



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

June 9, 1998

WFX-654
PDEV0020600654
WFX-669
PDEV0020600669

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

Attn: Mr. Alan Holly

**RE: Injection Pressure Increase,
West Dollarhide Drinkard Unit,
Lea County, New Mexico**

Dear Mr. Holly:

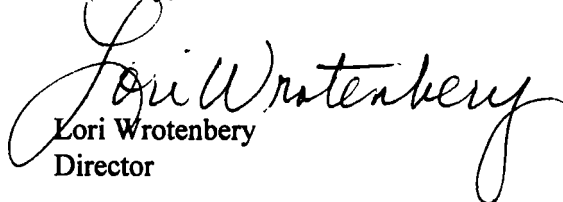
Reference is made to your request dated April 28, 1998 to increase the surface injection pressure on 2 wells in the above referenced waterflood project. This request is based on step rate tests conducted on April 14 and 15, 1998. The results of the tests have been reviewed by my staff and we feel an 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>
West Dollarhide Drinkard Unit Well No.146 Unit Letter 'C', Section 32, Township 24 South, Range 38 East	1523 PSIG
Central Vacuum Unit Well No.151 Unit Letter 'B', Section 5, Township 25 South, Range 38 East	1615 PSIG
Both 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,


Lori Wrotenbery
Director

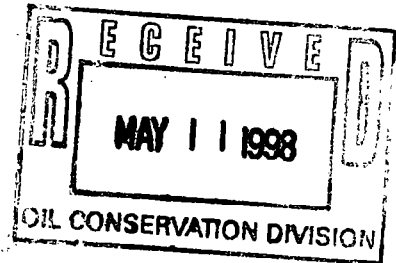
LW/BES/kv

cc: Oil Conservation Division - Hobbs
Files: WFXs-654, 669; PSI-X 4th QTR-98

PS1-X N/R

April 28, 1998

New Mexico Oil Conservation Division of Hobbs, New Mexico
P.O. Box 2088
Santa Fe, NM 88240
Attention: Mr. David Catanach



Re: Request for Increase in Surface Injection Pressure Limits
Texaco Exploration and Production Inc.
West Dollarhide Drinkard Unit
T-24/25-S, R-38-E, Lea County, New Mexico

Dear Mr. Catanach:

Texaco requests that the surface injection pressure limit be increased for the following wells:

<u>Well No.</u>	<u>Observed Surface Parting Pressure</u>	<u>Requested Permitted Injection Pressure</u>
West Dollarhide Drinkard Unit #146	1573 psig	1520 psig C 32 24 38
West Dollarhide Drinkard Unit #151	1665 psig	1615 psig B 5 25 38

The step rate tests and the results are attached.

The higher injection limit is requested to obtain more injection and better sweep efficiency in the pattern. If additional information is needed, please contact me at (505)397-0424.

Yours very truly,

A handwritten signature in black ink, appearing to read "Alan Holly".

Alan Holly
Production Engineer

Attachments

Cc: Mr. Chris Williams
Hobbs, NMOCC

WFX 654
669

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

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION & PRODUCTION, INC.

