



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

February 18, 1997

CF 9708
R-9000

Burk Royalty Company
1000 Petroleum Building
P.O. Box BRC
Wichita Falls, Texas 76307-7507

Attn: Mr. Charles Gibson

**RE: Injection Pressure Increase,
Cruces Well No.3,
Lea County, New Mexico**

Dear Mr. Gibson:

Reference is made to your request dated December 23, 1996 to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on December 11, 1996. 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
Cruces Well No.3	1200 PSIG
Located in 'N' of Section 26, Township 29 South, Range 34 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.

Sincerely,

William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Hobbs
Files: Case No 9708; PSL-X 2nd QTR97

3rd

PSI-X

N/R



December 23, 1996

New Mexico Energy, Minerals and
Natural Resources Department
P. O. Box 1980
Hobbs, New Mexico 88241-1980

Gentlemen:

The Cruces #3 will not take water at or below the permitted pressure limit. In order to increase the permit pressure limit, we have conducted a step rate test that is attached. The test was conducted by West Test, Inc., a subsidiary of John West Engineering Company. It shows that the well does not break over and start fracturing until 1250#. If you would, please accept this test and increase the permit pressure to a surface pressure of 1250#. Should you have any questions regarding this request, please feel free to contact the undersigned.

Sincerely yours,
BURK ROYALTY CO.

Charles Gibson

CG/tl
Attach.

N 26 295 34E
R = 9000



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

STEP RATE INJECTION TEST

CLIENT: BURK ROYALTY COMPANY

DATE: DECEMBER 11, 1996

WELL NAME: CRUCES NO. 3
 LEA COUNTY, NEW MEXICO

WO#: 96-14-1607

PERFS = 3509-3629

PACKER DEPTH = 3406

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)
	9:05	736.2				736.2		
1	9:10	7			4	769.5	4.20	
	9:15	7			5	780.0	3.36	
	9:20	7			5	783.8	3.36	
	9:25				3	874.8	13.44	
2	9:30				7	885.7	12.60	
	9:35				7	900.9	12.60	
3	9:40	1			3	991.3	26.88	
	9:45	1			8	1007.3	23.52	
	9:50	1			13	1004.5	25.20	
	9:55	1			5	1079.1	36.96	
	10:00	1			15	1107.0	36.96	
	10:05	1			15	1105.8	36.96	
	10:10	1224.4	33.8	1267.2	77.026	1147.4	47.88	
5	10:15	1240.9	39.4	1612.8	74.544	1166.4	47.04	
	10:20	1256.1	45.2	1670.4	79.544	1176.6	48.72	
6	10:25	1308.1	52.3	1641.6	115.637	1192.5	59.64	
	10:30	1317.0	59.4	2044.8	115.637	1201.4	59.64	
	10:35	1323.3	66.4	2016.0	112.642	1210.7	58.80	
	10:40	1389.2	75.0	2035.2	164.850	1224.3	72.24	
7	10:45	1376.5	83.5	2476.8	161.322	1215.2	71.40	
	10:50	1390.5	92.0	2448.0	161.322	1229.2	71.40	
				2457.6				

12/30/96
David,
Lerry is gone,
so here I go.
Their info looks
good, but they
are requesting for
too high a limit.
B.P.



