PMX-135
pDEV0020700135
PMX-180
pDEV0020700180

January 2, 1996

Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, Texas 79705-4500

Attn: Mr. Jerry Hoover

RE: Injection Pressure Increase MCA Unit Pressure Maintenance Project, Lea County, New Mexico

Dear Mr. Hoover:

Reference is made to your request dated November 17, 1995 to increase the surface injection pressure on three wells in the above referenced pressure maintenance project. This request is based on a step rate tests conducted on October 19 and 20, 1995. The results of the test 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
MCA Unit Well No.280, Unit Letter H, Section 28	1898 PSIG
MCA Unit Well No.282, Unit Letter B, Section 27	1770 PSIG
MCA Unit Well No.311, Unit Letter C, Section 2	2560 PSIG
All located in Township 17 South, Range 33 East, 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
File: PMX-135, 180; PSI-X 3rd QTR 96

Psi-x N/R

Midland Division
Exploration Production

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
(915) 686-5400

November 17, 1995

Mr. William J. LeMay
Oil Conservation Division
2040 S. Pacheco
Santa Fe New Mexico 8504

Re: Application for Authorization of Higher Surface Injection Pressures for Three MCA Unit Waterflood Injection Wells by Amending Previously Approved Administrative Orders No. PMX 135 and PMX 180

Dear Mr. LeMay:

EXHIBIT A is a map of the MCA Unit showing the standard 80-acre, 5-spot injection pattern prior to the conversion of these three wells, Nos. 280, 282, and 311, to injection. Each of these wellbores is located at an infill location in this pattern. Although Wells No. 282 and 311 were approved on May 24, 1985 by PMX-135 and Well No. 282 on May 16, 1995 by PMX-180 for injection, injection into all three wells was not begun until October of 1995.

EXHIBIT B is a table which shows (a) the 3 subject wells, (b) their current injection rates at the constraining authorized pressures, (c) the current authorized maximum surface injection pressures, (d) the rate and pressure at which fracture occurred in a current step-rate test, and (e) a proposed new maximum surface injection pressure for these wells. Also noted beneath the table are the current orders authorizing injection into these three wells.

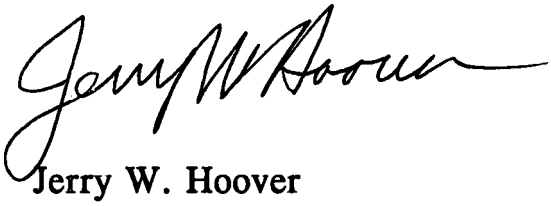
All three wells were initially limited routinely to injection pressures equivalent to .2 psi per foot of depth from the surface to the top perforation in each well. Injection is into the fully pressured San Andres reservoir of the mature MCA Waterflood Project and would be normally expected to require a greater injection pressure than the routinely approved .2 psi per foot limit. As shown in EXHIBIT B, none of these injectors can effectively inject water into this reservoir at the currently approved injection pressures.

Therefore, after only one month of attempting to inject into these wells, step-rate tests, attached as EXHIBITS C, D, and E, were performed to verify at what surface injection pressures at these various locations that fracture could be expected to occur in the reservoir. Each of these exhibits includes the actual pressure rate data as recorded during the tests and a plot showing the pressure versus rate gradient below and above the identified fracture point.

Effective injection into these three infill locations are necessary to improve the sweep efficiency of the waterflood. All three step-rate tests illustrate clearly the reservoir fracture point in these wells and should adequately support the requested increases in authorized injection pressure which were selected at 50 psi below the recorded fracture points.

Copies of the current injection orders for these three wells, PMX-135 and PMX-180 are also attached as EXHIBITS F and G for your convenience. The granting of this application will prevent waste and will not impair the correlative rights of any party. All three wells are in the interior of the MCA Unit and have no offsets within 1/2 mile of these locations. If there are further questions regarding this application, please contact me at (915) 686-6548.

