XOG OPERATING, LLC HOAG TANK "15" 001 MUD PROGRAM

It is anticipated that this well will be drilled to TD utilizing the fluids shown below:

0-300':

Fresh water 8.4-8.5 PPG. Circulate controlled portion of reserve. Adjust pH to 10.0 with Lime. If loss occurs below 70', dry drill to total depth, sweeping hole as necessary with viscous (40-50) Bentonite pills containing 10-20 ppb of various LCM's. At total depth, sweep & spot viscous (50-60) Bentonite pills to ensure a clean hole for casing operations.

300-1700":

Drill out from under the surface with fresh water 8.3-8.4 PPG. Circulate the reserve. Use Lime to control pH at 10.0. Periodically sweep the hole with ground paper to control seepage and aid in hole cleaning. Severe losses may occur below 900'. Should total loss of returns occur, dry drill to total depth, sweeping the hole periodically with a viscous (50-60) Bentonite pill containing 10-20 ppb of fibrous LCM. At total depth, sweep and spot viscous (50-60) Bentonite pills to ensure a clean hole for casing operations.

1700-6000':

Drill out from under the intermediate casing with Cut Brine 8.6-8.7 PPG with 35,000-40,000 ppm chlorides. Continue to circulate the reserve. Maintain Lime and MF-55 additions to control pH at 10.0 and flocculate fine solids. Use ground paper sweeps periodically to control seepage and to aid in hole cleaning. Switch to caustic soda for pH control prior to entering the Canyon (6,000'). Periodically sweep the hole with viscous (40-50) Bentonite pills. Losses may occur below 6,000'. Add 10-20 ppb of various LCM's to the pills to regain returns.

6000-7000":

Discontinue the use of MF-55. Return to the working pits prior to entering the Canyon with clean Cut Brine 8.6-8.7 ppg. Pre-treat the system with Soda Ash to lower the total hardness to below 600 ppm and STC (biocide) to preserve the Starch. Add white starch and Drispac to lower the filtrate to 10cc. Small amounts of Defoamer may be needed to prevent aeration of the pumps while adding mud. Use ground paper, mica and/or nut plug to combat any seepage that may occur. Severe losses are expected below 6,200'and should be combated with viscous (40-50) Bentonite pills mixed in fresh water. Add 10-20 ppm of various LCM's and spot across the loss zone. Should additional viscosity be needed for DST's, logging and/or casing operations, use XCD Polymer.

XOG OPERATING, LLC NINE POINT DRILLING PLAN

Lease:

Hoag Tank

Location:

Unit I, Sec. 15-19S-23E

Eddy County, NM

Field:

Hoag Tank Morrow (Gas)

1. Estimated tops of geologic horizons:

Glorietta	1460°
Abo	3556'
Wolfcamp	4966
Canyon	7040
Atoka	7760
Middle Morrow	8060
Mississippian	8250

- 2. Protection of possible useable water will be achieved by setting 13 3/8" surface casing @ 300' +/- and cementing it to surface. Isolation of the productive Delaware-Brushy Canyon will be achieved by setting 8 5/8" casing @ 1700' +/-, and cementing back to surface.
- 3. The well control equipment to be employed during the drilling of this well includes a Double ram BOP, annular BOP and choke manifold of comparable pressure rating. Equipment will be rated for 5000 psi and will be tested to 80% of that pressure prior to drilling out of the 13 3/8" surface casing. A hydraulic closing unit will be a part of this equipment and will be function tested daily.
- 4. The casing strings will consist of the following:

Surface: 13 3/8" OD, 48#/ft, H40, STC, new pipe @ 300' +/- in 17½" hole. TOC @ surface.

Intermediate: 8 5/8" OD, 24#/ft, J-55, STC, new pipe @ 1700' +/- in 11" hole. TOC @ surface.

Production: 5½" OD, 11.17#/ft, J-55, STC, new pipe @ 8700' +/- in 7 7/8" hole. TOC 2100'.

5. Cementing programs for the above casing strings are:

Surface @ 300': Lead Slurry: 310 sx Class C + 2% cc + $\frac{1}{4}$ # cello.

The above volume represents 100% excess over calculated hole volume, and will be adjusted to actual setting depth of casing. The slurries will be preceded by a fresh water spacer, and displaced with brine water.

Intermediate @ 1700': Lead Slurry: 200 sx 50/50 Class C + 5% Salt. Tail Slurry: 125 sx Class C + 2% cc.

The above are BJ Services products with 50% excess open hole volume – actual volumes will be adjusted to the open hole caliper of this wellbore.

Production @ 8700': Lead Slurry 475 sx 50:50:10 Class H + 5% Salt. Tail with 560 sx 50/50 Class H + 2% Salt.

The above are BJ Services products with 50% excess open hole volume – actual volumes will be adjusted to the open hole caliper of this wellbore. Equivalent products from another vendor my be substituted for BJ depending on price/availability.

6. It is anticipated that this well will be drilled to TD utilizing the fluids shown below:

0-300': Gel/Lime "spud mud" 8.6-9.0 PPG. Utilize native solids to maintain sufficient viscosity to clean hole. Mix paper as required to control seepage loss.

300-1700': Fresh water 8.3-8.4 PPG. Circulate through reserve pit for gravitational solids removal. Add paper as required to control seepage loss while maintaining pH at 10.0-10.5 using Lime.

1700-6000': Fresh Water 8.6-8.7 PPG. Loss of circulation is anticipated in the Capitan Reef, which may require dry drilling to casing point.

6000-7000': Cut Brine/Starch 8.7-8.9 PPG. Maintain water loss to <8 cc w/XCD Foly Mud. Sweep with high-vis pill to clean hole for logging operations.

- 7. Auxiliary equipment will include an upper kelly cock valve, safety valve to fit drill pipe and pressure gauges.
- 8. No drill stem testing, mud logging or coring is planned for this wellbore. A Platform Express Triple Combo electric log suite will be run at TD.
- 9. The estimated BHP at TD is not expected to exceed 3000 psi, and a BHT of 170 F is anticipated. There is no H2S present in the hydrocarbons being produced in this area. Should such unexpected circumstances be encountered the operator and drilling contractor are prepared to take necessary steps to ensure safety of all personnel, and environment. Lost circulation could occur but is not expected to be a serious problem in this area, and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

It is estimated that this well will be drilled and cased in 17 days. Drilling will commence as soon as approval is received and services can be contracted.