UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

1. TYPE OF WELL
GAS

5. LEASE NUMBER
SF-081098
6. IF INDIAN,ALL. OR TRIBE NAME

2. OPERATOR
MERIDIAN OIL INC.

7. UNIT AGREEMENT NAME

3. ADDRESS & PHONE NO. OF OPERATOR
P O BOX 4289
FARMINGTON, NM 87499

8. FARM OR LEASE NAME
RIDDLE
9. WELL NO.
1R

4. LOCATION OF WELL
350'FNL 775'FWL

10. FIELD,POOL,OR WILDCAT
BLANCO MESA VERDE
11. SEC. T. R. M OR BLK.
SEC. 4 T30N R09W NMPM

14. PERMIT NO.	15. ELEVATIONS	12. COUNTY	13. STATE
30-045-27564	6247'GL	SAN JUAN	NM

16. SUBSEQUENT REPORT OF:
Revised Operations Plan

17. Describe proposed or completed operations

The referenced well was spudded on February 11, 1991. Steve Mason of the Farmington Resource Area BLM granted Meridian Oil verbal approval on February 1, 1991 to proceed with drilling operations as per the attached revised Operations Plan.

Attachments:

- Riddle #1R Operations Plan
- BOP Exhibits
- Well Path Projection

RECEIVED
MAR 29 1991
OIL CON. DIV.
DIST. 3

18. AUTHORIZED BY: [signature]
REGULATORY AFFAIRS

2/15/91
DATE

APPROVED
AS AMENDED
MAR 19 1991
AREA MANAGER

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-5

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITION OF APPROVAL, IF ANY:

NMOCD

I. General Well Data

A. Well Data:

Well Name & Number--- Riddle #1R
Location---------- NW/NW/4 Sec.04,T30N,R09W
Surveyed Footages---- 350'FNL - 775'FWL
County, State-------- San Juan County, NM
Field---------- Blanco Mesaverde
Formation---------- Mesaverde
AFE Number---------- J636
Surveyed Elevation--- 6234 'GL

B. Formation Tops:

	TVD	MD*
San Jose ----------	Surf	Surf
Ojo Alamo----------	1712 '	1712 '
Kirtland----------	1846 '	1846 '
Fruitland----------	2649 '	2649 '
Pictured Cliffs----------	3019 '	3019 '
Intermediate TD----------	3450 '	3450 '
Lewis----------	3216 '	3216 '
Kick-Off Point----------	3730 '	3730 '
Navajo City Chacra----------	3794 '	3794 '
Otero Chacra----------	4059 '	4072 '
End of Build Section----------	4350 '	4480 '
End of Tangent Section----------	4450 '	4680 '
Upper Cliff House----------	4559 '	4903 '
Massive Cliff House----------	4764 '	5355 '
Menefee----------	4876 '	5626 '
Massive Point Lookout----------	5234 '	6675 '
Lower Point Lookout----------	5355 '	7149 '
Total Depth----------	5550 '	8423 '

* Note: Measured depths are provided as a general guide based on the proposed directional program. Measured depths will vary with the actual well program.

C. Proposed Directional Program:

Depth TVD/MD (ft)	Drift (deg)	Build/Drop (deg/100')	Azimuth (deg)	East West	North South	Departure (ft)	Comments
3730 / 3730	0.0	0.00	N 0.0E	0'E	0'S	0	Kick-Off Point
4350 / 4480	60.0	8.00	S12.9E	80'E	349'S	358	End of Build
4450 / 4680	60.0	0.00	S12.9E	119'E	518'S	531	End of Tangent
5550 / 8423	85.5	0.68	S12.9E	910'E	3974'S	4077	End of Lateral

The well will be drilled within the following minimum and maximum parameters below the top of the Mesaverde at 4559 'TVD (reference Figure #3).

* Total Depth: 5550 'TVD Minimum ; 5734 'TVD Maximum.
* East/West : 100 'East Minimum ; 925 'East Maximum.
* North/South: 590 'South Minimum ; 3974 'South Maximum.
* Note: Rectangular coordinates and departure are relative to the wellbore.