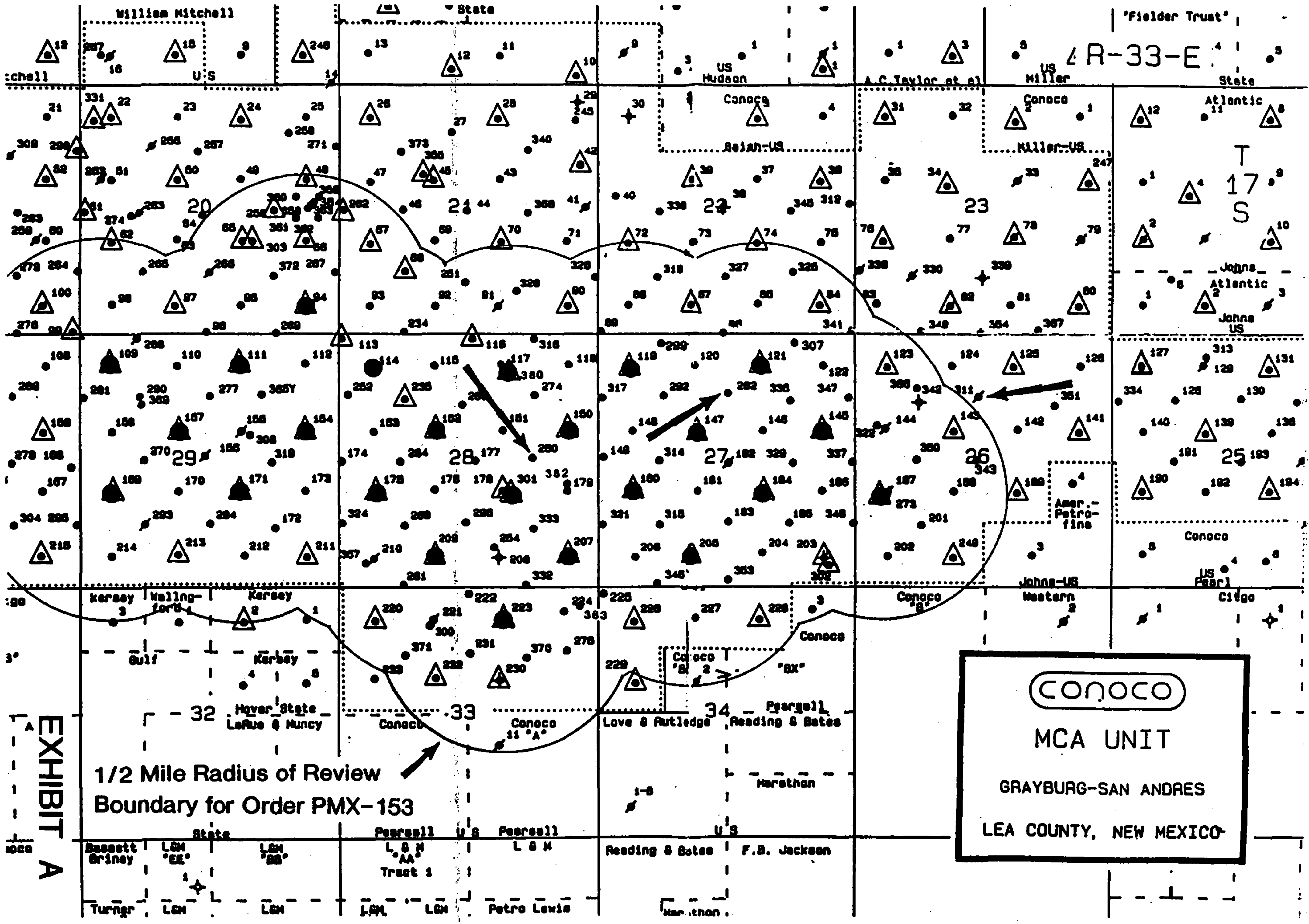
Very truly yours,



Jerry W. Hoover
Sr. Conservation Coordinator

cc: Hobbs District OCD Office

EXHIBIT A



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William Mitchell
State
"Fielder Trust"
US
Hudson
Conoco
Beish-US
A.C.Taylor et al
US
Miller
Conoco
Miller-US
State
Atlantic
Johns
Atlantic
Johns
US
Amer.-Petro-fina
Conoco
Johns-US
Western
US
Pearl
Citgo
Kersey
Walling-ford
Kersey
Gulf
Kersey
Hover State
LaRue & Muncy
Conoco
Conoco
11 "A"
Love & Rutledge
Conoco
"B"
"BX"
Conoco
Pearsall
Reading & Bates
Marathon
State
Bassett Briney
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1/2 Mile Radius of Review
Boundary for Order PMX-153
CONOCO
MCA UNIT
GRAYBURG-SAN ANDRES
LEA COUNTY, NEW MEXICO

