

OIL CONSERVATION DIVISION

WFX-664

PDEV0020600664

September 18, 1995

Devon Energy Corporation
20 North Broadway, Suite 1500
Oklahoma City, Oklahoma 73102-8260

Attn: Mr. E.L. Buttross, Jr.

**RE: *Injection Pressure Increase East Shugart Unit
Waterflood Project, Eddy County, New Mexico***

Dear Mr. Buttross:

Reference is made to your request dated August 23, 1995 to increase the surface injection pressure on 4 wells in the above referenced waterflood project. This request is based on step rate tests conducted between August 9 and 15, 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.

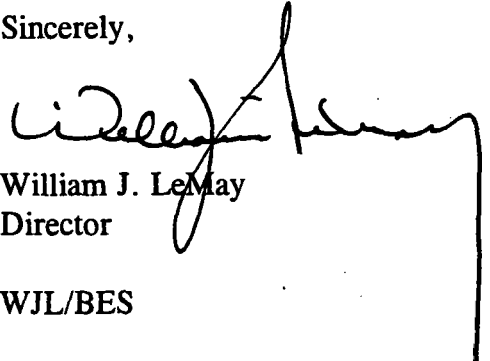
You are therefore authorized to increase the surface injection pressure on the following wells:

Well and Location	Maximum Surface Injection Pressure
East Shugart Unit Well No.2, Unit Letter B	1313 PSIG
East Shugart Unit Well No.33, Unit Letter A	1424 PSIG
East Shugart Unit Well No.41, Unit Letter G	1545 PSIG
East Shugart Unit Well No.42, Unit Letter A	1390 PSIG
All wells located Section 34, Township 18 South, Range 31 East, Eddy 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.

Injection Pressure Increase
Devon Energy Corporation
September 18, 1995
Page 2

Sincerely,



William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Artesia
Files: WFX-664; PSI-X 1st QTR 96

devon

ENERGY CORPORATION

20 North Broadway, Suite 1500
Oklahoma City, Oklahoma 73102-8260

Telephone 405/235-3611
FAX 405/552-4550

PSI-X N/R
OIL CONSERVATION DIVISION
RECEIVED
'95 AUG 28 AM 8 52

August 23, 1995

State of New Mexico
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Certified Mail No. Z 253 345 610

Attention: William J. LeMay
Director

**RE: Injection Pressure Increase
EAST SHUGART #2, #33, #41, & #42
SEC 34-T18S-R31E
EDDY COUNTY, NEW MEXICO**

Gentlemen:

Based on step rate tests run earlier in the year, you set maximum injection pressures on the subject wells (memo attached). This month step rate tests were once again run on these wells. As the attached tests show, the formation parting pressures on the injection wells have increased. Devon Energy Corporation, therefore, respectfully request that the maximum surface injection pressure be also increased.

If you have any questions, please give me a call at 405-552-4509.

Very truly yours,

E. L. Buttross Jr.

Ernie L. Buttross, Jr.
District Engineer



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

RECEIVED

March 7, 1995

MAR 13 1995

PRODUCTION DEPT.

Devon Energy Corporation
20 North Broadway, Suite 1500
Oklahoma City, Oklahoma 73102-8260

Attn: Mr. E.L. Buttross, Jr.

***RE: Injection Pressure Increase East Shugart Unit Waterflood
Project, Eddy County, New Mexico***

Dear Mr. Buttross:

Reference is made to your request dated February 16, 1995 to increase the surface injection pressure on 4 wells in the above referenced waterflood project. This request is based on step rate tests conducted between January 31 and February 3, 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.

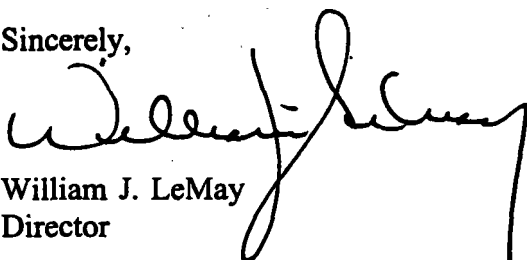
You are therefore authorized to increase the surface injection pressure on the following wells:

Well and Location	Maximum Surface Injection Pressure
East Shugart Unit Well No.2, Unit Letter B	1090 PSIG
East Shugart Unit Well No.33, Unit Letter A	1370 PSIG
East Shugart Unit Well No.41, Unit Letter G	900 PSIG
East Shugart Unit Well No.42, Unit Letter A	1020 PSIG
All wells located Section 34, Township 18 South, Range 31 East, Eddy County, New Mexico.	

Injection Pressure Increase
Devon Energy Corporation
March 7, 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 black ink, appearing to read 'William J. LeMay', with a long, sweeping horizontal stroke extending to the right.

William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Artesia
Files: WFX-664; PSI-X 1st QTR 95

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

RECEIVED

AUG 21 1995

PRODUCTION DEPT.

