



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

PDEV0020900497

September 9, 1997

Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210

Attn: Mr. Ray Stall

**RE: Injection Pressure Increase,
Burton Flats SWD Well No.1
(Formerly Yates Federal Well No.1),
Eddy County, New Mexico**

Dear Mr. Stall:

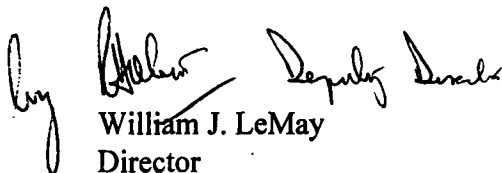
Reference is made to your request dated July 28, 1997 to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on July 21, 1997. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

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

Well and Location	Maximum Surface Injection Pressure
Burton Flats SWD Well No.1	1850 PSIG
Located in 'O' of Section 21, Township 20 South, Range 29 East, Eddy 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.

Sincerely,


William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Artesia
Files: SWD-497; PSI-X 1st QTR98 /

Yates Petroleum Corporation Artesia, NM 88210

FAX

VERBAL APPROVAL
86 1850 PSIG ON
9.9.97 (85)

Date: _____

Number of pages including cover sheet: _____

To:

Ben StoneNMOC.D - Santa FePhone: 827-8186Fax phone: 827-1389CC: NMOC.D - Artesia

From:

Ray StallYates Petr. CorpPhone: 748-4174Fax phone: 748-4585

REMARKS:

☐ Urgent☐ For your review☐ Reply ASAP☐ Please comment

Attached is a copy of a letter requesting administrative approval for an increase of injection pressure for the Burton Flat SWD #1 well in Sec. 21, T.20S., R. 29 E., Eddy Co. Also attached is a copy of a step rate test providing information to support the request.

Thank you for your consideration.

Ray Stall

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



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

S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER

July 28, 1997

New Mexico Oil Conservation Division
2040 S. Pacheco Str.
Santa Fe, NM 87505-5472

Re: Burton Flats SWD #1 (formerly Yates Federal "A" #1)
1980' FNL & 1980' FWL
Sec. 21, T. 20S. R. 29 E.
Eddy County, New Mexico

Gentlemen;

On December 14, 1992, the New Mexico Oil Conservation Division approved use of the referenced well for produced water disposal by Administrative Order SWD-497. The approved disposal interval is Delaware perforations 3410'-5385'. The surface injection pressure limit was set at 682 psi by the order. Injection is down 2 3/8" tubing inside 4 1/2" casing. The Order provided that an increase in surface injection pressure may be authorized by the Director of the Division subject to conducting a valid step rate test.

On July 21, 1997, a step rate test was conducted by West - Test, Inc. for Yates Petroleum Corporation. Two copies of the test are attached. The test shows that the fracture gradient is reached at a surface injection pressure of 1900 psi. Accordingly, Yates Petroleum Corporation respectfully requests the Director's administrative approval to increase the surface injection pressure limit for the well to 1900 psi.

If additional information is needed, please contact Ray Stall at (505) 748-4174.

Sincerely,

Ray Stall
Engineer

Attachments

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: BURTON FLATS SWD NO.1
EDDY COUNTY, NEW MEXICO

