SWD-399
PPEV0020900399

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

DRUG FREE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

November 30, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210

Attention: Darrick Stallings

RE: Injection Pressure Increase, Routh "NU" Deep Com Well No. 2, Section 14, Township 19 South, Range 24 East, Eddy County, New Mexico

Dear Mr. Stallings:

Reference is made to your request dated November 3, 1993 to increase the surface injection pressure on the above referenced well. This request is based on a step rate tests conducted on this well on October 20, 1993. 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 Injection Surface Pressure**
Routh "NU" Deep Com Well No. 2 Unit B, Section 14, Township 19 South, Range 24 East	2630 psig
This well located in 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/amg

cc: Oil Conservation Division - Artesia
File: PSI-X ~~4th~~ 2nd Quarter
SWD-399

NO WAITING PERIOD

COMPANY: **YATES PETROLEUM CORPORATION**

ADDRESS: **105 South Fourth Street**

CITY, STATE, ZIP: **Artesia, New Mexico 88210**

ATTENTION: **Mr. Darrick Stallings**

RE: Injection Pressure Increase
Routh "NU" Deep Com Well No.2
Section 14-T19S-R24E
Eddy County, New Mexico

Dear Sir:

Reference is made to your request dated **November 3, 1993,** to increase the surface injection pressure on **the above referenced well.** This request is based on a step rate test conducted on this well **October 20, 1993.** The results of the tests 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 well:

Well & Location	Maximum Injection Surface Pressure
Routh "NU" Deep Com Well No.12 **Unit Letter "B", Section 14-T19S-R24E** **Eddy County, New Mexico**	**2630 psig**

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/

xc: OCD - **Artesia**
FILES: **PSI-X 4th Qtr.93; SWD-399**

N/R PSI - X

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

YATES PETROLEUM CORPORATION

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

OIL CONSERVATION DIVISION
RECEIVED
'93 NOV 8 AM 8 53

November 3, 1993

Mr. William J. LeMay, Director
New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504

Re: Request for Injection Pressure Limit Increase
SWDW Routh "NU" Deep Com #2, B - 14 - 19S - 24E

Dear Mr. LeMay:

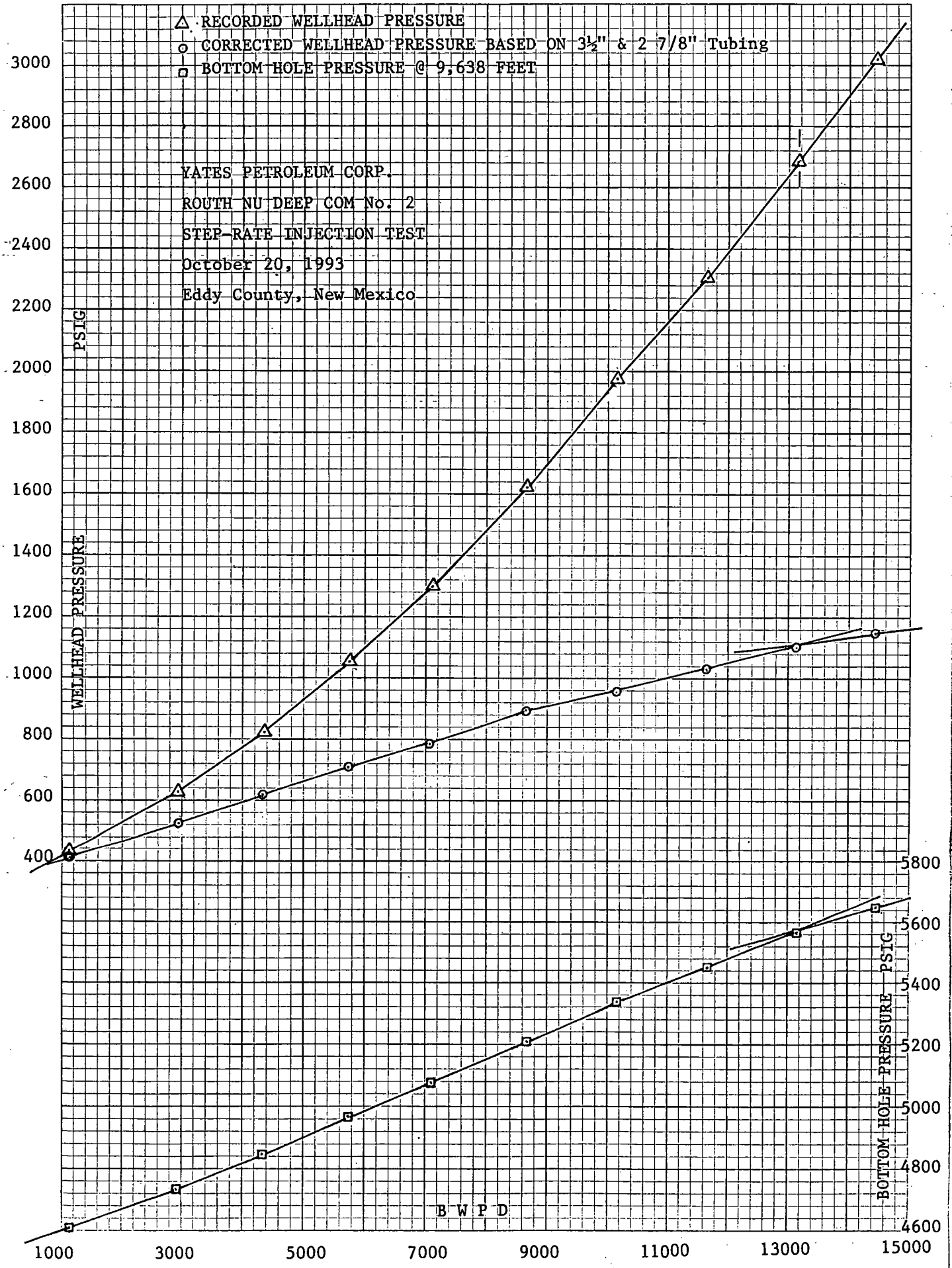
The Routh "NU" Deep Com #2 is limited to a wellhead injection pressure of 1914 psi by Administrative Order No. SWD-399 dated August 29,1990. A step-rate test was conducted on October 20, 1993 on this well. The test was witnessed by Mr. Mike Stubblefield of the Artesia NMOCD office. The test was conducted by John West Engineering Company with assistance from Halliburton Energy Services.

