

MIRUSU 7/22/93, kill well W/20BBls 2% KCL. NDWH & NUBOPs. TIH & tag fill 7404. TIH on 2 3/8" tbg to 6060'. TOH, TIH with 4 1/2" CMT retainer & set @ 6000'. Press, test plug & casing to 500psi held ok. Sting into retainer. Press. backside to 250psi., establish feed rate of 4BPM @ 1000psi. Mix and pump 350 sx oilwell CMT. Press. increased to 1960psi. on last part of displacement. Pull out of retainer & lay down 2 singles. Backwash cmt. OK. Press. test csg to 3500 psi held OK. TOH W/ 2 3/8" tbg. Rig in WLE. run CBL, VDL, GR, Cl logs 5980' to surface. Bond as follows. 0-40' no bond, 40'-720' fair bond, 470'-1200' excellent bond, 1200'-4500' poor bond, 4500'-4800' excellent bond, 4800'-5990' good bond. RD WLE.NDBOPs and install 6" 3000# Frac valve.

Perf as follows using 3 1/8" gun loaded with 2 JSPF.

4893'-4985', W/2 JSPF, .5" diam. 4 shots open.

5020'-5034', W/2 JSPF, .5" diam. 28 shots open.

5036'-5039', W/2 JSPF, .5" diam. 6 shots open.

5041'-5053', W/2 JSPF, .5" diam. 24 shots open.

5066'-5079', W/2 JSPF, .5" diam. 26 shots open.

5084'-5091', W/2 JSPF, .5" diam. 14 shots open.

Frac from 4893'-5091' with Boragel pumped 188,300# 12/20 sand, all sand in formation. AIR 68 BPM, AIP 125psi. TIH with 7" plug and set @ 4719', pump 127 BBls to load hole, press. test csg & plug to 1000psi Held OK. Pump 3 sx sand on top of plug, TOH. RI WLE. and shot 2 SQ, holes @ 4325'. TIH with 7" PKR and set @ 3810'. Est. feed rate of 1/2 BPM @ 500psi. Mix and pump 200sx Oilwell CMT, displace cmt to 4100'. REL PKR and TOH W/PKR. TIH and tag CMT @ 4108'. Rig up swivel & break circ. drill out 110'. (4218') circ hole clean. Continue to drill cmt to a depth of 3428'. RI WLE. TIH with bond log tools. Bond as follows: 3550'-3750' no bond, 3750'-3850', 50%-80% bond, 3850'-4160' 100% bond, 4160'-4340', 80-95% bond, LD bond tools. Perf as follows.

4324'-4328', W/2 JSPF, .5" diam, 8 shots open.

4360'-4368', W/2 JSPF, .5" diam, 16 shots open.

4376'-4382', W/2 JSPF, .5" diam., 12 shots open.

4390'-4398', W/2 JSPF, .5" diam., 16 shots open.

4458'-4506', W/2 JSPF, .5" diam., 96 shots open.

4525'-4551', W/2 JSPF, .5" diam., 52 shots open.

4568'-4578', W/2 JSPF, .5" diam., 20 shots open.

Frac from 4324'-4578', with 70 quality Foam 154,000# 16/30 sand in formation, AIR 40 BPM, AIP 1650psi. ND frac valve & NUBOPs, TIH W/7" RET plug and set @ 3006', Press test csg to 500psi. held OK. TOH. RI WLE. and shoot 2 holes @ 2720'. RD WLE and est. feed rate of 1 BPM at 150psi. TIH W/PKR and set @ 2207'. Press. backside to 500psi. OK. install dye and pump 40bbbs no indication of returns. Mix and pump 500sx Oilwell cmt displace CMT to 2500. no returns up braidenhead. Rel PKR & TOH. TIH and tag cmt @ 2482'. Drill cmt to a depth of 2732'. Press. test csg to 500psi. did not hold. TOH open ended to 2770', mix and pump 30sx Oilwell Cmt (6 BBls slurry) & spot plug. Pull out of plug, SQ 2 BBls into perfs. TIH and tag cmt 2692'. Drill cmt out 88', circ hole clean & press test csg & SQ to 500psi. Held. TIH with RET head for plug, latch onto plug release. TIH with RET head for 2nd plug to 4200'. Finish TIH and tag fill 4478'. Clean out to 4668' using N2 and foam. Tagged up hard at 4668'. unable to latch plug, TOH W/RET head. TIH and tag fill @ 4680'. RU N2 unit, RU power swivel, drill out 8' hard cmt. wash down 15' sand and tag plug. TOH W/bit and TIH W/ RET head tag plug on top of liner @ 4762' and latch onto plug and TOH. TIH and tag fill 5746' clean out to 5961'. TIH with 2 3/8" TBG and land @ 5052'