

Short Procedure: NAP Government 1-A - P&A

Background: Well is a flowing gas producer operated by Mont Rouge, LLC. Little is known about the well other than casing sizes, cement volumes, and perforation / formation depths. Well has a Larkin head with ~1.66" OD velocity string. Plan to P&A wellbore.

10/28/19: Mont Rouge pumper confirmed free-flowing well with no AL. No history of pressure. Downhole packer(s) unlikely but could not confirm.

It is up to the WSR, Workover Engineer and Production Engineer to make the decisions necessary to safely do what is best for the well.

Contacts:	Jon Bacon	Workover Engineer	713-201-8239
	Travis Garza	Workover Superintendent	970-210-6780
	Byron Dale	Production Engineer	918-630-9137

WellSafe Procedure Required: Yes, P&A operation*
*Pending Exception

MASP: < 500 psi

Short Procedure: For procedure specifics, WSRs will need to refer to the Well Intervention Standard Procedure or Rangely WPT.

NOTE: Refer to Anita Sanford's Regulatory/Permitting Document for Rangely prior to executing any work on the well. Need to ensure proper notifications have been made to all regulatory bodies before initiating job. If unsure of requirements consult with workover engineer.

NOTE: Also refer to COA's found in the Regulatory folder on the O Drive. Ensure operations are compliant with BLM/COGCC requirements. Notify CRVFO inspectors 48hrs prior to operations (contact info in COA).

0. Ahead of the rig, MOB A&W and Cutters WL to perform diagnostic work. Check pressure on all casing strings & bleed off same. Attempt to pump down tubing x casing annulus to determine if there is a packer, test to 1,000 psi for 5 min or pump a minimum of 70 bbls if no pressure, chart not necessary. Attempt to pump down tubing to determine if there is a tubing plug. Report findings to WOE.

MIRU Cutters. Test lubricator to 500 psi for 5 minutes. RIH with blind box / CCL down to EOT to confirm tubing details and no plug/restriction. Have cutters bring 1.125" jet cutter in the event we cut tubing. POOH R/D WL.

NOTE: Record casing pressures & diagnostic tests in WellView. Coordinate WL tools with Cutters ahead of time.

1. MIRU workover rig and equipment. Check pressure on all casing strings (including bradenhead). **Record tubing and casing pressures every day on the WellView report.**

2. **Monitor well for flow for 15 minutes (WSEA 10A).** Remove top cap from Larkin head. **N/U adapter flange and 7-1/16" 5K BOP with Washington head, 5K annular and 2-7/8" pipe rams on top of blind rams (WSEA 8A).** Test BOPE to 5 min 250 psi low/ 10 minute 500 psi high. **(WSEA 9)**

NOTE: Larkin slip type tubing head. No BPV profile.

3. Caliper elevators and document in WellView. If it is determined there is a packer, attempt to release and TOH L/D tubing. If there is no packer, and tubing doesn't pull free, attempt to release TAC.

NOTE: Tubing details unknown, likely a 1.660" OD velocity string.

4. If unable to pull tubing, MIRU Cutters W/L. N/U lubricator and test to 500 psi for 5 minutes. RIH with gauge ring to EOT. POOH. RIH with tubing cutter / CCL and cut tubing above packer.

NOTE: Discuss cut depth with fishing hand and WOE prior to making cut. Cutters has a 1-1/8" chemical cutter & 1.23" jet cutter available.

5. TOH L/D tubing. Fish packer/TAC and remaining tailpipe per Prime fishing

6. P/U 4-3/4" bit and 5-1/2" scraper BHA on 2 7/8" workstring. TIH and scrape casing down to top perf at 4,105'. If possible, circulate hole clean. TOH

NOTE: Perforations at 4,105' - 4,129'.

7. RIH with 5.5" CIBP and 5.5" TST packer. Set CIBP at +/- 4,055' (must set CIBP between 4,055' - 4,005'). If necessary, circulate freshwater. Test CIBP/casing to 500 psi for 15 minutes. If casing does not test, set TST packer just above CIBP and re-test. Isolate leak with TST packer. TOH

NOTE: Discuss leak interval with WOE and superintendent. Leak may be isolated with planned cement plugs.

8. MIRU Cutters wireline. N/U and test lubricator to 500 psi for 5 minutes. Run CBL/CCL/GR from top of CIBP to surface. **Immediately** send copies to WOE, Superintendent, and Anita Sanford. **Verify TOC with WOE, Supt, and PE & notify Craig Burger (COGCC) & BLM for approval.**

BLM Contacts:

Bob Hartman - (970) 876-9032 / bhartman@blm.gov

Stephen Garcia - (970) 876-9031 / sbgarcia@blm.gov

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NOTE: TOC will determine cement plug depths. *Do not continue to next step without COGCC/BLM concurrence of TOC.*

9. RIH with 2-7/8" workstring and stinger to top of CIBP. Spot ~150' (~17 sks / 3.5 bbls) 15.8ppg, 1.15 cu.ft/sk Class G cement plug on top of CIBP. Pull up 100' above TOC and reverse clean wellbore volume with freshwater. WOC.

NOTE: Minimum 100' verified cement above CIBP is required. Per BLM COA, water will be used between plugs.

10. **Test Cement Plug #1 with at least one of the following (WSEA 10B):**
1) Pressure Test to 300 psi for 15 minutes with freshwater
2) Tag TOC with 10klbs weight with pumps on
3) Tag TOC with 10klbs weight with pumps off (if cement has set up overnight)

NOTE: Preferred to test with option 1 AND option 2. 1st barrier to Buckhorn

11. Spot end of stinger at TOC of cement plug #1 (+/- 3,905'). Spot ~185' (~22 sks / 4.6 bbls) 15.8ppg, 1.15 cu.ft/sk Class G balanced cement plug. Pull ~100' above TOC and reverse circulate clean with freshwater.

Plug depth dependent on verified TOC per CBL. Verify with WOE prior to pumping.

Note: Minimum 100' verified cement plug is required per WellSafe. COGCC requires 100' cement plug + 10% excess cement pumped per 1,000'.

12. **Test Cement Plug #2 with at least one of the following (WSEA 10C):**

- 1) Pressure Test to 300 psi for 15 minutes with freshwater
- 2) Tag TOC with 10klbs weight with pumps on
- 3) Tag TOC with 10klbs weight with pumps off (if cement has set up overnight)

NOTE: Preferred to test with option 2. Cement plug must be at least 100'. 2nd barrier to Buckhorn.

13. MIRU PLS. N/U lubricator and test to 500 psi for 5 minutes. RIH with perforating guns and perforate 5-1/2" casing at 800'. POOH with spent guns, ensure all shots fired. Note perforations in WellView under applicable tab.

14. Establish circulation rate/pressures from surface, not to exceed 1,000 psi. MIRU cement provider. Test lines to 500 psi above circulation pressure. Circulate 15.8 ppg, 1.15 ft³/sk, Class "G" cement until cement returns to surface (~ 222 sks / 45.5 bbls). WOC to achieve 500 psi compressive strength. **Tag surface plug with string weight to verify placement (WSEA 10E).**

15. N/D BOPE. Cut all casing and anchors & remove to 4' below grade. Verify cmt to surface. Weld on dry hole marker.

16. Notify production personal in field office that location is ready for final reclamation. Complete Ownership Transfer Document from D&C to Operations. RDMO workover rig and equipment. **ENSURE LOCATION IS CLEAN.**