

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



May 22, 1995

CF 10794
R-9951

Ms. Theresa Sloan
Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210

Attn: Ms. Theresa Sloan

**RE: *Injection Pressure Increase Sanmal queen Unit
Waterflood Project Lea County, New Mexico***

Dear Ms. Sloan:

Reference is made to your request dated April 26, 1995 to increase the surface injection pressure on two wells in the above referenced waterflood project. This request is based on a step rate tests conducted on April 21, 1995. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following wells:

Well and Location	Maximum Injection Surface Pressure
Sanmal Queen Unit Well No.8, Unit O, Section 1	960 PSIG
Sanmal Queen Unit Well No.10, Unit C, Section 12	980 PSIG
Both located in Township 17 South, Range 33 East, Lea County, New Mexico.	

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

VILLAGRA BUILDING - 408 Galisteo

Forestry and Resources Conservation Division
P.O. Box 1948 87504-1948
827-5830

Park and Recreation Division
P.O. Box 1147 87504-1147
827-7465

2040 South Pacheco

Office of the Secretary
827-5950

Administrative Services
827-5925

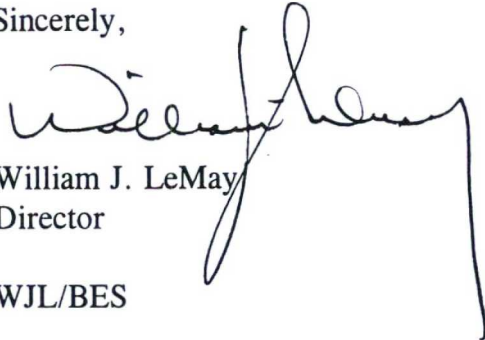
Energy Conservation & Management
827-5900

Mining and Minerals
827-5970

Oil Conservation
827-7131

Injection Pressure Increase
Yates Petroleum Corporation
May 22, 1995
Page 2

Sincerely,

A handwritten signature in dark ink, appearing to read 'William J. LeMay', with a long, sweeping horizontal stroke extending to the right.

William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Hobbs
File: Case File No.10794; PSI-X 2nd QTR 95 ✓

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986



105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210
TELEPHONE (505) 748-1471

N/R
S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER
OIL CONSERVATION DIVISION
REC'D
'95 MAR 8 PM 3:52

April 26, 1995

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

ATTN: David Catanach

RE: Request for Injection Pressure Limit Increase
1 - Sanmal Queen Unit #8 O 1-17S-33E
2 - Sanmal Queen Unit #10 C 12-17S-33E

Dear Mr. Catanach:

The Sanmal Queen Unit #8 and #10 injection wells had been limited to a wellhead injection pressure of 753 psi by Order No. R-9961. According to rule 704-C, step rate tests were conducted on April 21, 1995 on both the Sanmal Queen Unit #8 and the Sanmal Queen Unit #10 injection wells. Jerry Sexton of the Hobbs NMOCD office was notified April 19, 1995 of the time and date of both tests. John West Engineering of Hobbs conducted the tests.

The data from both tests are attached along with graphs of pressure vs rate. The formation broke at 1010 psi on the Sanmal Queen Unit #8 and at 1030# on the Sanmal Queen Unit #10. Both wells had zero pressure at the surface at the beginning of the tests. These pressures are in agreement with a previous step rate test done on the Hoover ADR State #1 (now the Sanmal Queen Unit #5) in March of 1993, where the formation broke at 1010#.

Yates Petroleum respectfully requests an increase of the pressure limits on both wells to the following pressures.

1. Sanmal Queen Unit #8 960#
2. Sanmal Queen Unit #10 980#

David Catanach
April 26, 1995
-2-

Should you have any questions, please call me at 748-4181.