STEP RATE INJECTION TEST

CLIENT: DEVON ENERGY

DATE: AUGUST 9, 1995

WELL NAME: EAST SHUGART UNIT NO. 2
EDDY COUNTY, NEW MEXICO

WO#: 95-14-1117

PERFS =

PACKER DEPTH =

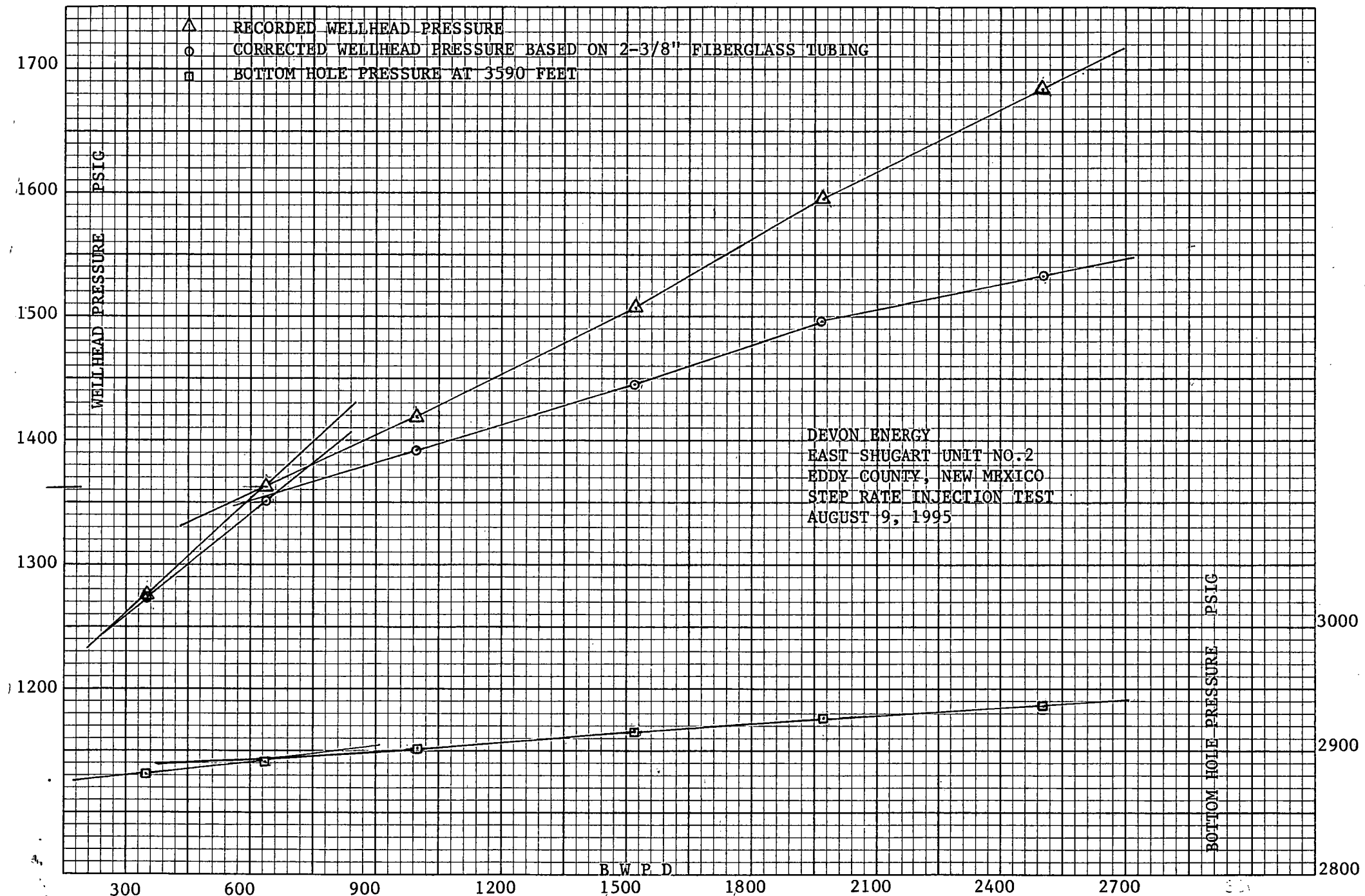
BHP GAUGE DEPTH = 3590

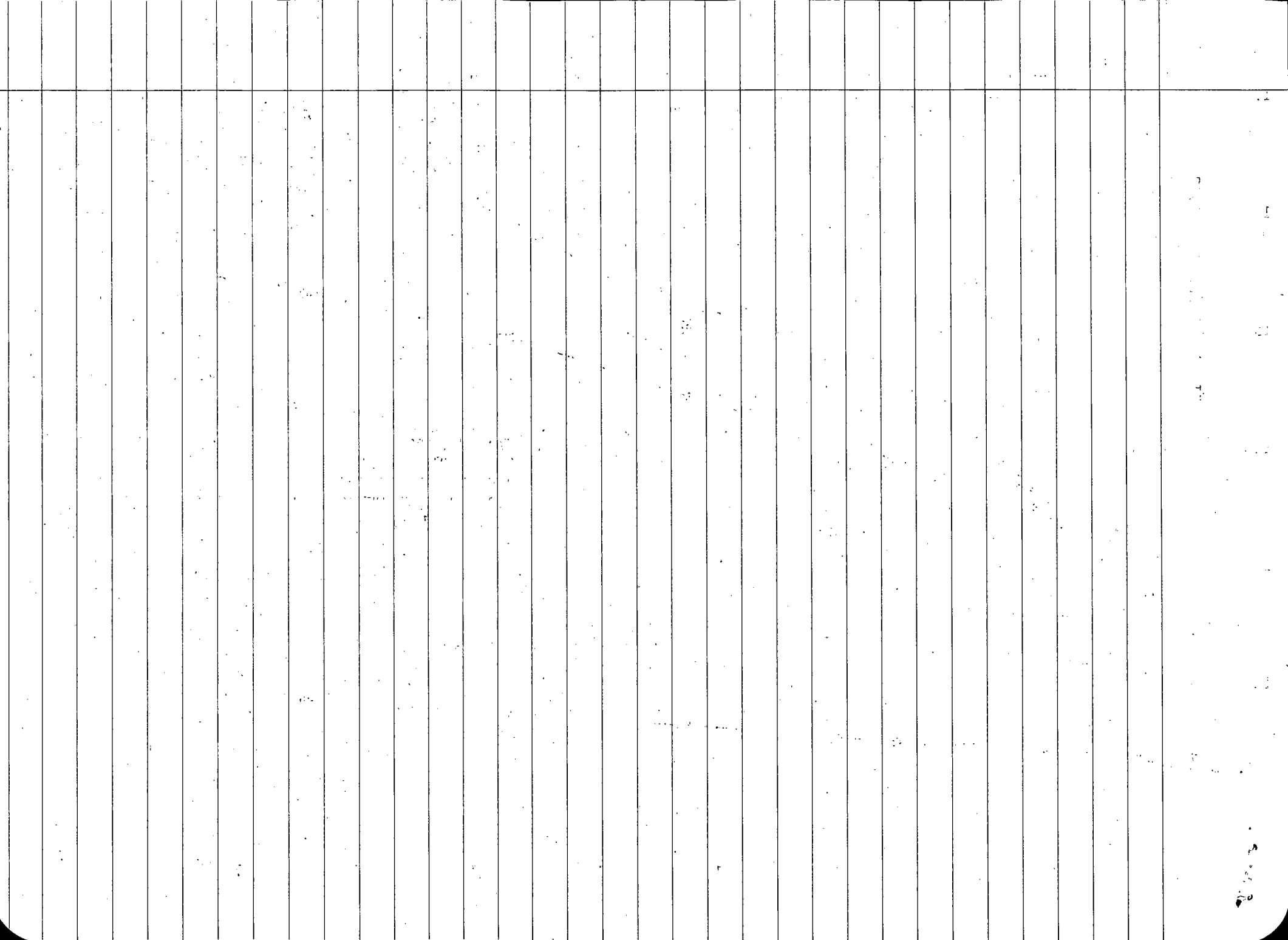
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	10:00	1196.9				1196.9		2872.4
	10:05	1226.9	1.2	345.6	3.818	1223.1	10.08	2881.4
	10:10	1240.7	2.4	345.6	3.818	1236.9	10.08	2886.0
	10:15	1240.7	3.6	345.6	3.818	1236.9	10.08	2890.5
	10:20	1260.7	4.8	345.6	3.818	1256.9	10.08	2879.9
	10:25	1265.7	6.0	345.6	3.818	1261.9	10.08	2881.4
	10:30	1277.0	7.3	374.4	4.428	1272.6	10.92	2881.4
				350.4				
	10:35	1324.5	9.5	633.6	11.718	1312.8	18.48	2886.0
	10:40	1342.0	11.7	633.6	11.718	1330.3	18.48	2886.0
2	10:45	1340.7	13.9	633.6	11.718	1329.0	18.48	2887.5
	10:50	1352.0	16.1	633.6	11.718	1340.3	18.48	2889.0
	10:55	1358.0	18.4	662.4	12.723	1345.3	19.32	2889.0
	11:00	1362.0	20.5	604.8	10.752	1351.2	17.64	2890.5
				633.6				
	11:05	1415.7	24.1	1036.8	29.144	1386.6	30.24	2893.6
	11:10	1414.4	27.4	950.4	24.810	1389.6	27.72	2895.1
	11:15	1418.2	30.6	921.6	23.437	1394.8	26.88	2898.2
	11:20	1418.2	34.1	1008.0	27.664	1390.5	29.40	2899.7
	11:25	1416.9	37.8	1065.6	30.659	1386.2	31.08	2902.7
3	11:30	1419.4	41.3	1008.0	27.664	1391.7	29.40	2904.2
				998.4				
	11:35	1504.3	46.4	1468.8	55.512	1448.8	42.84	2908.8
	11:40	1506.8	51.7	1526.4	59.607	1447.2	44.52	2910.3
	11:45	1506.8	57.0	1526.4	59.607	1447.2	44.52	2911.8
	11:50	1509.3	62.3	1526.4	59.607	1449.7	44.52	2913.3
