



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

October 31, 1997

CF 1803  
R-1538

WFX 677  
PDEV0020600677

The Wiser Oil Company  
P.O. Drawer 2568  
Hobbs, New Mexico 88241-2568

Attn: Ms. Stacey Crawford

**RE: Injection Pressure Increase,  
Maljamar Grayburg Unit Waterflood Project,  
Eddy County, New Mexico**

Dear Ms. Crawford:

Reference is made to your request dated July 16, 1997, and additional data submitted on October 8, 1997, to increase the surface injection pressure on a field-wide group of wells in the above referenced waterflood project. This request is based on 9 step rate tests conducted between May 14 and September 30, 1997. The results of the tests have been reviewed by my staff. Injection pressure increases on two wells which were tested, the MGBU Nos.8 and 15 and adjacent wells to be affected, well numbers 4, 152 and 154, are hereby denied due to questionable test results. At this time, we feel an increase in injection pressure on the remaining 7 wells with recent tests, 7 adjacent wells affected by these tests, and 4 wells to be affected by previous test data should be approved.

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

Recently Tested Well Name and Number	Adjacent Well Name and Number	Section 4 ULSTR	Authorized Pressure
MGBU Well No.20		J-4-17S-32E	2130 PSIG
	MGBU Well No.17	G-4-17S-32E	2290 PSIG
	MGBU Well No.27	O-4-17S-32E	2290 PSIG
MGBU Well No.28		P-4-17S-32E	2430 PSIG
	MGBU Well No.10	M-5-17S-32E	2290 PSIG
	MGBU Well No.19	I-4-17S-32E	2290 PSIG
MGBU Well No.18		H-4-17S-32E	2430 PSIG
MGBU Well No.21		K-4-17S-32E	2250 PSIG
MGBU Well No.153		N-4-17S-32E	2205 PSIG

Note: The mean injection pressure of all Section 4 step rate tested wells (2290 psig) was used to apply to all adjacent Section 4 (Well No.10 in Section 5) wells.

Further, the following 3 adjacent wells located in Section 10 are hereby approved for injection pressure increases based on recent step rate tests on 2 wells:

INTX  
650

<i>Recently Tested Well Name and Number</i>	<i>Adjacent Well Name and Number</i>	<i>Section 4 ULSTR</i>	<i>Authorized Pressure</i>
MGBU Well No.51		C-10-17S-32E	2110 PSIG
	650 MGBU Well No.151	B-10-17S-32E	2110 PSIG
MGBU Well No.53		E-10-17S-32E	1900 PSIG
	MGBU Well No.155	F-10-17S-32E	1900 PSIG
	MGBU Well No.59	K-10-17S-32E	1900 PSIG

Additionally, the following 4 adjacent wells located in Section 3 are hereby approved for injection pressure increases based on previous step rate test results obtained on 2 wells:

650  
650

<i>Previously Tested Well Name and Number</i>	<i>Adjacent Well Name and Number</i>	<i>ULSTR</i>	<i>Authorized Pressure</i>
MGBU Well No.6		I-3-17S-32E	1594 PSIG
	MGBU Well No.5	H-13-17S-32E	1594 PSIG
	MGBU Well No.13	P-3-17S-32E	1594 PSIG
MGBU Well No.150		J-3-17S-32E	1713 PSIG
	650 MGBU Well No.11	N-3-17S-32E	1713 PSIG
	650 MGBU Well No.12	O-3-17S-32E	1713 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,