DATE: APRIL 14, 1998

WELL NAME: WEST DOLLARHIDE DRINKARD UNIT NO. 146
LEA COUNTY, NEW MEXICO

WO#: 98-14-0601

PERFS = 6500-6660

PACKER DEPTH = 6455

BHP GAUGE DEPTH = 6580

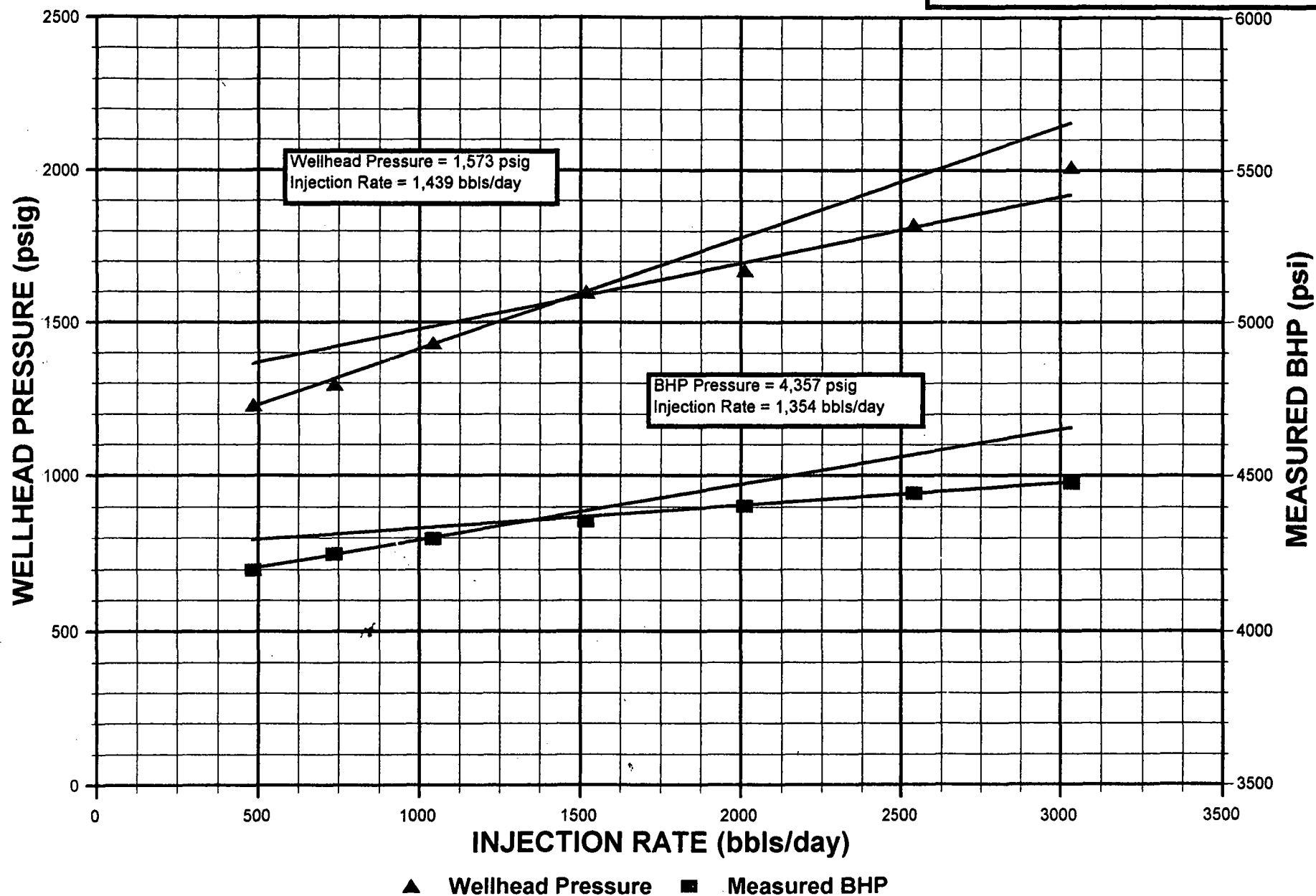
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	10:25	1166.8				1166.8		4140.2
	10:30	1186.7	1.6	460.8	13.538	1173.2	13.44	4159.6
	10:35	1195.4	3.3	489.6	15.145	1180.3	14.28	4171.3
	10:40	1215.4	5.0	489.6	15.145	1200.3	14.28	4180.1
	10:45	1209.2	6.7	489.6	15.145	1194.1	14.28	4188.1
	10:50	1226.8	8.4	489.6	15.145	1211.7	14.28	4194.5
	10:55	1231.9	10.1	489.6	15.145	1216.8	14.28	4200.6
				484.8				
	11:00	1253.1	12.6	720.0	30.913	1222.2	21.00	4213.5
	11:05	1266.9	15.2	748.8	33.239	1233.7	21.84	4223.1
2	11:10	1268.2	17.8	748.8	33.239	1235.0	21.84	4230.5
	11:15	1278.2	20.4	748.8	33.239	1245.0	21.84	4205.9
	11:20	1279.4	22.9	720.0	30.913	1248.5	21.00	4244.5
	11:25	1299.4	25.4	720.0	30.913	1268.5	21.00	4251
				734.4				
	11:30	1348.2	29.1	1051.2	62.257	1285.9	30.66	4260.9
	11:35	1374.4	32.7	1051.2	62.257	1312.1	30.66	4270.9
	11:40	1386.9	36.3	1036.8	60.689	1326.2	30.24	4285.5
	11:45	1401.9	39.9	1036.8	60.689	1341.2	30.24	4288.1
	11:50	1424.4	43.5	1036.8	60.689	1363.7	30.24	4295
3	11:55	1434.4	47.1	1036.8	60.689	1373.7	30.24	4300
				1041.6				
	12:00	1531.8	52.3	1497.6	119.827	1412.0	43.68	
	12:05	1543.0	57.6	1526.4	124.124	1418.9	44.52	4325
	12:10	1551.8	62.8	1497.6	119.827	1432.0	43.68	