	11:55	1513.0	67.5	1497.6	57.543	1455.5	43.68	2914.8
	12:00	1508.0	72.9	1555.2	61.704	1446.3	45.36	2916.3
				1516.8				

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)
5	12:05	1621.6	79.2	1814.4	82.066	1539.5	52.92	2919.3
	12:10	1614.1	86.1	1987.2	97.108	1517.0	57.96	2922.3
	12:15	1607.8	93.1	2016.0	99.727	1508.1	58.80	2923.8
	12:20	1599.1	100.2	2044.8	102.379	1496.7	59.64	2925.3
	12:25	1597.8	107.0	1958.4	94.520	1503.3	57.12	2925.3
	12:30	1596.6	114.0	2016.0	99.727	1496.9	58.80	2926.8
				1972.8				
	12:35	1693.9	122.4	2419.2	139.733	1554.2	70.56	2931.4
	12:40	1684.0	131.1	2505.6	149.106	1534.9	73.08	2932.9
	12:45	1692.7	139.8	2505.6	149.106	1543.6	73.08	2934.4
	12:50	1691.4	148.5	2505.6	149.106	1542.3	73.08	2935.9
	12:55	1690.2	157.4	2563.2	155.509	1534.7	74.76	2935.9
	1:00	1683.9	166.2	2534.4	152.292	1531.6	73.92	2937.4
				2505.6				
6 FALLOFF	1:05 OUT OF WATER	1750.1				1750.1		2940.4
	1:06	1102.5				1102.5		2938.9
	1:07	1398.2				1398.2		2934.3
	1:08	1384.5				1384.5		2932.8
	1:09	1384.5				1384.5		2931.3
	1:10	1383.2				1383.2		2929.8
	1:15	1380.7				1380.7		2926.8
	1:20	1378.3				1378.3		2925.2
	1:25	1375.8				1375.8		2923.7

- △ RECORDED WELLHEAD PRESSURE
○ CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" FIBERGLASS TUBING
□ BOTTOM HOLE PRESSURE AT 3590 FEET

DEVON ENERGY
EAST SHUGART UNIT NO.2
EDDY COUNTY, NEW MEXICO
STEP RATE INJECTION TEST
AUGUST 9, 1995





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

RECEIVED

AUG 21 1995

PRODUCTION DEPT.

