

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

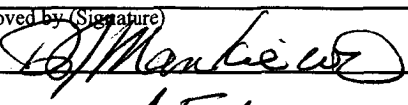
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM - 04208
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input 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. MCCULLEY LS 4S
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. 3004532426
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNW 1490FNL 910FWL 36.66528 N Lat, 107.76389 W Lon At proposed prod. zone		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
14. Distance in miles and direction from nearest town or post office* 17 MILES SOUTH/EAST FROM BROOMFIELD, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec 14 T28N R9W Mer NMP
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 910'	16. No. of Acres in Lease	12. County or Parish SAN JUAN
17. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 75'	18. Proposed Depth 2378 MD	13. State NM
19. Elevations (Show whether DF, KB, RT, GL, etc.) 5896 GL	20. Approximate date work will start 05/15/2004	17. Spacing Unit dedicated to this well 320.00 <input checked="" type="checkbox"/> 2
21. Estimated duration 5 DAYS		20. BLM/BIA Bond No. on file WY2924
22. Estimated duration 5 DAYS		23. Estimated duration 5 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 06/21/2004
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 8-19-04
Title AFM		

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 #32160 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 30-045-32426		² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 000854	⁵ Property Name McCulley LS		⁶ Well Number # 4S
⁷ OGRID No. 000778	⁸ Operator Name BP AMERICA PRODUCTION COMPANY		⁹ Elevation 5896

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
E	14	28 N	9 W		1490	NORTH	910	WEST	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 320		¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ 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

	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature <u>Cherry Hlava</u> Printed Name <u>Cherry Hlava</u> Title <u>Regulatory Analyst</u> Date <u>6-16-04</u>
	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 <u>April 21, 2004</u> Signature and Seal of Professional Surveyor 7016 Certificate Number

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

WELL API NO.
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name McCulley LS (Federal Well NM - 04208)
8. Well Number 4 S
9. OGRID Number
10. Pool name or Wildcat Basin Fruitland Coal

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.)

1. Type of Well:
Oil Well ☐ Gas Well ☒ Other

2. Name of Operator
BP AMERICA PRODUCTION CO

3. Address of Operator
P.O. BOX 3092 HOUSTON, TX 77079-2064

4. Well Location

Unit Letter E : 1490 feet from the NORTH line and 910 feet from the WEST line

Section 14 Township 28N Range 09W NMPM SAN JUAN County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5896' GR

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit Location: UL E Sect 35 Twp 28N Rng 09W Pit type Drilling Depth to Groundwater 100'-200' Distance from nearest fresh water well >1000'

Distance from nearest surface water > 1000' Below-grade Tank Location UL E Sect 14 Twp 28N Rng 09W ;

1390' feet from the North line and 925 feet from the West line PLEASE SEE ATTACHED PAD

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: Lined Drilling PIT PERMIT ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

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 Cherry Hlava TITLE Regulatory Analyst DATE 6/18/04

