

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM 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

Merrion Oil &amp; Gas Corporation

3. Address and Telephone No.

610 Reilly Ave Farmington NM 87401  
ph: (505) 324-5300

4. Location of Well (Footages)

At Surface

2352' fsl &amp; 673' fel (N/2 S/2)

(Lat/Long: 36°28'10.84"N 107°05'04.91"W WGS84)

At proposed prod. zone

Same

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

~12 miles North of Lindrith, NM

15. Distance from Proposed Location to Nearest

Property or Lease Line, Ft

673'

16. No. of Acres in Lease

~88.88-acres

17. No. of Acres Assigned to This Well

~351.32-acres A1118419

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

none

19. Proposed Depth

~6150'

20. Rotary or Cable Tools

Rotary

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

7382' GR, 7395' RKB

22. Approximate Date Work will Start

September, 2004

## 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" J55	32.3 ppf	~300' KB	~188 cuft (100% excess)
8 3/4"	7" J55	23 ppf	~3945' KB	~914 cuft (60% excess)
6 1/4"	4 1/2" J55 Liner	11.6 ppf	~6150' KB	~414 cuft (60% excess)

Merrion proposes to drill 12 1/4" hole with spud mud to ~300' and set 9 5/8" 32.3# J55 surface casing, cement to surface with ~188 cuft (100% excess). Will drill 8 3/4" hole to ~3945' KB with low solids non-dispersed mud system. May run open-hole surveys.

Will set 7" 23 ppf J55 intermediate casing from ~3945' KB to surface and cement in one stage. Will cement with 10 bbls of mud cleaner, 5 bbls of H<sub>2</sub>O, followed by ~755 cuft Premium Lite and tail in with ~159 cuft (60% excess) Type III cement to fill from total depth to surface.

Top of Cement should circulate to surface (will adjust volumes based upon caliper log if available). If cement does not reach surface, a temperature log or cement bond log will be run to determine top of cement. A cementing chronology will be recorded and submitted to the BLM after completion of the job.

Will wait on cement minimum of 12 hours. Will rig up air equipment and air drill out with 6 1/4" bit to total depth ~ 615 KB through Lewis and Mesaverde intervals. Will circulate hole clean and test for natural inflows. Will run open-hole surveys. Will run a 4 1/2" 11.6 ppf J55 production liner from ~3850' KB to TD @ 6150' KB. Will cement with 10 bbls conditioning spacer, 5 bbl fresh water spacer followed by ~414 cuft (60% excess) of Premium Lite to bring cement above liner hanger.

The production liner will be centralized through the Mesaverde interval.

Will test Mesaverde through perforated casing. Will fracture stimulate and put on for production test. Drilling operations below surface casing will be conducted with a double ram BOP with a rotating head for air drilling in place, minimum working pressure 2000 psig. Additional drilling technical details attached.

Gas sales line will tie-in to existing Gulfterra system in s/2 n/2 section 19, T26N, R02W. Refer to access road and pipeline ROW plat included. Gulfterra will acquire ROW from BLM.

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

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

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal to deepen, give present productive zone and proposed new productive zone.

COPIES: BLM+4, WELL FILE+1

24. I hereby certify that the foregoing is true and correct

Signed

Steven S. Dunn

Title Drilling &amp; Production Manager

Date September 21, 2004

(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:

APPROVED BY:

TITLE

DATE

NMOC

State of New Mexico  
Energy, Minerals & Mining Resources Department  
OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C - 102