STEP RATE INJECTION TEST

CLIENT: DEVON ENERGY

DATE: AUGUST 11, 1995

WELL NAME: EAST SHUGART UNIT NO. 33
EDDY COUNTY, NEW MEXICO

WO#: 95-14-1118

PERFS =

PACKER DEPTH =

BHP GAUGE DEPTH = 3628

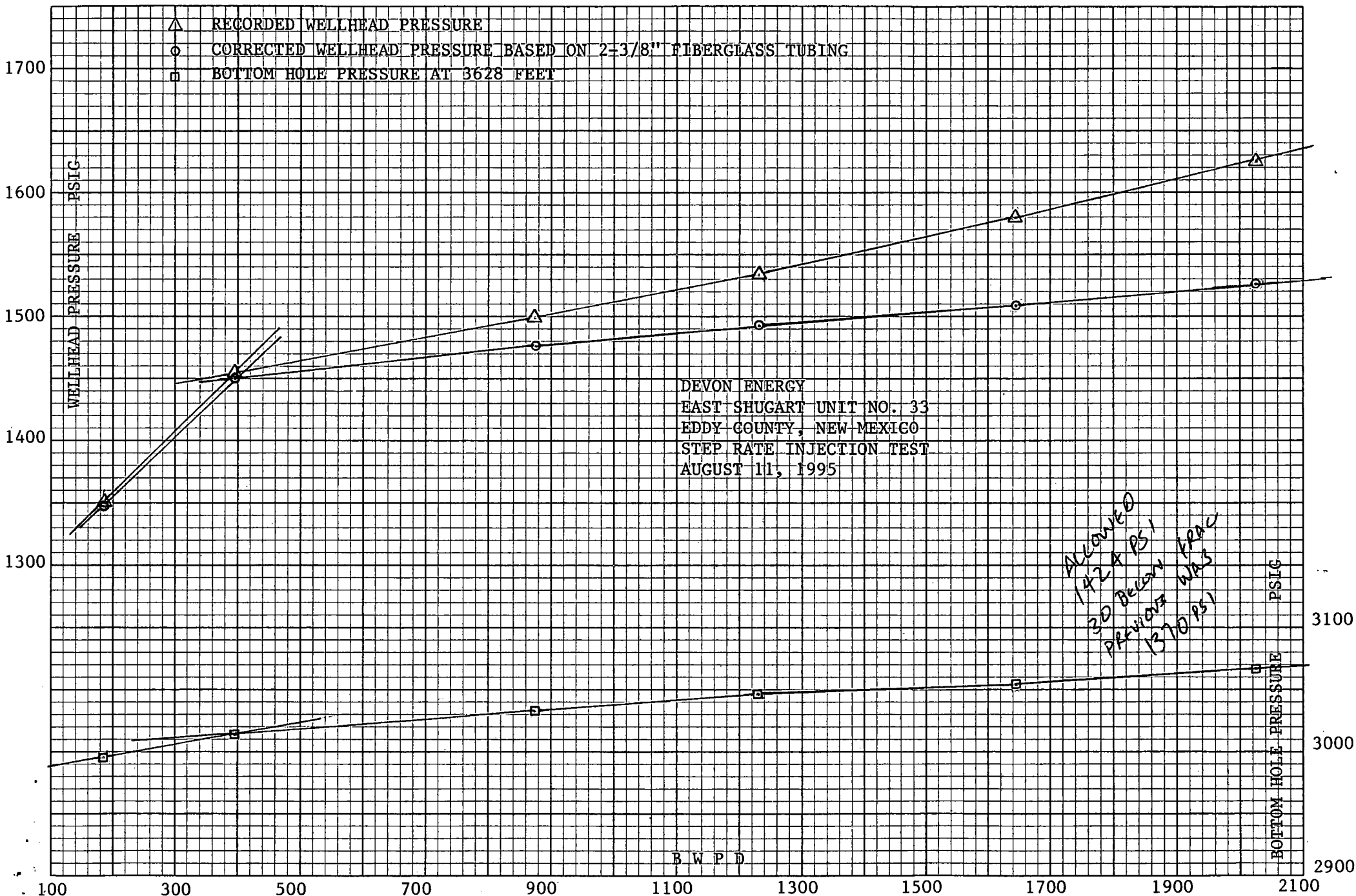
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	11:40	1282.1				1282.1		2964.6
	11:45	1312.0	0.6	172.8	1.070	1310.9	5.04	2987.3
	11:50	1319.5	1.3	201.6	1.424	1318.1	5.88	2988.8
	11:55	1334.5	1.9	172.8	1.070	1333.4	5.04	2990.3
	12:00	1343.2	2.5	172.8	1.070	1342.1	5.04	2993.3
	12:05	1354.5	3.2	201.6	1.424	1353.1	5.88	2994.8
	12:10	1349.5	3.9	201.6	1.424	1348.1	5.88	2994.8
				187.2				
	12:15	1388.2	5.2	374.4	4.475	1383.7	10.92	3009.9
	12:20	1408.2	6.6	403.2	5.132	1403.1	11.76	3011.4
2	12:25	1425.6	8.1	432.0	5.831	1419.8	12.60	3011.5
	12:30	1439.4	9.4	374.4	4.475	1434.9	10.92	3013.0
	12:35	1450.6	10.9	432.0	5.831	1444.8	12.60	3013.0
	12:40	1454.4	12.2	374.4	4.475	1449.9	10.92	3013.0
				398.4				
	12:45	1490.6	15.1	835.2	19.742	1470.9	24.36	3034.2
	12:50	1495.6	18.2	892.8	22.334	1473.3	26.04	3034.2
	12:55	1495.6	21.2	864.0	21.020	1474.6	25.20	3031.2
	1:00	1495.6	24.3	892.8	22.334	1473.3	26.04	3031.3
	1:05	1494.3	27.3	864.0	21.020	1473.3	25.20	3032.8
3	1:10	1499.3	30.4	892.8	22.334	1477.0	26.04	3032.8
				873.6				
	1:15	1531.7	34.6	1209.6	39.171	1492.5	35.28	3043.4
	1:20	1530.5	38.9	1238.4	40.914	1489.6	36.12	3040.4
	1:25	1528.0	43.2	1238.4	40.914	1487.1	36.12	3041.9
	1:30	1531.7	47.4	1209.6	39.171	1492.5	35.28	3041.9
	1:35	1531.7	51.7	1238.4	40.914	1490.8	36.12	3043.3
	1:40	1534.2	56.0	1238.4	40.914	1493.3	36.12	3047.9
				1228.8				

