

Mobil Exploration and Producing U.S. Inc.

December 29, 1987

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

State of New Mexico
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. W. J. LeMay

INJECTION PRESSURE INCREASE REQUEST
NORTH VACUUM ABO FIELD
NORTH VACUUM ABO UNIT
WELL NO. 136, 143, 155, 209, 302
LEA COUNTY, NEW MEXICO

Gentlemen:

Under the provisions of Order No. PMX-138 dated November 12, 1985; Order No. WFX-557 dated February 11, 1986; and Order No. PMX-140 dated March 7, 1986, permission was granted to inject water into the Abo formation for the subject wells. The order limited the pressure on the injection wells to no more than 0.2 psi. per foot to the uppermost injection interval. A step-rate test for these wells has been completed which shows that higher pressure will not result in migration of the injected fluid from the Abo formation. Permission is requested to increase the injection pressure as follows:

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 136 UNIT D, SEC. 26 T-17-S, R-34-E Order No. PMX-138	8525-8680'	2550 psig	3125 psig
WELL No. 143 UNIT B, SEC. 27 T-17-S, R-34-E Order No. WFX-557	8605-8674'	2970 psig	3317 psig
WELL NO. 155 UNIT D, SEC. 23 T-17-S, R-34-E Order No. WFX-557	8593-8654'	4050 psig	4207 psig

State of New Mexico
North Vacuum Abo Unit

-2-

December 29, 1987

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 209 UNIT J, SEC. 22 T-17-S, R-34-E Order No. WFX-557	8654-8718'	3405 psig	3675 psig
WELL NO. 302 UNIT J, SEC. 3 T-17-S, R-34-E Order No. PMX-140	8657-8759'	3108 psig	4100 psig

Enclosed are copies of the Step-rate test.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Manager

Mobil Exploration & Producing U.S. Inc.
as Agent for
Mobil Producing Texas & New Mexico, Inc.

CCSmith/jlt

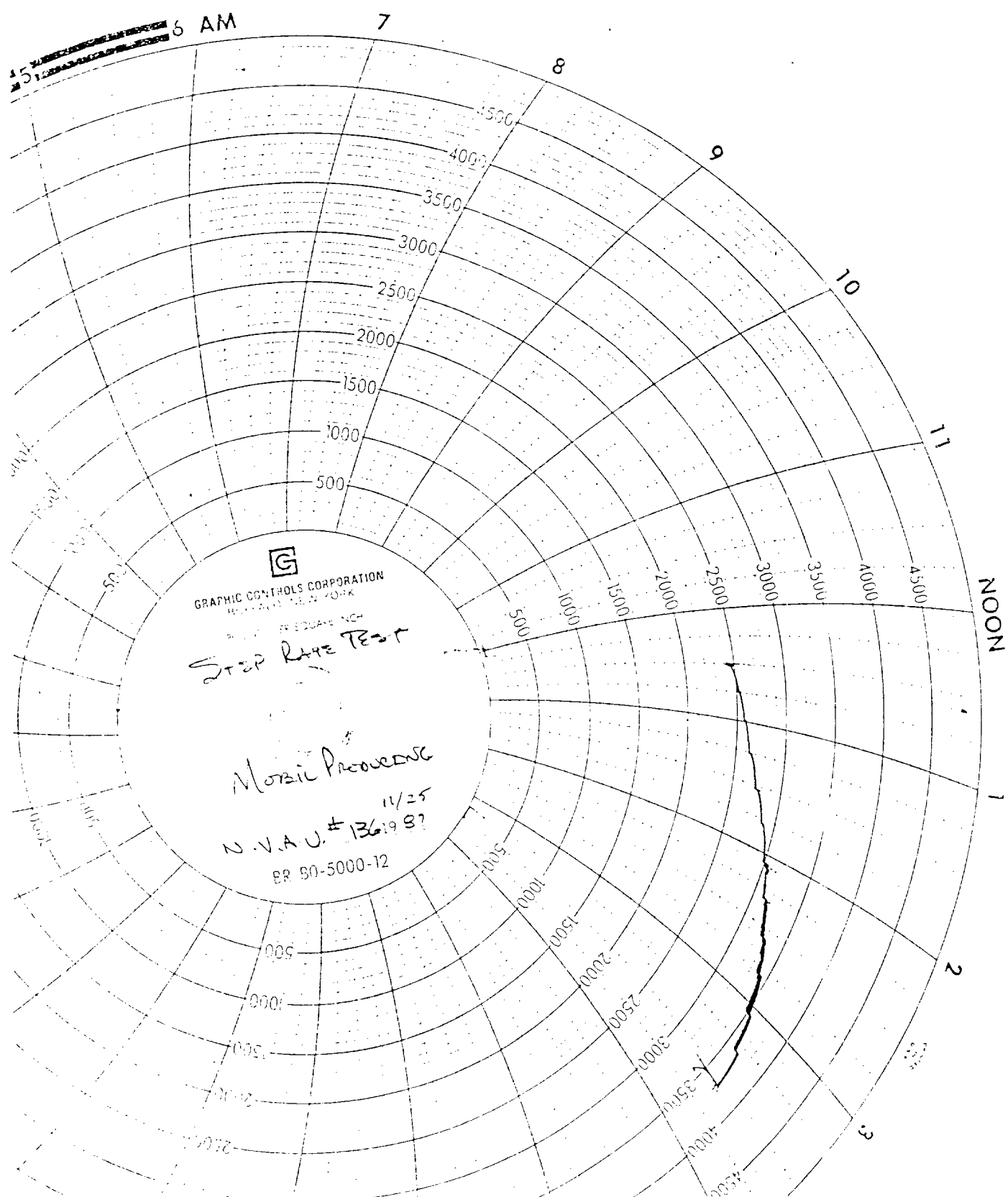
Attachments

cc: District Director OCD - Hobbs

Step Rate Test

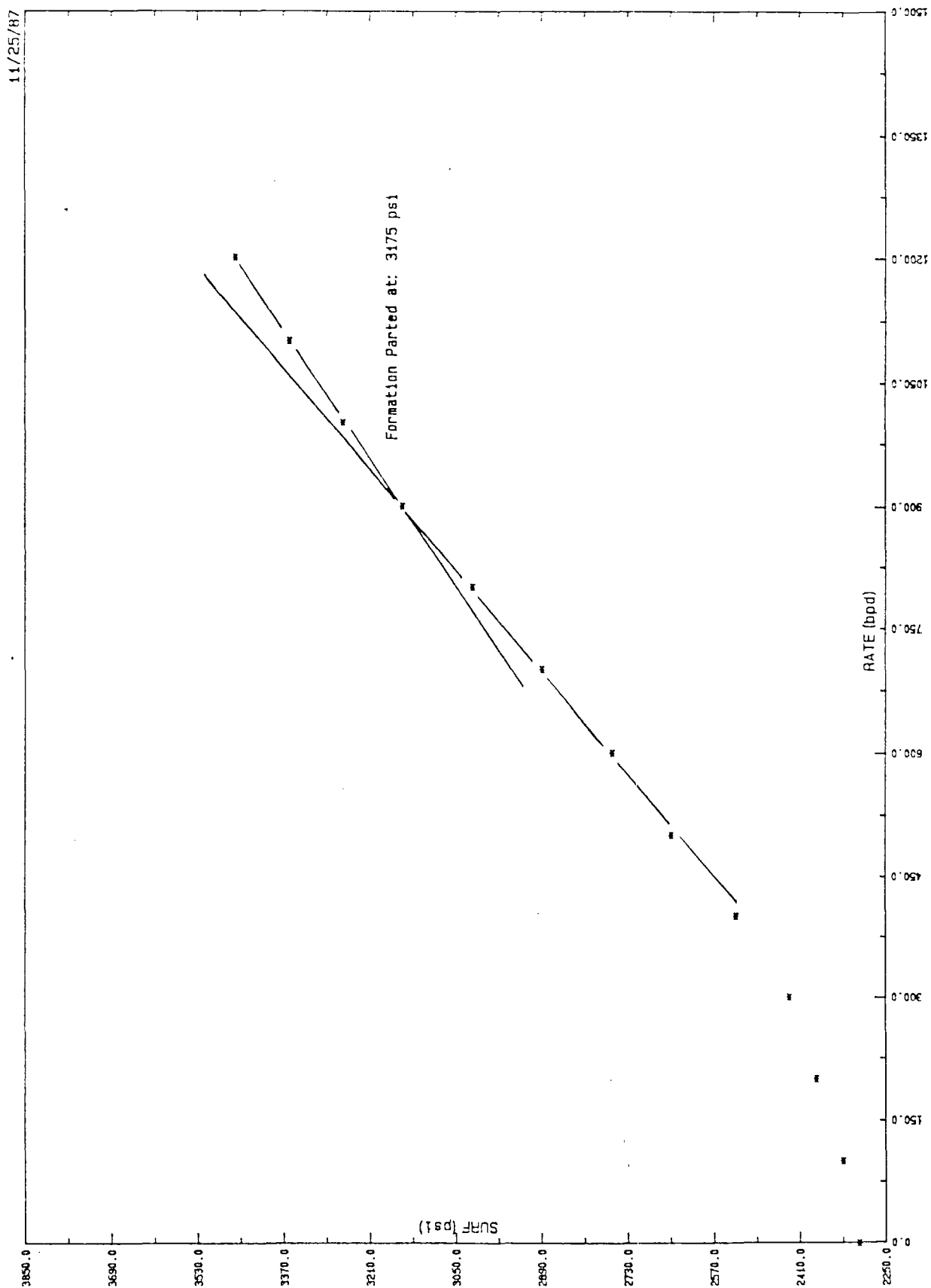
Hobbs, New Mexico 88240

[illegible]



B & D WELL TESTERS

Customer: Mobil Producing
Well: N.V.A.U. #136



STEP RATE TEST

COMPANY: Mobil Exploration & Producing U.S. Inc.
 LEASE: North Vacuum Abo Unit
 WELL: No. 143
 LOCATION: S-27,T-17S,R-34E, Lea County, New Mexico
 TEST DATE: 11-25-87
 PERFORATIONS: 8605'-8680'
 TOTAL DEPTH: 8745'
 PLUG BACK TD: 8730'
 PACKER SET AT: 8579'

TIME	SURFACE PRESSURE	RATE
1:25	2920	0
1:26	2943	100
1:27	2930	100
1:28	2934	100
1:29	2936	100
1:30	2937	100
1:31	2940	100
1:32	2940	100
1:33	2942	100
1:34	2943	100
1:35	2944	100
1:36	2945	100
1:37	2946	100
1:38	2946	100
1:39	2947	100
1:40	2948	100
1:41	2954	200
1:42	2967	200
1:43	2973	200
1:44	2978	200
1:45	2982	200
1:46	2986	200
1:47	2990	200
1:48	2993	200
1:49	2997	200
1:50	3000	200
1:51	3004	200
1:52	3006	200
1:53	3010	200
1:54	3012	200
1:55	3015	200
1:56	3018	300
1:57	3037	300
1:58	3046	300
1:59	3054	300
2:00	3061	300
2:01	3067	300
2:02	3072	300
2:03	3078	300
2:04	3083	300
2:05	3088	300
2:06	3093	300
2:07	3097	300

TIME	SURFACE PRESSURE	RATE
2:08	3102	300
2:09	3107	300
2:10	3111	300
2:11	3131	400
2:12	3142	400
2:13	3151	400
2:14	3159	400
2:15	3166	400
2:16	3173	400
2:17	3180	400
2:18	3186	400
2:19	3192	400
2:20	3198	400
2:21	3203	400
2:22	3208	400
2:23	3213	400
2:24	3218	400
2:25	3223	400
2:26	3246	500
2:27	3256	500
2:28	3265	500
2:29	3272	500
2:30	3278	500
2:31	3284	500
2:32	3290	500
2:33	3296	500
2:34	3301	500
2:35	3306	500
2:36	3311	500
2:37	3316	500
2:38	3321	500
2:39	3326	500
2:40	3330	500
2:41	3346	600
2:42	3360	600
2:43	3367	600
2:44	3373	600
2:45	3378	600
2:46	3384	600
2:47	3389	600
2:48	3393	600
2:49	3398	600
2:50	3403	600
2:51	3408	600
2:52	3413	600
2:53	3416	600
2:54	3420	600
2:55	3424	600
2:56	3449	700
2:57	3455	700
2:58	3460	700
2:59	3465	700
3:00	3471	700
3:01	3475	700
3:02	3480	700
3:03	3484	700
3:04	3488	700