WO#: 97-14-1219

FEET = 3920-3930

PACKER DEPTH = 3321

RNP GAGE NORTH = SURFACE ONLY

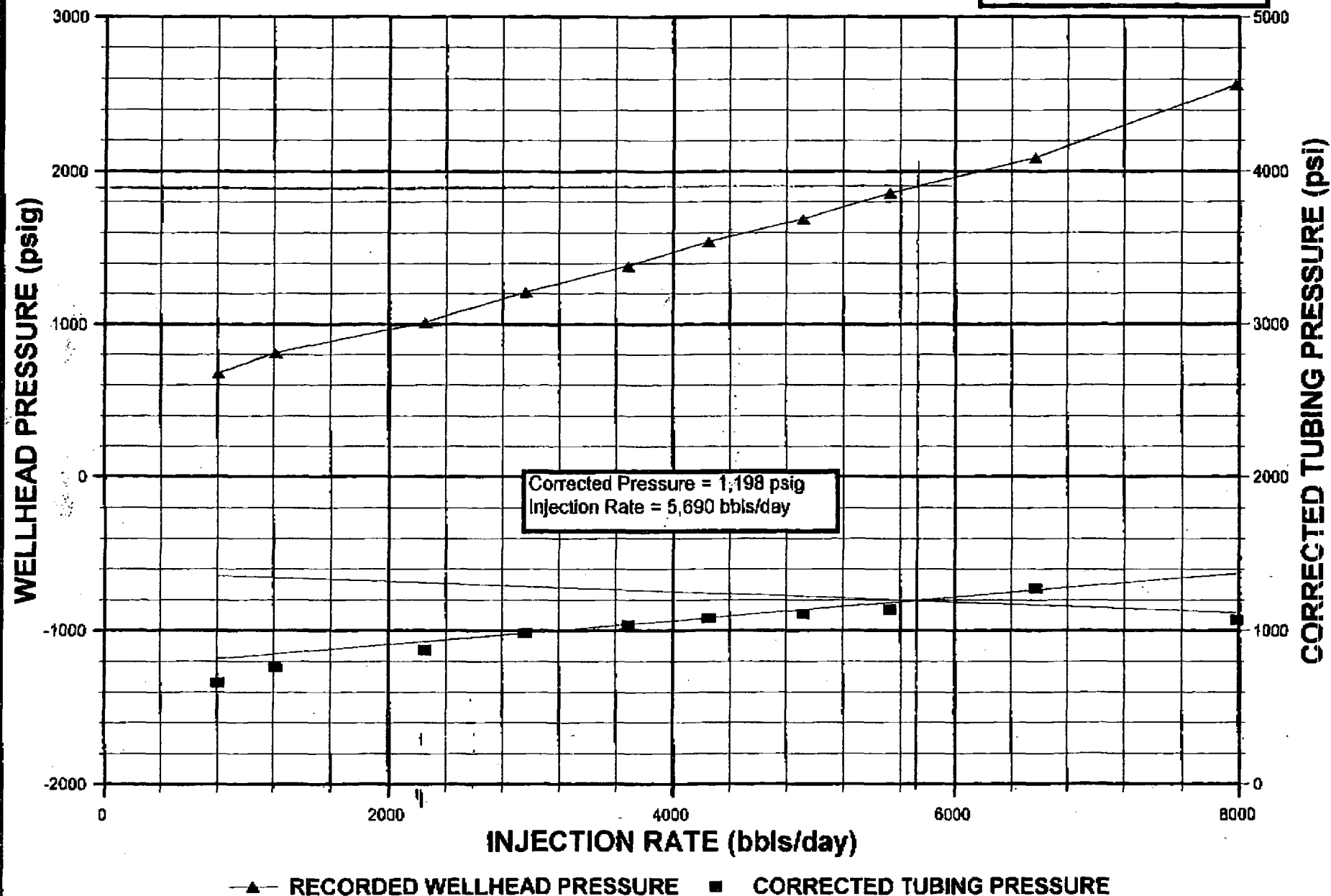
STEP NO.	SURFACE	CUMULATIVE	INJECTION	FRICTION	CORRECTED	INJECTION	MEASURED
TIME	INCHES	VOL INJECTED	RATE	PPH	PPH	RATE (GPM)	PPH
	0:00	555.1			555.1		
	2:27	642.2	2.0	835.2	21.484	620.7	24.96
	2:32	685.7	5.8	835.2	21.484	664.2	24.96
1	2:37	681.7	8.4	748.8	17.554	664.1	21.94
				806.4			
	2:42	790.6	12.4	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			

