FORM 3160-3 (November 1983) (formerly 9-331C)

CONFIDENTIAL - TIGHT HOLE

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved. Budget Bureau No. 1004-0136 Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT 30-043-20913

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

DRILL X DEEPEN PLUG BACK

Horizontal

WELL X GAS WELL OTHER SINGLE ZONE X MULTIPLE ZONE

NM-68761

N/A

Cuba Mesa Unit

Cuba Mesa 35 - 2249

#2

Rio Puerco - MANCOS 52260

2840 210/341-9775 10100 Reunion Place, Suite 725
Bright & Company San Antonio, TX 78216

303/452-8888 13585 Jackson Drive
PERMITCO Agent Denver, CO 80241

Surface 1010' FSL and 820' FWL (Surface Location)
660' FNL and 660' FWL (Btm. Hole Location)

CONFIDENTIAL

M

Sec. 35, T21N, R2W

Sandoval

6 miles west of Cuba, NM

660' (Btm. Hole Location) 640 W/320

JTW/#1

333' 4466' TVD, 7559' (MD) Rotary

GR Imm

CASING AND CEMENTING PROGRAM

13-3/8"	48#	250'	320 sx
7-5/8"	26.4#	4590'	1045 sx
4-1/2	11.6#	7559' (MD)	Hang

... 2" tubing ... be run with the 7-5/8" casing ...

... proposes to drill a ... 7559' MD and 4466' TVD ... test the Gallup ... completed. If dry, the well will be plugged and abandoned as per BLM ... requi...

... attached

... has been authorized by ... Bonding ... Bright & Company under ...

RECEIVED
NOV 12 1993
OIL CON. DIV.
DIST. 3

Area Manager ... Area SEP

cc: New Mexico Oil Cons...

See Attached Conditions of Approval R-9951(1)

APPROVED

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator		Lease	Well No.
BRIGHT & Co.		CUBA MESA UNIT 35	2

Unit Letter	Section	Township	Range	County
M	35	21 N.	2 W.	SANDOVAL

Actual Footage Location of Well			
1010 feet from the	South line and	820 feet from the	West line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage
7016'	Gallup MANCOS	Rio Puerco	JT w/#1

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

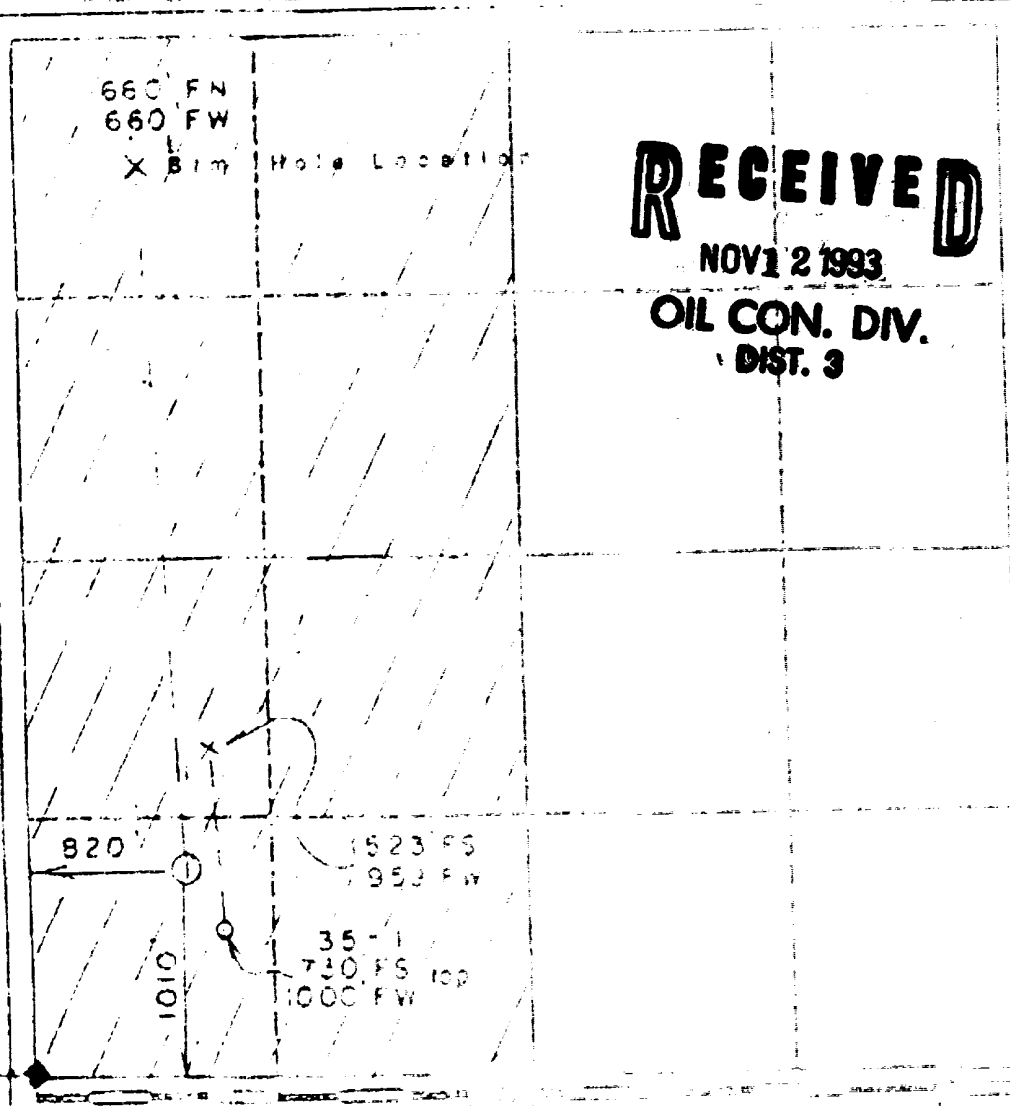
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes" type of consolidation

