

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ROW/APD

FORM APPROVED
Budget Bureau No. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. Type of Work

DRILL ☒DEEPEN ☐

b. Type of Well

Oil Well ☐ Gas Well ☒ Other ☐Single Well ☒Multiple Zone ☐

2. Name of Operator

Williams Exploration & Production

3. Address and Telephone No

P.O. Box 3102, MS 37-2, Tulsa, OK. 74101

4. Location of Well (Footages)
At Surface

1825' FNL 1495' FEL (SWNE)

At proposed prod. zone

Same

14. Distance in Miles and Directions from Nearest Town or Post Office

21.2 miles North Navajo Dam Post Office (straight line)

15. Distance from Proposed (Also to nearest drlg. unit line, if any)
Location to Nearest

Property or Lease Line, Ft 1495'

16. No. of Acres in Lease

2518.04 acres

17. No. of Acres Assigned to This Well

231.86 acres N/2

18. Distance from Proposed Location
to Nearest Well Drilling, Completed,
or Applied for, on this Lease, FT

109'

19. Proposed Depth

6028'

20. Rotary or Cable Tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc)

6265' GR

22. Approximate Date Work will Start

April 1, 2000

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE & GRADE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36#	250'	130 sx-176 cu ft Type III
8-3/4"	7"	20#	3593'	405 sx-843 cu ft Lite 170 sx-238 Cu ft-Type III
6-1/4"	4-1/2"	10.5#	3493' - 6028' -	70 sx-150-cuft 110 sx-240cuft Lite HS 65/35

Williams Exploration & Production proposes to drill a vertical well to develop the Mesa Verde Formation at the above described location, in accordance with the attached Operation and Surface Use plans. **The surface is under the jurisdiction of the Bureau of Reclamation.** The location has been surveyed for Cultural Resources by Moore Anthropological Research. The report has been submitted to your office for review.

This APD also is serving as an application to obtain BLM road and pipeline rights-of-way. This well will be accessed by an existing access road which accesses the Rosa Unit Well # 108 (see plat #4). The proposed 109-foot long pipeline would tie into the Williams Gathering System on the Rosa Unit Well #228 (see the attached Plat Map # 4).

This document is subject to thorough 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"

24. I hereby certify that the information on this proposal to deepen, give present productive zone and proposed new productive zone.
Signed Steve Nelson Title Agent

COPIES: BLM+4, WELL FILE+1
Date January 31, 2000

(This space for Federal or State office use)

Permit No. _____

Approval Date _____

Application approval does not warrant or certify that 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:

JUL 18 2000

APPROVED BY: /s/ Jim Lovato

TITLE _____

DATE _____

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

*API Number 30-039-26286		*Pool Code 72319	*Pool Name Blanco - MV
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 171
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6265 ✓

¹⁰ Surface Location

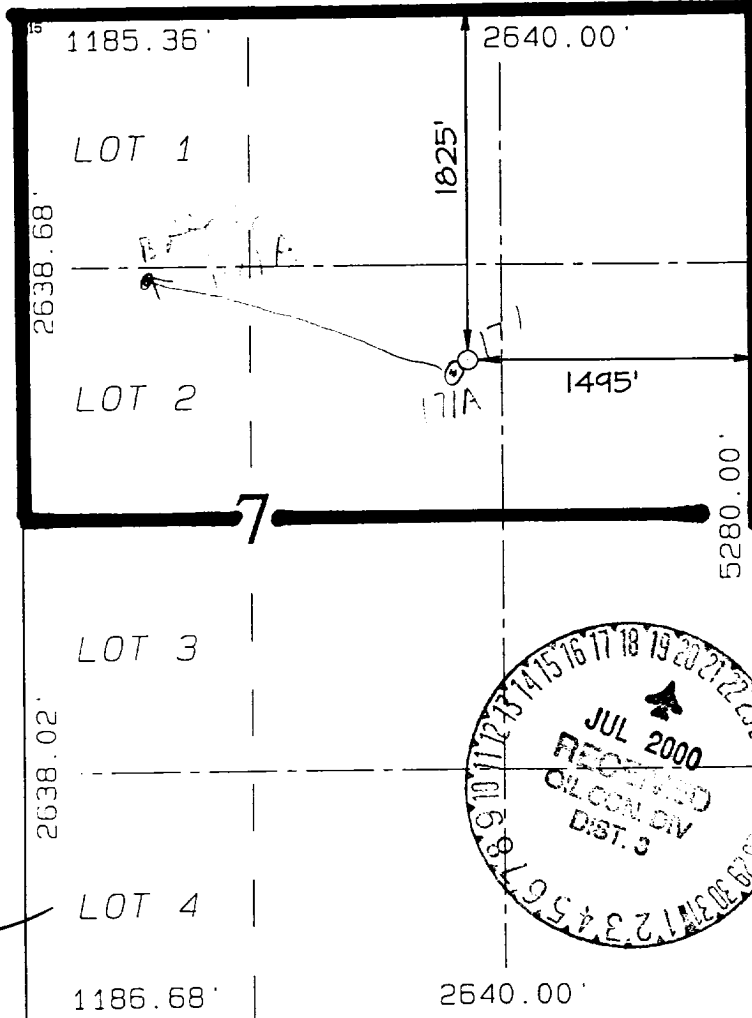
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	7	31N	5W		1825	NORTH	1495	EAST	RIO ARriba