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
STEP NO.		SURFACE	CUMULATIVE	INJECTION	FRICTION	CORRECTED	INJECTION	MEASURED
8		TUBING PRESS.	VOL. INJECTED	RATE	HEAD LOSS	TUBING PRESS.	RATE (gpm)	BHP
REMARKS	TIME	(psig)	(bbls)	(bbls/day)	(psi)	(psi) (1) - (4)	(3)/34.2857	(psi)
8	4:12	1855.7	229.1	5443.2	688.859	1166.8	158.76	
	4:17	1860.8	248.5	5572.8	719.508	1141.3	162.54	
	4:22	1859.6	267.8	5572.8	719.508	1140.1	162.54	
9				5529.6				
	4:27	2162.9	291.7	6883.2	1063.437	1099.5	200.76	
	4:32	2118.1	315.6	6883.2	1063.437	1054.7	200.76	
	4:37	2092.6	336.3	5961.6	815.119	1277.5	173.88	
				6576.0				
10	4:42	2577.7	363.5	7833.6	1350.916	1226.8	228.48	
	4:47	2576.4	390.7	7833.6	1350.916	1225.5	228.48	
FALLOFF	4:52	2566.2	419.4	8265.6	1491.960	1074.2	241.08	
				7977.6				
	4:53	1068.4				1068.4		
	4:54	1072.3				1072.3		
	4:55	1062.0				1062.0		
	4:56	1054.3				1054.3		
	4:57	1049.2				1049.2		
	4:58	1044.1				1044.1		
	4:59	1039.0				1039.0		
	5:00	1033.9				1033.9		
	5:01	1030.0				1030.0		
	5:02	1026.2				1026.2		
	5:03	1022.4				1022.4		
	5:04	1019.8				1019.8		
	5:05	1016.0				1016.0		
	5:06	1013.4				1013.4		
	5:07	1010.8				1010.8		

STEP RATE INJECTION TEST

YATES PETROLEUM COMPANY

Well Name:
Burton Flats SWD No. 1
Eddy County, New Mexico



PSI-X

N/R

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

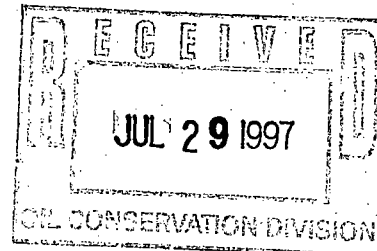


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July 28, 1997



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On July 21, 1997, a step rate test was conducted by West - Test, Inc. for Yates Petroleum Corporation. Two copies of the test are attached. The test shows that the fracture gradient is reached at a surface injection pressure of 1900 psi. Accordingly, Yates Petroleum Corporation respectfully requests the Director's administrative approval to increase the surface injection pressure limit for this well to 1800 psi.

If additional information is needed, please contact Ray Stall at (505) 748-4174.

Sincerely,

Ray Stall
Engineer

Attachments

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: BURTON FLATS SWD NO.1
EDDY COUNTY, NEW MEXICO

