

Mike

SAPPHIRE FEDERAL UNIT #1
COMPLETION PROCEDURE

WELL DATA

TD: 13,600'. PBD: 12,280'. KB: 22.0'. 5 1/2" 17.0 #/ft S-95 (Top @ 10,468') & 17.0 #/ft N-80 LT&C (Top @ 1992') @ 13,598' w/350 sx 50/50 POZ thru shoe. Cemented w/1400 sx 50/50 POZ thru DV tool @ 12,280'. Estimated TOC @ 6650'.

PROCEDURE

1. Set anchors. MIRU PU.
2. ND WH. NU 3000 psi BOP's.
3. RU reverse unit. SIH w/ 4 3/4" bit, 6-3 1/2" DC's and 2 3/8" N-80 tbgs. Rabbit entire string. Use 2% KCl water for all reversing and cleaning.
4. Tag DV tool @ approximately 12,280'. Drill out DV tool and RIH w/2 3/8" tbgs. Tag wiperplug/cement at approximately 13,516'. Drill out wiper plug and cement to 13,570'. Test casing to 3000 psi. Circulate hole clean w/2% KCl water made up w/2 1/2 gals Tretolite K477 Oxygen Scavenger per 300 Bbls. POOH.
5. RU Wireline Co. Pressure csg to 1000 psi. Run GR-CBL-CCL log w/x-y signature from 13,570' to 13,000', 11,400'-9200', and 7900' to top of cement (est 6650'). Release pressure and POOH.
6. Make up 4" Vanngun and associated equipment including Otis 5 1/2" x 2 3/8" Permalatch pkr as per attached schematic and prepared for perforating the following Morrow Sand intervals (all zones 4 SPF, 90° Phased 32 gram charges D.P.) 13,440'-13,450', 13,421'-13,426', 13,261'-13,290', 13,250'-13,256', 13,244'-13,248' and 13,226'-13,235' (Total 258 holes).
7. Rig up hydrotesters. RIH w/Vanngun assembly, 5 1/2" x 2 3/8" Otis Permalatch pkr, and on/off tool w/1.875" "X" profile on 2 3/8" N-80 tbgs to setting depth (parker at approximately 13,150') by tubing tally. Teflon Ring seals on all broken out couplings should be replaced by Atlas Bradford Technician. Hydrotest each stand to 6000 psi going in hole. Hang tbgs off in slips.

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