

Oil Conservation Division

CF 6008
R-5530
PMX-178
PDEV0020700178
PMX-179
PDEV0020700179

July 18, 1995

Texaco Exploration & Production, Inc.
P.O. Box 730
Hobbs, New Mexico 88241-0730

Attn: Mr. Robert McNaughton

**RE: Injection Pressure Increase Central Vacuum Unit
Waterflood Project, Lea County, New Mexico**

Dear Mr. McNaughton:

Reference is made to your request dated June 20, 1995 to increase the surface injection pressure on 9 wells in the above referenced waterflood project. This request is based on step rate tests conducted between May 31 and June 13, 1995. 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.

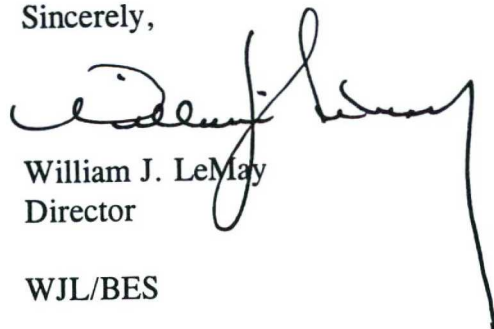
You are therefore authorized to increase the surface injection pressure on the following wells:

<i>Well and Location</i>	<i>Maximum Surface Injection Pressure</i>
Central Vacuum Unit Well No.193, Unit Letter D, Section 6,Twp. 18S, Rge. 35E	1770 PSIG
Central Vacuum Unit Well No.194, Unit Letter C, Section 6, Twp.18S, Rge. 35E	1400 PSIG
Central Vacuum Unit Well No.199, Unit Letter E, Section 6, Twp.18S, Rge. 35E	1540 PSIG
Central Vacuum Unit Well No.200, Unit Letter C, Section 6, Twp.18S, Rge.35E	2020 PSIG

<i>Well and Location</i>	<i>Maximum Surface Injection Pressure</i>
Central Vacuum Unit Well No.201, Unit Letter G, Section 6, Twp. 18S, Rge. 35E	2400 PSIG
Central Vacuum Unit Well No.206, Unit Letter E, Section 6, Twp. 18S, Rge. 35E	2300 PSIG
Central Vacuum Unit Well No.207, Unit Letter F, Section 6, Twp. 18S, Rge. 35E	2130 PSIG
Central Vacuum Unit Well No.223, Unit Letter K, Section 25, Twp. 17S, Rge. 34E	1750 PSIG
Central Vacuum Unit Well No.244, Unit Letter B, Section 6, Twp. 18S, Rge. 35E	1670 PSIG
All wells 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

cc: Oil Conservation Division - Hobbs
Files: Case File No.6008; PMX-178 & 179; PSI-X 3rd QTR 95

1st

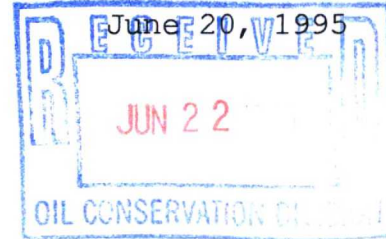


Texaco Inc.

N/R

New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 88240

Attention: David R. Catanach



Re: Request for Increase in Surface Injection Pressure Limits
Texaco Exploration and Production Inc.
Central Vacuum Unit
T-17/18-S, R-34/35-E, Lea County, New Mexico

RETURNED
5-31
6-13

Dear Mr. Catanach

Texaco Exploration and Production Inc. requests that the surface injection pressure limit be increased for the subject well. Step rate tests were recently run and the results are attached. A summary is given below:

Well No.	Observed Surface Parting Pressure	Requested Injection Pressure Limit
193	1820 psi	1730 psi D-6-18-35
194	1450 psi	1400 psi C-6-18-35
199	1590 psi	1540 psi E-6-18-35
200	2070 psi	2000 psi C-6-18-35
201	2450 psi	2400 psi C-6-18-35
206	2350 psi	2300 psi E-6-18-35
207	2180 psi	2100 psi F-6-18-35
223	1800 psi	1750 psi K-25-17-34
244	1720 psi	1670 psi B-6-18-35

If additional information is needed, please contact Robert McNaughton at 505-397-0428.

Sincerely,

Robert McNaughton
Production Engineer

RTM/

attachments

cc: Mr. Jerry Sexton
Hobbs NMOCD

pmx
CC: 86
124
178
179

WEST-TEST, INC.
A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: MAY 31, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 193
LEA COUNTY, NEW MEXICO

