



GREENHILL PETROLEUM CORPORATION

11490 WESTHEIMER, SUITE 200
HOUSTON, TEXAS 77077
TELEPHONE (713) 589-8484
FAX (713) 589-9399

Incorporated in Delaware, U.S.A.
August 23, 1991

Oil Conservation Division
Energy, Minerals and Natural Resources Department
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87504-1088

Attention: David Catanach

Re: West Lovington Unit
Step Rate Test/Water Injection Wells
OCD Administrative Order No. WFX-598-9/10/90
Lea County, New Mexico

Dear Mr. Catanach:

Further to our letter of July 23, 1991 on the subject of Step Rate Test/Water Injection Wells and request for approval of increased water injection pressures at West Lovington Field, we herewith submit Step Rate Test data for three additional wells. These wells complete our initial program and provide a good dispersion of data within the field. These tests show similar rock properties to the first six wells previously submitted wherein no rock fracturing was observed up to an injection pressure of 2200 psig.

This data is submitted for your approval to increase injection pressures on the individual wells and to provide additional information to substantiate our conclusion that a pressure of 2200 psig is below the surface fracture gradient in the West Lovington Field.

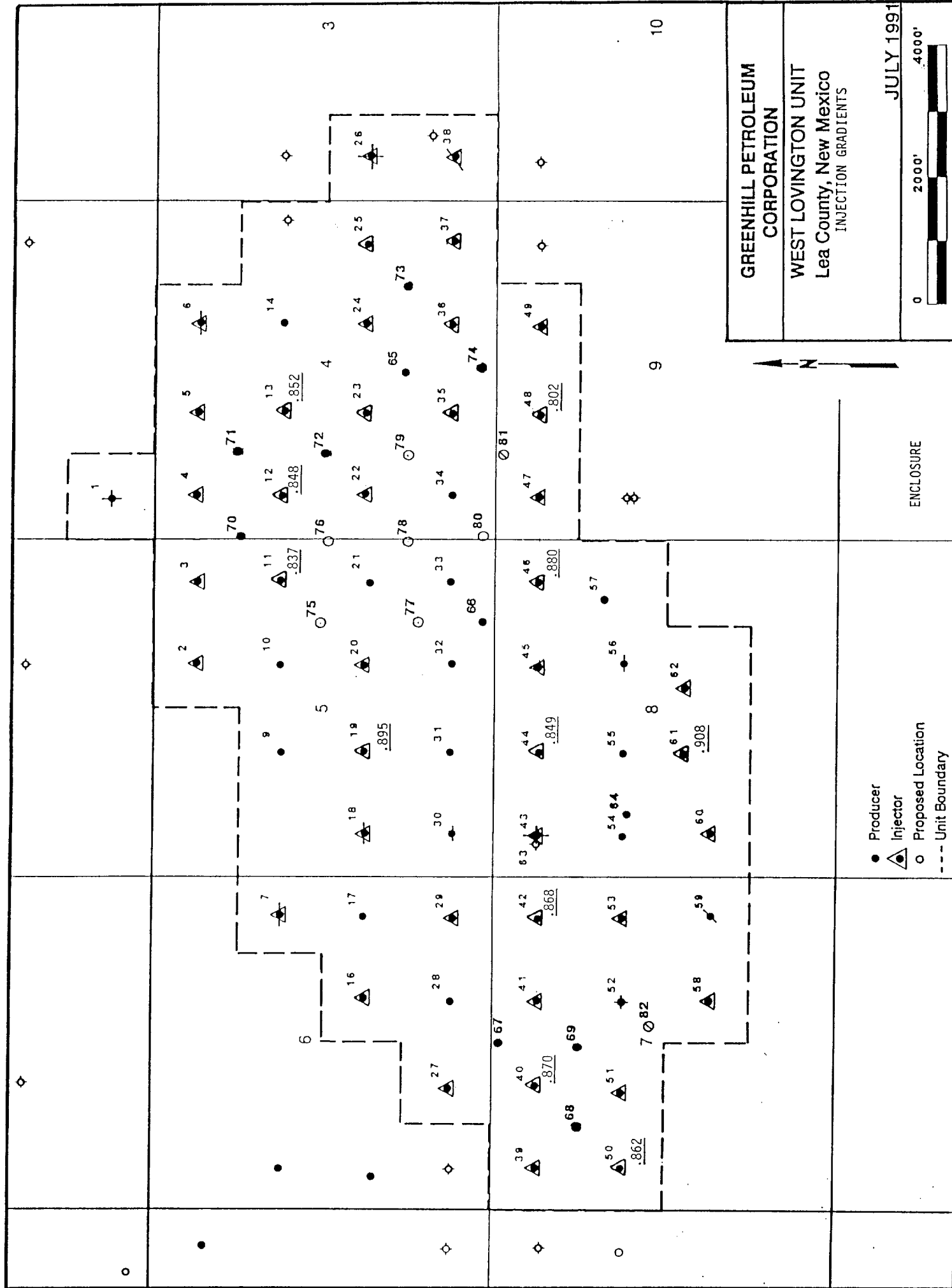
We respectfully request that approval of the additional confirming data enclosed, approval be granted for a field injection pressure of 2200 psig for recent and future wells converted to water injection service in the San Andres dolomite reservoir water flood unit.