MCA UNIT WATERFLOOD PROJECT
STEP-RATE TEST RESULTS AND PROPOSED
SURFACE INJECTION PRESSURE INCREASES

MCA UNIT Well No.	Current Injection Rate (BPD)	Current Surface Pressure (PSIG)	Current NMOCD Maximum Surface Injection Pressure (PSIG)	Step-Rate Break Pressure (PSIG)	Injection Rate at Break (BWPD)	PROPOSED NEW Maximum Surface Injection Pressure (PSIG)
280	0	760	760 *	1948	2310	1898
282	0	761	761 **	1820	2080	1770
311	0	795	795 **	2610	2890	2560

* --- Maximum Surface Injection Pressure established by Administrative Order NO. PMX-180

** --- Maximum Surface Injection Pressure established by Administrative Order NO. PMX-135

EXHIBIT B

MCA Unit 280

EXHIBIT C

pts	BHP	BWPD
1	1709	1066
2	1815	1555
3	1893	2045
4	1944	2592
5	1982	3139
6	1978	3400
7	2001	4061
8	2027	4550
9	2045	5755
10	2059	5845

2310 BWPD
@ 1948 psig

"Corrected" surface pressure (psig)

2100
2000
1900
1800
1700
1600
1500

1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000

BWPD

WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: CONOCO, INC.

DATE: OCTOBER 19, 1995

WELL NAME: M.C.A. UNIT NO. 280
LEA COUNTY, NEW MEXICO

WO#: 95-14-1591

PERFS = 3810-4080

PACKER DEPTH = 3752

BHP GAUGE DEPTH = SURFACE ONLY

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)
	8:20	1544.9				1544.9		
	8:25	1657.3	2.5	720.0	16.313	1641.0	21.00	
	8:30	1696.0	6.1	1036.8	32.025	1664.0	30.24	
	8:35	1704.9	10.1	1152.0	38.918	1666.0	33.60	
	8:40	1723.9	13.9	1094.4	35.394	1688.5	31.92	
	8:45	1735.3	17.6	1065.6	33.691	1701.6	31.08	
1	8:50	1743.0	21.3	1065.6	33.691	1709.3	31.08	
				1022.4				
	8:55	1815.6	26.6	1526.4	65.501	1750.1	44.52	
	9:00	1838.2	32.0	1555.2	67.805	1770.4	45.36	
	9:05	1853.4	37.4	1555.2	67.805	1785.6	45.36	
	9:10	1864.7	42.7	1526.4	65.501	1799.2	44.52	
	9:15	1882.3	48.0	1526.4	65.501	1816.8	44.52	
2	9:20	1882.4	53.4	1555.2	67.805	1814.6	45.36	
				1540.8				
	9:25	1956.2	60.6	2073.6	115.452	1840.7	60.48	
	9:30	1966.3	67.6	2016.0	109.589	1856.7	58.80	
	9:35	1982.6	74.6	2016.0	109.589	1873.0	58.80	
	9:40	1986.4	81.6	2016.0	109.589	1876.8	58.80	
	9:45	1991.5	88.7	2044.8	112.503	1879.0	59.64	
3	9:50	2005.3	95.8	2044.8	112.503	1892.8	59.64	
				2035.2				
	9:55	2082.8	104.8	2592.0	174.455	1908.3	75.60	
	10:00	2099.1	113.8	2592.0	174.455	1924.6	75.60	
	10:05	2111.7	122.9	2620.8	178.058	1933.6	76.44	
	10:10	2119.2	132.0	2620.8	178.058	1941.1	76.44	
	10:15	2105.5	141.0	2592.0	174.455	1931.0	75.60	
4	10:20	2118.0	150.0	2592.0	174.455	1943.5	75.60	
				2601.6				

