CF 10771

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

April 27, 1994

OXY USA, Inc.
P.O. Box 50250
Midland, TX 79710

Attention: Scott E. Gengler

RE: Injection Pressure Increase Skelly Penrose "B" Unit, Lea County, New Mexico

Dear Mr. Gengler:

Reference is made to your request dated April 5, 1994 to increase the surface injection pressure on seven wells in the Skelly Penrose "B" Unit. This request is based on step rate tests conducted between February 14 and 18, 1994. 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:

Well and Location	Maximum Injection Surface Pressure
SPBU Well No. 18 Unit A, Section 5, Township 23 South, Range 37 East	1235 PSIG
SPBU Well No. 26 Unit E, Section 5, Township 23 South, Range 37 East	1570 PSIG
SPBU Well No. 28 Unit G, Section 5, Township 23 South, Range 37 East	1330 PSIG
SPBU Well No. 30 Unit E, Section 4, Township 23 South, Range 37 East	1595 PSIG
SPBU Well No. 31 Unit I, Section 5, Township 23 South, Range 37 East	1620 PSIG

Well and Location	Maximum Injection Surface Pressure
SPBU Well No. 39 Unit O, Section 5, Township 23 South, Range 37 East	1505 PSIG
SPBU Well No. 44 Unit C, Section 8, Township 23 South, Range 37 East	1440 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/amg

cc: Oil Conservation Division - Hobbs
File: Case File No. 10771
PSI-X ~~2nd~~ 4th Quarter - 1994

NO WAITING PERIOD

COMPANY: **OXY USA, INC.**

ADDRESS: **P.O. Box 50250**

CITY, STATE, ZIP: **Midland, Texas 79710**

ATTENTION: **Mr. Scott E. Gengler**

Re: Injection Pressure Increase
Skelly Penrose "B" Unit
Lea County, New Mexico

Dear Sir:

Reference is made to your request dated **April 5**, 1994, to increase the surface injection pressure on **7 wells in your Skelly Penrose "B" Unit.** This request is based on step rate tests conducted on these wells between **February 14** and **18,** 1994. 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:

Well & Location	Maximum Injection Surface Pressure
SPBU Well No.18 **Unit A, Section 5, T23S, R37E**	**1235 psig**
SPBU Well No.26 **Unit E, Section 5, T23S, R37E**	**1570 psig**
SPBU Well No.28 **Unit G, Section 5, T23S, R37E**	**1330 psig**
SPBU Well No.30 **Unit E, Section 4, T23S, R37E**	**1595 psig**
SPBU Well No.31 **Unit I, Section 5, T23S, R37E**	**1620 psig**
SPBU Well No.39 **Unit O, Section 5, T23S, R37E**	**1505 psig**
SPBU Well No.44 **Unit C, Section 8, T23S, R37E**	**1440 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.

William J. LeMay
Director

WJL/BES
xc: OCD - **Hobbs**
FILE - **Case File No.10771; PSI-X 2nd Qtr 1994**

OXY USA INC.
Box 50250, Midland, TX 79710

April 5, 1994

Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, NM 87504

Attn: Mr. William J. Lemay, Director

RE: Application of OXY USA Inc. for an Increase in the Authorized Injection Pressure for the Skelly Penrose "B"Unit, Langlie Mattix Seven Rivers-Queen-Grayburg Pool, Lea County New Mexico.

Dear Sir:

OXY USA Inc. respectfully requests an increase in the authorized injection pressure for seven (7) wells in the referenced waterflood unit:

Well	Requested Authorized Injection Pressure*
SPBU Well #18	1235 psi
SPBU Well #26	1570 psi
SPBU Well #28	1330 psi
SPBU Well #30	1595 psi
SPBU Well #31	1620 psi
SPBU Well #39	1505 psi
SPBU Well #44	1440 psi

*fracture pressure from step-rate tests less 50 psi.

Injection in these wells was originally granted in Order No. R-9955 on 9/7/93 (copy attached). Paragraph (6) of this Order allows for the NMOCD to authorize a higher pressure based on evidence that such pressure will not result in migration of the injection fluid out of the Queen formation. To satisfy this requirement, OXY commissioned John West Engineering Company to perform step-rate tests on selected wells within the Unit. Included with this request are copies of the results of these tests on wells 18, 26, 28, 30, 31, 39, and 44.

As required by Statewide Rule 704 (C) (1) and Division instructions, OXY gave notice of the date and time the step-rate tests were to be run to the NMOCD District Office in Hobbs. By copy of this letter, we are also giving notice of our application for an increase in the authorized injection pressure on these seven wells.

If you require any additional information relating to this request, please contact the undersigned at (915) 685-5825. Thank you for consideration of this request.

Yours truly,

Scott E. Gengler
Engineering Advisor
Western Region

SEG/dgj

Enclosures

CC: Rick Foppiano, w/enclosures
Sharon Haggard, w/enclosures
Terry Lindquist, w/enclosures
David Stewart, w/enclosures

New Mexico Oil Conservation Division
District I Office
P. O. Box 1980
Hobbs, New Mexico 88240

WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: OXY USA, INC.

