

OPENHOLE RE-ENTRY PLUG AND ABANDONMENT PROCEDURE

UPRR 43 PAN AM UT Y 1

- | Step | Description of Work |
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| 1 | 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. Prepare location for workover rig. Install perimeter fence as needed. |
| 2 | Provide notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.). |
| 3 | MIRU workover rig. NU 9" 3000 psi BOP stack on casing head. PT BOP and csg head per approved Form 2. Function test BOPE. NU rotating head on BOP. Hook up return line to shale shaker on flat tank. RU mud mixing equipment and tanks. Spot trailer with ~7450' of 2-7/8" WS and necessary drill collars. |
| 4 | PU 7 7/8" mill tooth bit, necessary drill collars and drill pipe/work string (WS). Drill through existing cement plugs at surface (10 sk) and at the base of surface casing (50 sk plug ~735'-835') using fresh water with biocide. |
| 5 | Once surface cement plugs are drilled, Displace hole with drilling mud and continue going in hole. |
| 6 | RIH to stub of 5 1/2" casing @ 3325'. POOH and lay down drill bit and drill collars. |
| 7 | RIH WS to the 5-1/2" casing stub @ 3325'. Attempt to re-enter casing. (TOC behind pipe is ~3350') |
| 8 | RIH WS to cement cap on top of CIBP @ 7450'. |
| 9 | Run gyro survey through tubing from PBSD to surface. |
| 10 | RU Cementers. Spot cement plug consisting of 55 cu-ft (40 sx) "G" w/20% silica flour, 0.4 % CD-32, 0.4% ASA-301 and R-3 To achieve 2:30 pump time. Mix at 15.8 ppg and 1.38 cuft/sack. Calculated top of plug in the 5-1/2" csg @ 7025'.

PUH to 6500' and circulate hole clean. PUH to 3425'. |
| 11 | Spot cement plug consisting of 218.5 cu-ft (190 sx) "G" w/0.25pps cello flake, 0.4% CD-32, 0.4% ASA-301 with CaCl ₂ as necessary. Mixed at 15.8 ppg, 1.15 cuft/sack. Cement to be preceded by sodium metasilicate mixed in 20 bbls water per cementing company recommendation. Calculated top of plug 3125' based on 12.5" hole with 20% excess. |
| 12 | POOH to ~2600' and circulate clean. WOC per cement company recommendation. Tag plug at 3125'. LD WS to place end of WS at 1415'. |
| 13 | Fox Hills Balanced Plug: Pump mud flush of 10 bbls SAPP followed by 20 bbls water spacer ahead of 811 cu-ft (610 sx) Type III w/cello flake and CaCl ₂ as deemed necessary, mixed at 1.33 cf per sack, 14.8 ppg. Plug size is based on 13" hole with 20% excess covering 1415' to shoe of surface |

casing at 774' plus capacity of surface casing to 500'. POH and WOC per cementing company recommendation.

- 14 MIRU WL. RIH and tag top of plug. Plug should be tagged at 574' or shallower.
- 15 RU wireline. Run and set CIBP in the 8 5/8", 24# surface casing at 80'. PT CIBP and surface casing to 1000 psi for 15 minutes. Assuming successful test, RD wireline. RDMO workover rig.
- 16 Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to rscDJVendors@anadarko.com within 24 hrs of completion of the job.
- 17 Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
- 18 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
- 19 Excavate hole around surface casing enough to allow welder to cut casing minimum 5' below ground level.
- 20 Welder cut casing minimum 5' below ground level.
- 21 Fill casing to surface using 4500 psi compressive strength cement, (NO gravel).
- 22 Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
- 23 Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
- 24 Properly abandon flowlines per Rule 1103. File electronic Form 42 once abandonment complete.
- 25 Back fill hole with fill. Clean location, level.
- 26 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.

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