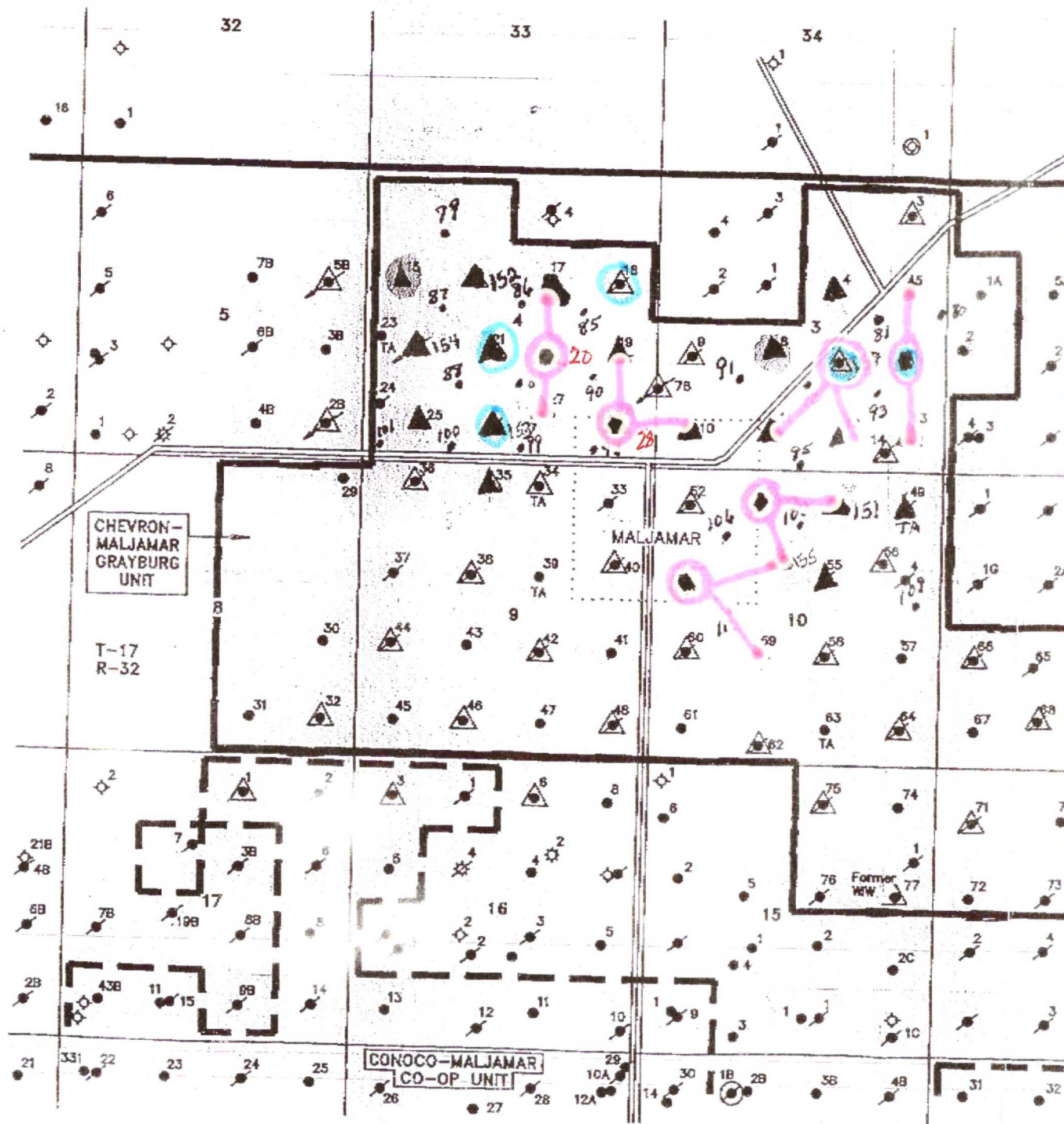
William J. LeMay  
Director

WJL/BES

cc: Oil Conservation Division - Hobbs  
File: Case File No.; PSI-X 2ndQTR 98

R-1538?  
3178







THE WISER OIL COMPANY

P.O. BOX 2568 • HOBBS, NM 88241  
(Phone) 505-392-9797  
(FAX) 505-392-8971



October 8, 1997

Mr. Ben Stone  
New Mexico Oil Conservation Division  
P.O. Box 6429  
Santa Fe, NM 87505-6429

2130  
2430 / 2250  
2205

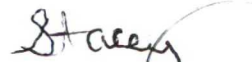
Dear Ben:

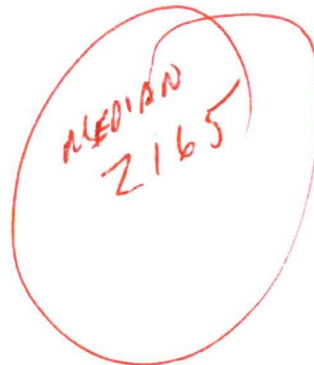
Enclosed please find step-rate tests on the MGBU well numbers 18, 21 and 153 as per our request dated July 16, 1997. I have enclosed a copy of said letter for your quick reference.

