



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

December 11, 1996

CF 10642

R-9075-B-1

Yates Drilling Company
105 South Fourth Street
Artesia, New Mexico 88210

Attn: Ms. Karen J. Leishman

**RE: Injection Pressure Increase
Cactus Queen Unit EOR Waterflood Project
Lea County, New Mexico.**

Dear Ms. Leishman:

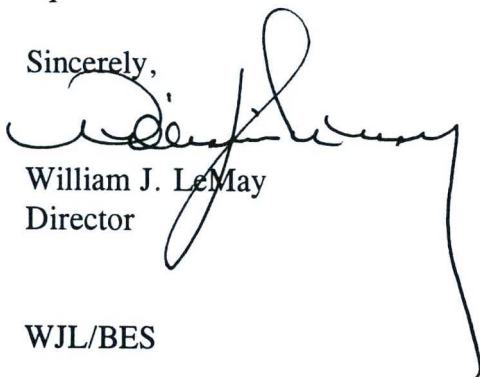
Reference is made to your request dated November 4, 1996 to increase the surface injection pressure on one well in the above referenced project. This request is based on a step rate test conducted on October 7, 1996 on this well. The results of the test have been reviewed by my staff and we feel an increase in injection pressures on this well is justified at this time.

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

<i>Well and Location</i>	<i>Maximum Injection Surface Pressure</i>
Cactus Queen Unit Well No.14 Section 34, Township 12 South, Range 31 East, NMPM	1219 PSIG
Located in Chaves 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: Case File No.10642; EOR-4; PSI-X 1st QTR 97 ✓

PSI-X

N/R

**YATES DRILLING COMPANY**

105 SOUTH FOURTH STREET - (505) 748-1471

FAX (505) 746-2268

ARTESIA, NEW MEXICO 88210

PEYTON YATES
PRESIDENTS. P. YATES
VICE PRESIDENTRANDY G. PATTERSON
SECRETARYDENNIS G. KINSEY
TREASURER

November 4, 1996

New Mexico Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

Attention: Ben Stone

Re: NMNM-82514X
Cactus Queen Unit #14
Section 34-12S-31E
Chaves County, NM

Gentlemen:

Please find enclosed a Step Rate Injection Test for the captioned well. We respectfully request the maximum allowable injection pressure.

Thank you.

