

STEP-RATE TEST

JOHNSON "B" FEDERAL A/C 1, WELL NO. 10
990' FNL and 450' FWL
Section 11, T-18-S, R-31-E
Tamano (Bone Spring) Field
Eddy County, New Mexico

RECEIVED

MAY 29 1991

O. C. D.
ARTESIA OFFICE

Date: May 1, 1991

Purpose: Conduct Step-Rate test on Bone Spring Carbonate Reservoir

Elevations: 3,767' DF: 3,765' GL: 3,749'

Total Depth: 8,556' PBTD: 8,481' DV-Tool: 4,506'

Surface Casing: 13-3/8", 48# and 72#, H-40 and L-80 ST&C casing set at 2,444'. Cemented with a total of 635 sacks. Circulated 150 sacks.

Intermediate Casing: 8-5/8", 24# and 32#, K-55 ST&C casing set at 2,444'. Cemented with 600 sacks. Circulated 86 sacks.

Production Casing: 5-1/2", 15.5# and 17#, K-55, LT&C casing set at 8,556'. 17# from surface to 74', 15.5# from 74' to 7,298' and 17# from 7,298' to 8,556'. DV-Tool @ 4,506'. Cemented first stage w/700 sacks of Class "H" Lite. Second Stage cemented with 850 sacks Class "H".

BHA/Production Tubing: 2-3/8" mud anchor, seating nipple at 8,118', 7 joints of 2-3/8" tubing, 5-1/2" TAC at 7,896' and 223 joints of 2-3/8", 4.6#, J-55, EUE tubing.

Perforations: Second Bone Spring Carbonate with 2 JSPF at 8,017' to 8,022' and 8,046' to 8,080'.

1. Spot four steam-cleaned frac tanks and fill with fresh water (City of Carlsbad).
2. MIRU PU. Kill well if necessary.
3. Unbeam well, remove stuffing box and install rod BOP. POOH with 1" fiberglass rods. 7/8" steel rods and 2" x 1-1/4" x 24' x 26' x 28' pump.
4. ND wellhead. NU BOP with 2-3/8" pipe rams in place. Release TAC and POOH with tubing.
5. RIH with 1 joint of 2-3/8" tubing bull-plugged, SN, 2-3/8" x 6' slotted sub, 3 joints of 2-3/8" tubing and 2-3/8" x 5-1/2" production/treating packer on 2-3/8" production tubing. Land slotted sub at 8,060'. Set packer. RDMO PU.
6. RIH with MOC pressure bomb to 8,060'. Run build-up for 48 hours.
7. POOH with bomb. Midland Engineering personnel will check BHP reading. If pressure has not reached average reservoir pressure, obtain static BHP every 24 hours until average reservoir pressure is obtained.
8. Contact NMOCD 24 hours before starting Step-Rate Test.
9. RU service company to frac tanks and wellhead.
10. Load tubing with fresh water. RIH with service company pressure bomb and tag bull plug. Pull tension in cable. Monitor surface and BHP.
11. Establish injection rate of 0.025 BPM (36 BPD).