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 231.86 N/2	¹³ Joint or Infill I	¹⁴ Consolidation Code U	¹⁵ Order No.
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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

Steve Nelson
Signature
Steve Nelson
Printed Name
Agent, Nelson Consulting
Title
January 31, 2000
Date

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

DECEMBER 16, 1999
Date of Survey
Signature and Seal of Professional Surveyor
Neale C. Edwards
NEALE C. EDWARDS
NEW MEXICO
6857
Certificate Number 6857



Exploration & Production
Operations Plan

DATE: 11/30/99

<u>WELLNAME:</u>	ROSA UNIT #171	<u>FIELD:</u>	Blanco MV
<u>LOCATION:</u>	SWNE Sec.7, T31N, R5W Rio Arriba Co., NM	<u>SURFACE:</u>	BOR
<u>ELEVATION:</u>	6276' GR	<u>MINERALS:</u>	Federal
<u>TOTAL DEPTH:</u>	6028'	<u>LEASE #</u>	SF-078767

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS:

Ojo Alamo	2353'	Cliff House	5313'
Kirkland	2468'	Menefee	5358'
Fruitland	2903'	Point Lookout	5578'
Pictured Cliffs	3118'	Mancos	5928'
Lewis	3403'	Total Depth	6028'

B. LOGGING PROGRAM: 8-3/4" IND/GR/Temp log from TD to surface. CDL interval selected by onsite geologist. 6-1/4" IND/GR/Temp log from TD to Intermediate TD. CDL interval selected by onsite geologist.

C. 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. LSND to log and run pipe.

B. BOP TESTING: While drill pipe is in use, the pipe rams will be tested not less than once each day. The blind rams will be tested once each trip. The drum brakes will be inspected and tested each tour. All tests and inspections will be recorded in the tour book as to time and results.

III. MATERIALS

A. CASING PROGRAM:

<u>CASING TYPE</u>	<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	12-1/4"	250'	9-5/8"	36# K-55
Intermediate	8-3/4"	3593'	7"	20# K-55
Prod. Liner	6-1/4"	3493'-6028'	4-1/2"	10.5# K-55

B. FLOAT EQUIPMENT:

1. **SURFACE CASING:** 9-5/8" notched regular pattern guide shoe.

1. INTERMEDIATE CASING: 7" cement nose guide shoe with a self- fill insert float. Place float one(1) joint above the shoe and five(5) centralizers, spaced every other joint, starting with the float collar. Place turbulent centralizers, at 120' intervals, starting at 2520' to the surface. Total centralizers = 5 regular and 21 turbulent.
2. PRODUCTION CASING: 4-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' joint. Place 20' marker joint above 5200'.

C. CEMENTING:

1. SURFACE: Use 130 sx (176cu.ft.) of class "Type III" with 2% CaCl₂ and 1/4# of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). Use 125% excess to circulate the surface. WOC 12 hours. Test to 1500#.
2. INTERMEDIATE: Lead - 405sx (843cu.ft.) of class "Premium Lite" 65/35 poz with 8% gel, 1% CaCl₂, and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 170sx (238cu.ft.) of class "Type III" with, 1% CaCl₂, and 1/4# cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5#/gal.). Use 100 excess in lead and tail to circulate to surface. Total volume = 1081 cu.ft. WOC 12 hours. Test to 1500#.
3. PRODUCTION LINER: Lead - 70 sx (150 cu.ft.) of class "Premium Lite HS" 65/35 Type III/Poz with 6 % gel, 0.5% FL-52, 1% CaCl₂, (Yield = 2.13 cu.ft./sk, Weight = 12.3 #/gal.) Tail - 110sx (240 cu.ft.) of class "Premium Lite HS" 65/35 Type III/Poz with 6 % gel, 0.5% FL-52, 1% CaCl₂, 4% Phenoseal and 1/4# cello-flake/sk (Yield = 2.16 cu.ft./sk, Weight = 12.3 #/gal.) Displace cement at a minimum of 8 BPM. Use 50% excess in lead and tail to cover liner top. Total volume 390 cuft. 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.