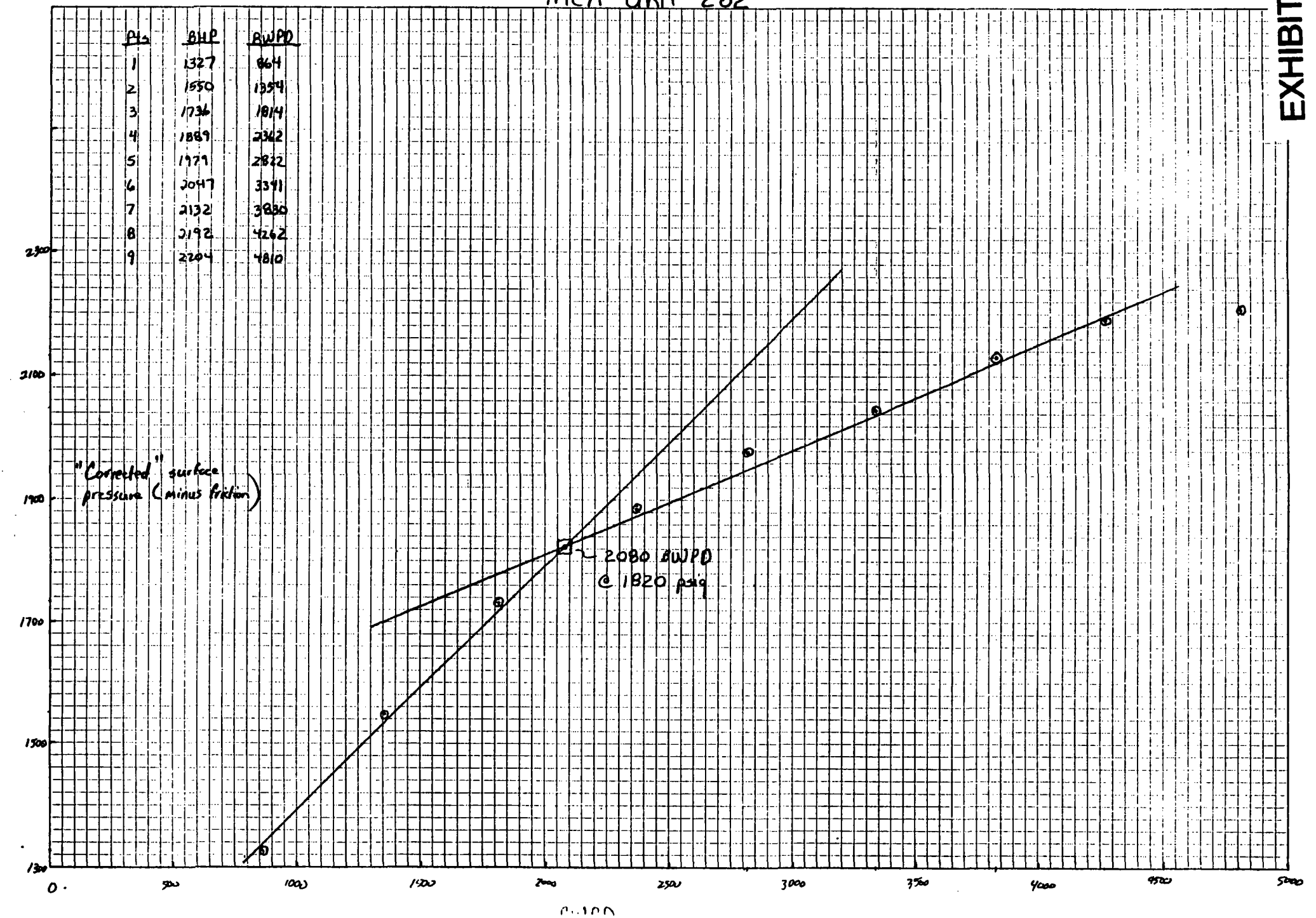
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)−(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	10:25	2189.2	160.3	2966.4	223.916	1965.3	86.52	
	10:30	2206.7	170.8	3024.0	232.026	1974.7	88.20	
	10:35	2219.2	181.4	3052.8	236.130	1983.1	89.04	
	10:40	2227.9	192.1	3081.6	240.268	1987.6	89.88	
	10:45	2225.4	202.9	3110.4	244.439	1981.0	90.72	
5	10:50	2230.4	213.8	3139.2	248.642	1981.8	91.56	
				3062.4				
	10:55	2312.9	226.3	3600.0	320.346	1992.6	105.00	
	11:00	2324.1	238.9	3628.8	325.103	1999.0	105.84	
	11:05	2319.1	251.4	3600.0	320.346	1998.8	105.00	
	11:10	2320.3	264.0	3628.8	325.103	1995.2	105.84	
	11:15	2310.3	276.5	3600.0	320.346	1990.0	105.00	
6	11:20	2297.8	289.0	3600.0	320.346	1977.5	105.00	
				3609.6				
	11:25	2380.3	303.2	4089.6	405.573	1974.7	119.28	
	11:30	2389.1	317.3	4060.8	400.305	1988.8	118.44	
	11:35	2394.1	331.3	4032.0	395.069	1999.0	117.60	
	11:40	2431.7	345.5	4089.6	405.573	2026.1	119.28	
	11:45	2411.7	359.6	4060.8	400.305	2011.4	118.44	
7	11:50	2401.6	373.7	4060.8	400.305	2001.3	118.44	
				4065.6				
	11:55	2521.6	389.5	4550.4	494.142	2027.5	132.72	
	12:00	2529.0	405.3	4550.4	494.142	2034.9	132.72	
	12:05	2532.7	421.1	4550.4	494.142	2038.6	132.72	
	12:10	2508.8	436.9	4550.4	494.142	2014.7	132.72	
	12:15	2510.0	452.7	4550.4	494.142	2015.9	132.72	
8	12:20	2521.2	468.5	4550.4	494.142	2027.1	132.72	
				4550.4				
	12:25	2670.3	486.4	5155.2	622.464	2047.8	150.36	
	12:30	2670.3	504.1	5097.6	609.658	2060.6	148.68	
	12:35	2672.7	521.9	5126.4	616.046	2056.7	149.52	
	12:40	2670.2	539.7	5126.4	616.046	2054.2	149.52	
	12:45	2657.6	557.6	5155.2	622.464	2035.1	150.36	
9	12:50	2687.6	575.5	5155.2	622.464	2065.1	150.36	
				5136.0				
	12:55	2793.0	595.0	5616.0	729.290	2063.7	163.80	
	1:00	2789.2	614.4	5587.2	722.386	2066.8	162.96	
	1:05	2784.0	634.0	5644.8	736.224	2047.8	164.64	
	1:10	2808.0	653.6	5644.8	736.224	2071.8	164.64	
10	1:15	2765.3	673.2	5644.8	736.224	2029.1	164.64	
				5627.5				