TIME	SURFACE PRESSURE	RATE
3:05	3491	700
3:06	3496	700
3:07	3499	700
3:08	3501	700
3:09	3504	700
3:10	3506	700
3:11	3535	800
3:12	3539	800
3:13	3541	800
3:14	3543	800
3:15	3543	800
3:16	3538	800
3:17	3532	800
3:18	3529	800
3:19	3517	800
3:20	3513	800
3:21	3508	800
3:22	3503	800
3:23	3498	800
3:24	3494	800
3:25	3491	800
3:26	3507	900
3:27	3508	900
3:28	3508	900
3:29	3507	900
3:30	3506	900
3:31	3505	900
3:32	3503	900
3:33	3501	900
3:34	3493	900
3:35	3493	900
3:36	3491	900
3:37	3489	900
3:38	3487	900
3:39	3486	900
3:40	3485	900
3:41	3483	1000
3:42	3483	1000
3:43	3508	1000
3:44	3509	1000
3:45	3510	1000
3:46	3510	1000
3:47	3511	1000
3:48	3512	1000
3:49	3513	1000
3:50	3514	1000
3:51	3515	1000
3:52	3517	1000
3:53	3517	1000
3:54	3518	1000
3:55	3518	1000
3:56	3542	1070
3:57	3544	1070
3:58	3545	1070
3:59	3547	1070
4:00	3548	1070
4:01	3549	1070

TIME	SURFACE PRESSURE	RATE
4:02	3551	1070
4:03	3552	1070
4:04	3553	1070
4:05	3554	1070
4:06	3555	1070
4:07	3556	1070
4:08	3556	1070
4:09	3556	1070
4:10	3556	1070
4:11	3430	SI
4:12	3385	SI
4:13	3377	SI
4:14	3371	SI
4:15	3364	SI

STEP RATE TEST

 COMPANY: Mobil Exploration & Producing U.S. Inc.
 LEASE: North Vacuum Abo Unit
 WELL: No. 155
 LOCATION: D-23,T-17S,R-34E, Lea County, New Mexico
 TEST DATE: 11-25-87
 PERFORATIONS: 8592'-8655'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8692'
 PACKER SET AT: 8492'

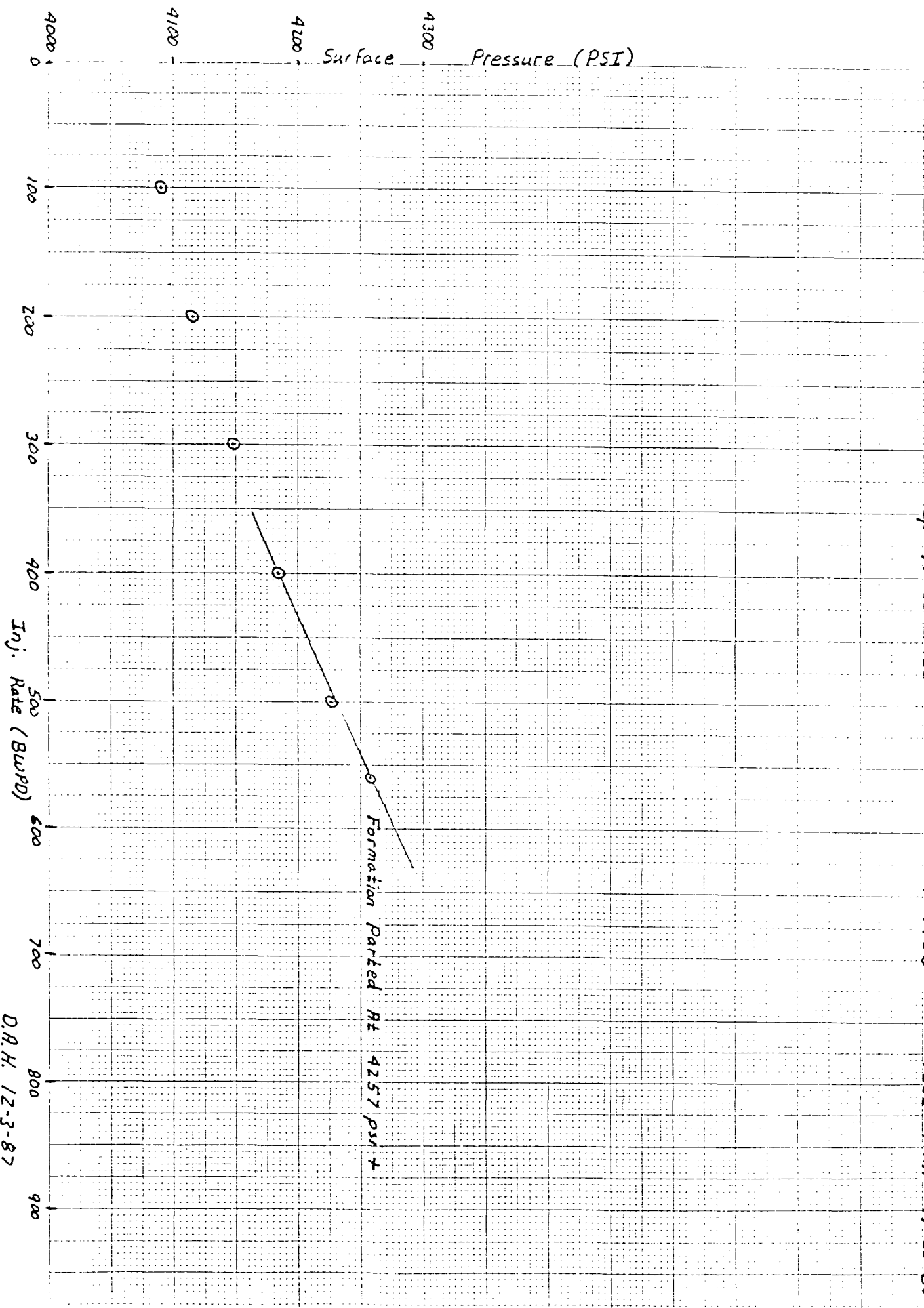
TIME	SURFACE PRESSURE	RATE
9:00	4081	0
9:01	4083	100
9:02	4082	100
9:03	4085	100
9:04	4084	100
9:05	4087	100
9:06	4086	100
9:07	4089	100
9:08	4090	100
9:09	4088	100
9:10	4089	100
9:11	4093	100
9:12	4093	100
9:13	4090	100
9:14	4090	100
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9:23	4110	200
9:24	4106	200
9:25	4108	200
9:26	4106	200
9:27	4100	200
9:28	4110	200
9:29	4113	200
9:30	4116	200
9:31	4118	300
9:32	4117	300
9:33	4118	300
9:34	4117	300
9:35	4122	300
9:36	4126	300
9:37	4129	300
9:38	4133	300
9:39	4135	300
9:40	4139	300
9:41	4140	300
9:42	4142	300

TIME	SURFACE PRESSURE	RATE
9:43	4142	300
9:44	4146	300
9:45	4148	300
9:46	4159	400
9:47	4158	400
9:48	4158	400
9:49	4162	400
9:50	4165	400
9:51	4168	400
9:52	4173	400
9:53	4174	400
9:54	4177	400
9:55	4179	400
9:56	4176	400
9:57	4182	400
9:58	4183	400
9:59	4184	400
10:00	4185	400
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10:02	4201	500
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10:04	4209	500
10:05	4211	500
10:06	4212	500
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10:09	4219	500
10:10	4220	500
10:11	4220	500
10:12	4223	500
10:13	4224	500
10:14	4225	500
10:15	4231	500
10:16	4233	560
10:17	4244	560
10:18	4244	560
10:19	4244	560
10:20	4243	560
10:21	4241	560
10:22	4250	560
10:23	4251	560
10:24	4250	560
10:25	4254	560
10:26	4253	560
10:27	4254	560
10:28	4257	560
10:29	4257	560
10:30	4257	560
10:31	4259	SI
10:32	4252	SI
10:33	4248	SI
10:34	4246	SI
10:35	4246	SI

Step Rate Test

NVAH No. 155

Test Run 11-25-87



STEP RATE TEST

COMPANY: Mobil Exploration & Producing U.S. Inc.
 LEASE: North Vacuum Abo Unit
 WELL: No. 209
 LOCATION: J-22,T-17S,R-34E, Lea County, New Mexico
 TEST DATE: 11-25-87
 PERFORATIONS: 8556'-8720'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8764'
 PACKER SET AT: 8540'

TIME	SURFACE PRESSURE	RATE
10:55	3307	0
10:56	3321	100
10:57	3323	100
10:58	3328	100
10:59	3333	100
11:00	3339	100
11:01	3342	100
11:02	3342	100
11:03	3348	100
11:04	3350	100
11:05	3354	100
11:06	3357	100
11:07	3361	100
11:08	3363	100
11:09	3365	100
11:10	3368	100
11:11	3377	200
11:12	3384	200
11:13	3393	200
11:14	3400	200
11:15	3403	200
11:16	3406	200
11:17	3411	200
11:18	3415	200
11:19	3421	200
11:20	3427	200
11:21	3429	200
11:22	3433	200
11:23	3436	200
11:24	3440	200
11:25	3443	200
11:26	3449	300
11:27	3464	300
11:28	3472	300
11:29	3480	300
11:30	3484	300
11:31	3490	300
11:32	3498	300
11:33	3501	300
11:34	3507	300
11:35	3512	300
11:36	3517	300
11:37	3521	300