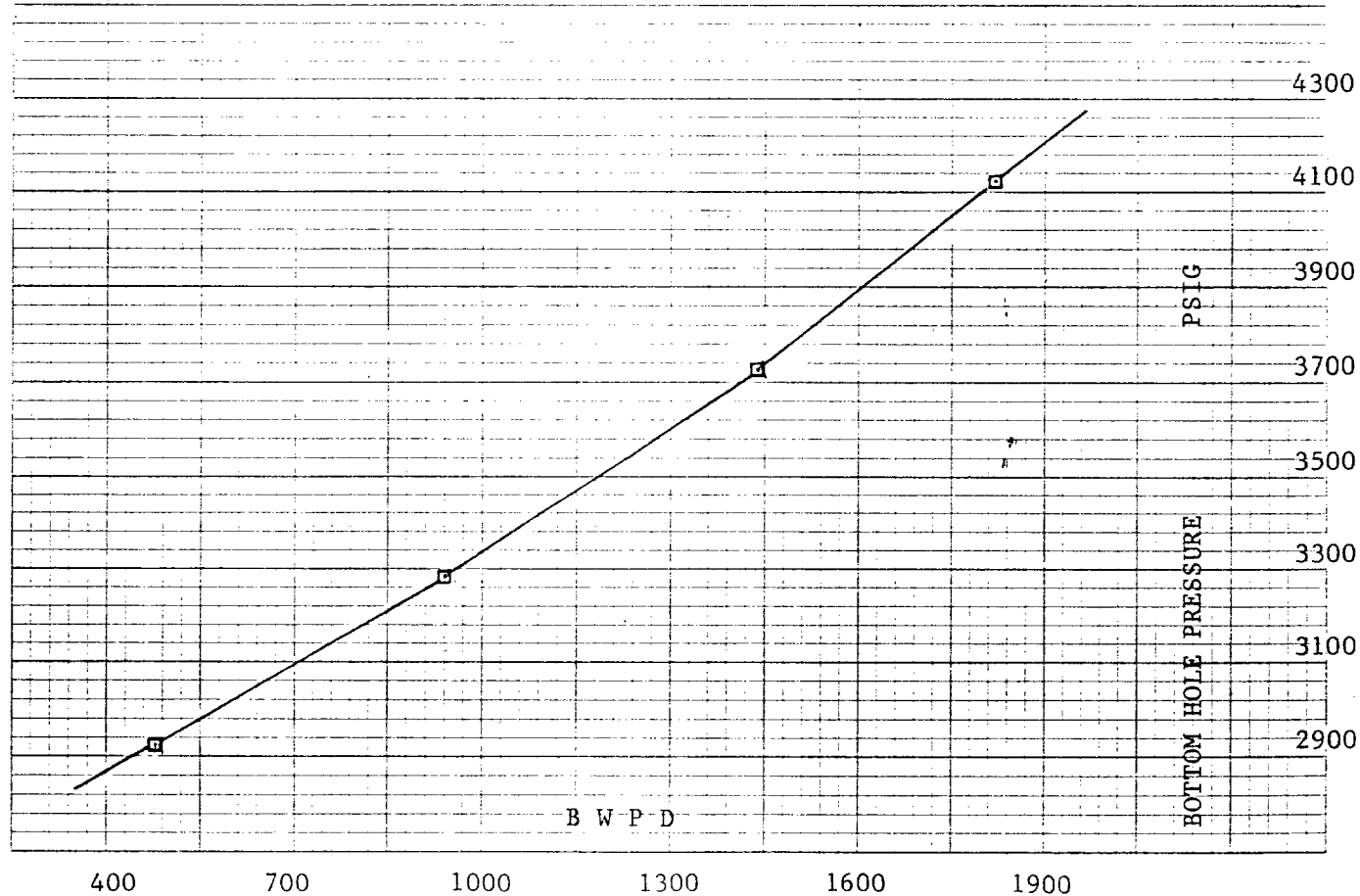
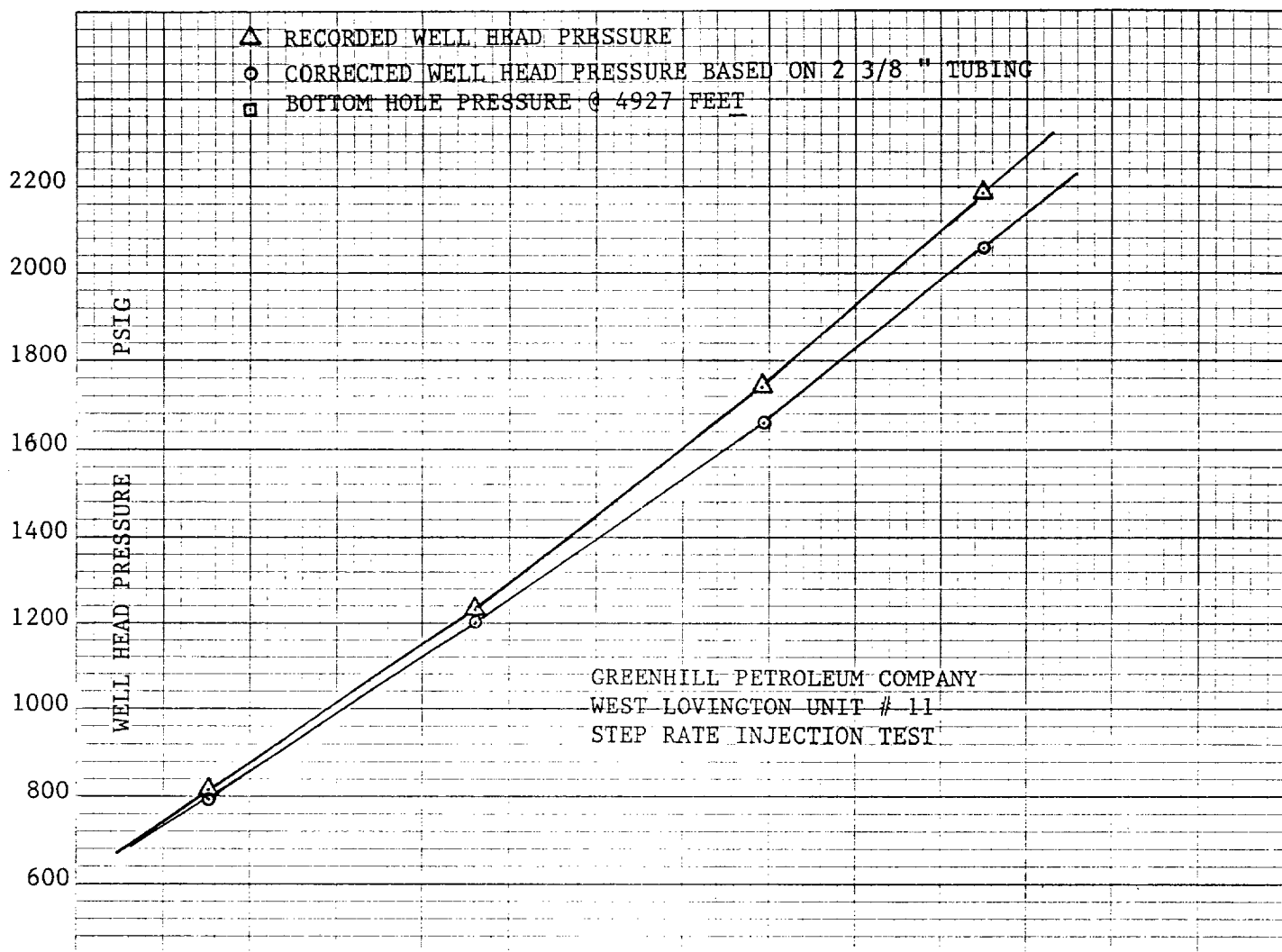
Sincerely,