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)
	SHUT	DOWN	OUT OF	WATER				
FALLOFF	1:16	1999.4				1999.4		
	1:17	1968.2				1968.2		
	1:18	1958.1				1958.1		
	1:19	1951.9				1951.9		
	1:20	1944.4				1944.4		
	1:25	1918.1				1918.1		
	1:30	1896.9				1896.9		

EXHIBIT D

McA Unit 282

Pts	BHP	BWPD
1	1327	864
2	1550	1354
3	1736	1814
4	1889	2342
5	1979	2822
6	2047	3341
7	2132	3880
8	2192	4262
9	2204	4810



WEST – TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: CONOCO, INC.

DATE: OCTOBER 20, 1995

WELL NAME: M.C.A. UNIT NO. 282
LEA COUNTY, NEW MEXICO

WO#: 95-14-1592

PERFS = 3806--4037

PACKER DEPTH = 3710

BHP GAUGE DEPTH = SURFACE ONLY

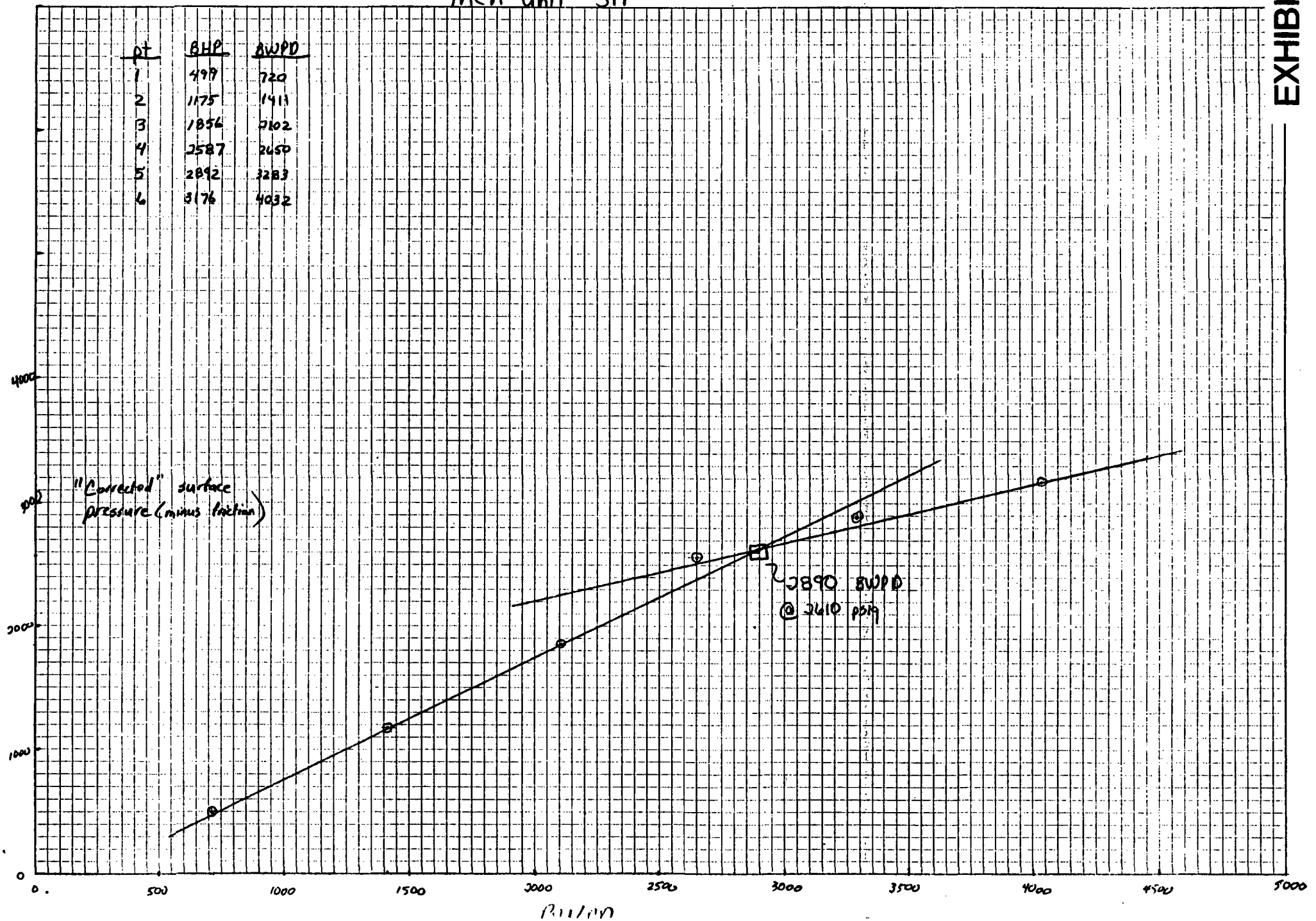
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)--(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
	8:20	1064.0				1064.0		
	8:25	1278.0	3.0	864.0	22.717	1255.3	25.20	
	8:30	1318.9	6.1	892.8	24.138	1294.8	26.04	
1	8:35	1350.0	9.1	864.0	22.717	1327.3	25.20	
				873.6				
	8:40	1513.9	13.9	1382.4	54.198	1459.7	40.32	
	8:45	1558.9	18.6	1353.6	52.127	1506.8	39.48	
2	8:50	1602.7	23.3	1353.6	52.127	1550.6	39.48	
				1363.2				
	8:55	1765.0	29.9	1900.8	97.688	1667.3	55.44	
	9:00	1802.6	36.4	1872.0	94.968	1707.6	54.60	
3	9:05	1825.1	42.7	1814.4	89.633	1735.5	52.92	
				1862.4				
	9:10	1978.8	50.9	2361.6	145.963	1832.8	68.88	