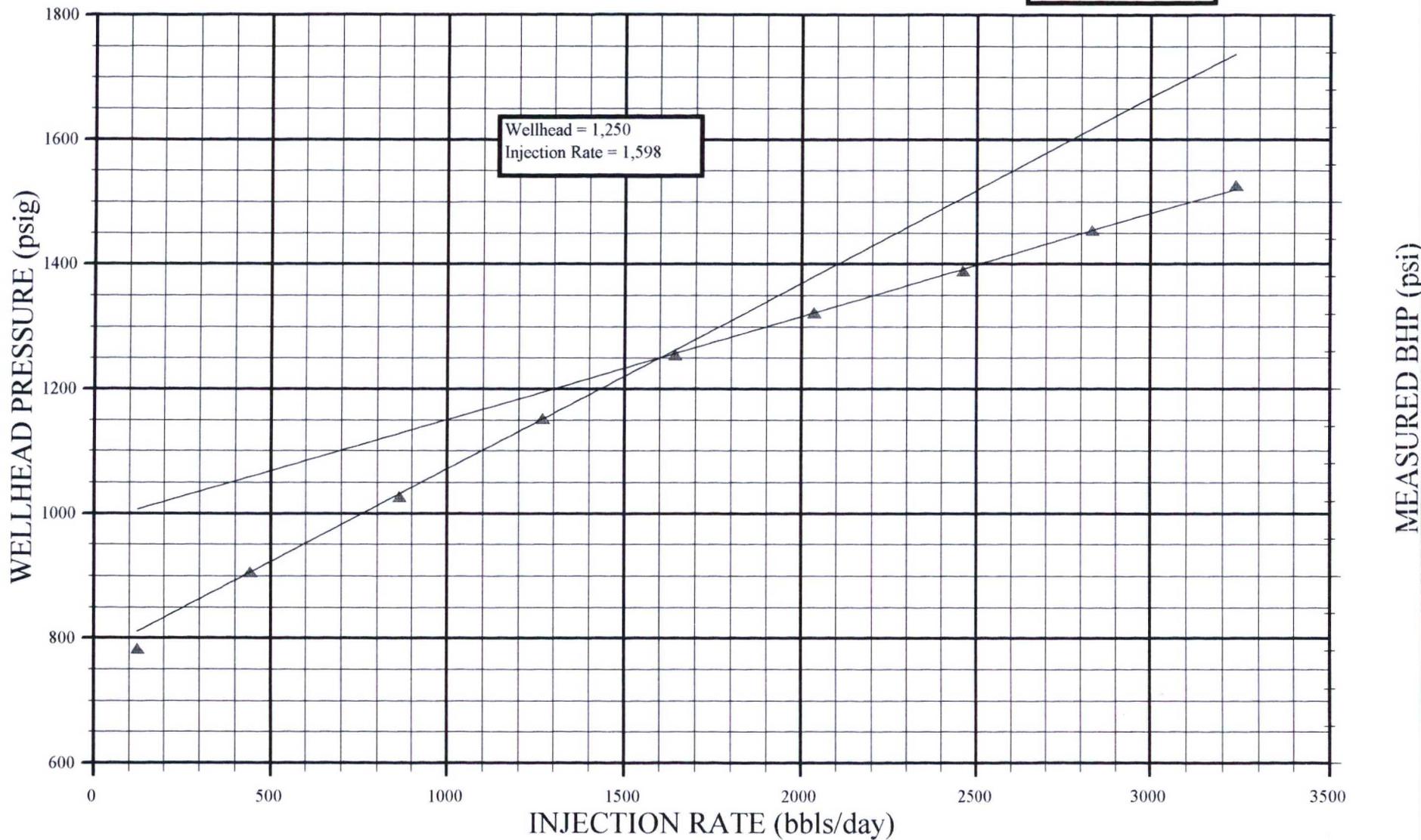
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)	
8	10:55	1448.7	101.8	2822.4	209.911	1238.8	82.32		
	11:00	1450.0	111.7	2851.2	213.891	1236.1	83.16		
	11:05	1455.1	121.5	2822.4	209.911	1245.2	82.32		
				2832.0					
	11:10	1526.0	132.8	3254.4	273.189	1252.8	94.92		
9	11:15	1522.2	144.0	3225.6	268.733	1253.5	94.08		
	11:20	1527.2	155.2	3225.6	268.733	1258.5	94.08		
				3235.2					
FALLOFF	11:21	1242.0				1242.0			
	11:22	1220.0				1220.0			
	11:23	1210.3				1210.3			
	11:24	1202.7				1202.7			
	11:25	1195.1				1195.1			
	11:30	1169.7				1169.7			
	11:35	1151.9				1151.9			



STEP RATE INJECTION TEST

BURK ROYALTY COMPANY

Well Name:
Cruces No. 3
Lea County, N.M



▲ RECORDED WELLHEAD PRES. □ BOTTOM HOLE PRESSURE (NO DATA)