Sincerely,

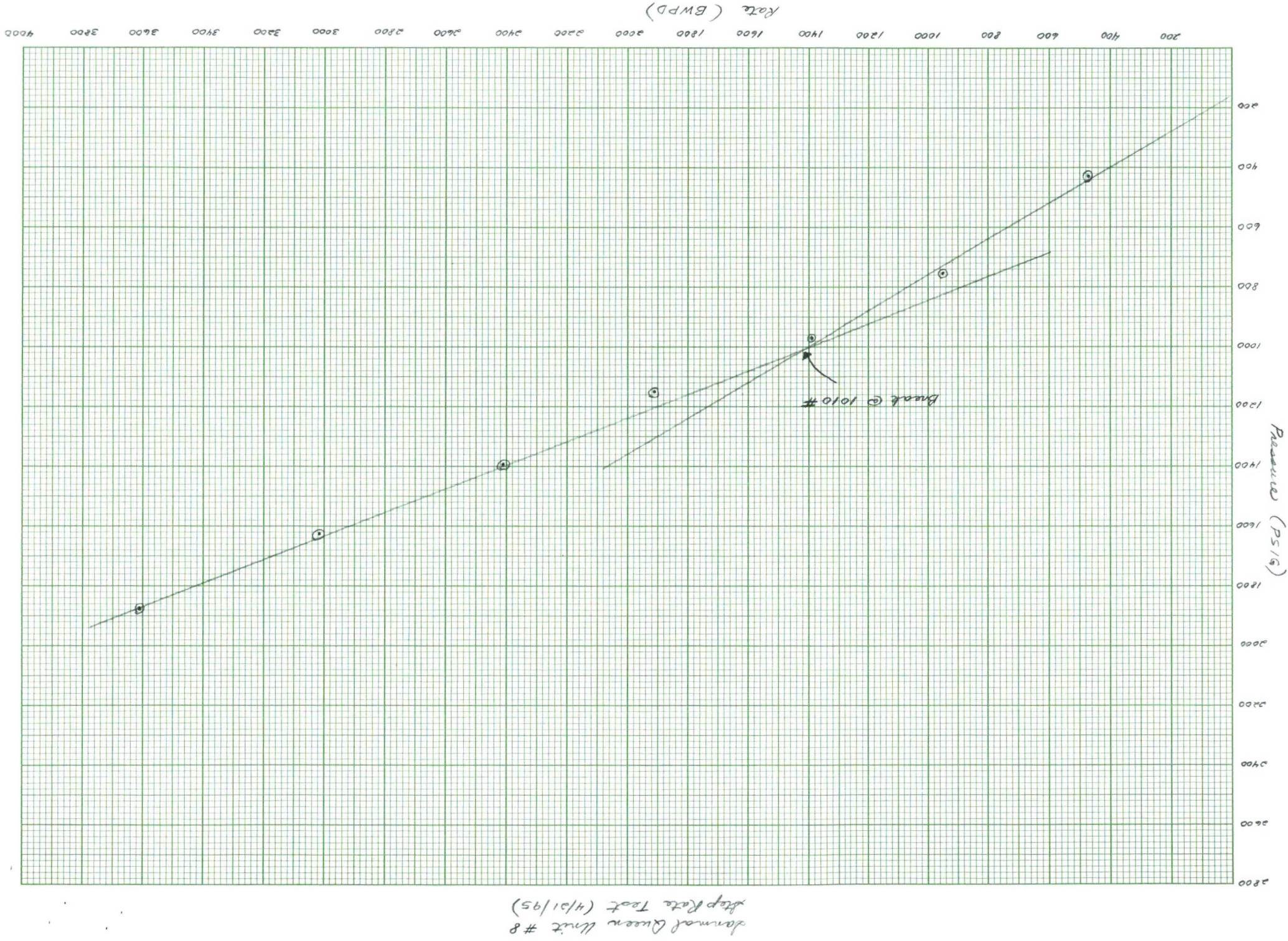


Theresa Sloan
Petroleum Engineer

TS/cvg

Enclosures

xc: NMOCD - Hobbs, NM



WEST-TEST, INC.
A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: YATES PETROLEUM COMPANY

