

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK**

<p><b>1a. Type of Work</b> DRILL</p>	<p><b>5. Lease Number</b> SF-079051 <b>Unit Reporting Number</b> PC-891001051A MV-8910010510</p>
<p><b>1b. Type of Well</b> GAS</p>	<p><b>6. If Indian, All. or Tribe</b></p>
<p><b>2. Operator</b> <b>BURLINGTON RESOURCES</b> Oil &amp; Gas Company</p>	<p><b>7. Unit Agreement Name</b> San Juan 28-6 Unit</p>
<p><b>3. Address &amp; Phone No. of Operator</b> PO Box 4289, Farmington, NM 87499  (505) 326-9700</p>	<p><b>8. Farm or Lease Name</b> San Juan 28-6 Unit NP</p> <p><b>9. Well Number</b> 21A</p>
<p><b>4. Location of Well</b> 660' FNL, 660' FWL,  Latitude 36° 36.5, Longitude 107° 28.7</p>	<p><b>10. Field, Pool, Wildcat</b> So Blanco Pict Cliffs/ Blanco Mesaverde</p> <p><b>11. Sec., Twn, Rge, Mer. (NMPM)</b> Sec. 4, T-27-N, R-6-W <b>API#</b> 30-039-27243</p>
<p><b>14. Distance in Miles from Nearest Town</b> 14 miles from Gobernador</p>	<p><b>12. County</b> Rio Arriba      <b>13. State</b> NM</p>
<p><b>15. Distance from Proposed Location to Nearest Property or Lease Line</b> 660'</p>	<p><small>DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".</small></p> <p><b>17. Acres Assigned to Well</b> PC - 161 - NW/4 MV - 321 W/2</p>
<p><b>16. Acres in Lease</b> <small>This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4</small></p>	
<p><b>18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease</b> 1400'</p>	
<p><b>19. Proposed Depth</b> 6031'</p>	<p><b>20. Rotary or Cable Tools</b> Rotary</p>
<p><b>21. Elevations (DF, FT, GR, Etc.)</b> 6712' GR</p>	<p><b>22. Approx. Date Work will Start</b></p>
<p><b>23. Proposed Casing and Cementing Program</b> See Operations Plan attached</p>	
<p><b>24. Authorized by:</b> <u>Peggy Cole</u> Regulatory/Compliance Supervisor</p>	<p><u>9-27-01</u> Date</p>

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
 APPROVED BY **Charlie Becham** TITLE \_\_\_\_\_ DATE **JUL 18 2002**

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.

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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-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

<sup>1</sup> API Number 30-039-27243		<sup>2</sup> Pool Code 72439/72319		<sup>3</sup> Pool Name South Blanco Pictured Cliffs/Blanco Mesaverde	
<sup>4</sup> Property Code 2462 19668		<sup>5</sup> Property Name SAN JUAN 28-6 UNIT NP			<sup>6</sup> Well Number 21A
<sup>7</sup> OGRID No. 14538		<sup>8</sup> Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP			<sup>9</sup> Elevation 6712'

<sup>10</sup> Surface Location

Ul. or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	4	27N	6W		660	NORTH	660	WEST	RIO ARRIBA

<sup>11</sup> 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

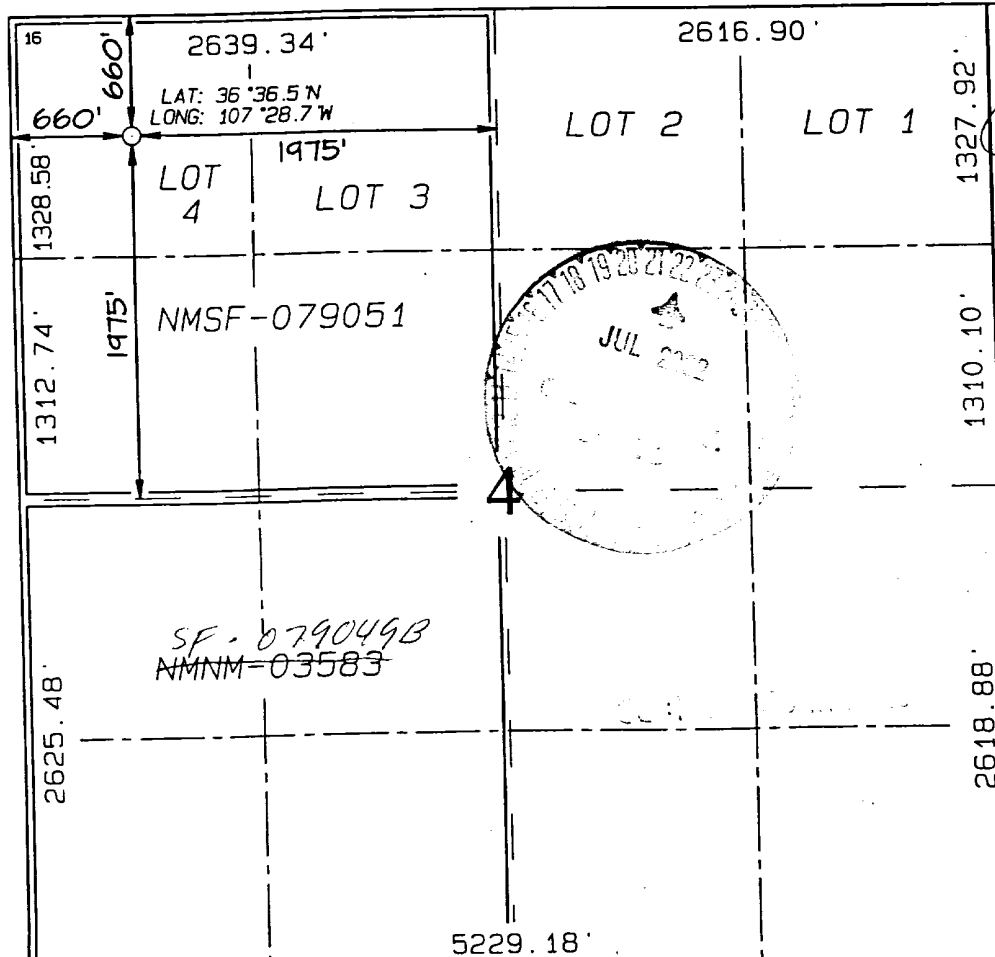
<sup>12</sup> Dedicated Acres  
PC - 161  
MV-W/321