WO#: 97-14-1219

PERFS = 3420-3530

PACKER DEPTH = 3321

BHP GAUGE DEPTH = SURFACE ONLY

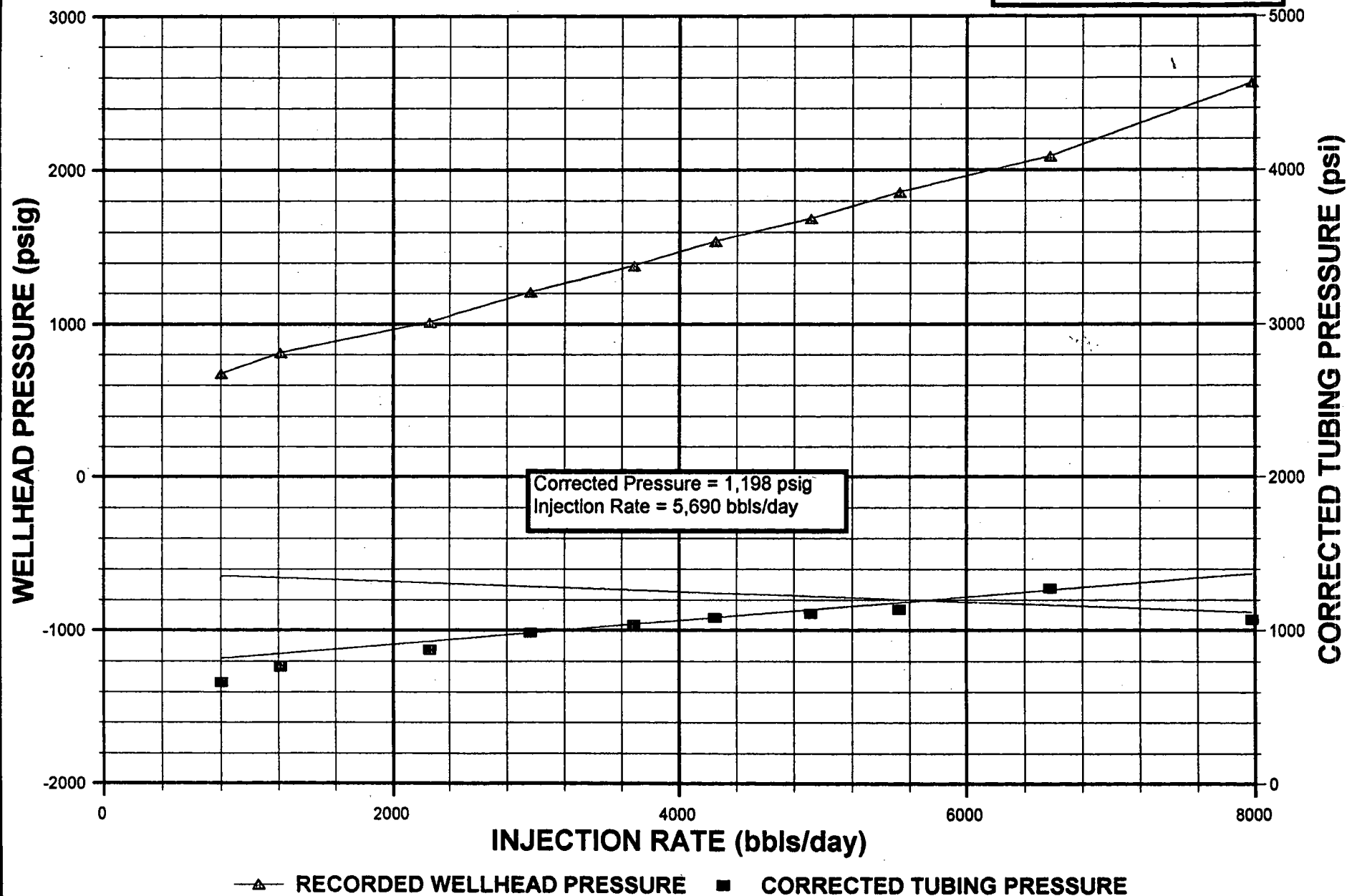
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	2:22	555.1				555.1		
	2:27	642.2	2.9	835.2	21.484	620.7	24.36	
	2:32	685.7	5.8	835.2	21.484	664.2	24.36	
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				

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)
8	4:12	1855.7	229.1	5443.2	688.859	1166.8	158.76	
	4:17	1860.8	248.5	5572.8	719.508	1141.3	162.54	
	4:22	1859.6	267.8	5572.8	719.508	1140.1	162.54	
9	4:27	2162.9	291.7	5529.6				
	4:32	2118.1	315.6	6883.2	1063.437	1099.5	200.76	
	4:37	2092.6	336.3	6883.2	1063.437	1054.7	200.76	
10	4:42	2577.7	363.5	5961.6	815.119	1277.5	173.88	
	4:47	2576.4	390.7	6576.0				
	4:52	2566.2	419.4	7833.6	1350.916	1226.8	228.48	
FALLOFF	4:53	1068.4		7833.6	1350.916	1225.5	228.48	
	4:54	1072.3		8265.6	1491.960	1074.2	241.08	
	4:55	1062.0		7977.6				
	4:56	1054.3				1068.4		
	4:57	1049.2				1072.3		
	4:58	1044.1				1062.0		
	4:59	1039.0				1054.3		
	5:00	1033.9				1049.2		
	5:01	1030.0				1044.1		
	5:02	1026.2				1044.1		
	5:03	1022.4				1039.0		
	5:04	1019.8				1033.9		
	5:05	1016.0				1030.0		
	5:06	1013.4				1026.2		
	5:07	1010.8				1022.4		
						1019.8		
						1016.0		
						1013.4		
						1010.8		

STEP RATE INJECTION TEST

YATES PETROLEUM COMPANY

Well Name:
Burton Flats SWD No. 1
Eddy County, New Mexico



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: BURTON FLATS SWD NO.1
EDDY COUNTY, NEW MEXICO

WO#: 97-14-1219

PERFS = 3420-3530

PACKER DEPTH = 3321

BHP GAUGE DEPTH = SURFACE ONLY

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)
	2:22	555.1				555.1		
	2:27	642.2	2.9	835.2	21.484	620.7	24.36	
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				806.4				
	2:42	790.6	12.4	1152.0	38.948	751.7	33.60	
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STEP RATE INJECTION TEST

YATES PETROLEUM COMPANY

Well Name:
Burton Flats SWD No. 1
Eddy County, New Mexico

