

**DRILLING PLAN  
WEXPRO COMPANY  
POWDER WASH GOVERNMENT NO. 10  
MOFFAT COUNTY, COLORADO**

1. SURFACE FORMATION, ESTIMATED- TOPS AND WATER, OIL, GAS OR MINERAL BEARING FORMATIONS:

<b>Wasatch</b>	<b>Surface (MD)</b>	<b>Surface (TVD)</b>
A-4-G SD	4,685'	4,614', gas - Secondary Objective
A-4-H SD	5,331'	5,259', gas - Secondary Objective
<b>Fort Union</b>	<b>5,560'</b>	<b>5,487'</b>
Allen 8 - A	6,422'	6,349'
Allen 8 - B	6,473'	6,401', gas, - Major Objective
Allen 8 - E	6,619'	6,546'
Allen 8 - F	6,729'	6,656', gas, - Major Objective
Allen 8 - G	6,774'	6,702'
Allen 8 - H	6,855'	6,783'
Allen 9 - A	7,019'	6,946', gas, - Secondary Objective
Allen 9 - B	7,077'	7,004', gas, - Secondary Objective
Allen 9 - C	7,179'	7,106'
Allen 11	7,294'	7,222'
L. F. U. 4600	7,932'	7,859'
Allen 10 - B	8,204'	8,132'
Allen 10 - C	8,246'	8,173'
Allen 6 - A	8,395'	8,322'
Allen 6 - G	8,882'	8,810', gas, - Major Objective
Allen 6 - H	8,979'	8,906', gas, - Major Objective
Allen 6 - K	9,128'	9,056', gas, - Major Objective
Lance	9,307'	9,234'
<b>Total Depth</b>	<b>9,573'</b>	<b>9,500'</b>

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and adequately protected.

2. **PRESSURE CONTROL EQUIPMENT:** (see attached diagram) Operator's minimum specifications for pressure control equipment require an 11-inch 3000 psi double gate hydraulically operated blowout preventer and an 11-inch 3000 psi annular preventer. BOP equipment will be tested to its rated working pressure or 70-percent of the internal yield of the surface casing. The annular preventer will be tested at 50-percent of its rated working pressure. NOTE: The surface casing will be pressure tested to a minimum of 1500 psi. BOP's will be checked daily as to mechanical operating condition and will be tested by rig equipment after each string of casing is run. All ram type preventers will

have hand wheels which will be operative and accessible at the time the preventers are installed. Accumulator will include both electric and air power source (see attached diagram).

At this time Wexpro Company requests approval, if needed, to use "Flex Hose" between the BOP and Choke Manifold. The Flex Hose will have a minimum rating of 5,000 psi. Please see the attached specifications sheet for more details.

**AUXILIARY EQUIPMENT:**

- a) Manually operated kelly cock
- b) No floats at bit
- c) Monitoring of mud system will be visual
- d) Full opening floor valves in the full open position, capable of fitting all drill stem connections manually operated

**3. CASING PROGRAM:**

Size		To Bottom P	Weight	Grade	Thread	Condition
Hole	Casing					
26"	20"	sfc 80'	Steel Pipe Conductor			New
12-1/4"	9-5/8"	sfc 1500'	36#	J55	LT&C	New
7-7/8"	4-1/2"	sfc 9,572' MD 9,500' TVD	13.5#	P-110	LT&C	New

Casing Strengths:				Collapse	Burst	Tensile (minimum)
9-5/8"	36 lb.	J55	LTC	2,020 psi	3,520 psi	453,000 lb.
4-1/2"	13.5 lb.	P110	LTC	10,670 psi	12,410 psi	338,000 lb.

Area Fracture Gradient: 0.750 psi/foot

The variance to Onshore #2 is requested because surface casing depth for this well is 1500' and high pressure is not expected.

**A properly lubricated and maintained rotating head:** A diverter bowl will be utilized in place of a rotating head. The diverter bowl will force the air and cutting returns to the reserve pit as it is used to drill the surface casing.

**Blooiie line discharge will be 100 feet from the well bore and securely anchored:** The blooiie line discharge for this operation will be located 50 to 70 feet from the wellhead.

**Automatic ignitor or continuous pilot light on the blooiie line:** A diffuser will be used rather than an automatic pilot/ignitor. Water is injected into the compressed air and eliminates the need for the pilot light and the need for dust suppression equipment.

**Compressor located in the direction from the blooiie line is a minimum of 100' from the well bore:** Truck mounted air compressors will be located within 50 feet on the opposite side of the wellhead from the blooiie line and equipped with a (1) emergency kill switch on the driller's console, (2) pressure relief valve on the compressor and (3) spark arrestors on the motors.

CEMENTING PROGRAMS: (See Attached Details)

9-5/8" Surface Casing: Lead Slurry: 585 cubic feet Class "G" with 2% CaCl<sub>2</sub> and 1/4 % cello flake (only if lost circulation is encountered).

Tail Slurry: 314 cubic feet Class "G" with 2% CaCl<sub>2</sub> and 1/4 % cello flake (only if lost circulation is encountered).

4-1/2" Production Casing: Lead Slurry: 1265 cubic feet Light 50/50 Poz-G with retarder, reducer and fluid loss additive. Volume to be calculated from caliper logs to bring lead cement from 4,800' to surface, with 15% excess.

Tail Slurry: 1411 cubic feet 35/65 Poz-G with retarder, reducer and fluid loss additive. Volume to be calculated from caliper logs to bring tail cement from TD to 4,200', with 15% excess.

4. MUD PROGRAM:

- 1) Surface hole mud drilled and cased with an Air Drill rig.
- 2) Surface casing will be drilled out 10 feet and formation tested to 10.0 ppg mud equivalent.
- 3) Fresh water with gel and polymer sweeps as necessary. Mud weight of 9.5 - 10.0 ppg to be accomplished by 5,000 feet to total depth, if needed.
  - A. Mud weight 9.0 - 10.0 ppg
  - B. Viscosity 35 - 45 cp
  - C. PH 10
  - D. Water Loss <7

E.	Type	Fresh water and dispersed mud
F.	Asphalt	6 lb/sack

Sufficient mud materials to maintain mud properties, control lost circulation and to contain blowout will be available at the wellsite.

No chrome constituent additives will be used in the mud system on Federal, State and Indian lands without prior BLM/State approval to ensure adequate protection of fresh water aquifers.

5. LOGGING:  
 DIL-SFL-GR: Total depth to surface casing.  
 BHC-Sonic-GR: Total depth to surface casing.  
 FDC-CNL-GR-PE-Cal: Total depth to surface casing.  
 Cement/Bore Hole Profile Log

TESTING: None.

CORING: None.

6. ABNORMAL PRESSURE AND TEMPERATURE: A BHT of 195° F and a BHP of 3500 psi are possible.

7. ANTICIPATED STARTING DATE: March 20, 2011

DURATION OF OPERATION: 25 days