

## WORKOVER PROCEDURE

DATE: 20 June 1990

WELL & JOB: Empire Abo Unit G-24 GIW

LAST WORKOVER: Hot oil tbg

BY: L. M. Thompson

TD: 6106'

DRILLED: 1960

FIELD: Empire

COUNTY: Eddy

PBD: 5952' (fill on CR)

DATUM: 11' KB

### TUBINGHEAD:

CASING:	SIZE	WEIGHT	SIZE: GRADE	SET @	PRESS RATING: SX CMT	TOC
SURFACE:	8-5/8"	28#	J-55	750'	250	surface
PROD:	5-1/2"	15.5#	J-55	6104'	450	3440' (1000' calc)

PERFORATIONS: original Abo: 6024'-44' w/ 2 SPF

TUBING: SIZE: 2-3/8"

WEIGHT: 4.7#

GRADE: J-55

THREAD: 8RD

BTM'D @ 5782'

JOINTS: 186

MISC: Baker Lok-Set Pkr w/ 'ER' receptacle w/ 1.81 profile on 2-3/8" tbg @ 5787', 1 jt 2-3/8" tbg

below

**HISTORY AND BACKGROUND:** This well was drilled and completed in 1960 as a flowing Abo oil well. It was originally perforated from 6024'-44' w/ 2 SPF. In 1972, additional perfs were added (6044'-50') and the entire perforated interval was treated w/ acid and 300# unibeads. The well was converted to a gas injection well in 1976. A cement retainer was set at 5960' and the perfs were cement squeezed. A CBL was run and indicated TOC @ 3334'. The 5-1/2" csg was perfed @ 2899' w/ 4 holes and 650 sx of cmt were pumped. Est. TOC is @ 1000'. The Abo was perfed @ 5862'-83' w/ 1 JSPF.

**SCOPE OF WORK:** Squeeze cement upper Abo zone, perforate and stimulate lower Abo zone, and complete as lower Abo gas injection well.

## PROCEDURE

1. MIRU PU. Dig down and check casing valves. Check for pressure and bleed off. If necessary, kill well w/ 10# BW. ND injection tree. NU BOP.
2. Release Lok-Set packer @ 5787'. Circulate hole with 10# brine water. TOH, laying down 186 jts 2-3/8", 4.7#, J-55, 8RD, EUE, IPC tbg., Baker 'ER' receptacle w/ 1.81" profile and 1 jt 2-3/8", 4.7#, J-55, 8RD, EUE, IPC tbg. *Pump into perfs prior to TOH.*
3. PU and TIH w/ 5-1/2" cement retainer on 2-7/8" workstring and set @ 5812'. Establish injection rate and pressure into Abo perfs 5862'-83'.
4. Squeeze Abo perfs 5884'-5920' as per injection rate and pressure obtained in step #3. Release stinger and TOH. WOC.
5. TIH w/ 4-3/4" bit and 3-1/2" DC's on 2-7/8" workstring. Drill out cement retainer and cement. Pressure test 5-1/2" csg to 500 psi. TIH w/ bit to 5952' (old PBD). Drill out CR and cement to 6068'. Pressure test 5-1/2" csg to 500 psi. Circulate hole clean. TOH, laying down DC's.
6. RU WL and run GR-CCL from 6068'-5400' (use to correlate w/ Dresser Atlas CBL dated 2/4/76). Perf Abo from 6024'-50' w/ 2 JSPF using 4" csg gun (50- 0.44" holes). RD WL.