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

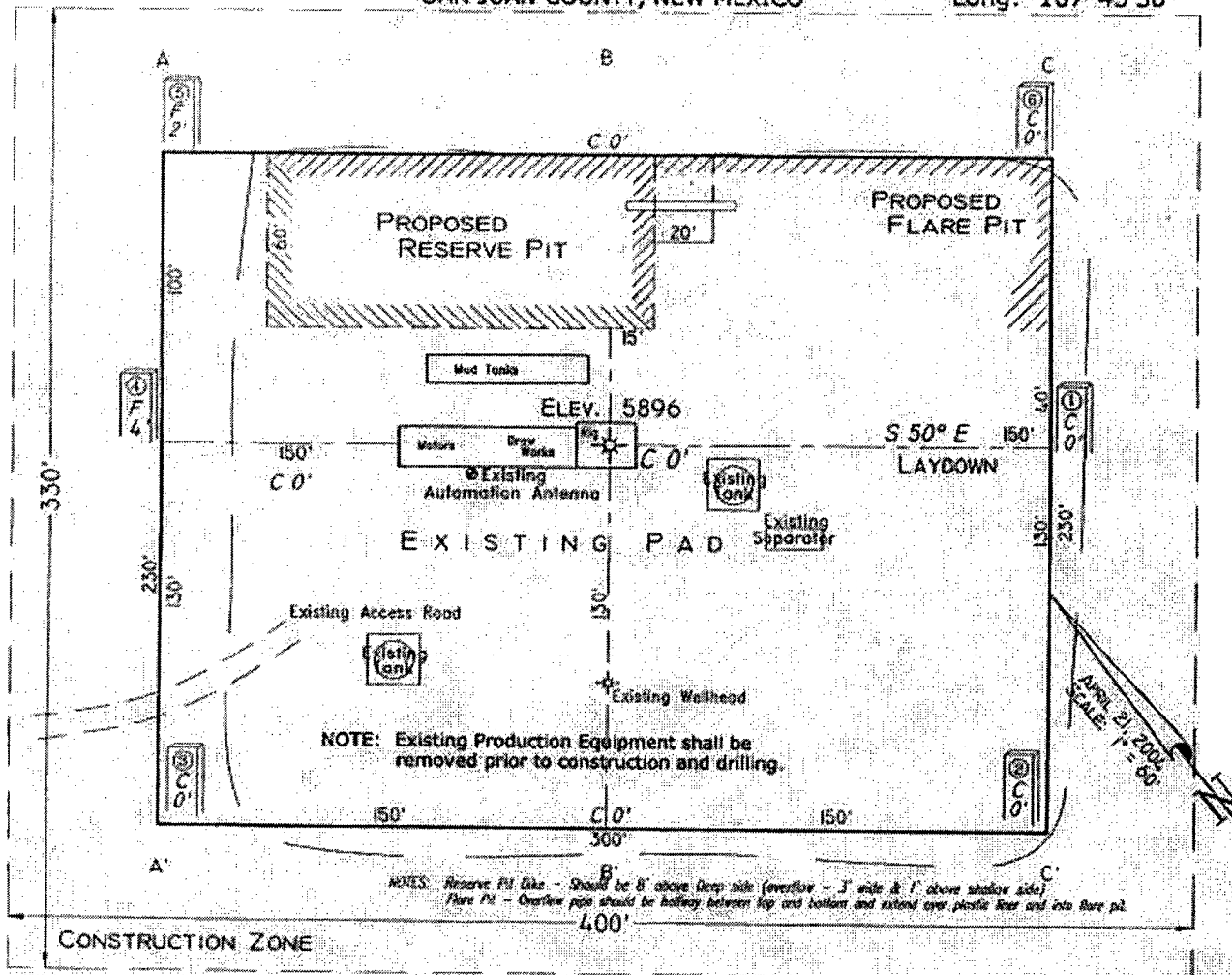
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APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 32 DATE AUG 20 2004

Conditions of approval, if any:

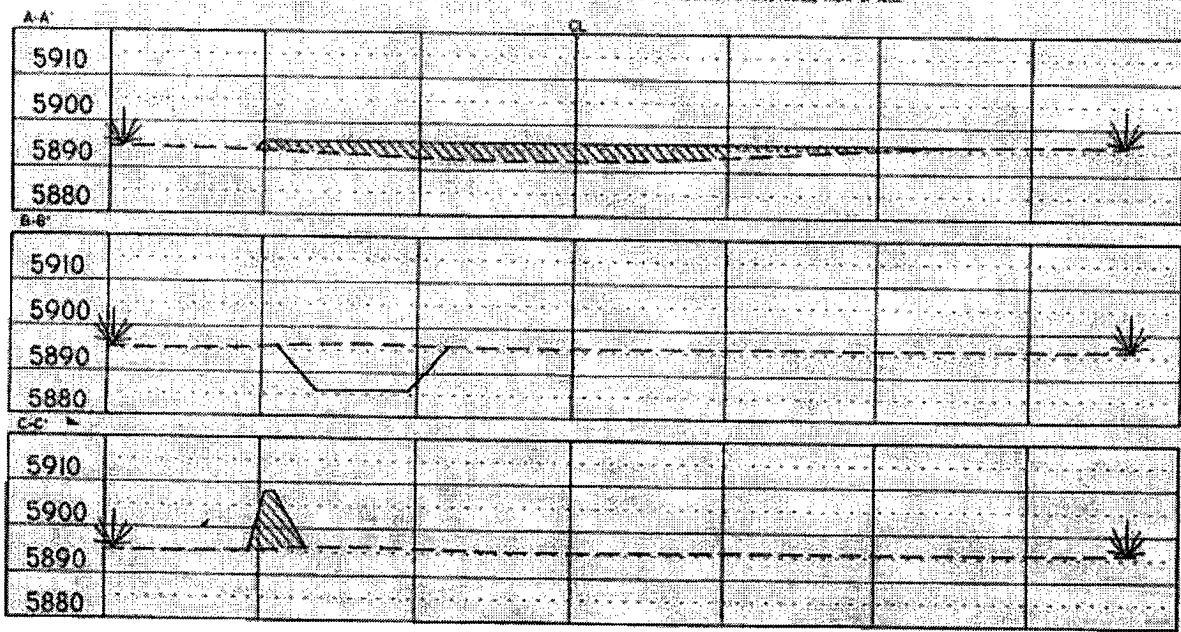
PAD LAYOUT PLAN & PROFILE
BP AMERICA PRODUCTION COMPANY
 McCulley LS #4S
 1490' F/NL 910' F/WL
 SEC. 14, T28N, R9W, N.M.P.M.
 SAN JUAN COUNTY, NEW MEXICO

