5/22/2014

Engineer: Tyler Davis

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PLUG AND ABANDOMENT PROCEDURE

Sekich 20-18

1. Note: Production Casing = 4-1/2" OD, 11.6#/ft, I-80; Production Hole Drilled @ 7 7/8"
2. Provide 48 hr notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.). Call foreman or lead operator at least 24 hr prior to rig move. Request they catch and remove the plunger, isolate production equipment and remove any automation prior to rig showing up. Install perimeter fence as needed.
3. MIRU slickline services and VES. Pull bumper spring and tag bottom. Run pressure bomb and obtain pressure gradient survey from surface to 7348' making gradient stops every 1000'. Forward pressure bomb results to Evans Engineering.
4. Run gyro survey from 7348' to surface with stops every 100'. Forward gyro survey data to Sabrina Frantz and invoices to Sabrina Frantz. RDMO slickline services and VES.
5. Notify IOC when rig mobilizes to location to generate workorder for flowline removal & one call for line locates.
6. Prepare location for base beam equipped rig.
7. MIRU, kill as necessary using clean fresh water with biocide and circulate. ND WH. NU BOP. Unseat landing jt, LD.
8. Notify cementers to be on call. Provide volumes listed below:

- Niobrara Plug: 30 sx class G w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 mixed at 15.8 ppg and 1.38 cuft/sk (400' inside 4-1/2" Casing, no excess)
- SX Balanced Plug: 50 sx class "G" w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx 4-1/2" casing, no excess.
- Stub Plug: 180 sx Type III CaCl2 cement w/0.25 pps cello flake mixed at 14.8 ppg and 1.33 cf/sx (100' in 4-1/2" prod casing, 234' in 9" OH + 40% excess, and 206' in 8 5/8" surface casing).

9. TOOH 2 3/8 " production tubing. Stand Back.
10. MIRU WL. RIH gauge ring for 4-1/2" 11.6#/ft casing to 7200'. POOH.
11. RIH CIBP w/ WL. Set at +/- 6840' (collars located at 6823' and 6854'). Pressure test CIBP to 1000 psi. Dump bail 2 sx class "G" cement on CIBP. POOH.
12. RIH to 6840' w/ 2-3/8 " tubing while hydrotesting to 3,000 psi.
13. RU Cementers. Pump Niobrara Plug: 30 sx class G w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 mixed at 15.8 ppg and 1.38 cuft/sk to place cement in 4-1/2" production casing from 6840’ to 6240’.
14. PUH 9 stands. Circulate a minimum of 90 bbls (one full circle) water containing biocide to ensure tubing is clear of any cement. Then, trip up hole to 4500’ with 2-3/8” tbg.
15. RU Cementers. Pump SX Balanced Plug: 50 sx class "G" w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx to place cement in casing from 4500’ to 3890’.
16. PUH 5 stands. Circulate a minimum of 50 bbls (one full circle) water containing biocide to ensure tubing is clear of any cement. Then, TOOH and SB remainder of tbg.
17. RU WL. Shoot off casing at or below 910'. RDMO WL. Circulate a full circulation with water containing biocide to remove any gas.

18. NDBOP, NDTH.
19. Install BOP on casing head with 4-1/2" pipe rams.
20. TOOH with 4-1/2" casing, LD.
21. RIH with 2-3/8 " tubing to 1010'.
22. RU Cementers. Spot Stub Plug: 180 sx Type III CaCl2 cement w/0.25 pps cello flake mixed at 14.8 ppg and 1.33 cf/sx from 1010’ to 470’ (100' in 4-1/2" prod casing, 234' in 9" OH + 40% excess, and 206' in 8-5/8" surface casing).
23. Pull tbg to 100’ and circulate 5 bbls water containing biocide to ensure tubing is clear of cement.
24. TOOH. WOC 4 hrs. Tag Cement. Cement top needs to be above 476'; Proceed assuming TOC is above 476'. Otherwise, call production engineer.
25. MIRU WL. RIH 8-5/8" CIBP to 80'. Set, PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.
26. Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries and invoices to rscDJVendors@anadarko.com within 24 hrs of the completion of the job.
27. Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
28. Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
29. Excavate hole around surface casing enough to allow welder to cut 8-5/8” casing minimum 5’ below ground level.
30. Welder cut 8-5/8" casing minimum 5' below ground level.
31. MIRU ready cement mixer. Use 4500 psi compressive strength cement, (NO gravel) fill stubout.
32. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
33. Properly abandon flowlines per Rule 1103.
34. Back fill hole with fill. Clean location, level.
35. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed. File electronic Form 42 once abandonment complete.