D. **BOP Specifications and Tests**

* A 13 3/8" 2000 psi minimum double gate BOP equipped with pipe and blind rams and a 13 3/8" rotating head will be used from the surface casing shoe to intermediate total depth (reference Figure #1A).
* A 2" 2000 psi minimum choke manifold will be used from the surface casing shoe to total depth (reference Figure #2).
* A 6" 3000 psi minimum double gate BOP equipped with pipe and blind rams will be used for completions operations (reference Figure #1B).
* The rotating head rubber will be installed for all drilling operations below the surface casing shoe.
* While the drill string is in use, pipe rams will be actuated once each day to test proper functioning.
* Blind rams will be actuated once each trip to test proper functioning.
* The upper kelly cock valve and drill string safety valves to fit each drill string will be available on the rig floor at all times.
* Hand wheels for the pipe and blind rams will be installed at all times.
* A BOP pit level drill will be conducted for each drilling tour prior to drilling the top of the Fruitland formation.
* Prior to drilling out the surface casing, rams and casing will be tested to 600 psi for 30 minutes.
* Prior to drilling out the intermediate casing, rams and casing will be tested to 1500 psi for 30 minutes.
* Prior to completion, rams and casing will be tested to 3000 psi for 15 minutes.
* Record all BOP test and drills in the IADC Drilling Report.

E. **Wellhead**

* 13 5/8" 3000 psi Type C-22 X 13 3/8" 8rd Screw-On Casinghead
* 13 5/8" Type ER-22 X 9 5/8" Casinghanger
* 13 5/8" 3000 psi X 11" 3000 psi Type CD-2 Casingspool.
* 11" Type C-22 X 5 1/2" Casinghanger.

F. **Logging/Coring/DST/Natural Gauges:**

Wireline Logging
@ Intermediate TD - Open Hole : None
@ Total Depth - Open Hole : None

Mud Logs/Coring/DST
Mud Logs - 3780'TVD to Total Depth.
Coring - None
DST - None

Natural Gauges
Gauge well at the following true vertical depths.
4710 '; 4830 '; 5180 '; 5310 '; 5550 '.
* Also gauge any noticeable increase in gas.

II. Drilling:

Mud Program

Interval(ft)	Type	Weight(ppg)	Visc (s/qt)	Fluid Loss
0 - 200	Spud	8.4 - 8.9	40-50	No Control
200 - 3450	Low Solids	8.4 - 8.9	35-50	< 12cc
3450 - 3730	Low Solids	8.4 - 8.9	30-60	< 6cc
4680 - 8423	Gas	N/A	N/A	N/A

* Pit Levels will be visually monitered to detect Gain or Loss of circulating fluid volume.

Special Drilling Considerations

Intermediate Hole - Mud-Drilled

* Lost circulation may be experienced in the Pictured Cliffs. If experienced, normal LCM treating procedures will be utilized to maintain circulation.

Production Hole - Gas Drilled

* An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
* The blooie line will be equipped with an automatic igniter or pilot light.
* Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
* Engines will have spark arresters or water cooled exhaust.
* Deduster equipment will be utilized.
* The rotating head will be properly lubricated and maintained.
* A float valve will be utilized above the bit.
* Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

Deviation/Surveys

-Deviation surveys will be conducted every 500' to kick-off point. Maximum allowable deviation at kick-off point is four (4) degrees.

-A multi-shot survey will be conducted from intermediate casing point to the base of the surface casing to verify bottom-hole location.

-Below kick-off point, directional surveys will be conducted every 30' utilizing MWD instruments.

-Directional surveys will be corrected for magnetic declination.

III. Materials:

Casing Program

Interval(ft)	Hole Size	Csg. Size	Weight	Grade	Thread	Length	Makeup Torque (ft-lb)	Cond
0 - 200	17 1/2"	13 3/8"	48.0#	H-40	8rd ST&C	200 '	3220	New
0 - 3450	12 1/4"	9 5/8"	36.0#	HC80	8rd LT&C	3450 '	6050	New
0 - 3300	8 3/4"	5 1/2"	17.0#	K-55	8rd LT&C	3300 '	2720	New
3300 - 8423	8 3/4"	5 1/2"	17.0#	N-80	8rd LT&C	5123 '	3480	New

Surface Casing Float Equipment
* 13 3/8" Sawtooth guide shoe on bottom.
* Centralizers as follows:
- 2 Bowspring Centralizers: one (1) on bottom joint and one every fourth joint to surface.