Michael J. Newport
Land Manager-Permian Basin

MJN:sjs
91.077

Enclosures



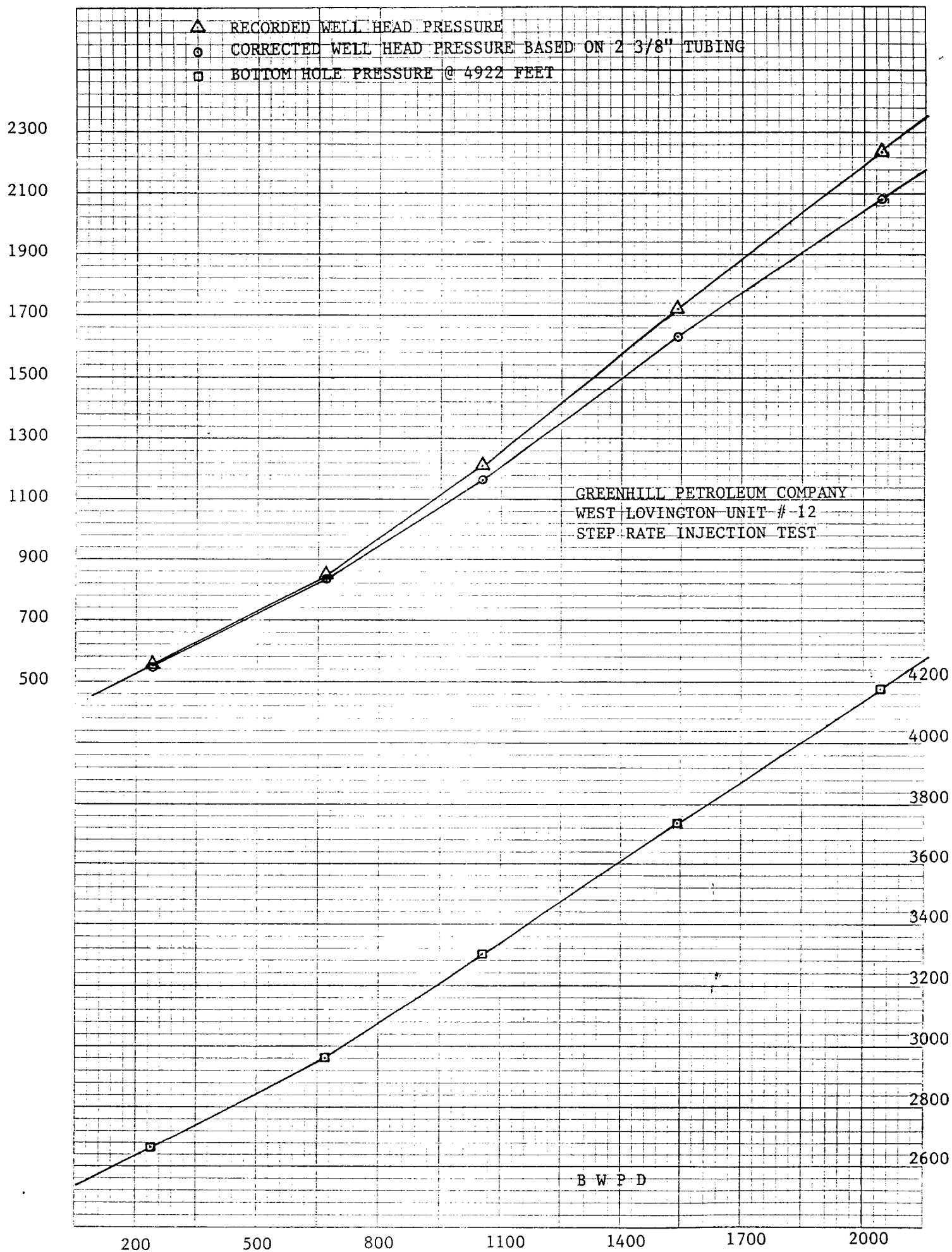


JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name WEST LOVINGTON UNIT # 11
CO. Name GREENHILL PETROLEUM COMPANY

Date 7-26-91

[illegible]