WO#: 95-14-0774

PERFS = 4279-4662

PACKER DEPTH = 4233

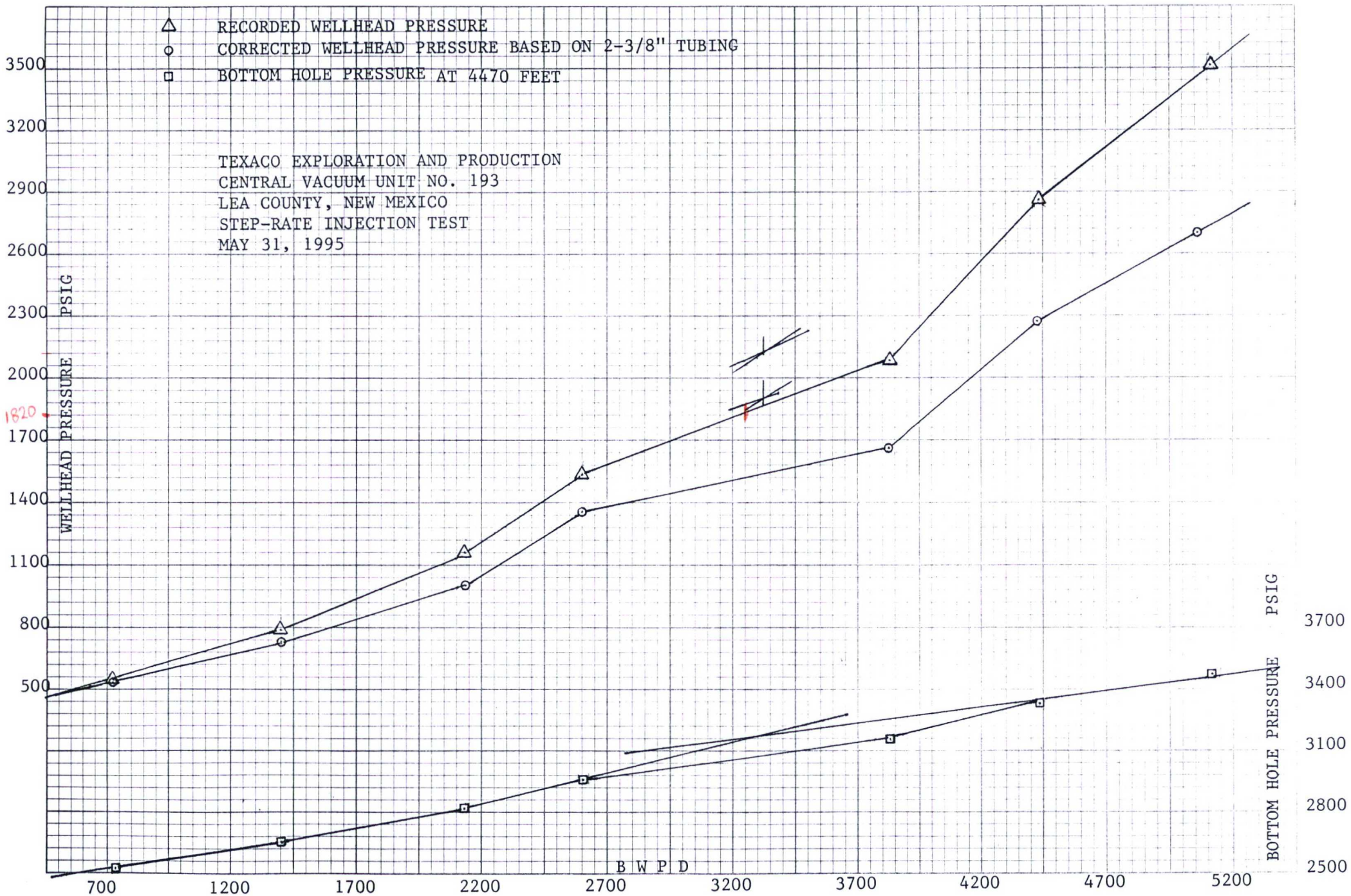
BHP GAUGE DEPTH = 4470

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	10:00	388.6				388.6		2410.5
	10:05	518.2	2.6	748.8	22.580	495.6	21.84	2483.0
	10:10	533.2	5.3	777.6	24.213	509.0	22.68	2502.7
	10:15	543.2	7.6	662.4	17.998	525.2	19.32	2516.3
				729.6				
2	10:20	732.7	12.9	1526.4	84.322	648.4	44.52	2601.0
	10:25	773.9	17.3	1267.2	59.761	714.1	36.96	2631.2
	10:30	796.3	22.2	1411.2	72.927	723.4	41.16	2654.0
3				1401.6				
	10:35	1050.7	30.1	2275.2	176.457	874.2	66.36	2746.2
	10:40	1123.2	36.9	1958.4	133.712	989.5	57.12	2785.5
	10:45	1159.4	44.4	2160.0	160.285	999.1	63.00	2814.2
				2131.2				
4	10:50	1505.6	54.0	2764.8	253.064	1252.5	80.64	2906.4
	10:55	1569.3	63.6	2764.8	253.064	1316.2	80.64	2941.1
	11:00	1533.1	71.5	2275.2	176.457	1356.6	66.36	2963.8
				2601.6				
5	11:05	2100.3	86.2	4233.6	556.629	1543.7	123.48	3080.2
	11:10	2151.5	98.9	3657.6	424.683	1726.8	106.68	3124.0
	11:15	2080.2	111.5	3628.8	418.518	1661.7	105.84	3155.7
				3840.0				
6	11:20	2795.9	126.8	4406.4	599.387	2196.5	128.52	3257.1
	11:25	2757.0	142.7	4579.2	643.596	2113.4	133.56	3296.3
	11:30	2856.0	157.8	4348.8	584.973	2271.0	126.84	3331.1
				4444.8				
7	11:35	3390.7	175.5	5097.6	784.836	2605.9	148.68	3405.2
	11:40	3281.4	193.2	5097.6	784.836	2496.6	148.68	3430.8
	11:45	3502.5	211.1	5155.2	801.321	2701.2	150.36	3470.1
				5116.8				

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)
FALLOFF	11:46	1238.3				1238.3		3259.8
	11:47	1153.4				1153.4		3149.4
	11:48	1099.7				1099.7		3125.2
	11:49	1058.5				1058.5		3084.3
	11:50	1026.1				1026.1		3052.6
	11:55	916.5				916.5		2943.7
	12:00	848.1				848.1		2875.7

- △ RECORDED WELLHEAD PRESSURE
- CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
- BOTTOM HOLE PRESSURE AT 4470 FEET

TEXACO EXPLORATION AND PRODUCTION
 CENTRAL VACUUM UNIT NO. 193
 LEA COUNTY, NEW MEXICO
 STEP-RATE INJECTION TEST
 MAY 31, 1995



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 1, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 194
LEA COUNTY, NEW MEXICO

