## Attachment for NHOCC Form C-103.

## RECOMPLETED FROM DEVONIAN TO WOLFCAMP.

- 1. Pulled rods, pump and tubing.
- 2. Ran GR/CCL survey 9500' -11,000'
- Set Baker CIBP @ 13,300' and capped w/5 sx. cement. 3.
- 4. Perforated 10,560' 10,561' w/4-way squeeze gun.
- 5. Set HOWCO Type DC permanent cement retainer @ 10,545' w/wireline.
- Ran tubing w/HOWCO stinger, hydrotested to 5000 psi. Set stinger into retainer w/12,000#. 6. Pumped 500 gallons 5% MCA bollowed by 80 BW. Pumped 200 sx. Trinity Inferno cement + 7. 4% gel (14 1/2# slurry wt.) @ 2 1/2 BPM @ 1900 - 2400 psi. Closed annulus and pressure increased to 3000 psi. Dropped plug down tubing followed by 10 sx. cement. Sealed plug in retainer, raised stinger 10' and reversed out 2 sx. cement. Raised tubing 1900'. Shut down overnight. Pulled tubing and stinger. WOC 36 hrs. (PBTD 10,535').
- Perforated 5 1/2" casing 10,190' 10,191' w/4-way squeeze gun.
  Ran tubing w/FBRC set at 10,110'. Spotted 300 gallons 15% MCA on bottom. Pulled tubing and FBRC.
- Perforated 10,238' 10,242', 10,253' 10,257', 10,261' 10,268', 10,452' 10,456', 10. 10,464 - 10,470 , 10,475 - 10,484 , 10,490 - 10,496 w/2-3/8" JSPF.
- Ran tubing w/retrievable bridge plug @ 10,328' and HW packer 10,214'. 11.
- Started injecting acid over perforations 10,238' 10,268', had communication around 12. packer. Reset packer @ 10,150' (above squeeze holes @ 10,190'). Injected 300 gallons acid. With 850 gallons acid in formation had communication in 8 5/8"-5 1/2" annulus. Reversed out 1000 gallons acid. Pulled tubing and retrievable bridge plug.
- Set HOWCO CIBP @ 10,214' on wireline. 13.
- 14. Ran tubing w/FBRC set @ 10,150'. Pumped water down tubing and broke circulation out of 8 5/8"-5 1/2" annulus. Pumped 100 sx. Trinity Inferno cement + 4% gel (slurry wt. 14.5#). Displaced cement w/4 BW.
- 15. After WOC 24 hrs. had slight pressure on tubing & 8 5/8" casing. Pumped 6 1/2 HW down tubing in 25 minutes and pressure increased to 5000 psi. Pressure bled to 4000 psi in 15 minutes.
- Unseated packer, found cement 1' below squeeze perforations 10,190'. Reset packer @ 16. 10,170'. Mixed 40 sx. Trinity Inferno to 15# slurry. Spotted cement and began squeeze. Pressure increased to 6000 psi after 31 sx. in formation. Unseated packer and reversed out 9 sx. cement. Pulled tubing and packer.
- 17. Ran 4 5/8" bit & 3-3" drill collars on tubing, found top of cement @ 10,173'. Drilled firm cement 10,173' - 10,190', stringers of cement to 10,205', firm cement to 10,214'. Drilled 2' cement at top of perforations @ 10,238'. Drilled CIBP @ 10,214'. Displaced water w/oil. Pulled tubing and bit.
- Ran tubing w/retrievable BP @ 10,520', HW packer @ 10,214'. 18.
- 19. In 4 hrs. swabbed 54 BLO from all perforations.
- Reset packer @ 10,360' and spotted acid on bottom. Pressured tubing to 3000 psi, had 20.
- communication w/annulus. Reset packer @ 10,170'. Treated formation w/4000 gallons 15% NEA. Pulled tubing, packer and bridge plug. 21. 22.
- Ran 17 jts. (526) 2" tubing 10,477 9951 and 324 jts. (9937) 2 1/2" 9951 surface.
- Ran pump and rods. In 24 hrs. pumped 74 BO and pumped dry. Pulled rods, pump, & tubing. Perforated 10,238' 10,242', 10,253' 10,257', 10,261' 10,268', 10,452' 10,456', 23. 24. 10,464' - 10,470', 10,475' - 10,484', 10,490' - 10,496' w/1 JSPF.
- 25. Hung tubing @ 10,496', spotted acid, set FBRC @ 10,214', Treated w/6000 gallons 15% NEA. 26. Pulled tubing and packer.
- Hydrotested and ran 17 jts. (526') 2" tubing 9951' 10,477' and 324 jts. (9937') 2 1/2" 27. tubing surface - 9951'. Hung @ 10,538'.
- 28. Reran pump and rods.
- 29. Recovered load.
- On OPT pumped 136 BOPD + 5 BWPD w/4 1/2 27.4' SPM. Gravity 40.6 deg. API. 30.