



## SURFACE USE PLAN

**Operator:** McElvain Oil & Gas Properties, Inc.  
**Lease Name:** Blue Sky #6-12  
**Lease Number:** COC-58371  
**Location:** 2035' FSL & 600' FEL, Section 6, T9N, R90W,  
Moffat County, Colorado

### 1. Existing Roads:

- A. See attached Topo Map A and Topo Map B.
- B. Follow Highway 13 north from Craig, Colorado for approximately 20.8 miles. Turn east onto an existing highway access and follow new access road for approximately 0.3 miles to Blue Sky #6-12 location.
- C. This well will require approximately 0.3 miles of new access road.
- D. Exploratory Well - N/A
- E. Development Well - All existing roads are shown on the attached Topo Map A and Topo Map B.
- F. Plans for improvement and maintenance - All existing roads will be maintained in their present condition during the drilling and completion of this well.

### 2. Access Road: (New and Existing)

- A. Width: 20' running surface.
- B. Maximum Grade: Less than 6%.
- C. Turnouts: None anticipated.
- D. Drainage Design: As per agreement with surface owner.
- E. Upgrade Existing road: None.
- F. Location and size of culverts: Culverts will be installed as necessary, after completion, to insure adequate drainage.
- H. Surface Materials: Gates - None. Cattle guards - None. Fence cuts - None. Road base - None.
- I. Centerline Flagging:  $\pm 0.3$  mile from highway access to the proposed location.

3. **Location of Existing Wells:**

This is a development location. All existing and proposed wells within a one mile radius are shown on the attached Well Location Map.

4. **Location of Existing and Proposed Production Facilities:**

- A. Existing facilities: There are no producing wells within a one mile radius of the proposed location.
- B. Proposed facilities: The proposed location will have a separator, a produced water storage tank and a produced oil tank if required. The actual equipment used and it's configuration will be determined after the well is completed. A flowline will be installed as described in item #8.
- C. Plans for Rehabilitation of the Surface: All surface areas not needed for operation of the well will be recontoured to blend with the existing topography and seeded with a mixture agreed upon between McElvain and the surface owner. All pits will be fenced until they are covered.

5. **Location and Type of Water Supply:**

- A. Location: Private water source located in Section 13 T9N, R91W.
- B. Supply: Fortification Creek.
- C. Transportation: Truck.
- D. Water wells to be drilled: None

6. **Source of Construction Materials:**

All construction materials will come from the location except for the gravel for the tank bases and surface equipment, which will come from a commercial quarry.

## 7. Methods of Handling Waste Disposal:

- A. Cuttings and drilling fluids: Cuttings will be placed in an unlined reserve pit. The reserve pit will be stepped down from the location level to assure the pit is all in cut. Drilling fluids will be kept in the reserve pit. All cuttings will be pushed into the reserve pit and buried during the clean up operation. The drilling fluid will be allowed to dry in the reserve pit and buried during the clean up operation.
- B. Produced fluids: Tanks will be used for the storage of all produced liquids during testing and production. Oil will be retained in the tanks until it can be treated and sold. Water from testing operations will be drained into the reserve pit. Produced water will be stored in a tank or a steel/fiberglass pit on the location and then disposed in a commercial disposal facility. Gas will be flared during testing and sold to a pipeline during production.
- C. Sewage: Sewage will be contained in a portable latrine.
- D. Garbage: Garbage will be contained in a trash cage. This will be hauled to the nearest dump facility and disposed of upon completion of the well.
- E. Wellsite Clean Up: Upon completion of the drilling operation, all trash will be gathered up and placed in the trash cage. The pits will be fenced with a woven wire material on three sides during drilling. The fourth side will be fenced upon completion of the drilling operation. The pit will remain fenced until the pits have dried enough to backfill.

## 8. Ancillary Facilities:

A flowline originating at the wellsite and terminating at the tie in point on the existing Questar pipeline in Section 1, T9N, R91W will be installed should the well be a commercial producer. The pipeline route will be negotiated with the surface owner once the well has been tested. The line will be installed and operated per standard codes recommended by different engineering societies. The buried line will be coated pipe or will be doped and taped during installation if bare pipe is used. The right of way will be reseeded as per an agreement between McElvain and the surface owner.

**9. Wellsite Layout:**

Cuts and fills, location of pits and drilling equipment orientation are shown on the attached Wellsite Layout and Cut/Fill section. Material removed during reserve pit excavation will be stockpiled on the edge of the location.

**10. Plans for Restoration of the Surface:**

- A. Backfilling of the pits will be done as soon as they dry sufficiently. Contouring will be done in conjunction with the backfilling. Waste disposal will commence as soon as the drilling is complete. Topsoil will be stripped from the location when appropriate and stockpiled in the construction buffer for use during the rehabilitation of the location.
- B. Revegetation will be done during the appropriate season. This will be conducted using BLM specified seed mixtures and planting times. All areas not necessary for production operations will be seeded.
- C. All drilling pits will be fenced until they are covered. Any oil accumulation will be removed or overhead flagging installed to protect waterfowl.
- D. Rehabilitation will commence when drilling is completed. Completion of rehabilitation depends on the weather and the time it takes the pits to dry.

**11. Other Information:**

- A. This location is situated on high prairie lands near Fortification Rocks. The vegetation is primarily natural grasses and sagebrush.
- B. Surface use and Ownership: Grazing / Recreation - Private.
- C. Proximity of water, dwellings, etc.  
Nearest water - 3100' West, Fortification Creek.  
Nearest dwelling - Mesa View Ranch ±1.5 miles north.

