

## Dekalb #2A

1. Provide notice to COGCC prior to MIRU per Form 6 COA.
2. Call foreman or Lead Operator before rig up to isolate and remove automation and production equipment. Install fence if needed.
3. Notify CDC when rig moves on location to generate work order for flowline removal and one call for line locates.
4. MIRU slickline services. Pull bumper spring and tag for fill. POOH
5. Run gyro from 7800' to surface making stops every 100'. RDMO slickline services.
6. Place cement services on will call when rig moves on location, providing expected volumes of cement needed. (~170 sx plug #1; ~500 sx plug #2; ~150 sx plug #3)
7. MIRU WO rig. Kill well, as necessary, with water containing biocide. ND wellhead. NU BOP's. Unseat landing joint and lay down.
8. TOOH and stand back 2-3/8" tbg.
9. PU and TIH with casing scraper & bit for 4.5 casing. Scrape casing to ~7810'. Circulate hole clean. TOOH and lay down scraper and bit and stand back 6100' of tubing, lay down remaining tubing.
10. MIRU wireline services. PU 4-1/2" CIBP and RIH to 7800', set CIBP. POOH.
11. PU cement bailer. RIH to CIBP and dump bail 2 sx of cement on top of CIBP.
12. Pressure test plug to 1500 psi for 15 min.
13. PU perf gun loaded with 1' of 3 spf, 0.6" EHD, 7" penetration, 120 phasing. RIH to 6800' and shoot 1' of perms. POOH
14. PU 4-1/2" CICR. RIH and set CICR @ 6100'. POOH. RDMO wireline services.
15. PU 2-3/8" tbg. TIH hydrotesting to 3000 psi and sting into CICR @ 6100'.
16. MIRU cementing services. Establish circulation through CICR.
17. Mix and Pump 170 sx of 50/50 Poz "G" w/ 20% silica flour, 3% gel, 0.1% sodium metasilicate and 0.4% FL-52 (yield 1.71 ft<sup>3</sup>/sx, 13.5 ppg, ~51.5 bbl slurry). Underdisplace cement by 1 bbl, leaving 1 bbl of cement on top of CICR.
18. PUH 20 jts (~630') to 5470' laying down tubing and circulate hole with at least 9 ppg mud w/ biocide to fill hole and remove any cement. RDMO cementing services. TOOH and stand back 4200' of tbg, lay down remaining tubing.
19. MIRU wireline services. PU perf gun loaded with 1' of 3 spf, 0.6" EHD, 7" penetration, 120 phasing. RIH to 5347' and shoot perms. POOH.
20. PU 4-1/2" CICR. RIH to 4200' and set CICR. POOH. RDMO wireline services.
21. TIH w/ 2-3/8" tbg and sting into CICR @ 4200'. Establish circulation through CICR.
22. MIRU cementing services. Preflush with 5 bbl H<sub>2</sub>O, 20 bbl of sodium metasilicate, 5 bbl H<sub>2</sub>O.
23. Mix and Pump 500 sx of Class "G" cement with ¼ #/sx cello-flake, 0.4% CD-32 and 0.4% ASA-301 through CICR (yield 1.15 ft<sup>3</sup>/sx, 15.8 ppg, ~102 bbl slurry). Underdisplace cement by 1 bbl, leaving 1 bbl of cement on top of CICR.

24. PUH 94 jts (~2961') to 1239' laying down tubing and circulate hole with at least 9 ppg mud to remove any cement. RDMO cementing services. TOOH and stand back 1150' of tbg, lay down remaining tubing.
25. MIRU wireline services. Shoot off casing @ 1050'. RDMO wireline services.
26. NDBOP NDTH. Unland casing from slips.
27. NU BOP on casing head. Install 4-1/2" pipe rams.
28. PU casing and conventionally circulate 150 bbl of mud. If circulation cannot be established contact engineer and COGCC for change in procedure.
29. TOOH with 4-1/2" casing and lay down.
30. PU 2-3/8" tbg and TIH into casing stub to 1150'.
31. MIRU cementing services. Mix and pump 150 sx of Type III cement from 1150' to 500' (yield 1.53 ft<sup>3</sup>/sx, 14 ppg, ~40.5 bbl slurry). Displace cement. RDMO Cementing services.
32. PUH to 100' (standing back 550' of tubing and laying down remaining tubing) Circulate 10 bbl of mud to remove any cement. WOC 4 hrs or overnight.
33. TIH and tag cement plug, NOTE: DEPTH OF PLUG IN OPENWELLS. If plug top is above 700' TOOH and lay down tubing.
34. MIRU wireline services. PU 8-5/8" CIBP and RIH to 100'. Set CIBP and POOH. Pressure test CIBP to 1000 psi for 15 minutes. RDMO wireline services.
35. RDMO WO Rig.
36. Wellsite supervisor turn all paper copies of cementing reports/invoices and logs in to Sabrina Frantz. NOTE: During the job, wellsite supervisor should instruct the logging and cementing contractors to e-mail all logs, job reports/invoices to Sabrina Frantz.
37. Have excavation contractor notify One-Call to clear for digging around wellhead and flowline removal.
38. Check top of cement inside 8-5/8" surface casing., place redi-mix cementer on will call. (6.5 bbl)
39. Excavate hole around surface casing of sufficient size and depth to allow welder to cut off 8-5/8" surface casing and at least 5' below ground level.
40. Have welder cut off 8-5/8" surface casing at least 5' below ground level.
41. MIRU ready cement mixer. Use 4,500 psi compressive strength redi-mix cement (sand and cement only, no gravel) to finish filling surface casing and production casing to top of cut off.
42. Have welder spot weld steel marker plate on top of surface casing. (Note: marker shall be labeled with well name and number, legal location (¼ ¼ description) and API number.
43. Properly abandon flowlines as per Rule 1103.
44. Have excavation contractor back fill hole with native material. Clean up location and have leveled to plant any vegetation required.
45. Submit Form 6 to COGCC. Provide "As Plugged" wellbore diagram identifying the specific plugging completed.

The Dekalb #2A is a 1997 Dakota only. Additional cement is needed over the Niobrara and Fox Hills. No history of wellbore integrity issues. Vertical BHL is 1676' from HZ lateral, making this wellbore a poor candidate for pressure monitoring or potential gas injection. Propose P&A due to low production of well. Average P&L for previous 6 months = (\$258)