	12:15	1585.5	68.1	1526.4	124.124	1461.4	44.52	4345.5
	12:20	1584.2	73.4	1526.4	124.124	1460.1	44.52	
	12:25	1603.0	78.7	1526.4	124.124	1478.9	44.52	4354.5
				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	12:30	1682.9	85.5	1958.4	196.829	1486.1	57.12	4367.6
	12:35	1706.6	92.4	1987.2	202.217	1504.4	57.96	4379
	12:40	1684.2	99.5	2044.8	213.194	1471.0	59.64	4385.1
	12:45	1672.9	106.5	2016.0	207.672	1465.2	58.80	4390.5
	12:50	1681.7	113.5	2016.0	207.672	1474.0	58.80	4399.8
	12:55	1672.9	120.6	2044.8	213.194	1459.7	59.64	4404.1
				2011.2				
	1:00	1810.3	129.5	2548.8	320.473	1489.8	74.34	4418.1
	1:05	1811.5	138.3	2548.8	320.473	1491.0	74.34	4424
	1:10	1817.8	147.1	2534.4	317.132	1500.7	73.92	4429
6	1:15	1822.8	155.7	2476.8	303.927	1518.9	72.24	4435.5
	1:20	1816.5	164.5	2534.4	317.132	1499.4	73.92	4440.1
	1:25	1825.2	173.3	2534.4	317.132	1508.1	73.92	4445.3
				2529.6				
	1:30	1990.1	183.6	2966.4	424.322	1565.8	86.52	4456.2
	1:35	1988.9	194.2	3052.8	447.469	1541.4	89.04	4461.5
	1:40	2002.6	204.7	3024.0	439.690	1562.9	88.20	4466.7
	1:45	2005.1	215.3	3052.8	447.469	1557.6	89.04	4471.7
	1:50	1992.6	225.9	3052.8	447.469	1545.1	89.04	4475.1
	1:55	2016.3	236.5	3052.8	447.469	1568.8	89.04	4478.3
FALLOFF				3033.6				
	1:56	1489.3				1489.3		4458.8
	1:57	1483.1				1483.1		4455.6
	1:58	1474.3				1474.3		4453.1
	1:59	1471.8				1471.8		4451.5
	2:00	1470.6				1470.6		4449.8
	2:05	1465.6				1465.6		4443.5
	2:10	1460.6				1460.6		4438.5

