STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

October 5, 1993

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

WFX-635
pDEV00206000635

Greenhill Petroleum Corporation
11490 Westheimer Road, Suite 200
Houston, TX 77077-6841

Attention: Michael J. Newport

RE: Injection Pressure Increase - Eunice Monument Well No. 28, Lea County, New Mexico

Dear Mr. Newport:

Reference is made to your request dated September 28, 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 September 11, 1993. The results of the test has 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
Eunice Monument Well No. 28 330' FSL - 330' FWL Unit M, Section 19, Township 20 South, Range 37 East	1460 PSIG
This well located in 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/amg

cc: Oil Conservation Division - Hobbs
File: WFX-635
D. Catanach

NO WAITING PERIOD

COMPANY: **GREENHILL PETROLEUM CORPORATION**

ADDRESS: **11490 Westheimer Road, Suite 200**

CITY, STATE, ZIP: **Houston, Texas 77077-6841**

ATTENTION: **Mr. Michael J. Newport**

RE: Injection Pressure Increase
Eunice Monument Well No.12-2
Sec.19-T20S-R37E
Lea County, New Mexico

Dear Sir:

Reference is made to your request dated **September 28**, 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 **September 11**, 1993. The results of the tests 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 & Location	Maximum Injection Surface Pressure
Eunice Monument Well No.28 330' FSL & 330' FWL Unit Letter "M", Section 19-T20S-R37E Lea County, New Mexico	**1460** 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/

WFX 635

xc: D. Catanach FILE OCD - **Hobbs**

GREENHILL PETROLEUM CORPORATION

Incorporated in Delaware, U.S.A.

11490 WESTHEIMER ROAD, SUITE 200
HOUSTON, TEXAS 77077-6841
TELEPHONE (713) 589-8484
FAX. (713) 589-7892

September 28, 1993

State of New Mexico
Oil Conservation Division
Energy, Mineral & Natural
Resources Department
310 Old Sante Fe Trail
Sante Fe, New Mexico 87501

Attn: Mr. David Catanach

Re: Step Rate Test Graphs and Charts
Eunice Monument
Well Number 28 330 FSL & 330 W M 19-20-37
Lea County, New Mexico

Gentlemen:

Enclosed please find the step rate test graphs and charts covering Eunice Monument Well Number 28. Greenhill Petroleum Corporation hereby proposes to increase the surface injection pressure to 1500 (PSIG). This request is based upon the step rate test conducted on the well.

1460

Please contact me in the event I can provide you with additional information.

Very truly yours,

Michael J. Newport
Land Manager - Permian Basin

MJN:ls-93.338

Enclosure

WFX 635

Q. Salvo

JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: Greenhill Petroleum Corporation

