

PLUG and ABANDONMENT PROCEDURE RE-ENTER

MARRS RED 22-2D

Step Description of Work

1. Well is being re-entered to P&A to today's standards due to it being offset to Torrey's Peak in 2017.
2. Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.).
3. Locate and expose 8 5/8" casing stub. Extend stub to surface and install 8 5/8"x 11" SOW, 3M casing head with 3000 psi ball valves in both outlets.
4. Prepare location for base beam equipped rig. Install perimeter fence as needed. Have 150 bbls of 10ppg mud on location. **Spot in 140 jts of 3-1/2" work string (WS) to location.**
5. MIRU workover rig. NU 9" 3000 psi BOP stack on casing head. PT BOP and csg head. Function test BOPE. Install a choke or choke manifold on casing outlet. NU rotating head on BOP. Hook up return line to shale shaker on flat tank. Ensure full opening 3-1/2" TIW on rig floor.
6. RU power swivel. PU 7-7/8" rock bit, bit sub, 8 – 3-1/2" drill collar, 1 jt 3-1/2" work string (WS), float sub, and 3-1/2" WS. TIH and drill through existing cement plugs at surface (10 sx plug from ~10'-30') and at the base of surface casing (35 sx plug from ~690'-810') using 10 ppg mud. **SEE ATTACHED RE-ENTRY DRILL OUT SOPs.**
7. LD power swivel. Once surface cement plugs are drilled, Displace hole with drilling mud and continue washing down to cement plug at ~4020'. Tag plug.
8. Break circulation and circulate 1.5 times hole volume or until there is no more gas or dehydrated mud in returns.
9. TOOH. SB 3-1/2" WS. ND rotating head off BOP. LD bit, bit sub, drill collars, and float sub.
***Note: If any tight spots were encountered while washing to bottom make sure to ream through the tight area until you no longer see a tight spot.**
10. TIH to ~4020' with WS w/ mule shoe on bottom while hydrotesting to 3000 psi. Establish circulation with biocide treated fresh water and condition hole for cementing.
11. MIRU VES. Run gyro survey from end of WS to surface. RDMO VES.
12. Establish circulation with biocide treated fresh water.
13. RU Cementers. **Pump Sussex Balanced Plug:** 320 sx (377 cf) Sussex squeeze blend with 0.25 lb/sk Polyflake, assuming 15.8 ppg & 1.18 cf/sk. Volume is based on 400' in the 12" OH from log with 20% excess. Cement will be from 4020' – 3620'. RD cementers.
14. Slowly pull out of the cement and PUH to 3000'. Circulate to ensure no cement is left in the WS.
15. WOC per cement company recommendation. TIH and tag cement. Cement top needs to be at or above 3620'. Call Engineering if tag is lower.
16. LD 3-1/2" WS while TOOH to 1540'.
17. RU Cementers. **Pump Stub Plug:** 420 sx (487 cf) with 0.25 lb/sk Polyflake, 15.8 ppg & 1.16 cf/sk (753' in 7-7/8" based on bit with 60% excess, and 200' in 8-5/8" surface casing with no excess). The plug will cover 1540' - 587' RD cementers.
18. Slowly pull out of the cement and PUH to 150'. Reverse Circulate using biocide treated fresh water, to ensure the tubing is clean.
19. WOC per cement company recommendation. TIH and tag cement. Cement top needs to be at or above 737' (50' above the surface casing shoe at 787'). Call Engineering if tag is lower.

Engineer: ELIZABETH HUNT

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20. RU WL. PU and RIH 8-5/8" CIBP to 80'. RDMO WL and WO rig.
21. Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to rscDJVendors@anadarko.com within 24 hours of completion of the job.
22. Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
23. Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
24. Capping crew will set and secure night cap on 8 5/8" casing head, restrain the casing head, pressure test CIBP to 500 psi with hydrotest pump, then remove night cap and casing head restraints.
25. Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
26. Welder cut casing minimum 5' below ground level.
27. Fill casing to surface using 4500 psi compressive strength cement (NO gravel).
28. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
29. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
30. Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
31. Back fill hole with fill. Clean location, and level.
32. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.