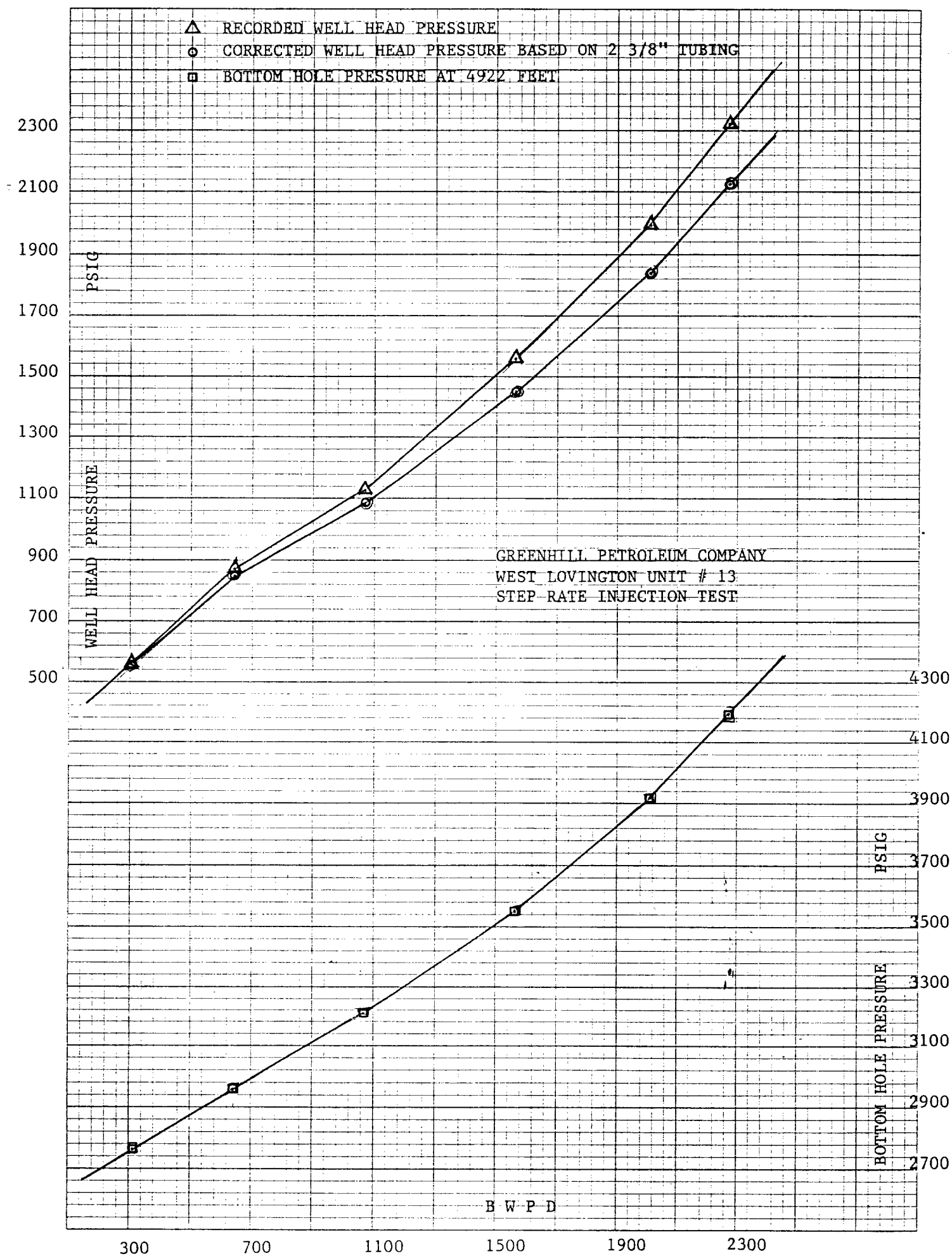


JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name WEST LOVINGTON UNIT # 12
CO. Name GREENHILL PETROLEUM COMPANY

Date 7-26-91