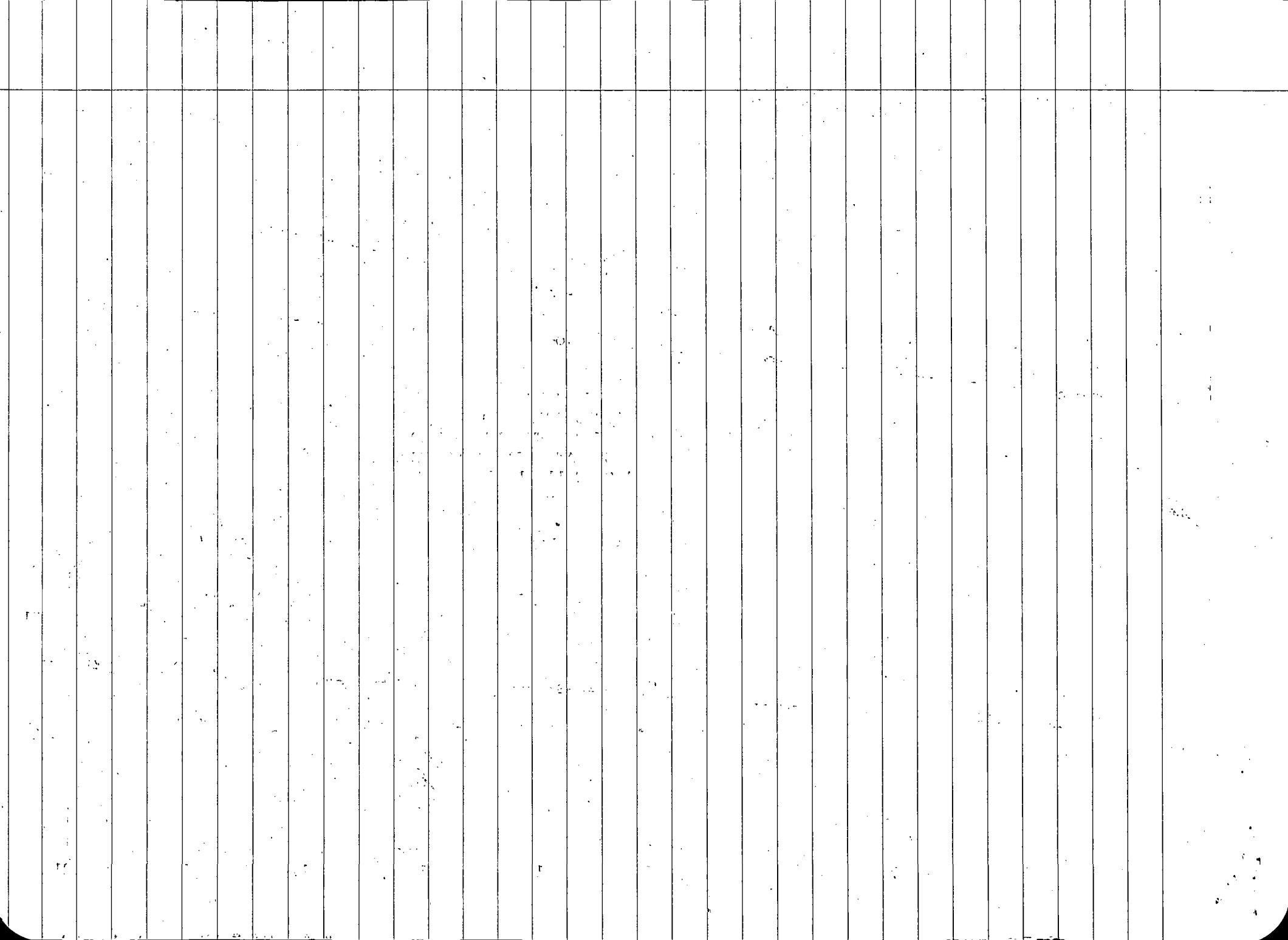
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
5	1:45	1582.9	61.4	1555.2	62.357	1520.5	45.36	3053.9
	1:50	1589.1	67.1	1641.6	68.917	1520.2	47.88	3053.9
	1:55	1586.6	72.9	1670.4	71.170	1515.4	48.72	3053.9
	2:00	1589.1	78.6	1641.6	68.917	1520.2	47.88	3053.9
	2:05	1585.4	84.4	1670.4	71.170	1514.2	48.72	3053.8
	2:10	1580.4	90.2	1670.4	71.170	1509.2	48.72	3053.8
				1641.6				
	2:15	1631.6	97.2	2016.0	100.783	1530.8	58.80	3061.4
	2:20	1630.4	104.2	2016.0	100.783	1529.6	58.80	3061.4
	2:25	1629.1	111.3	2044.8	103.463	1525.6	59.64	3059.8
6	2:30	1627.8	118.3	2016.0	100.783	1527.0	58.80	3058.3
				2023.2				
	OUT	OF WATER						
FALLOFF	2:31	1449.4				1449.4		
	2:32	1446.9				1446.9		
	2:33	1444.4				1444.4		
	2:34	1441.9				1441.9		
	2:35	1440.6				1440.6		
	2:40	1436.9				1436.9		
	2:45	1433.1				1433.1		

- △ RECORDED WELLHEAD PRESSURE
- CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" FIBERGLASS TUBING
- BOTTOM HOLE PRESSURE AT 3628 FEET

DEVON ENERGY
EAST SHUGART UNIT NO. 33
EDDY COUNTY, NEW MEXICO
STEP RATE INJECTION TEST
AUGUST 11, 1995

ALLOWED
1424 PSI
30 Below FRAC
PREVIOUS WAS
1370 PSI





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

RECEIVED

AUG 21 1995

STEP RATE INJECTION TEST

PRODUCTION DEPT.