Please let us know if you need further information.

Thank you for all your help.

Sincerely,

  
Stacey M. Crawford



Cc: Bonnie (Hobbs OCD)

Enclosures: as stated.





THE WISER OIL COMPANY

P.O. BOX 2568 • HOBBS, NM 88241

(Phone) 505-392-9797

(FAX) 505-392-8971

July 16, 1997

Mr. David Catanach  
State UIC Director  
New Mexico Oil Conservation Division  
P.O. Box 6429  
Santa Fe, NM 87505-6429

Re: Petition for higher surface injection press. for Maljamar WIW's Wiser operated, Lea County, NM.

Dear David:

As per our agreed upon procedure of step-rate testing 1 MGBU injection well for every 3 WIW's we would like to submit the following step-rate tests for your approval.

MGBU	MAX. PRESS.
#6 (prior test) for 5 and 13.	1594#
#150 (prior test) for 11 and 12.	1713#
#8 itself and 4.	To be determined.
#20 itself and 17 and 27.	To be determined.
#15 itself and 152 and 154.	To be determined.
#51 itself and 151.	To be determined.
#53 itself and 155 and 59.	To be determined.
#28 itself and 10 and 19.	To be determined.

We would also like to request to run step-rate tests on MGBU #35, 18 and 21. If MGBU #35 step-rate test will cover MGBU #153 and 25 this should conclude the step-rate testing on our MGBU.

We appreciate your time and effort in giving timely OCD approval to expedite waterflood response.

July 16, 1997

Sincerely,

G.M. Jones

GMJ/smc

Cc: Earl Krieg, Matt Eagleston, Bonnie Jones (J.O. Easley)

Attachments





# WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

## STEP RATE INJECTION TEST

CLIENT: THE WISER OIL COMPANY

DATE: SEPTEMBER 30, 1997

WELL NAME: M.G.B.U. NO. 18  
EDDY COUNTY, NEW MEXICO

WO#: 97-14-1597

PERFS = 3972-4184

PACKER DEPTH = 3870

BHP GAUGE DEPTH = 4078

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	9:55	1246.7				1246.7		3069.0
	10:00	1787.8	0.8	230.4	2.327	1785.5	6.72	3610.2
	10:05	1910.7	1.6	230.4	2.327	1908.4	6.72	3714.9
	10:10	1968.9	2.4	230.4	2.327	1966.6	6.72	3781.1
2				230.4				
	10:15	2215.5	4.2	518.4	10.433	2205.1	15.12	3998.8
	10:20	2286.6	6.0	518.4	10.433	2276.2	15.12	4082.0
	10:25	2346.3	7.8	518.4	10.433	2335.9	15.12	4190.8
3				518.4				
	10:30	2551.0	10.8	864.0	26.844	2524.2	25.20	4314.7
	10:35	2596.7	13.6	806.4	23.627	2573.1	23.52	4344.5
	10:40	2685.7	16.8	921.6	30.248	2655.5	26.88	4420.7
4				864.0				
	10:45	2809.1	21.5	1353.6	61.596	2747.5	39.48	4520.0
	10:50	2813.0	25.8	1238.4	52.250	2760.8	36.12	4540.6
	10:55	2843.6	30.3	1296.0	56.834	2786.8	37.80	4551.1
5				1296.0				
	11:00	2926.4	36.1	1670.4	90.889	2835.5	48.72	4608.7
	11:05	2936.6	42.1	1728.0	96.772	2839.8	50.40	4621.5
	11:10	2991.4	48.0	1699.2	93.809	2897.6	49.56	4627.4
6				1699.2				
	11:15	3066.7	55.4	2131.2	142.642	2924.1	62.16	4682.8
	11:20	3077.0	63.2	2246.4	157.233	2919.8	65.52	4692.6
	11:25	3088.5	70.9	2217.6	153.524	2935.0	64.68	4697.1
				2198.4				

