WORKOVER PROCEDURE

DATE: 19 June 1990
WELL & JOB: Empire Abo Unit F-27 GIW **DRILLED:** 1960
LAST WORKOVER: Acidized Abo (5884'-5920') **FIELD:** Empire **COUNTY:** Eddy
BY: L. M. Thompson **TD:** 6108' **PBD:** 5941' **DATUM:** 11' KB
TUBINGHEAD: **SIZE:** **PRESS RATING:**

CASING:	SIZE	WEIGHT	GRADE	SET @	SX CMT	TOC
SURFACE:	8-5/8"	28#	J-55	1003'	450	surface
PROD:	5-1/2"	15.5#	J-55	6108'	170 units 150 sx	surface

PERFORATIONS: Abo: 5980'-90' & 6041'-68'(Squeezed), 5884', 86, 88, 93, 95, 5905, 07, 09, 11, 13, 18, 20' (Open)

TUBING: **SIZE:** 2-3/8" **WEIGHT:** 4.7# **GRADE:** J-55 **THREAD:** 8RD
BTM'D @ 5790' **JOINTS:** 184 **MISC:** Baker Lok-Set Pkr IPC w/ Baker 'ER' @5790' Receptacle w/ 1.81" ID profile, 1 jt. 2-3/8" below

HISTORY AND BACKGROUND: This well was drilled and completed in 1960 as a flowing Abo oil well. It was originally perforated and acidized from 5980'-90'. In 1974, additional perfs were added (6041'-68') and acidized. In 1975, the existing perfs were squeezed and the well was converted to a gas injection well with perfs from 5884'-5920' (12 holes). These perfs were also acidized. In 1980 the perfs were acidized again.

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 @ 5790'. Circulate hole with 10# brine water. TOH, laying down 184 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. Jump into perfs. prior to POH to establish PIR

3. PU and TIH w/ 5-1/2" cement retainer on 2-7/8" workstring and set @ 5834'. Establish injection rate and pressure into Abo perfs 5884'-5920'.

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 CR @ 5941'(old PBD). Drill out CR and Cement to 6070'. 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 6070'-5400' (use to correlate w/ Welex's GR-N dated 9/28/60). Perf Abo from 6030'-55' w/ 2 JSPF using 4" csg gun (50- 0.44" holes). RD WL.