WO#: 95-14-0775

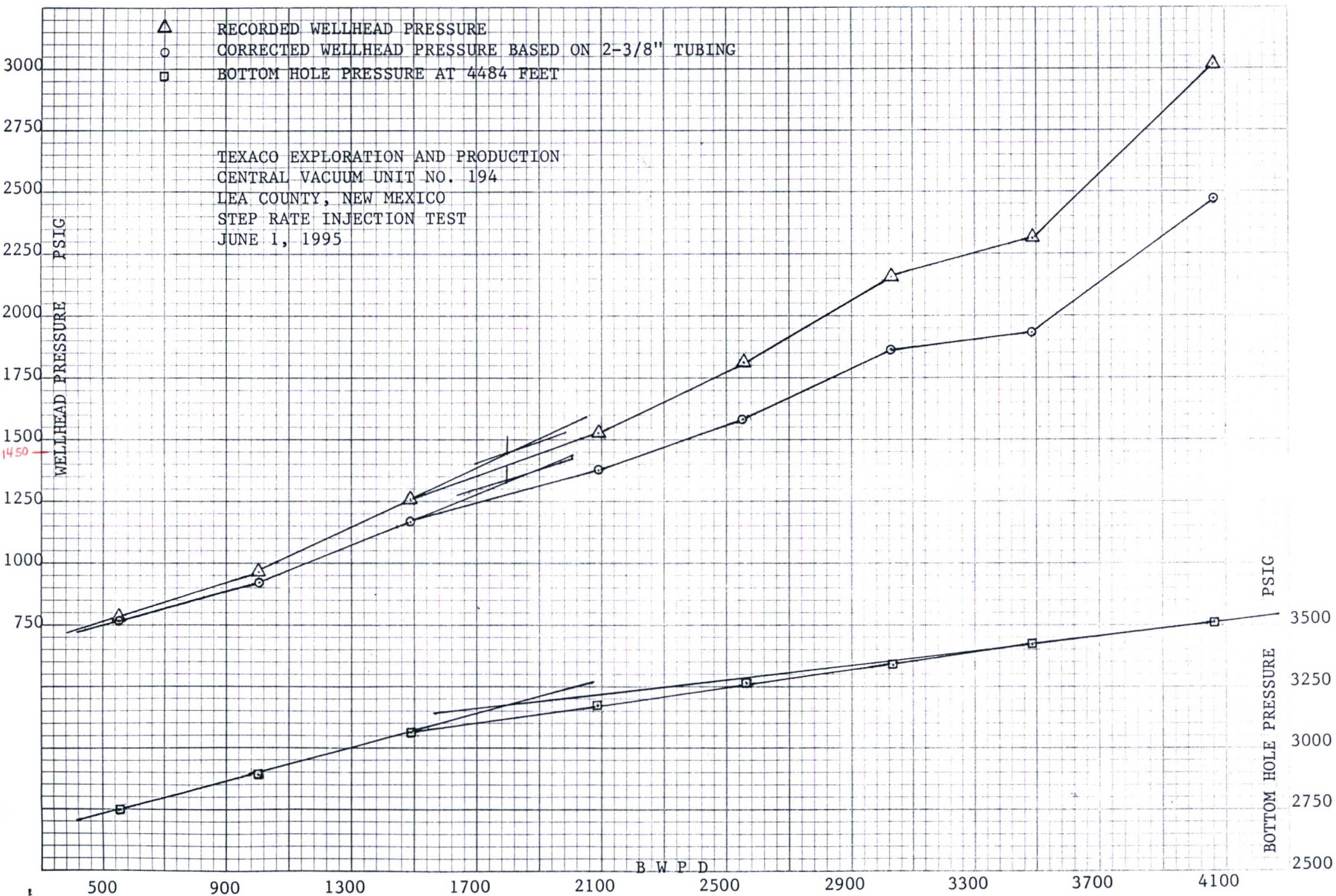
PERFS = 4281-4686

PACKER DEPTH = 4262

BHP GAUGE DEPTH = 4484

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	10:00	559.0				559.0		2582.9
	10:05	697.8	1.9	547.2	12.679	685.1	15.96	2688.7
	10:10	719.0	3.7	518.4	11.472	707.5	15.12	2715.9
	10:15	780.1	5.8	604.8	15.258	764.8	17.64	2749.2
				556.8				
2	10:20	908.5	9.3	1008.0	39.257	869.2	29.40	2838.3
	10:25	933.4	12.8	1008.0	39.257	894.1	29.40	2868.6
	10:30	962.1	16.3	1008.0	39.257	922.8	29.40	2891.2
3				1008.0				
	10:35	1155.7	21.4	1468.8	78.776	1076.9	42.84	2988.0
	10:40	1185.7	26.6	1497.6	81.657	1104.0	43.68	3019.8
	10:45	1250.7	31.9	1526.4	84.586	1166.1	44.52	3054.6
				1497.6				
4	10:50	1465.6	39.2	2102.4	152.944	1312.7	61.32	3134.8
	10:55	1504.3	46.4	2073.6	149.091	1355.2	60.48	3156.0
	11:00	1534.3	53.7	2102.4	152.944	1381.4	61.32	3171.1
				2092.8				
5	11:05	1775.4	62.6	2563.2	220.678	1554.7	74.76	3231.6
	11:10	1801.6	71.5	2563.2	220.678	1580.9	74.76	3248.2
	11:15	1811.6	80.5	2592.0	225.287	1586.3	75.60	3260.2
				2572.8				
6	11:20	2122.7	91.0	3024.0	299.631	1823.1	88.20	3314.6
	11:25	2141.5	101.5	3024.0	299.631	1841.9	88.20	3332.7
	11:30	2157.7	112.1	3052.8	304.932	1852.8	89.04	3344.8
				3033.6				
7	11:35	2391.4	124.3	3513.6	395.505	1995.9	102.48	3394.7
	11:40	2347.7	136.5	3513.6	395.505	1952.2	102.48	3411.2
	11:45	2320.2	148.5	3456.0	383.594	1936.6	100.80	3420.3
				3494.4				

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	11:50	2995.1	162.6	4060.8	516.942	2478.2	118.44	3468.7
	11:55	2762.0	176.4	3974.4	496.779	2265.2	115.92	3489.8
	12:00	3012.6	190.8	4147.2	537.474	2475.1	120.96	3512.5
				4060.8				
	12:01	1212.1				1212.1		3243.2
	12:02	1147.1				1147.1		3176.6
	12:03	1104.6				1104.6		3134.2
	12:04	1073.4				1073.4		3102.5
	12:05	1049.7				1049.7		3079.8
	12:10	974.9				974.9		3007.2
	12:15	941.3				941.3		2975.6



WEST-TEST, INC.
A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 2, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 199
LEA COUNTY, NEW MEXICO

WO#: 95-14-0776

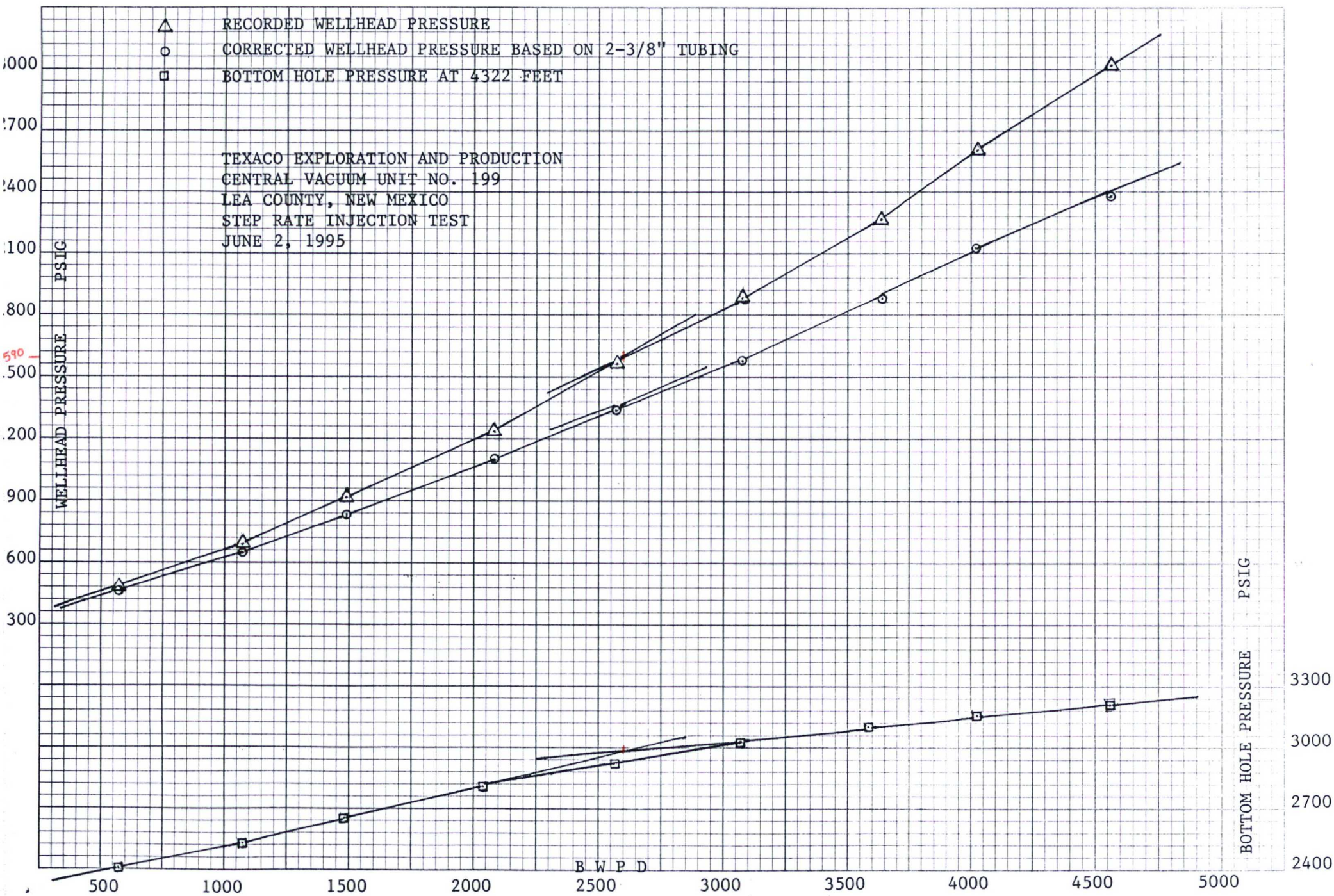
PERFS = 4238-4406

PACKER DEPTH = 4203

BHP GAUGE DEPTH = 4322

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)
	8:55	343.3				343.3		2295.7
	9:00	444.3	1.9	547.2	12.221	432.1	15.96	2368.2
	9:05	488.0	4.0	604.8	14.707	473.3	17.64	2393.9
1	9:10	480.5	6.0	576.0	13.437	467.1	16.80	2401.4
				576.0				
	9:15	638.8	9.8	1094.4	44.056	594.7	31.92	2484.6
	9:20	668.7	13.5	1065.6	41.935	626.8	31.08	2511.8
2	9:25	692.4	17.2	1065.6	41.935	650.5	31.08	2530.0
				1075.2				
	9:30	858.2	22.4	1497.6	78.707	779.5	43.68	2605.6
	9:35	886.9	27.5	1468.8	75.930	811.0	42.84	2635.8
3	9:40	906.9	32.7	1497.6	78.707	828.2	43.68	2657.0
				1488.0				
	9:45	1184.0	39.8	2044.8	140.034	1044.0	59.64	2749.2
	9:50	1222.0	47.2	2131.2	151.177	1070.8	62.16	2785.5
4	9:55	1247.9	54.5	2102.4	147.419	1100.5	61.32	2809.6
				2092.8				
	10:00	1506.7	63.5	2592.0	217.147	1289.6	75.60	2879.1
	10:05	1516.8	72.3	2534.4	208.305	1308.5	73.92	2903.3
5	10:10	1560.6	81.3	2592.0	217.147	1343.5	75.60	2928.9
				2572.8				
	10:15	1840.5	92.0	3081.6	299.065	1541.4	89.88	2983.3
	10:20	1860.5	102.6	3052.8	293.915	1566.6	89.04	3007.5
6	10:25	1880.5	113.3	3081.6	299.065	1581.4	89.88	3025.6
				3072.0				
	10:30	2279.0	125.7	3571.2	392.858	1886.1	104.16	3069.4
	10:35	2227.9	138.2	3600.0	398.739	1829.2	105.00	3090.6
7	10:40	2272.9	150.7	3600.0	398.739	1874.2	105.00	3107.2
				3590.4				

