

WFX-503
PDEV0020600503



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



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

July 22, 1993

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

Calvin and Alma Tennison
2401 Martin Lane
Carlsbad, NM 88220

Attention: Calvin Tennison

RE: *Injection Pressure Increase Malaga Unit Well No. 12-2,
Eddy County, New Mexico*

Dear Mr. Tennison:

Reference is made to your request dated July 6, 1993 to increase the surface injection pressure on the above-referenced well. This request is based on a step rate tests conducted on June 26, 1993. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

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

Well and Location	Maximum Injection Surface Pressure
Malaga Unit Well No. 12-2 990' FSL - 330' FWL Unit M, Section 7, Township 24 South, Range 29 East	845 PSIG
This well located in 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.

Sincerely,

William J. LeMay
Director

WJL/BES/amg

cc: Oil Conservation Division - Artesia
D. Catanach
File: WFX-503

NO WAITING PERIOD

COMPANY: CALVIN & ALMA TENNISON
ADDRESS: 2401 Martin Lane
CITY, STATE, ZIP: Carlsbad, New Mexico 88220
ATTENTION: Mr. Calvin Tennison

RE: *Injection Pressure Increase
Malaga Unit Well No.12-2
Section 7-T20S-R30E
Eddy County, New Mexico*

Dear Sir:

Reference is made to your request dated **July 6, 1993**, to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on this well **June 26, 1993**. 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:

<u>Well & Location</u>	<u>Maximum Injection Surface Pressure</u>
Malaga Unit Well No.12-2 990' FSL & 330' FWL Unit Letter "M", Section 7-T24S-R29E Eddy County, New Mexico	845 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.

Sincerely,

William J. LeMay
Director

WJL/BES/

xc: D. CATANACH FILE - WFX-503 OCD - Artesia

OIL CONSERVATION DIVISION
RECEIVED

JULY 6, 1993

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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, N.M. 87504

OPERATORS
CALVIN & ALMA TENNISON
2401 MARTIN LANE
CARLSBAD, N.M. 88220

ATTN. DAVID CATANAH

DEAR DAVID:

HERE IS A STEP RATE TEST ON THIS SWD. WELL. I WOULD APPRECIATE
A PRESSURE INCREASE IF YOU COULD GIVE IT TO ME.

I TOOK A COPY OF THIS TO ARTESIA, N.M. AND GAVE IT TO MIKE WILLIAMS.
WOULD LIKE TO HAVE 900#, BUT WILL TAKE WHAT YOU GIVE ME.

THANKING YOU VERY MUCH.

