FORM 3160-3
(December 1990)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires December 31, 1991

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: Jicarilla Apache Contract #93

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Jicarilla Apache Nation

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

1b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER [ ] SINGLE ZONE [X] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME, WELL NO.: Jicarilla 93 #2B

2. NAME OF OPERATOR: Williams Production Company LLC

9. API WELL NO.: 3003929291

3. ADDRESS OF OPERATOR: P.O. Box 316 - Ignacio, CO 81137 (970) 563-3308

10. FIELD AND POOL OR WILDCAT: Blanco Mesa Verde

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At Surface: 1980' FNL & 1975' FEL
At proposed Prod. Zone:

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: G Sec. 34. T27N, R3W

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 16 miles NE of Lindrith, NM

12. COUNTY OR PARISH: Rio Arriba

13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1975'

16. NO. OF ACRES IN LEASE: 2560

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320 E/2

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT.: 1560'

19. PROPOSED DEPTH: 6438'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 7158' GR

22. APPROX. DATE WORK WILL START*: February 15, 2004

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36.0#	~250 ft	~205 cu.ft. Type III with 2% $CaCl_2$
8-3/4"	7"	20.0#	~ 4313 ft	~1019 cu.ft.65/35 poz & ~139 cu.ft.Type III
6-1/4"	4-1/2"	10.5#	~ 4213'-6438 ft	~290 cu.ft.Premium Light w/ additives

Williams Production Company proposes to drill a vertical well to develop the Mesa Verde formation at the above described location in accordance with the attached drilling and surface use plans.

This location has been archaeologically surveyed by Velarde Energy Service. Copies of their report have been submitted directly to your office.

This APD also is serving as an application to obtain BLM road and pipeline right-of-ways. This well will require appro: of new access road. This road proceeds northeast in the NE qtr of sec 34 where it joins an existing road. This road the proceeds north in the NE qtr of sec 34 and the SE qtr of sec 27, T27N, R3W where it joins NM hwy #537.

RECEIVED
03 DEC 18 AM 9:
070 FARMINGTON NM
BLM

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM : If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED Larry Higgins TITLE Larry Higgins, Drlg COM DATE 12/16/2003

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

Application approval does not warrant or certify that 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:

APPROVED BY D. Mankiewicz TITLE AFM DATE 1-20-05

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

NMOCD

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

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
30-039-29291	72319	BLANCO MESAVERDE

