

PLUGGING SPECIFICATIONS

SUBJECT WELL (1 of 2)

McMahen State 1
NE NE Sec.36-T146N-R93W
Dunn County, ND
Well File No. 8567

INTRODUCTION

The objective of this project is to plug the above referenced well, in compliance with requirements of Chapter 43-02-03 of the North Dakota Administrative Code.

WELL DATA

9 5/8" surface casing @ 3588',
5 1/2" intermediate casing @ 9300',
151 – 7/8" rods in hole
86 – 1" rods in hole
191 joints 2 7/8" and anchor set at 6005'
Tight spots at 6650' and 6802' (Pine and Opeche salts)
Gross Perfs – 9074-9087'
TOC unknown, must run CBL to determine

Formation tops needing plugs–
Madison production perfs squeeze at 9074-87'
Minnekahta 6707' and Newcastle at 5103' will need either 25 sx balanced plugs spotted across them or perf and isolation squeezes between them and between the Newcastle and the Fox Hills dependent upon the top of cement as determined by the CBL.
Surface plug circulated inside and out of the casing at 60'

SPECIFICATIONS

- A. The contractor must be prepared to, and shall, control any blow/flow from the well in order to minimize surface damage and to limit liabilities.
- B. Contractor shall arrange for all tools, equipment, products, fluids and any other items required to properly plug this well. Contractor is responsible for disposal of all fluids.
- C. Once plugging procedures begin, these specifications are subject to change with approval of the NDIC Oil & Gas Division field inspector if down-hole conditions warrant.
- D. Plugging Procedure:

Note: All cement must be API class G or Premium, 15.8 ppg.

1. Test deadmen anchors, MIRU, make sure well is dead, unflange wellhead, pull rods and tubing, NU BOPs.
 2. Run bit and scraper to 9000'.
 3. RIH set CICR at 9000'
 4. Roll hole with clean heavy produced water, pressure test 1000# for 15 minutes.
 5. Run CBL to determine TOC
 6. Mix and pump 100 sx cement, 90 sx through the CICR, sting out, spot 10 sx on top of CICR
 7. If TOC is above both Minnekahta and Newcastle then:
 8. Spot 25 sx balanced plug across top of Minnekahta at 6707'.
 9. Spot 25 sx balanced plug across top of Newcastle at 5103'.
 10. If TOC is below the Minnekahta, an isolations squeeze (100sx/90 thru/10 on top) must be done between the Minnekahta and Newcastle.
 11. If TOC is below the Newcastle, an isolation squeeze (100sx/90 thru/10 on top) must be done between the Newcastle and the Fox Hills.
 12. Perf and spot a surface plug at 60' both inside and outside of the 5 1/2" intermediate casing.
 13. Cut off wellhead 4' below plow depth and weld on cap with ND File # 8567.
 14. Dig up and pull out dead men.
 15. File form 7 plugging report upon completion of plugging.
- E. Certain information from NDIC files concerning the well is represented in the WELL DATA paragraph. The information represents, to the best of the Commission's knowledge, the well bore and well site conditions of the well to be plugged. Actual conditions may be different. The complete well file may be examined at the Bismarck office of the NDIC Oil & Gas Division, 1016 East Calgary Avenue, Bismarck, ND.
- F. Contractor shall notify the Commission 48 hours before commencing the plugging operations.

- G. Contractor guarantees, against defects and workmanship, all work performed under the contract for a period of one year from the date of the Commission's final acceptance of the plugging. Contractor shall bear the entire cost and expense of all repairs that may, from any imperfection in work or material, be necessary within that time. Contractor shall not be liable for equipment, material, or workmanship supplied by the Commission.