DATE: FEBRUARY 14, 1994

WELL NAME: PENROSE "B" NO. 18
LEA COUNTY, NEW MEXICO

WO#: 94-14-0261

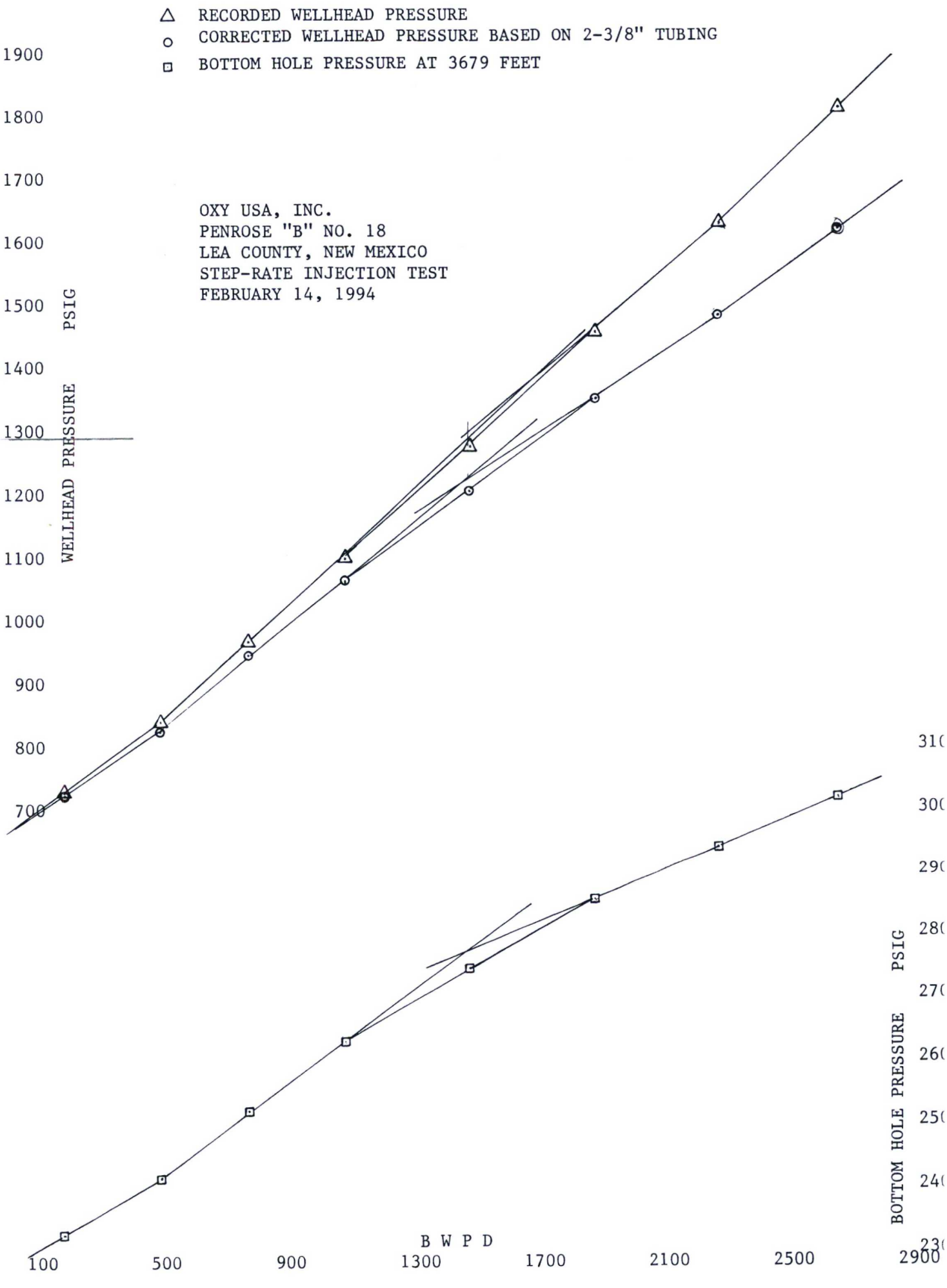
MID-PERFS. = 3614-3744

PACKER DEPTH = 3557

BHP GAUGE DEPTH = 3679

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)	
	9:50	668.5				668.5		2270	
	9:55	711.7	0.6	172.8	1.233	710.5	5.04	2297	
	10:00	708.9	1.0	115.2	0.582	708.3	3.36	2309	
1	10:05	736.9	1.7	201.6	1.640	735.3	5.88	2329	
				163.2					
	10:10	793.3	3.4	489.6	8.468	784.8	14.28	2371	
	10:15	806.2	5.1	489.6	8.468	797.7	14.28	2399	
2	10:20	843.5	6.7	460.8	7.570	835.9	13.44	2420	
				480.0					
	10:25	899.8	9.3	748.8	18.585	881.2	21.84	2466	
	10:30	942.0	11.9	748.8	18.585	923.4	21.84	2497	
3	10:35	975.2	14.6	777.6	19.928	955.3	22.68	2525	
				758.4					
	10:40	1050.3	18.3	1065.6	35.696	1014.6	31.08	2574	
	10:45	1093.6	22.0	1065.6	35.696	1057.9	31.08	2609	
4	10:50	1107.5	25.7	1065.6	35.696	1071.8	31.08	2636	
				1065.6					51
	10:55	1225.0	30.7	1440.0	62.308	1162.7	42.00	2687	16
	11:00	1256.4	35.8	1468.8	64.633	1191.8	42.84	2723	29
5	11:05	1281.5	41.0	1497.6	66.997	1214.5	43.68	2752	
				1468.8					47
	11:10	1406.7	47.4	1843.2	98.375	1308.3	53.76	2799	34
	11:15	1442.3	53.9	1872.0	101.237	1341.1	54.60	2833	
6	11:20	1463.9	60.5	1900.8	104.137	1359.8	55.44	2861	28
				1872.0					39
	11:25	1590.6	68.3	2246.4	141.849	1448.8	65.52	2900	30
	11:30	1619.9	76.2	2275.2	145.232	1474.7	66.36	2930	22
7	11:35	1639.1	84.1	2275.2	145.232	1493.9	66.36	2952	
				2265.6					

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 (gprm) (3)/34.2857	(7) MEASURED BHP (psi)
	11:40	1777.8	93.3	2649.6	192.512	1585.3	77.28	2985
	11:45	1793.3	102.6	2678.4	196.401	1596.9	78.12	3009
8	11:50	1820.4	111.8	2649.6	192.512	1627.9	77.28	3028
				2659.2				
FALLOFF	11:51	1427.3				1427.3		3008
	11:52	1409.4				1409.4		2999
	11:53	1403.1				1403.1		2993
	11:54	1398.0				1398.0		2987
	11:55	1392.9				1392.9		2982
	12:00	1374.0				1374.0		2962
	12:05	1357.5				1357.5		2945


△ RECORDED WELLHEAD PRESSURE
○ CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
□ BOTTOM HOLE PRESSURE AT 3679 FEET
OXY USA, INC.
PENROSE "B" NO. 18
LEA COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
FEBRUARY 14, 1994
WELLHEAD PRESSURE PSIG
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
BOTTOM HOLE PRESSURE PSIG
310
300
290
280
270
260
250
240
230
B W P D
100
500
900
1300
1700
2100
2500
2900

WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: OXY USA, INC.

DATE: FEBRUARY 15, 1994

WELL NAME: PENROSE "B" NO. 26
LEA COUNTY, NEW MEXICO

WO#: 94-14-0262

MID-PERFS. = 3659-3768

PACKER DEPTH = 3614

BHP GAUGE DEPTH =

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)
	9:30	1044.2				1044.2		
	9:35	1078.6	0.7	201.6	1.850	1076.7	5.88	
	9:40	1100.3	1.6	259.2	2.945	1097.4	7.56	
1	9:45	1129.6	2.6	288.0	3.579	1126.0	8.40	
				249.6				
	9:50	1183.2	4.3	489.6	9.552	1173.6	14.28	
	9:55	1202.2	6.0	489.6	9.552	1192.6	14.28	
2	10:00	1248.1	7.6	460.0	8.511	1239.6	13.42	
				480.0				
	10:05	1312.1	10.1	720.0	19.497	1292.6	21.00	
	10;10	1368.3	12.6	720.0	19.497	1348.8	21.00	
3	10:15	1374.6	15.2	748.8	20.964	1353.6	21.84	
				729.6				
	10:20	1473.1	18.8	1036.8	38.276	1434.8	30.24	
	10:25	1508.8	22.5	1065.6	40.267	1468.5	31.08	
4	10:30	1539.4	26.1	1036.8	38.276	1501.1	30.24	
				1046.4				
	10:35	1618.7	30.7	1324.8	60.238	1558.5	38.64	
	10;40	1646.8	35.5	1382.4	65.173	1581.6	40.32	
5	10;45	1654.5	40.3	1382.4	65.173	1589.3	40.32	
				1363.2				
	10;50	1760.6	46.3	1728.0	98.481	1662.1	50.40	
	10:55	1782.2	52.4	1756.8	101.539	1680.7	51.24	
6	11:00	1797.9	58.4	1728.0	98.481	1699.4	50.40	
				1737.6				
	11;05	1899.5	65.8	2131.2	145.161	1754.3	62.16	
	11:10	1931.3	73.4	2188.8	152.502	1778.8	63.84	
7	11:15	1939.8	80.9	2160.0	148.811	1791.0	63.00	
				2160.0				

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)
	11:20	2059.9	89.8	2563.2	204.241	1855.7	74.76	
	11:25	2066.0	98.6	2534.4	200.016	1866.0	73.92	
8	11;30	2074.8	107.5	2563.2	204.241	1870.6	74.76	
				2553.6				
FALLOFF	11:31	1758.5				1758.5		
	11:32	1763.6				1763.6		
	11:33	1755.9				1755.9		
	11:34	1750.7				1750.7		
	11:35	1745.6				1745.6		
	11:40	1723.7				1723.7		
	11:45	1708.3				1708.3		

WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: OXY USA, INC.

DATE: FEBRUARY 16, 1994

WELL NAME: PENROSE "B" NO. 28
LEA COUNTY, NEW MEXICO

WO#: 94-14-0263

MID-PERFS. = 3628-3724

PACKER DEPTH = 3552

BHP GAUGE DEPTH = 3676

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)
	9:05	726.9				726.9		2325
	9:10	770.2	0.9	259.2	2.915	767.3	7.56	2374
	9:15	778.8	2.0	316.8	4.226	774.6	9.24	2409
1	9:20	854.9	3.4	403.2	6.601	848.3	11.76	2438
				326.4				
	9:25	924.3	5.7	662.4	16.539	907.8	19.32	2494
	9:30	959.3	8.0	662.4	16.539	942.8	19.32	2530
2	9;35	996.9	10.3	662.4	16.539	980.4	19.32	2558
				662.4				
	9:40	1074.4	13.5	921.6	30.467	1043.9	26.88	2611
	9:45	1109.8	16.9	979.2	34.083	1075.7	28.56	2648
3	9:50	1137.7	20.2	950.4	32.252	1105.4	27.72	2675
				950.4				
	9:55	1198.9	24.6	1267.2	54.915	1144.0	36.96	2723
	10:00	1250.0	28.8	1209.6	50.387	1199.6	35.28	2753
4	10:05	1270.3	33.2	1267.2	54.915	1215.4	36.96	2778
				1248.0				
	10:10	1355.9	38.5	1526.4	77.485	1278.4	44.52	2819
	10:15	1398.1	43.9	1555.2	80.211	1317.9	45.36	2846
5	10:20	1409.5	49.4	1584.0	82.981	1326.5	46.20	2868
				1555.2				
	10:25	1506.7	55.9	1872.0	113.030	1393.7	54.60	2900
	10:30	1519.4	62.3	1843.2	109.834	1409.6	53.76	2922
6	10:35	1534.7	68.8	1872.0	113.030	1421.7	54.60	2939
				1862.4				
	10:40	1656.3	76.4	2188.8	150.942	1505.4	63.84	2970
	10:45	1669.0	84.2	2246.4	158.373	1510.6	65.52	2989
7	10:50	1695.9	92	2246.4	158.373	1537.5	65.52	3006
				2227.2				

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)
	10:55	1827.8	101.2	2649.6	214.938	1612.9	77.28	3032
	11:00	1827.9	110.3	2620.8	210.636	1617.3	76.44	3047
8	11:05	1858.8	119.5	2649.6	214.938	1643.9	77.28	3060
				2640.0				
FALLOFF	11:06	1446.5				1446.5		3036
	11:07	1442.7				1442.7		3025
	11:08	1428.6				1428.6		3016
	11:09	1427.4				1427.4		3009
	11:10	1421.0				1421.0		3002
	11:15	1395.5				1395.5		2979
	11:20	1376.3				1376.3		2961

WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: OXY USA, INC.

