UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. **Type of Work**
DRILL

5. **Lease Number**
SF-081098
Unit Reporting Number

1b. **Type of Well**
GAS

6. **If Indian, All. or Tribe**

2. **Operator**
BURLINGTON RESOURCES Oil & Gas Company

7. **Unit Agreement Name**

3. **Address & Phone No. of Operator**
PO Box 4289, Farmington, NM 87499

(505) 326-9700

8. **Farm or Lease Name**
Riddle
9. **Well Number**
#2B

4. **Location of Well**
2615'FNL, 1895'FWL

Latitude 36° 50.4, Longitude 107° 46.2

10. **Field, Pool, Wildcat**
Blanco Mesaverde
11. **Sec., Twn, Rge, Mer. (NMPM)**
F Sec.3, T-30-N, R-9-W
API # 30-045- 30501

14. **Distance in Miles from Nearest Town**
16 miles to Aztec

12. **County** San Juan
13. **State** NM

15. **Distance from Proposed Location to Nearest Property or Lease Line**
1895'

16. **Acres in Lease**

17. **Acres Assigned to Well**
322.86 W/2

18. **Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease**
800'

19. **Proposed Depth**
5468'

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

20. **Rotary or Cable Tools**
Rotary

21. **Elevations (DF, FT, GR, Etc.)**
6058'GR

22. **Approx. Date Work will Start**

23. **Proposed Casing and Cementing Program**
See Operations Plan attached

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

24. **Authorized by:** Peggy Cole
Regulatory/Compliance Supervisor

11-20-00
Date

PERMIT NO. _____ **APPROVAL DATE** _____

APPROVED BY /s/ Jim Lovato **TITLE** _____ **DATE** FEB - 5 2001

Archaeological Report to be submitted
Threatened and Endangered Species Report to be submitted
NOTE: This format is issued in lieu of U.S. BLM Form 3160-3
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 presentations as to any matter within its jurisdiction.

DISTRICT I
P.O. Box 1980, Hobbs, N.M. 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, N.M. 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
P.O. 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
30-045-30501	72319	Blanco Mesaverde

[4] Property Code	[5] Property Name	[6] Well Number
7424	RIDDLE	2B

[7] OGRID No.	[8] Operator Name	[9] Elevation
14538	BURLINGTON RESOURCES OIL & GAS INC.	6058'

[10] Surface Location

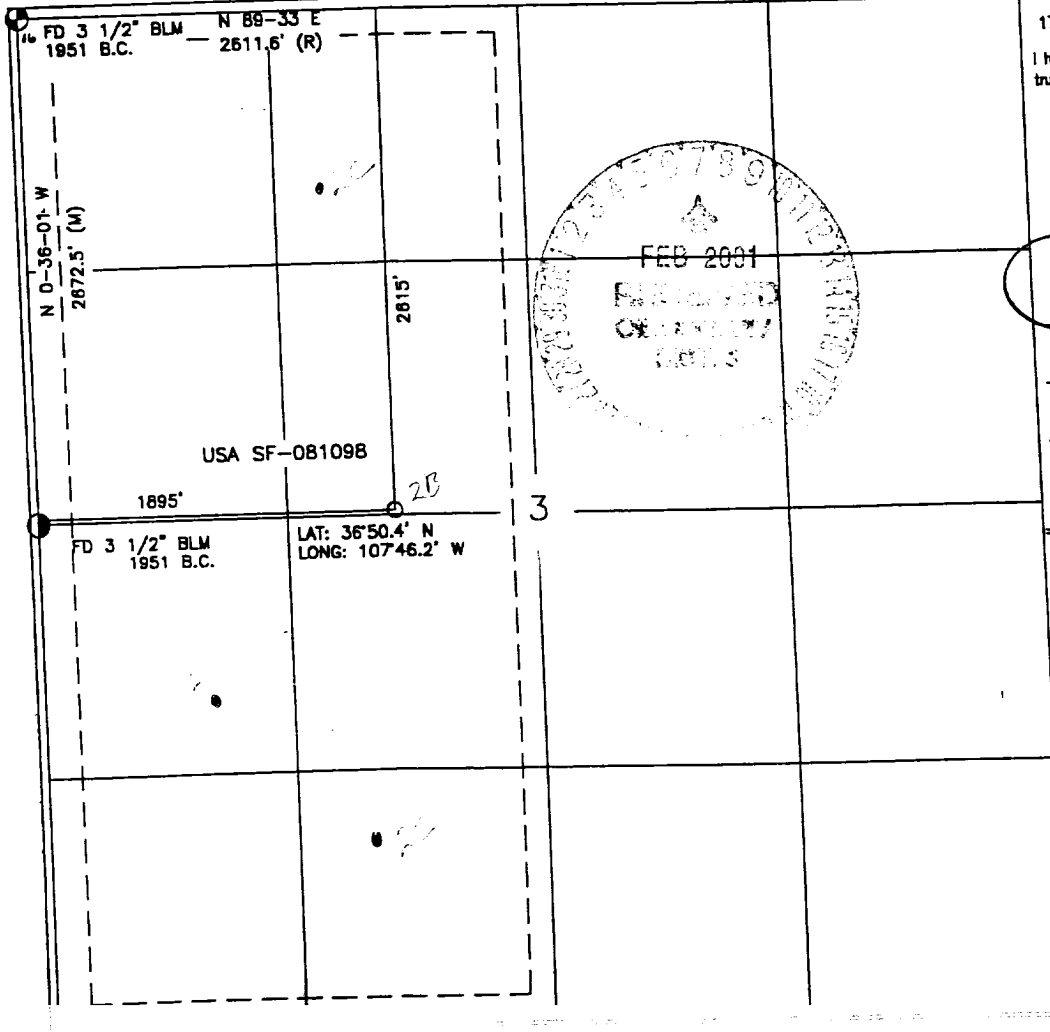
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	3	30-N	9-W		2615	NORTH	1895	WEST	SAN JUAN