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



RECEIVED
NOV 12 1993
OIL CON. DIV.
DIST. 3

OPERATOR CERTIFICATION

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

Signature

Printed Name

Position

Company

Date

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 knowledge and belief.

10 June '93

Date Surveyed

Signature & Seal of Professional Surveyor

Certificate No. 7977

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

1. The estimated tops of important geologic markers are as follows:

Formation	True Vertical Depth	Measured Depth	Subsea
	Surface		
Ojo Alamo	574'		+ 6456'
Fruitland	690'		+ 6340'
Picture Cliffs	825'		+ 6205'
Lewis	915'		+ 6115'
Minefee	2411'		+ 4619'
Point Lookout	3033'		+ 3997'
Mancos	3377'		+ 3653'
Gallup A	4030'		+ 3000'
Gallup B-1	4203'		+ 2827'
Gallup B-2	4225'		+ 2805
Gallup C	4374'		+ 4374'
T.D.	4466'	7559'	

2. The estimated depths at which water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Oil	Gallup B-1	4234' TVD, 4399' MD

All shows of fresh water and minerals will be reported and protected.

3. Bright and Company's minimum specifications for pressure control equipment are as follows:

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Below 13-3/8" surface casing - 12", 3000 psi, double ram preventor and annular preventor.

Below 7-5/8" intermediate casing - 11", 3000 psi double ram preventor, annular preventor and rotating head.

Ram type preventers and associated equipment shall be tested to working pressure if isolated by test plug or to 70 percent of internal yield pressure of casing. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed-off pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10 percent in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test plug shall be open during test of BOP stack.

Annular type preventers shall be tested to 50 percent of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

As a minimum, the above test shall be performed:

a. when initially installed;
b. whenever any seal subject to test pressure is broken
c. following related repairs; and
d. at 30-day intervals

Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

When testing the kill line valve(s) the check valve shall be held open or the ball removed.

The kill lines should be separate from the fill line. Kill lines should be installed a safe distance (usually not less than 75 feet) from the BOP assembly in a conspicuous place and not in areas of suspected H_2S concentration. Slow pump speeds for kill purposes must be posted.

Annular preventers shall be functionally operated at least weekly.

