

# NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CF 10985

R-10161

February 12, 1996

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

Attn: Mr. Charles Gibson

**RE: Injection Pressure Increase Hanson 'C' Well No.4-K,  
Lea County, New Mexico**

Dear Mr. Gibson:

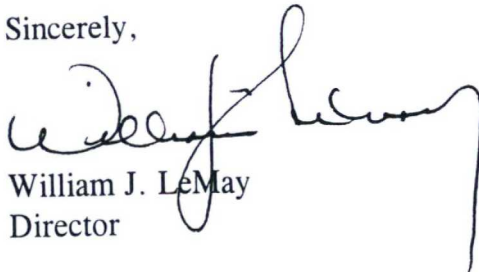
Reference is made to your request dated December 27, 1995 to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on December 14, 1995. The results of the test have been reviewed by my staff and we feel an increase in injection pressure 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
Hanson 'C' Well No.4-K	1950 PSIG
Located in Section 23, Township 20 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.10985; PSI-X 3rd QTR-96

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PSI-Y N/R  
OIL CONSERVATION DIVISION  
RECEIVED

1996 JAN 4 4 PM 8 52

December 27, 1995

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

Attention: Jerry Sexton


RE: Hanson "C" #4-K  
Sec. 23, T20S, R34E

Gentlemen:

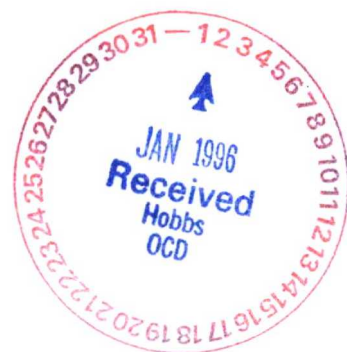
The Hanson "C" #4 will not take water at or below the permitted pressure limit. In order to increase the permit pressure limit, we have conducted a step rate test that is attached. The test was conducted by West Test, Inc. a subsidiary of John West Engineering. It shows that the well does not break over and start fracturing until 2000# wellhead pressure. If you would, please accept this test and increase the permit pressure to a surface pressure of 2000#. Should you have any questions regarding this request, please feel free to contact the undersigned.

Sincerely yours,

BURK ROYALTY CO.

  
Charles Gibson  
Petroleum Engineer

CG/tl  
Attach.





# WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY  
Hobbs, New Mexico

## STEP RATE INJECTION TEST

CLIENT: BURK ROYALTY COMPANY

DATE: DECEMBER 14, 1995

WELL NAME: HANSON "C" NO. 4  
LEA COUNTY, NEW MEXICO

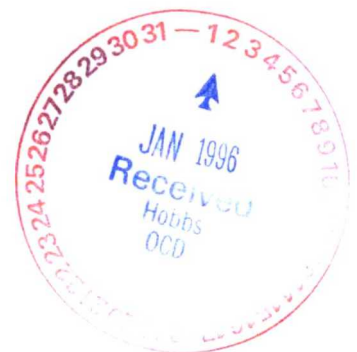
WO#: 95-14-1905

PERFS = 3564-3585

PACKER DEPTH = 3475

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)
1	1:30	902.4				902.4		
	1:35	939.7	0.7	201.6	1.594	938.1	5.88	
	1:40	983.2	1.5	230.4	2.040	981.2	6.72	
	1:45	991.8	2.4	259.2	2.537	989.3	7.56	
				230.4				
2	1:50	1061.7	3.9	432.0	6.528	1055.2	12.60	
	1:55	1077.8	5.6	489.6	8.229	1069.6	14.28	
	2:00	1082.7	7.3	489.6	8.229	1074.5	14.28	
3				470.4				
	2:05	1172.6	9.6	662.4	14.394	1158.2	19.32	
	2:10	1220.0	12.0	691.2	15.574	1204.4	20.16	
	2:15	1223.7	14.3	662.4	14.394	1209.3	19.32	
4				672.0				
	2:20	1336.1	18.0	1065.6	34.687	1301.4	31.08	
	2:25	1374.7	21.7	1065.6	34.687	1340.0	31.08	
	2:30	1414.7	25.3	1036.8	32.973	1381.7	30.24	
5				1056.0				
	2:35	1558.3	30.3	1440.0	60.547	1497.8	42.00	
	2:40	1582.0	35.3	1440.0	60.547	1521.5	42.00	
	2:45	1598.2	40.2	1411.2	58.326	1539.9	41.16	
6				1430.4				
	2:50	1713.1	46.6	1843.2	95.594	1617.5	53.76	
	2:55	1729.3	52.9	1814.4	92.849	1636.5	52.92	
	3:00	1751.8	59.2	1814.4	92.849	1659.0	52.92	
7				1824.0				
	3:05	1814.2	67.1	2275.2	141.126	1673.1	66.36	
	3:10	1821.7	74.9	2246.4	137.839	1683.9	65.52	
	3:15	1884.1	82.7	2246.4	137.839	1746.3	65.52	
				2256.0				



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	3:20	2011.5	91.8	2620.8	183.326	1828.2	76.44	
	3:25	2015.2	101.0	2649.6	187.070	1828.1	77.28	
	3:30	2001.4	110.3	2678.4	190.849	1810.6	78.12	
				2649.6				
9	3:35	2092.7	120.7	2995.2	234.698	1858.0	87.36	
	3:40	2082.7	131.3	3052.8	243.116	1839.6	89.04	
	3:45	2083.9	141.9	3052.8	243.116	1840.8	89.04	
				3033.6				
10	3:50	2242.6	154.2	3542.4	320.126	1922.5	103.32	
	3:55	2198.9	166.7	3600.0	329.823	1869.1	105.00	
	4:00	2168.8	179.2	3600.0	329.823	1839.0	105.00	
				3580.8				
11	4:05	2278.8	193.3	4060.8	412.147	1866.7	118.44	
	4:10	2328.8	207.4	4060.8	412.147	1916.7	118.44	
	4:15	2614.2	221.3	4003.2	401.397	2212.8	116.76	
				4041.6				
FALLOFF	4:16	1691.6				1691.6		
	4:17	1671.6				1671.6		
	4:18	1656.6				1656.6		
	4:19	1645.3				1645.3		
	4:20	1635.4				1635.4		
	4:25	1599.1				1599.1		
	4:30	1571.6				1571.6		