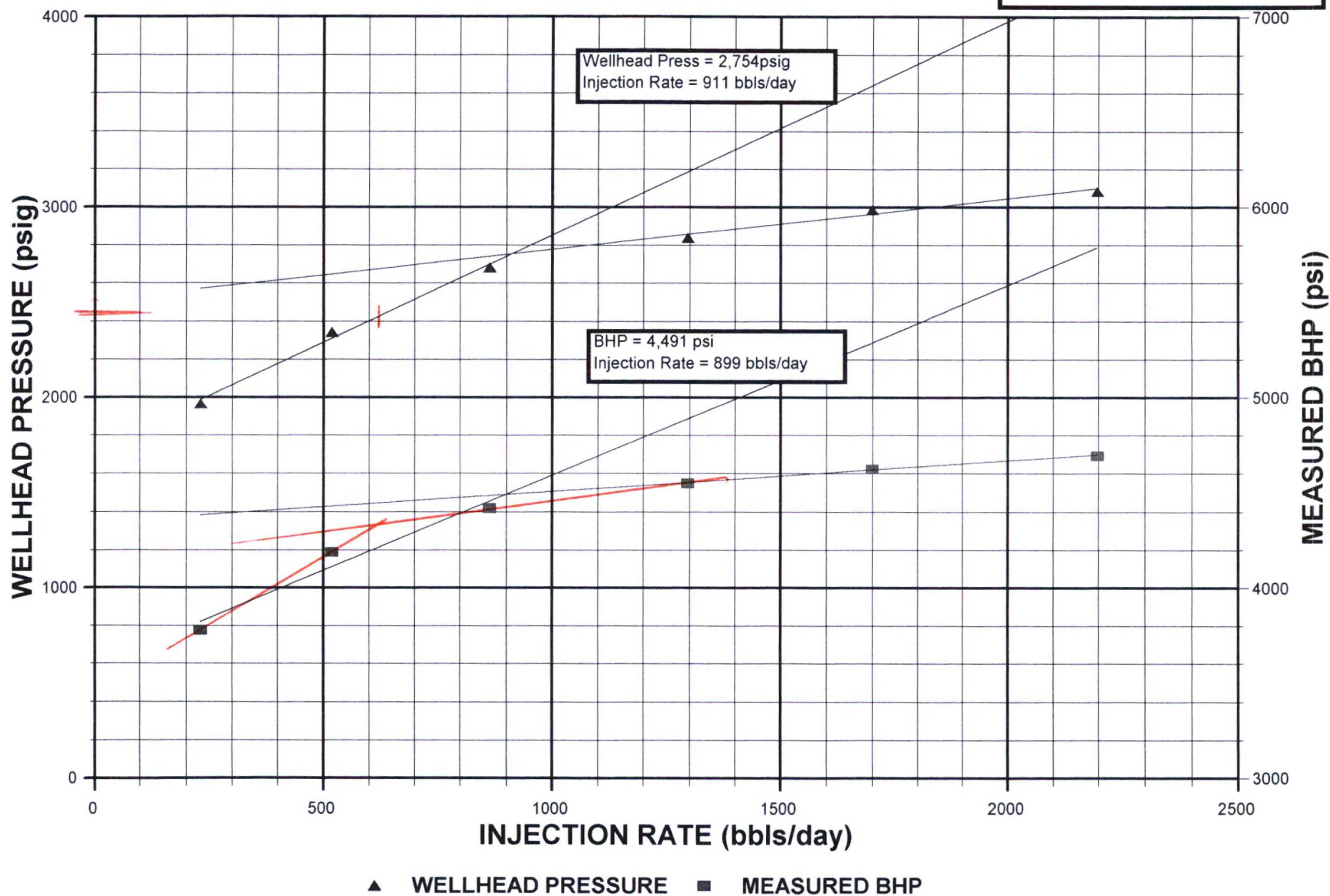
STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbis)	(3) INJECTION RATE (bbis/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1) - (4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
FALLOFF	11:26	2725.7				2725.7		4505.4
	11:27	2640.4				2640.4		4422.2
	11:28	2576.8				2576.8		4357.8
	11:29	2500.5				2500.5		4279.5
	11:30	2477.6				2477.6		4256.7
	11:35	2302.1				2302.1		4079.5
	11:40	2176.0				2176.0		3952.9