4 Property Code	5 Property Name	6 Well Number
17029	JICARILLA 93	2B

7 OGRID No.	8 Operator Name	9 Elevation
120782	WILLIAMS PRODUCTION COMPANY	7158'

10 Surface Location

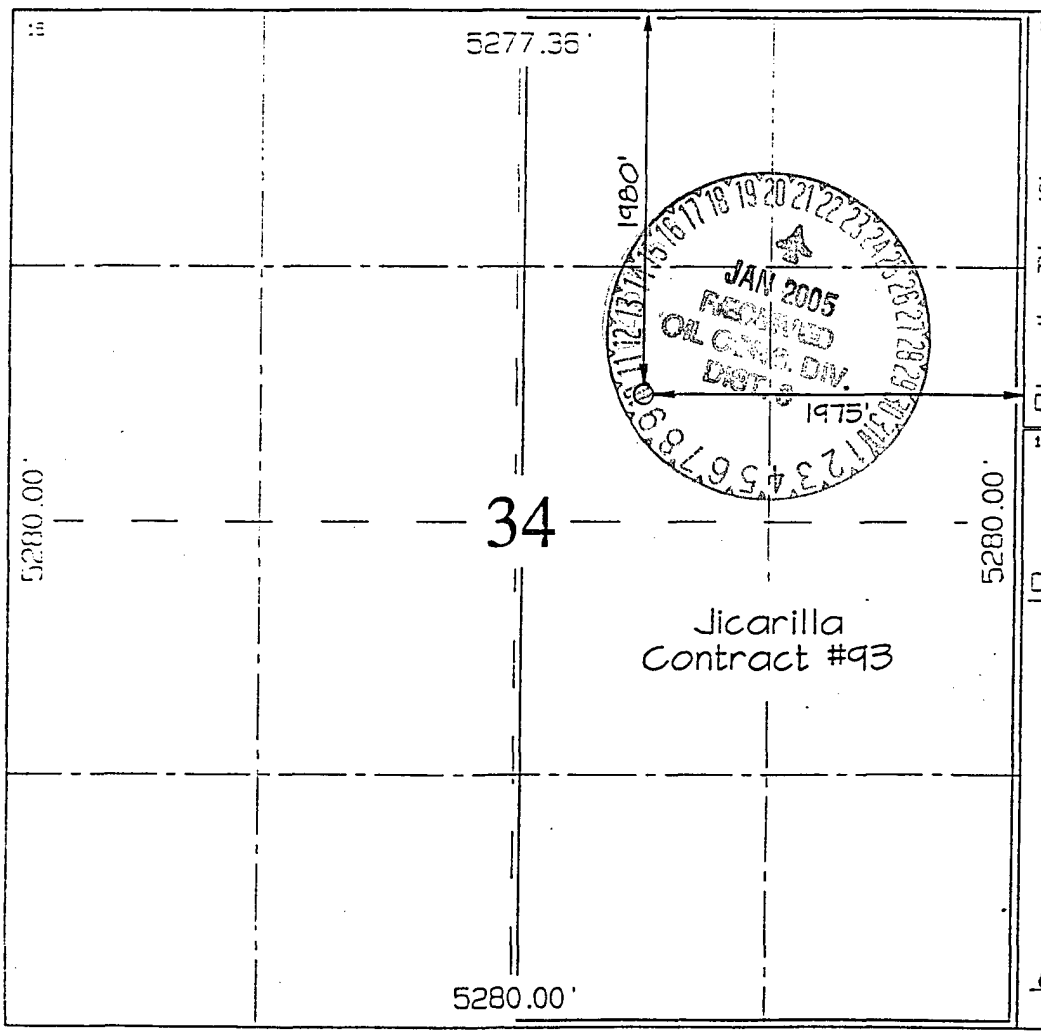
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	34	27N	3W		1980	NORTH	1975	EAST	RIO ARRIBA

11 Bottom Hole Location If Different From Surface

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.
320.0 Acres - (E/2)			

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: Larry Higgins

Printed Name: LARRY HIGGINS

Title: DRILLING COM

Date: 12-16-03

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: AUGUST 21, 2003

Signature and Seal of Professional Surveyor

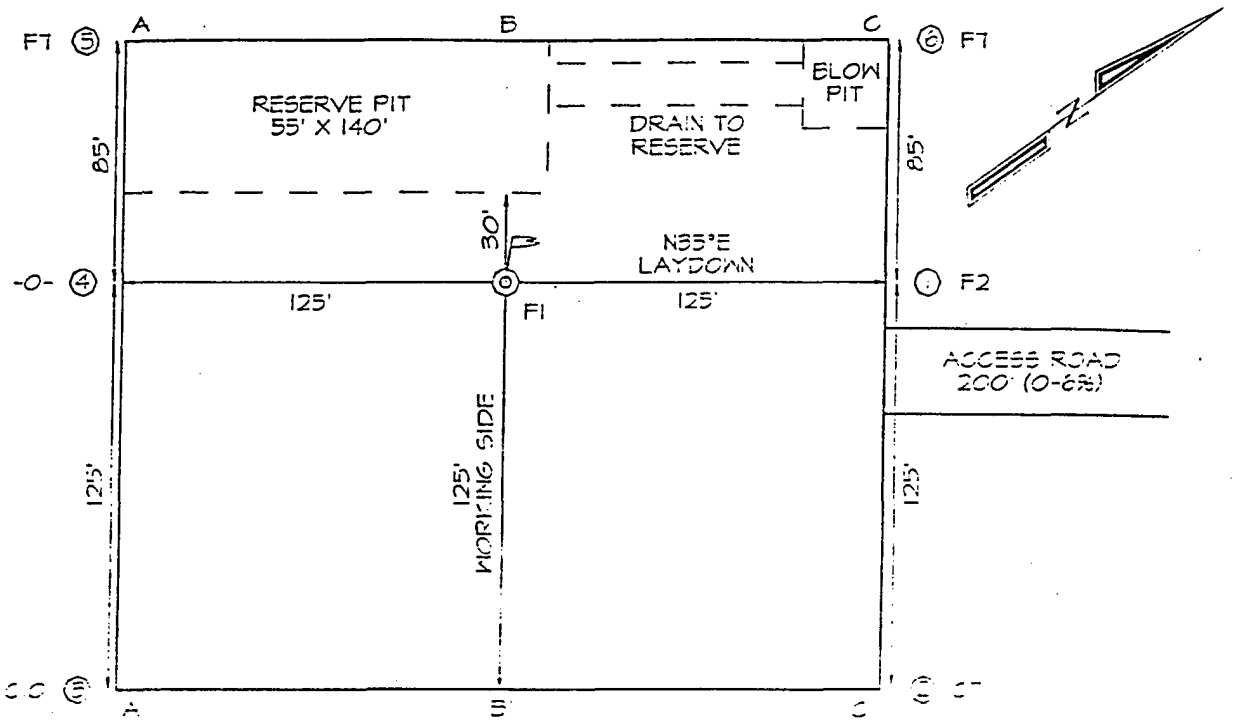
JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS

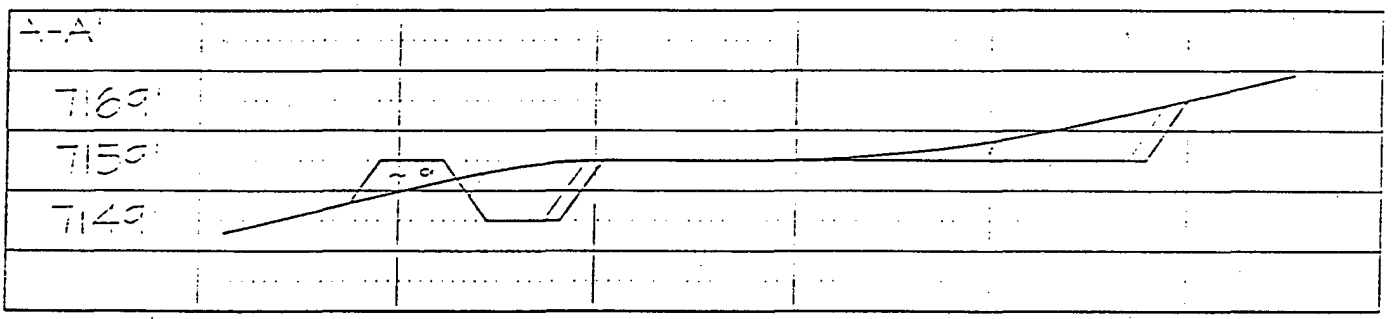
Certificate Number 15269

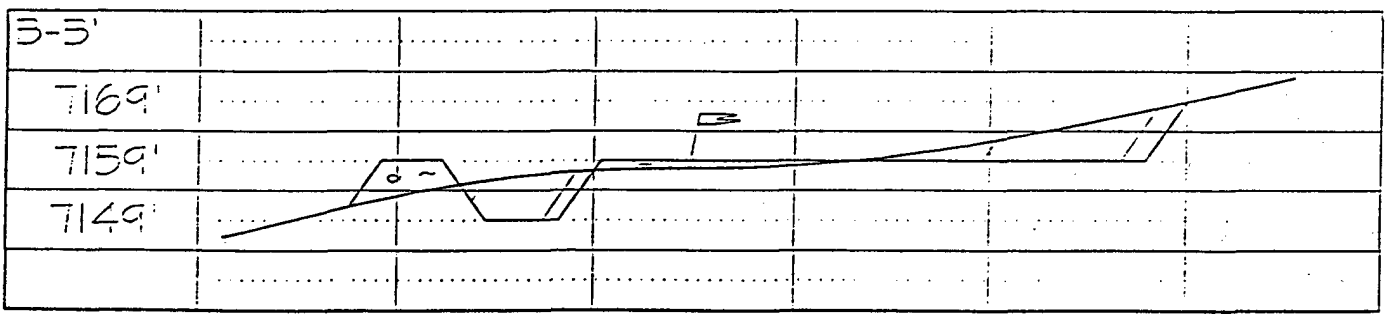
WILLIAMS PRODUCTION COMPANY JICARILLA 93 #2B
1980' FNL & 1975' FEL, SECTION 34, T27N, R3W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 7158'