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

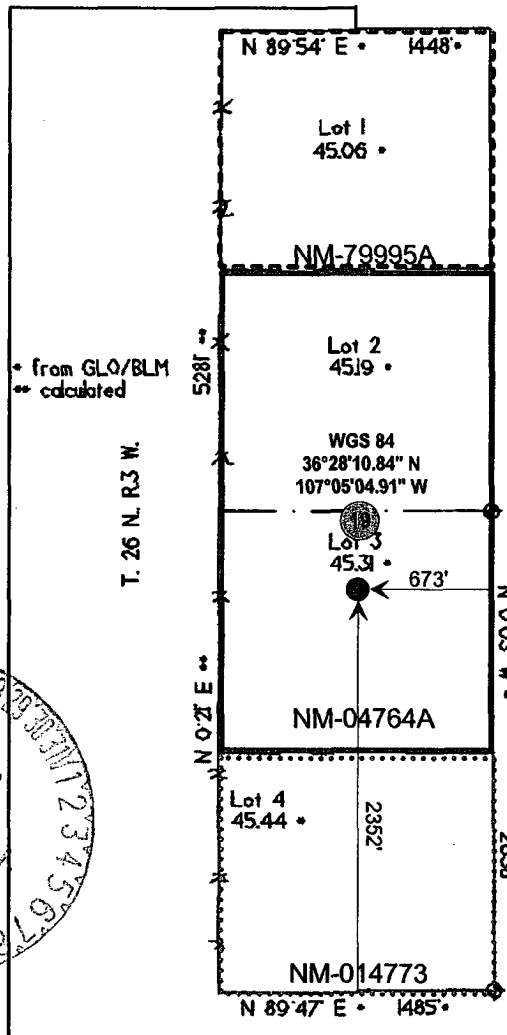
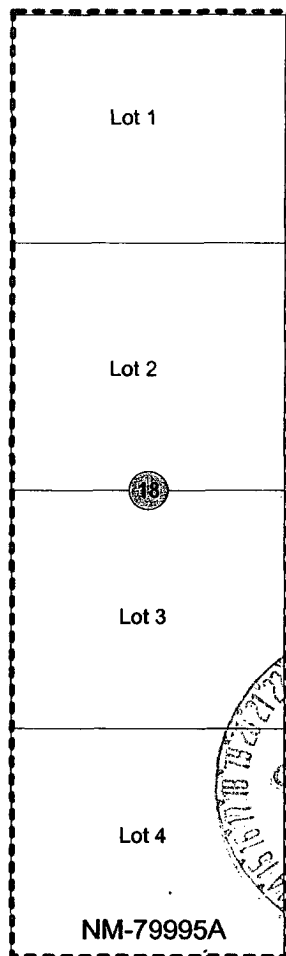
APA Number <b>30-039-29235</b>		Pool Code 72319	Pool Name Blanco Mesaverde
Property Code <b>7779</b>	Property Name FEATHERSTONE <i>Federal</i>		Well Number 2
OGRID No. 014634	Operator Name MERRION OIL & GAS		Elevation 7382'

Surface Location									
U. or Lot	Sec.	Twp.	Rge.	Lot Id.	Feet from	North/South	Feet from	East/West	County
3	19	26 N.	2 W.		2352'	SOUTH	673'	EAST	RIO ARriba

Bottom Hole Location If Different From Surface									
U. or Lot	Sec.	Twp.	Rge.	Lot Id.	Feet from	North/South	Feet from	East/West	County

