UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED
JAN 18 2000
OIL CON. DIV.
DIST. 3

070 FARMINGTON NM 2:09

1a. Type of Work
DRILL

5. Lease Number
SF-078125
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
Sunray B

9. Well Number
1B

4. Location of Well
~~1655~~' FNL, ~~1740~~' FWL
1690 1795
Latitude 36° 48.9, Longitude 107° 52.5

10. Field, Pool, Wildcat
Blanco Mesaverde / Basin Dk

11. Sec., Twn, Rge, Mer. (NMPM)
Sec. 15, T-30-N, R-10-W

API # 30-045-

14. Distance in Miles from Nearest Town
8 miles from Aztec

12. County
San Juan

13. State
NM

15. Distance from Proposed Location to Nearest Property or Lease Line
1655'

16. Acres in Lease

17. Acres Assigned to Well
319.34 W/2

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease
75'

19. Proposed Depth
5746'

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.)
6459' 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 Administrator

10-6-99
Date

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

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.

NMOCD

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-10
Revised February 21, 199
Instructions on bac
Submit to Appropriate District Offic
State Lease - 4 Copie
Fee Lease - 3 Copie

☐ AMENDED REPOR

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹API Number	²Pool Code	³Pool Name
30-045- 30610	72319/71599	Blanco Mesaverde/Basin Dakota

⁴Property Code	⁵Property Name	⁶Well Number
7563	SUNRAY B	18

⁷OGRID No.	⁸Operator Name	⁹Elevation
14538	BURLINGTON RESOURCES OIL & GAS COMPANY	6461'

¹⁰ Surface Location

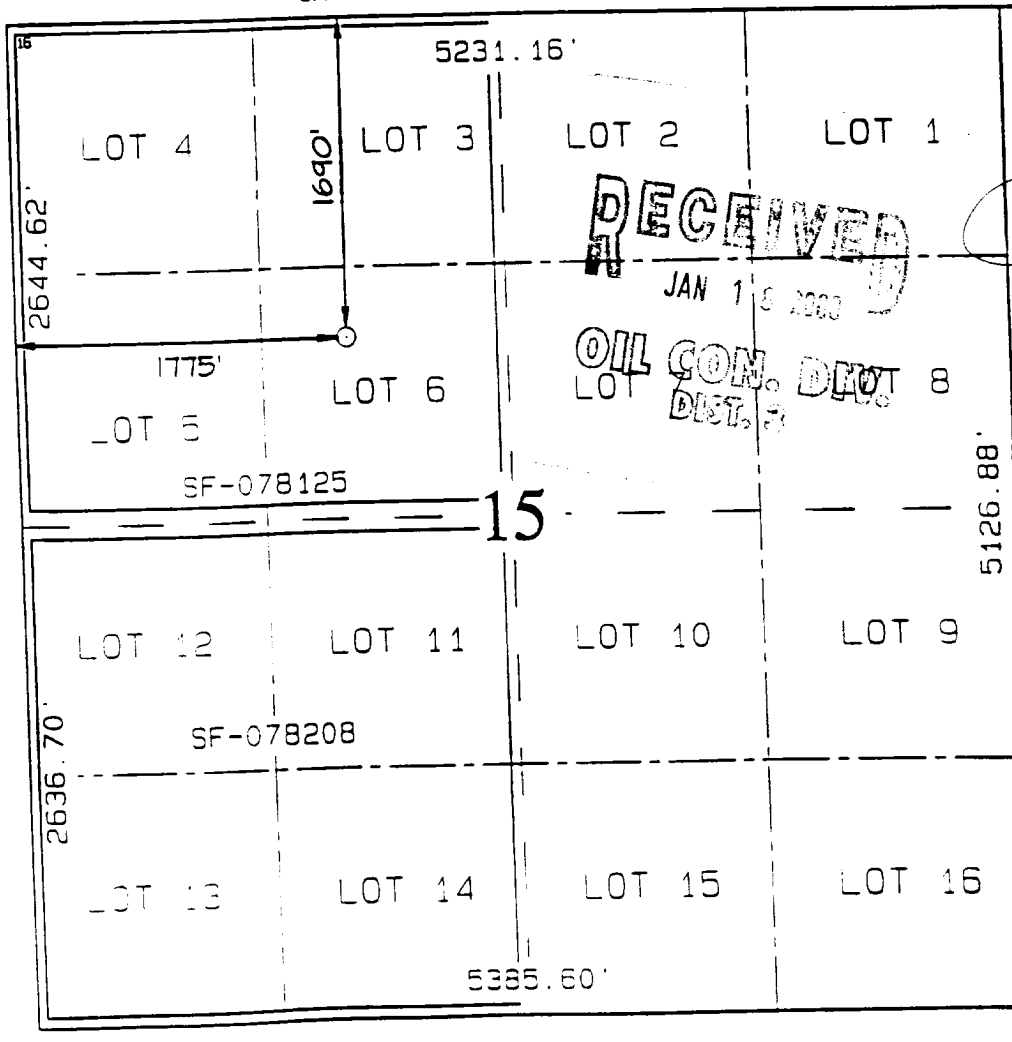
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	15	30N	10W		1690	NORTH	1775	WEST	SAN JUA