DATE: APRIL 21, 1995

WELL NAME: SANMAL QUEEN UNIT NO. 8
LEA COUNTY, NEW MEXICO

WO#: 95-14-0590

PERFS = 3762-3778

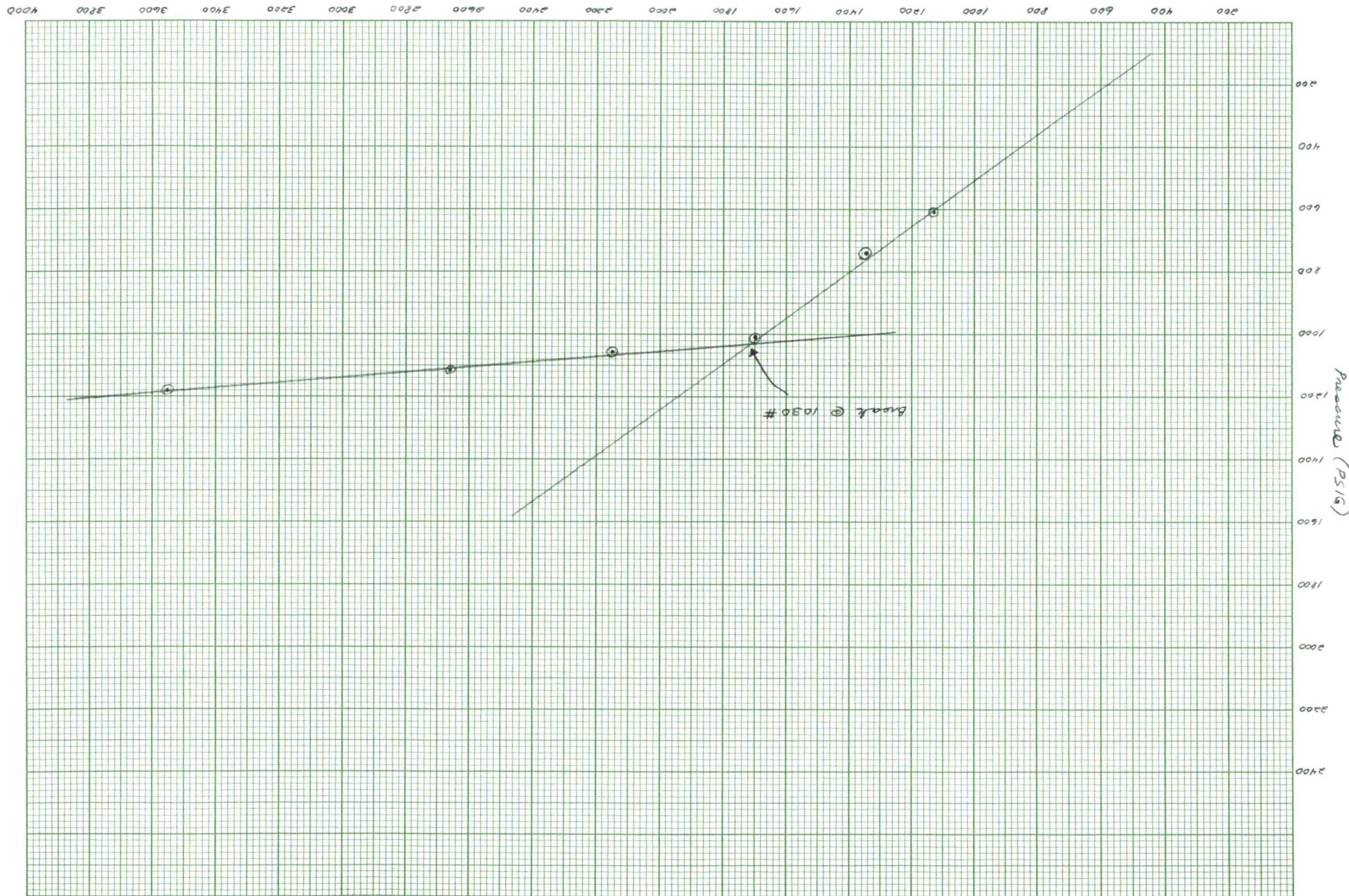
PACKER DEPTH =

BHP GAUGE DEPTH = 3770

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)
	9:55	VACUUM						
	10:00	34.0	0.5	144.0	0.454	33.5	4.20	
	10:05	45.0	0.9	115.2	0.301	44.7	3.36	
1	10:10	96.0	1.3	115.2	0.301	95.7	3.36	
				124.8				
	10:15	394.0	2.9	460.8	3.907	390.1	13.44	
	10:20	411.0	4.5	460.8	3.907	407.1	13.44	
2	10:25	427.0	6.2	489.6	4.371	422.6	14.28	
				470.4				
	10:30	681.0	9.7	1008.0	16.624	664.4	29.40	
	10:35	718.0	12.8	892.8	13.281	704.7	26.04	
3	10:40	755.0	16.1	950.4	14.909	740.1	27.72	
				950.4				
	10:45	956.0	20.9	1382.4	29.820	926.2	40.32	
	10:50	952.0	25.7	1382.4	29.820	922.2	40.32	
4	10:55	968.0	30.6	1411.2	30.979	937.0	41.16	
				1392.0				
	11:00	1098.0	37.2	1900.8	53.748	1044.3	55.44	
	11:05	1131.0	43.8	1900.8	53.748	1077.3	55.44	
5	11:10	1152.0	50.5	1929.6	55.264	1096.7	56.28	
				1910.4				
	11:15	1319.0	59.0	2448.0	85.828	1233.2	71.40	
	11:20	1382.0	67.3	2390.4	82.130	1299.9	69.72	
6	11:25	1394.0	75.6	2390.4	82.130	1311.9	69.72	
				2409.6				
	11:30	1553.0	86.0	2995.2	124.657	1428.3	87.36	
	11:35	1597.0	96.5	3024.0	126.884	1470.1	88.20	
7	11:40	1624.0	107.0	3024.0	126.884	1497.1	88.20	
				3014.4				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbis)	(3) INJECTION RATE (bbis/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1) - (4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
8 FALLOFF	11:45	1779.0	119.5	3600.0	175.182	1603.8	105.00	
	11:50	1831.0	132.1	3628.8	177.783	1653.2	105.84	
	11:55	1876.0	144.6	3600.0	175.182	1700.8	105.00	
				3609.6				
	11:56	980.0				980.0		
	11:57	810.0				810.0		
	11:58	700.0				700.0		
	11:59	640.0				640.0		
