

JOHN TEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: POGO PRODUCING CO.

RECEIVED

DATE: OCTOBER 12, 1993

WELL NAME: CALMON NO. 5 SWD
EDDY COUNTY, NEW MEXICO

OCT 18 1993

WO#: 93-14-1970

MIDLAND,

MID-PERFS.: 4931-5148

PACKER DEPTH: 4845

BHP GAUGE D.: 5040

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	10:05	26.3				26.3		2610
	10:10	419.0	1.2	345.6	3.784	415.2	10.08	3012
	10:15	470.9	2.4	345.6	3.784	467.1	10.08	3066
	10:20	501.3	3.7	374.4	4.388	496.9	10.92	3088
2				355.2				
	10:25	550.7	5.7	576.0	9.736	541.0	16.80	3119
	10:30	564.7	7.7	576.0	9.736	555.0	16.80	3133
	10:35	558.4	9.7	576.0	9.736	548.7	16.80	3142
3				576.0				
	10:40	611.5	13.0	950.4	24.588	586.9	27.72	3159
	10:45	609.1	16.4	979.2	25.984	583.1	28.56	3167
	10:50	631.9	19.8	979.2	25.984	605.9	28.56	3175
4				969.6				
	10:55	724.2	24.9	1468.8	55.014	669.2	42.84	3205
	11:00	725.5	30.0	1468.8	55.014	670.5	42.84	3213
	11:05	735.7	35.2	1497.6	57.026	678.7	43.68	3219
5				1478.4				
	11:10	845.5	42.0	1958.4	93.672	751.8	57.12	3244
	11:15	846.8	48.8	1958.4	93.672	753.1	57.12	3258
	11:20	865.8	55.7	1987.2	96.236	769.6	57.96	3267
6				1968.0				
	11:50	946.8	28.8	2448.0	141.544	805.3	71.40	3305
	11:55	957.0	37.3	2448.0	141.544	815.5	71.40	3312
	12:00	959.5	45.8	2448.0	141.544	818.0	71.40	3317
7				2448.0				
	12:05	1061.9	56.1	2966.4	201.937	860.0	86.52	3328
	12:10	1059.4	66.3	2937.6	198.325	861.1	85.68	3335
	12:15	1051.8	76.5	2937.6	198.325	853.5	85.68	3341
				2947.2				