Intermediate Casing Float Equipment
* 9 5/8" Automatic Fill-Up Cement Nose Float Guide Shoe.
* 9 5/8" 40' Shoe Joint above Guide Shoe.
* 9 5/8" Automatic Fill-Up Float Collar.
* 9 5/8" HOS Multiple Stage Cementing Tool set at 2500 '.
* Centralizers as follows:
- 3 Bowspring Centralizers every other joint off bottom.
- 2 Turbolizing Centralizers: one (1) below and one (1) above the base of the Ojo Alamo at 1846 '.
- 10 Bowspring Centralizers every fourth joint above the Ojo Alamo to the base of the surface casing.

Production Casing Float Equipment
* 5 1/2" Down-Jet Cement Nose Guide Shoe with PVTS Valve.
* 5 1/2" 80' Shoe Joint above Guide Shoe.
* 5 1/2" Cement Float Collar with PVTS Valve.
* 5 1/2" External Casing Packer set at Top of the Massive Point Lookout.
* 5 1/2" External Casing Packer set at Top of the Upper Cliffhouse.
* 5 1/2" Hydraulically Opening Multiple Stage Cementing Collar above ECP.
* Centralizers as follows:
- 111 Bowspring Centralizers to the base of the intermediate casing spaced every joint for nine joints followed by a bowspring turbolizer.
- 13 Bowspring Turbolizers spaced every tenth joint to the base of the intermediate casing.

* Note - ECP placement and usage may vary depending on formation gauges.

IV. Cementing:

Surface Casing
Cement to Surface with 350 sacks of Class "B" Cement with 3% Calcium Cloride and 1/4# Flocele per sack.
Slurry volume: 417 ft^3. Excess slurry: 200%.

Slurry Weight (ppg)	15.6
Slurry Yield (ft^3/sack)	1.18
Water Requirement (gal/sack)	5.20

Intermediate Casing
First Stage:
Cement to Circulate Stage Tool with 400 sacks of Class "B" Cement with 6 1/4# Gilsonite per sack and 1/4# Flocele per sack.
Slurry volume: 521 ft^3. Excess slurry: 75%.

Slurry Weight (ppg)	15.0
Slurry Yield (ft^3/sack)	1.31
Water Requirement (gal/sack)	5.40

Second Stage:
Cement to Surface. Lead with 860 sacks of 65/35 Class "B" Pozmix Cement with 6% Gel, 2% Calcium Chloride, 5# Gilsonite per sack and 1/4# Flocele per sack. Tail with 100 sacks of Class "B" Cement with 2% Calcium Chloride.
Slurry volume: 1644 ft^3. Excess slurry: 110%.

	Lead	Tail
Slurry Weight (ppg)	12.6	15.6
Slurry Yield (ft^3/sack)	1.77	1.18
Water Requirement (gal/sack)	8.74	5.20

Production Casing
First Stage:
Cement to circulate Stage Tool. Lead with 490 sacks of 50/50 Class "A" Premium Cement with 2% Gel, 0.4% Halad-344, 0.2% CFR-3, 0.1% HR-5 and 1/4# Flocele per sack. Tail with 670 sacks of 50/50 Class "A" Premium Pozmix Cement with 2% Gel, 6 1/4# Gilsonite per sack, 0.4% Halad-344, 0.1% CBL, 0.2% CFR-3, 0.1% HR-5, and 1/4# Flocele per sack.
Slurry volume: 1556 ft^3. Excess slurry: 75%.

	Lead	Tail
Slurry Weight (ppg)	13.1	13.2
Slurry Yield (ft^3/sack)	1.37	1.33
Water Requirement (gal/sack)	6.52	5.60

Second Stage:
Cement to 150' Lap. Lead with 300 sacks of 65/35 Class "B" Pozmix Cement with 6% Gel, 2% Calcium Chloride, 5# Gilsonite per sack and 1/4# Flocele per sack. Tail with 100 sacks of Class "B" Cement with 2% Calcium Chloride.
Slurry volume: 642 ft^3. Excess slurry: 75%.