Sincerely,

Sincerely,

YATES DRILLING COMPANY

Karen J. Leishman
Engineering Technician

enclosure

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: YATES DRILLING COMPANY

DATE: OCTOBER 7, 1996

WELL NAME: CACTUS QUEEN NO. 14
CHAVES COUNTY, NEW MEXICO

WO#: 96-14-1264

PERFS - 2760-2765

PACKER DEPTH = 2739

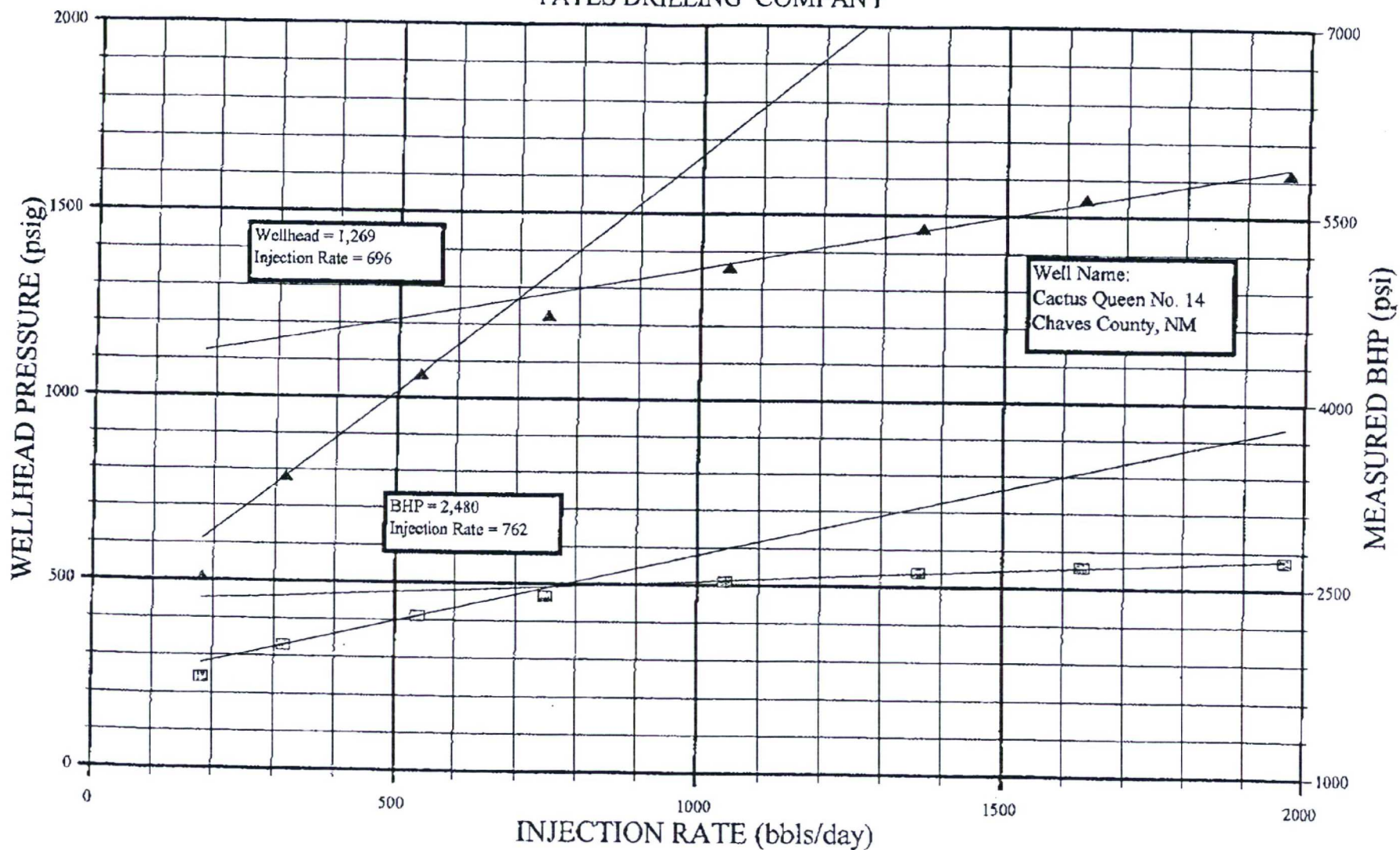
BHP GAUGE DEPTH = 2763

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS (psig)	(2) CUMULATIVE 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	10:30	253.7				253.7		1460.4
	10:35	432.4	0.8	230.4	1.577	430.8	6.72	1647.5
	10:40	486.7	1.4	172.8	0.926	485.8	5.04	1700.4
	10:45	510.6	1.9	144.0	0.681	509.9	4.20	1726.1
				182.4				
2	10:50	639.9	3.0	316.8	2.842	637.1	9.24	1859.2
	10:55	707.0	4.0	288.0	2.383	704.6	8.40	1927.2
	11:00	783.0	5.2	345.6	3.339	779.7	10.08	1992.2
3				316.8				
	11:05	935.2	7.1	547.2	7.813	927.4	15.96	2122.2
	11:10	1013.8	9.0	547.2	7.813	1006.0	15.96	2191.8
	11:15	1065.8	10.8	518.4	7.069	1058.7	15.12	2234.2
4				537.6				
	11:20	1144.4	13.3	720.0	12.980	1131.4	21.00	2326.4
	11:25	1201.4	15.9	748.8	13.957	1187.4	21.84	2368.8
	11:30	1226.7	18.6	777.6	14.967	1211.7	22.68	2403.6
5				748.8				
	11:35	1316.7	22.3	1065.6	26.809	1289.9	31.08	2471.6
	11:40	1349.6	25.9	1036.8	25.484	1324.1	30.24	2506.5
	11:45	1358.5	29.5	1036.8	25.484	1333.0	30.24	2530.7
				1048.4				
6	11:50	1433.3	34.2	1353.6	41.733	1391.6	39.48	2576.1
	11:55	1448.5	39.0	1382.4	43.391	1405.1	40.32	2595.8
	12:00	1467.5	43.7	1353.6	41.733	1425.8	39.48	2615.5
				1363.2				
7	12:05	1511.8	49.3	1612.8	57.710	1454.1	47.04	2639.7
	12:10	1528.2	55.0	1641.6	59.631	1463.6	47.88	2654.9
	12:15	1549.8	60.7	1641.6	59.631	1490.2	47.88	2671.5
				1632.0				

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 FALLOFF	12:20	1596.6	67.5	1958.4	82.650	1513.9	57.12	2698.8
	12:25	1611.8	74.4	1987.2	84.913	1526.9	57.96	2713.9
	12:30	1620.6	81.2	1958.4	82.650	1537.9	57.12	2724.5
				1968.0				
	12:31	1510.3				1510.3		2692.8
	12:32	1486.2				1486.2		2677.7
	12:33	1474.8				1474.8		2665.6
	12:34	1464.6				1464.6		2655.0
	12:35	1455.8				1455.8		2644.4
	12:40	1418.9				1418.9		2608.1
	12:45	1300.5				1300.5		2576.3

STEP RATE INJECTION TEST

YATES DRILLING COMPANY



▲ RECORDED WELLHEAD PRES.