[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.
322.86 W/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: Peggy Cole

Printed Name: Peggy Cole

Title: Regulatory Supervisor

Date: 11-20-00

[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: 9-6-2000

Signature and Seal of Professional Surveyor: NEW MEXICO 8894 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate Number: 8894

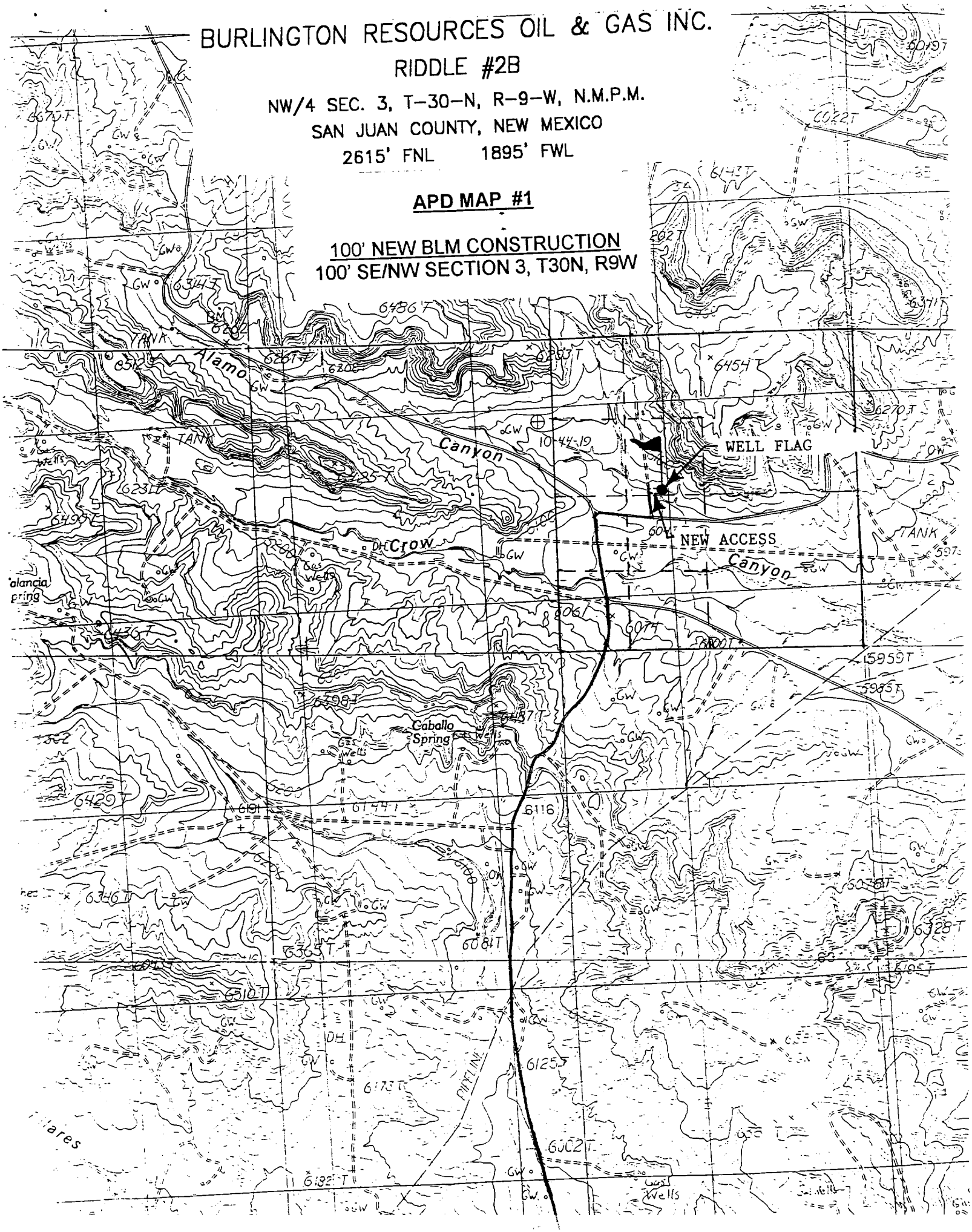
BURLINGTON RESOURCES OIL & GAS INC.