DATE: FEBRUARY 17, 1994

WELL NAME: PENROSE "B" NO. 30
LEA COUNTY, NEW MEXICO

WO#: 94-14-0264

MID-PERFS. = 3531-3568

PACKER DEPTH = 3489

BHP GAUGE DEPTH = 3550

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)
	9:15	1077.0				1077.0		2620
	9:20	1153.6	1.1	316.8	3.652	1149.9	9.24	2646
	9:25	1149.6	2.3	345.6	4.290	1145.3	10.08	2660
1	9:30	1144.4	3.6	374.4	4.974	1139.4	10.92	2670
				345.6				
	9:35	1172.4	5.8	633.6	13.165	1159.2	18.48	2698
	9:40	1215.8	8.2	691.2	15.465	1200.3	20.16	2715
2	9:45	1223.2	10.5	662.4	14.294	1208.9	19.32	2728
				662.4				
	9:50	1286.8	14.0	1008.0	31.080	1255.7	29.40	2762
	9:55	1290.1	17.3	950.4	27.874	1262.2	27.72	2778
3	10:00	1305.0	20.6	950.4	27.874	1277.1	27.72	2793
				969.6				
	10:05	1372.4	25.0	1267.2	47.461	1324.9	36.96	2822
	10:10	1387.6	29.4	1267.2	47.461	1340.1	36.96	2839
4	10:15	1399.1	33.8	1267.2	47.461	1351.6	36.96	2855
				1267.2				
	10:20	1474.4	39.2	1555.2	69.323	1405.1	45.36	2883
	10:25	1499.7	44.6	1555.2	69.323	1430.4	45.36	2901
5	10:30	1515.1	50.1	1584.0	71.717	1443.4	46.20	2917
				1564.8				
	10:35	1611.0	56.7	1900.8	100.486	1510.5	55.44	2946
	10:40	1629.0	63.6	1987.2	109.099	1519.9	57.96	2965
6	10:45	1635.4	70.4	1958.4	106.192	1529.2	57.12	2980
				1948.8				
	10:50	1758.2	78.5	2332.8	146.773	1611.4	68.04	3009
	10:55	1764.4	86.7	2361.6	150.143	1614.3	68.88	3026
7	11:00	1783.5	94.9	2361.6	150.143	1633.4	68.88	3040
				2352.0				

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)
	11:05	1902.4	104.3	2707.2	193.302	1709.1	78.96	3065
	11:10	1911.2	114.0	2793.6	204.869	1706.3	81.48	3080
8	11:15	1918.6	123.4	2707.2	193.302	1725.3	78.96	3085
				2736.0				
FALLOFF	11:16	1519.1				1519.1		3055
	11:17	1508.9				1508.9		3043
	11:18	1501.2				1501.2		3035
	11:19	1494.8				1494.8		3029
	11:20	1489.8				1489.8		3023
	11:25	1475.9				1475.9		3008
	11:30	1465.8				1465.8		2996

WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: OXY USA, INC.