<sup>13</sup> Joint or Infill

<sup>14</sup> Consolidation Code

<sup>15</sup> Order No.

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



<sup>17</sup> OPERATOR CERTIFICATION  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

*Peggy Cole*  
Signature

Peggy Cole  
Printed Name

Regulatory Supervisor  
Title

9-27-01  
Date

<sup>18</sup> 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: AUGUST 25, 2001

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

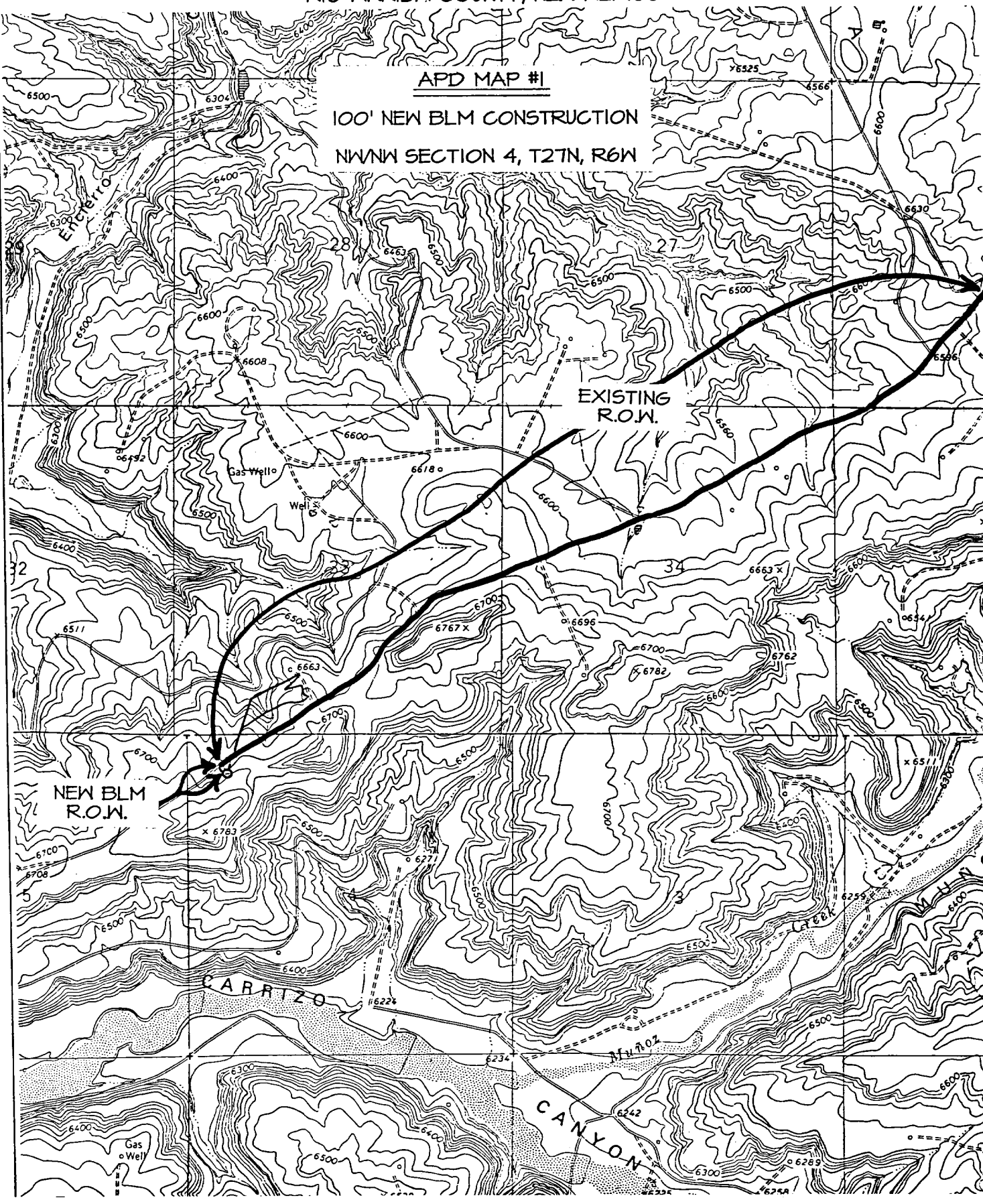
BURLINGTON RESOURCES OIL & GAS COMPANY SAN JUAN 28-6 UNIT NP #21A

660' FNL & 660' FNL, SECTION 4, T27N, R6W, N.M.P.M.  
RIO ARRIBA COUNTY, NEW MEXICO

APD MAP #1

100' NEW BLM CONSTRUCTION

NWNW SECTION 4, T27N, R6W



EXISTING  
R.O.W.

NEW BLM  
R.O.W.

CARRIZO

CANYON

76323

4566

6600

6630

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## OPERATIONS PLAN

**Well Name:** San Juan 28-6 Unit NP #21A  
**Location:** 660' FNL, 660' FWL, Section 4, T-27-N, R-6-W  
Rio Arriba County, New Mexico  
Latitude 36° 36.5, Longitude 107° 28.7  
**Formation:** South Blanco Pictured Cliffs/Blanco Mesa Verde  
**Elevation:** 6712' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2673'	
Ojo Alamo	2673'	2809'	aquifer
Kirtland	2809'	3034'	
Fruitland	3034'	3439'	gas
Pictured Cliffs	3439'	3574'	gas
Lewis	3574'	4004'	gas
<b>Intermediate TD</b>	<b>3824'</b>		
Huerfanito Bentonite	4004'	4379'	gas
Chacra	4379'	5069'	gas
Massive Cliff House	5069'	5199'	gas
Menefee	5199'	5631'	gas
Point Lookout	5631'		gas
<b>Total Depth</b>	<b>6031'</b>		

### Logging Program:

Mud Logs/Coring/DST -

Mud logs - none

Coring - none

DST - none

Open hole - Array Induction, CNL-CDL -intermediate TD to surface casing

Cased hole - Gamma Ray, Cement bond - surface to TD

### Mud Program:

<u>Interval- MD</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 200'	Spud	8.4-9.0	40-50	no control
200- 3824'	LSND	8.4-9.0	30-60	no control
3824- 6031'	Air/Mist/N2*	n/a	n/a	n/a

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