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)
8	10:45	2510.3	164.7	4032.0	491.748	2018.6	117.60	3138.9
	10:50	2579.2	178.7	4032.0	491.748	2087.5	117.60	3154.0
	10:55	2613.0	192.6	4003.2	485.270	2127.7	116.76	3164.6
9				4022.4				
	11:00	2891.2	208.2	4492.8	600.740	2290.5	131.04	3190.3
	11:05	3003.9	224.2	4608.0	629.546	2374.4	134.40	3203.8
FALLOFF	11:09	3013.9	237.0	4608.0	629.546	2384.4	134.40	3211.4
				4566.9				
	11:10	1188.3				1188.3		3155.4
	11:11	1160.8				1160.8		3113.1
	11:12	1124.6				1124.6		3078.2
	11:13	1093.4				1093.4		3048.0
	11:14	1065.9				1065.9		3019.2
	11:15	1039.7				1039.7		2993.6
	11:20	936.2				936.2		2890.8
	11:25	860.3				860.3		2816.8



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 5, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 200
LEA COUNTY, NEW MEXICO

WO#: 95-14-0777

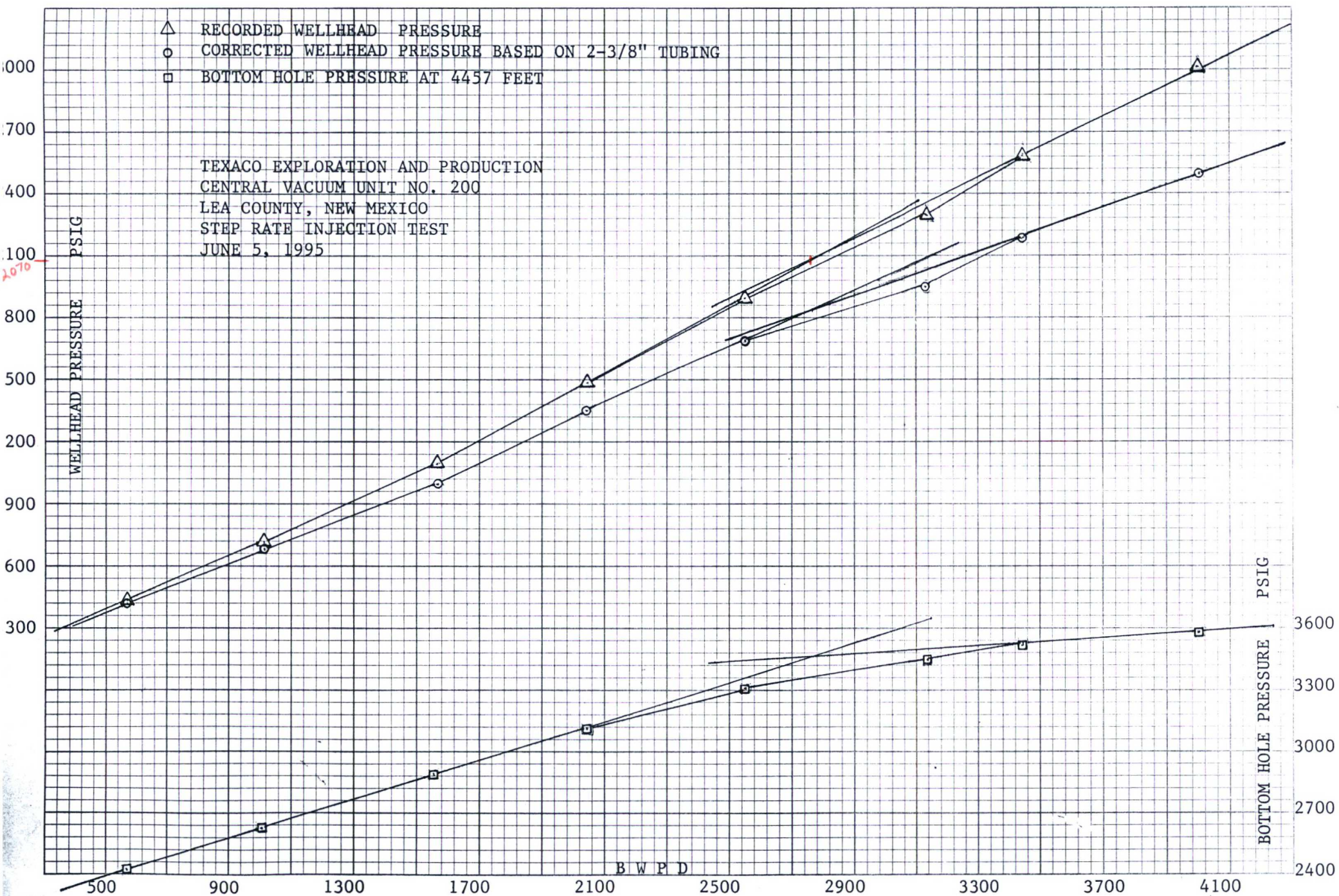
PERFS = 4253-4661

PACKER DEPTH = 4201

BHP GAUGE DEPTH = 4457

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	9:30	189.6				189.6		2204.9
	9:35	360.3	2.0	576.0	13.857	346.4	16.80	2344.0
	9:40	418.9	4.0	576.0	13.857	405.0	16.80	2393.8
	9:45	433.8	6.0	576.0	13.857	419.9	16.80	2416.5
				576.0				
2	9:50	628.1	9.6	1036.8	41.108	587.0	30.24	2548.0
	9:55	675.5	13.1	1008.0	39.020	636.5	29.40	2594.9
	10:00	719.1	16.6	1008.0	39.020	680.1	29.40	2629.6
3				1017.6				
	10:05	977.1	22.1	1584.0	90.040	887.1	46.20	2791.4
	10:10	1039.5	27.5	1555.2	87.035	952.5	45.36	2851.9
	10:15	1095.8	33.0	1584.0	90.040	1005.8	46.20	2895.7
4				1574.4				
	10:20	1380.6	40.1	2044.8	144.408	1236.2	59.64	3027.2
	10:25	1450.6	47.6	2160.0	159.818	1290.8	63.00	3078.7
	10:30	1494.3	54.3	1929.6	129.719	1364.6	56.28	3118.0
5				2044.8				
	10:35	1800.3	63.1	2534.4	214.811	1585.5	73.92	3231.4
	10:40	1866.5	72.0	2563.2	219.349	1647.2	74.76	3278.2
	10:45	1900.2	80.9	2563.2	219.349	1680.9	74.76	3308.5
6				2553.6				
	10:50	2257.5	91.6	3081.6	308.407	1949.1	89.88	3397.7
	10:55	2275.0	102.4	3110.4	313.760	1961.2	90.72	3427.9
	11:00	2295.0	113.6	3225.6	335.596	1959.4	94.08	3450.6
7				3139.2				
	11:05	2573.9	125.2	3340.8	358.105	2215.8	97.44	3500.5
	11:10	2616.5	137.4	3513.6	393.124	2223.4	102.48	3517.1
	11:15	2585.1	149.6	3513.6	393.124	2192.0	102.48	3524.6
				3456.0				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(3) 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	11:20	2999.9	163.5	4003.2	500.427	2499.5	116.76	3565.4
	11:25	2865.8	177.4	4003.2	500.427	2365.4	116.76	3571.5
	11:30	3008.6	191.3	4003.2	500.427	2508.2	116.76	3583.5
				4003.2				
	11:31	1369.5				1369.5		3411.1
	11:32	1317.0				1317.0		3340.0
	11:33	1264.6				1264.6		3288.5
	11:34	1220.9				1220.9		3244.6
	11:35	1182.2				1182.2		3206.8
	11:40	1036.1				1036.1		3060.1
	11:45	932.8				932.8		2958.8