DATE: FEBRUARY 17, 1994

WELL NAME: PENROSE "B" NO. 31
LEA COUNTY, NEW MEXICO

WO#: 94-14-0265

MID-PERFS. = 3580-3698

PACKER DEPTH = 3519

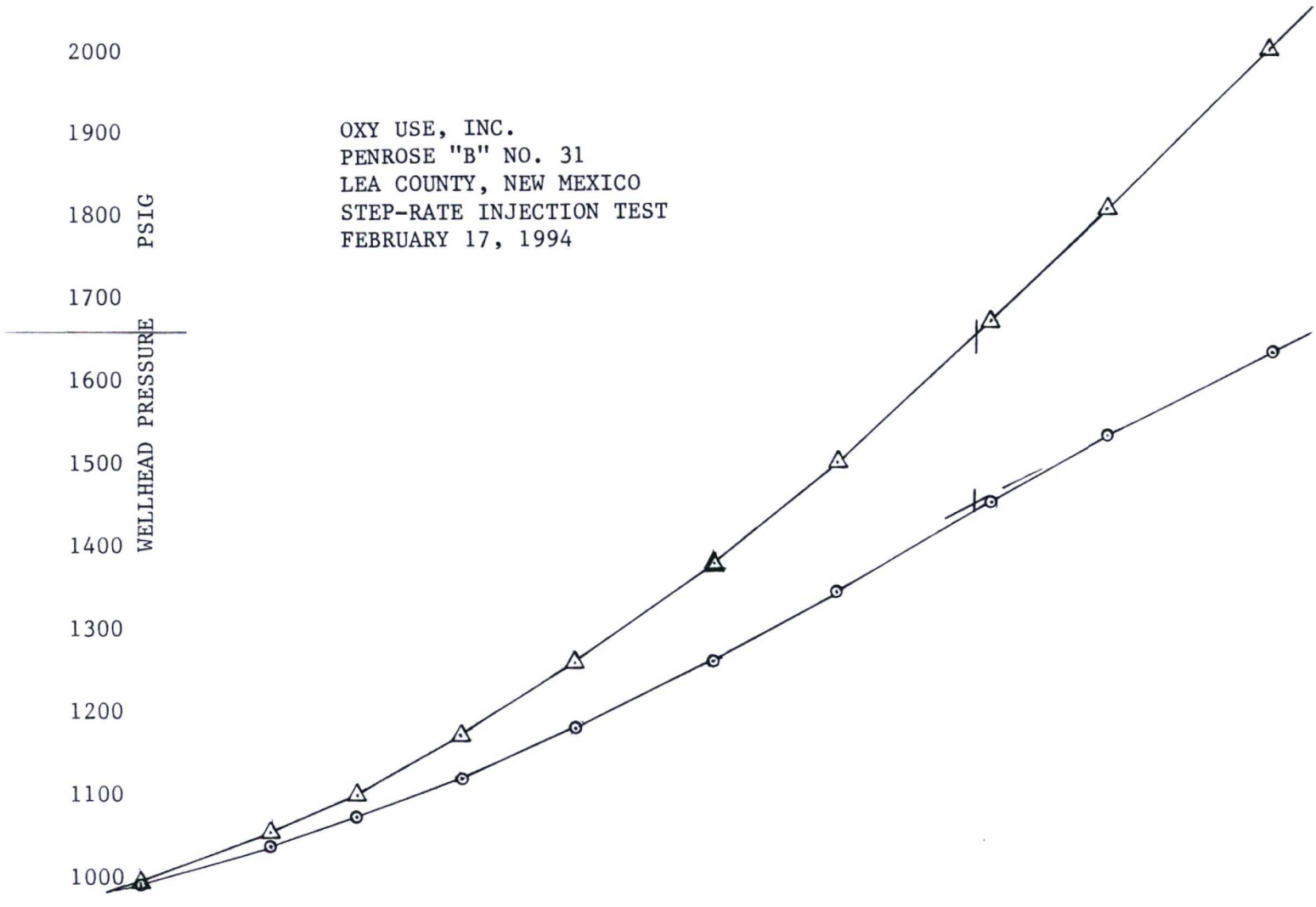
BHP GAUGE DEPTH = 3639

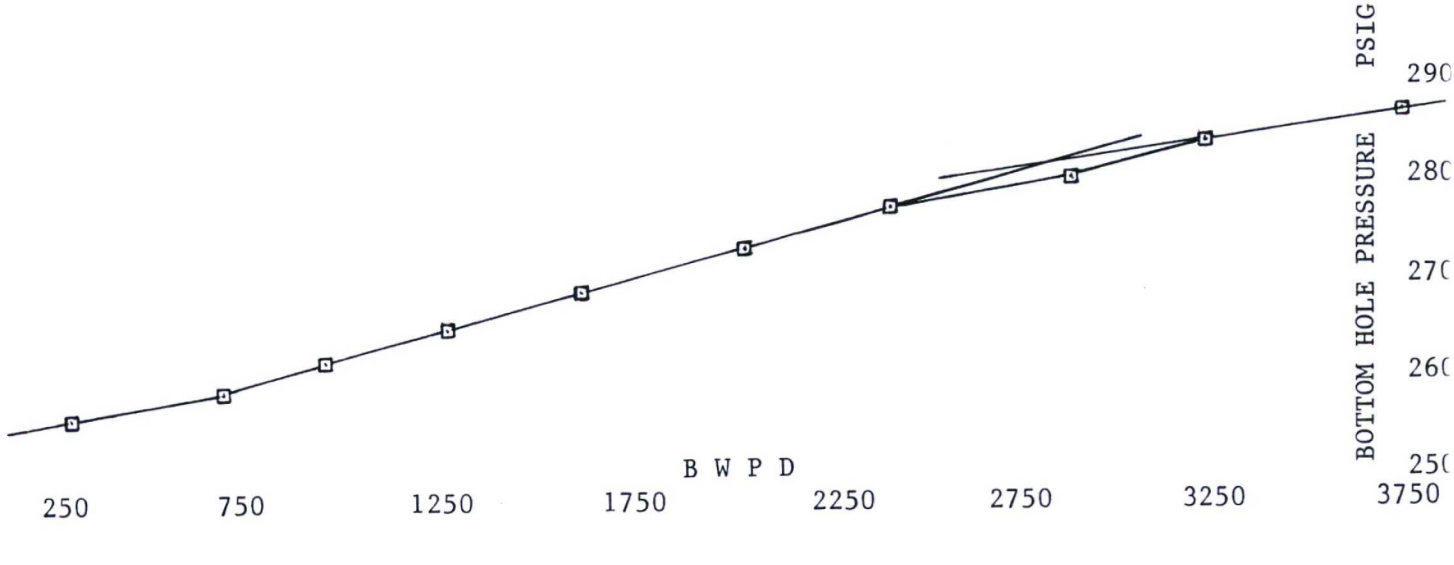
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	1:25	964.2				964.2		2550
	1:30	984.9	0.8	230.4	2.077	982.8	6.72	2556
	1:35	979.9	1.9	316.8	3.744	976.2	9.24	2561
1	1:40	1006.9	3.0	316.8	3.744	1003.2	9.24	2566
				288.0				
	1:45	1031.3	5.3	662.4	14.652	1016.6	19.32	2578
	1:50	1037.7	7.7	691.2	15.852	1021.8	20.16	2586
2	1:55	1067.1	10.1	691.2	15.852	1051.2	20.16	2594
				681.6				
	2:00	1099.0	13.4	950.4	28.573	1070.4	27.72	2607
	2:05	1097.7	16.7	950.4	28.573	1069.1	27.72	2616
3	2:10	1113.1	20.0	950.4	28.573	1084.5	27.72	2624
				950.4				
	2:15	1179.7	24.4	1267.2	48.651	1131.0	36.96	2639
	2:20	1161.8	28.8	1267.2	48.651	1113.1	36.96	2650
4	2:25	1183.5	33.2	1267.2	48.651	1134.8	36.96	2659
				1267.2				
	2:30	1251.4	38.8	1612.8	76.007	1175.4	47.04	2675
	2:35	1266.8	44.3	1584.0	73.515	1193.3	46.20	2688
5	2:40	1273.3	49.9	1612.8	76.007	1197.3	47.04	2699
				1603.2				
	2:45	1366.9	56.9	2016.0	114.851	1252.0	58.80	2717
	2:50	1379.7	64.0	2044.8	117.905	1261.8	59.64	2730
6	2:55	1392.5	71.1	2044.8	117.905	1274.6	59.64	2741
				2044.8				
	3:00	1488.5	79.4	2390.4	157.397	1331.1	69.72	2759
	3:05	1506.5	87.9	2448.0	164.486	1342.0	71.40	2771
7	3:10	1516.8	96.2	2390.4	157.397	1359.4	69.72	2782
				2409.6				

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)
	3:15	1657.6	106.3	2908.8	226.307	1431.3	84.84	2801
	3:20	1671.7	116.3	2880.0	222.179	1449.5	84.00	2814
8	3:25	1682.0	126.2	2851.2	218.086	1463.9	83.16	2817
				2880.0				
	3:30	1789.6	137.5	3254.4	278.547	1511.1	94.92	2837
	3:35	1820.4	148.8	3254.4	278.547	1541.9	94.92	2846
9	3:40	1819.1	160.0	3225.6	274.004	1545.1	94.08	2854
				3244.8				
	3:45	1972.8	173.0	3744.0	360.993	1611.8	109.20	2868
	3:50	2002.3	185.9	3715.2	355.872	1646.4	108.36	2876
10	3:55	2008.8	199.0	3772.8	366.147	1642.7	110.04	2884
				3744.0				
FALLOFF	3:56	1303.3				1303.3		2867
	3:57	1291.8				1291.8		2861
	3:58	1286.7				1286.7		2856
	3:59	1282.9				1282.9		2852
	4:00	1277.8				1277.8		2846
	4:05	1263.7				1263.7		2833

△ RECORDED WELLHEAD PRESSURE
○ CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
□ BOTTOM HOLE PRESSURE AT 3639 FEET

OXY USE, INC.
PENROSE "B" NO. 31
LEA COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
FEBRUARY 17, 1994





WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: OXY USA, INC.

DATE: FEBRUARY 18, 1994

WELL NAME: PENROSE "B" NO. 39
LEA COUNTY, NEW MEXICO

WO#: 94-14-0266

MID-PERFS. = 3554-3685

PACKER DEPTH = 3498

BHP GAUGE DEPTH = 3620

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)
	8:50	1208.4				1208.4		2778
	8:55	1222.4	0.9	259.2	2.569	1219.8	7.56	2797
	9:00	1250.5	2.1	345.6	4.374	1246.1	10.08	2810
1	9:05	1267.1	3.4	374.4	5.073	1262.0	10.92	2818
				326.4				
	9:10	1302.9	5.5	604.8	12.318	1290.6	17.64	2839
	9:15	1310.4	7.8	662.4	14.576	1295.8	19.32	2852
2	9:20	1332.1	10.1	662.4	14.576	1317.5	19.32	2863
				643.2				
	9:25	1367.9	13.4	950.4	28.424	1339.5	27.72	2884
	9:30	1378.1	16.7	950.4	28.424	1349.7	27.72	2897
3	9:35	1393.4	20.3	1036.8	33.388	1360.0	30.24	2909
				979.2				
	9:40	1443.2	24.7	1267.2	48.397	1394.8	36.96	2928
	9:45	1467.5	29.1	1267.2	48.397	1419.1	36.96	2940
4	9:50	1467.5	33.4	1238.4	46.382	1421.1	36.12	2950
				1257.6				
	9:55	1540.4	38.9	1584.0	73.131	1467.3	46.20	2967
	10:00	1544.1	44.4	1584.0	73.131	1471.0	46.20	2978
5	10:05	1558.1	49.9	1584.0	73.131	1485.0	46.20	2988
				1584.0				
	10:10	1624.6	56.4	1872.0	99.614	1525.0	54.60	3003
	10:15	1633.6	62.9	1872.0	99.614	1534.0	54.60	3013
6	10:20	1636.0	69.4	1872.0	99.614	1536.4	54.60	3021
				1872.0				
	10:25	1729.4	76.9	2160.0	129.805	1599.6	63.00	3034
	10:30	1716.6	84.5	2188.8	133.025	1583.6	63.84	3042
7	10:35	1719.0	92	2160.0	129.805	1589.2	63.00	3049
				2169.6				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	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)
	10:40	1795.8	100.6	2476.8	167.206	1628.6	72.24	3059
	10:45	1795.7	109.0	2419.2	160.083	1635.6	70.56	3066
8	10:50	1814.9	117.5	2448.0	163.627	1651.3	71.40	3072
				2448.0				
FALLOFF	10:51	1490.9				1490.9		3056
	10:52	1488.3				1488.3		3051
	10:53	1484.5				1484.5		3048
	10:54	1481.9				1481.9		3044
	10:55	1479.3				1479.3		3042
	11:00	1470.4				1470.4		3034
	11:05	1465.2				1465.2		3027

WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: OXY USA, INC.