	9:15	2012.6	59.1	2361.6	145.963	1866.6	68.88	
4	9:20	2035.1	67.3	2361.6	145.963	1889.1	68.88	
				2361.6				
	9:25	2148.9	77.2	2851.2	206.829	1942.1	83.16	
	9:30	2166.5	87.1	2851.2	206.829	1959.7	83.16	
5	9:35	2181.6	96.9	2822.4	202.980	1978.6	82.32	
				2841.6				
	9:40	2282.9	108.3	3283.2	268.510	2014.4	95.76	
	9:45	2320.5	119.7	3283.2	268.510	2052.0	95.76	
6	9:50	2324.3	131.3	3340.8	277.289	2047.0	97.44	
				3302.4				
	9:55	2463.1	144.7	3859.2	362.101	2101.0	112.56	
	10:00	2461.8	158.0	3830.4	357.118	2104.7	111.72	
7	10:05	2489.4	171.3	3830.4	357.118	2132.3	111.72	
				3840.0				

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)
	10:10	2570.9	186.4	4348.8	451.641	2119.3	126.84	
	10:15	2565.9	201.0	4204.8	424.364	2141.5	122.64	
8	10:20	2627.4	215.8	4262.4	435.181	2192.2	124.32	
				4272.0				
	10:25	2740.3	232.4	4780.8	538.128	2202.2	139.44	
	10:30	2726.6	249.1	4809.6	544.141	2182.5	140.28	
9	10:35	2747.9	265.8	4809.6	544.141	2203.8	140.28	
				4800.0				
FALLOFF	10:36	2080.9				2080.9		
	10:37	2078.4				2078.4		
	10:38	2065.9				2065.9		
	10:39	2055.9				2055.9		
	10:40	2047.2				2047.2		
	10:45	2022.4				2022.4		
	10:50	2004.7				2004.7		

EXHIBIT E

MCA Unit 311

pt	BHP	BWPD
1	499	720
2	1175	1411
3	1856	2102
4	2587	2459
5	2892	3283
6	3176	4032



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: CONOCO, INC.

