

## Summary

Black Hills Plateau Production will be using an oil based mud to drill the curve and lateral portions of the Homer Deep Unit 7-23AH, 7-23BH, 7-23CH, and 7-23DH wells after setting and cementing intermediate casing. The oil based mud with clay stabilizers will create hole stability through the wellbore's curve allowing for single string completion. The best practices listed below will be used for surface management of the fluid. Cuttings generated while using the oil based mud will be temporarily stored on location using cuttings boxes before being transported to the commercial solid waste disposal facility listed below:

Greenleaf Environmental Services  
15655 45 ½ Road  
De Beque, CO 81630

### Black Hills Oil Based Mud Best Practices

1. Regularly scheduled safety meeting with rig and vendor staff to discuss operations around OBM, proper handling of the product and necessary PPE.
2. 36 mil fused (repairable) liner under entire rig, mud tanks and ancillary equipment.
3. 36 mil fused (repairable) liner under OBM tank farm and transfer pump. Berms placed around perimeter.
4. A Katch Kan Zero Spill System or equivalent will be utilized under the sub-structure so that if anything is spilled on connections it can be easily transferred back into the system and cleaned up with floor dry.
5. All transfer hoses will be checked to insure that the cam-lock couplings have gaskets prior to connect.
6. Mud hoses shall be new or like new with hydraulically crimped-on hose ends. King nipples or hose clamps shall not be used.
7. Mud tanks will remain stationary through the course of drilling operations. Only the main substructure of the rig needs to be moved. Repairs will be made to the rig liner as necessary.
8. All gates must be closed, chained and locked. They should be sealed with silicone caulking or packed tightly with fresh gel. This is done to insure that no leakage will occur after the OBM is transferred into the active pit system.
9. Drip pans will be placed to catch any potential spills. Drip pans will also be placed in the loading and unloading area.
10. Vacuum on location for cleanup.
11. Cuttings will be sampled to see if they meet any of the standards set forth in the COGCC Table 910-1 regarding surface management.
12. OBM cuttings will be managed separately from cuttings created during the use of water based mud. Mud tanks will remain stationary through the course of drilling operations. Only the main substructure of the rig needs to be moved. Repairs will be made to the rig liner as necessary.
13. Any cuttings dropped or mud spilled shall be immediately cleaned up and placed in the cuttings boxes.
14. This pad will utilize batch drilling – all lateral portions of the wellbores will be drilled sequentially - therefore, once the system switches to OBM, it will be used for all the

wells. There will no requirement to switch back to freshwater mud for the duration of the pad.

### **BLM Specific Additional Information**

All spills in excess of one barrel outside the containment devices shall be reported to the BLM within 24 hours.

The BLM shall be notified 24 hours prior to the use of OBM by calling the PET notification phone number (970) 876-9064. For work to commence on a Monday, notice shall be provided to the BLM no later than close of business (COB) on the previous Thursday.

### **COGCC Specific Additional Information**

A closed loop system