DATE: FEBRUARY 18, 1994

WELL NAME: PENROSE "B" NO. 44
LEA COUNTY, NEW MEXICO

WO#: 94-14-0267

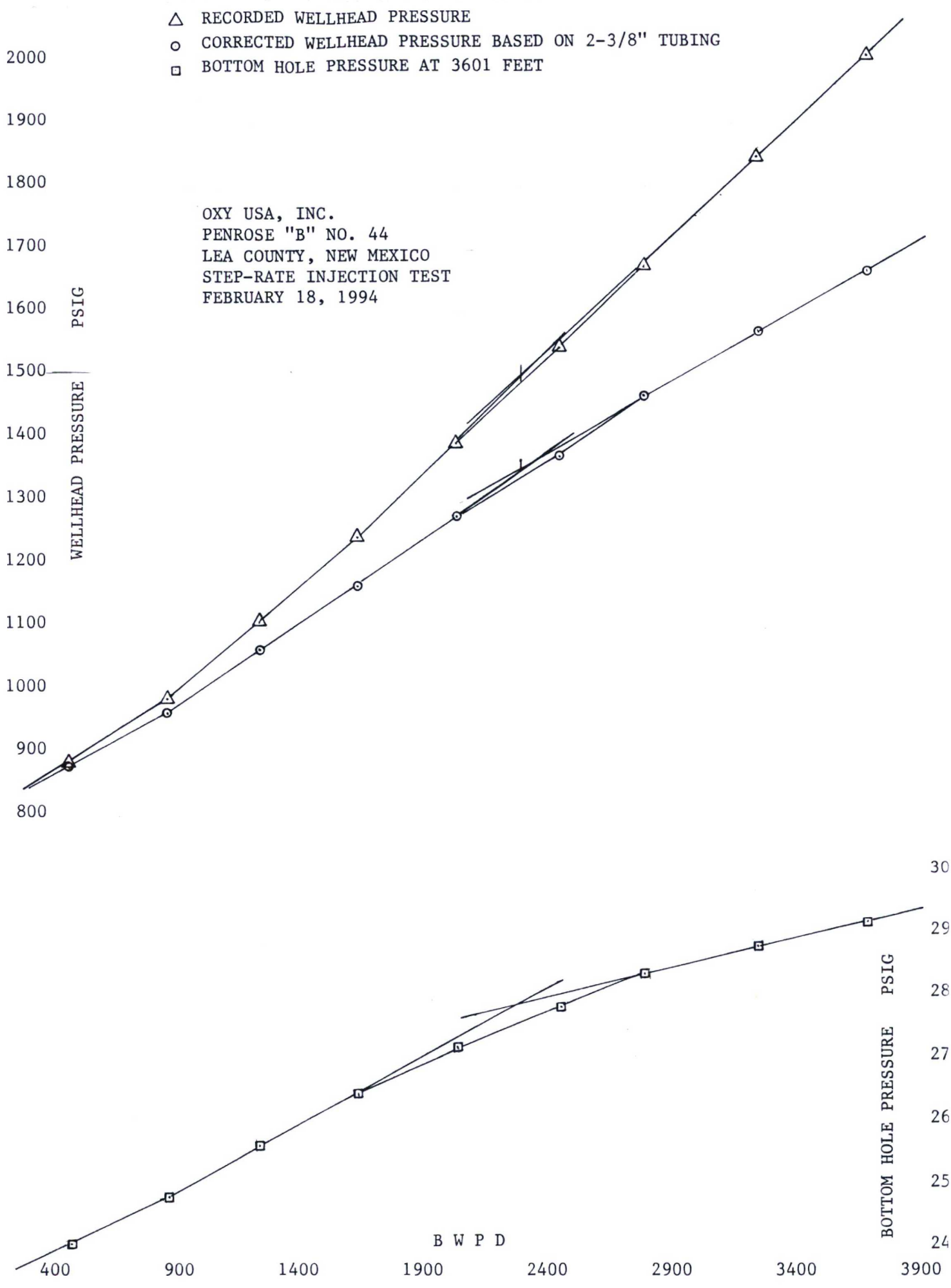
MID-PERFS. = 3540-3662

PACKER DEPTH = 3473

BHP GAUGE DEPTH = 3601

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	796.0				796.0		2358
	1:15	847.0	1.6	460.8	7.409	839.6	13.44	2390
	1:20	857.4	3.2	460.8	7.409	850.0	13.44	2408
1	1:25	886.8	4.8	460.8	7.409	879.4	13.44	2420
				460.8				
	1:30	947.2	7.7	835.2	22.263	924.9	24.36	2454
	1:35	973.1	10.7	864.0	23.704	949.4	25.20	2477
2	1:40	989.9	13.8	892.8	25.186	964.7	26.04	2495
				864.0				
	1:45	1074.6	18.1	1238.4	46.138	1028.5	36.12	2532
	1:50	1093.9	22.4	1238.4	46.138	1047.8	36.12	2555
3	1:55	1113.1	26.7	1238.4	46.138	1067.0	36.12	2575
				1238.4				
	2:00	1209.2	32.3	1612.8	75.213	1134.0	47.04	2611
	2:05	1236.1	38.0	1641.6	77.716	1158.4	47.88	2634
4	2:10	1245.1	43.7	1641.6	77.716	1167.4	47.88	2653
				1632.0				
	2:15	1350.1	50.7	2016.0	113.652	1236.4	58.80	2687
	2:20	1376.9	57.7	2016.0	113.652	1263.2	58.80	2709
5	2:25	1396.0	64.8	2044.8	116.673	1279.3	59.64	2728
				2025.6				
	2:30	1502.3	73.3	2448.0	162.768	1339.5	71.40	2757
	2:35	1513.9	81.6	2390.4	155.754	1358.1	69.72	2776
6	2:40	1544.6	90.3	2505.6	169.924	1374.7	73.08	2793
				2448.0				
	2:45	1661.0	99.8	2736.0	199.955	1461.0	79.80	2817
	2:50	1677.7	109.6	2822.4	211.793	1465.9	82.32	2832
7	2:55	1676.5	119.3	2793.6	207.813	1468.7	81.48	2843
				2784.0				

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)
	3:00	1823.7	130.6	3254.4	275.638	1548.1	94.92	2867
	3:05	1824.9	141.8	3225.6	271.142	1553.8	94.08	2882
8	3:10	1846.7	153.1	3254.4	275.638	1571.1	94.92	2891
				3244.8				
	3:15	2017.0	166.0	3715.2	352.156	1664.8	108.36	2912
	3:20	1982.5	178.7	3657.6	342.122	1640.4	106.68	2920
9	3:25	2006.9	191.4	3657.6	342.122	1664.8	106.68	2930
				3676.8				
FALLOFF	3:26	1336.0				1336.0		
	3:27	1309.1				1309.1		
	3:28	1298.9				1298.9		2865
	3:29	1292.5				1292.5		2859
	3:30	1287.4				1287.4		2852
	3:35	1264.5				1264.5		2830
	3:40	1250.2				1250.2		2815


△ RECORDED WELLHEAD PRESSURE
○ CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
□ BOTTOM HOLE PRESSURE AT 3601 FEET
OXY USA, INC.
PENROSE "B" NO. 44
LEA COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
FEBRUARY 18, 1994
WELLHEAD PRESSURE PSIG
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
BOTTOM HOLE PRESSURE PSIG
30
29
28
27
26
25
24
B W P D
400
900
1400
1900
2400
2900
3400
3900

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

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 10771
Order No. R-9955

APPLICATION OF OXY USA INC. TO AUTHORIZE THE EXPANSION OF A PORTION OF ITS SKELLY PENROSE "B" UNIT WATERFLOOD PROJECT AND QUALIFY SAID EXPANSION FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE "NEW MEXICO ENHANCED OIL RECOVERY ACT," LEA COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 A.M. on July 15, 1993, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 7th day of September, 1993, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, OXY USA Inc. (OXY), seeks an order pursuant to the Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects and Certification for the Recovered Oil Tax Rate, as promulgated

by Division Order No. R-9708, qualifying a portion of its Skelly Penrose "B" Unit Waterflood Project in portions of Sections 4, 5 and 8, Township 23 South, Range 37 East, NMPM, Langlie Mattix Seven Rivers-Queen-Grayburg Pool, Lea County, New Mexico, for the recovered oil tax rate pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(3) The applicant further seeks authority to expand a portion of the Skelly Penrose "B" Unit Waterflood Project by converting nine additional wells to injection within the unit area, all as shown on Exhibit "A" attached hereto.

(4) The Skelly Penrose "B" Unit, comprising some 2,612.16 acres, was approved by Division Order No. R-2915 on June 1, 1965 upon the application of Skelly Oil Company.

(5) Waterflood operations within the Skelly Penrose "B" Unit were approved by Division Order No. R-2956 on August 16, 1965. During mid-1966, Skelly Oil Company commenced waterflood operations within the unit by the injection of water into the Queen (Penrose) formation through thirty-three initial injection wells.

(6) Waterflood operations within the unit have thus far been conducted on 80-acre five spot injection patterns.

(7) During 1992, the unit was operated by Sirgo Operating Inc. According to Division records, activity within the Skelly Penrose "B" Unit during 1992 was minimal, with production from the unit averaging approximately 29 barrels of oil per day from sixteen active producing wells.

(8) The applicant assumed operations of the Skelly Penrose "B" Unit on February 1, 1993.

(9) The applicant has made a significant capital investment since taking over operations preparing the unit wells for active waterflood operations.

(10) Average production from the unit is currently 80 barrels of

oil per day from twenty active producing wells.