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A Petroleum Petrosoft Solutions

j. Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a suitable preflush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

k. All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

l. The proposed casing program will be as follows:

Purpose	Depth	Hole Size	O.D.	Weight	Grade	Type	New or Used
Surface	0-250'	17-1/2"	13-3/8	48#	H-40	ST&C	New
Intermed.	0-3500	12-1/4"	7-5/8"	26.4#	N-80	LT&C	Used
Intermed.	3500-4599'	9-7/8"	7-5/8"	26.4#	N-80	LT&C	Used
Parasite Tbg	0-2500'*	12-1/4"	1-1/2"	2.76#	CW-55	IJ 10rd	New
Liner (Slotted)	4100-7559'	6-1/2"	4-1/2"	11.6#	K-55	LT&C	New

* Note: The parasite tubing will be run with the 7-5/8" casing and attached at 2500'.

m. Casing design subject to revision based on geologic conditions encountered.

n. The cement program will be as follows:

Surface
0-250'

Type and Amount
320 sx of Class B + 3% CaCl2 plus .25 pps Cello-Seal mixed at 15.64 ppg, 1.20 yield, w/100% excess or sufficient to circulate to surface.

Intermediate
0-3500'

Type and Amount
Stage 1: 40 sx of 47 pps Class B + 18.5 pps pozmix A + 5% salt + 18.5 pps CSE + .25 pps Cello-Seal (300' of fill) mixed at 11.50 ppg, 2.23 yield w/25% excess

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followed by 240 sx Class B + .25 PPS Cello-Seal mixed at 15.63 ppg, 1.18 yield w/25% excess (1000' of fill)

Stage 2: (DV Tool at 2650') 650 sx of 47 pps Class B + 18.5 pps Poz mix A + 5% Salt + 18.5 pps CSE + .25 pps Cello-Seal (2400' of fill) mixed at 11.50 ppg, 2.23 yield w/25% excess, followed by 115 sx Class B + 2% CaCl2 + .25 PPS Cello-Seal mixed at 15.63 ppg, 1.18 yield, 25% excess (250' of fill)

Production	Type and Amount
4100-7559'	No cement. 4-1/2" slotted liner hung off at 4100' and not cemented.

o. After cementing but before commencing any test, the casing string shall stand cemented until the cement has reached a compressive strength of at least 500 psi at the shoe, except that in no case shall test be initiated until the cement has been in place at least 12 hours. WOC time shall be recorded in the driller's log.

p. The following reports shall be filed with the District Manager within 30 days after the work is completed.

1. Progress reports, Form 3160-5 (formerly 9-331) "Sundry Notices and Reports on Wells", must include complete information concerning:

   a. Setting of each string of casing, showing the size, grade, weight of casing set, hole size, setting depth, amounts and type of cement used, whether cement circulated or the top of the cement behind the casing, depth of cementing tools used, casing test method and results, and the date work was done. Show the spud date on the first reports submitted.

   b. Temperature or bond logs must be submitted for each well where the casing cement was not circulated to the surface.

q Auxiliary equipment to be used is as follows.

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1. **Kelly cock**

2. Drill pipe safety valve or an inside Blowout Preventer.

5. a. The proposed circulating mediums to be employed in drilling are as follows.

Interval	Mud Type	Mud Wt.	Visc.	Fluid Loss
0-250'	Gel/Lime	8.4-8.6	28-45	N/C
250-4599'MD	Gel/Polymer	8.6-8.8	38-46	10 - 8
4599' MD-7550' TVD*	KCL/Polymer	8.4-8.5	29-32	N/C

*Note: The KCL/Polymer mud will be aerated by pumping air down the 1-1/2 **parasite tubing.**

A mud test shall be performed every 24 hours after mudding up to determine, as applicable, density, viscosity, gel strength, filtration, and pH.

b. Mud monitoring equipment to be used is as follows:

1. Periodic checks will be made each tour of the mud system. The mud level will be checked visually.

6. The anticipated type and amount of testing, logging and coring are as follows:

a. No drill stem tests are anticipated, however, if tests are run, the following guidelines should be adhered to:

Initial opening of drill stem test tools shall be restricted to daylight hours unless specific approval to start during other hours is obtained from the authorized officer. However, DST's may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e. lighting which is adequate for visibility and vapor-proof for safe operations). Packers can be released, but tripping shall not begin before daylight, unless prior approval is obtained from the authorized officer. Closed chamber DSTs may be accomplished day or night.

