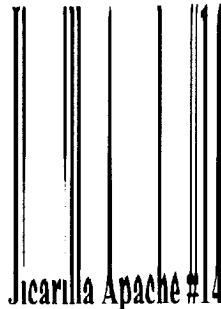


# WORKOVER PROCEDURE



Jicarilla Field  
900' FSL & 900' FWL  
Section 34, T-26-N, R-5-W  
Rio Arriba County, New Mexico

Date: March 10, 2000

Purpose: Recomplete in Chacra and DHC

GWI: 100%      NRI: 87.5%      AFE #:      AFE Amount: \$102,500      AFE Days: 9

Elevations: KB: 6555'      GL: 6541'

TD: 7345'      PBD: 7300' (Arrow TS RBP set @ 5316')      Spud Date: 9-8-1968

Surface Csg: 9-5/8" 32.2# H-40 @ 421' cmt'd w/ 275 sks (circulated)

Production Csg: 5-1/2" 15.5/17# J-55 8rd @ 7340' cmt'd in 3 stages w/ 775 sks (circulated)  
DV tools @ 5364' & 3196' [Drift (17#) = 4.767" 80% Burst (15.5#) = 3848 psi]

Tubing: Long String - 6' pup, SN, 14 jts 2-3/8" 4.6 # J-55, Arrow 1-X Pkr, 50 jts 2-3/8" EUE, 101 jts 2-3/8" SL tubing. Packer @ 4746'.  
Short String - 3 jts 1.66" 10rd U, F-nipple & 91 jts 1.66" CS Hydril tbg.

Perforations: Pictured Cliffs: 2865' - 2919' (52 shots)      Mesa Verde: 4820' - 5202' (25 shots)  
Graneros: 7042' - 7050' (8 shots)      Upper Dakota: 7171' - 7183' (12 shots)  
Lower Dakota: 7201' - 7278' (20 shots)

Anticipated BHP: ±200 psi in the Pictured Cliffs  
±500 psi in the Dakota  
±1500 psi (estimated original pressure) in the Chacra

Comments: 1) Use 2% KCl in all workover fluids (no substitutes)  
2) Use 2-7/8" N-80 tbg as work string [Drift=2.347" 80% Burst =8456 psi]  
3) Will need ~70 jts 2-3/8" tbg replace the tbg that was LD on 12-7-99. Will also need 40 to 60' of blast jts

## PROCEDURE

1. Inspect location and improve if necessary. Install and test safety anchors to 22,500# as necessary.
2. MIRU PU. Kill well as necessary. ND wellhead. Install 2" valve on long string. NU 7-1/16" BOP as per Mid-Continent Region's "Workover and Completion Guidelines". Function test BOP. Pull split tubing hanger. Install offset spool. POOH laying down 1.66" short string. ND offset spool. Change pipe rams to 2-3/8". Remove 2" valve. Release Baker LS pkr and POOH w/ 2-3/8" SL tubing. Change pipe rams to 2-7/8". RIH w/ 5-1/2" RBP & setting tool on 2-7/8" WS. Set plug at ±250'. Test pipe rams to 1500 psi. Release from plug. POOH w/ setting tool. Test blind rams to 1500 psi.
3. RIH & release plug. Set RBP ±4500'. Spot ~10' sand on top of RBP. POOH.
4. RU Electric Line Co. NU and test lubricator to 1500 psi. Run GR-CCL log from 4550' to 3250'. Correlate to Schlumberger's GR-FDC log dated 9/25/68. RIH with a 4" casing gun with 2 SPF @ 120 degree phasing with premium charges and perforate the Chacra from 3751' to 3776' (50 shots). POOH & RD Electric line Co.
5. RIH with treating packer on 2-7/8" WS. Hydro-test tbg below slips to 6000 psi. Set pkr below Chacra perfs and test RBP to 2500 psi. Re-set packer ~100' above Chacra perfs.
6. RU flowback line to frac tank. RU stimulation company. Hold safety meeting. Test lines to 6000 psi. Break down perfs with 1000 gals 10% Acetic acid. Stimulate Chacra as per recommendation using 70,000# of 20/40 sand. Limit maximum treating pressure to 6000 psi. Call flush as soon as sand concentration starts to drop and displace to 100' above top perf. Flow back well immediately. Flow well between 1 and 2 BPM. RD stimulation company while flowing well.
7. RIH w/ sinker bar and tag sand. If sand is not into perfs and well will flow then RU test unit and flow test Chacra for a minimum of 3 hours. Release packer and POOH with 2-7/8" tbg.
8. RU foam air unit. RIH with notched collar and clean out to RBP @ 4500'. (If necessary, PU EOT to Chacra perforation and circulate well until it cleans up. Continue jetting well until it makes no more than 1 BPH water and no sand. Clean out to RBP as necessary. POOH. RIH w/ pkr. Swab well in as necessary. Establish stable flow rates. RU test unit and flow test Chacra for 3 hours. Release pkr.) POOH laying down 2-7/8" WS.
9. Change pipe rams to 2-3/8" and test. RIH and pull RBP @ 4,500'. RIH with retrieving tool for Arrow TS RBP to ~5316'. Clean off as necessary and POOH with RBP. (Notes: 1. Expect gas bubble and or loss of hydrostatic head when RBP's are released. 2. Due to a fishing job during last workover in Dec. 1999 there may be small pieces of junk on top of RBP, review workover reports and consider running a magnet before attempting to retrieve RBP.)
10. RIH w/ notched collar, mud joint & seating nipple on 2-3/8" production tubing. Land SN @ bottom perf. Place blast joints across new Chacra perfs. ND BOP. Swab well in as necessary. Turn well over to production.

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