(11) The applicant now seeks to qualify the following described 760 acres, hereinafter referred to as the "Project Area", being a portion of the Skelly Penrose "B" Unit Waterflood Project, for the recovered oil tax rate:

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM
Section 4: W/2 NW/4
Section 5: E/2, SW/4, S/2 NW/4
Section 8: N/2 NW/4, NW/4 NE/4

(12) Within the Project Area, the applicant proposes to conduct waterflood operations on a 40-acre five spot injection pattern. Such action will require that the applicant drill and equip five new producing wells, convert nine producing wells to injection, reactivate nine injection wells and three producing wells, and upgrade tank battery and injection facilities.

(13) The proposed change in operations within the Project Area will require a capital expenditure of approximately two million dollars.

(14) OXY requests certification of the Project Area on the contention that it has or will expand the use of enhanced oil recovery technology and will increase the size of the geologic area being flooded representing a unique area of activity.

(15) The geologic evidence presented by the applicant indicates that the various pay sections in the Queen (Penrose) formation of the pool are generally present and continuous within the Project Area; however, the thickness, uniformity, porosity and permeability may vary significantly resulting in areas of lateral discontinuity.

(16) The geologic evidence presented by the applicant further indicates that the Queen (Penrose) formation in the Project Area contains distinct stringers each vertically isolated from the others with permeability and porosity being highly variable over this entire portion of the unit.

(17) Geologic variations as described above generally indicate that the 80-acre five spot injection pattern previously utilized within the Skelly Penrose "B" Unit Waterflood Project may have been too large and likely resulted in substantial volumes of oil being unrecovered.

(18) As of April 1, 1993, cumulative oil production from the Skelly Penrose "B" Unit was 3,441,632 barrels. Under the current 80-acre five-spot injection patterns, applicant estimates that the remaining secondary oil reserves within the unit are 75,000 barrels.

(19) Applicant's engineering evidence and testimony indicate that the recoverable oil reserves within the Project Area under the proposed 40-acre five spot injection pattern are approximately 971,780 barrels.

(20) The reduction in the waterflood injection pattern from 80 acres to 40 acres will improve the sweep efficiency and should increase the ultimate oil recovery from the proposed Project Area.

(21) After being fully developed, the Project Area will contain nineteen injection wells and ten producing wells.

(22) The evidence presented in this case indicates that the previous operator of the Skelly Penrose "B" Unit, Sirgo Collier Inc., drilled five of the infill producing wells within the Project Area in 1988.

(23) The Division has determined in a previous application (Order No. R-9789 issued in Case No. 10570 on November 23, 1992) that action taken to reduce the spacing and waterflood injection pattern within a "Project Area" several years prior to making application for the EOR reduced tax rate does not represent a significant change or modification in the technology or process used for the displacement of crude oil, but rather represents a logical continuation of a process previously commenced.

(24) In order to be consistent with current Division policy, the Project Area eligible for the recovered oil tax rate should contain only that area that has not been previously infill drilled.

(25) The Project Area should be defined in terms of the unit wells

which would actually qualify for the recovered oil tax rate, described as follows:

WELL NAME AND NUMBER	WELL LOCATION
SPBU Well No. 70	2610' FNL & 2520' FEL (Unit G) Section 5
SPBU Well No. 71	1420' FSL & 2614' FWL (Unit K) Section 5
SPBU Well No. 72	1220' FNL & 1370' FEL (Unit B) Section 5
SPBU Well No. 73	20' FNL & 1330' FWL (Unit C) Section 8
SPBU Well No. 74	20' FNL & 2611' FEL (Unit B) Section 8

(26) The evidence and testimony presented in this case indicate that:

(a) the reduction in the waterflood injection well pattern in the Project Area should result in a substantial increase in the amount of crude oil ultimately recovered therefrom;

(b) the Project Area has been so depleted that it is prudent to implement a waterflood injection well pattern reduction to maximize the ultimate recovery of crude oil from the Project Area; and,

(c) the proposed enhanced oil recovery project is economically and technically feasible and has not been prematurely filed.

(27) The baseline decline curve to be utilized in determining the occurrence of a positive production response should consist of production from the Skelly Penrose "B" Unit Well Nos. 18, 28, 33, 39 and 44.

(28) The Project Area within the Skelly Penrose "B" Unit Waterflood Project (defined in Finding No. (25) above) should be qualified as an "Enhanced Oil Recovery Project" (EOR) pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(29) To be eligible for the EOR credit, the operator should advise

the Division when water injection into each additional injection well commences and, at such time, request the Division certify the project to the New Mexico Taxation and Revenue Department.

(30) The application should be approved and the EOR Project should be governed by the provisions of the "Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects" and "Certification for Recovered Oil Tax Rate" as promulgated by Division Order No. R-9708.

(31) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(32) The injection of water into the proposed injection wells should be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; the casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(33) Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each well should be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(34) The injection wells or pressurization system should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than that shown on Exhibit "A".

(35) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure

limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(36) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(37) The proposed waterflood expansion should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(38) The injection authority granted herein for the proposed injection wells should terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, OXY USA Inc., is hereby authorized to expand its Skelly Penrose "B" Unit Waterflood Project by the injection of water into the Queen (Penrose) formation, Langlie Mattix Seven Rivers-Queen-Grayburg Pool, Lea County, New Mexico, through the gross interval from approximately 3,505 feet to 3,744 feet in the nine wells shown on Exhibit "A" attached hereto.

(2) The applicant shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(3) The injection of water into the wells shown on Exhibit "A" shall be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; the casing-tubing annulus shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(4) Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each well shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(5) The injection wells or pressurization system shall be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than that shown on Exhibit "A".

(6) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(7) The operator shall give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(8) The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing or packer in any of the wells shown on Exhibit "A" and shall take such steps as may be timely and necessary to correct such failure or leakage.

(9) The subject wells shall be governed by all provisions of Division Order No. R-2956 and Rule Nos. 702-706 of the Oil Conservation Division Rules and Regulations.

(10) The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

IT IS FURTHER ORDERED THAT:

(11) The application of OXY USA Inc. to qualify a portion of its

Skelly Penrose "B" Unit Waterflood Project as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5), is hereby approved.

(12) The Project Area shall be defined in terms of the unit wells which would actually qualify for the recovered oil tax rate, described as follows:

WELL NAME AND NUMBER	WELL LOCATION
SPBU Well No. 70	2610' FNL & 2520' FEL (Unit G) Section 5
SPBU Well No. 71	1420' FSL & 2614' FWL (Unit K) Section 5
SPBU Well No. 72	1220' FNL & 1370' FEL (Unit B) Section 5
SPBU Well No. 73	20' FNL & 1330' FWL (Unit C) Section 8
SPBU Well No. 74	20' FNL & 2611' FEL (Unit B) Section 8

(13) The operator shall advise the Division when the additional water injection phase of the project commences into any of the new injection wells.

(14) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the project area as described above.

(15) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(16) Said EOR project shall be governed by the provisions of the "Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects" and "Certification for Recovered Oil Tax Rate" as promulgated

by Division Order No. R-9708.

(17) The baseline decline curve to be utilized in determining the occurrence of a positive production response shall consist of production from the Skelly Penrose "B" Unit Well Nos. 18, 28, 33, 39 and 44.

(18) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

SEAL

EXHIBIT "A"
CASE NO. 10771
DIVISION ORDER NO. R-9955
SKELLY PENROSE "B" UNIT WATERFLOOD PROJECT
APPROVED INJECTION WELLS
LEA COUNTY, NEW MEXICO

Well No.	*Location*	*Unit*	*S-T-R*	*Injection Perforations*	*Packer Depth*	*Tubing Size*	*Injection Pressure (PSIG)*
18	660' FNL - 660' FEL	A	5-23S-37E	3614' - 3744'	3550'	2 3/8"	723
26	1980' FNL - 990' FWL	E	5-23S-37E	3659' - 3768'	3600'	2 3/8"	732
28	1980' FNL - 1980' FEL	G	5-23S-37E	3638' - 3724'	3550'	2 3/8"	726
30	1980' FNL - 660' FWL	E	4-23S-37E	3505' - 3666' (open hole)	3450'	2 3/8"	701
31	1980' FSL - 660' FEL	I	5-23S-37E	3580' - 3698'	3500'	2 3/8"	716
33	1980' FSL - 1980' FWL	K	5-23S-37E	3610' - 3719'	3550'	2 3/8"	722
37	660' FSL - 660' FWL	M	5-23S-37E	3606' - 3730'	3550'	2 3/8"	721
39	660' FSL - 1980' FEL	O	5-23S-37E	3564' - 3685'	3500'	2 3/8"	711
44	660' FNL - 1980' FWL	C	8-23S-37E	3544' - 3655'	3500'	2 3/8"	709

OXY FACSIMILE COVER SHEET

DATE 4-22-94

TO BEN STONE	FROM SHARON HAGGARD
COMPANY NMOCD	COMPANY OXY USA Inc.
LOCATION	LOCATION Midland, TX
FAX # (505) 827-5747 TELEPHONE #	FAX # (915)685-5635 TELEPHONE # (915)685-5675
COMMENTS	

NUMBER OF PAGES (INCLUDING THE COVER) 05
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THANK YOU.