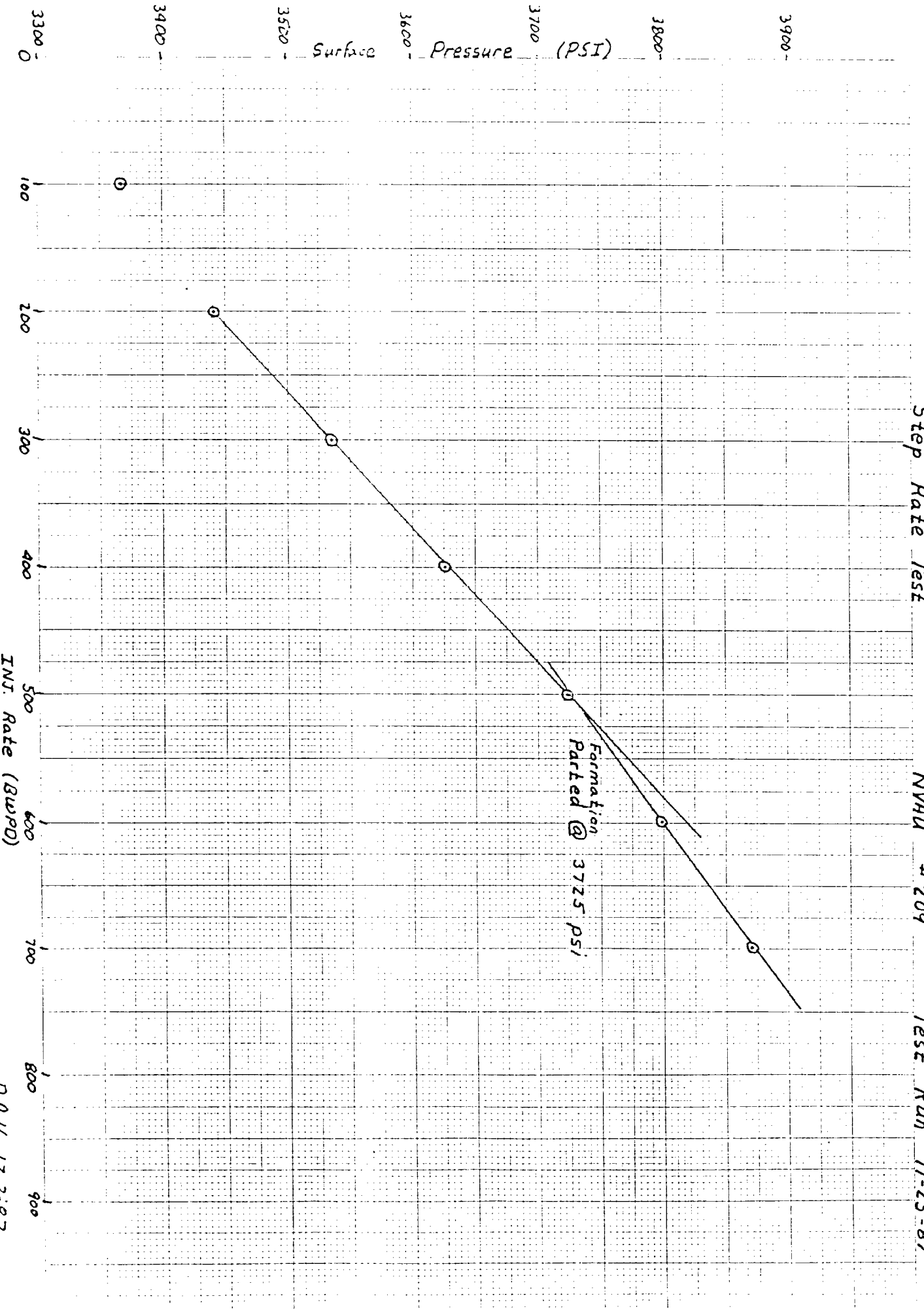
TIME	SURFACE PRESSURE	RATE
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11:39	3531	300
11:40	3535	300
11:41	3552	400
11:42	3558	400
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11:44	3574	400
11:45	3581	400
11:46	3586	400
11:47	3592	400
11:48	3595	400
11:49	3603	400
11:50	3604	400
11:51	3610	400
11:52	3615	400
11:53	3619	400
11:54	3621	400
11:55	3627	400
11:56	3630	500
11:57	3652	500
11:58	3660	500
11:59	3668	500
12:00	3675	500
12:01	3682	500
12:02	3688	500
12:03	3693	500
12:04	3698	500
12:05	3701	500
12:06	3707	500
12:07	3711	500
12:08	3715	500
12:09	3718	500
12:10	3723	500
12:11	3727	600
12:12	3746	600
12:13	3751	600
12:14	3756	600
12:15	3759	600
12:16	3766	600
12:17	3769	600
12:18	3774	600
12:19	3781	600
12:20	3781	600
12:21	3784	600
12:22	3788	600
12:23	3790	600
12:24	3794	600
12:25	3799	600
12:26	3801	700
12:27	3825	700
12:28	3831	700
12:29	3837	700
12:30	3841	700
12:31	3844	700
12:32	3848	700
12:33	3850	700
12:34	3854	700

TIME	SURFACE PRESSURE	RATE
12:35	3857	700
12:36	3858	700
12:37	3862	700
12:38	3863	700
12:39	3866	700
12:40	3868	700
12:41	3870	800
12:42	3891	800
12:43	3892	800
12:44	3894	800
12:45	3895	800
12:46	3897	800
12:47	3899	800
12:48	3901	800
12:49	3902	800
12:50	3904	800
12:51	3906	800
12:52	3910	800
12:53	3910	800
12:54	3911	800
12:55	3919	800
12:56	3874	SI
12:57	3820	SI
12:58	3807	SI
12:59	3798	SI
1:00	3788	SI

Step Rate Test

NVAH # 209

Test Run 11-25-87



D.R.H. 12-3-87

0201 04

Step Rate Test

Hobbs, New Mexico 88240

Unit

Lease NYAU

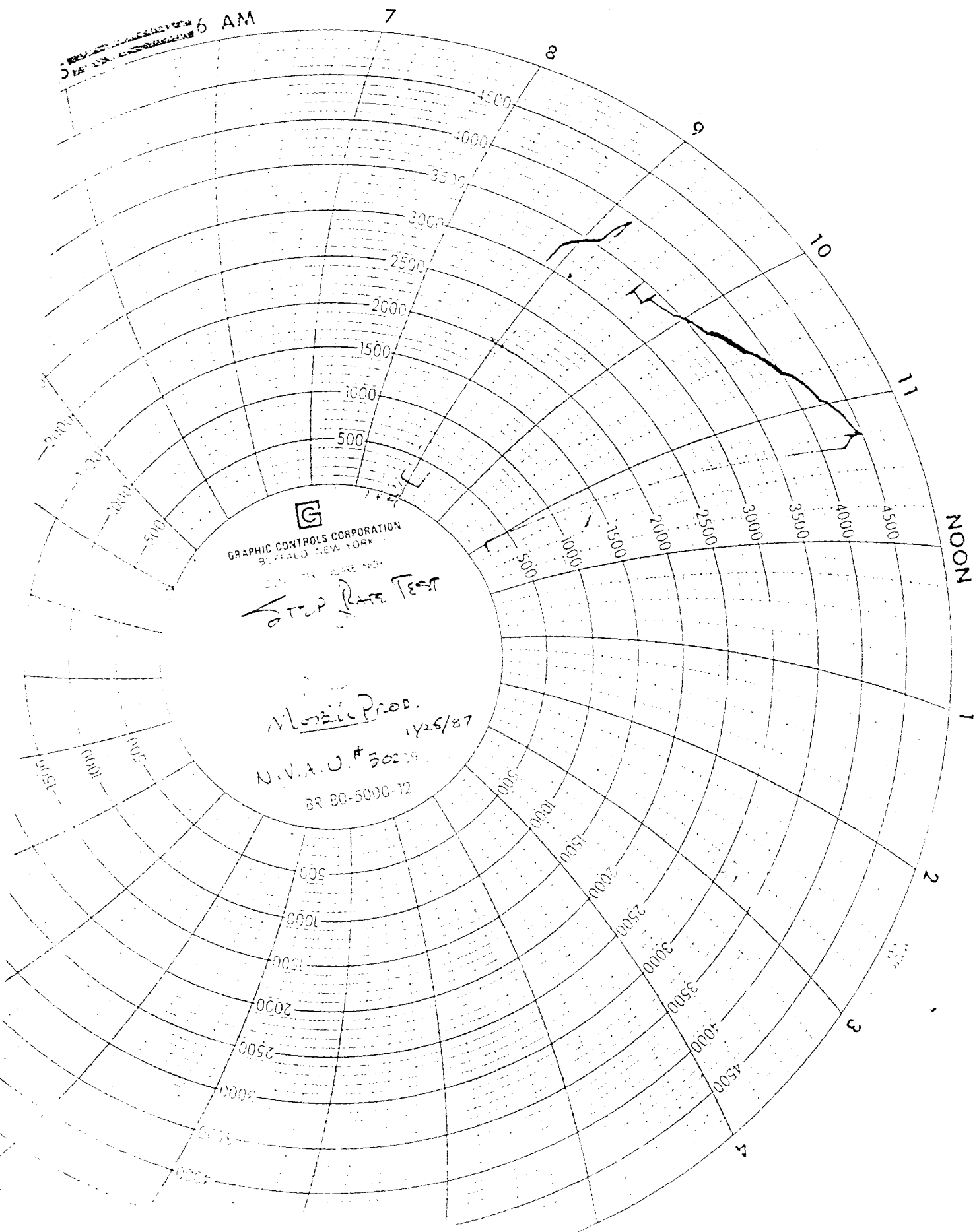
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92	1	1
93	1	1
94	1	1
95	1	1
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98	1	1
99	1	1
100	1	1

County Lea State New Mexico

Co. Rep David Howell

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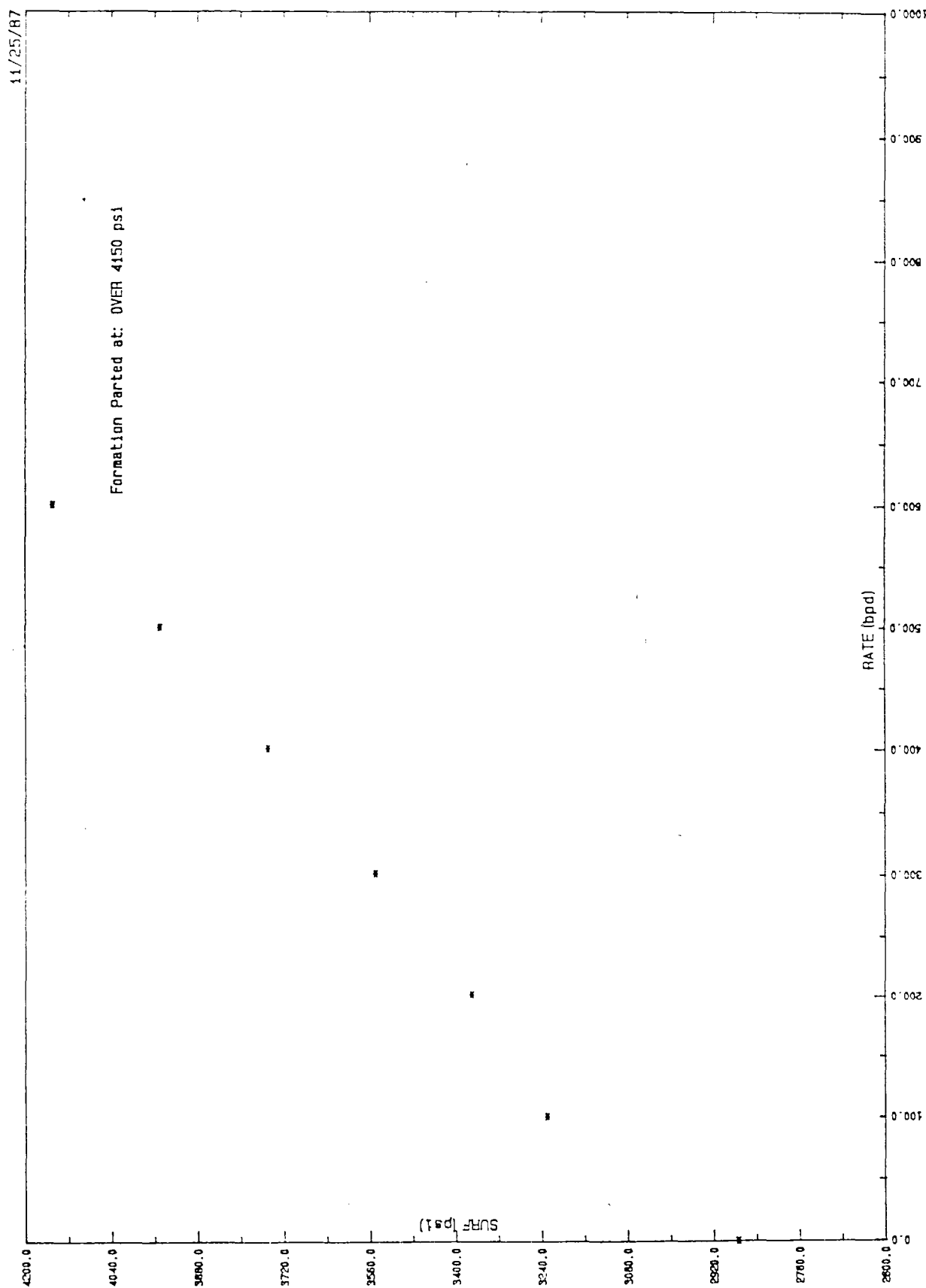
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

STEP RATE TEST

Moritz Prod.
1/26/87
N.V.A.U. #30219
BR 80-5000-12

B & D WELL TESTERS

Customer: Mobil Producing
Well: N.V.A.U. #302





STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

January 5, 1988

GARRY CARBUTHERS
GOVERNOR

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:

Mobil Prod. TX & NM Inc.	NVAU #302-J	3-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

Not Valid did not start concerned on this test

Very truly yours

Jerry Sexton
Supervisor, District I

/bp

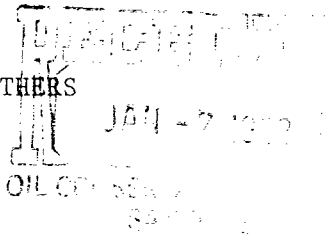


STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

January 5, 1988

GARREY CARRUTHERS
GOVERNOR

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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:

Mobil Prod, TX & NM Inc.	NVAU #155-D	23-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

Bac Test

Very truly yours

Jerry Sexton
Supervisor, District I

/bp

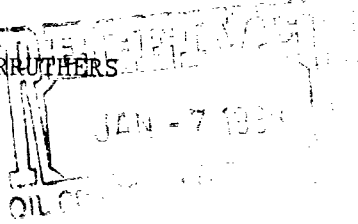


STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

January 5, 1988

GARREY CARRUTHERS
GOVERNOR

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:

Mobil Prod. TX & NM Inc.	NVAU	#143-B	27-17-34
Operator	Lease & Well No.	Unit	S-T-R

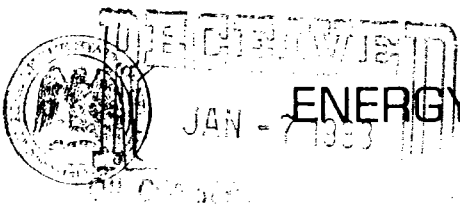
and my recommendations are as follows:

BAD TEST

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

January 5, 1988

GARREY CARRUTHERS
GOVERNOR

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:

Mobil Prod. TX & NM Inc.	NVAU #209-J	22-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK LS

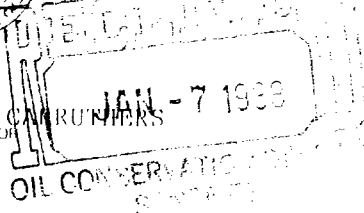
Very truly yours

Jerry Sexton
Supervisor, District I

/bp



GARREY CAMPBELL
GOVERNOR



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

January 5, 1988

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:

Mobil Prod TX & NM Inc.	NVAU	#136-D	26-17-34
Operator		Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

November 19, 1987

Mobil Exploration and Producing US, Inc.
P.O. Box 633
Midland, TX 79702

Attention: M.E. Sweeney

RE: Injection Pressure Increase
N. Vacuum Abo Unit No. 156
Lea County, New Mexico

Dear Sir:

Reference is made to your request dated November 5, 1987, to increase the surface injection pressure on North Vacuum Abo Unit Well No. 156. This request is based on a step rate test conducted on this well on October 30, 1987. 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 & LOCATION

MAXIMUM INJECTION
SURFACE PRESSURE

North Vacuum Abo Unit Well No. 156
Unit J, Section 23, Township 17 South,
Range 34 East, Lea County, New Mexico

3604 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

cc: OCD - Hobbs
D. McDonald
D. Catanach
File : PMX-138

COMPANY: Mobil Exploration & Production U.S. Inc.
ADDRESS: P.O. Box 63
CITY, STATE, ZIP: Midland Texas 79701
ATTENTION: M.E. Summary

Re: Injection Pressure Increase

N. Vacuum Pk Unit Well No. 156

Lea County, New Mexico

Dear Sir:

Reference is made to your request dated November 5, 1987, to increase the surface injection pressure on N. Vacuum Pk Unit Well No. 156. This request is based on a step rate test ~~(s)~~ conducted on the ~~these~~ well ~~(s)~~ on ~~date~~ October 30, 1987. The results of the test ~~(s)~~ have been reviewed by my staff and we feel an increase in injection pressure on this ~~these~~ well ~~(s)~~ is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following well ~~(s)~~.

<u>Well & Location</u>	<u>Maximum Injection Surface Pressure</u>
<u>N. Vacuum Pk Unit Well No. 156</u>	<u>3664 PSI</u>
<u>Unit 1, Section 23, T-1N-R-1E, NE 1/4</u>	
<u>Lea County, New Mexico</u>	

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.

cc: CCB Hobbs
D. McDonald
D. Culenack
File 2248-138

Sincerely,
William J. LeMay

Mobil Exploration & Producing U.S. Inc.

November 5, 1987

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

State of New Mexico
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. W. J. LeMay

INJECTION PRESSURE INCREASE REQUEST
NORTH VACUUM ABO FIELD
NORTH VACUUM UNIT - WELL NO. 156
LEA COUNTY, NEW MEXICO

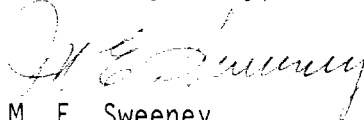
Gentlemen:

Under the provisions of Order No. PMX-138 dated November 12, 1985, permission was granted to inject water into the Abo formation for the subject well. The order limited the pressure on the injection wells to no more than 0.2 psi. per foot to the uppermost injection interval. A step-rate test for this well has been completed which shows that higher pressure will not result in migration of the injected fluid from the Abo formation. Permission is requested to increase the injection pressure as follows:

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 156			
UNIT J, SEC. 23	8472-8650	2995 psig	3604 psig
T-17-S, R-34-E			

Enclosed are copies of the Step-rate test.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Manager

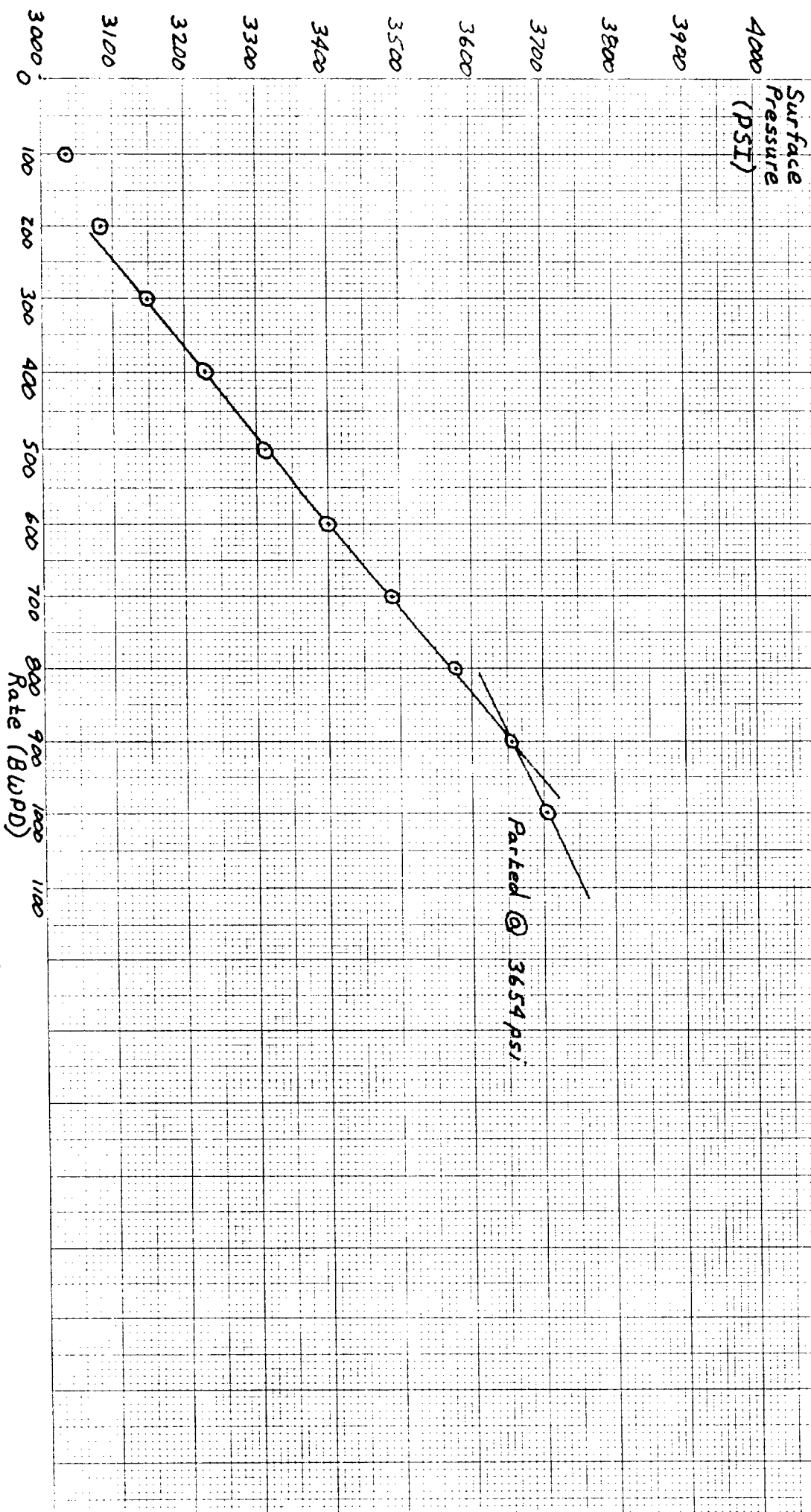
Mobil Exploration & Producing U.S. Inc.
as Agent for
Mobil Producing Texas & New Mexico Inc.

CCSmith/jlt
Attachments
cc: District Directory OCD - Hobbs

A:M730849B.CCS(1)

<u>TIME</u>	<u>SURFACE PRESSURE</u>	<u>RATE</u>
12:41	3700	1000
12:42	3702	1000
12:43	3704	1000
12:44	3705	1000
12:45	3706	1000
12:46	3707	SI
12:47	3703	SI
12:48	3698	SI
12:49	3687	SI
12:50	3680	SI

North Vacuum B6 Unit Well No. 156, Step Rate Test Run 10-29-87



STEP RATE TEST

COMPANY: Mobil Exploration & Producing U.S. Inc.
LEASE: North Vacuum Abo Unit
WELL: No. 156
LOCATION: J-23,T-17-S,R-34E, Lea County, New Mexico
TEST DATE: 10-30-87
PERFORATIONS: 8472'-8650'
TOTAL DEPTH: 8750'
PLUG BACK TD: 8725'
PACKER SET AT: 8380'

<u>TIME</u>	<u>SURFACE PRESSURE</u>	<u>RATE</u>
10:15	3008	0
10:16	3015	100
10:17	3018	100
10:18	3020	100
10:19	3023	100
10:20	3025	100
10:21	3026	100
10:22	3027	100
10:23	3028	100
10:24	3030	100
10:25	3031	100
10:26	3032	100
10:27	3033	100
10:28	3034	100
10:29	3035	100
10:30	3036	100
10:31	3042	200
10:32	3048	200
10:33	3051	200
10:34	3055	200
10:35	3058	200
10:36	3061	200
10:37	3064	200
10:38	3066	200
10:39	3069	200
10:40	3072	200
10:41	3074	200
10:42	3076	200
10:43	3079	200
10:44	3081	200
10:45	3083	200
10:46	3093	300
10:47	3099	300
10:48	3103	300
10:49	3108	300
10:50	3112	300
10:51	3116	300
10:52	3120	300
10:53	3124	300
10:54	3128	300