■ BOTTOM HOLE PRESSURE (depth 2763)

YATES DRILLING COMPANY
105 SOUTH FOURTH STREET - (505) 748-1471
FAX (505) 748-4579
ARTESIA, NEW MEXICO 88210

FAX TRANSMITTAL

DATE: 11 14 1996
DESTINATION: (505) 827-8177
TO: Ben Stone COMPANY: NMOCO
NUMBER OF PAGES (INCLUDING THIS TRANSMITTAL) 5
FROM: Karen Lashman FAX: 748-4579

MESSAGE Cactus Green Unit #14 Step Rate
Injection Test. Hard copy to follow.

IF YOU ARE NOT RECEIVING CLEARLY, OR IF YOU HAVE ANY PROBLEMS WITH THIS
TRANSMISSION, PLEASE CALL BACK IMMEDIATELY AT (505) 748-4500.

PSI-X

N/R



YATES DRILLING COMPANY

105 SOUTH FOURTH STREET - (505) 748-1471

FAX (505) 746-2268

ARTESIA, NEW MEXICO 88210

OIL CONSERVATION DIVISION
RECEIVED
56 NOV 14 AM 8 52

PEYTON YATES
PRESIDENT

S. P. YATES
VICE PRESIDENT

RANDY G. PATTERSON
SECRETARY

DENNIS G. KINSEY
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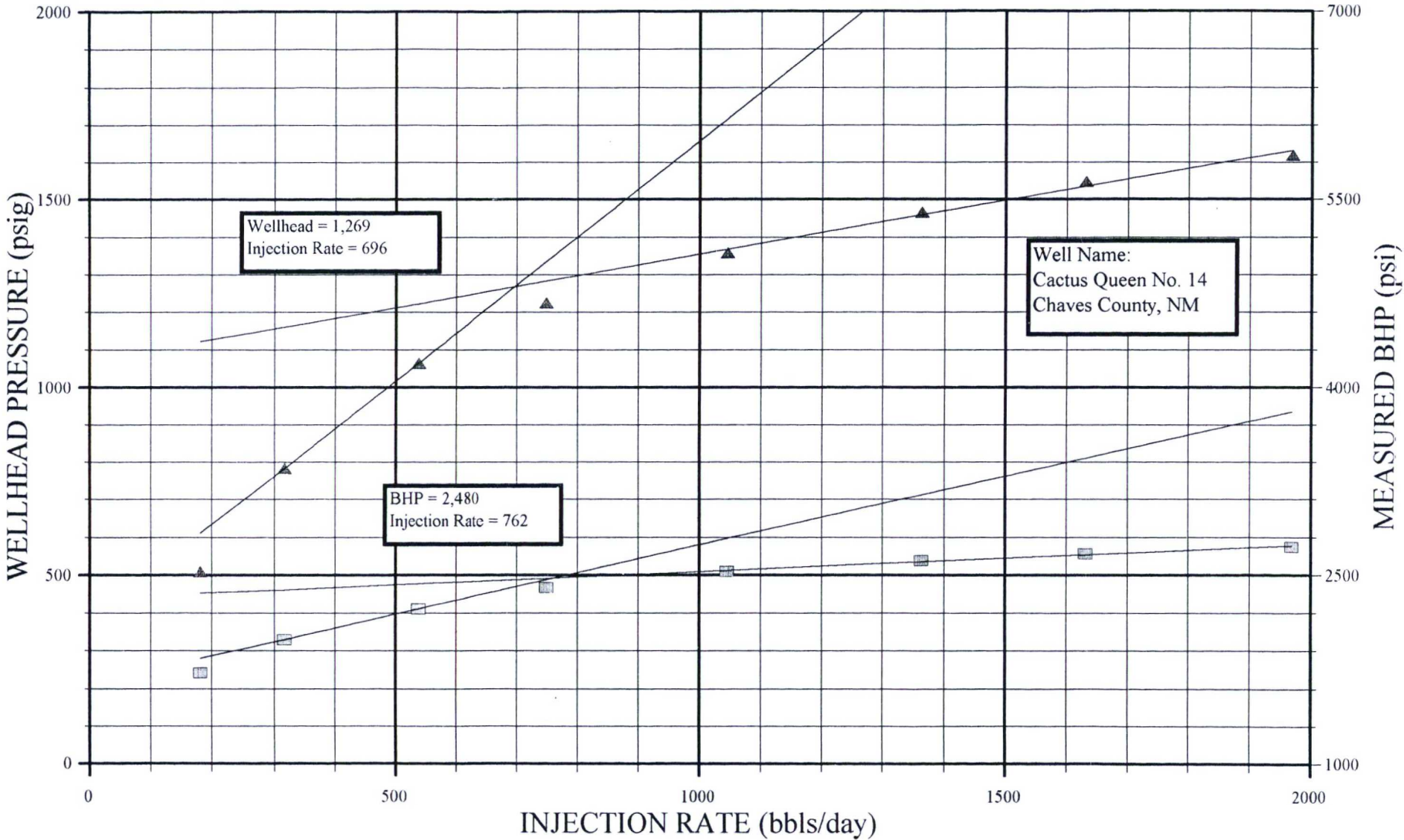
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