CLIENT: DEVON ENERGY

DATE: AUGUST 14, 1995

WELL NAME: EAST SHUGART UNIT NO. 41
EDDY COUNTY, NEW MEXICO

WO#: 95-14-1119

PERFS =

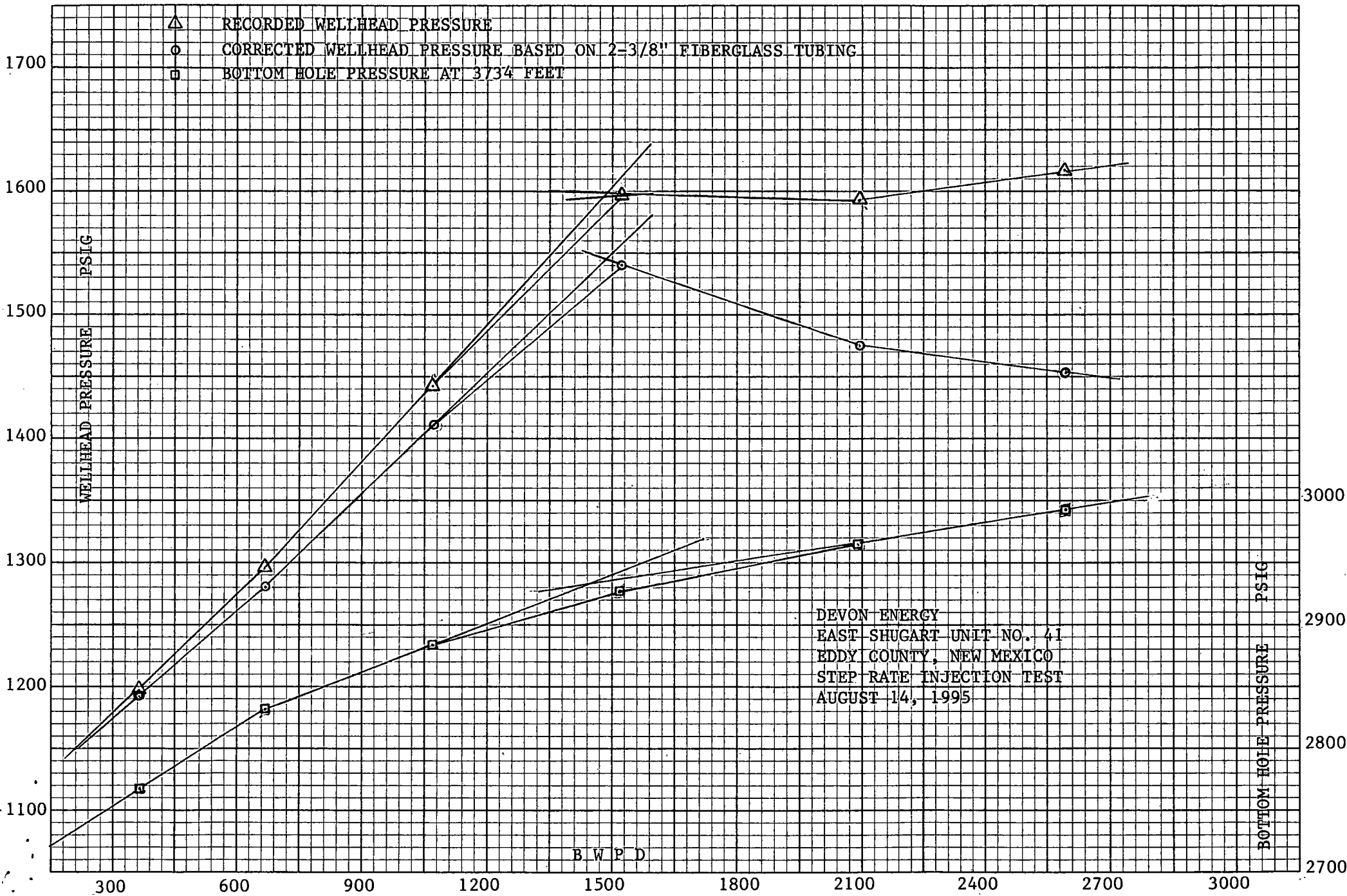
PACKER DEPTH =

BHP GAUGE DEPTH = 3734

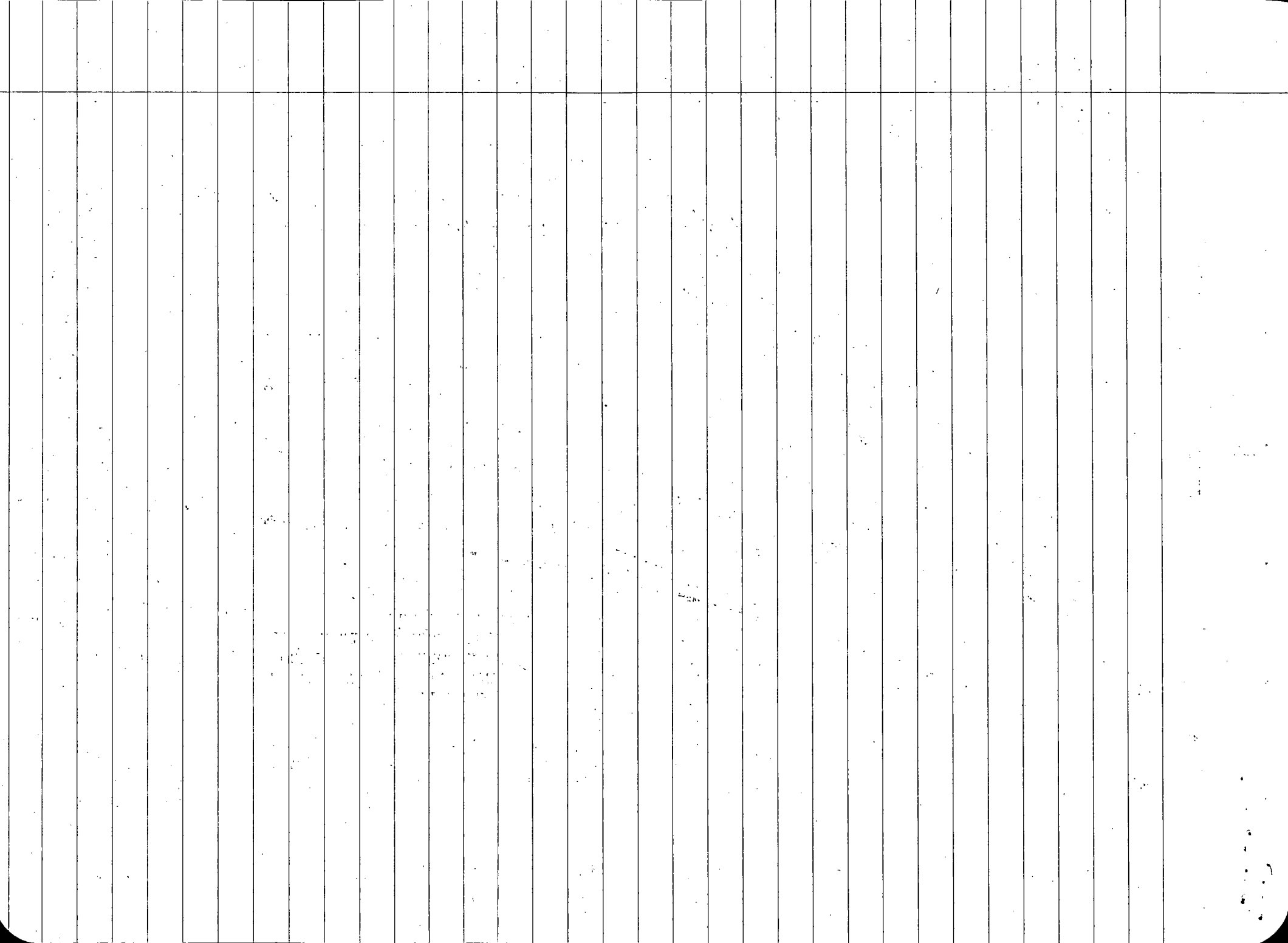
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	9:30	1039.7				1039.7		2698.5
	9:35	1095.9	1.2	345.6	3.971	1091.9	10.08	2725.6
	9:40	1127.2	2.5	374.4	4.605	1122.6	10.92	2737.7
	9:45	1150.9	3.8	374.4	4.605	1146.3	10.92	2746.8
	9:50	1168.4	5.1	374.4	4.605	1163.8	10.92	2754.4
	9:55	1188.4	6.3	345.6	3.971	1184.4	10.08	2760.4
	10:00	1195.9	7.6	374.4	4.605	1191.3	10.92	2766.5
				364.8				
	10:05	1274.6	9.8	633.6	12.188	1262.4	18.48	2787.7
	10:10	1264.6	12.1	662.4	13.233	1251.4	19.32	2796.8
2	10:15	1274.6	14.5	691.2	14.317	1260.3	20.16	2808.9
	10:20	1274.6	16.8	662.4	13.233	1261.4	19.32	2818.0
	10:25	1285.4	19.1	662.4	13.233	1272.2	19.32	2824.1
	10:30	1294.6	21.5	691.2	14.317	1280.3	20.16	2831.7
				667.2				
	10:35	1408.2	25.1	1036.8	30.313	1377.9	30.24	2848.3
	10:40	1419.4	28.8	1065.6	31.889	1387.5	31.08	2858.9
	10:45	1428.1	32.6	1094.4	33.501	1394.6	31.92	2866.5
	10:50	1434.4	36.3	1065.6	31.889	1402.5	31.08	2872.5
	10:55	1438.1	40.1	1094.4	33.501	1404.6	31.92	2878.6
3	11:00	1443.1	43.8	1065.6	31.889	1411.2	31.08	2884.6
				1070.4				
	11:05	1604.1	49.0	1497.6	59.851	1544.2	43.68	2901.2
	11:10	1599.1	54.3	1526.4	61.997	1537.1	44.52	2908.8