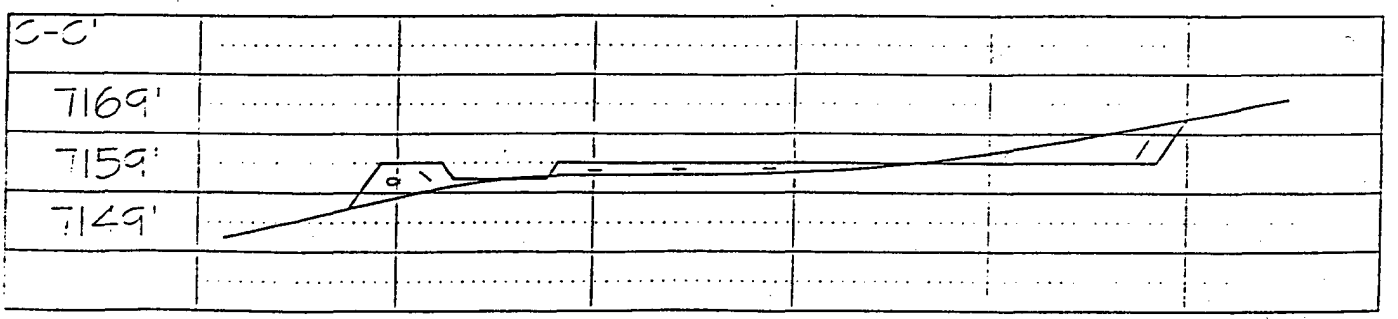
LATITUDE: 36°31'54"
LONGITUDE: 107°07'45"
DATUM: NAD1927



Plat #2 - Cut & Fill







WILLIAMS PRODUCTION COMPANY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE:	12/15/2003	**FIELD:**	Jicarilla MV
WELL NAME:	Jicarilla 93 #2B	**SURFACE:**	Jicarilla
LOCATION:	SW/4 NE/4 Sec 34-27N-3W Rio Arriba, NM	**MINERALS:**	Jicarilla
ELEVATION:	7158' GR	**LEASE #**	Jicarilla Apache Contract #93
MEASURED DEPTH:	**6438'**		

I. GEOLOGY: Surface formation - San Jose

A. **FORMATION TOPS:** (KB)

	MD		MD
Ojo Alamo	3508'	Cliff House	5623'
Kirtland	3618'	Menefee	5698'
Fruitland	3618'	Point Lookout	5988'
Pictured Cliffs	3876'	**Total Depth**	**6438'**
Lewis	4038'		

B. **MUD LOGGING PROGRAM:** Mud logger on location from approximately 3,000' to intermediate casing point.

C. **LOGGING PROGRAM:** High Resolution Induction/ GR and Density/ Neutron log from surface to intermediate casing point and High Resolution Induction/ GR and Density/ Neutron log from intermediate shoe to TD. Onsite geologist will pick Density/ Neutron log intervals on both logging runs.

D. **NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. **MUD PROGRAM:** Clear water with benex to 7" casing point. Convert to a LSND mud to log and run pipe. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses. Use air w/Air Hammer from 7 in. csg.to TD.

B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the rams will be tested to 1500 psi. The surface and intermediate casing strings will be pressure tested to 1500 psi in conjunction with the BOP test before drilling out cement. The drum brakes will be inspected and tested each tour. All tests, inspections and SPR's will be recorded in the tour book as to time and results.

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	HOLE SIZE	DEPTH (MD)	CASING SIZE	WT. & GRADE
Surface	12-1/4"	+/- 250'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 4313'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 4213'-6438'	4-1/2"	10.5# K-55

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (3) joints of Surface Casing.

2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install one Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (4) joints to the surface casing. Total centralizers = (26) regular and (3) turbulent.

3. PRODUCTION CASING: 4-1/2" whirler type cement nose guide shoe with a latch collar on top of 20" bottom joint. Place marker joint above 5630'. Place one positive standoff turbolizer every other joint. Total turbolizers is 34.

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. SURFACE: Slurry: 150sx (205 cu.ft.) of "Type III" + 2% $CaCl_2$ + ¼ # of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.