WEST-TEST, INC.
A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 6, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 201
LEA COUNTY, NEW MEXICO

WO#: 95-14-0778

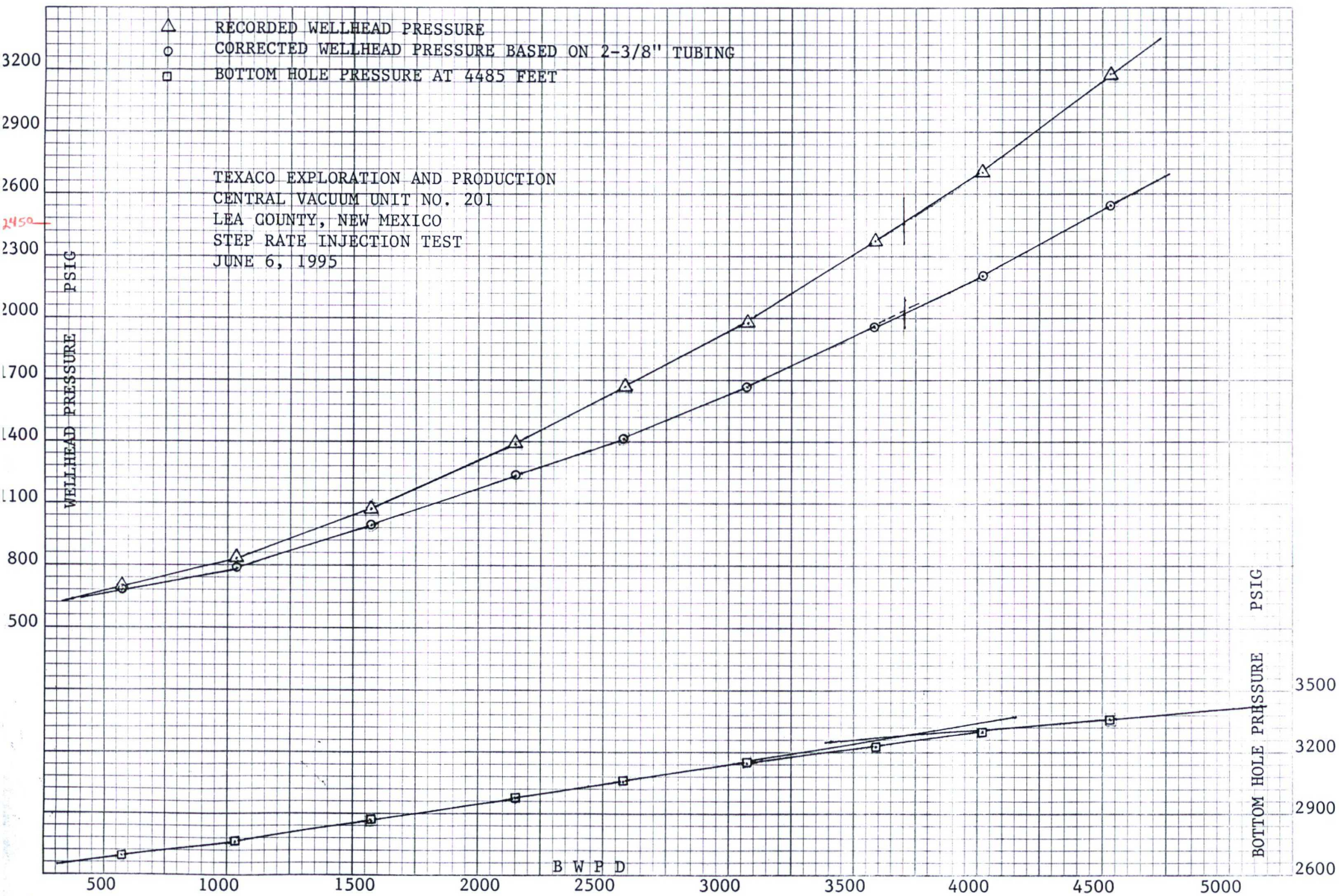
PERFS = 4290-4680

PACKER DEPTH = 4233

BHP GAUGE DEPTH = 4485

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	9:15	654.7				654.7		2646.3
	9:20	672.2	2.1	604.8	15.261	656.9	17.64	2673.5
	9:25	687.1	4.0	547.2	12.682	674.4	15.96	2682.6
	9:30	693.4	6.0	576.0	13.944	679.5	16.80	2694.7
				576.0				
2	9:35	821.7	9.6	1036.8	41.366	780.3	30.24	2737.0
	9:40	830.4	13.2	1036.8	41.366	789.0	30.24	2755.1
	9:45	833.0	16.8	1036.8	41.366	791.6	30.24	2767.2
3				1036.8				
	9:50	1018.5	22.2	1555.2	87.581	930.9	45.36	2823.2
	9:55	1033.5	27.7	1584.0	90.605	942.9	46.20	2847.4
	10:00	1077.2	33.2	1584.0	90.605	986.6	46.20	2865.6
				1574.4				
4	10:05	1309.5	40.6	2131.2	156.878	1152.6	62.16	2924.5
	10:10	1366.9	48.1	2160.0	160.822	1206.1	63.00	2950.2
	10:15	1395.7	55.6	2160.0	160.822	1234.9	63.00	2971.3
				2150.0				
5	10:20	1606.7	64.6	2592.0	225.337	1381.4	75.60	3018.2
	10:25	1622.9	73.5	2563.2	220.727	1402.2	74.76	3040.9
	10:30	1636.6	82.5	2592.0	225.337	1411.3	75.60	3059.0
				2582.4				
6	10:35	1937.5	93.4	3139.2	321.161	1616.3	91.56	3105.9
	10:40	1957.5	103.9	3024.0	299.698	1657.8	88.20	3125.5
	10:45	1974.9	114.5	3052.8	305.000	1669.9	89.04	3143.6
				3072.0				
7	10:50	2347.4	127.0	3600.0	413.778	1933.6	105.00	3187.4
	10:55	2308.6	139.4	3571.2	407.674	1900.9	104.16	3208.6
	11:00	2371.1	151.9	3600.0	413.778	1957.3	105.00	3228.2
				3590.4				

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)
8	11:05	2695.3	166.0	4060.8	517.057	2178.2	118.44	3266.1
	11:10	2684.0	179.9	4003.2	503.571	2180.4	116.76	3284.2
	11:15	2711.6	193.8	4003.2	503.571	2208.0	116.76	3300.8
9				4022.4				
	11:20	2923.3	209.6	4550.4	638.262	2285.0	132.72	3334.1
	11:25	3178.1	225.2	4492.8	623.396	2554.7	131.04	3352.3
	11:30	3180.6	241.0	4550.4	638.262	2542.3	132.72	3369.0
FALLOFF				4531.2				
	11:31	1299.6				1299.6		3282.7
	11:32	1247.2				1247.2		3240.4
	11:33	1217.2				1217.2		3210.1
	11:34	1181.0				1181.0		3173.8
	11:35	1171.0				1171.0		3164.7
	11:40	1094.9				1094.9		3089.1
	11:45	1045.0				1045.0		3039.2