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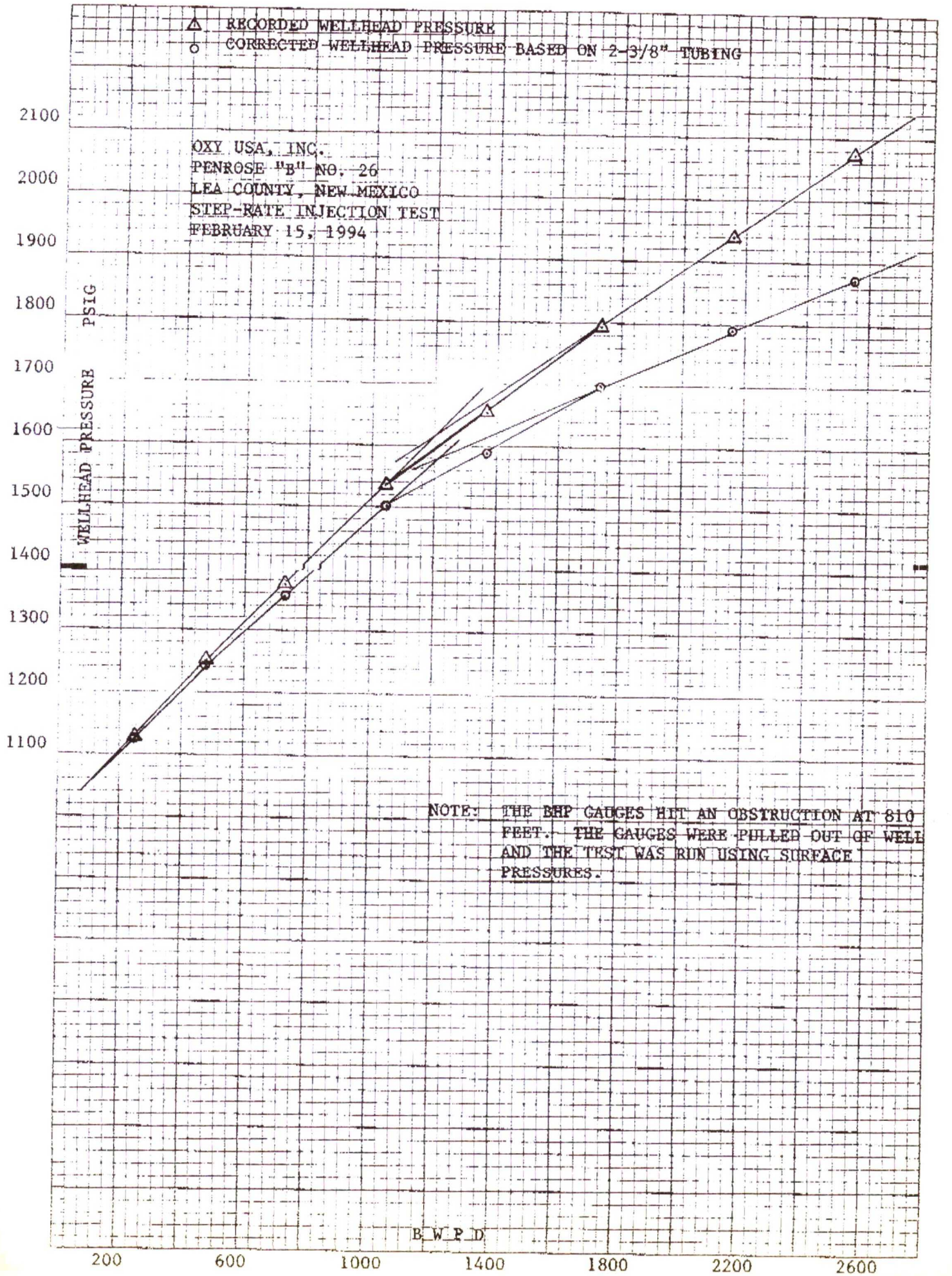
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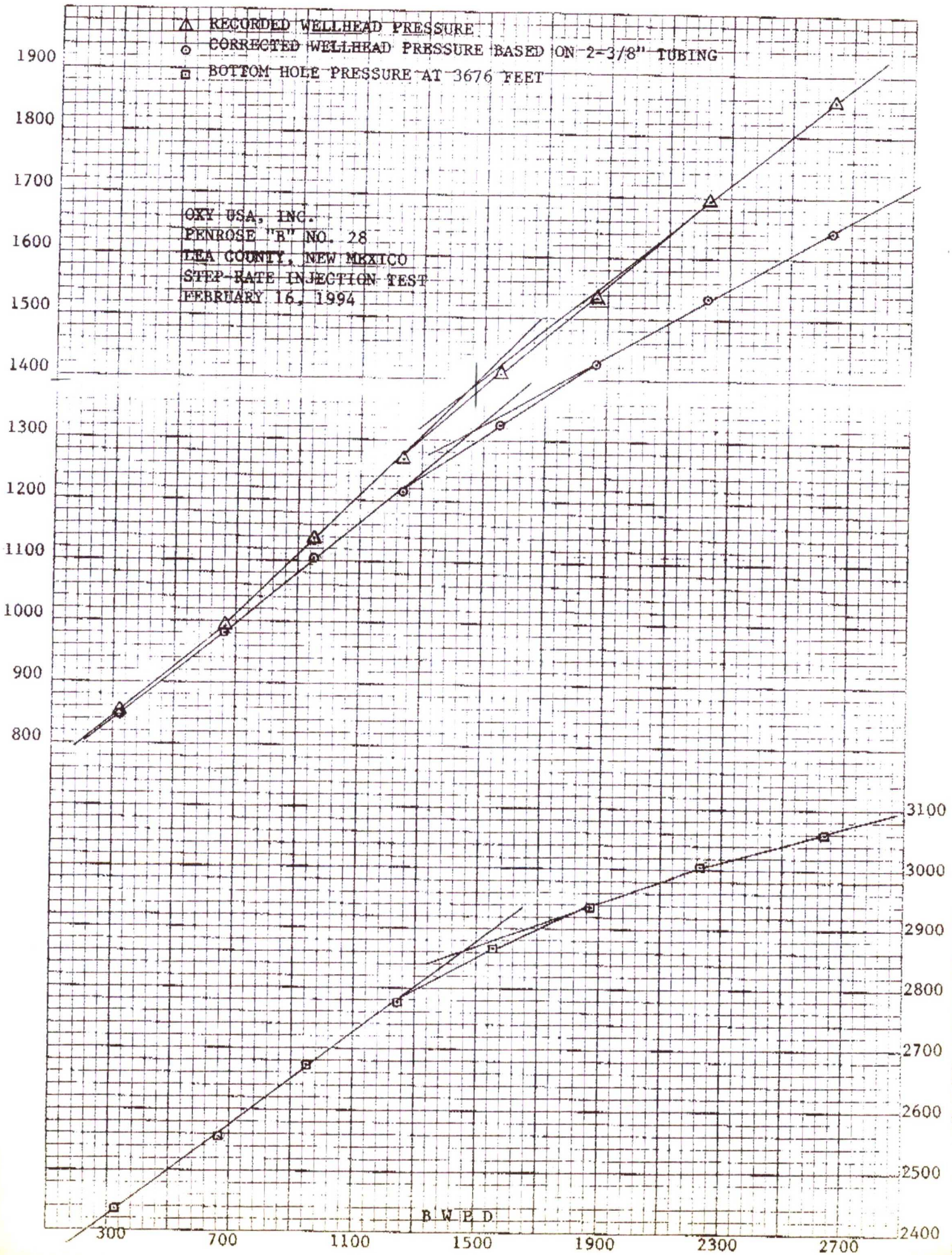
○ CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
OXY USA, INC.
PENROSE "B" NO. 26
LEA COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
FEBRUARY 15, 1994
WELLHEAD PRESSURE PSIG
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
NOTE: THE BHP GAUGES HIT AN OBSTRUCTION AT 810 FEET. THE GAUGES WERE PULLED OUT OF WELL AND THE TEST WAS RUN USING SURFACE PRESSURES.
B W P D
200
600
1000
1400
1800
2200
2600


