

WILLIAM KATCHEN ET AL 1

- 1 Level location for base beam rig.
- 2 MIRU WO Rig. Install 11" 3000 psi casing head with valves in both outlets on top of 9-5/8" surface casing previously located. NU 11' 3000 psi BOP stack on top of casing head.
- 3 PU 8-3/4" mill tooth bit, 4 6-1/8" drill collars and 3-1/2" N-80 work string TBG and drill through existing cement plugs at 10' and 280' using fresh water with biocide. (NOTE: Bottom of second cement plug is ~330').
- 4 Once cement plugs are drilled, displace hole with drilling mud and continue going in hole reaming each joint down to the cement plug at ~7550'.
- 5 Circulate and condition hole until it is felt we have the hole stable.
- 6 Run gyro survey from ~7300' to surface.
- 7 TOOH and lay down drill collars and bit.
- 8 TIH open-ended with 3-1/2" TBG to cement plug at ~7550'.
- 9 MIRU cementing services. Spot 325 sks cement plug consisting of 15.8 ppg, 1.15 cf/sk, Class G, Neat cement slurry with 2% Calcium Chloride in open hole from ~7550' to ~6634' (200' above Niobrara top). (7-7/8" hole: 0.3382 cu ft/ft; includes 20% excess cement)
- 10 PUH with 3-1/2" TBG to 300' above estimated cement top.
- 11 MIRU slickline. With weighted slickline, RIH and tag cement top at ~6634'.
- 12 If cement coverage is at or above 6634' (200' above Niobrara top), POOH with slickline and standby slickline.
- 13 PUH with 3-1/2" TBG to 5300' (200' below Sussex formation).
- 14 Pump 235 sks cement plug consisting of 15.8 ppg, 1.15 cf/sk, Class G, Neat cement slurry with 2% Calcium Chloride (includes 20% excess) from 5300' (200' below Sussex) to 4635' (200' above Sussex top).
- 15 PUH with 3-1/2" TBG 300' above estimated cement top and PU & TIH with slickline.
- 16 With weighted slickline, RIH and tag cement top.
- 17 If cement coverage is 4635' (200' above Sussex top), POOH w/slickline & RDMO slickline unit. PUH to 557' (100' below base of Fox Hills formation) with 3-1/2" TBG.
- 18 Pump 230 sks cement plug consisting of 15.8 ppg, 1.15 cf/sk, Class G, Neat cement slurry with 2% Calcium Chloride (includes 20% excess) from 100' below surface CSG shoe to surface.
- 19 RDMO cementing company. POOH while laying down TBG.
- 20 If cement is not of sufficient height, MIRU ready cement mixer. Use 4,500 psi compressive strength redi-mix cement to finish filling surface casing to top of cut off. RDMO ready cement mixer. RDMO WO Rig.
- 21 (If needed) Cut surface CSG 5' below ground level and weld on cap.
- 22 Submit Form 6 to COGCC. Provide "As Plugged" wellbore diagram identifying the specific plugging completed.