B. PRESSURE TEST


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

C. STIMULATION

1. Stimulate Point Lookout with approximately 80,000# of 20/40 sand in slick water.
2. Isolate Point Lookout with a CIBP.
3. Perforate the Menefee/Cliff House as determined from the open hole logs.
4. Stimulate with approximately 80,000# of 20/40 sand in slick water.
5. 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 50' above the bottom Point Lookout perforation.


David Spitz
Engineer, Production & Drilling

1825' FNL & 1495' FEL, SECTION 7, T31N, R5W, N.M.P.M.
RIO ARRIBA COUNTY, NEW MEXICO

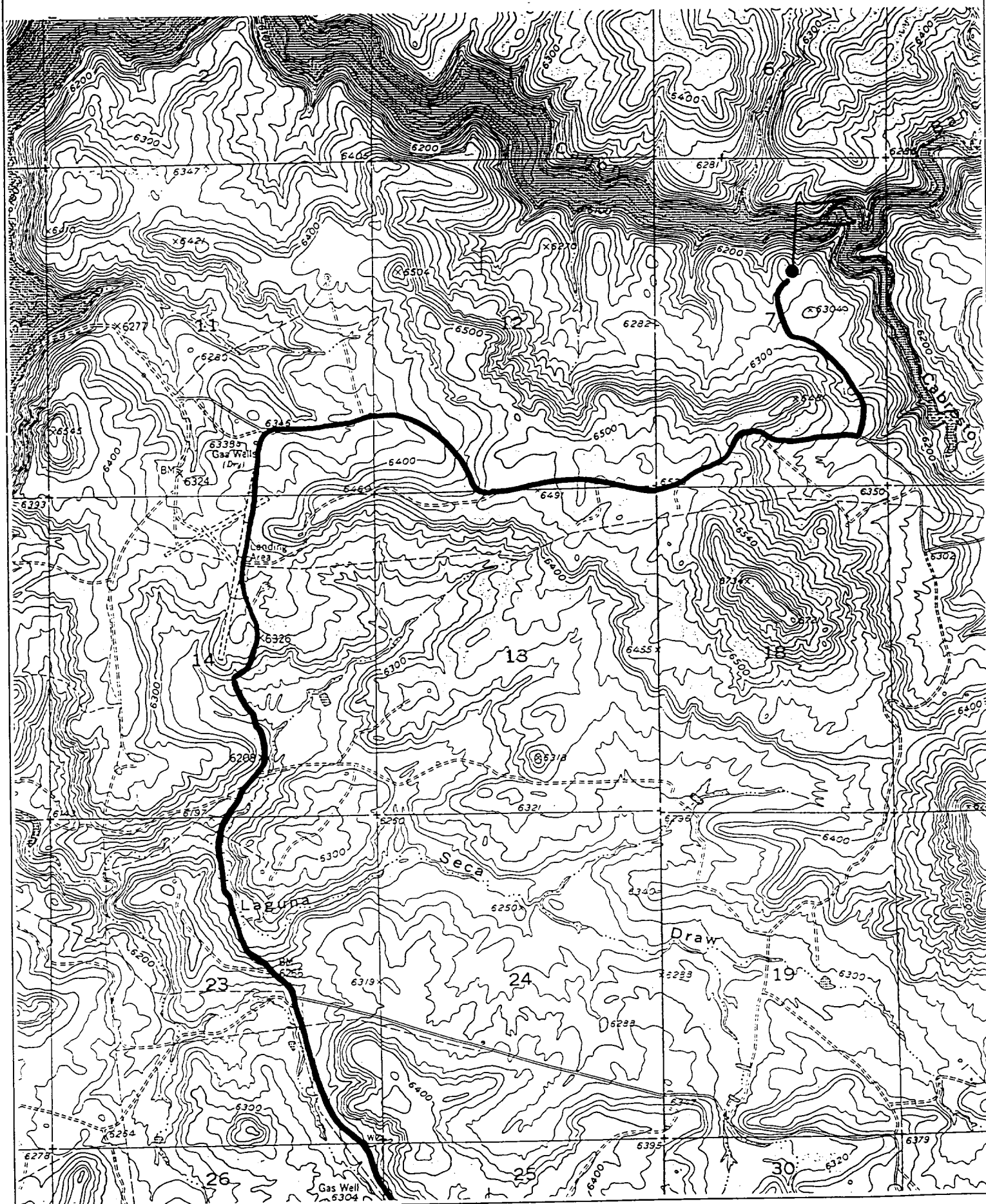
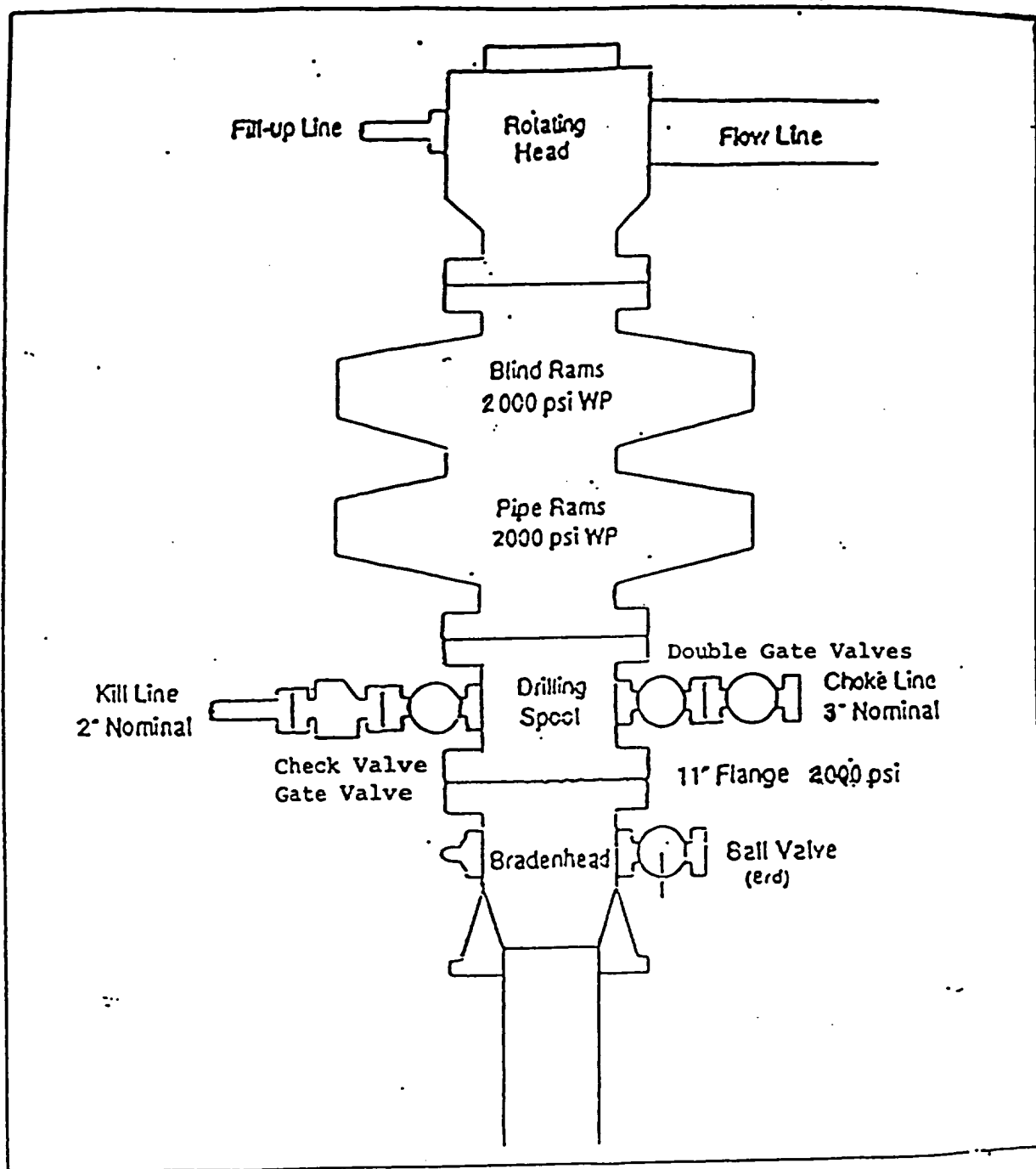


EXHIBIT 1

BOP STACK ARRANGEMENT



All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1500 psi. The blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock with handle, floor safety valve with change overs for each tool joint in the string, and choke manifold all rated to 2000 psi.