<u>TIME</u>	<u>SURFACE PRESSURE</u>	<u>RATE</u>
10:55	3132	300
10:56	3136	300
10:57	3139	300
10:58	3143	300
10:59	3146	300
11:00	3149	300
11:01	3162	400
11:02	3168	400
11:03	3174	400
11:04	3179	400
11:05	3184	400
11:06	3189	400
11:07	3194	400
11:08	3199	400
11:09	3203	400
11:10	3207	400
11:11	3211	400
11:12	3215	400
11:13	3219	400
11:14	3224	400
11:15	3229	400
11:16	3242	500
11:17	3248	500
11:18	3254	500
11:19	3259	500
11:20	3265	500
11:21	3270	500
11:22	3275	500
11:23	3280	500
11:24	3284	500
11:25	3290	500
11:26	3294	500
11:27	3298	500
11:28	3302	500
11:29	3307	500
11:30	3312	500
11:31	3326	600
11:32	3332	600
11:33	3338	600
11:34	3344	600
11:35	3349	600
11:36	3354	600
11:37	3359	600
11:38	3365	600
11:39	3371	600
11:40	3375	600
11:41	3380	600
11:42	3385	600
11:43	3389	600
11:44	3395	600
11:45	3400	600
11:46	3414	700
11:47	3420	700

<u>TIME</u>	<u>SURFACE PRESSURE</u>	<u>RATE</u>
11:48	3427	700
11:49	3433	700
11:50	3439	700
11:51	3445	700
11:52	3450	700
11:53	3456	700
11:54	3461	700
11:55	3467	700
11:56	3472	700
11:57	3476	700
11:58	3481	700
11:59	3485	700
12:00	3489	700
12:01	3509	800
12:02	3514	800
12:03	3522	800
12:04	3527	800
12:05	3532	800
12:06	3538	800
12:07	3542	800
12:08	3547	800
12:09	3552	800
12:10	3556	800
12:11	3561	800
12:12	3566	800
12:13	3570	800
12:14	3574	800
12:15	3578	800
12:16	3594	900
12:17	3598	900
12:18	3606	900
12:19	3612	900
12:20	3615	900
12:21	3618	900
12:22	3621	900
12:23	3625	900
12:24	3629	900
12:25	3632	900
12:26	3636	900
12:27	3641	900
12:28	3644	900
12:29	3649	900
12:30	3654	900
12:31	3670	1000
12:32	3674	1000
12:33	3678	1000
12:34	3681	1000
12:35	3684	1000
12:36	3689	1000
12:37	3691	1000
12:38	3694	1000
12:39	3697	1000
12:40	3698	1000



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

October 7, 1987

Mobil Exploration and Producing U.S., Inc.
P.O. Box 633
Midland, TX 79702

Attention: M.E. Sweeney

RE: Injection Pressure Increase
North Vacuum Abo Unit
Lea County, New Mexico

Dear Sir:

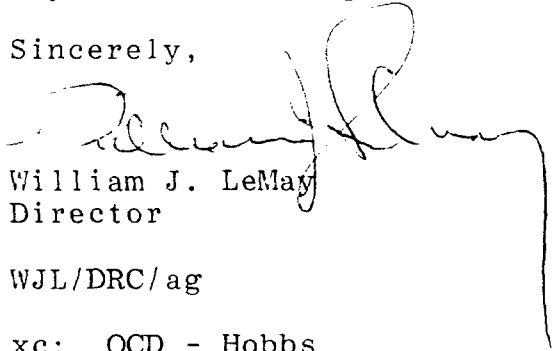
Reference is made to your request dated October 1, 1987, to increase the surface injection pressure on the North Vacuum Abo Unit Well Nos. 98 and 138. This request is based on a step rate tests conducted on these wells on September 24, 1987. The results of the tests have been reviewed by my staff and 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>
North Vacuum Abo Unit No. 98 1980 FSL and 1780 FEL (Unit J) Section 26, Township 17 South, Range 34 East.	3640 PSIG
North Vacuum Abo Unit No. 138 860 FEL and 1980 FSL (Unit I) Section 26, Township 17 South, Range 34 East.	3670 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/DRC/ag

xc: OCD - Hobbs
D. McDonald
D. Catanach
File - **PMX-138**

Mobil Exploration and Producing U.S. Inc.

October 1, 1987

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

State of New Mexico
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. W. J. LeMay

INJECTION PRESSURE INCREASE REQUEST
NORTH VACUUM ABO FIELD
NORTH VACUUM UNIT
WELL NOS. 98 AND 138
LEA COUNTY, NEW MEXICO

Gentlemen:

Under the provisions of Order No. PMX-138 dated November 12, 1985, permission was granted to inject water into the Abo formation for the subject wells. The order limited the pressure on the injection wells to no more than 0.2 psi. per foot to the uppermost injection interval. Step-rate tests for these wells have been completed which show that higher pressure will not result in migration of the injected fluid from the Abo formation. Permission is requested to increase the injection pressure as follows:

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 98 UNIT J, SEC. 26 T-17-S, R-34-E	8414-8558'	3360 psig	3640 psig

State of New Mexico
October 1, 1987
North Vacuum Abo Field

-2-

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 138 UNIT I, SEC. 26 T-17-S, R-34-E	8508-8646'	3150 psig	3670 psig

Enclosed are copies of the Step-rate tests.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Manager

Mobil Exploration & Producing U.S. Inc.
as Agent for
Mobil Producing Texas & New Mexico Inc.

CCSmith/jlt

Attachments

cc: District Director OCD - Hobbs

STEP RATE TEST

COMPANY: Mobil Exploration & Producing U.S. Inc.
LEASE: North Vacuum Abo Unit
WELL: No. 98
LOCATION: S-26,T-17-S,R-34E, Lea County, New Mexico
TEST DATE: 9-24-87
PERFORATIONS: 8414'-8558'
TOTAL DEPTH: 11,660
PLUG BACK TD: 8838'
PACKER SET AT: 8350'

<u>DATE</u>	<u>TIME</u>	<u>SURFACE PRESSURE (PSI)</u>	<u>INJ. RATE (BWPD)</u>
09/24/87	09:00:00	3378	0
09/24/87	09:01:00	3385	100
09/24/87	09:02:00	3383	100
09/24/87	09:03:00	3384	100
09/24/87	09:04:00	3384	100
09/24/87	09:05:00	3385	100
09/24/87	09:06:00	3386	100
09/24/87	09:07:00	3386	100
09/24/87	09:08:00	3387	100
09/24/87	09:09:00	3387	100
09/24/87	09:10:00	3387	100
09/24/87	09:11:00	3388	100
09/24/87	09:12:00	3389	100
09/24/87	09:13:00	3389	100
09/24/87	09:14:00	3389	100
09/24/87	09:15:00	3390	100
09/24/87	09:16:00	3396	200
09/24/87	09:17:00	3398	200
09/24/87	09:18:00	3399	200
09/24/87	09:19:00	3400	200
09/24/87	09:20:00	3401	200
09/24/87	09:21:00	3402	200
09/24/87	09:22:00	3403	200
09/24/87	09:23:00	3404	200
09/24/87	09:24:00	3405	200
09/24/87	09:25:00	3405	200
09/24/87	09:26:00	3406	200
09/24/87	09:27:00	3407	200
09/24/87	09:28:00	3408	200
09/24/87	09:29:00	3409	200
09/24/87	09:30:00	3410	200
09/24/87	09:31:00	3416	300
09/24/87	09:32:00	3419	300
09/24/87	09:33:00	3421	300
09/24/87	09:34:00	3423	300
09/24/87	09:35:00	3424	300
09/24/87	09:36:00	3426	300
09/24/87	09:37:00	3427	300
09/24/87	09:38:00	3428	300
09/24/87	09:39:00	3430	300
09/24/87	09:40:00	3431	300

RECEIVED

SEP 29 1987

ENV. & REG.

D.A.H. 9-28-87

<u>DATE</u>	<u>TIME</u>	<u>SURFACE PRESSURE (PSI)</u>	<u>INJ. RATE (BWPD)</u>
09/24/87	09:41:00	3431	300
09/24/87	09:42:00	3431	300
09/24/87	09:43:00	3433	300
09/24/87	09:44:00	3434	300
09/24/87	09:45:00	3435	300
09/24/87	09:46:00	3448	400
09/24/87	09:47:00	3450	400
09/24/87	09:48:00	3452	400
09/24/87	09:49:00	3453	400
09/24/87	09:50:00	3455	400
09/24/87	09:51:00	3457	400
09/24/87	09:52:00	3458	400
09/24/87	09:53:00	3459	400
09/24/87	09:54:00	3460	400
09/24/87	09:55:00	3462	400
09/24/87	09:56:00	3463	400
09/24/87	09:57:00	3464	400
09/24/87	09:58:00	3466	400
09/24/87	09:59:00	3467	400
09/24/87	10:00:00	3467	400
09/24/87	10:01:00	3483	500
09/24/87	10:02:00	3485	500
09/24/87	10:03:00	3486	500
09/24/87	10:04:00	3488	500
09/24/87	10:05:00	3490	500
09/24/87	10:06:00	3491	500
09/24/87	10:07:00	3492	500
09/24/87	10:08:00	3493	500
09/24/87	10:09:00	3495	500
09/24/87	10:10:00	3496	500
09/24/87	10:11:00	3497	500
09/24/87	10:12:00	3498	500
09/24/87	10:13:00	3499	500
09/24/87	10:14:00	3501	500
09/24/87	10:15:00	3501	500
09/24/87	10:16:00	3521	600
09/24/87	10:17:00	3520	600
09/24/87	10:18:00	3522	600
09/24/87	10:19:00	3524	600
09/24/87	10:20:00	3525	600
09/24/87	10:21:00	3526	600
09/24/87	10:22:00	3527	600
09/24/87	10:23:00	3529	600
09/24/87	10:24:00	3530	600
09/24/87	10:25:00	3532	600
09/24/87	10:26:00	3533	600
09/24/87	10:27:00	3534	600
09/24/87	10:28:00	3535	600
09/24/87	10:29:00	3536	600
09/24/87	10:30:00	3536	600

D.A.H.

<u>DATE</u>	<u>TIME</u>	<u>SURFACE PRESSURE (PSI)</u>	<u>INJ. RATE (BWPD)</u>
09/24/87	10:31:00	3556	700
09/24/87	10:32:00	3558	700
09/24/87	10:33:00	3558	700
09/24/87	10:34:00	3563	700
09/24/87	10:35:00	3564	700
09/24/87	10:36:00	3564	700
09/24/87	10:37:00	3566	700
09/24/87	10:38:00	3567	700
09/24/87	10:39:00	3568	700
09/24/87	10:40:00	3569	700
09/24/87	10:41:00	3570	700
09/24/87	10:42:00	3570	700
09/24/87	10:43:00	3571	700
09/24/87	10:44:00	3572	700
09/24/87	10:45:00	3574	700
09/24/87	10:46:00	3597	800
09/24/87	10:47:00	3598	800
09/24/87	10:48:00	3599	800
09/24/87	10:49:00	3600	800
09/24/87	10:50:00	3601	800
09/24/87	10:51:00	3602	800
09/24/87	10:52:00	3603	800
09/24/87	10:53:00	3605	800
09/24/87	10:54:00	3605	800
09/24/87	10:55:00	3606	800
09/24/87	10:56:00	3606	800
09/24/87	10:57:00	3607	800
09/24/87	10:58:00	3607	800
09/24/87	10:59:00	3609	800
09/24/87	11:00:00	3609	800
09/24/87	11:01:00	3636	900
09/24/87	11:02:00	3637	900
09/24/87	11:03:00	3638	900
09/24/87	11:04:00	3639	900
09/24/87	11:05:00	3640	900
09/24/87	11:06:00	3641	900
09/24/87	11:07:00	3641	900
09/24/87	11:08:00	3642	900
09/24/87	11:09:00	3642	900
09/24/87	11:10:00	3644	900
09/24/87	11:11:00	3646	900
09/24/87	11:12:00	3647	900
09/24/87	11:13:00	3648	900
09/24/87	11:14:00	3648	900
09/24/87	11:15:00	3648	900
09/24/87	11:16:00	3678	1000
09/24/87	11:17:00	3679	1000
09/24/87	11:18:00	3681	1000

