RECOMMENDED DRILLING & COMPLETION PROCEDURE

A.F.E. NO. 414

David Fasken ---------- ROSS FEDERAL COMM. NO. 3 ---- Cemetery Morrow Field
Eddy County, New Mexico

1. Drill 17-1/2" hole to 400' with spud mud.

2. Set 13-3/8" casing at 400', cement to surface and install 12" x 3000 PSI W.P. casinghead and B.O.P. stack. (Est. 250 sx Class "C" w/2% CaCl.)

3. Drill 12-1/4" hole with water from 400' to 3000', control seepage with paper. Dry drill if complete loss of returns is experienced.

4. Load hole with 34 sec. viscosity mud at 3000', if hole is showing severe seepage, otherwise run casing with water in hole.

5. Set and cement 8-5/8" casing at 3000' with sufficient cement to circulate. (Estimate 900 sxs. Halliburton Lite, 1/2# Flocele, slurry wt. 12.8#/gal. + 200 sxs. Incor Neat with 2% CaCl, slurry wt. 14.8#/gal.). W.O.C. 24 hrs. Install 12" - 3000 PSI W.P. X 10" - 3000 PSI W.P. spool with secondary seal and bit guide, choke manifold, B.O.P., and Hydril.

6. Test casing, casing spool, B.O.P., and choke manifold to 3000 psig with Yellow Jacket. Install P.V.T. equipment and flow sensor at nipple up or before 7500' is reached.

7. Drill 7-7/8" hole to a total depth of 9900' using water to drill to 6500', use 4% KCl brine to 9400', mud up with polymer starch mud with 8.7#/gal., 45 sec. viscosity, 10 cc water loss. At 9400' increase viscosity as necessary to maintain hole to total depth.

8. Drill stem test all shows.

9. Run logs (Combination CNL-FDC w/Gamma Ray, DLL, and Dip Meter).

10. Set and cement 4-1/2" oil string (resin coated and centralized through pay zone) with 775 sxs. Class "H" cement with 5.4# KCl and 0.8% Halad-22. Pump plug down with 5% KCl packer fluid. Run temperature survey to locate cement top.

11. Install 10" - 3000 PSI W.P. X 6" - 3000 PSI W.P. tubinghead and Christmas Tree.

12. Move out rotary rig and move in pulling unit.

13. Pressure test casing and head to 3000 psig.

14. Install B.O.P.

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