	12:00	580.0				580.0		
	12:05	390.0				390.0		
	12:10	249.0				249.0		

Rate BPPD



damaged Green Unit #10
Stop Rate Test (11/21/95)

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: YATES PETROLEUM COMPANY

DATE: APRIL 21, 1995

WELL NAME: SANMAL QUEEN UNIT NO.10
LEA COUNTY, NEW MEXICO

WO#: 95-14-0591

PERFS = 3766-3782

PACKER DEPTH =

BHP GAUGE DEPTH = 3774

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	7:20	10.0				10.0		
	7:25	590.0	6.5	1152.0	21.215	568.8	33.60	
	7:30	605.0	10.5	1152.0	21.215	583.8	33.60	
	7:35	610.0	14.3	1094.4	19.294	590.7	31.92	
				1132.8				
2	7:40	719.0	18.9	1324.8	27.474	691.5	38.64	
	7:45	790.0	23.8	1411.2	30.881	759.1	41.16	
	7:50	740.0	28.3	1296.0	26.380	713.6	37.80	
3				1344.0				
	7:55	960.0	34.7	1843.2	50.613	909.4	53.76	
	8:00	975.0	40.4	1641.6	40.850	934.1	47.88	
	8:05	1010.0	46.0	1612.8	39.534	970.5	47.04	
4				1699.2				
	8:10	1025.0	53.0	2246.4	72.980	952.0	65.52	
	8:15	1040.0	61.2	2131.2	66.207	973.8	62.16	
	8:20	1055.0	68.4	2073.6	62.935	992.1	60.48	
5				2150.4				
	8:25	1080.0	77.1	2505.6	89.318	990.7	73.08	
	8:30	1070.0	86.4	2678.4	101.046	969.0	78.12	
	8:35	1115.0	96.1	2793.6	109.233	1005.8	81.48	
6				2659.2				
	8:40	1155.0	108.4	3542.4	169.493	985.5	103.32	
	8:45	1175.0	120.8	3571.2	172.051	1002.9	104.16	
	8:50	1180.0	133.1	3542.4	169.493	1010.5	103.32	
				3552.0				

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
STEP NO. & REMARKS	TIME	SURFACE TUBING PRESS. (psig)	CUMMULATIVE VOL. INJECTED (bbls)	INJECTION RATE (bbls/day)	FRICTION HEAD LOSS (psi)	CORRECTED TUBING PRESS. (psi) (1) - (4)	INJECTION RATE (gpm) (3)/34.2857	MEASURED BHP (psi)
FALLOFF	8:51	550.0				550.0		
	8:52	280.0				280.0		
	8:53	190.0				190.0		
	8:54	90.0				90.0		
	8:55	40.0				40.0		
	9:00	VACUUM						