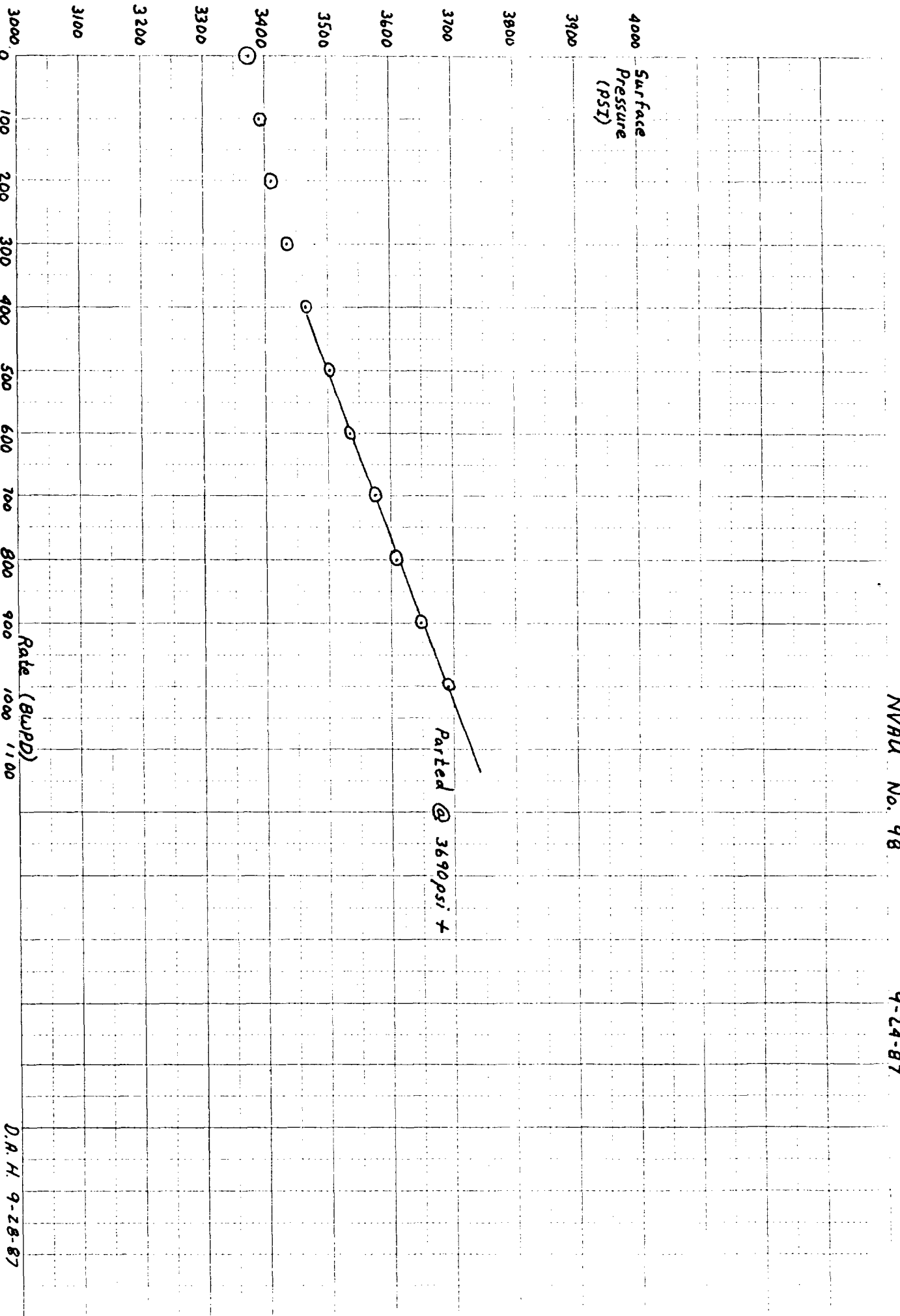
D.A.H.

<u>DATE</u>	<u>TIME</u>	SURFACE PRESSURE <u>(PSI)</u>	INJ. RATE <u>(BWPD)</u>
09/24/87	11:19:00	3682	1000
09/24/87	11:20:00	3683	1000
09/24/87	11:21:00	3684	1000
09/24/87	11:22:00	3685	1000
09/24/87	11:23:00	3685	1000
09/24/87	11:24:00	3686	1000
09/24/87	11:25:00	3687	1000
09/24/87	11:26:00	3688	1000
09/24/87	11:27:00	3689	1000
09/24/87	11:28:00	3690	1000
09/24/87	11:29:00	3691	1000
09/24/87	11:30:00	3690	1000
09/24/87	11:31:00	3543	0
09/24/87	11:32:00	3548	0
09/24/87	11:33:00	3544	0
09/24/87	11:34:00	3543	0
09/24/87	11:35:00	3542	0
09/24/87	11:36:00	3541	0
09/24/87	11:37:00	3540	0

DAH.

NVRL No. 98

9-24-87



D.A.H. 9-28-87

STEP RATE TEST

COMPANY: Mobil Exploration & Producing U.S. Inc.
LEASE: North Vacuum Abo Unit
WELL: No. 138
LOCATION: L-26,T-17-S,R-34E, Lea County, New Mexico
TEST DATE: 9-24-87
PERFORATIONS: 8508'-8646'
TOTAL DEPTH: 8700'
PLUG BACK TD: 8651'
PACKER SET AT: 8420'

<u>DATE</u>	<u>TIME</u>	<u>SURFACE PRESSURE (PSI)</u>	<u>INJ. RATE (BWPD)</u>
09/24/87	12:45:00	2839	100
09/24/87	12:46:00	2851	100
09/24/87	12:47:00	2855	100
09/24/87	12:48:00	2857	100
09/24/87	12:49:00	2859	100
09/24/87	12:50:00	2861	100
09/24/87	12:51:00	2863	100
09/24/87	12:52:00	2864	100
09/24/87	12:53:00	2865	100
09/24/87	12:54:00	2867	100
09/24/87	12:55:00	2868	100
09/24/87	12:56:00	2869	100
09/24/87	12:57:00	2870	100
09/24/87	12:58:00	2872	100
09/24/87	12:59:00	2874	100
09/24/87	13:00:00	2886	200
09/24/87	13:01:00	2891	200
09/24/87	13:02:00	2895	200
09/24/87	13:03:00	2900	200
09/24/87	13:04:00	2904	200
09/24/87	13:05:00	2908	200
09/24/87	13:06:00	2911	200
09/24/87	13:07:00	2915	200
09/24/87	13:08:00	2918	200
09/24/87	13:09:00	2921	200
09/24/87	13:10:00	2924	200
09/24/87	13:11:00	2927	200
09/24/87	13:12:00	2930	200
09/24/87	13:13:00	2932	200
09/24/87	13:14:00	2935	200
09/24/87	13:15:00	2939	200
09/24/87	13:16:00	2953	300
09/24/87	13:17:00	2965	300
09/24/87	13:18:00	2971	300
09/24/87	13:19:00	2977	300
09/24/87	13:20:00	2982	300
09/24/87	13:21:00	2987	300
09/24/87	13:22:00	2992	300
09/24/87	13:23:00	2997	300
09/24/87	13:24:00	3001	300
09/24/87	13:25:00	3006	300

D.A.H. 9-28-87

<u>DATE</u>	<u>TIME</u>	<u>SURFACE PRESSURE (PSI)</u>	<u>INJ. RATE (BWPD)</u>
09/24/87	13:26:00	3010	300
09/24/87	13:27:00	3014	300
09/24/87	13:28:00	3018	300
09/24/87	13:29:00	3023	300
09/24/87	13:30:00	3043	400
09/24/87	13:31:00	3052	400
09/24/87	13:32:00	3060	400
09/24/87	13:33:00	3067	400
09/24/87	13:34:00	3074	400
09/24/87	13:35:00	3080	400
09/24/87	13:36:00	3087	400
09/24/87	13:37:00	3091	400
09/24/87	13:38:00	3098	400
09/24/87	13:39:00	3104	400
09/24/87	13:40:00	3109	400
09/24/87	13:41:00	3114	400
09/24/87	13:42:00	3120	400
09/24/87	13:43:00	3131	400
09/24/87	13:44:00	3129	400
09/24/87	13:45:00	3154	500
09/24/87	13:46:00	3162	500
09/24/87	13:47:00	3173	500
09/24/87	13:48:00	3180	500
09/24/87	13:49:00	3188	500
09/24/87	13:50:00	3195	500
09/24/87	13:51:00	3202	500
09/24/87	13:52:00	3208	500
09/24/87	13:53:00	3215	500
09/24/87	13:54:00	3221	500
09/24/87	13:55:00	3228	500
09/24/87	13:56:00	3235	500
09/24/87	13:57:00	3241	500
09/24/87	13:58:00	3247	500
09/24/87	13:59:00	3251	500
09/24/87	14:00:00	3281	600
09/24/87	14:01:00	3289	600
09/24/87	14:02:00	3298	600
09/24/87	14:03:00	3307	600
09/24/87	14:04:00	3315	600
09/24/87	14:05:00	3321	600
09/24/87	14:06:00	3331	600
09/24/87	14:07:00	3337	600
09/24/87	14:08:00	3344	600
09/24/87	14:09:00	3350	600
09/24/87	14:10:00	3357	600
09/24/87	14:11:00	3363	600
09/24/87	14:12:00	3369	600
09/24/87	14:13:00	3378	600
09/24/87	14:14:00	3384	600
09/24/87	14:15:00	3390	700

D.A.H.