DATE: OCTOBER 20, 1995

WELL NAME: M.C.A. UNIT NO. 311
LEA COUNTY, NEW MEXICO

WO#: 95-14-1593

PERFS = 4162-4216

PACKER DEPTH = 3900

BHP GAUGE DEPTH = SURFACE ONLY

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)
	12:45	36.5				36.5		
	12:50	332.6	2.7	777.6	22.691	309.9	22.68	
	12:55	427.2	5.3	748.8	21.161	406.0	21.84	
1	1:00	518.2	7.8	720.0	19.680	498.5	21.00	
				748.8				
	1:05	941.9	12.6	1382.4	65.785	876.1	40.32	
	1:10	1130.4	17.5	1411.2	68.343	1062.1	41.16	
2	1:15	1242.9	22.4	1411.2	68.343	1174.6	41.16	
				1401.6				
	1:20	1677.7	29.7	2102.4	142.882	1534.8	61.32	
	1:25	1863.9	36.9	2073.6	139.282	1724.6	60.48	
3	1:30	1998.8	44.2	2102.4	142.882	1855.9	61.32	
				2092.8				
	1:35	2490.0	53.3	2620.8	214.812	2275.2	76.44	
	1:40	2640.4	62.4	2620.8	214.812	2425.6	76.44	
4	1:45	2805.9	71.6	2649.6	219.199	2586.7	77.28	
				2630.4				
	1:50	3119.6	83.4	3398.4	347.387	2772.2	99.12	
	1:55	3183.6	95.0	3340.8	336.572	2847.0	97.44	
5	2:00	3217.5	106.4	3283.2	325.916	2891.6	95.76	
				3340.8				
	2:05	3594.5	120.2	3974.4	464.096	3130.4	115.92	
	2:10	3643.5	134.3	4060.8	482.933	3160.6	118.44	
6	2:15	3652.3	148.3	4032.0	476.616	3175.7	117.60	
				4022.4				

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	2:16	2382.4				2382.4		
	2:17	2292.4				2292.4		
	2:18	2226.1				2226.1		
	2:19	2172.3				2172.3		
	2:20	2123.5				2123.5		
	2:25	1937.0				1937.0		
	2:30	1803.1				1803.1		

50 YEARS

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

1935 - 1985

May 16, 1985

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
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APPLICATION OF CONOCO INC. TO EXPAND ITS PRESSURE MAINTENANCE PROJECT IN THE MALJAMAR GRAYBURG-SAN ANDRES POOL IN LEA COUNTY, NEW MEXICO

ORDER No. PMX-135

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Order No. R-2403, Conoco Inc. has made application to the Division on February 18, 1985, for permission to expand its Maljamar Cooperative Agreement (MCA) Unit Pressure Maintenance Project in the Maljamar Grayburg-San Andres Pool in Lea County, New Mexico.

NOW, on this 16th day of May, 1985, the Division Director finds:

1. That application has been filed in due form.

2. That satisfactory information has been provided that all offset operators have been duly notified of the application.

3. That no objection has been received within the waiting period as prescribed by Rule 701B.

4. That the proposed injection well is eligible for conversion to water injection under the terms of Rule 701.

5. That the proposed expansion of the above referenced Pressure Maintenance project will not cause waste nor impair correlative rights.

6. That the application should be approved.

IT IS THEREFORE ORDERED:

That the applicant, Conoco Inc., be and the same is hereby authorized to inject water into the Grayburg-San Andres formations through plastic-lined tubing set in a packer at a maximum of 100 feet above the uppermost injection interval in the wells described in Appendix "A" for purposes of pressure maintenance.

EXHIBIT F

IT IS FURTHER ORDERED:

That the operator 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.

That the casing-tubing annulus (in each well) shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That the injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 0.2 psi per foot of depth to the uppermost injection interval in each well. (Note Appendix "A")

That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Grayburg-San Andres formations. That such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

That the operator shall notify the supervisor of the Division's Hobbs District Office before injection is commenced through said wells.