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A DST that flows to the surface with evidence of hydrocarbons shall be either reversed out of the testing string under controlled surface conditions or displaced into the formation prior to pulling the test tool. This would involve providing some means for reverse circulation.

Separation equipment required for the anticipated recovery shall be properly installed before a test starts.

All engines within 100 feet of the wellbore that are required to "run" during the test shall have spark arresters or water cooled exhausts.

b. The logging program at 3530' (KOP) will consist of a DIL/Caliper.

c. No cores are anticipated.

d. The completion program is as follows:

Set 4 1/2" slotted liner and go in hole w/2-7/8" tubing. Swab test well. Based on results of swab test, a pump will be sized and installed with a workover rig.

7. a. For additional drilling/directional procedures, see drilling prognosis attached.

b. The expected bottom hole pressure is 1510 psig at TD.

c. No hydrogen sulfide gas or abnormal pressures are anticipated.

8. a. Bright and Company agrees to be responsible under the terms and conditions of the lease for the operations on the lease.

b. Drilling will commence immediately upon approval of this application.

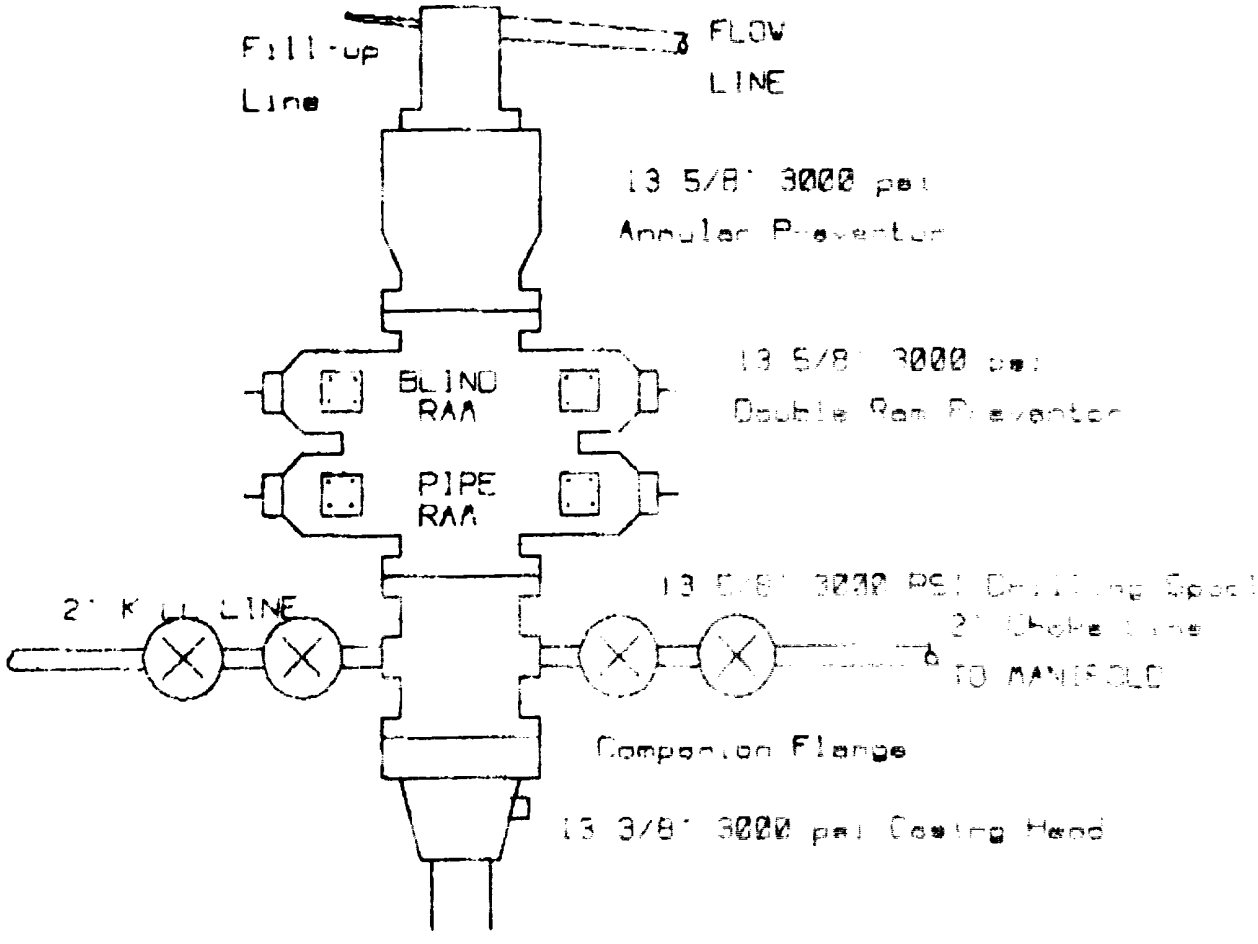
c. It is anticipated that the drilling of this well will take approximately 26 days.