SINCERELY

Calvin F. Tennison
CALVIN F. TENNISON

8,17 25-30

JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: CAL & ALMA TENNISON

DATE: JUNE 26, 1988

WELL NAME: MALAGA UNIT TRACT 12 NO. 2
EDDY COUNTY, NEW MEXICO

WO#: 88-14-1177

MID-PERF8 = 2735 TO 2737

PACKER DEPTH = 2723

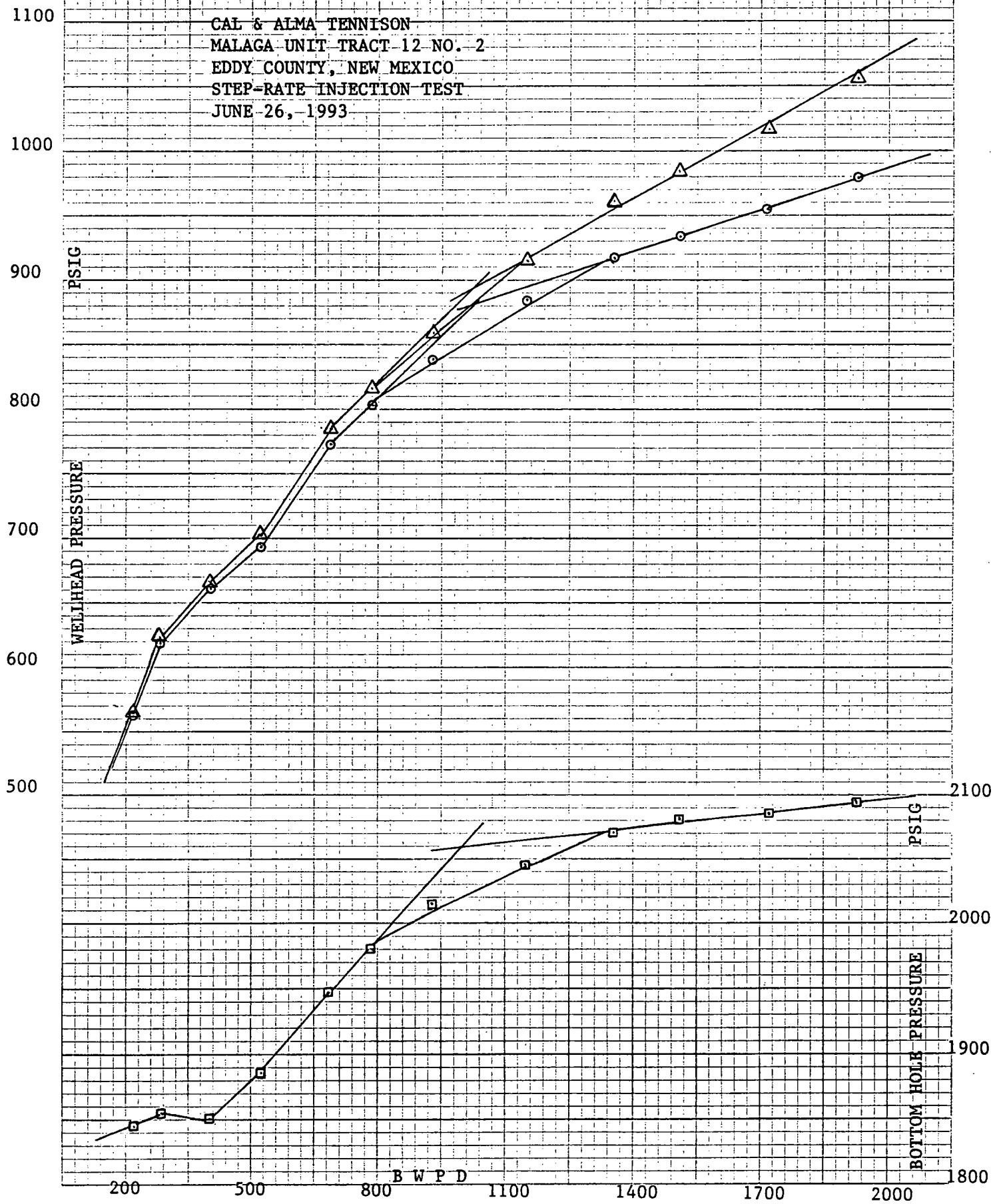
BHP GAUGE DEPTH = 2720

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS (psig)	(2) CUMULATIVE VOL. INJECTED (cbls)	(3) INJECTION RATE (cbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS (psig) (1) - (4)	(6) INJECTION RATE (gpm) (3)/24 HRS	(7) MEASURED BHP (psig)
1	10:15	63.8			0.000	63.8	0.00	1397
	10:20	518.4	0.8	230.4	1.562	516.8	6.72	1816
	10:25	557.6	1.6	230.4	1.562	556.0	6.72	1837
	10:30	565.2	2.3	201.6	1.220	564.0	5.88	1845
2				220.8	0.000	0.0	0.00	
	10:35	595.6	3.3	288.0	2.360	593.2	8.40	1863
	10:40	604.4	4.3	288.0	2.360	602.0	8.40	1860
	10:45	622.0	5.3	288.0	2.360	619.6	8.40	1856
3				288.0	0.000	0.0	0.00	
	10:50	641.0	6.7	403.2	4.399	636.6	11.76	1861
	10:55	657.4	8.1	403.2	4.399	653.0	11.76	1855
	11:00	665.0	9.5	403.2	4.399	660.6	11.76	1850
4				403.2	0.000	0.0	0.00	
	11:05	700.3	11.3	518.4	7.002	693.3	15.12	1868
	11:10	704.0	13.2	547.2	7.739	696.3	15.96	1876
	11:15	701.5	15.0	518.4	7.002	694.5	15.12	1886
5				527.9	0.000	0.0	0.00	
	11:20	762.1	17.4	691.2	11.923	750.2	20.16	1928
	11:25	762.0	19.8	691.2	11.923	750.1	20.16	1939
	11:30	783.5	22.1	662.4	11.020	772.5	19.32	1948
6				681.6	0.000	0.0	0.00	
	11:35	798.7	24.9	806.4	15.858	782.8	23.52	1967
	11:40	817.7	27.6	777.6	14.826	802.9	22.68	1973
	11:45	816.6	30.3	777.6	14.826	801.8	22.68	1980
7				787.2	0.000	0.0	0.00	
	11:50	857.0	33.6	950.4	21.491	835.5	27.72	1999
	11:55	854.5	36.8	921.6	20.301	834.2	26.88	2009
	12:00	859.6	40.0	921.6	20.301	839.3	26.88	2016
				931.2	0.000	0.0	0.00	