That the operator shall immediately notify the Supervisor of the Division's Hobbs District Office of the failure of the tubing, casing, or packer in said wells or the leakage of water from or around said wells and shall take such steps as may be timely or necessary to correct such failure or leakage.

That the subject wells shall be governed by all provisions of Division Order No. R-2403 and Rules 702, 703, 704, 705, and 706 not inconsistent herewith.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

R. L. STAMETS,
Director

S E A L

MALJAMAR COOPERATIVE AGREEMENT (MCA)

UNIT PRESSURE MAINTENANCE EXPANSION

WELL NUMBER	LOCATION	APPROXIMATE PACKER DEPTH	MAXIMUM SURFACE INJECTION PRESSURE
43	1980' FNL & 1980' FEL Section 21	3640 ft.	748 PSIG
122	660'FNL & 660' FEL Section 27	3816 ft.	783 PSIG
156	2580' FNL & 2595' FWL Section 29	3708 ft.	762 PSIG
182	2615' FSL & 2570' FEL Section 27	3762 ft.	772 PSIG
202	660' FSL & 660' FWL Section 26	3920 ft.	804 PSIG
282	1295' FNL & 2615' FWL Section 27	3706 ft.	761 PSIG
299	175' FNL & 1295' FWL Section 27	3765 ft.	773 PSIG
311	1295' FNL & 2615' FWL Section 26	3879 ft.	795 PSIG
318	25' FNL & 1295' FEL Section 28	3709 ft.	762 PSIG
327	1225' FSL & 2615' FEL Section 22	3704 ft.	761 PSIG
346	55' FSL & 1200' FWL Section 27	3942 ft.	808 PSIG
349	75' FSL & 1295' FWL Section 23	3850 ft.	792 PSIG
350	2615' FSL & 1295' FWL Section 26	3900 ft.	805 PSIG

APPENDIX "A"

Administrative Order PMX 135

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

ADMINISTRATIVE ORDER NO. PMX-180

APPLICATION OF CONOCO, INC. TO EXPAND ITS PRESSURE MAINTENANCE PROJECT IN THE MALJAMAR GRAYBURG SAN ANDRES POOL IN LEA COUNTY, NEW MEXICO

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Division Order No. R-6157, Conoco, Inc. has made application to the Division on May 8, 1995 for permission to expand its MCA Unit Pressure Maintenance Project in the Maljamar Grayburg San Andres Pool in Lea County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been filed in due form.

(2) Satisfactory information has been provided that all offset operators have been duly notified of the application.

(3) No objection has been received within the waiting period as prescribed by Rule 701(B).

(4) The proposed injection well is eligible for conversion to injection under the terms of Rule 701.

(5) The proposed expansion of the above referenced pressure maintenance project will not cause waste nor impair correlative rights.

(6) The application should be approved.

IT IS THEREFORE ORDERED THAT:

The applicant, Conoco, Inc., be and the same is hereby authorized to inject water into the Grayburg and San Andres formations at approximately 3798 feet to approximately 4088 feet through 2 3/8-inch plastic lined tubing set in a packer at approximately 3725 feet in the following described well for purposes of pressure maintenance to wit:

VILLAGRA BUILDING - 408 Galisteo
Forestry and Resources Conservation Division
P.O. Box 1948 87504-1948
827-5830
Park and Recreation Division
P.O. Box 1147 87504-1147
827-7465

2040 South Pacheco
Office of the Secretary
827-5950
Administrative Services
827-5925
Energy Conse
Mining
827-5970
Oil Conservation
827-7131

EXHIBIT G

MCA Unit Well No.280
2565' FNL & 1345' FEL
UL "G", Section 28, T-17-S, R-32-E
Lea County, New Mexico

IT IS FURTHER ORDERED THAT:

The operator 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.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 760 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Grayburg or San Andres formations. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify 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 tests so that the same may be inspected and witnessed.

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 said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

The subject well shall be governed by all provisions of Division Order No. R-6157, as amended and Rules 702-706 of the Division Rules and Regulations not inconsistent herewith.

PROVIDED FURTHER THAT, jurisdiction of this cause is hereby retained by the Division for the entry of such further order or orders as may be deemed necessary or convenient for the

prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

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 well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

DONE at Santa Fe, New Mexico, on this 24th day of May, 1995.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

cc: Oil Conservation Division - Hobbs
Bureau of Land Management - Carlsbad