

## Re-Entry PLUG and ABANDONMENT PROCEDURE

### GENESIS 2

- | Step | Description of Work  |
|------|--|
| 1.   | Well is being re-entered to P&A to today's standards due to it being offset Folley North HZ pad.   |
| 2.   | Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (e.g. 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.  |
| 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, 1 – 3-1/2" drill collar, 1 – centralizer (8-5/8" 24#), 7 – 3-1/2" drill collars, 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'-40'), at the base of surface casing (10 sx 325'-360'), downhole (10 sx 450'-500') and further downhole (15 sx 2200'-2300') using fresh water with biocide. |
| 7.   | LD power swivel. Once identified cement plugs are drilled, Displace hole with 10 ppg drilling mud and continue washing down to the cut production casing at 5835'. Stop every 1,000' and circulate 1-2 bottoms up or until mud returns clean up to make sure we are adequately removing dehydrated mud and any gas in the wellbore. Tag cut casing.  |
| 8.   | Break circulation and circulate 1.5 times hole volume or until there is no more gas or dehydrated mud in returns. TOOH. SB 3-1/2" WS. LD bit and drill collars. <b>*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.</b>   |
| 9.   | TIH to ~5800' with WS open-ended while hydrotesting to 3000 psi. Establish circulation with biocide treated fresh water and condition hole for cementing.  |
| 10.  | MIRU VES. Run gyro survey from end of WS to surface. RDMO VES.   |
| 11.  | Establish circulation with biocide treated fresh water.  |
| 12.  | <u>RU Cementers</u> . <b>Pump Niobrara Balanced Plug:</b> 160 sx (250 cf) Niobrara squeeze blend with 0.25 lb/sk Polyflake, assuming 15.8 ppg & 1.55 cf/sk. Volume is based on 450' in the 7-7/8" drill bit size with 60% excess. Cement will be from 5800' – 5350'. RD cementers.   |
| 13.  | Slowly pull out of the cement and PUH to 4500'. Reverse circulate to ensure no cement is left in the WS.   |
| 14.  | WOC per cement company recommendation. TIH and tag cement. Cement top needs to be at or above 5400'. Call Engineering if tag is lower.   |
| 15.  | PUH to 4140'. LD WS.   |
| 16.  | <u>RU Cementers</u> . <b>Pump Sussex Balanced Plug:</b> 205 sx (240 cf) Sussex squeeze blend with 0.25 lb/sk Polyflake, assuming 15.8 ppg & 1.17 cf/sk. Volume is based on 440' in the 7-7/8" drill bit size with 60% excess. Cement will be from 4140' – 3700'. RD cementers.   |
| 17.  | Slowly pull out of the cement and PUH to 3200'. Reverse circulate to ensure no cement is left in the WS.   |

## Re-Entry PLUG and ABANDONMENT PROCEDURE

### GENESIS 2

18. WOC per cement company recommendation. TIH and tag cement. Cement top needs to be at or above 3740'. Call Engineering if tag is lower.
19. PUH to 700'. LD WS.
20. RU Cementers. **Pump Stub Plug:** 230 sx (267 cf) with 0.25 lb/sk Polyflake, 15.8 ppg & 1.16 cf/sk (340' 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 700' – 160'. RD cementers.
21. Slowly pull out of the cement and PUH to 100'. Reverse Circulate using biocide treated fresh water, to ensure the tubing is clean.
22. WOC per cement company recommendation. TIH and tag cement. Cement top needs to be at or above 310' (50' above the surface casing shoe at 360'). Call Engineering if tag is lower.
23. RU WL. PU and RIH 8-5/8" CIBP to 80'. RDMO WL and WO rig.
24. Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to [rscDJVendors@anadarko.com](mailto:rscDJVendors@anadarko.com) within 24 hours of completion of the job.
25. Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
26. Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
27. 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.
28. Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
29. Welder cut casing minimum 5' below ground level.
30. Fill casing to surface using 4500 psi compressive strength cement (NO gravel).
31. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
32. Obtain GPS location data as per COGCC Rule 215 and send to [rscDJVendors@anadarko.com](mailto:rscDJVendors@anadarko.com).
33. Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
34. Back fill hole with fill. Clean location, and level.
35. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.