

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: YATES PETROLEUM COMPANY

DATE: JULY 21, 1997

WELL NAME: BUTTON FLATS 3WD NO.1
EDDY COUNTY, NEW MEXICO

WO#: 9/-14-1219

PERFS - 3420-3530

PACKER DEPTH = 3321

BHP GAUGE DEPTH - SURFACE ONLY

STEP NO		(1) SURFACE TUBING PRESS	(2) CUMULATIVE VOL INJECTED	(3) INJECTION RATE	(4) FRICTION HEAD LOSS	(5) CORRECTED TUBING PRESS	(6) INJECTION PRESS (psig)	(7) MEASURED BHP
REMARKS	TIME	(psig)	(bbls)	(bbls/day)	(psi)	(psi) (1)-(4)	(psi) 3420-3530	(psi)
	2:22	555.1				555.1		
	2:27	642.2	2.9	835.2	21.484	620.7	24.36	
	2:32	685.7	5.8	835.2	21.484	664.0	24.00	
1	2:37	681.7	8.4	748.8	17.554	664.1	21.84	
				806.4				
	2:42	790.6	12.4	1152.0	38.948	751.7	33.60	
	2:47	813.6	16.5	1180.8	40.769	772.8	34.44	
2	2:52	816.2	21.0	1296.0	48.430	767.8	37.80	
				1209.6				
	2:57	954.5	28.8	2246.4	133.983	820.5	65.52	
	3:02	1021.1	36.6	2246.4	133.983	887.1	65.52	
3	3:07	1014.7	44.5	2275.2	137.178	877.5	66.36	
				2256.0				
	3:12	1163.2	54.8	2952.0	222.083	941.1	86.10	
	3:17	1187.5	65.0	2952.0	222.083	965.4	86.10	
4	3:22	1211.8	75.3	2966.4	224.091	987.7	86.52	
				2956.8				
	3:27	1357.7	87.6	3542.4	311.172	1046.5	103.32	
	3:32	1365.4	100.7	3772.8	349.645	1015.8	110.04	
5	3:37	1383.3	113.7	3744.0	344.724	1038.6	109.20	
				3686.4				
	3:42	1534.3	128.6	4291.2	443.681	1090.6	125.16	
	3:47	1542.0	143.9	4406.4	465.967	1076.0	128.52	
6	3:52	1543.0	159.0	4348.8	454.761	1088.2	126.84	
				4348.8				
	3:57	1679.0	176.0	4896.0	566.247	1112.8	142.80	
	4:02	1675.1	193.0	4896.0	566.247	1108.9	142.80	
7	4:07	1690.5	210.2	4953.6	578.633	1111.9	144.48	
				4915.2				