Lat: 36°39'55"
 Long: 107°45'50"



Area of Construction Zone - 330'x400' or 3.83 acres, more or less.

SCALE: 1"=200' 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 as earthwork will balance. Corner stakes are approximate and do not include additional areas needed for sidelaps and drainages. Final Pad Dimensions are to be verified by Contractor.

VANN SURVEYS
 P. O. Box 1306
 Farmington, NM

Additional Operator Remarks:

This well is staked on existing McCulley LS 2A well pad.

Additional Operator Remarks:

Notice of Staking was submitted on 05/07/2004.

BP America Production Company respectfully requests permission to drill the subject well to a total depth of approximately 2378' and complete into the Basin Fruitland Coal Pool as per the attached drilling procedure.

SUPPLEMENTAL TO SURFACE USE PLAN**New Facilities:**

A 4" diameter buried steel pipeline that is + or - 300 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.

If conditions allows it is our intent to pre-set the 8 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.

Also attached is the lined drill pit application for NMOCD purposes.

**BP AMERICA PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM**

Prospect Name: McCulley LS
Lease:

County: San Juan
State: New Mexico
Date: June 10, 2004

Well No: 4S
Surface Location: Section 14E, T28N, R9W; 1490'
FNL, 910' FWL
Field: Basin Fruitland Coal

OBJECTIVE: Drill to a TD of 2378' kb set 7" casing and perf and frac the Fruitland Coal interval.					
METHOD OF DRILLING			APPROXIMATE DEPTHS OF GEOLOGICAL MARKER		
TYPE OF TOOLS Rotary		DEPTH OF DRILLING 0 - 2378' KB	Estimated GL: 5896 Estimated KB: 5909		
LOG PROGRAM			MARKER	SUBSEA	MEAS. DEPTH
			Ojo Alamo	4746	1163
			Kirtland	4600	1309
			Fruitland	4002	1907
			Fruitland Coal	*# 3895	2014
			Pictured Cliffs	* 3681	2228
TYPE <u>Cased-hole gamma-ray</u>		DEPTH INVERAL Minimum charge depth - TD			
REMARKS:			TOTAL DEPTH		3531 2378
			# Probable completion interval		* Possible Pay
SPECIAL TESTS			DRILL CUTTING SAMPLES		DRILLING TIME
TYPE None			FREQUENCY none	DEPTH none	FREQUENCY DEPTH Geologist 0-2378
REMARKS:					

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 - 2378 (1)	Water/LSND	8.6-9.2		<6	
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	8-5/8"	H-40, 8 RND	20.0	12.5" 1
Intermediate	2378	5-1/2"	J-55, 8 RND	15.5	8.75" 1
REMARKS:					
(1) Circulate Cement to Surface					
CORING PROGRAM:					
None					
COMPLETION PROGRAM:					
Rigless, Single Stage Limited Entry Hydraulic Frac					
GENERAL REMARKS:					
Notify BLM/NMOCDD 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:	
Daniel Crosby				6/10/2004	
Form 46 12-00 MNP					

BOP Test Pressure

BP America Production Company BOP Pressure Testing Requirements

Well Name: McCulley LS 4S
County: San Juan

State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1163		
Kirtland	1309		
Fruitland Coal	2014	400	0
PC	2228		
Lewis Shale			
Cliff House			
Menefee Shale			
Point Lookout			
Mancos			
Dakota			

** Note: Determined using the following formula: $ABHP - (.22 \times TVD) = ASP$

Requested BOP Pressure Test Exception: 850 psi

SAN JUAN BASIN
Fruitland Formation
Pressure Control Equipment

Background

The objective Fruitland Coal 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~~ *Fruitland Coal*. No abnormal temperature, pressure, or H2S anticipated.