# STEP RATE INJECTION TEST

## THE WISER OIL COMPANY

Well Name:  
M.G.B.U. No. 18  
Eddy County, New Mexico



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

**STEP RATE INJECTION TEST**

CLIENT: THE WISER OIL COMPANY

DATE: SEPTEMBER 29, 1997

WELL NAME: M.G.B.U. NO. 21  
EDDY COUNTY, NEW MEXICO

WO#: 97-14-1598

PERFS = 3859-4095

PACKER DEPTH = 3816

BHP GAUGE DEPTH = 3977

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	582.0				582.0		2374.3
	10:05	847.1	1.0	288.0	3.430	843.7	8.40	2612.5
	10:10	897.7	1.9	259.2	2.822	894.9	7.56	2698.0
	10:15	950.8	2.9	288.0	3.430	947.4	8.40	2751.6
2				278.4				
	10:20	1140.9	4.8	547.2	11.245	1129.7	15.96	2921.7
	10:25	1253.6	6.7	547.2	11.245	1242.4	15.96	3014.8
	10:30	1362.6	8.6	547.2	11.245	1351.4	15.96	3083.7
3				547.2				
	10:35	1585.7	11.7	892.8	27.816	1557.9	26.04	3267.4
	10:40	1682.0	14.9	921.6	29.499	1652.5	26.88	3367.0
	10:45	1788.5	18.0	892.8	27.816	1760.7	26.04	3444.7
4				902.4				
	10:50	1961.0	22.6	1324.8	57.727	1903.3	38.64	3613.2
	10:55	2056.2	27.0	1267.2	53.170	2003.0	36.96	3703.4
	11:00	2127.4	31.3	1238.4	50.956	2076.4	36.12	3774.2
5				1276.8				
	11:05	2369.1	38.0	1929.6	115.748	2253.4	56.28	3958.4
	11:10	2473.3	44.8	1958.4	118.965	2354.3	57.12	4056.0
	11:15	2543.2	51.3	1872.0	109.438	2433.8	54.60	4126.1
6				1920.0				
	11:20	2731.4	60.1	2534.4	191.677	2539.7	73.92	4256.7
	11:25	2814.0	68.9	2534.4	191.677	2622.3	73.92	4319.1
	11:30	2867.3	77.7	2534.4	191.677	2675.6	73.92	4359.1
7				2534.4				
	11:35	2995.8	88.3	3052.8	270.453	2725.3	89.04	4423.6
	11:40	3025.0	98.8	3024.0	265.752	2759.2	88.20	4447.2
	11:45	3041.5	109.3	3024.0	265.752	2775.7	88.20	4464.8
				3033.6				

