



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

CF 10154
R-9431

March 8, 1995

Greenhill Petroleum Corporation
11490 Westheimer Road, Suite 300
Houston, Texas 77077-6841

Attn: Mr. David M. Tilley

***RE: Injection Pressure Increase Lovington San Andres Unit Well
No.40, Lea County, New Mexico***

Dear Mr. Tilley:

Reference is made to your request dated February 1, 1995 to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on December 30, 1994. 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
Lovington San Andres Unit Well No.40 Unit H, Section 1, Township 17 South, Range 36 East	2375 PSIG
This well located in Lea County, New Mexico.	

Injection Pressure Increase
Greenhill Petroleum Corporation
March 8, 1995
Page 2

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,

A handwritten signature in dark ink, appearing to read 'William J. LeMay', with a long horizontal stroke extending to the right.

William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Hobbs
Files: Case No.10154; PSI-X 1st QTR 95

3rd



GREENHILL PETROLEUM CORPORATION

Incorporated in Delaware, U.S.A.

RECEIVED
OIL CONSERVATION DIVISION
95 FEB 13 AM 8 52

N/R
11490 WESTHEIMER ROAD, SUITE 300
HOUSTON, TEXAS 77077-6841
TELEPHONE (713) 589-8484
FAX (713) 589-9399

February 1, 1995

Oil Conservation Division
Energy, Minerals and Natural Resources Department
State of New Mexico
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Attention: David Catanach

Re: Request for Injection Pressure Increases
Lovington San Andres Unit
Lea County, New Mexico

R-9431
11 1 17536E

Gentlemen:

In compliance with the current Administrative Order (# WFX-632), Greenhill Petroleum Corporation has run additional step rate tests on selected water injection wells in order to show justification for injection pressure increases. The attached Table 1 shows the current maximum allowed injection pressure and the requested maximum allowable injection pressure for the well tested. Included are the step-rate test results which were conducted December 30, 1994. This data is submitted for your review to substantiate our request.

We respectfully request approval to increase the wellhead injection pressure as indicated for the well submitted. Until notification is received the wells will continue to be operated at the current maximum allowed pressures.

Thank you for your time and consideration regarding this request.

Sincerely,

David M. Tilley
Production Engineer

DMT:sOCDSIP4
Enclosures

c: Files

WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: GREENHILL PETROLEUM CORPORATION

DATE: DECEMBER 30, 1994

WELL NAME: LOVINGTON SAN ANDRES UNIT NO. 40
LEA COUNTY, NEW MEXICO

WO#: 94-14-2274

PERFS = 4579-4950

PACKER DEPTH = 4507

BHP GAUGE DEPTH = 4764

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	8:55	1537.6				1537.6		3701.6
	9:00	1618.2	0.7	201.6	2.124	1616.1	5.88	3775.7
	9:05	1656.6	1.5	230.4	2.719	1653.9	6.72	3807.2
	9:10	1682.2	2.4	259.2	3.381	1678.8	7.56	3833.3
2				230.4				
	9:15	1789.7	4.0	460.8	9.802	1779.9	13.44	3933.2
	9:20	1825.5	5.6	460.8	9.802	1815.7	13.44	3974.7
	9:25	1844.7	7.3	489.6	10.965	1833.7	14.28	4002.4
3				470.4				
	9:30	1930.5	9.6	662.4	19.182	1911.3	19.32	4091.0
	9:35	1962.4	11.9	662.4	19.182	1943.2	19.32	4131.3
	9:40	1993.1	14.2	662.4	19.182	1973.9	19.32	4158.8
4				662.4				
	9:45	2081.5	17.3	892.8	33.321	2048.2	26.04	4248.0
	9:50	2119.9	20.3	864.0	31.359	2088.5	25.20	4286.6
	9:55	2151.9	23.3	864.0	31.359	2120.5	25.20	4316.9
5				873.6				
	10:00	2239.1	27.0	1065.6	46.224	2192.9	31.08	4396.2
	10:05	2269.9	30.6	1036.8	43.939	2226.0	30.24	4435.9
	10:10	2300.6	34.3	1065.6	46.224	2254.4	31.08	4466.2
6				1056.0				
	10:15	2385.2	38.6	1238.4	61.039	2324.2	36.12	4543.6
	10:20	2419.9	42.9	1238.4	61.039	2358.9	36.12	4580.6
	10:25	2446.8	47.3	1267.2	63.691	2383.1	36.96	4613.2
7				1248.0				
	10:30	2537.9	52.3	1440.0	80.684	2457.2	42.00	4687.5
	10:35	2571.3	57.4	1468.8	83.695	2487.6	42.84	4723.7
	10:40	2593.1	62.4	1440.0	80.684	2512.4	42.00	4752.3
				1449.6				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbis)	(3) INJECTION RATE (bbis/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1) - (4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
FALLOFF	10:41	2377.5				2377.5		4610.7
	10:42	2301.9				2301.9		4536.3
	10:43	2246.7				2246.7		4479.8
	10:44	2203.1				2203.1		4433.8
	10:45	2164.7				2164.7		4393.9
	10:50	2041.6				2041.6		4262.6
	10:55	1968.5				1968.5		4177.7