[illegible]



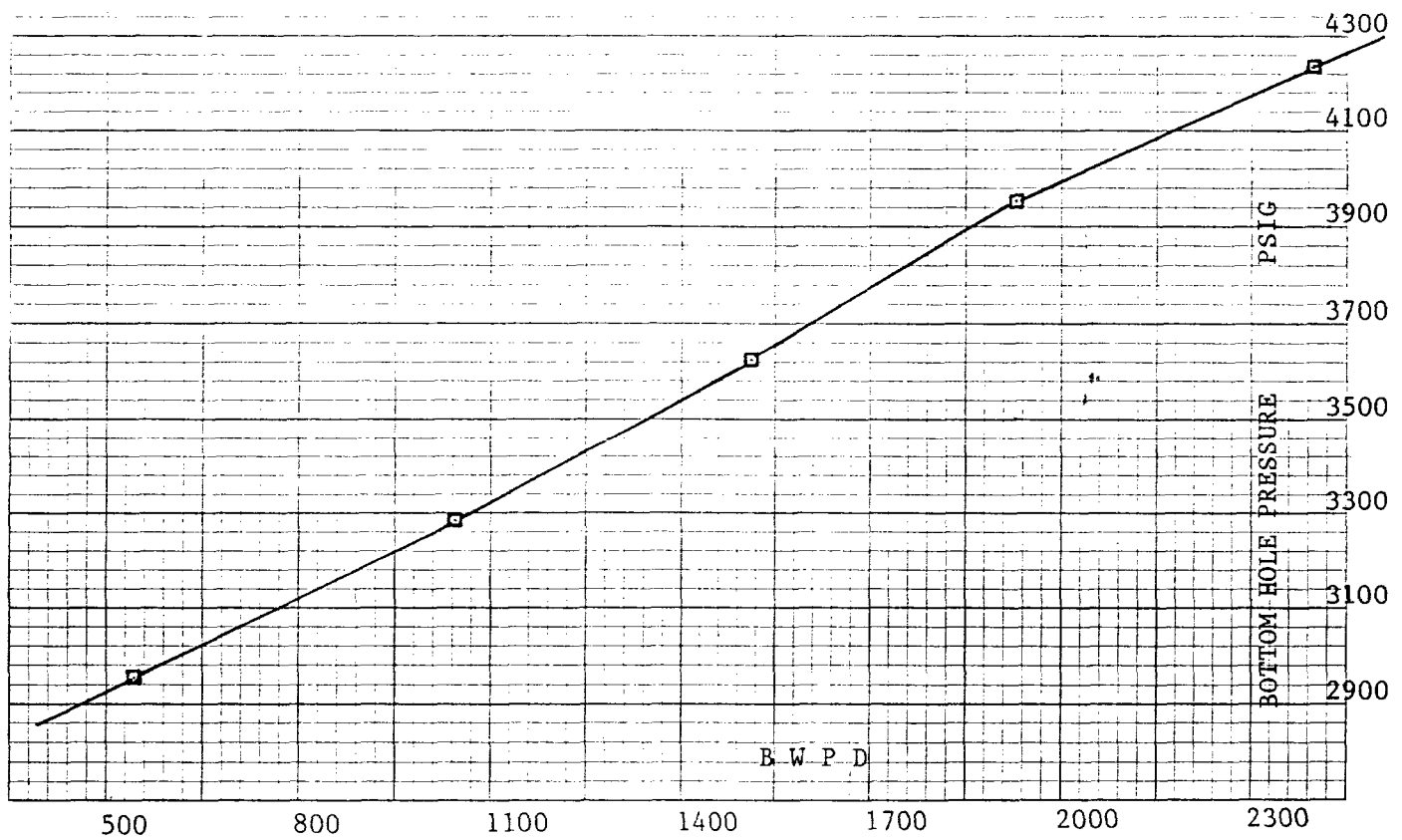
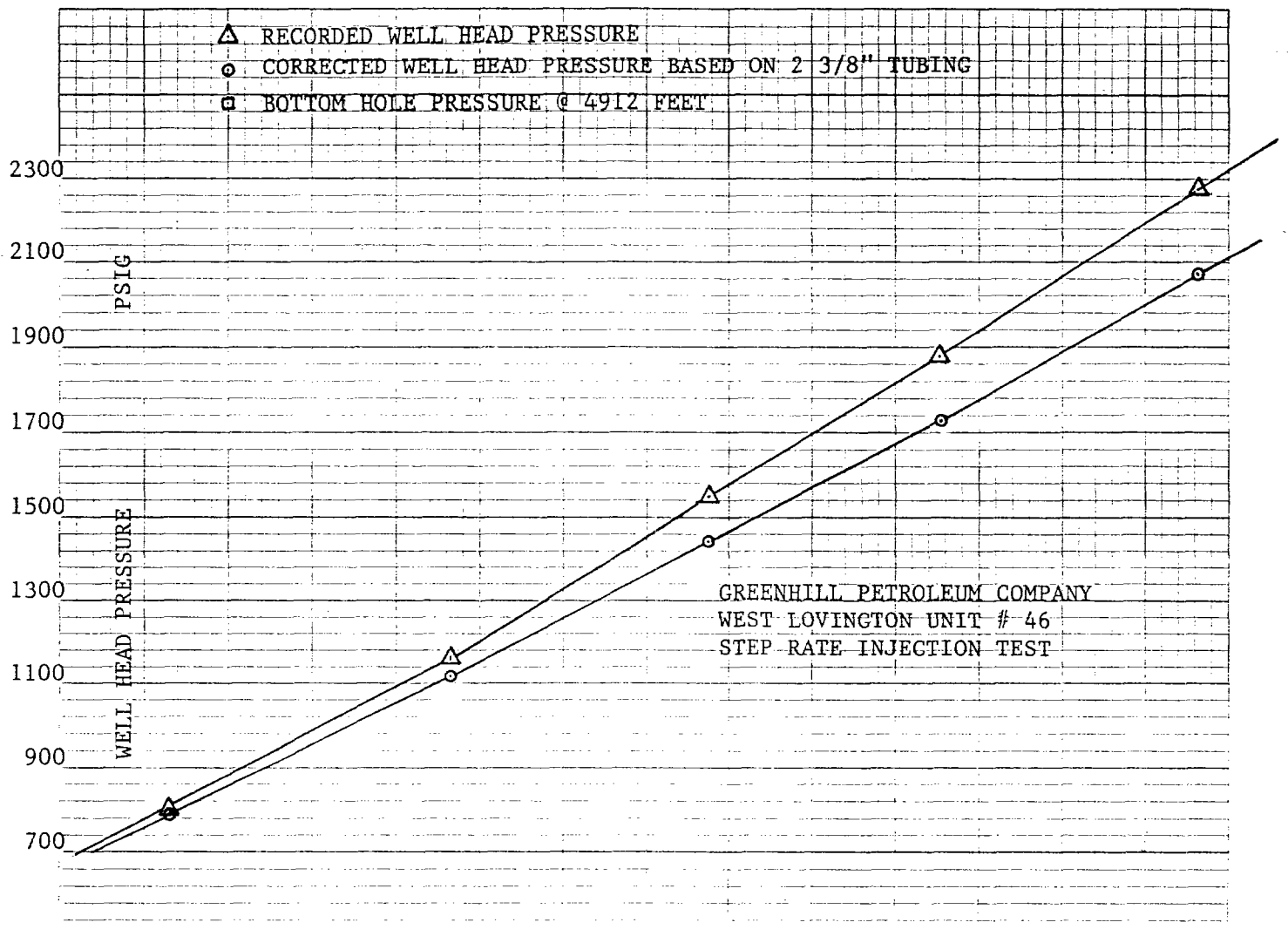
JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name WEST LOVINGTON UNIT # 13