12. Lessee or Operators Field Representatives:

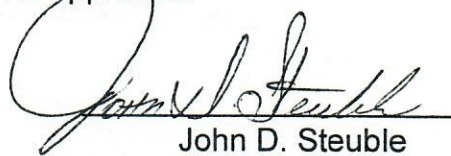
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13. Certification:

I hereby certify that I, or persons under my supervision, have inspected the proposed drillsite; that I am familiar with the conditions which presently exist; that the statements in this plans are, to the best of my knowledge, true and correct; and that the work associated with the proposed operations herein will be performed by McElvain Oil & Gas Properties, Inc. and it's contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

7-21-98  
Date

  
John D. Steuble

McElvain Oil & Gas Properties, Inc.  
Blue Sky #6-12  
2035' FSL & 600' FEL  
Section 6, T9N, R90W, 6<sup>th</sup> PM  
Moffat County, Colorado

TEN POINT PROGRAM

1. Surface Formation: Wasatch

2. Surface Elevation: 6745 ' GL.

3. Estimated Formation Tops:

<u>Formation</u>	<u>Top</u>	<u>Expected Production</u>
Wasatch	Surface	
Fort Union	1583'	
Lance	2376'	
Fox Hills	3466'	
Lewis	3781'	GAS
Almond	5738'	GAS
TOTAL DEPTH	5888'	

4. Casing and Cementing Program:

A string of 8<sup>5</sup>/<sub>8</sub>" 24# J-55 ST&C casing will be set at ±500' in a 12<sup>1</sup>/<sub>4</sub>" 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</sup>/<sub>4</sub>" by 8<sup>5</sup>/<sub>8</sub>" 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 1000 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 810 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 - 3781	8.4 or less	30 - 38
3781 - 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  $\pm 3400'$ .

**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 nitrogen foam with gelled water and frac sand.

9. **Abnormal Pressure:**

None expected.

**Estimated Bottom Hole Pressure:**

1000 psig.

10. **Anticipated Starting Date:**

July 1998.

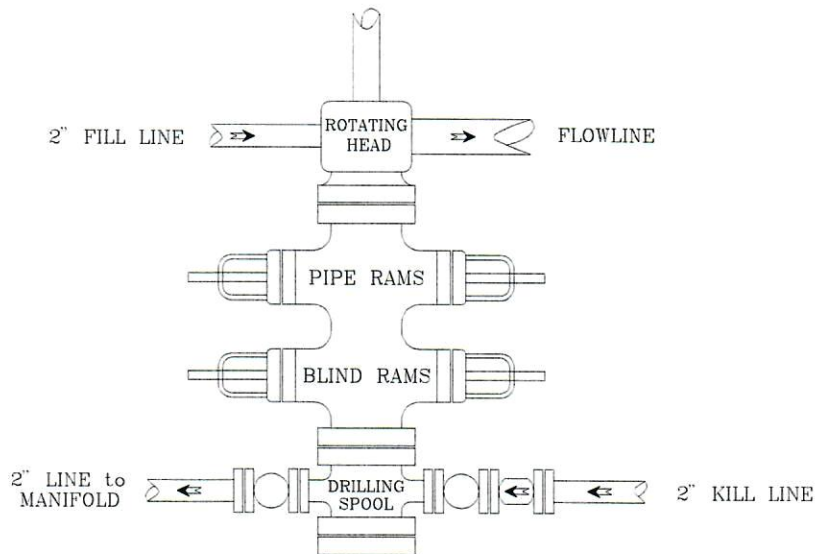
**Duration of Operation:**

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

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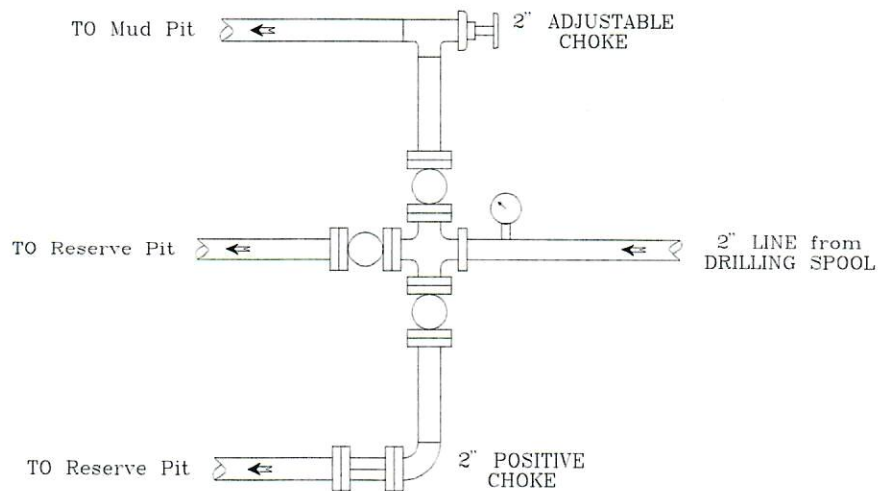
# PRESSURE CONTROL

## Wellhead Assembly



Preventer and Spools are to have a  
6" Bore or larger and a 2000 PSI  
or higher Pressure Rating

## Choke Manifold



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