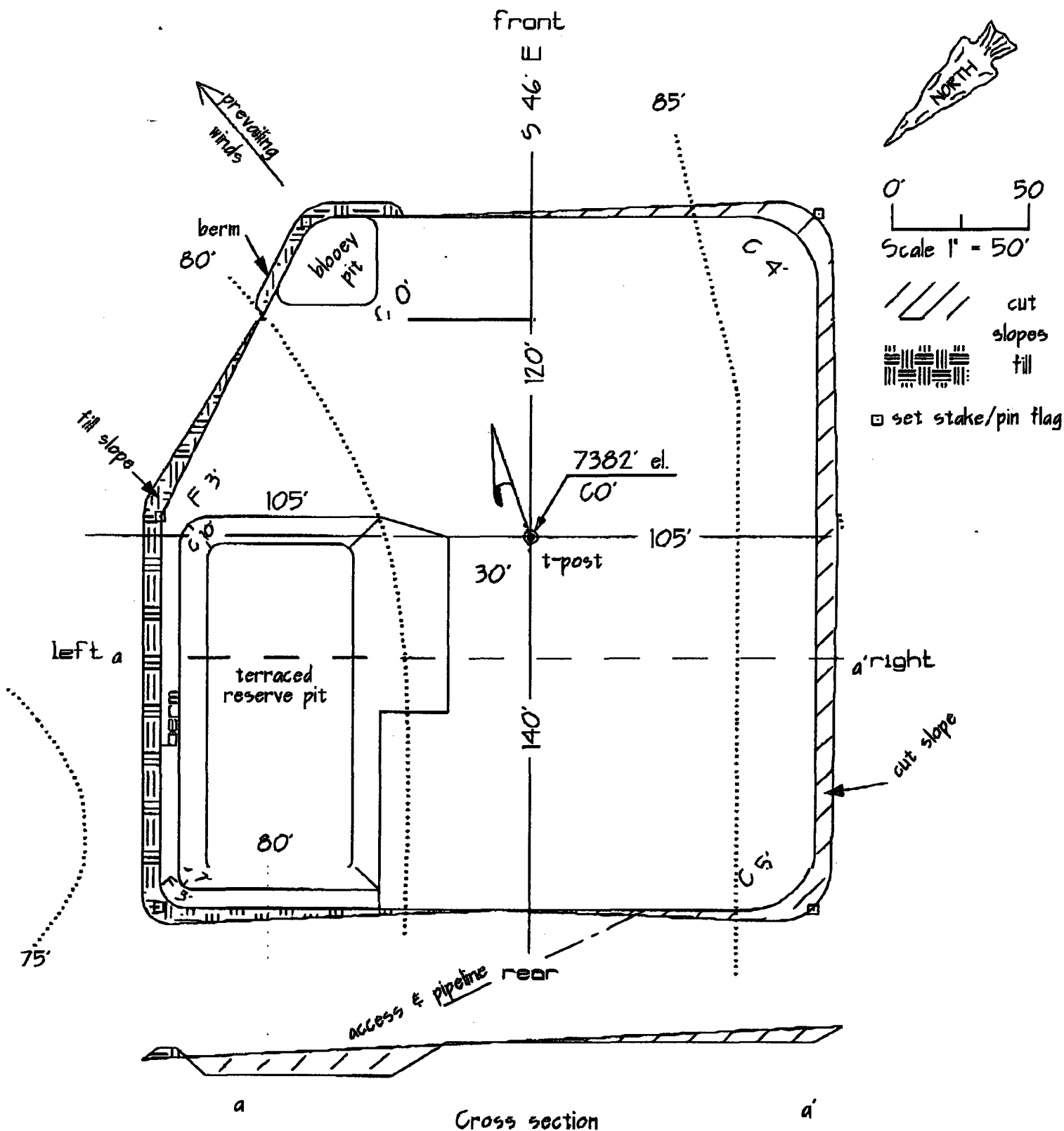
Dedication 351.32	Joint ? Y	Consolidation C	Order No. <b>E 1088 Case 1331</b>
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NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



<b>OPERATOR CERTIFICATION</b>	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Signature	<i>[Signature]</i>
Printed Name	Steven S. Dunn
Title	Drilling & Production Manager
Date	September 21, 2004
<b>SURVEYOR CERTIFICATION</b>	
I hereby certify that the well location 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	rev: 09/20/04 06/30/04
Signature and Seal of Professional Surveyor	<i>[Signature]</i> <b>GERARD J. HUDDLESTON</b> NEW MEXICO REGISTERED LAND SURVEYOR 6844

Featherston # 2  
well pad & section



# MERRION OIL & GAS CORPORATION

## DRILLING TECHNICAL PROGRAM

(Attachment to Form 3160-3)

### *Featherstone Fed No. 2*

2352' fsl & 673' fel (N/2 S/2)  
Section 19, T26N, R02W, NMPM  
Rio Arriba County, New Mexico

#### 1. **ESTIMATED FORMATION TOPS:**

<u>Formation</u>	<u>Depth-MD</u>	<u>Formation</u>	<u>Depth-MD</u>
San Jose	Surface	Cliffhouse	5515'
Nacimiento	1717'	Menefee	5619'
Ojo Alamo	3389'	Point Lookout	5867'
Fruitland	3567'	Total Depth	6150'
Basal Coal	3687'		
Pictured Cliffs	3769'		
Chacra	4742'		

#### 2. **WELL CONTROL SYSTEM**

- A. Proposed blowout preventer system (schematic drawing follows) is a double-ram type preventer, and will be used in 2000 psi service.
- B. Minimum required working pressure rating for BOP stack is 2000 psi. Maximum anticipated bottomhole pressure = 1784-psi. Well Control Anticipated Surface Pressure (ASP) = 1784-psi - (0.22 \* 6150) = 431-psi, assuming a partially gas cut column per BLM guidelines.
- C. BOP pressure testing will be conducted at time of installation and prior to drill-out of surface casing shoe. Ram type preventer will be tested to 1000 psi. The BOPs will be activated on each trip for a bit and recorded in the driller's log. A choke manifold will be installed (Refer to the enclosed schematic drawing). Working pressure for choke manifold is greater than 2000 psi. In addition, a kill line from the mud pump will be installed.
- D. Stabbing valves for drill pipe and drill collars will be available on the rig floor. A Kelly cock valve will be installed.
- E. Anticipated formation pressures average 0.29 psi/ft gradient and formation fracture initiation pressures are anticipated to exceed the maximum mud weight of 9.2 ppg except through the potentially depleted Mesaverde pay interval where air drilling will be used.