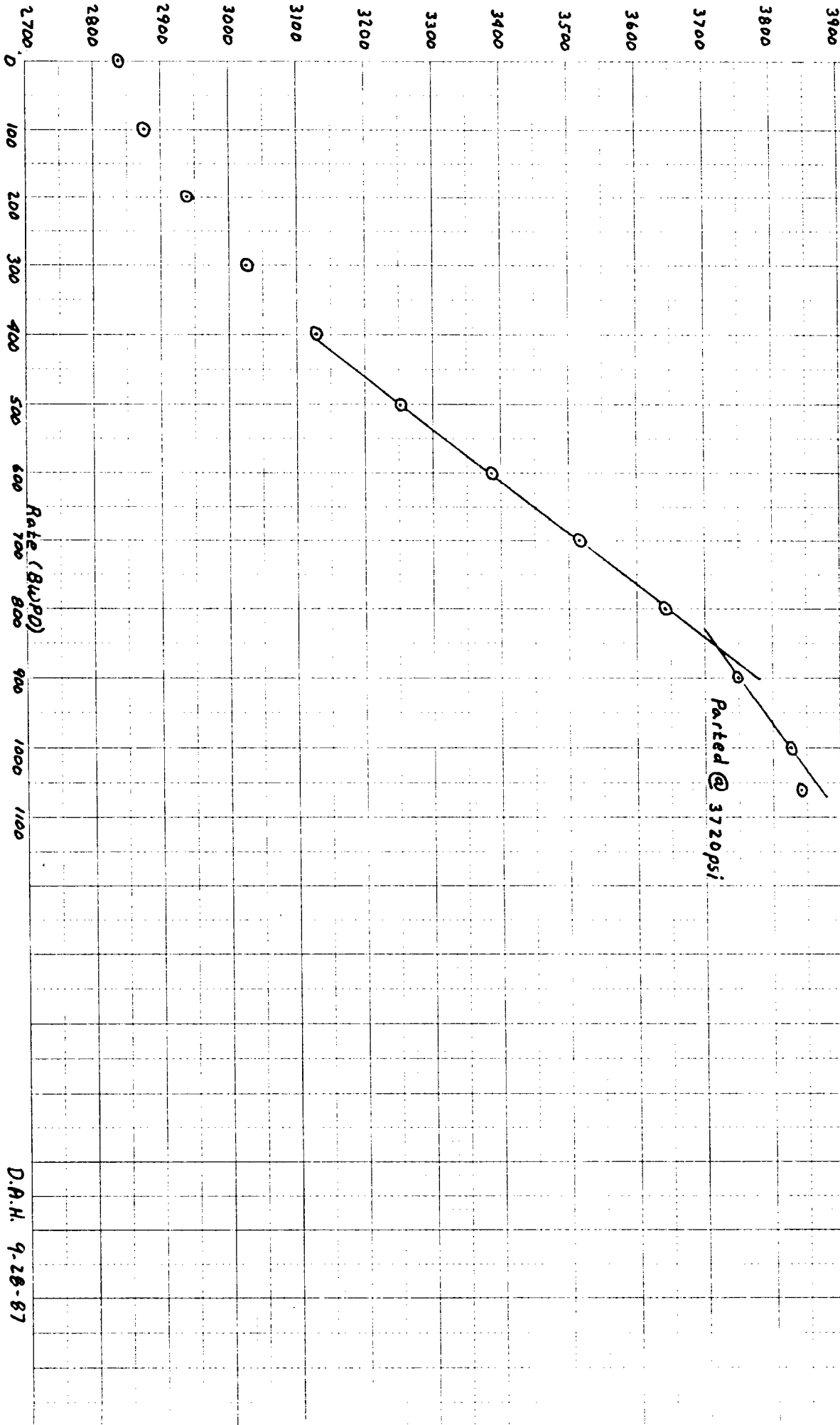
<u>DATE</u>	<u>TIME</u>	<u>SURFACE PRESSURE (PSI)</u>	<u>INJ. RATE (BWPD)</u>
09/24/87	14:16:00	3396	700
09/24/87	14:17:00	3425	700
09/24/87	14:18:00	3432	700
09/24/87	14:19:00	3442	700
09/24/87	14:20:00	3449	700
09/24/87	14:21:00	3456	700
09/24/87	14:22:00	3465	700
09/24/87	14:23:00	3472	700
09/24/87	14:24:00	3479	700
09/24/87	14:25:00	3485	700
09/24/87	14:26:00	3493	700
09/24/87	14:27:00	3499	700
09/24/87	14:28:00	3508	700
09/24/87	14:29:00	3514	700
09/24/87	14:30:00	3545	800
09/24/87	14:31:00	3553	800
09/24/87	14:32:00	3566	800
09/24/87	14:33:00	3570	800
09/24/87	14:34:00	3577	800
09/24/87	14:35:00	3584	800
09/24/87	14:36:00	3590	800
09/24/87	14:37:00	3598	800
09/24/87	14:38:00	3604	800
09/24/87	14:39:00	3611	800
09/24/87	14:40:00	3616	800
09/24/87	14:41:00	3621	800
09/24/87	14:42:00	3632	800
09/24/87	14:43:00	3636	800
09/24/87	14:44:00	3641	800
09/24/87	14:45:00	3675	900
09/24/87	14:46:00	3682	900
09/24/87	14:47:00	3688	900
09/24/87	14:48:00	3693	900
09/24/87	14:49:00	3704	900
09/24/87	14:50:00	3709	900
09/24/87	14:51:00	3714	900
09/24/87	14:52:00	3720	900
09/24/87	14:53:00	3723	900
09/24/87	14:54:00	3729	900
09/24/87	14:55:00	3739	900
09/24/87	14:56:00	3740	900
09/24/87	14:57:00	3744	900
09/24/87	14:58:00	3747	900
09/24/87	14:59:00	3749	900
09/24/87	15:00:00	3785	1000
09/24/87	15:01:00	3789	1000
09/24/87	15:02:00	3801	1000

D.A.H.

<u>DATE</u>	<u>TIME</u>	SURFACE PRESSURE <u>(PSI)</u>	INJ. RATE <u>(BWPD)</u>
09/24/87	15:03:00	3801	1000
09/24/87	15:04:00	3807	1000
09/24/87	15:05:00	3809	1000
09/24/87	15:06:00	3815	1000
09/24/87	15:07:00	3817	1000
09/24/87	15:08:00	3819	1000
09/24/87	15:09:00	3823	1000
09/24/87	15:10:00	3824	1000
09/24/87	15:11:00	3826	1000
09/24/87	15:12:00	3828	1000
09/24/87	15:13:00	3829	1000
09/24/87	15:14:00	3829	1000
09/24/87	15:15:00	3851	1060
09/24/87	15:16:00	3851	1060
09/24/87	15:17:00	3852	1060
09/24/87	15:18:00	3851	1060
09/24/87	15:19:00	3851	1060
09/24/87	15:20:00	3850	1060
09/24/87	15:21:00	3849	1060
09/24/87	15:22:00	3848	1060
09/24/87	15:23:00	3847	1060
09/24/87	15:24:00	3846	1060
09/24/87	15:25:00	3846	1060
09/24/87	15:26:00	3845	1060
09/24/87	15:27:00	3845	1060
09/24/87	15:28:00	3844	1060
09/24/87	15:29:00	3843	1060
09/24/87	15:30:00	3651	0 S.I.
09/24/87	15:31:00	3648	0
09/24/87	15:32:00	3646	0
09/24/87	15:33:00	3632	0
09/24/87	15:34:00	3619	0
09/24/87	15:35:00	3608	0

O. A. H.

Surface
Pressure
(PSI)



Parted @ 3720psi

Rate (GUPD)

D.A.H. 9-28-87

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



May 27, 1987

GARREY CARRUTHERS
GOVERNORPOST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5900

Mobil Producing Texas
and New Mexico Inc.
P. O. Box 633
Midland, Texas 79702

Attention: M. E. Sweeney

Re: Injection Pressure Increase
N. Vacuum Abo Unit
Lea County, New Mexico

Dear Sir:

Reference is made to your request dated May 20, 1987, to increase the surface injection pressure on four wells in the North Vacuum Abo Unit Waterflood Project. This request is based on step rate tests conducted on these wells on May 7, 1987. 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 AND LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
N. Vacuum Abo Unit No. 155 560' FNL & 560' FWL (Unit D) Sec. 23, T-17-S, R-34-E, NMMPM	4050 PSIG
N. Vacuum Abo Unit No. 204 660' FNL & 860' FWL (Unit D) Sec. 24, T-17-S, R-34-E, NMMPM	3945 PSIG
N. Vacuum Abo Unit No. 205 660' FNL & 1980' FEL (Unit B) Sec. 26, T-17-S, R-34-E, NMMPM	3910 PSIG

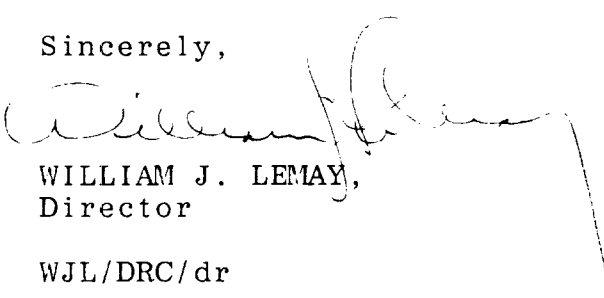
N. Vacuum Abo Unit No. 211
2054' FSL & 2162" FEL (Unit J)
Sec. 24, T-17-S, R-34-E

3775 PSIG

All 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,



WILLIAM J. LEMAY,
Director

WJL/DRC/dr

xc: OCD - Hobbs
✓ File - PMX-138
WFX-557
D. McDonald
D. Catanach

Mobil Producing Texas & New Mexico Inc.

P.O. BOX 633
MIDLAND, TEXAS 79702

April 7, 1987

MIDLAND DIVISION

State of New Mexico
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Attention: W. J. LeMay

MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WATER INJECTION WELL NOS. 136,
137, 156 AND 210
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

Gentlemen:

Under the provisions of Order No. PMX-138, dated November 12, 1985, Mobil Producing Texas & New Mexico, Inc. (MPTM) was granted permission to inject water into the Abo formation for the subject wells. The order limited the pressure on the injection wells to no more than 0.2 psi per foot to the uppermost injection interval. MPTM has completed step-rate tests for these wells which show that higher pressure will not result in migration of the injected fluid from the Abo formation. MPTM therefore requests an increase in the injection pressure as follows:

	<u>Injection Interval</u>	<u>Present Surface Inj. Pressure Limit</u>	<u>Requested Surface Inj. Pressure Limit</u>
Well No. 136 Unit D, Sec. 26 T-17-S, R-34-E	8525-8680'	1709 psig.	2550 psig.
Well No. 137 Unit B, Sec. 26 T-17-S, R-34-E	8481-8580'	1696 psig	3130 psig

	<u>Injection Interval</u>	<u>Present Surface Inj. Pressure Limit</u>	<u>Requested Surface Inj. Pressure Limit</u>
Well No. 156 Unit J, Sec. 23 T-17-S, R-34-S	8472-8650'	2485 psig.	2995 Psig.
Well No. 210 Unit L, Sec. 23 T-17-S, R-34-E	8539-8609'	2720 psig.	3450 psig.

Enclosed are copies of the step rate tests.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Mgr.

CCSmith/

Attachments

cc: District Director OCD-Hobbs

B & D WELL TESTERS

Step Rate Test

Phone (505) 397-3914

Hobbs, New Mexico 88240

Company Mobil Producing Texas & NM						Unit
Test Date 3-25-87						Lease N.V.A.U.
Total Depth 8700'	Plug Back TD 8690'		Elevation			Well # 136
Csg size 5½	Wt	d	Set at	Perfs: From 8525'	To 8680'	Sec Twp-Blk Rge
Tbg size 2 3/8	Wt	d	Set at	Perfs: From	To	County Lea State NM
Producing thru			Packer set at 8440'			Co. Rep David Howell

Time of Reading	Elap Time Hrs.	Well Information					Remarks
		Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP	
10:50	SI			1490			
10:55	Start	100		1490			
11:00		100		1520			
11:05		100		1540			
11:10	:15	100	1.0	1550			
11:15		100		1550			
11:20		200		1590			
11:25		200		1610			
11:30		200	2.1	1630			
11:35		300		1680			
11:40		300		1710			
11:45		300	3.1	1730			
11:50		400		1790			
11:55		400		1820			
12:00		400	4.1	1850			
12:05		500		1940			
12:10		500		2000			
12:15		500	5.2	2100			
12:20		600					
12:25		600		2280			
12:30		600	6.2	2320			
12:35		700		2470			
12:40		700		2570			
12:45		700	7.3	2600			
12:50		800		2680			
12:55		800		2710			
1:00		800	8.3	2740			
1:05		900		2830			
1:10		900		2870			
1:15		900		2900			