	Lead	Tail
Slurry Weight (ppg)	12.6	15.6
Slurry Yield (ft^3/sack)	1.77	1.18
Water Requirement (gal/sack)	8.74	5.20

General
* If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/mud contamination or cement hydration.
* The pipe will be rotated and/or reciprocated, if hole conditions permit.
* The Cementing Contractor will provide the BLM with a chronological log of the pump rate, pump pressure, slurry density and volume for all cement jobs.
* The annular volume between the production and intermediate casing will be filled with corrosion annihibitor and clay stabilization additives.

V. **Additional Information:**
* The Mesaverde formation will be completed.
* The W/2 of Sec.04,T30N,R09W is dedicated to this well.
* This gas is dedicated.
* Tubing: 8423 ' of 2 3/8" 4.7# J-55

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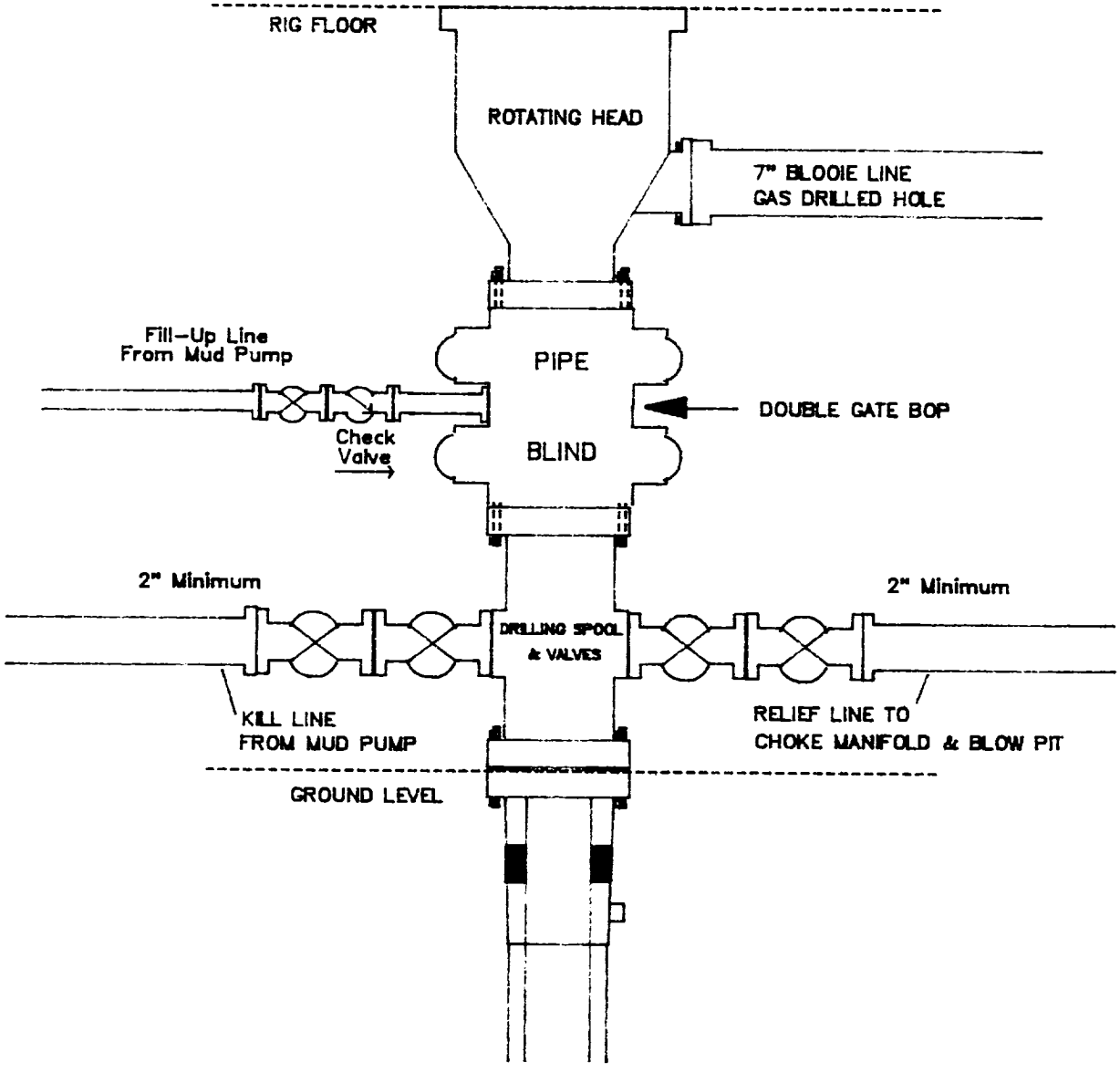
Mesaverde Well – Drilling Rig
BOP Configuration