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 7, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 206
LEA COUNTY, NEW MEXICO

WO#: 95-14-0779

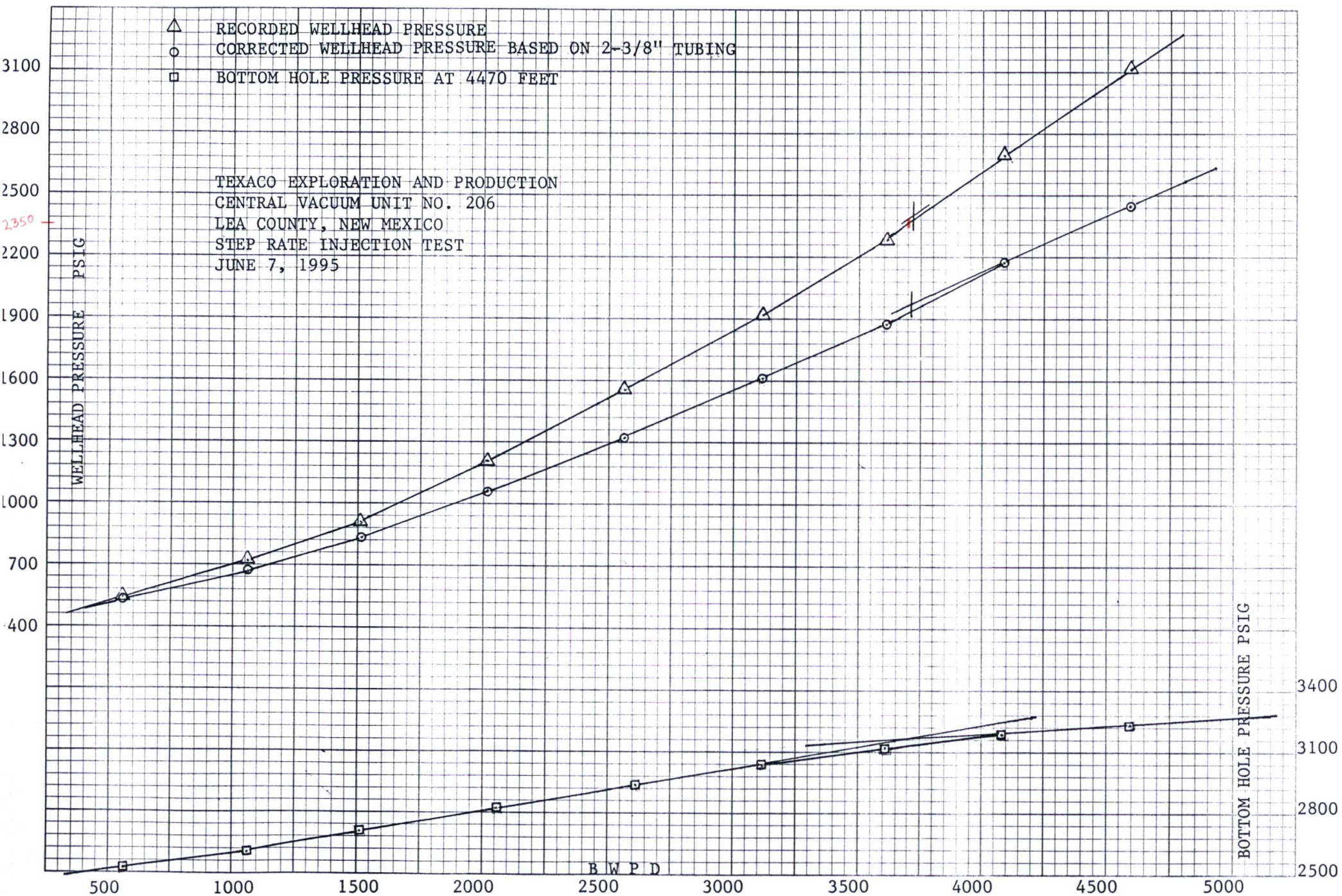
PERFS = 4221-4718

PACKER DEPTH = 4184

BHP GAUGE DEPTH = 4470

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	9:45	416.7				416.7		2434.6
	9:50	525.1	2.1	604.8	15.210	509.9	17.64	2501.1
	9:55	536.3	4.0	547.2	12.639	523.7	15.96	2513.1
	10:00	541.4	5.9	547.2	12.639	528.8	15.96	2520.7
				566.4				
2	10:05	704.6	9.8	1123.2	47.808	656.8	32.76	2581.1
	10:10	700.8	13.4	1036.8	41.228	659.6	30.24	2596.3
	10:15	712.1	17.0	1036.8	41.228	670.9	30.24	2609.9
3				1065.6				
	10:20	865.2	22.2	1497.6	81.402	783.8	43.68	2664.3
	10:25	898.9	27.5	1526.4	84.322	814.6	44.52	2687.0
	10:30	911.4	32.7	1497.6	81.402	830.0	43.68	2703.6
				1507.2				
4	10:35	1152.1	39.8	2044.8	144.829	1007.3	59.64	2774.7
	10:40	1190.8	47.0	2073.6	148.626	1042.2	60.48	2802.0
	10:45	1209.6	54.2	2073.6	148.626	1061.0	60.48	2823.1
				2064.0				
5	10:50	1508.1	63.2	2592.0	224.583	1283.5	75.60	2891.1
	10:55	1536.8	72.2	2592.0	224.583	1312.2	75.60	2919.8
	11:00	1554.3	81.4	2649.6	233.903	1320.4	77.28	2939.5
				2611.2				
6	11:05	1889.0	92.2	3110.4	314.675	1574.3	90.72	2998.0
	11:10	1909.0	103.1	3139.2	320.087	1588.9	91.56	3021.0
	11:15	1916.5	113.9	3110.4	314.675	1601.8	90.72	3039.1
				3120.0				
7	11:20	2296.4	126.5	3628.8	418.518	1877.9	105.84	3087.5
	11:25	2273.9	139.1	3628.8	418.518	1855.4	105.84	3105.6
	11:30	2286.4	151.5	3571.2	406.311	1880.1	104.16	3119.1
				3609.6				

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 (psi)
8	11:35	2622.9	165.8	4118.4	528.932	2094.0	120.12	3157.0
	11:40	2662.9	180.0	4089.6	522.110	2140.8	119.28	3172.1
	11:45	2690.5	194.1	4060.8	515.328	2175.2	118.44	3182.6
9				4089.6				
	11:50	3084.1	210.0	4579.2	643.596	2440.5	133.56	3212.8
	11:55	3082.8	226.0	4608.0	651.104	2431.7	134.40	3224.9
	12:00	3109.2	242.0	4608.0	651.104	2458.1	134.40	3235.5
FALLOFF				4598.4				
	12:01	1147.2				1147.2		3153.8
	12:02	1093.5				1093.5		3119.0
	12:03	1066.0				1066.0		3094.8
	12:04	1044.8				1044.8		3073.6
	12:05	1027.3				1027.3		3055.4
	12:10	957.6				957.6		2987.4
	12:15	907.8				907.8		2937.6



WEST-TEST, INC.
A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 8, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 207
LEA COUNTY, NEW MEXICO