RIDDLE #2B

NW/4 SEC. 3, T-30-N, R-9-W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO
2615' FNL 1895' FWL

APD MAP #1

100' NEW BLM CONSTRUCTION
100' SE/NW SECTION 3, T30N, R9W



OPERATIONS PLAN

Well Name: Riddle #2B
Surface Location: 2615'FNL, 1895'FWL, Section 3, T-30-N, R-9-W
San Juan County, New Mexico
Latitude 36° 50.4'N, Longitude 107° 46.2'W

Formation: Blanco Mesa Verde
Elevation: 6058'GR

Formation Tops:	***Top***	***Bottom***	***Contents***
Surface	San Jose	1504'	aquifer
Ojo Alamo	1504'	1655'	aquifer
Kirtland	1655'	2239'	gas
Fruitland	2239'	2854'	gas
Pictured Cliffs	2854'	2979'	gas
Lewis	2979'	3590'	gas
Intermediate TD	**3229'**		
Mesa Verde	3590'	3897'	gas
Chacra	3897'	4604'	gas
Massive Cliff House	4604'	4700'	gas
Menefee	4700'	5068'	gas
Point Lookout	5068'		gas
Total Depth	**5468'**		

Logging Program:
Cased hole logging - Gamma Ray, Cement bond from surface to TD
Open hole logging - none
Mud Logs/Coring/DST - none

Mud Program:

Interval- MD	Type	Weight	Vis.	Fluid Loss
0- 200'	Spud	8.4-9.0	40-50	no control
200- 3229'	LSND	8.4-9.0	30-60	no control
3229- 5468'	Air/Mist	n/a	n/a	n/a

Pit levels will be visually monitored to detect gain or loss of fluid control.

Casing Program (as listed, the equivalent, or better):

Hole Size	Measured Depth	Csg Size	Weight	Grade
12 1/4"	0' - 200'	9 5/8"	32.3#	H-40
8 3/4"	0' - 3229'	7"	20.0#	J-55
6 1/4"	3129' - 5468'	4 1/2"	10.5#	J-55

Tubing Program: 0' -5468' 2 3/8" 4.7# J-55

BOP Specifications, Wellhead and Tests:
Surface to Intermediate TD -
11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, rams and casing will be tested to 600 psi for 30 minutes.

BOP Specifications, Wellhead and Tests (cont'd):

Intermediate TD to Total Depth -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, rams and casing will be tested to 1500 psi for 30 minutes.

Surface to Total Depth -

2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

Completion Operations -

7 1/16" 2000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 2000 psi for 15 minutes.

Wellhead -

9 5/8" x 7" x 2 3/8" x 2000 psi tree assembly.

General -

- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- BOP pit level drill will be conducted weekly for each drill crew.
- All BOP tests & drills will be recorded in daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

Cementing:

9 5/8" surface casing - cement with 159 sx Class "H" cement with 1/4# flocele/sx and 3% calcium chloride (188 cu.ft. of slurry, 200% excess to circulate to surface). WOC 8 hrs. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing -
Lead w/332 sx 50/50 Class "G"/Trinity Light with 2.5% sodium metasilicate, 2% calcium chloride, 10 pps Gilsonite, 0.5 pps Flocele. Tail with 90 sx Class "G" 50/50 poz w/2% gel, 2% calcium chloride, 5 pps Gilsonite, 0.1% antifoam and 0.25 pps Flocele (971 cu.ft. of slurry, 100% excess to circulate to surface). WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL will be run to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage: Stage collar at 2139'. First stage: cement w/256 sx 50/50 Class "G" poz w/2% gel, 2% calcium chloride, 5 pps Gilsonite, 0.1% antifoam and 0.25 pps Flocele. Second stage: w/249 sx 50/50 Class "G"/Trinity Light with 2.5% sodium metasilicate, 2% calcium chloride, 10 pps Gilsonite, 0.5 pps Flocele (971 cu.ft. of slurry, 100% excess to circulate to surface).

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom, to the base of the Ojo Alamo at 1655'. Two turbolating centralizers at the base of the Ojo Alamo at 1655'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

4 1/2" Production Liner -
Cement to circulate liner top. Pump 235 sx Class "G" 50/50 poz w/4.5% gel, 0.25 pps Flocele, 5 pps Gilsonite, 0.25% fluid loss, 0.1% retardant (336 cu.ft., 40% excess to circulate liner). WOC a minimum of 18 hrs prior to completing.

Note: If open hole logs are run, cement volumes will be based on 25% excess over caliper volumes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. The liner hanger will have a rubber packoff.

- If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.

Special Drilling Operations (Air/Mist Drilling):

The following equipment will be operational while gas/mist drilling:

- 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.
- 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.

Additional Information:

- The Mesa Verde formation will be completed.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	200 psi
Pictured Cliffs	200 psi
Mesa Verde	350 psi

- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The west half of Section 3 is dedicated to the Mesa Verde.
- This gas is dedicated.

Mike Woodruff
Drilling Engineer

11/29/00
Date