Minimum BOP installation for the Riddle #1R Mesaverde well from Surface to Total Depth. 13 3/8" Bore, 2000psi minimum double gate BOP to be equipped with blind and pipe rams. A Schaffer Type 50 or equivalent rotating head to be installed on the top of BOP. All equipment is 2000psi working pressure/or greater.

Figure #1A

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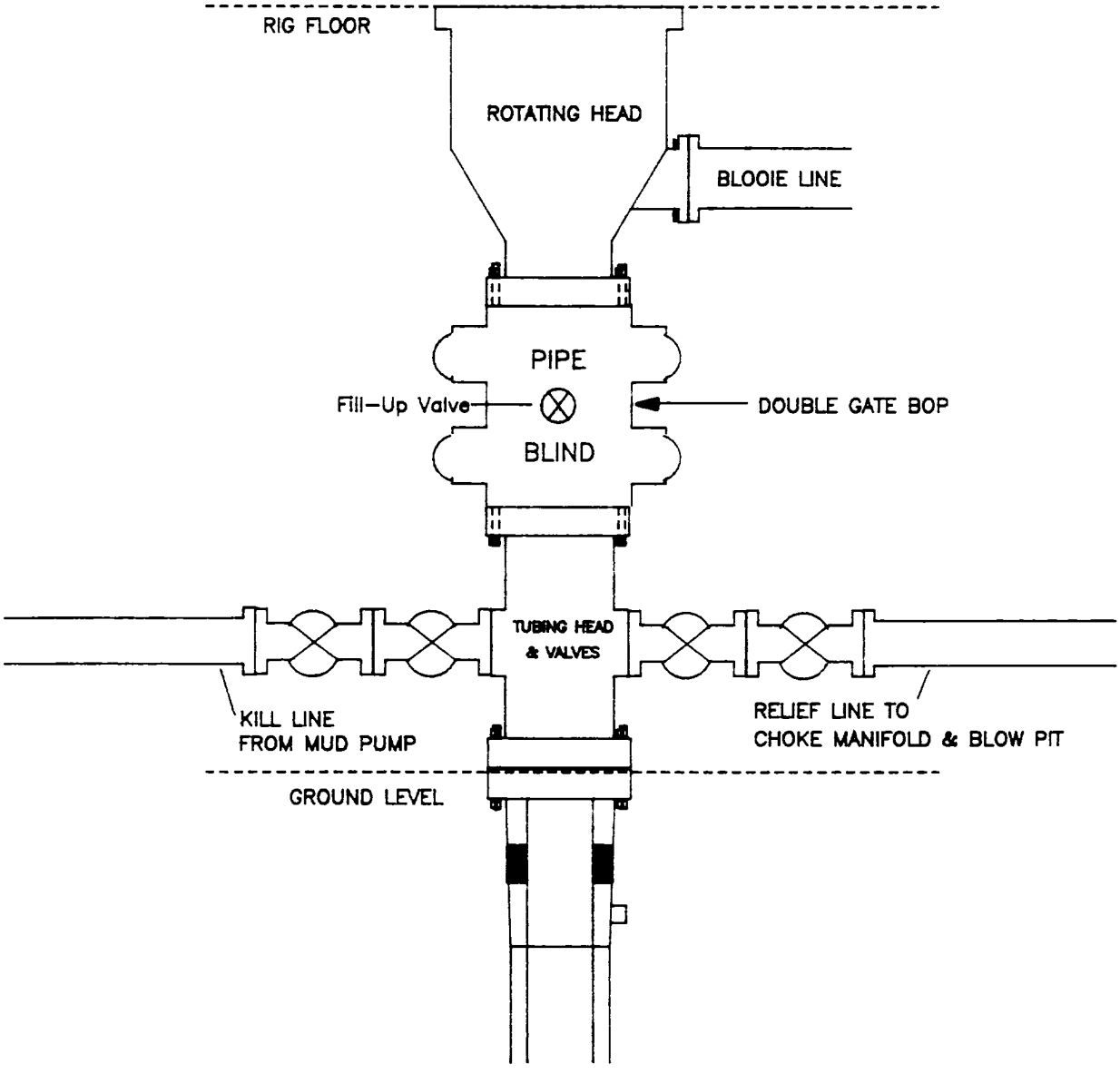
Mesaverde Well – Completion Rig
BOP Configuration