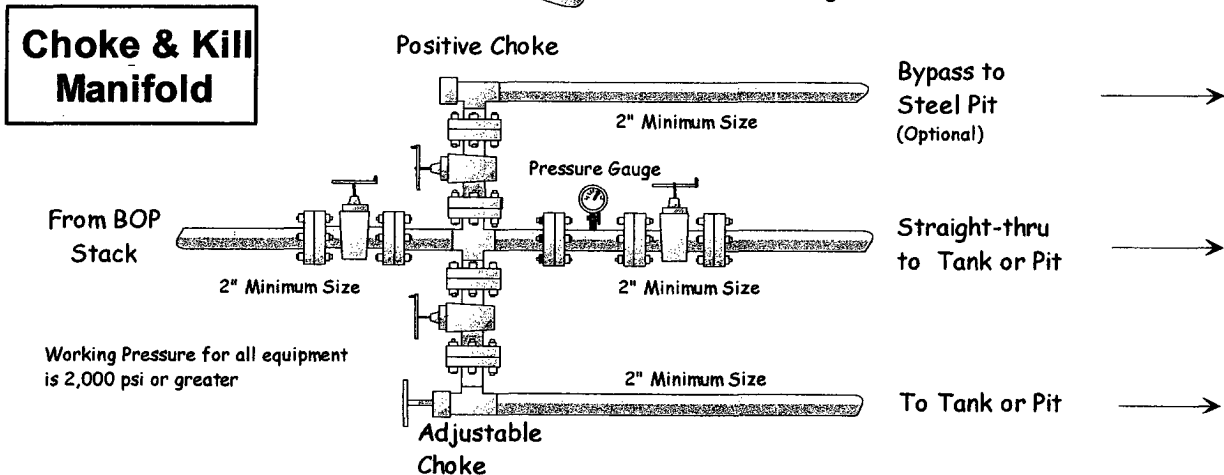
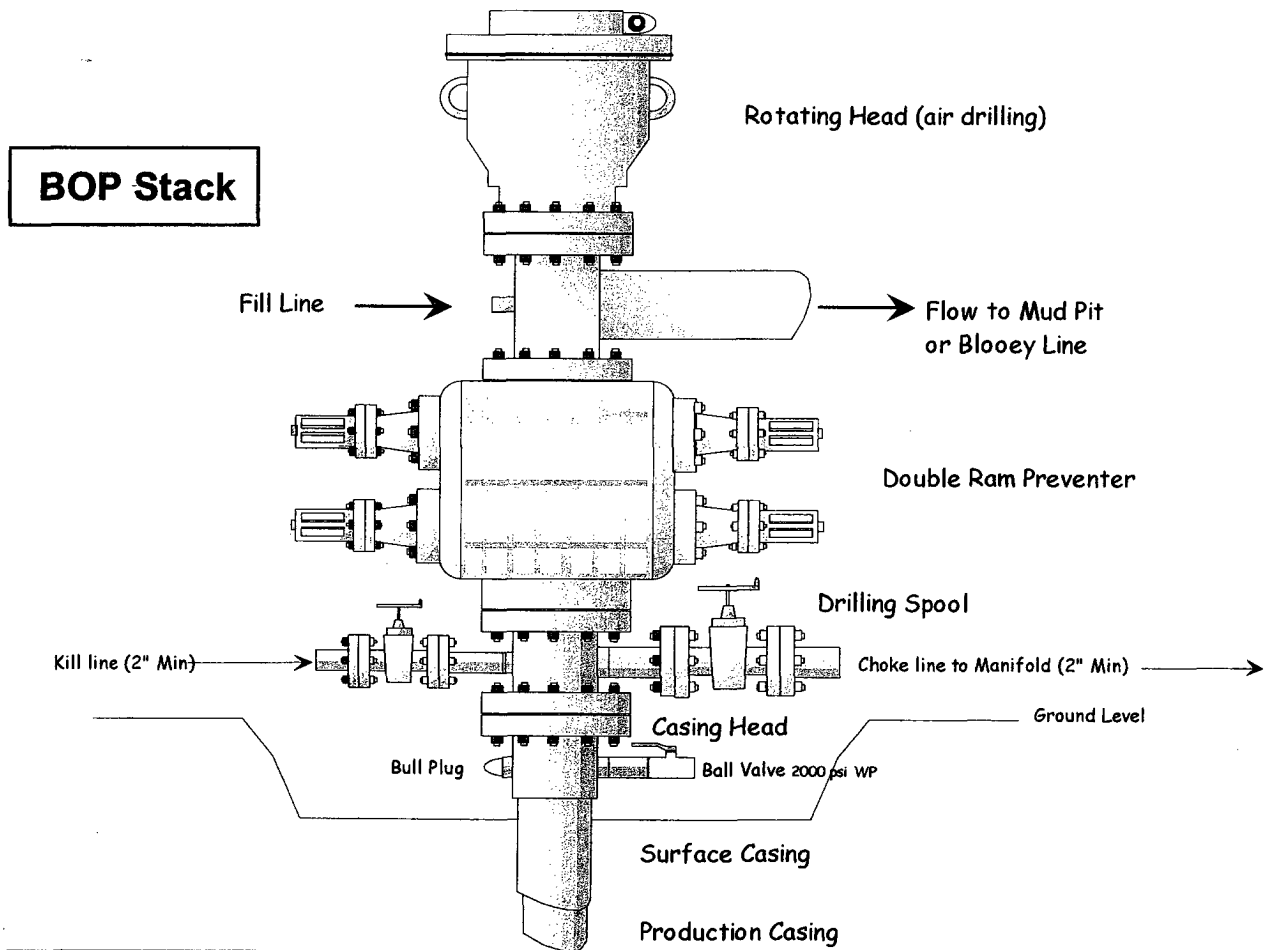
#### 3. **DRILLING MUD PROGRAM**