RECORDED WELLHEAD PRESSURE
CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
BOTTOM HOLE PRESSURE AT 3676 FEET
OXY USA, INC.
PENROSE "B" NO. 28
LEA COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
FEBRUARY 16, 1994
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
3100
3000
2900
2800
2700
2600
2500
2400
300
700
1100
1500
1900
2300
2700
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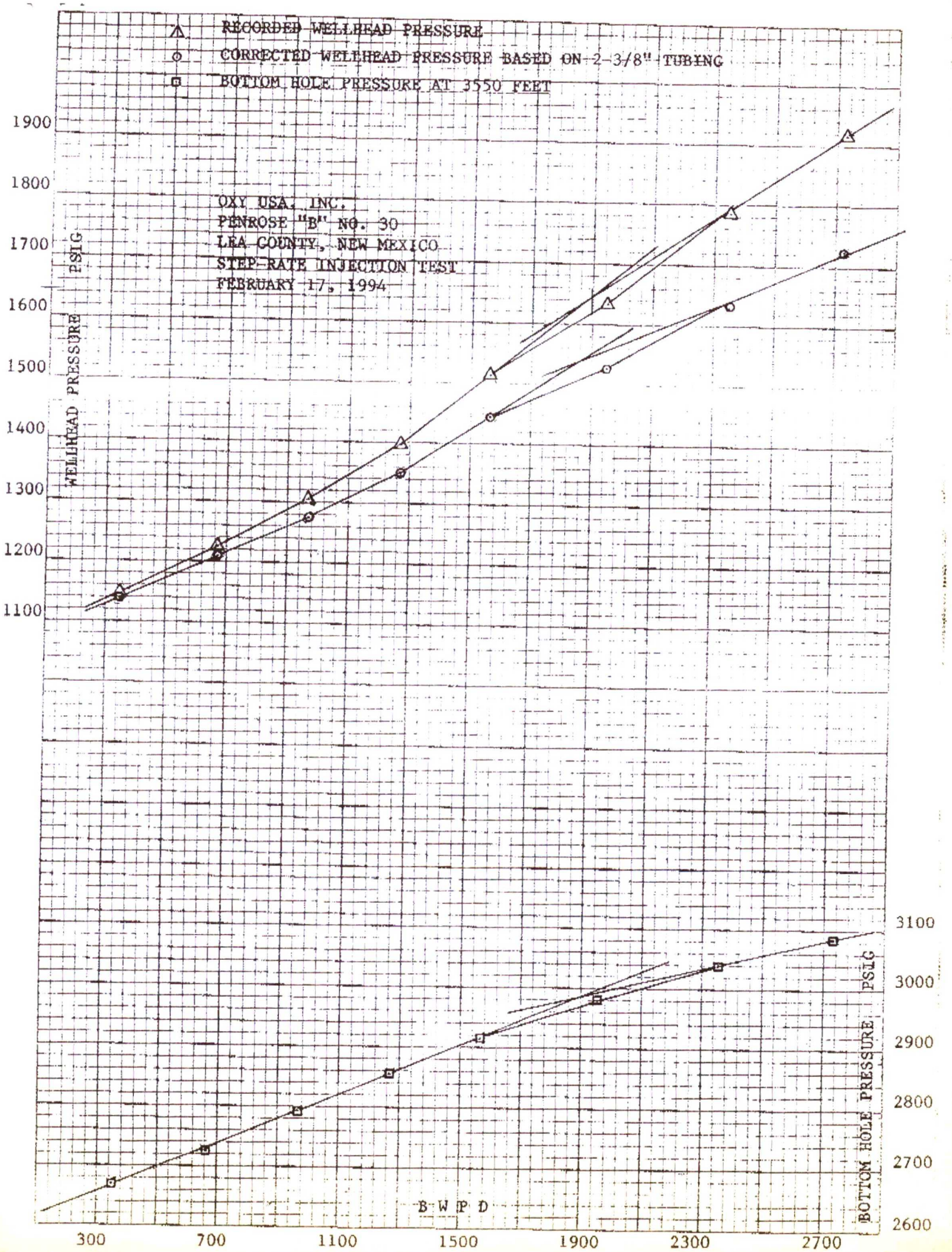
RECORDED WELLHEAD PRESSURE
CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
BOTTOM HOLE PRESSURE AT 3550 FEET
OXY USA, INC.
PENROSE "B" NO. 30
LEA COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
FEBRUARY 17, 1994
WELLHEAD PRESSURE PSIG
1900
1800
1700
1600
1500
1400
1300
1200
1100
BOTTOM HOLE PRESSURE PSIG
3100
3000
2900
2800
2700
2600
B W P D
300
700
1100
1500
1900
2300
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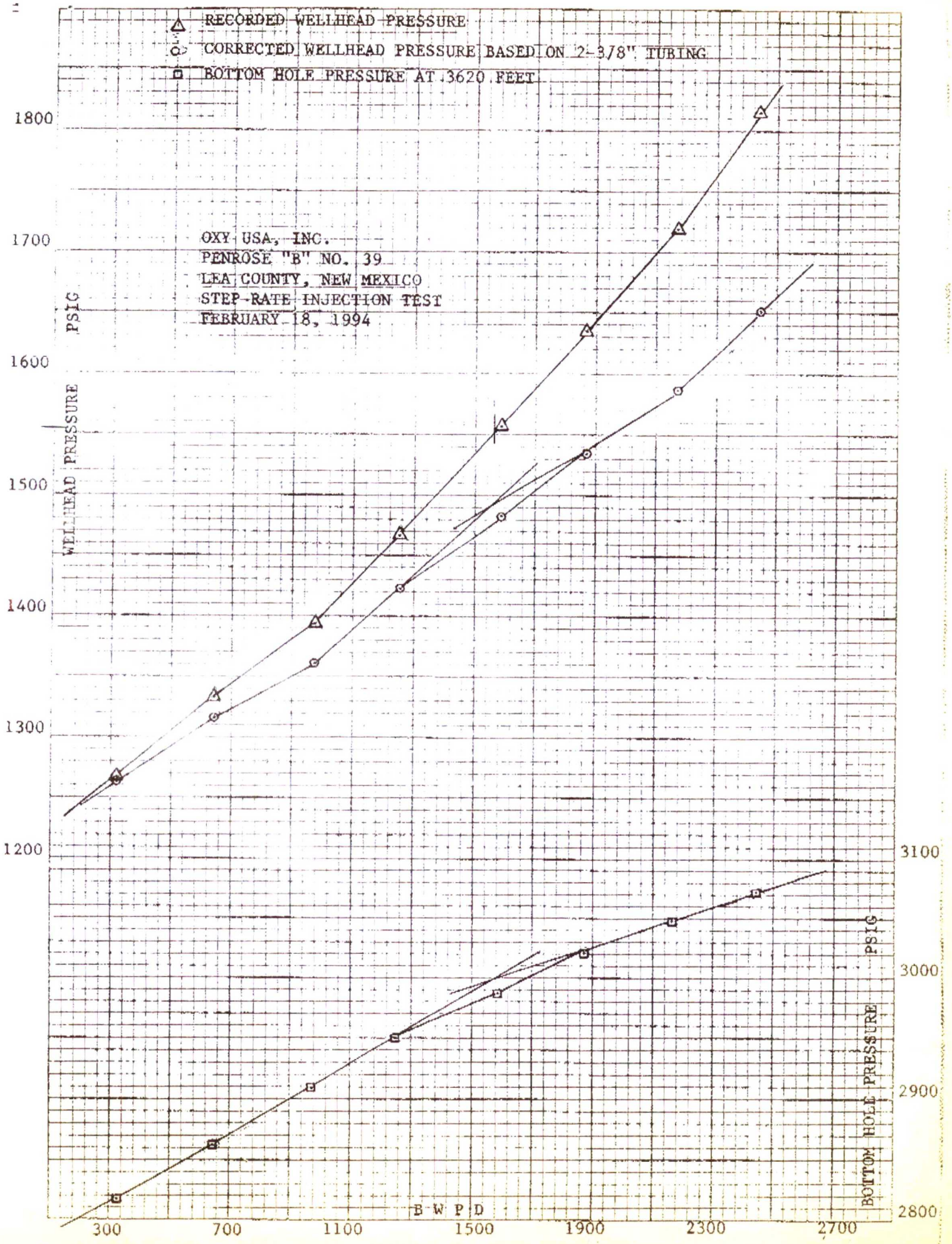
RECORDED WELLHEAD PRESSURE
CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" TUBING
BOTTOM HOLE PRESSURE AT 3620 FEET
OXY USA, INC.
PENROSE "B" NO. 39
LEA COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
FEBRUARY 18, 1994
WELLHEAD PRESSURE PSIG
BOTTOM HOLE PRESSURE PSIG
BWPD
1800
1700
1600
1500
1400
1300
1200
3100
3000
2900
2800
300
700
1100
1500
1900
2300
2700