Equipment Specification

Interval

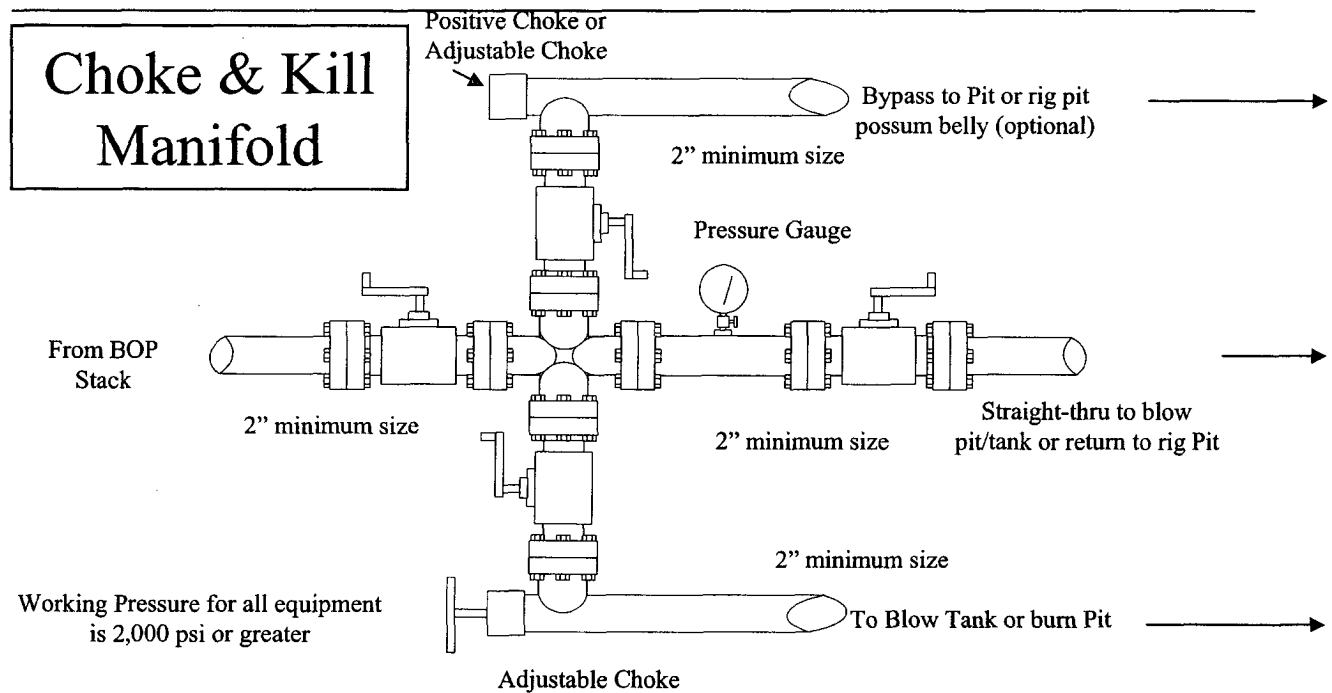
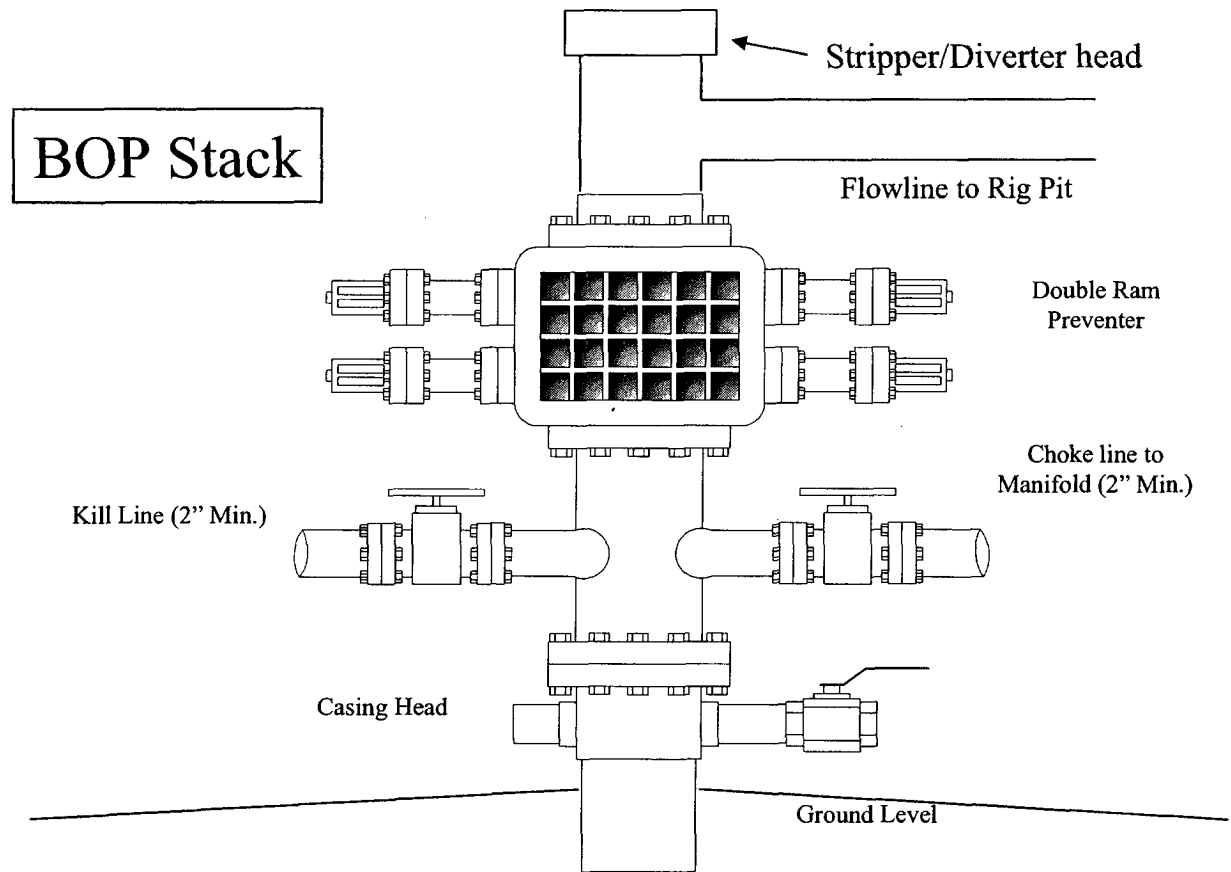
BOP Equipment