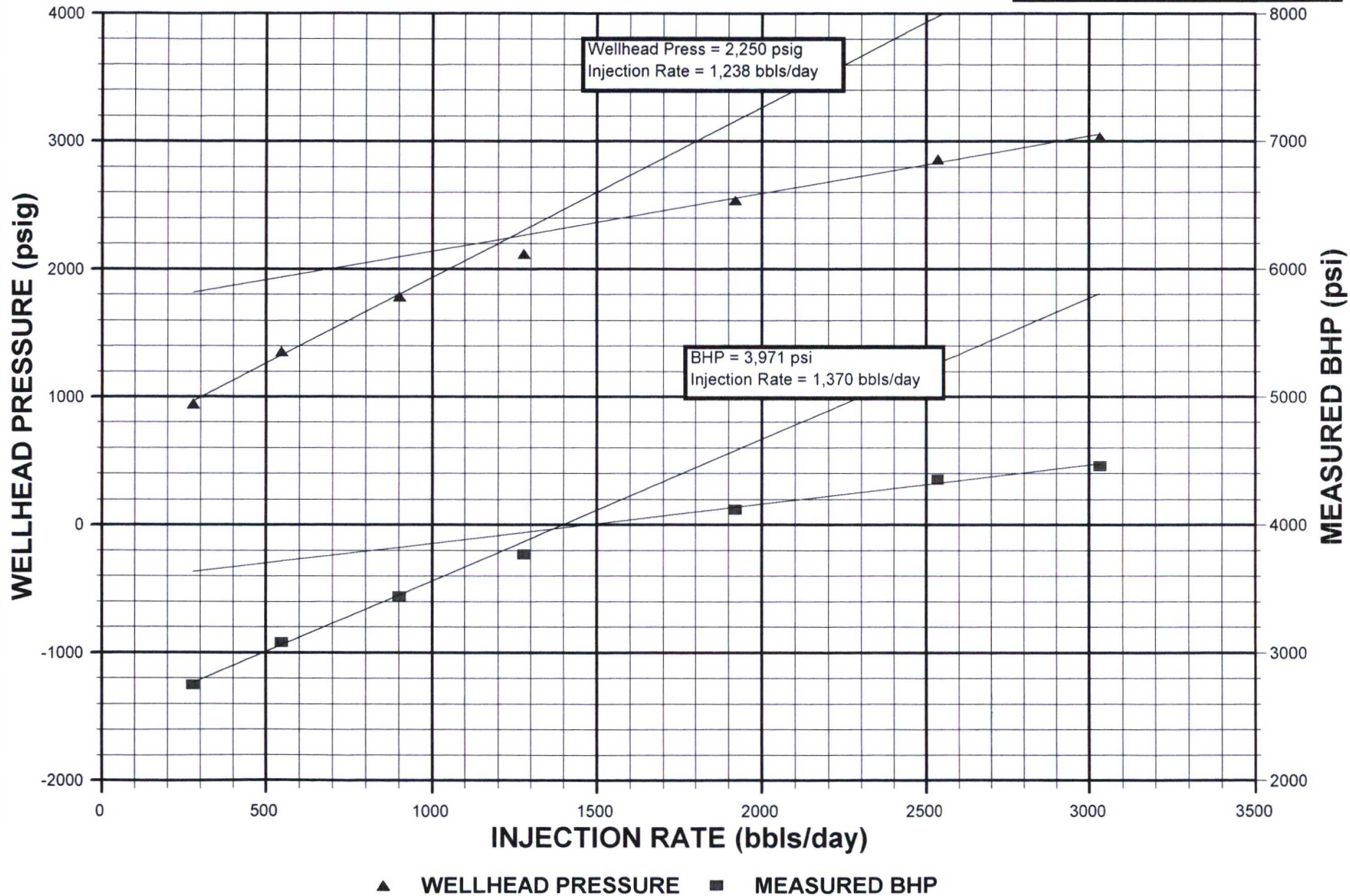


STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1) - (4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
FALLOFF	11:46	2645.7				2645.7		4357.8
	11:47	2603.7				2603.7		4324.4
	11:48	2580.7				2580.7		4302.4
	11:49	2561.7				2561.7		4283.6
	11:50	2546.4				2546.4		4268.0
	11:55	2482.7				2482.7		4202.6
	12:00	2424.1				2424.1		4142.9