2. INTERMEDIATE: Lead - 490 sx (1019) cu.ft.) of "Type III" 65/35 poz with 8% gel, 1% $CaCl_2$ and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 100 sx (139cu.ft.) of "Type III" with 1/4# cello-flake/sk, and 1% $CaCl_2$ (Yield = 1.4 cu.ft./sk, Weight = 14.5#/gal.). Use **100% excess in Lead Slurry** to circulate to surface. **No excess in Tail Slurry.** Total volume = 1158 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.

3. PRODUCTION LINER: 10 bbl Gelled Water space. Lead: 50sx (130ft^3) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, ¼ #/sk cello flake. (Yield = 2.59 cu.ft./sk, Weight = 11.6 #/gal.). Tail: 80 sx (160 ft^3) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, ¼ #/sk cello flake and 4% Phenoseal. (Yield = 2.15 ft^3/sk, Weight = 12.3 #/gal.). Displace cement at a minimum of 8 BPM. The 20% excess in lead and tail should cover 100 ft into intermediate casing. Total volume 290ft^3. WOC 12 hours

IV COMPLETION

A. CBL

1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings if cement is not circulated to surface.

B. PRESSURE TEST

1. Pressure test 7" & 4-1/2" casing to 3300# for 15 minutes.

C. STIMULATION

1. Perforate the Point Lookout as determined from the open hole logs.
2. Stimulate with approximately 80,000# of 20/40 sand in slick water.
3. Isolate Point Lookout with a CIBP.
4. Perforate the Menefee/Cliff House as determined from the open hole logs.
5. Stimulate with approximately 80,000# of 20/40 sand in slick water.
6. Test each zone before removing bridge plugs.

D. RUNNING TUBING

1. *Mesa Verde:* Run 2-3/8", 4.7#, J-55, EUE tubing with a SN (1.91" ID) on top of bottom joint. Land tubing approximately 25' above the bottom Point Lookout perforation.

Gary Sizemore
Sr. Drilling Engineer

Williams Production Company, LLC

Well Control Equipment Schematic for 2M Service

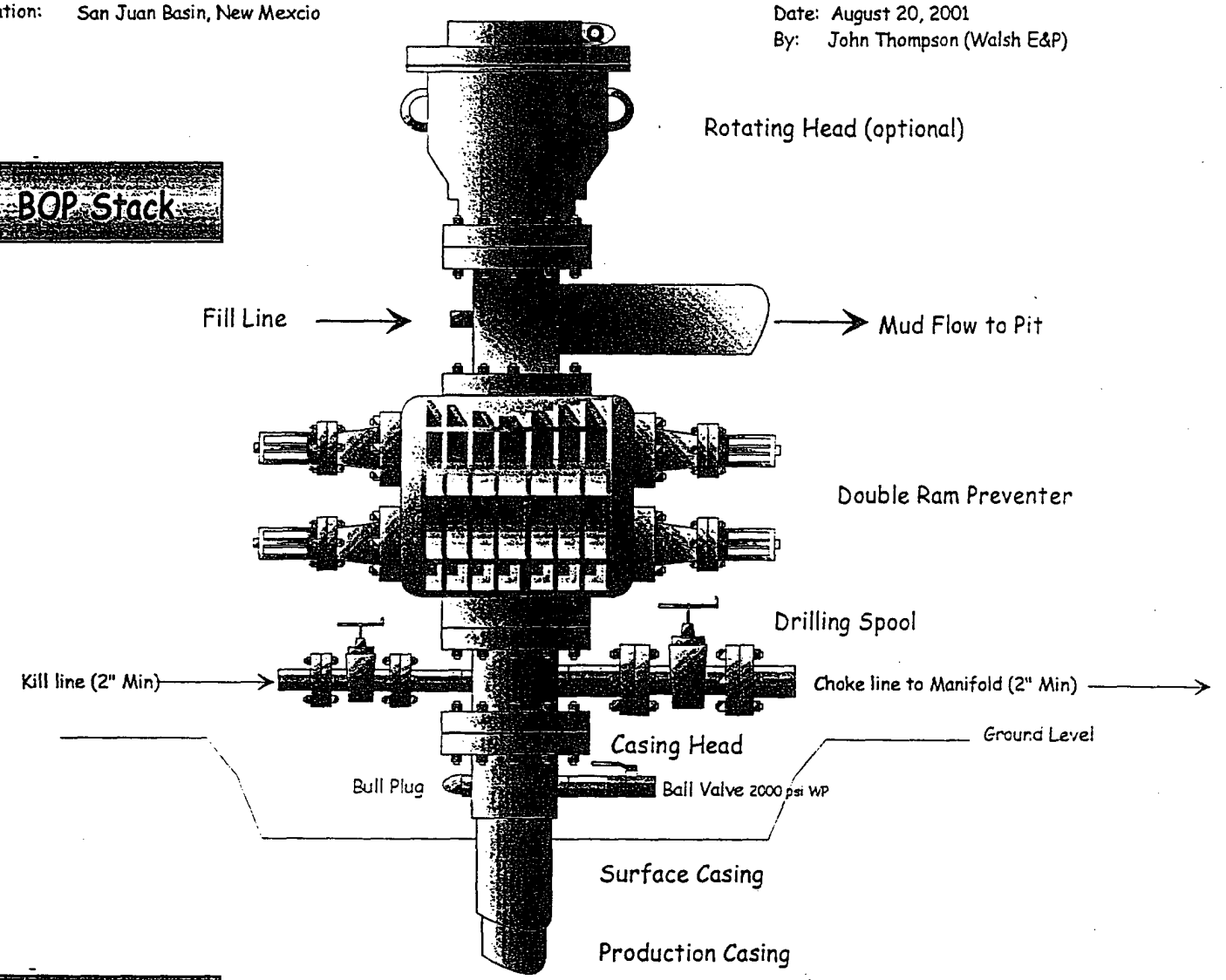
Attachment to Drilling Technical Program