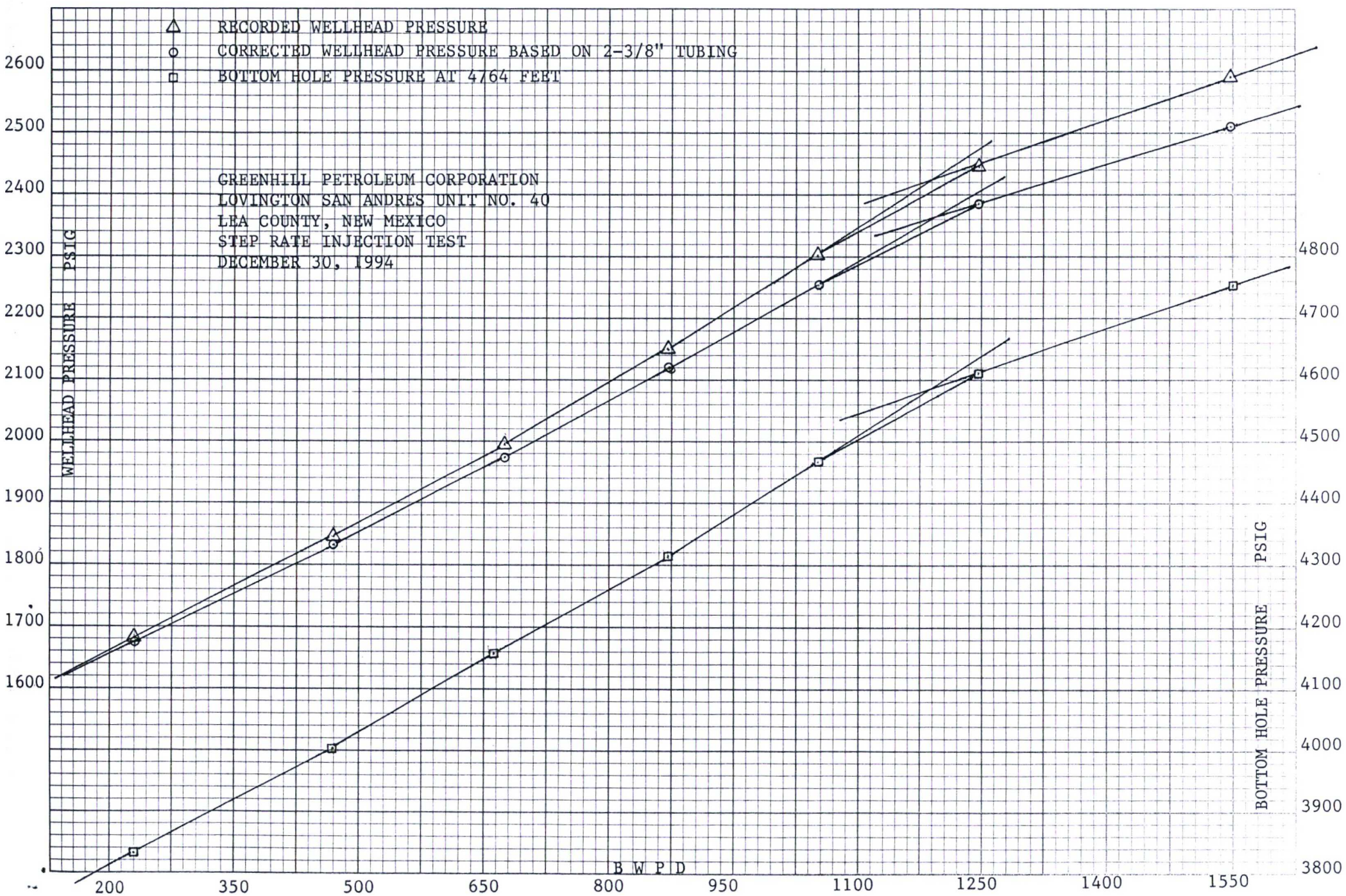


TABLE 1

Lovington San Andres Unit

WELL	#	Current Maximum Injection Pressure	Requested Maximum Injection Pressure
LSAU	40	1750	2050