WO#: 95-14-0780

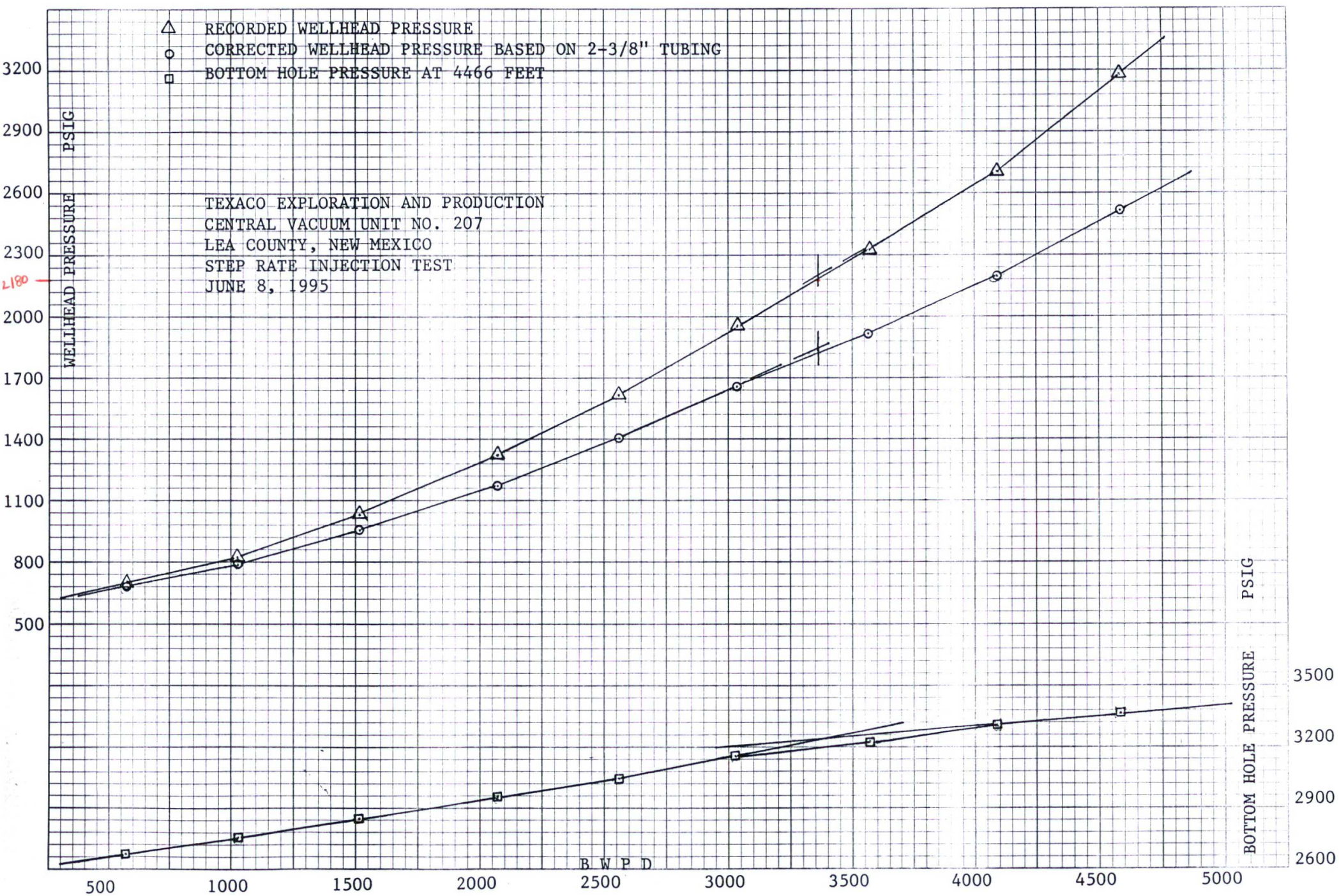
PERFS = 4256-4676

PACKER DEPTH = 4202

BHP GAUGE DEPTH = 4466

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	9:50	557.2				557.2		2581.2
	9:55	655.7	2.0	576.0	13.885	641.8	16.80	2638.6
	10:00	662.0	3.9	547.2	12.628	649.4	15.96	2652.2
	10:05	698.1	6.0	604.8	15.197	682.9	17.64	2667.3
				576.0				
2	10:10	802.7	9.6	1036.8	41.191	761.5	30.24	2715.7
	10:15	819.0	13.2	1036.8	41.191	777.8	30.24	2733.9
	10:20	824.0	16.7	1008.0	39.099	784.9	29.40	2747.5
3				1027.2				
	10:25	985.9	22.0	1526.4	84.246	901.7	44.52	2808.0
	10:30	1022.1	27.2	1497.6	81.329	940.8	43.68	2830.7
	10:35	1037.1	32.5	1526.4	84.246	952.9	44.52	2845.9
4				1516.8				
	10:40	1272.0	39.7	2073.6	148.493	1123.5	60.48	2912.4
	10:45	1294.4	46.9	2073.6	148.493	1145.9	60.48	2936.6
	10:50	1321.9	54.1	2073.6	148.493	1173.4	60.48	2954.7
				2073.6				
5	10:55	1579.3	63.2	2620.8	229.016	1350.3	76.44	3012.1
	11:00	1603.0	71.9	2505.6	210.742	1392.3	73.08	3034.7
	11:05	1618.0	80.7	2534.4	215.245	1402.8	73.92	3052.8
				2553.6				
6	11:10	1919.0	91.3	3052.8	303.708	1615.3	89.04	3107.2
	11:15	1939.0	101.9	3052.8	303.708	1635.3	89.04	3129.9
	11:20	1955.2	112.3	2995.2	293.191	1662.0	87.36	3148.0
				3033.6				
7	11:25	2333.9	124.7	3571.2	405.947	1928.0	104.16	3194.9
	11:30	2346.4	137.1	3571.2	405.947	1940.5	104.16	3216.0
	11:35	2331.4	149.5	3571.2	405.947	1925.5	104.16	3234.1
				3571.2				

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)
8	11:40	2711.9	163.7	4089.6	521.643	2190.3	119.28	3275.0
	11:45	2749.5	178.0	4118.4	528.459	2221.0	120.12	3294.6
	11:50	2710.6	192.2	4089.6	521.643	2189.0	119.28	3309.2
				4099.2				
9	11:55	3152.0	208.0	4550.4	635.558	2516.4	132.72	3343.0
	12:00	3158.3	224.0	4608.0	650.521	2507.8	134.40	3358.0
	12:05	3178.4	240.0	4608.0	650.521	2527.9	134.40	3373.1
				4588.8				
FALLOFF	12:06	1263.3				1263.3		3276.3
	12:07	1207.1				1207.1		3235.5
	12:08	1177.1				1177.1		3205.2
	12:09	1152.1				1152.1		3181.0
	12:10	1130.9				1130.9		3159.8
	12:15	1048.5				1048.5		3079.7
	12:20	989.9				989.9		3022.2



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 9, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 223
LEA COUNTY, NEW MEXICO