**STEP RATE INJECTION TEST**  
**THE WISER OIL COMPANY**

Well Name:  
M.G.B.U. No. 21  
Eddy County, New Mexico



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

**STEP RATE INJECTION TEST**

CLIENT: THE WISER OIL COMPANY

DATE: SEPTEMBER 26, 1997

WELL NAME: M.G.B.U. NO. 153  
EDDY COUNTY, NEW MEXICO

W.O. #: 97-14-1599

PERFS = 3837-3995

PACKER DEPTH = 3822

BHP GAUGE DEPTH = 3916

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 (bbls/day) (3)/34.2857	(7) MEASURED GRIFF (psi)
1	9:45	6.0				6.0		1755.5
	9:50	10.6	0.9	259.2	2.779	7.8	7.56	1763.7
	9:55	12.0	1.4	144.0	0.937	11.1	4.20	1768.1
	10:00	15.2	1.8	115.2	0.620	14.6	3.36	1771.9
				172.08				
2	10:05	465.4	3.3	432.0	7.150	458.2	12.60	2225.5
	10:10	620.1	4.7	403.2	6.294	613.8	11.76	2391.7
	10:15	705.0	6.2	432.0	7.150	697.8	12.60	2481.0
3				422.4				
	10:20	1487.5	9.1	835.2	24.210	1463.3	24.36	3250.3
	10:25	1621.8	12.1	864.0	25.777	1596.0	25.20	3388.6
	10:30	1701.7	15.1	864.0	25.777	1675.9	25.20	3454.0
				854.4				
4	10:35	1984.3	19.4	1238.4	50.174	1934.1	36.12	3729.4
	10:40	2031.3	23.5	1180.8	45.942	1985.4	34.44	3773.4
	10:45	2069.4	27.7	1209.6	48.037	2021.4	35.28	3805.1
5				1209.6				
	10:50	2262.7	33.4	1641.6	84.515	2178.2	47.88	3960.7
	10:55	2295.7	39.1	1641.6	84.515	2211.2	47.88	3993.4
	11:00	2322.4	44.8	1641.6	84.515	2237.9	47.88	4020.2
				1641.6				
6	11:05	2522.1	53.0	2361.6	165.622	2356.5	68.88	4151.6
	11:10	2546.2	60.2	2073.6	130.205	2416.0	60.48	4178.4
	11:15	2571.6	67.9	2217.6	147.425	2424.2	64.68	4198.5
				2217.6				
	11:20	2806.9	78.1	2937.0	247.919	2559.0	85.66	4312.5
7	11:25		87.4					
	11:30	2889.5	96.7	2678.4	209.053	2680.4	78.12	4341.1
				2764.8				