\*Nitrogen might be used in conjunction with or instead of air to prevent a down hole fire.

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

<u>Hole Size</u>	<u>Measured Depth</u>	<u>Csg Size</u>	<u>Weight</u>	<u>Grade</u>
12 1/4"	0' - 200'	9 5/8"	32.3#	H-40
8 3/4"	0' - 3824'	7"	20.0#	J-55
6 1/4"	3724' - 6031'	4 1/2"	10.5#	J-55

Tubing Program: 0' - 6031' 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.

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 "B" cement with 1/4# Celloflake/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/401 sx 50/50 Class "G"/TXI Liteweight w/2.5% sodium metasilicate, 2% calcium chloride, 10 pps gilsonite and 0.5 pps Celloflake. Tail w/90 sx 50/50 Class "G" Poz w/2% gel, 2% calcium chloride, 5 pps gilsonite, 0.1% antifoam and 0.25 pps Celloflake (1149 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.

See attached alternative intermediate lead slurry.

7" intermediate casing alternative two stage: Stage collar at 2934'. First stage: cement with 209 sx Class "G" 50/50 poz w/2% gel, 5 pps Gilsonite, 2% calcium chloride, 0.25 pps Celloflake, 0.1% antifoam. Second stage: 342 sx Class "G"/TXI Liteweight with 2.5% sodium metasilicate, 2% calcium chloride, 0.5 pps Celloflake, 10 pps Gilsonite (1149 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 2809'. Two turbolating centralizers at the base of the Ojo Alamo at 2809'. 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 230 sx 50/50 Class "G" Poz w/0.25 pps Celloflake, 5% gel, 0.1% retardant, 5 pps gilsonite, 0.25% fluid loss additive, 0.15% dispersant (331 cu.ft., 40% excess to circulate liner top). 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 air/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	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 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 northwest quarter of Section 4 is dedicated to the Pictured Cliffs and the west half of Section 4 is dedicated to the Mesa Verde.
- This gas is dedicated.

Bressan D. Short  
Drilling Engineer

9/27/01  
Date