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

¹²Dedicated Acres	¹³Joint or Infill	¹⁴Consolidation Code	¹⁵Order No.
W/319.34			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATE
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



RECEIVED
JAN 1 8 2000
OIL CON. DIV.
DIST. 3

¹⁷ OPERATOR CERTIFICATIC

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

Peggy Cole
Signature

Peggy Cole
Printed Name

Regulatory Administrat
Title

12-1-99
Date

¹⁸ SURVEYOR CERTIFICATI

I hereby certify that the well location shown on th was plotted from field notes of actual surveys made or under my supervision, and that the same is true correct to the best of my belief.

AUGUST 31, 1999
Date of Survey

Signature and Seal of Professional Surveyor

NEALE C. EDWARDS
NEW MEXICO
6857
REGISTERED PROFESSIONAL SURVEYOR

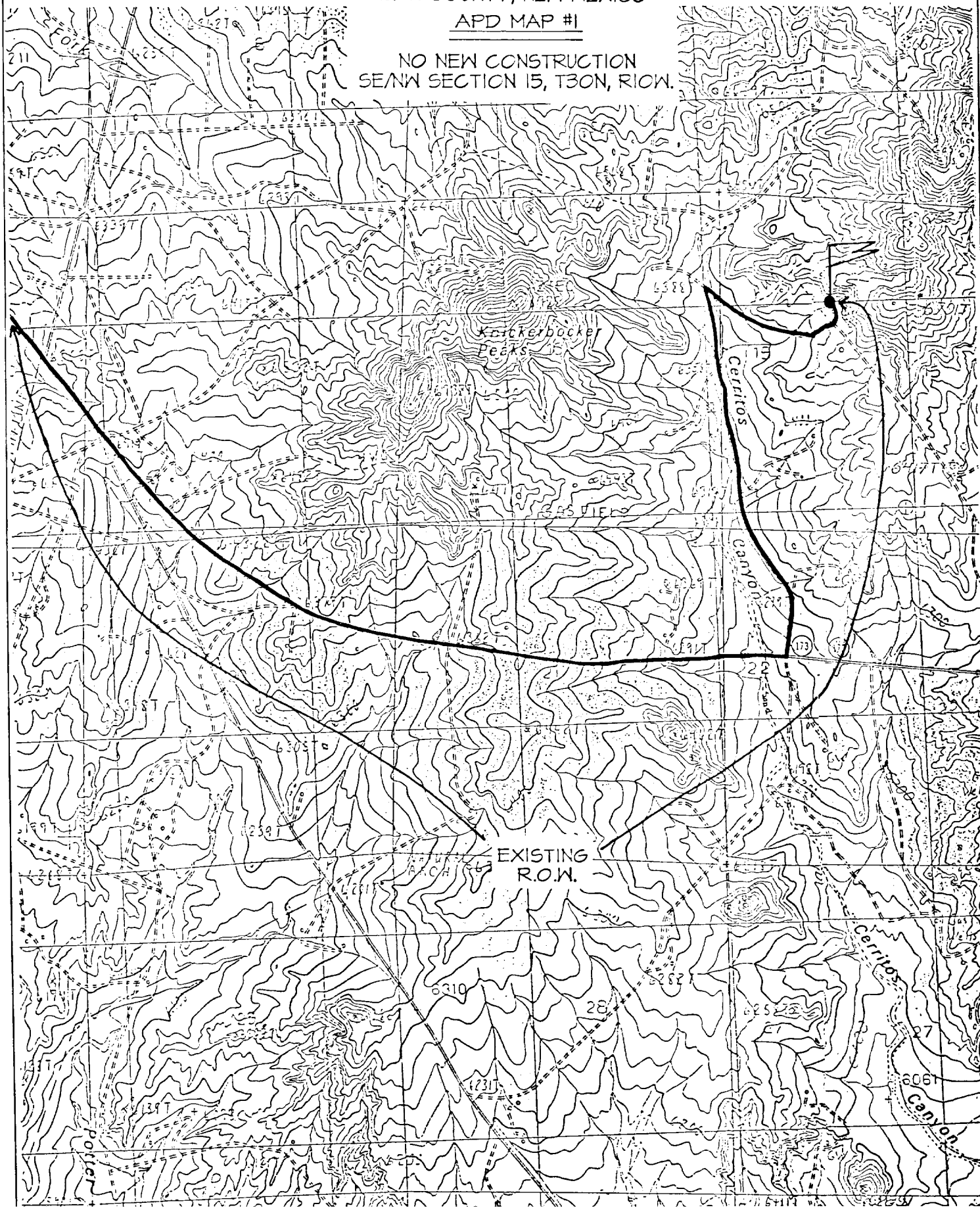
Certificate Number 685

BURLINGTON RESOURCES OIL & GAS COMPANY SUNRAY B #1B

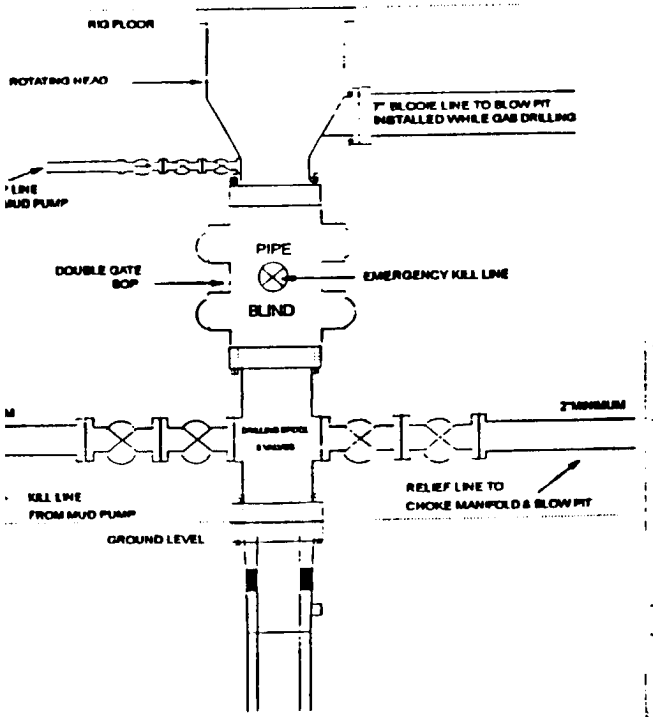
1655' FNL & 1740' FWL, SECTION 15, T30N, R10W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

APD MAP #1

NO NEW CONSTRUCTION
SE/NW SECTION 15, T30N, R10W.



BOP Configuration
2M psi System

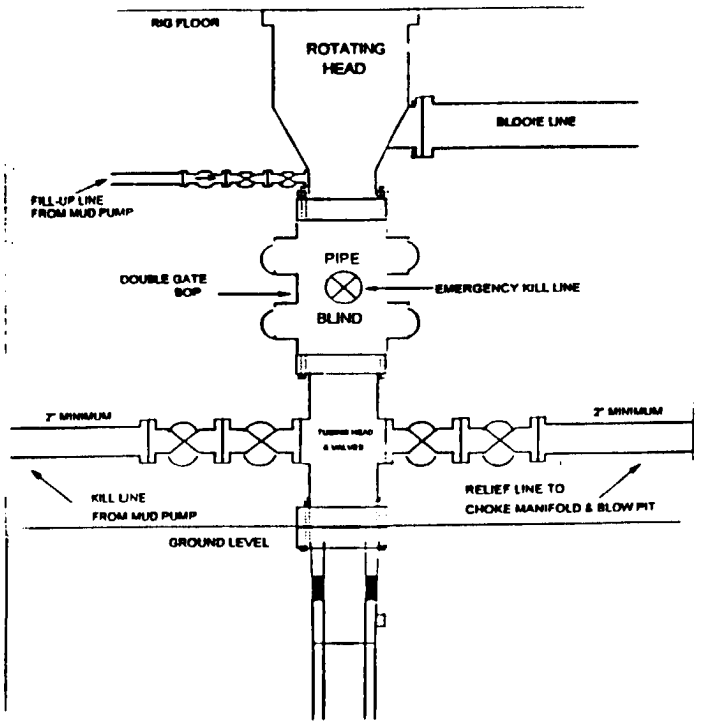


ore, 2000psi minimum working pressure double gate BOP to be equipped
lind and pipe rams. A Schaffer Type 50 or equivalent rotating head to be
ed on the top of the BOP. All equipment is 2000psi working pressure/or
er.