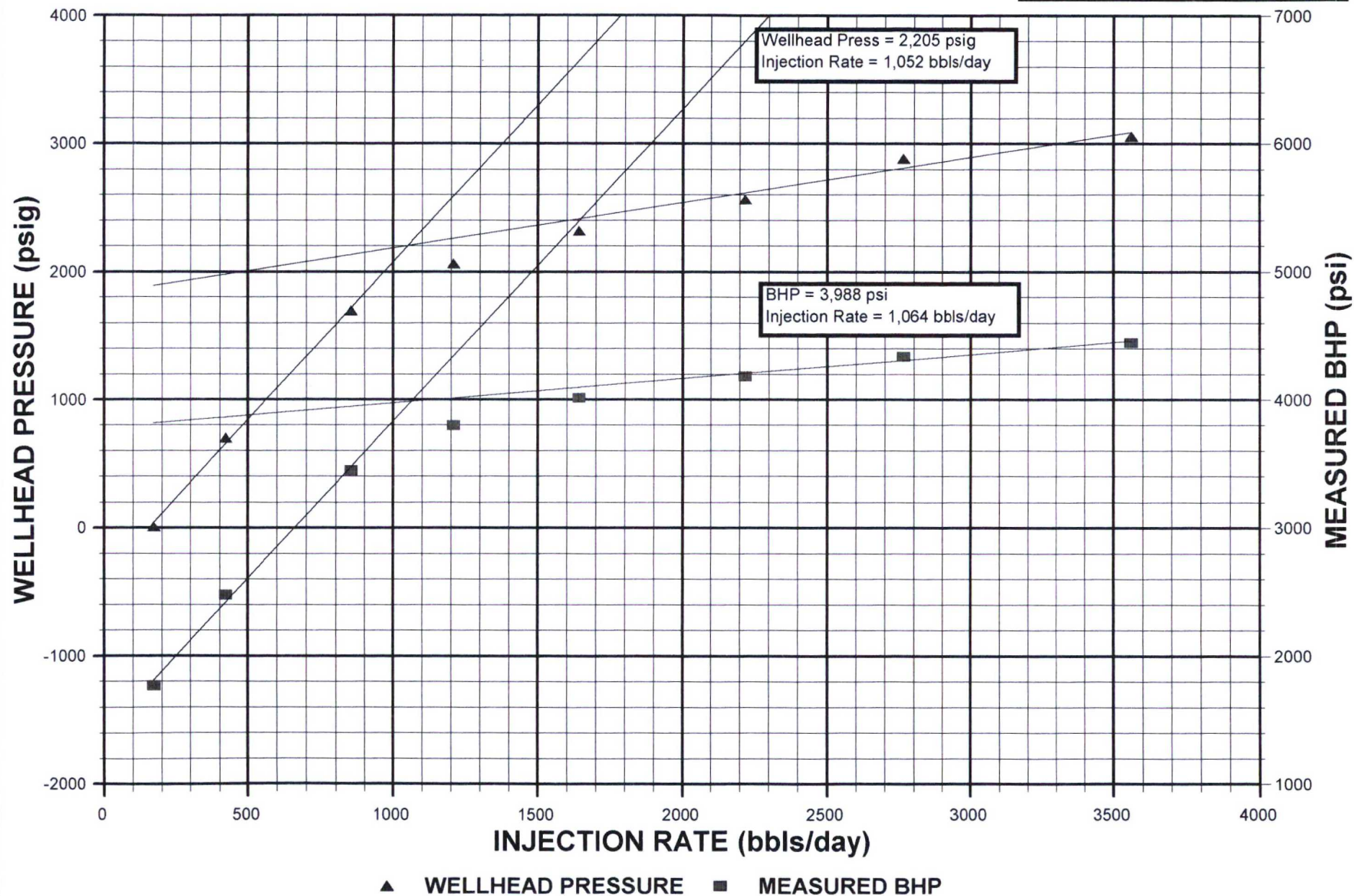


STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1) - (4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
8  FALLOFF	11:35	3063.9	109.2	3600.0	361.283	2702.6	105.00	4445.7
	11:40	3052.4	121.5	3542.4	350.662	2701.7	103.32	4438.9
	11:45	3062.6	133.8	3542.4 3561.6	350.662	2711.9	103.32	4450.8
	11:46	2432.7				2432.7		4224.6
	11:47	2313.1				2313.1		4105.6
	11:48	2203.7				2203.7		3996.1
	11:49	2141.4				2141.4		3931.9
	11:50	2112.1				2112.1		3902.7
	11:55	2025.6				2025.6		3813.9
	12:00	1941.8				1941.8		3729.1

# STEP RATE INJECTION TEST

## THE WISER OIL COMPANY

Well Name:  
M.G.B.U. No. 153  
Eddy County, New Mexico





STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE  
October 16, 1997

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88240  
(505) 393-6161

OIL CONSERVATION DIVISION  
P.O. BOX 2088  
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Wiser Oil Company	Maljamar Grayburg Unit	#18-H	4-17-32
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

*None*

Very truly yours

Chris Williams  
Supervisor, District I

/bp





STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE  
October 16, 1997

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88240  
(505) 393-6161

OIL CONSERVATION DIVISION  
P.O. BOX 2088  
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Wiser Oil Company	Caprock Maljamar Unit #267-F,	24-17-33
Operator	Lease & Well No. Unit	S-T-R

and my recommendations are as follows:

*None*

Very truly yours

*Chris Williams*

Chris Williams  
Supervisor, District I

/bp



STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE  
October 16, 1997

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88240  
(505) 393-6161

OIL CONSERVATION DIVISION  
P.O. BOX 2088  
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Wiser Oil Company	Maljamar Grayburg Unit	#153-N	4-17-32
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

*None*

Very truly yours

*Chris Williams*

Chris Williams  
Supervisor, District I

/bp



STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE  
October 16, 1997

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88240  
(505) 393-6161

OIL CONSERVATION DIVISION  
P.O. BOX 2088  
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Wiser Oil Company	Maljamar Grayburg Unit #21-K,	4-17-32
Operator	Lease & Well No. Unit	S-T-R

and my recommendations are as follows:

*None*

Very truly yours

*Chris Williams*

Chris Williams  
Supervisor, District I

/bp