Date 7-24-91

CO. Name GREENHILL PETROLEUM COMPANY

Remarks	Time	Tbg. Press.	Rate B P D	Total	B H P	Tbg. Press.	Rate G P M	HEAD LOSS
PERFS. @ 4710 and 5135		FEET	PKR @ 4567	FEET				
SET @ 4922 FEET								
	8:35	506		0	2619			
	8:40	617	288.00	1.0	2717			
	8:45	629.5	316.80	2.1	2745			
1	8:50	654	316.80	3.2	2769	649.2	8.96	4.783
			307.20					
	8:55	772	633.60	5.4	2879			
	9:00	841	633.60	7.6	2930	853.2	18.76	18.769
2	9:05	872	662.40	9.9	2963			
			643.20					
	9:10	1064	1065.60	13.6	3106			
	9:15	1091	1065.60	17.3	3170			
3	9:20	1134	1065.60	21.0	3216	1086.3	31.08	47.757
			1065.60					
	9:25	1425	1555.20	26.40	3408			
	9:30	1498	1584.00	31.90	3493			
4	9:35	1552	1555.20	37.3	3555	1454.8	45.64	97.216
			1564.80					
	9:40	1865	2016.0	44.3	3763			
	9:45	1949	2016.0	51.3	3849			
5	9:50	2000	2016.00	58.3	3919	1844.7	58.80	155.344
			2016.00					
	9:55	2200	2304	66.3	4062			
	10:00	2255	2275.20	74.2	4129			
6	10:05	2319	2246.40	82.0	4195	2124.7	66.36	194.300
			2275.2					
FALL OFF						4145 4922	8523	
	10:06	1742			3876			
	10:07	1628			3765			
	10:08	1558			3694			
	10:09	1503			3638			
	10:10	1460			3596			
5 MIN	10:15	1320			3453			
5 MIN.	10:20	1230			3363			



