

RECOMMENDED WORKOVER PROCEDURE

MCDONALD STATE "WN" NO. 15
(Formerly McDonald State A/C 1 No. 1)
Unit L, 1,650' FSL and 330' FWL
Section 15, T-22-S, R-36-E
Lea County, New Mexico

Before The
OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case No. 10704 Exhibit No. 9
Submitted by: Marathon Oil Company
Hearing Date: 4/8/93

Date: March 30, 1993

Depths: TD - 3,900' GL: 3,563'
PBSD - 3,493'

Production Casing: 6-5/8" @ 3,813' w/20 sx cement

Tubing: 2-1/2" @ 3,405'


Current Perfs: Producing through casing split from 3,400' to 3,493'


Safety:

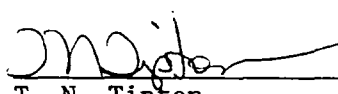
- Run sufficient amount of killstring during all shut-in periods
- Burst pressure of workstring: 10,570 psi
- Conduct safety meeting prior to all operations
- Maximum surface squeeze pressure: 5,000 psi

1. Monitor daily gas production and wellhead pressure for indications of any water entry.
2. If water entry is identified, contact Hobbs Superintendent and Midland Operations engineers so a pulling unit may be moved on location within one week to carry out the following squeeze procedure. **Note - McDonald State A/C 1 Injection Well Nos. 33 and 34 will be shut-in.
3. Inspect location, test safety anchors to 22,500 lbs and replace if necessary.
4. MIRU pulling unit w/± 3,700' of 2-7/8", N-80, 6.5 #/ft workstring.
5. Kill well with 2% KCl water if necessary.
6. ND wellhead and NU 6" Series 900 BOPs with 2-1/2" pipe rams on top and blind rams on bottom.
7. POOH w/2-1/2" production tubing.
8. RIH w/5-1/2" bit and bulldog bailer on 2-7/8" workstring to drill out cement plug from 3,493'-3,523'.
9. POOH w/same.
10. RIH w/wash pipe to clean around tubing in hole.
11. POOH w/same.
12. RIH w/overshot to fish tubing left in hole (top of tubing @ 3,523', bottom unknown, possible packer in hole) or mill if necessary. Clean out to 3,650'.
13. POOH w/overshot or mill.
14. RU logging company. Run cement bond log from 3,650' to 3,000'.
15. POOH w/cement bond tool. Evaluate log to pick location to perforate squeeze holes.
16. RIH w/4" perforating gun and perforate 4 squeeze holes at selected location.
17. POOH w/perforating guns. RD wireline company.

18. RIH w/cement retainer for 6-5/8" casing on 2-7/8" tubing. Set retainer and squeeze cement through squeeze holes to cover the top of the South Eunice Pool (Lower Seven Rivers) and the base of the Jalmat formation up to 3,493' (bottom of ripped casing).
19. POOH w/2-7/8" tubing. RD cementing company.
20. RIH w/5-1/2" bit and drill collars on 2-7/8" workstring. Cleanout to top of cement retainer. POOH.
21. RU logging company. Run cement bond log from top of cement retainer to 3,000'. POOH and rig down.
22. Forward copy of cement bond log to NMOCD District Supervisor, Hobbs Superintendent and Midland Engineering. Contact the NMOCD to see if remedial work is sufficient to resume injection into McDonald State A/C 1 Well Nos. 33 and 34.
23. RIH with production assembly and hang tubing.
24. ND BOPs, NU wellhead.
25. Swab if necessary to kick off gas production.
26. RD pulling unit.

APPROVAL: 
D. R. Petro
Reservoir Engineering Supervisor
Midland Operations


R. W. Tracy
Operations Engineering Supervisor
Midland Operations


T. N. Tipton
Engineering Manager
Midland Operations