Minimum BOP installation for Completion Operations. 7 1/16" Bore (6" Nominal), 3000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams.

Figure # 16

AMS/01–10–91

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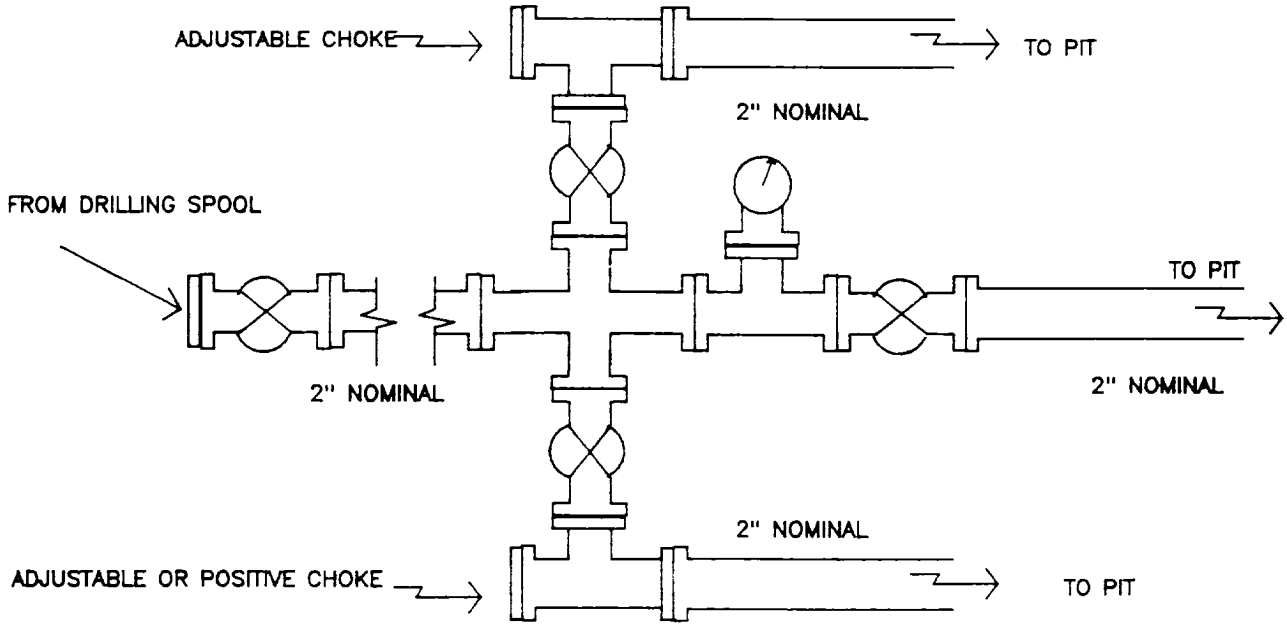
Mesaverde Well

Choke Manifold Configuration



Minimum choke manifold installation from surface to Total Depth.
2" minimum, 2000psi working pressure equipment with two chokes.

Figure #2

AMS/01-10-91

Riddle #1R
High Angle Mesaverde
NW/4 Sec. 4, T30N, R09W
Well Path Projection
Figure #3