WO#: 95-14-0875

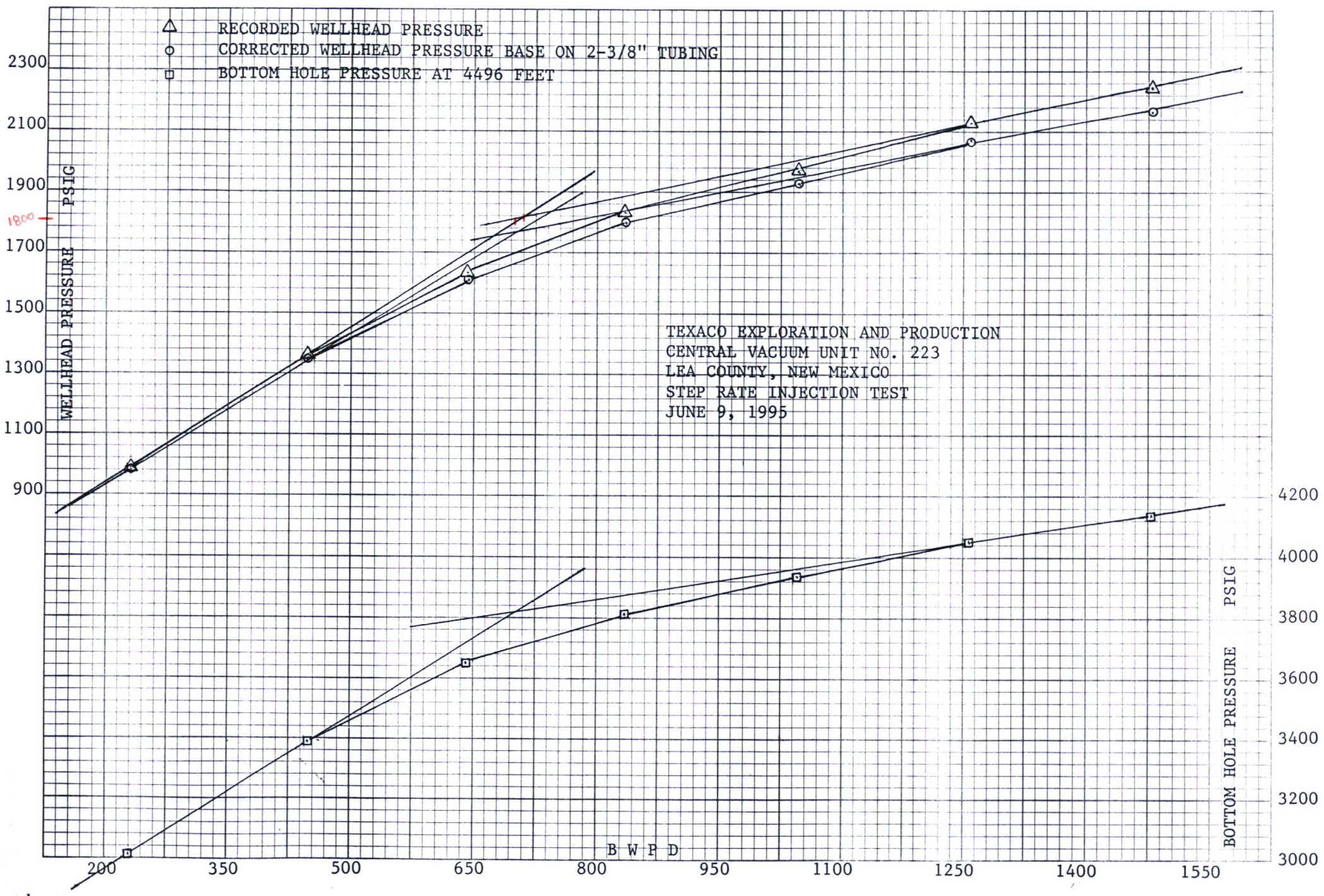
PERFS = 4330-4662

PACKER DEPTH = 4280

BHP GAUGE DEPTH = 4496

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	9:15	492.5				492.5		2511.6
	9:20	872.6	0.8	230.4	2.566	870.0	6.72	2889.3
	9:25	938.6	1.6	230.4	2.566	936.0	6.72	2957.3
	9:30	988.4	2.4	230.4	2.566	985.8	6.72	3011.7
2				230.4				
	9:35	1255.7	3.9	432.0	8.209	1247.5	12.60	3256.7
	9:40	1330.7	5.5	460.8	9.251	1321.4	13.44	3352.0
	9:45	1359.4	7.1	460.8	9.251	1350.1	13.44	3386.8
3				451.2				
	9:50	1563.0	9.4	662.4	18.103	1544.9	19.32	3582.0
	9:55	1616.7	11.5	604.8	15.299	1601.4	17.64	3616.8
	10:00	1631.7	13.8	662.4	18.103	1613.6	19.32	3650.1
4				643.2				
	10:05	1775.3	16.7	835.2	27.796	1747.5	24.36	3757.5
	10:10	1796.6	19.6	835.2	27.796	1768.8	24.36	3784.7
	10:15	1826.5	22.5	835.2	27.796	1798.7	24.36	3810.4
5				835.2				
	10:20	1946.4	26.2	1065.6	43.623	1902.8	31.08	3898.2
	10:25	1962.6	29.8	1036.8	41.467	1921.1	30.24	3919.3
	10:30	1971.4	33.4	1036.8	41.467	1929.9	30.24	3934.5
6				1046.4				
	10:35	2081.3	37.8	1267.2	60.108	2021.2	36.96	4005.6
	10:40	2103.8	42.1	1238.4	57.605	2046.2	36.12	4032.9
	10:45	2128.8	46.5	1267.2	60.108	2068.7	36.96	4052.6
7				1257.6				
	10:50	2213.7	51.7	1497.6	81.875	2131.8	43.68	4102.8
	10:55	2222.5	56.8	1468.8	78.986	2143.5	42.84	4122.0
	11:00	2251.2	61.9	1468.8	78.986	2172.2	42.84	4139.3
				1478.4				

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)
FALLOFF	11:01	1940.1				1940.1		3976.8
	11:02	1840.2				1840.2		3878.5
	11:03	1759.0				1759.0		3798.3
	11:04	1690.3				1690.3		3728.7
	11:05	1631.6				1631.6		3671.2
	11:10	1429.4				1429.4		3468.5
	11:15	1307.0				1307.0		3346.0



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION AND PRODUCTION

DATE: JUNE 13, 1995

WELL NAME: CENTRAL VACUUM UNIT NO. 244
LEA COUNTY, NEW MEXICO

WO#: 95-14-0781

PERFS = 4275-4563

PACKER DEPTH = 4266

BHP GAUGE DEPTH = 4419

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	9:30	709.3				709.3		2703.7
	9:35	866.3	1.6	460.8	9.092	857.2	13.44	2856.3
	9:40	964.7	3.2	460.8	9.092	955.6	13.44	2922.8
	9:45	1009.6	4.7	432.0	8.069	1001.5	12.60	2957.6
				451.2				
2	9:50	1197.0	7.6	835.2	27.320	1169.7	24.36	3120.9
	9:55	1257.0	10.6	864.0	29.088	1227.9	25.20	3190.6
	10:00	1303.2	13.6	864.0	29.088	1274.1	25.20	3239.8
				854.4				
3	10:05	1526.8	18.3	1353.6	66.746	1460.1	39.48	3375.3
	10:10	1573.0	23.0	1353.6	66.746	1506.3	39.48	3426.8
	10:15	1610.5	27.7	1353.6	66.746	1543.8	39.48	3461.7
				1353.6				
4	10:20	1824.1	34.0	1814.4	114.769	1709.3	52.92	3552.5
	10:25	1869.0	40.5	1872.0	121.600	1747.4	54.60	3590.3
	10:30	1905.2	46.6	1756.8	108.120	1797.1	51.24	3620.1
				1814.4				
5	10:35	2165.1	54.6	2304.0	178.551	1986.5	67.20	3691.7
	10:40	2192.6	62.8	2361.6	186.896	2005.7	68.88	3720.4
	10:45	2212.6	70.9	2332.8	182.702	2029.9	68.04	3746.1
				2332.8				
6	10:50	2508.8	80.9	2880.0	269.802	2239.0	84.00	3805.0
	10:55	2525.1	90.8	2851.2	264.832	2260.3	83.16	3818.6
	11:00	2533.9	100.7	2851.2	264.832	2269.1	83.16	3832.2
				2860.8				
7	11:05	2845.9	112.2	3312.0	349.411	2496.5	96.60	3871.5
	11:10	2844.6	124.2	3456.0	378.033	2466.6	100.80	3886.5
	11:15	2837.1	135.5	3254.4	338.252	2498.8	94.92	3897.1
				3340.8				

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)
FALLOFF	11:16	1815.2				1815.2		3818.4
	11:17	1764.0				1764.0		3770.0
	11:18	1722.0				1722.0		3730.6
	11:19	1687.6				1687.6		3695.8
	11:20	1656.6				1656.6		3664.1
	11:25	1535.5				1535.5		3544.6
	11:30	1449.4				1449.4		3458.3