FIGURE #1

BURLINGTON RESOURCES

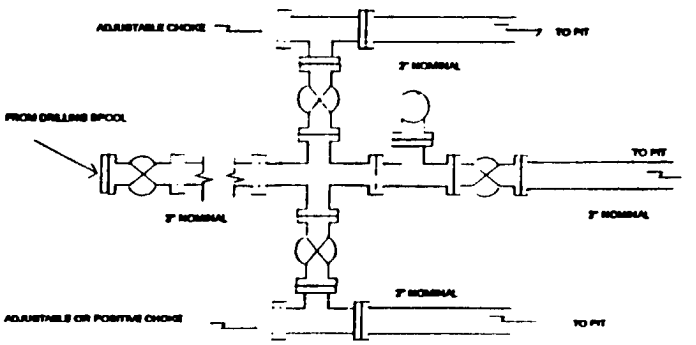
BOP Configuration
2M psi System



Minimum BOP installation for Completion operations. 7 1/16" Bore (6" Nominal), 2,000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams

FIGURE #2

Choke Manifold Configuration
2M System



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

Figure #3

OPERATIONS PLAN

Well Name: Sunray B #1B
Location: 1690'FNL, 1775'FWL, Sec 15, T-30-N, R-10-W
San Juan County, NM
Latitude 36° 48.9, Longitude 107° 52.5
Formation: Blanco Mesa Verde/Basin Dakota
Elevation: 6461' GL

Formation Tops:	***Top***	***Bottom***	***Contents***
Surface	San Jose	1721'	
Ojo Alamo	1721'	1878'	aquifer
Kirtland	1878'	2531'	gas
Fruitland	2531'	3086'	gas
Pictured Cliffs	3086'	3248'	gas
Lewis	3248'	3818'	gas
Intermediate TD	**3348'**		
Mesa Verde	3818'	4122'	gas
Chacra	4122'	4696'	gas
Massive Cliff House	4696'	4870'	gas
Menefee	4870'	5346'	gas
Massive Point Lookout	5346'	5746'	gas
Mancos	5746'	6611'	gas
Gallup	6611'	7346'	gas
Greenhorn	7346'	7406'	gas
Graneros	7406'	7456'	gas
Dakota	7456'		gas
TD	**7661'**		

Logging Program:
Cased hole - CBL-CCL-GR - TD to surface
Cores - none

Mud Program:

Interval	Type	Weight	Vis.	Fluid Loss
0- 200'	Spud	8.4-9.0	40-50	no control
200- 3348'	LSND	8.4-9.0	30-60	no control
3348- 7661'	Gas	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	Depth Interval	Csg.Size	Wt.	Grade
12 1/4"	0' - 200'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 3348'	7"	20.0#	J-55
6 1/4"	3248' - 7661'	5 1/2"	10.5#	K-55

Tubing Program:

0' - 5746'	1 1/2"	2.76"	J-55
0' - 7661'	1 1/2"	2.90#	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.

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 1 1/2" x 1 1/2" x 3000 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 drilling crew.
- All BOP tests and 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 "B" 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/303 sx Class "B" w/3% sodium metasilicate, 7# gilsonite/sx and 1/2# flocele/sx. Tail w/90 sx 50/50 Class "B" Poz w/2% calcium chloride, 2% gel (1007 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 during completion operations to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage: Stage collar at 2431'. First stage: cement with w/204 sx Class "B" 50/50 poz w/2% gel, 2% calcium chloride, 0.5 pps Cellophane. Second stage: 250 sx Class "B" with 3% sodium metasilicate, 1/2 pps Cellophane, 10 pps Gilsonite (1007 cu.ft., 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 1878'. Two turbolating centralizers at the base of the Ojo Alamo at 1878'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

5 1/2" Production Liner -
Cement to cover minimum of 100' of 5 1/2" x 7" overlap. Lead with 234 sx 50/50 Class "H" Poz with 2% gel, 0.25# flocele/sx, 5# gilsonite/sx, 0.2% retardant and 0.4% fluid loss additive (297 cu.ft.), 40% excess to cement 5 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

Cement float shoe on bottom with float collar spaced on top of shoe joint.

Note: To facilitate higher hydraulic stimulation completion work, no liner hanger will be used. In its place, a long string of 5 1/2" casing will be run and cemented with a minimum of 100' of cement overlap between the 5 1/2" x 7" casing strings. After completion of the well, a 5 1/2" retrievable bridge plug will be set below the top of cement in the 5 1/2" x 7" overlap. The 5 1/2" casing will then be backed off above the top of cement in the 5 1/2" x 7" overlap and laid down. The 5 1/2" bridge plug will then be retrieved and the production tubing will be run to produce the well.

- 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 (Gas/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.
- 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.

Additional Information:

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

Fruitland Coal	800 psi
Pictured Cliffs	800 psi
Mesa Verde	700 psi
Dakota	2500 psi

- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered.
- The west half of Section 15 is dedicated to the Mesaverde and the Dakota in this well.
- This gas is dedicated.

Drilling Engineer

12/1/99
Date