

McElvain Oil & Gas Properties, Inc.  
Sand Hills Federal #5-9  
1906' FSL & 660' FEL  
Section 5, T11N, R91W, 6<sup>th</sup> PM  
Moffat County, Colorado

TEN POINT PROGRAM

1. Surface Formation: Wasatch

2. Surface Elevation: 6420' GL.

081-0699



01899238

3. Estimated Formation Tops:

<u>Formation</u>	<u>Top</u>	<u>Expected Production</u>
Wasatch	Surface	
Fort Union	1618'	
Lance	2864'	
Fox Hills	3724'	
Lewis	3800'	GAS
Almond	6057'	GAS
TOTAL DEPTH	6257'	

4. Casing and Cementing Program:

A string of 8<sup>5/8</sup>" 24# J-55 ST&C casing will be set at ±500' in a 12<sup>1/4</sup>" hole and cemented to the surface in a single stage with 155 sx 65/35 Class G Poz cement containing 6% gel, 2% CaCl and 1/4 lb/sk celloflake (yield=1.54) followed by 150 sx of Class "G" cement containing 2% CaCl and 1/4 lb/sk celloflake (yield=1.15 cf/sk). Slurry volume assumes 100% excess over calculated hole volume. If the cement job does not circulate to surface, cement will be topped off using 1" pipe down the 12<sup>1/4</sup>" by 8<sup>5/8</sup>" annulus. Minimum clearance between coupling and hole is 2.625". Prior to drilling out the shoe, casing and BOPE will be tested to a minimum of 600 psig. Safety factors utilized in the design of this casing string were: burst=1.1; collapse=1.125; and tension=1.8 or 100,000 lb overpull, whichever is greater.

4. **Casing and Cementing Program:** (continued)

A production string of 4½", 11.6# N-80 ST&C casing will be run from surface to total depth in a 7⅞" hole. This string will be cemented with 885 sx 65/35 Class "G" Poz cement containing 6% gel and 1/4 lb/sk celloflake (yield=1.84 cf/sk) followed by 200 sx of Class "G" cement containing 1/4 lb/sk celloflake (yield=1.15 cf/sk). Slurry volume assumes a 30% excess over calculated hole volume. Cement volume is subject to change after review and recalculation of hole volume from the open hole calipers. In the event the cement does not circulate to surface a temperature survey or cement bond log will be run to determine the cement top. Minimum clearance between couplings and hole is 2.312". Prior to perforating the casing for any attempted completion, the casing will be tested to a minimum of 2000 psig. Safety factors utilized in the design of this casing string were: burst = 1.1; collapse = 1.125; and tension = 1.8 or 100,000 lb overpull, whichever is greater.

Following the completion of the cementing operations, a sundry notice detailing the cement volumes and densities for each job will be submitted.

5. **Pressure Control Equipment:**

(See attached schematic diagram.) A minimum of a 2M psi BOP well control system will be utilized. BOP's and choke manifold will be installed and pressure tested before drilling out from under surface casing and then will be checked daily as to mechanical operation condition.

A full opening internal blowout prevent or drill pipe safety valve will be on the drill floor at all times and will be capable of fitting all connections.

6. **Mud Program:**

A fresh water low solids, non-dispersed mud system will be used to drill this well to the point of running the production casing. Sufficient materials will be on location at all times to maintain mud properties and to control any unforeseen lost circulation problems or abnormal pressures. All drilling fluids will be contained in an earthen pit and during the drilling operations the mud volume will be visually monitored on a routine basis. At the completion of drilling, the drilling fluid will be allowed to separate and evaporate in the reserve pit. The remaining accumulation of solids in the pit will be allowed to dry and the pit will then be covered.

Mud program is as follows:

<u>Interval (ft)</u>	<u>Mud Weight (ppg)</u>	<u>Viscosity (sec/qt)</u>
0 - 3800	8.4 or less	30 - 38
3800 - TD	9.6 or less	40 - 55

7. **Auxiliary Equipment:**

An upper kelly cock with handle available will be utilized.

8. **Logging Program:**

SP-DIL logs will be run from the total depth to the surface casing shoe depth.

GR-FDC-CNL logs will be run from the total depth to  $\pm 3300'$ .

**Coring Program:**

No cores are planned.

**Testing Program:**

No tests are planned but standard drill stem testing is possible depending on gas shows while drilling.

**Stimulation Program:**

Perforate the Almond or Lewis with conventional wireline conveyed guns and fracture stimulate with either slick water or gelled water and frac sand.

9. **Abnormal Pressure:**

None expected.

**Estimated Bottom Hole Pressure:**

1000 psig.

10. **Anticipated Starting Date:**

July 1998.

**Duration of Operation:**

It is estimated that a total of 10 days will be required for drilling operations and 10 days for completion operations.

---