Typical BOP setup

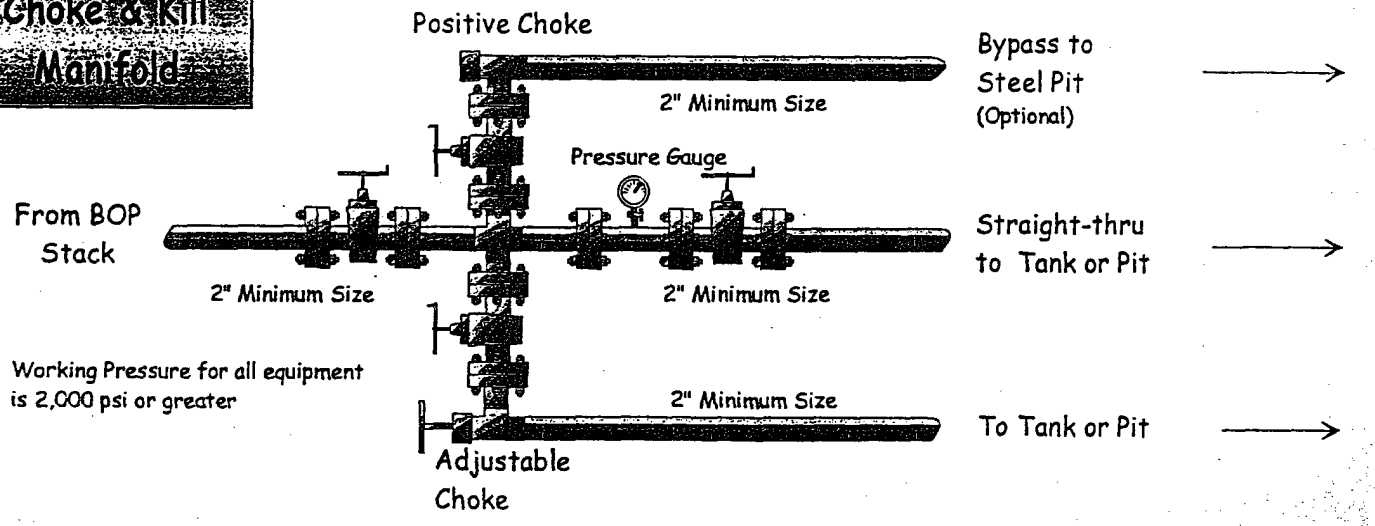
Location: San Juan Basin, New Mexcio

Date: August 20, 2001
By: John Thompson (Walsh E&P)

BOP Stack



Choke & Kill Manifold



Working Pressure for all equipment is 2,000 psi or greater