The step-rate test indicates parting pressure was reached at surface injection pressure of 2680 psi. A copy of the test is attached. As provided for under NMOCD Rule 704-C, Yates Petroleum respectfully requests that the injection pressure limit for our SWDW Routh "NU" Deep Com #2 be increased to ~~2680 psi.~~ 2630

Sincerely,

Darrick Stallings
Petroleum Engineer

xc: Mr. Mike Williams, Artesia NMOCD office


△ RECORDED WELLHEAD PRESSURE
o CORRECTED WELLHEAD PRESSURE BASED ON 3½" & 2 7/8" Tubing
□ BOTTOM HOLE PRESSURE @ 9,638 FEET
YATES PETROLEUM CORP.
ROUTH NU DEEP COM No. 2
STEP-RATE INJECTION TEST
October 20, 1993
Eddy County, New Mexico
PSIG
WELLHEAD PRESSURE
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
BOTTOM HOLE PRESSURE - PSIG
5800
5600
5400
5200
5000
4800
4600
B W P D
1000
3000
5000
7000
9000
11000
13000
15000

JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: YATES PETROLEUM CORPORATION

DATE: OCTOBER 20, 1993

WELL NAME ROUTH NU DEEP COM. NO. 2
EDDY COUNTY, NEW MEXICO

WO#: 93-14-1988

MID-PERFS. OPEN HOLE 9398-9800

PACKER DEPT 9335

BHP GAUGE D 9638

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)
	10:10	365.6				365.6		4542
	10:15	420.7	3.2	921.6	11.583	409.1	26.88	4587
	10:20	427.1	7.3	1180.8	18.320	408.8	34.44	4602
1	10:25	438.6	11.7	1267.2	20.877	417.7	36.96	4609
				1123.2				
	10:30	595.7	21.6	2851.2	93.585	502.1	83.16	4694
	10:35	621.2	32.0	2995.2	102.517	518.7	87.36	4718
2	10:40	628.7	42.6	3052.8	106.194	522.5	89.04	4734
				2966.4				
	10:45	782.0	57.5	4291.2	199.378	582.6	125.16	4810
	10:50	803.6	72.7	4377.6	206.868	596.7	127.68	4834
3	10:55	824.0	88.0	4406.4	209.393	614.6	128.52	4848
				4358.4				
	11:00	1011.8	108.0	5760.0	343.707	668.1	168.00	4926
	11:05	1042.5	128.1	5788.8	346.893	695.6	168.84	4952
4	11:10	1054.0	148.1	5760.0	343.707	710.3	168.00	4968
				5769.6				
	11:15	1261.3	172.7	7084.8	504.095	757.2	206.64	5041
	11:20	1280.6	197.4	7113.6	507.893	772.7	207.48	5066
5	11:25	1295.9	222.0	7084.8	504.095	791.8	206.64	5079
				7094.4				
	11:30	1575.1	252.1	8668.8	732.202	842.9	252.84	5162
	11:35	1599.4	282.3	8697.6	736.708	862.7	253.68	5190
6	11:40	1626.1	312.5	8697.6	736.708	889.4	253.68	5207
				8688.0				
	11:45	1857.0	347.2	9993.6	952.560	904.4	291.48	5276
	11:50	1945.7	382.4	10137.6	978.107	967.6	295.68	5313
7	11:55	1973.7	418.4	10368.0	1019.629	954.1	302.40	5336
				10195.2				

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)
	12:00	2263.6	456.6	11577.6	1250.549	1013.1	337.68	5402
	12:05	2288.1	499.2	11692.8	1273.667	1014.4	341.04	5431
8	12:10	2313.6	540.0	11750.4	1285.298	1028.3	342.72	5450
				11673.6				
	12:15	2641.0	585.9	13219.2	1598.218	1042.8	385.56	5520
	12:20	2673.2	631.7	13190.4	1591.783	1081.4	384.72	5544
9	12:25	2682.3	677.3	13132.8	1578.947	1103.4	383.04	5563
				13180.8				
	12:30	2993.3	727.4	14428.8	1879.241	1114.1	420.84	5617
	12:35	3025.4	778.0	14572.8	1914.084	1111.3	425.04	5641
10	12:40	3026.7	828.0	14400.0	1872.307	1154.4	420.00	5656
				14467.2				
	12:45	3532.4	885.0	16416.0	2385.894	1146.5	478.80	5721
11	12:50	1418.4	934.0	OUT OF WATER 12:49		1418.4		5569
	12:51	1230.2				1230.2		5442
	12:52	1135.4				1135.4		5344
	12:53	1048.3				1048.3		5258
	12:54	972.8				972.8		5182
	12:55	914.0				914.0		5121
	1:00	726.4				726.4		4928