

Gamma State 14-15D
Re-Completion Procedure
Sec 15-T7N-R93W
Moffat County, CO
AFE#:



Overview:

This procedure is to prepare this well for recompletion involving a 4 Stage frac consisting of re-perforating and re-stimulating the zones within the Niobrara Formation. Specifically, re-perforating and re-frac'ing the Basal Niobrara and Tow Creek zones, and perforating and frac'ing the Wolf Mountain and Buck Peak zones.

Procedure:

1. Isolate well from all surface production equipment
 - 1) Spot and berm (18) Frac Tanks for Lease Crude & (2) Flowback/Fluid Return Tanks
 - 3) MIRU WO Rig
 - 4) With well dead ND Production Tree and NU 7 1/16" 5k Frac Valve, Flow Cross, and BOP stack with 2 7/8" Pipe Rams and Blind Rams
 - 5) POOH and set aside rods, pump assembly, and tubing.
 - 6) RIH with 4 3/4" bit and scraper on 2 7/8" tubing and clean out to PBTD of 8,559'
 - 1) RIH with Tubing and Packer to a depth of 7,250' and set packer
 - 7) Shut 2 7/8" pipe ram and pressure test casing to 5,000 psi and hold for 5 mins.
 - 8) If casing tests good un-set packer and POOH
 - 9) MIRU E&P Wireline and RIH with (4) 10' guns (4 spf, 90 deg phasing, 160 holes total) with switching subs. (Multiple runs may be required per lubricator height)
 - 10) Perforate Basal Niobrara:

8,400'-10'
8,310'-20'
8,270'-80'
8,220'-30'

Please Note: Existing Perfs from:

8,425'-40'
8,395'-410'
8,348'-60'
8,330'-36'
8,305'-22'
- 11) POOH and confirm all guns fired

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- 12) RIH with 3 ½” Frac Liner per tool hand specs and set liner across interval 7,290’ – 7,690’
- 13) ND BOP Stack and NU Upper Master Frac Valve and Frac Head
- 14) MIRU Baker Hughes and pump 1st stage frac per procedure (Approx. 2000 bbls gelled lease crude with 150,000 lbs 20/40 CRC)
- 15) ND Upper Frac Stack and NU BOP Stack
- 16) RIH with 2 7/8” tubing and POOH 3 ½” Frac Liner
- 17) MIRU E&P Wireline and RIH with 5 ½” CBP and (4) 10’ guns (4 spf, 90 deg phasing, 160 holes) with switching subs. (Multiple runs may be required per lubricator height)
- 18) Set CBP @ 8,175’ and perforate Wolf Mountain:
8090’-100’
8,010’-20’
7,906’-16’
7,826’-36’
- 19) POOH and confirm all guns fired
- 20) RIH with 3 ½” Frac Liner per tool hand specs and set liner across interval 7,290’ – 7,690’
- 21) ND BOP Stack and NU Upper Master Frac Valve and Frac Head
- 22) MIRU Baker Hughes and pump 2nd Stage frac per procedure (Approx. 2000 bbls gelled lease crude with 150,000 lbs 20/40 CRC)
- 23) ND Upper Frac Stack and NU BOP Stack
- 24) RIH with 2 7/8” tubing and POOH 3 ½” Frac Liner
- 25) ND BOP Stack and NU Upper Master Frac Valve and Frac Head
- 26) RDMO WO Rig
- 27) ND BOP Stack and NU Upper Master Frac Valve and Frac Head
- 28) MIRU E&P Wireline and RIH with 5 ½” CBP and (4) 10’ guns (4 spf, 90 deg phasing) with switching subs.
- 29) Set CBP @ 7,750’ and perforate Tow Creek:
7,600’-10’
7,486’-96’

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7,465'-75'
7,338'-48'

Please Note: Existing Perfs from:

7,632'-42'
7,585'-620'
7,487'-96'
7,465'-78'
7,338'-48'

- 30) MIRU Baker Hughes and pump 3rd Stage frac per procedure (Approx. 2000 bbls gelled lease crude with 150,000 lbs 20/40 CRC)
- 31) RIH with CBP and (3) 10' guns (4 spf , 90 deg phasing) with switching subs.
- 32) Set CBP @ 7,275' and perforate Buck Peak:
7,150'-60'
6,970'-80'
6,920'-30'
- 33) POOH and confirm all guns fired
- 34) RDMO E&P Wireline
- 35) Pump 4th Stage frac per procedure (Approx. 2000 bbls gelled lease crude with 150,000 lbs 20/40 CRC)
- 36) ND Upper Frac Stack
- 37) RDMO frac service provider
- 38) MIRU CT Unit to drill out CBP's located at 7,275', 7,750', and 8,175'
- 39) Continue to clean out PBTD of 8,559' and circulate with diesel until clean
- 40) POOH and RDMO CT Unit
- 41) MIRU WO Rig
- 42) NU Flow Cross and BOP Stack
- 43) RIH with seat nipple, packer, and 2 7/8" tubing and spot to swab test each interval
- 44) POOH 2 7/8" tubing and packer.

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- 45) RIH with production tubing, pump and rods per design.
- 46) With well dead ND BOP stack, Flow Cross, and Lower Master Valve. NU
Production Tree
- 47) RDMO WO Rig and Reinstall all surface equipment.
- 48) Begin flow back operation and e-mail report as directed
- 49) RDMO flow back crew
- 50) Clean location and release to production following handoff procedure