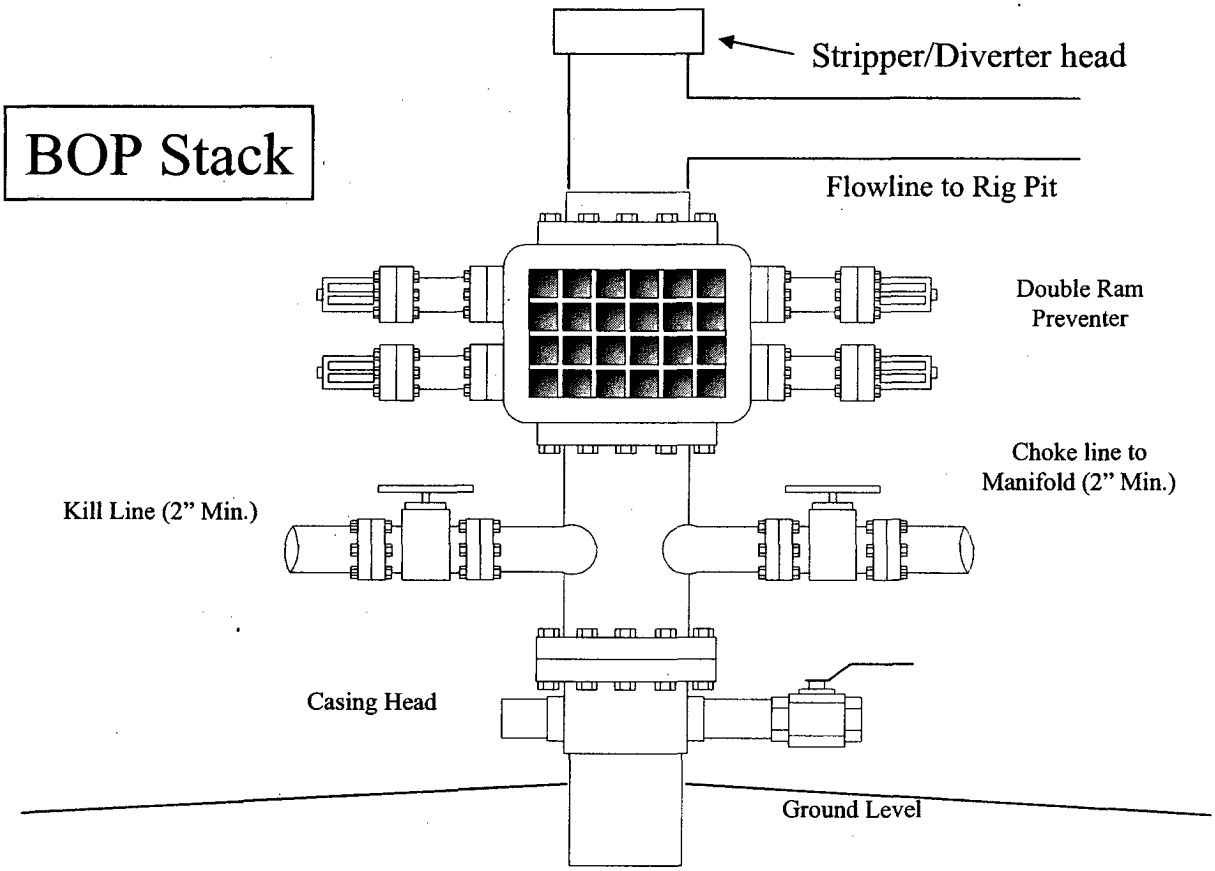
1 Top Rubber Plug

1 Thread Lock Compound

BP American Production Company

Well Control Equipment Schematic

BOP Stack



Choke & Kill Manifold