	11:15	1600.3	59.6	1526.4	61.997	1538.3	44.52	2914.8
	11:20	1599.1	64.9	1526.4	61.997	1537.1	44.52	2919.3
	11:25	1595.3	70.4	1584.0	66.395	1528.9	46.20	2923.8
	11:30	1597.8	75.5	1468.8	57.739	1540.1	42.84	2928.4
				1521.6				

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)
5	11:35	1675.2	82.5	2016.0	103.728	1571.5	58.80	2942.0
	11:40	1629.0	89.8	2102.4	112.101	1516.9	61.32	2948.0
	11:45	1615.3	97.1	2102.4	112.101	1503.2	61.32	2952.5
	11:50	1605.3	104.5	2131.2	114.959	1490.3	62.16	2957.0
	11:55	1596.6	111.8	2102.4	112.101	1484.5	61.32	2960.0
	12:00	1591.6	119.2	2131.2	114.959	1476.6	62.16	2964.6
				2097.6				
	12:05	1614.0	128.2	2592.0	165.125	1448.9	75.60	2975.1
	12:10	1610.3	137.2	2592.0	165.125	1445.2	75.60	2979.7
	12:15	1611.5	146.2	2592.0	165.125	1446.4	75.60	2982.7
6	12:20	1614.0	155.2	2592.0	165.125	1448.9	75.60	2987.2
	12:25	1615.2	164.2	2592.0	165.125	1450.1	75.60	2990.2
	12:30	1617.7	173.2	2592.0	165.125	1452.6	75.60	2993.2
				2592.0				
	12:35	1685.1	183.5	2966.4	211.940	1473.2	86.52	2997.8
7	12:40	1683.8	193.9	2995.2	215.762	1468.0	87.36	3000.0
	12:45	1683.9	204.3	2995.2	215.762	1468.1	87.36	3002.3
	12:50	1685.1				1685.1		3003.8
FALLOFF	OUT OF WATER							
	12:50	1379.5				1379.5		2985.6
	12:51	1373.3				1373.3		2982.6
	12:52	1370.8				1370.8		2981.1
	12:53	1369.6				1369.6		2979.6
	12:54	1368.3				1368.3		2976.6
	12:55	1367.1				1367.1		2976.6
	1:00	1360.8				1360.8		2970.5
	1:05	1355.8				1355.8		2966.0