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psf)	(5) CORRECTED TUBING PRESS. (psig) (1)-(4)	(6) INJECTION RATE (gpm) (3)/24.2887	(7) MEASURED BHP (psig)
8	12:05	910.0	44.0	1152.0	30.677	879.3	33.60	2035
	12:10	902.5	48.0	1152.0	30.677	871.8	33.60	2040
	12:15	915.0	52.0	1152.0	30.677	884.3	33.60	2047
9				1152.0	0.000	0.0	0.00	
	12:20	941.5	56.6	1324.8	39.728	901.8	38.64	2060
	12:25	959.2	61.3	1353.6	41.341	917.9	39.48	2067
10	12:30	960.5	66.1	1382.4	42.983	917.5	40.32	2071
				1353.6	0.000	0.0	0.00	
	12:35	990.8	71.4	1526.4	51.630	939.2	44.52	2079
11	12:40	978.2	76.6	1497.6	49.843	928.4	43.68	2075
	12:45	984.5	81.9	1526.4	51.630	932.9	44.52	2082
				1516.8	0.000	0.0	0.00	
12	12:50	1022.3	87.9	1728.0	64.949	957.4	50.40	2090
	12:55	1021.1	94.0	1756.8	66.966	954.1	51.24	2087
	1:00	1017.3	99.9	1699.2	62.961	954.3	49.56	2086
FALLOFF				1728.0	0.000	0.0	0.00	
	1:05	1052.8	106.6	1929.6	79.659	973.1	56.28	2093
	1:10	1059.1	113.4	1958.4	81.872	977.2	57.12	2095
	1:15	1056.6	120.0	1900.8	77.473	979.1	55.44	2094
				1929.6	0.000	0.0	0.00	
	1:16	885.1			0.000	885.1	0.00	2067
	1:17	863.7			0.000	863.7	0.00	2050
	1:18	848.6			0.000	848.6	0.00	2035
	1:19	836.0			0.000	836.0	0.00	2023
	1:20	825.9			0.000	825.9	0.00	2012
	1:21	817.1			0.000	817.1	0.00	2003
	1:22	808.3			0.000	808.3	0.00	1995
	1:23	800.7			0.000	800.7	0.00	1988
	1:24	793.2			0.000	793.2	0.00	1980
	1:25	786.9			0.000	786.9	0.00	1974
	1:26	780.6			0.000	780.6	0.00	1967
	1:27	774.3			0.000	774.3	0.00	1961
	1:28	769.3			0.000	769.3	0.00	1956
	1:29	763.0			0.000	763.0	0.00	1950
	1:30	757.9			0.000	757.9	0.00	1945
					0.000	0.0	0.00	
					0.000	0.0	0.00	
					0.000	0.0	0.00	
					0.000	0.0	0.00	
					0.000	0.0	0.00	

- △ RECORDED WELLHEAD PRESSURE
- CORRECTED WELLHEAD PRESSURE BASED ON 2 3/8" TUBING
- BOTTOM HOLE PRESSURE @ 2720 FEET

CAL & ALMA TENNISON
MALAGA UNIT TRACT 12 NO. 2
EDDY COUNTY, NEW MEXICO
STEP-RATE INJECTION-TEST
JUNE 26, 1993



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JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: CAL & ALMA TENNISON

DATE: JUNE 26, 1989

WELL NAME: MALAGA UNIT TRACT 12 NO. 2
EDDY COUNTY, NEW MEXICO

WO#: 89-14-1177

MID-PERF8 = 2736 TO 2737

PACKER DEPTH = 2723

BHP GAUGE DEPTH = 2720

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psf)	(5) CORRECTED TUBING PRESS. (psf) (1)-(4)	(6) INJECTION RATE (gpm) (5)/34.2857	(7) MEASURED BHP (psf)
1	10:15	63.8			0.000	63.8	0.00	1397
	10:20	518.4	0.8	230.4	1.562	516.8	6.72	1816
	10:25	557.6	1.6	230.4	1.562	556.0	6.72	1837
	10:30	565.2	2.3	201.6	1.220	564.0	5.88	1845
				220.8	0.000	0.0	0.00	
2	10:35	595.6	3.3	288.0	2.360	593.2	8.40	1863
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	10:45	622.0	5.3	288.0	2.360	619.6	8.40	1856
3				288.0	0.000	0.0	0.00	
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8	12:05	910.0	44.0	1152.0	30.677	879.3	33.60	2035
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	1:28	769.3			0.000	769.3	0.00	1956
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					0.000	0.0	0.00	
					0.000	0.0	0.00	
					0.000	0.0	0.00	
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					0.000	0.0	0.00	

- △ RECORDED WELLHEAD PRESSURE
- CORRECTED WELLHEAD PRESSURE BASED ON 2 3/8" TUBING
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CAL & ALMA TENNISON
MALAGA UNIT TRACT 12 NO. 2
EDDY COUNTY, NEW MEXICO
STEP-RATE INJECTION TEST
JUNE 26, 1993