DATE: SEPTEMBER 11, 1993

WELL NAME: EUNICE MONUMENT UNIT 28

Lea County, New Mexico

WO#: 93-14-1654

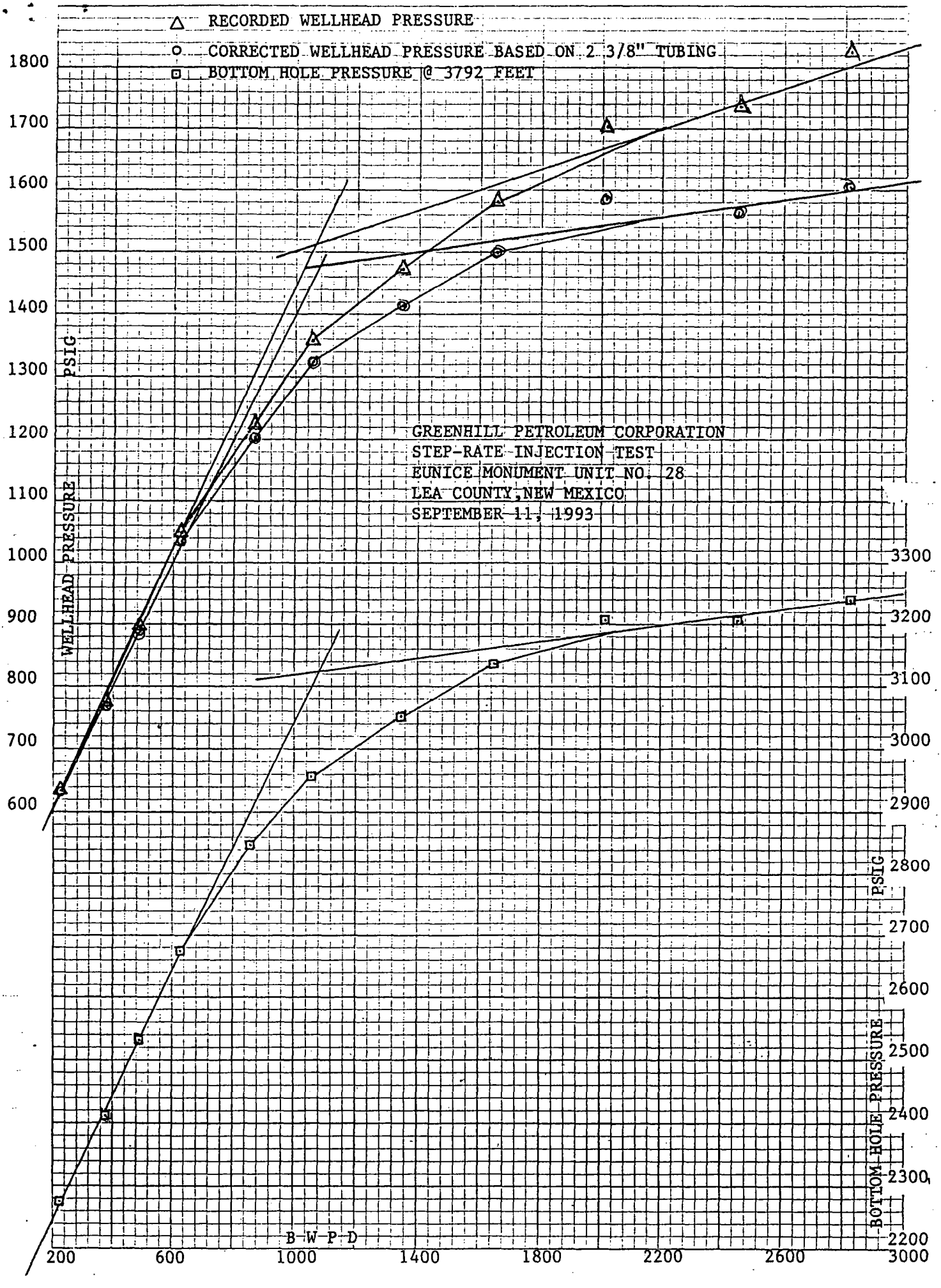
MID-PERFS. = 3710 - 3873

PACKER DEPTH =

BHP GAUGE DEPTH = 3792

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)
	10:05	524.5				524.5		2168
	10:10	624.1	0.8	230.4	2.164	621.9	6.72	2251
	10:15	620.3	1.6	230.4	2.164	618.1	6.72	2268
1	10:20	636.9	2.3	201.6	1.691	635.2	5.88	2277
				220.8				
	10:25	734.2	3.6	374.4	5.314	728.9	10.92	2359
	10:30	761.3	4.9	374.4	5.314	756.0	10.92	2392
2	10:35	775.4	6.2	374.4	5.314	770.1	10.92	2412
				374.4				
	10:40	830.0	7.9	489.6	8.728	821.3	14.28	2480
	10:45	861.7	9.6	489.6	8.728	853.0	14.28	2511
3	10:50	898.5	11.3	489.6	8.728	889.8	14.28	2533
				489.6				
	10:55	981.5	13.5	633.6	14.063	967.4	18.48	2611
	11:00	1021.1	15.7	633.6	14.063	1007.0	18.48	2649
4	11:05	1050.4	17.9	633.6	14.063	1036.3	18.48	2677
				633.6				
	11:10	1153.8	20.9	864.0	24.961	1128.8	25.20	2770
	11:15	1200.9	23.9	864.0	24.961	1175.9	25.20	2814
5	11:20	1226.4	26.9	864.0	24.961	1201.4	25.20	2846
				864.0				
	11:25	1310.7	30.5	1036.8	34.974	1275.7	30.24	2910
	11:30	1338.7	34.2	1065.6	36.793	1301.9	31.08	2939
6	11:35	1359.0	37.9	1065.6	36.793	1322.2	31.08	2958
				1056.0				
	11:40	1433.1	42.7	1382.4	59.551	1373.5	40.32	3012
	11:45	1452.1	47.3	1324.8	55.042	1397.1	38.64	3034
7	11:50	1473.7	52.0	1353.6	57.276	1416.4	39.48	3054
				1353.6				

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 (psig)
	11:55	1550.4	57.8	1670.4	84.514	1465.9	48.72	3102
	12:00	1572.0	63.5	1641.6	81.839	1490.2	47.88	3124
8	12:05	1581.0	69.2	1641.6	81.839	1499.2	47.88	3138
				1651.2				
	12:10	1668.0	76.2	2016.0	119.680	1548.3	58.80	3176
	12:15	1675.5	83.2	2016.0	119.680	1555.8	58.80	3192
9	12:20	1702.3	90.2	2016.0	119.680	1582.6	58.80	3206
				2016.0				
	12:25	1758.1	98.7	2448.0	171.401	1586.7	71.40	3213
	12:30	1754.9	107.1	2419.2	167.690	1587.2	70.56	3211
10	12:35	1738.3	115.8	2505.6	178.937	1559.4	73.08	3205
				2457.6				
	12:40	1808.4	125.7	2851.2	227.256	1581.1	83.16	3224
	12:45	1816.0	135.4	2793.6	218.835	1597.2	81.48	3231
11	12:50	1826.1	145.2	2822.4	223.027	1603.1	82.32	3240
				2822.4				
FALLOFF	12:51	1562.3				1562.3		3196
	12:52	1531.6				1531.6		3171
	12:53	1507.2				1507.2		3148
	12:54	1486.7				1486.7		3127
	12:55	1466.2				1466.2		3107
	1:00	1377.8				1377.8		3018
	1:05	1301.4				1301.4		2940


△ RECORDED WELLHEAD PRESSURE
○ CORRECTED WELLHEAD PRESSURE BASED ON 2 3/8" TUBING
□ BOTTOM HOLE PRESSURE @ 3792 FEET
GREENHILL PETROLEUM CORPORATION
STEP-RATE INJECTION TEST
EUNICE MONUMENT UNIT NO. 28
LEA COUNTY, NEW MEXICO
SEPTEMBER 11, 1993
WELLHEAD PRESSURE PSIG
BOTTOM HOLE PRESSURE PSIG
B W P D
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
3300
3200
3100
3000
2900
2800
2700
2600
2500
2400
2300
2200
200
600
1000
1400
1800
2200
2600
3000