- △ RECORDED WELLHEAD PRESSURE
- CORRECTED WELLHEAD PRESSURE BASED ON 2-3/8" FIBERGLASS TUBING
- BOTTOM HOLE PRESSURE AT 3734 FEET



DEVON ENERGY
 EAST SHUGART UNIT NO. 41
 EDDY COUNTY, NEW MEXICO
 STEP RATE INJECTION TEST
 AUGUST 14, 1995



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

RECEIVED

AUG 21 1995

PRODUCTION DEPT.

STEP RATE INJECTION TEST

CLIENT: DEVON ENERGY

DATE: AUGUST 15, 1995

WELL NAME: EAST SHUGART UNIT NO. 42
EDDY COUNTY, NEW MEXICO

WO#: 95-14-1120

PERFS =

PACKER DEPTH =

BHP GAUGE DEPTH = 3726

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	9:35	1221.8				1221.8		2955.6
	9:40	1263.1	0.9	259.2	2.327	1260.8	7.56	2964.6
	9:45	1274.3	1.9	288.0	2.828	1271.5	8.40	2967.6
	9:50	1276.8	3.0	316.8	3.374	1273.4	9.24	2969.1
	9:55	1289.3	4.0	288.0	2.828	1286.5	8.40	2969.1
	10:00	1291.8	5.0	288.0	2.828	1289.0	8.40	2970.6
	10:05	1318.1	6.1	316.8	3.374	1314.7	9.24	2970.6
				292.8				
	10:10	1328.1	8.0	547.2	9.273	1318.8	15.96	2976.7
	10:15	1390.6	10.0	576.0	10.196	1380.4	16.80	2978.2
2	10:20	1400.6	11.9	547.2	9.273	1391.3	15.96	2978.2
	10:25	1409.4	13.9	576.0	10.196	1399.2	16.80	2979.8
	10:30	1379.4	15.9	576.0	10.196	1369.2	16.80	2979.8
	10:35	1404.4	17.8	547.2	9.273	1395.1	15.96	2979.8
				561.6				
	10:40	1450.0	20.8	864.0	21.588	1428.4	25.20	2985.9
	10:45	1448.1	23.8	864.0	21.588	1426.5	25.20	2986.0
	10:50	1455.6	26.8	864.0	21.588	1434.0	25.20	2987.5
	10:55	1454.3	29.8	864.0	21.588	1432.7	25.20	2987.5
	11:00	1466.8	32.8	864.0	21.588	1445.2	25.20	2989.0
3	11:05	1454.3	35.8	864.0	21.588	1432.7	25.20	2989.0
				864.0				
	11:10	1530.6	40.1	1238.4	42.019	1488.6	36.12	2995.1
	11:15	1531.8	44.5	1267.2	43.845	1488.0	36.96	2995.1
	11:20	1525.6	48.9	1267.2	43.845	1481.8	36.96	2996.6
	11:25	1525.6	53.3	1267.2	43.845	1481.8	36.96	2996.6
	11:30	1524.3	57.7	1267.2	43.845	1480.5	36.96	2998.1
	11:35	1526.8	62.1	1267.2	43.845	1483.0	36.96	2999.6
				1262.4				

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)
5	11:40	1593.0	67.7	1612.8	68.498	1524.5	47.04	3004.1
	11:45	1584.3	73.4	1641.6	70.778	1513.5	47.88	3004.1
	11:50	1580.5	79.0	1612.8	68.498	1512.0	47.04	3005.6
	11:55	1581.8	84.7	1641.6	70.778	1511.0	47.88	3005.6
	12:00	1579.3	90.3	1612.8	68.498	1510.8	47.04	3007.1
	12:05	1571.0	96.0	1641.6	70.778	1500.2	47.88	3008.6
				1627.2				
	12:10	1615.5	103.0	2016.0	103.505	1512.0	58.80	3011.6
	12:15	1609.3	110.0	2016.0	103.505	1505.8	58.80	3013.1
	12:20	1610.5	117.1	2044.8	106.258	1504.2	59.64	3013.1
6	12:25	1605.5	124.3	2073.6	109.043	1496.5	60.48	3014.6
	12:30	1604.3	131.4	2044.8	106.258	1498.0	59.64	3016.1
	12:35	1608.1	138.5	2044.8	106.258	1501.8	59.64	3016.1
				2040.0				
	12:40	1671.8	147.0	2448.0	148.237	1523.6	71.40	3020.7
	12:45	1664.3	155.5	2448.0	148.237	1516.1	71.40	3022.2
	12:50	1658.0	163.9	2419.2	145.027	1513.0	70.56	3022.2
	12:55	1658.0	172.4	2448.0	148.237	1509.8	71.40	3023.7
	1:00	1659.3	180.8	2419.2	145.027	1514.3	70.56	3023.7
	1:05	1659.2	189.2	2419.2	145.027	1514.2	70.56	3025.2
FALLOFF				2433.6				
	1:06	1409.4				1409.4		3014.6
	1:07	1408.1				1408.1		3013.1
	1:08	1408.1				1408.1		3013.1
	1:09	1406.9				1406.9		3011.6
	1:10	1406.9				1406.9		3011.6
	1:15	1405.6				1405.6		3010.0
	1:20	1404.4				1404.4		3010.0