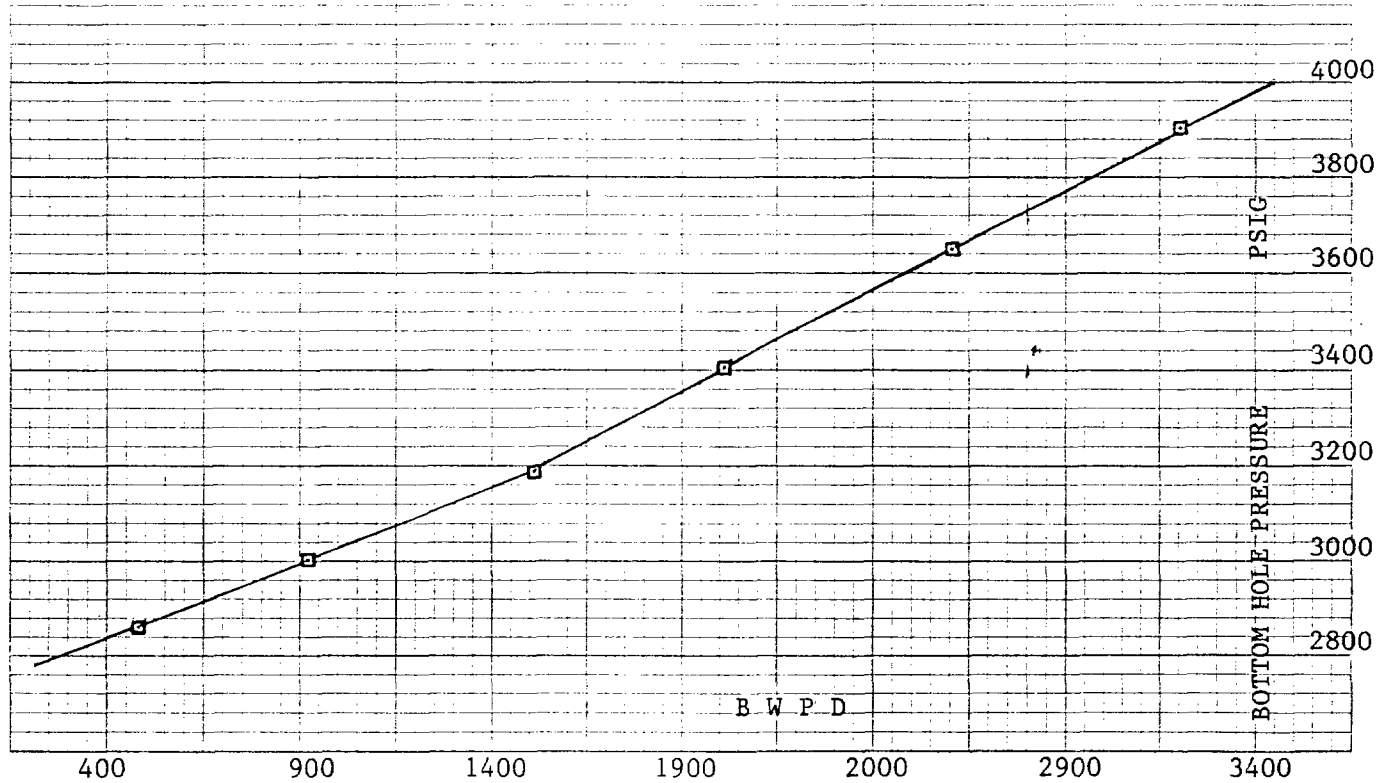
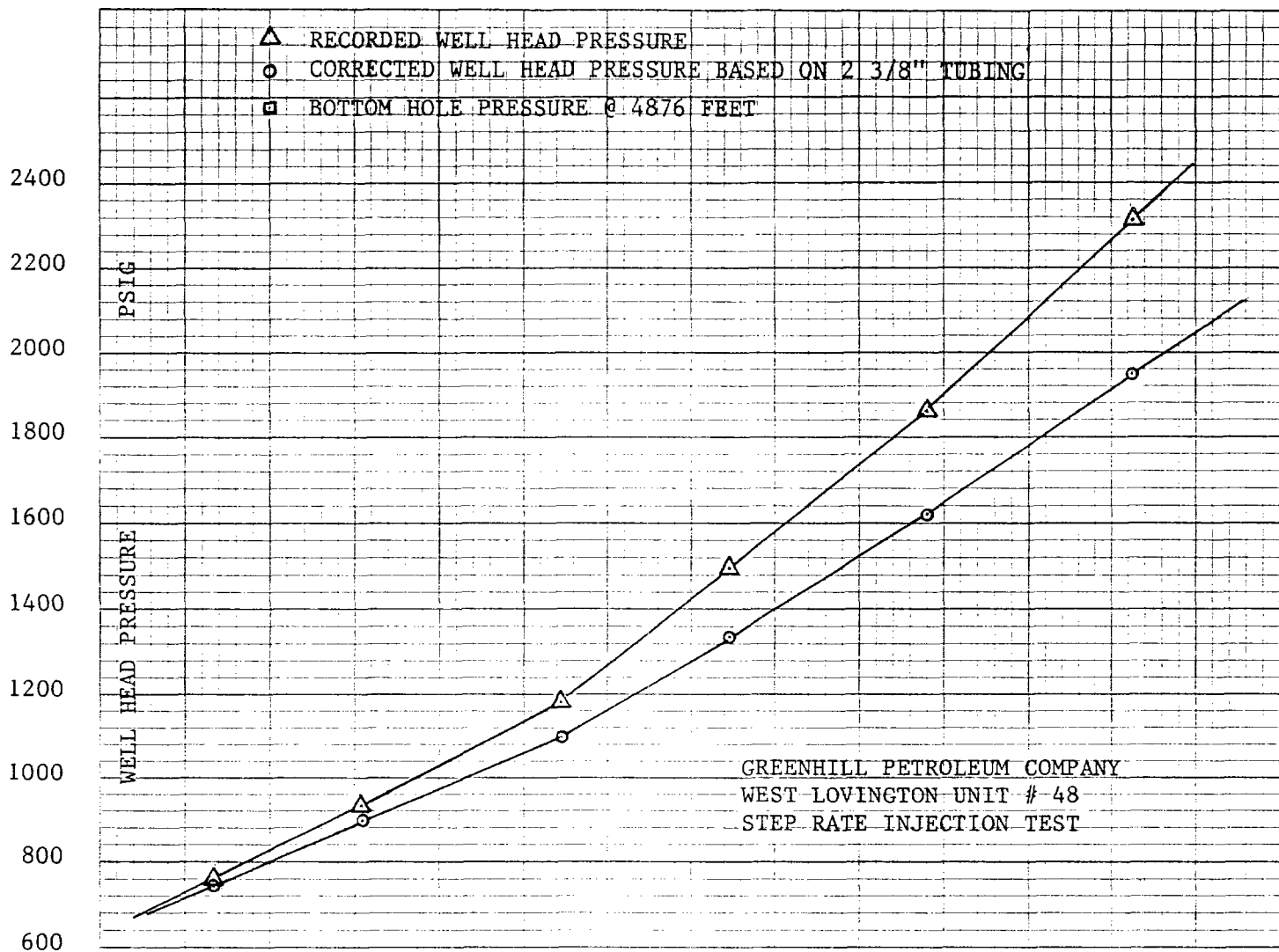
Step Rate Injection Test