- A. A 12 1/4" surface hole will be drilled with fresh water system, lime and gel added to provide viscosity as needed.
- B. An 8 3/4" hole will be drilled to ~ 3945' utilizing a low solids non-dispersed mud system. Additives such as starch, cmc, and others will be used to control mud characteristics as necessary. No materials of a hazardous nature will be added to the drilling fluid in hazardous quantities.

# Merrion Oil & Gas Corporation

## Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program



Lost circulation materials will be stored on location.

Mud weighting materials will be stored on location.

<u>INTERVAL</u>	<u>MUD SYSTEM</u>	<u>WEIGHT #/GAL</u>	<u>VISCOSITY SEC/QT</u>	<u>WATER LOSS CC</u>
0 – 300'	Native	< 9.0	35-55	NA
300' – 3945'±	LSND	8.6-9.2	28-45	NA
3945' – 6150'±	Air	NA		

Maximum anticipated mud weight is 9.2 lb/gal (0.48 psi/ft).

- C. Mud trip monitoring will be done visually.

#### 4. **HAZARDS**

- A. Abnormal Pressure is not expected to be a problem in this area.
- B. Lost circulation is not expected to be a problem in this area because air drilling will be used through the Mesaverde. Lost circulation materials will be stored on location and mud weights will be controlled.
- C. No H<sub>2</sub>S is expected. However, should H<sub>2</sub>S be found during drilling, detection and warning equipment will be installed.
- D. Unintentional hole deviation is not expected to be a problem. Single shot surveys giving hole inclination will be run a minimum of every 500 feet.

#### 5. **LOGGING AND TESTING**

- A. An induction-neutron-density-gamma ray log may be run in the intermediate casing hole across zones of interest. In addition, an induction-neutron-density-gamma ray log will be run from total depth back to intermediate casing.
- B. Drill stem tests will not be run.
- C. No coring is anticipated.
- D. A mud logging unit may be used during drilling.

#### 6. **CASING PROGRAM**

- A. Casing:

	<u>Description</u>	<u>Top</u>	<u>Bottom</u>
1	9 5/8" 32.3 ppf J55	Surface	300 ft ±
2	7" 23 ppf J55	Surface	3945 ft ±
3	4 1/2" 11.6 ppf J55	3850 ft ±	6150 ft ±

Merrion requests that a variance be granted to allow us to set surface casing at the proposed depth of ± 300' because this setting depth has been shown to be adequate as demonstrated by the

**Merrion Oil & Gas Corporation**  
**Wellbore Schematic**  
**Featherstone Fed No. 2**  
Proposed Wellbore Configuration

Location: 2352' Tst & 673' Tel (n/2 s/2)  
 Sec 19, T26N, R02W, NMPM  
 Rio Arriba Co., New Mexico

Updated: Sep 23, 04

Elevation: 7,382' GL  
 7,395' RKB

By: Steve Dunn

**Cretaceous**