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.

BP American Production Company

Well Control Equipment Schematic



Cementing Program

Well Name: McCulley LS 4S	Field: Basin Fruitland Coal
Location: Sec 14 - 28N - 09W, 1490' FNL, 910' FWL	API No.
County: San Juan	Well Flac
State: New Mexico	Formation: Fruitland Coal
	KB Elev (est) 5909
	GL Elev. (est) 5896

Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)
Surface	120	12.5	8 5/8	8rd	Surface
Production -	2378	8.75	5 1/2	8rd	Surface

Casing Properties:

(No Safety Factor Included)			
Casing String	Size (in.)	Weight (lb/ft)	Grade
Surface	8 5/8	20	H-40
Production -	5 1/2	15.5	J-55

Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight	Recommended Mud Properties Prio Cementing:
			PV <20
			YP <10
0 - SCP	Water/Spud	8.6-9.2	Fluid Loss <6
SCP - TD	Water/LSND	8.6-9.2	

Cementing Program:

	Surface	Production
Excess %, Lead	100	40
Excess %, Tail	NA	40
BHST (est deg. F)	75	120
Special Instructions	1,6,7	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	80 sx Class C Cement		99 cuft
TOC@Surface	+ 2% CaCl2 (accelerator)		
			0.4127 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:

8-5/8", 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

Production:

Fresh Water	10 bbl	CW100	
Lead	250 sx Class "G" Cement		646 cuft
Slurry 1	+ 3% D79 extender		

Cementing Program

TOC@Surface		+ 2% S1 Calcium Chloride		
		+1/4 #/sk. Cellophane Flake		
		+ 0.1% D46 antifoam'		
Tail		140	sx 50/50 Class "G"/Poz	177 cuft
Slurry 2		+ 2% gel (extender)		
	500 ft fill	0.1% D46 antifoam		0.2526 cuft/ft OH
		+1/4 #/sk. Cellophane Flake		0.2009 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:		5 1/2", 8R, ST&C		
		1 Float Shoe (autofill with minimal LCM in mud)		
		1 Float Collar (autofill with minimal LCM in mud)		
		1 Top Rubber Plug		
		1 Thread Lock Compound		