ON SITE TECHNOLOGIES LTD

BOP DIAGRAM FOR
CUBA MESA 35-2
BRIGHT AND COMPANY

FOR DRILLING 12 1/4" AND 8 5/8" HOLE
AFTER SETTING 13 3/8" SURFACE CASING

R Griffee
8/03/93
Not Drawn to Scale

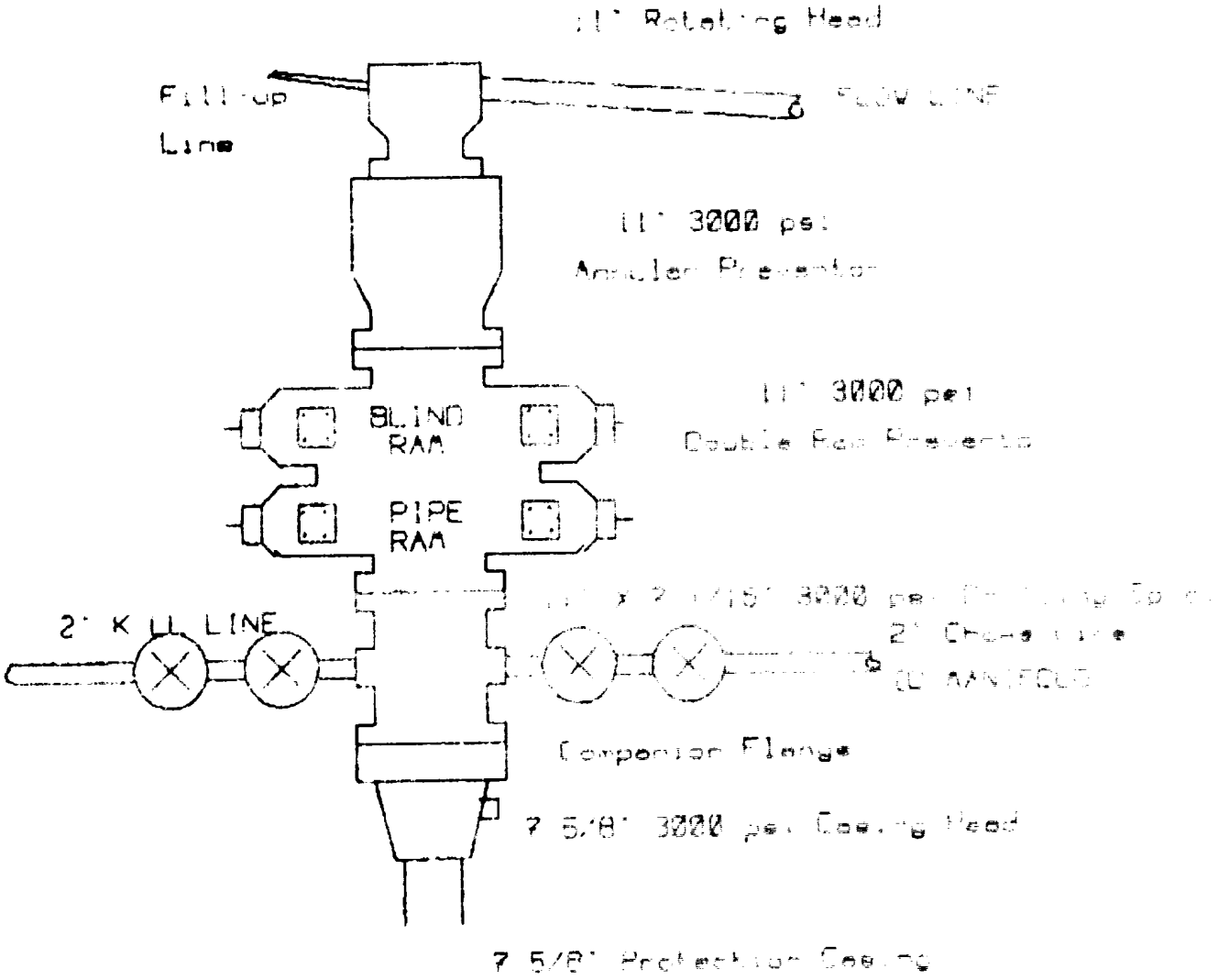


ON SITE TECHNOLOGIES LTD

BOP DIAGRAM FOR
CUBA MESA 35-2
BRIGHT AND COMPANY