Well Name WEST LOVINGTON UNIT # 46

Date 7-25-91

CO. Name GREENHILL PETROLEUM COMPANY

[illegible]



JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name WEST LOVINGTON UNIT # 48
CO. Name GREENHILL PETROLEUM COMPANY

Date 7-25-91

RETEST

Remarks	Time	Tbg. Press.	Rate B P D	Total	B H P	Tbg. Press.	Rate G P M	HEAD LOSS
PERFS. @ 4678 and 5075		PKR @	4565 FEET					
SET @ 4876 FEET								
	11:05	667.0		0	2771			
	11:10	737	489.60	1.7	2831			
	11:15	754	489.60	3.4	2852			
1	11:20	760	489.60	5.1	2866	748.78	14.28	11.223
			489.60					
	11:25	878	921.60	8.3	2942			
	11:30	890	950.40	11.6	2975			
2	11:35	936	950.40	14.9	3000	898.4	27.44	37.573
			940.80					
	11:40	1098	1526.40	20.2	3107			
	11:45	1153	1526.40	25.5	3159			
3	11:50	1188	1526.40	30.8	3197	1096.0	44.52	91.981
			1526.40					
	11:55	1389	2016.00	37.8	3302			
	12:00	1441	2044.80	44.9	3360			
4	12:05	1491	2016.00	51.9	3404	1335.6	59.08	155.250
			2025.60					
	12:10	1738	2620.80	61.0	3524			
	12:15	1805	2592.00	70.0	3590			
5	12:20	1866.2	2592.00	79.0	3645	1619.6	75.88	246.663
			2601.60					
	12:25	2133	3196.80	90.10	3773			
	12:30	2257	3196.80	101.2	3850			
6	12:35	2319	3225.60	112.40	3912	1955.9	93.52	363.113
			3206.40					
FALL OFF								
	12:36	1620			3736			
	12:37	1540			3653			
	12:38	1482			3597			
	12:39	1435			3550			
	12:40	1396			3511			
5 MINUTES	12:45	1262			3375			
5 MINUTES	12:50	1176			3288			