STEP RATE INJECTION TEST

TEXACO EXPLORATION & PRODUCTION, INC.

Well Name:
West Dollarhide Drinkard Unit No. 146
Lea County, New Mexico



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: TEXACO EXPLORATION & PRODUCTION, INC.

DATE: APRIL 15, 1998

WELL NAME: WEST DOLLARHIDE DRINKARD UNIT NO. 151
LEA COUNTY, NEW MEXICO

WO#: 98-14-0629

PERFS = 6365-6514

PACKER DEPTH = 6302

BHP GAUGE DEPTH = 8440

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	631.2				631.2		3542.9
	9:55	1008.5	1.6	460.8	13.250	995.2	13.44	3890.8
	10:00	1069.7	3.3	489.6	14.823	1054.9	14.28	3977.0
	10:05	1117.1	5.0	489.6	14.823	1102.3	14.28	4030.0
	10:10	1169.6	6.6	460.8	13.250	1156.3	13.44	4069.4
	10:15	1193.3	8.4	518.4	16.476	1176.8	15.12	4101.3
	10:20	1230.8	10.1	489.6	14.823	1216.0	14.28	4130.2
				484.8				
	10:25	1410.6	13.0	835.2	39.815	1370.8	24.36	4266.8
	10:30	1441.9	15.7	777.6	34.884	1407.0	22.68	4294.1
2	10:35	1430.6	18.6	835.2	39.815	1390.8	24.36	4306.2
	10:40	1454.3	21.5	835.2	39.815	1414.5	24.36	4313.8
	10:45	1451.8	24.4	835.2	39.815	1412.0	24.36	4326.0
	10:50	1500.6	27.3	835.2	39.815	1460.8	24.36	4335.1
				825.6				
	10:55	1630.5	31.7	1267.2	86.098	1544.4	36.96	4415.6
	11:00	1650.5	36.2	1296.0	89.753	1560.7	37.80	4426.2
	11:05	1619.2	40.6	1267.2	86.098	1533.1	36.96	4421.6
	11:10	1614.2	45.0	1267.2	86.098	1528.1	36.96	4420.1
	11:15	1616.7	49.4	1267.2	86.098	1530.6	36.96	4418.6
3	11:20	1620.5	53.9	1296.0	89.753	1530.7	37.80	4417.1
				1276.8				
	11:25	1746.6	59.6	1641.6	138.987	1607.6	47.88	4488.5
	11:30	1759.1	65.1	1584.0	130.100	1629.0	46.20	4477.8
	11:35	1744.1	70.9	1670.4	143.532	1600.6	48.72	4476.3
	11:40	1744.1	76.6	1641.6	138.987	1605.1	47.88	4473.3
	11:45	1736.6	82.3	1641.6	138.987	1597.6	47.88	4471.8
	11:50	1734.1	88.0	1641.6	138.987	1595.1	47.88	4465.7
				1636.8				

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	11:55	1889.0	94.8	1958.4	192.641	1696.4	57.12	4523.4
	12:00	1885.3	101.6	1958.4	192.641	1692.7	57.12	4520.4
	12:05	1897.0	108.4	1958.4	192.641	1704.4	57.12	4515.9
	12:10	1804.1	115.2	1958.4	192.641	1611.5	57.12	4447.6
	12:15	1799.1	122.0	1958.4	192.641	1606.5	57.12	4440.0
	12:20	1805.4	128.8	1958.4	192.641	1612.8	57.12	4438.4
				1958.4				
	12:25	1930.3	137.3	2448.0	291.093	1639.2	71.40	4465.8
	12:30	1934.0	145.8	2448.0	291.093	1642.9	71.40	4464.2
	12:35	1931.5	154.3	2448.0	291.093	1640.4	71.40	4462.7
6	12:40	1906.5	162.8	2448.0	291.093	1615.4	71.40	4459.7
	12:45	1922.8	171.3	2448.0	291.093	1631.7	71.40	4459.8
	12:50	1907.8	179.8	2448.0	291.093	1616.7	71.40	4456.9
				2448.0				
	12:55	2061.4	189.8	2880.0	393.194	1668.2	84.00	4487.3
	1:00	2065.2	199.8	2880.0	393.194	1672.0	84.00	4485.7
	1:05	2072.7	209.7	2851.2	385.951	1686.7	83.16	4484.2
	1:10	2057.7	219.7	2880.0	393.194	1664.5	84.00	4479.6
	1:15	2053.9	229.8	2908.8	400.499	1653.4	84.84	4478.1
	1:20	2046.4	239.8	2880.0	393.194	1653.2	84.00	4475.0
FALLOFF				2880.0				
	1:21	1434.4				1434.4		4341.4
	1:22	1420.6				1420.6		4330.8
	1:23	1411.9				1411.9		4324.7
	1:24	1406.9				1406.9		4318.6
	1:25	1401.9				1401.9		4314.1
	1:30	1389.4				1389.4		4301.9
	1:35	1381.9				1381.9		4294.3

STEP RATE INJECTION TEST

TEXACO EXPLORATION & PRODUCTION, INC.

Well Name:
West Dollarhide Drinkard Unit No. 151
Lea County, New Mexico