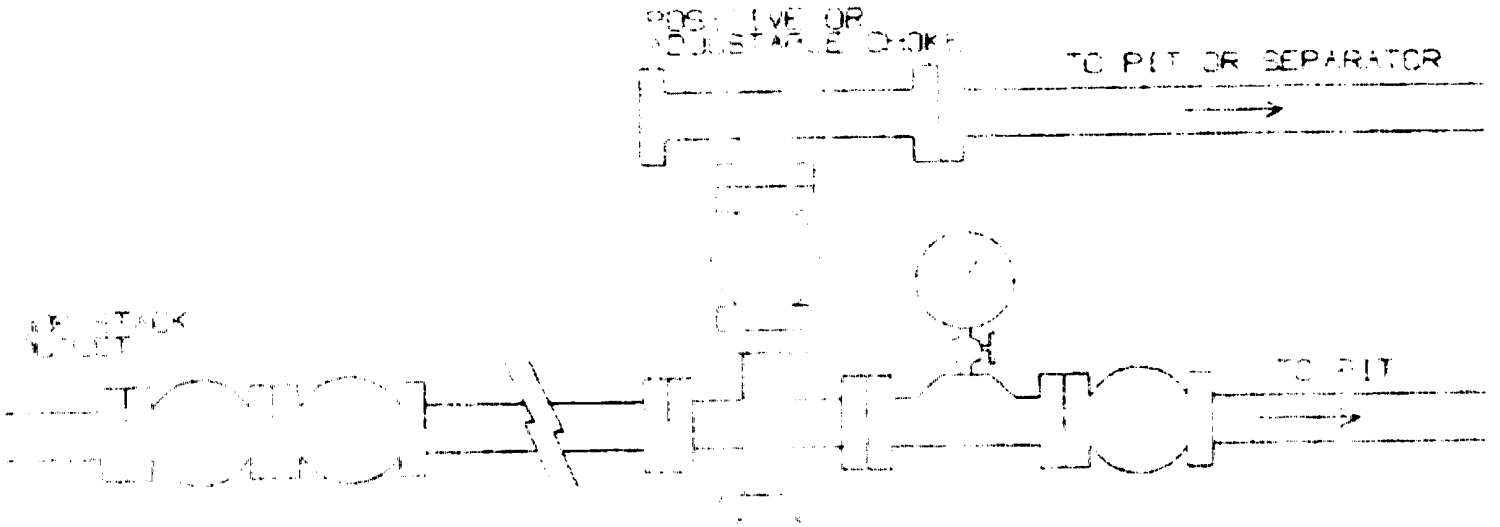
R Griffee
7/26/93
Not Drawn to Scale

FOR DRILLING 6 1/2" HOLE
AFTER SETTING 7 5/8" PROTECTION
CASING



VELLSITE ENGINEERING

CHOKE MANIFOLD DIAGRAM FOR
CUBA MESA UNIT 35-2
BRIGHT AND COMPANY



ALL LINES AND VALVES
3000 PSI
WORKING

GRIFFEE
3/10/92
Not Drawn to Scale