Step Rate Test

Hobbs, New Mexico 88240

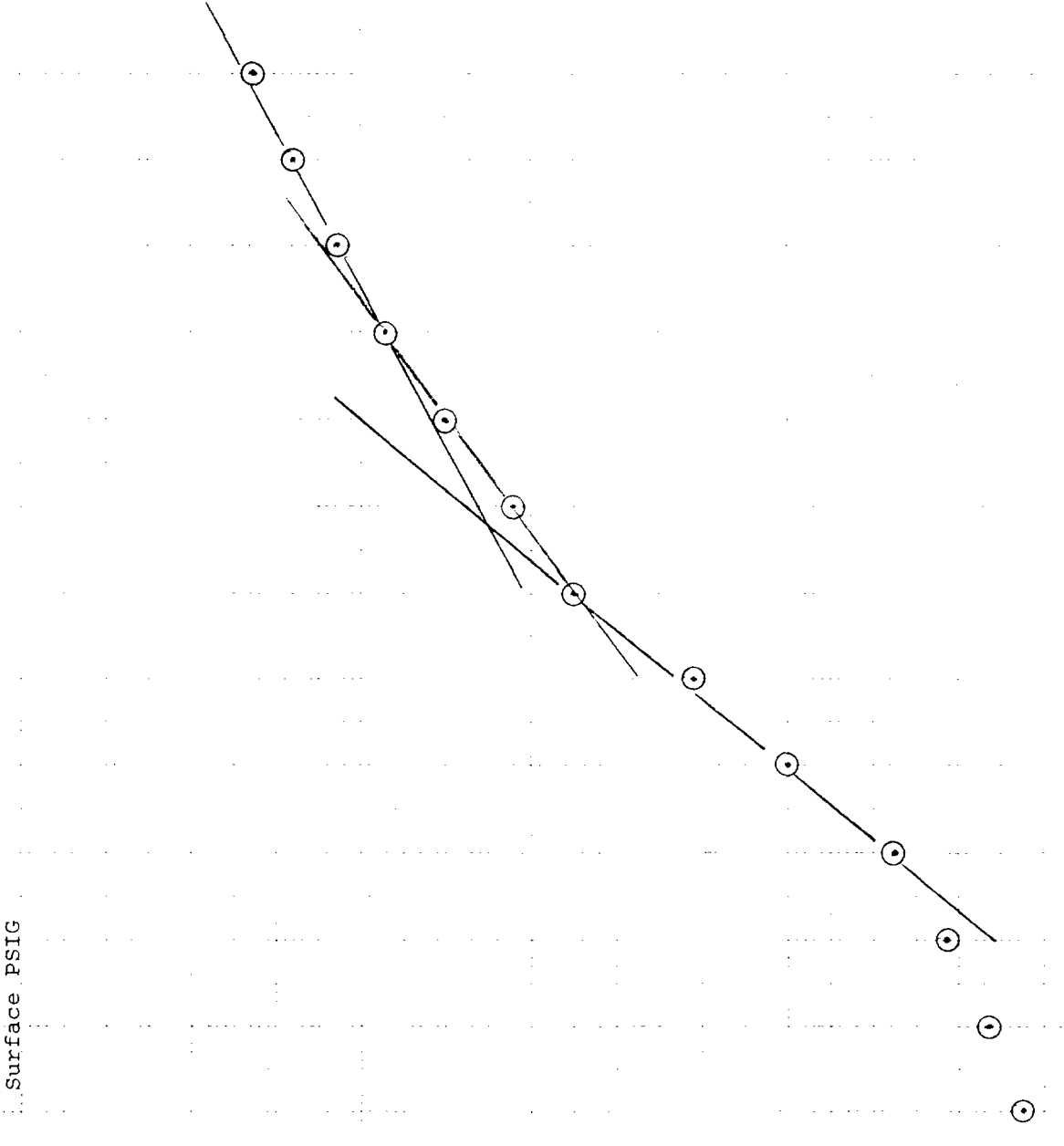
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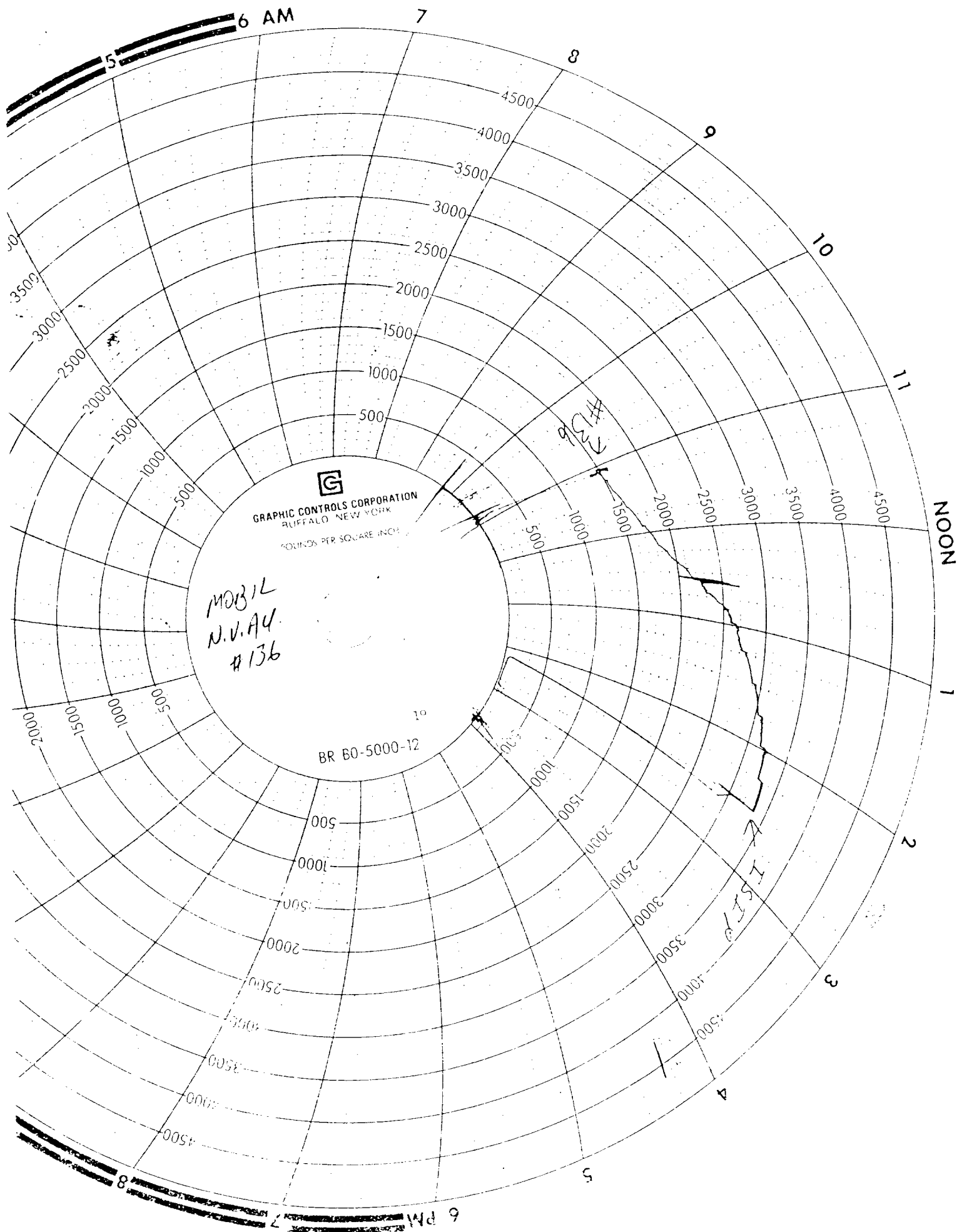
Surface PSIG

BWPD

100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900

300
700
500
300
100
300
700
500
300
100
300
700
500





B & D WELL TESTERS

Step Rate Test

Phone (505) 397-3914

Hobbs, New Mexico 88240

										Unit			
Company	Mobil Producing Texas & NM					Test Date	3-25-87			Lease	N.V.A.U.		
Total Depth	8700		Plug Back TD	8600		Elevation				Well #	137		
Csg size	5½	Wt	d	Set at	Perfs: From	8481	To	8580	Sec	Twp-Blk		Rge	
Tbg size	2 3/8	Wt	d	Set at	Perfs: From	To			County	Lea	State	NM	
Producing thru					Packer set at	8370			Co. Rep	David Howell			

Time of Reading	Elap Time Hrs.	Well Information					Remarks
		Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP	
9:00	S.I.			1780			
9:10	Start	100		1780			
9:15		100		1800			
9:20		100		1810			
9:25	:15	100	1.0	1820			
9:30		200		1855			
9:35		200		1870			
9:40	:30	200	2.1	1885			
9:45		300		1930			
9:50		300		1965			
9:55	:45	300	3.1	1975			
10:00		400		2035			
10:05		400		2065			
10:10	1hr	400	4.2	2090			
10:15		500		2160			
10:20		500		2190			
10:25	1:15	500		2230			
10:30		600		2290			
10:35		600		2330			
10:40	1:30	600		2380			
10:45		700		2440			
10:50		700		2490			
10:55	1:45	700		2530			
11:00		800		2610			
11:05		800		2660			
11:10	2hr	800		2700			
11:15		900		2780			
11:20		900		2820			
11:25	2:15	900		2870			

Step Rate Test

Hobbs, New Mexico 88240

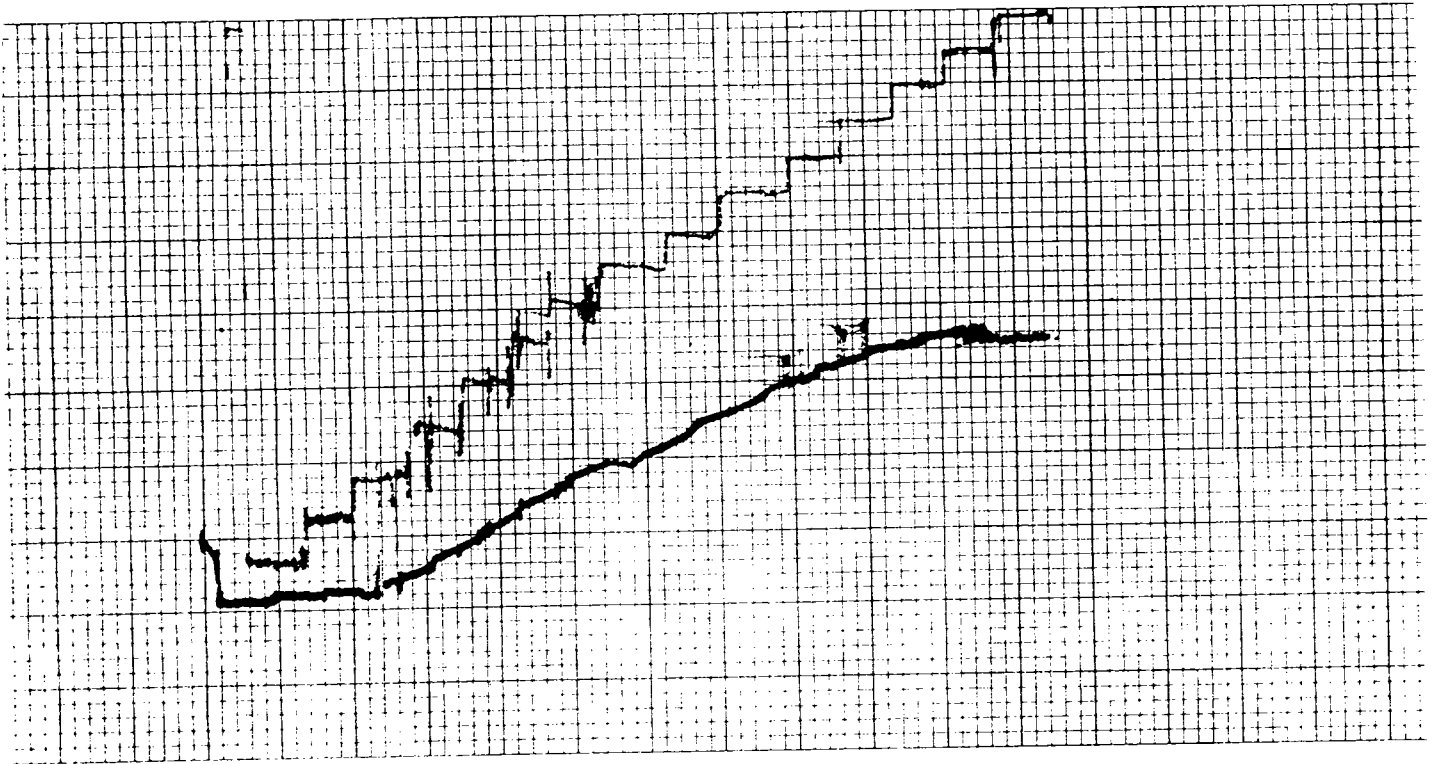
Company	Mobil Producing Texas & NM	Test Date	3-25-87	Lease	N.V.A.U.
Total Depth	8700	Plug Back TD	Elevation	Well #	137
Csg size	5½	Wt	d	Set at	Perfs: From 8481 To 8580
Tbg size	2 3/8	Wt	d	Set at	Perfs: From To
Producing thru		Packer set at	8370	Co. Rep	David Howell
				Sec	Twp-Blk Rge
				County	Lea State NM

B & D WELL TESTERS, INC.

P.O. Box 5683
HOBBS, NEW MEXICO
505 397-3914

MOBIL PRODUCING TEXAS & NM
N.V.A.U. Well #137
3-25-87

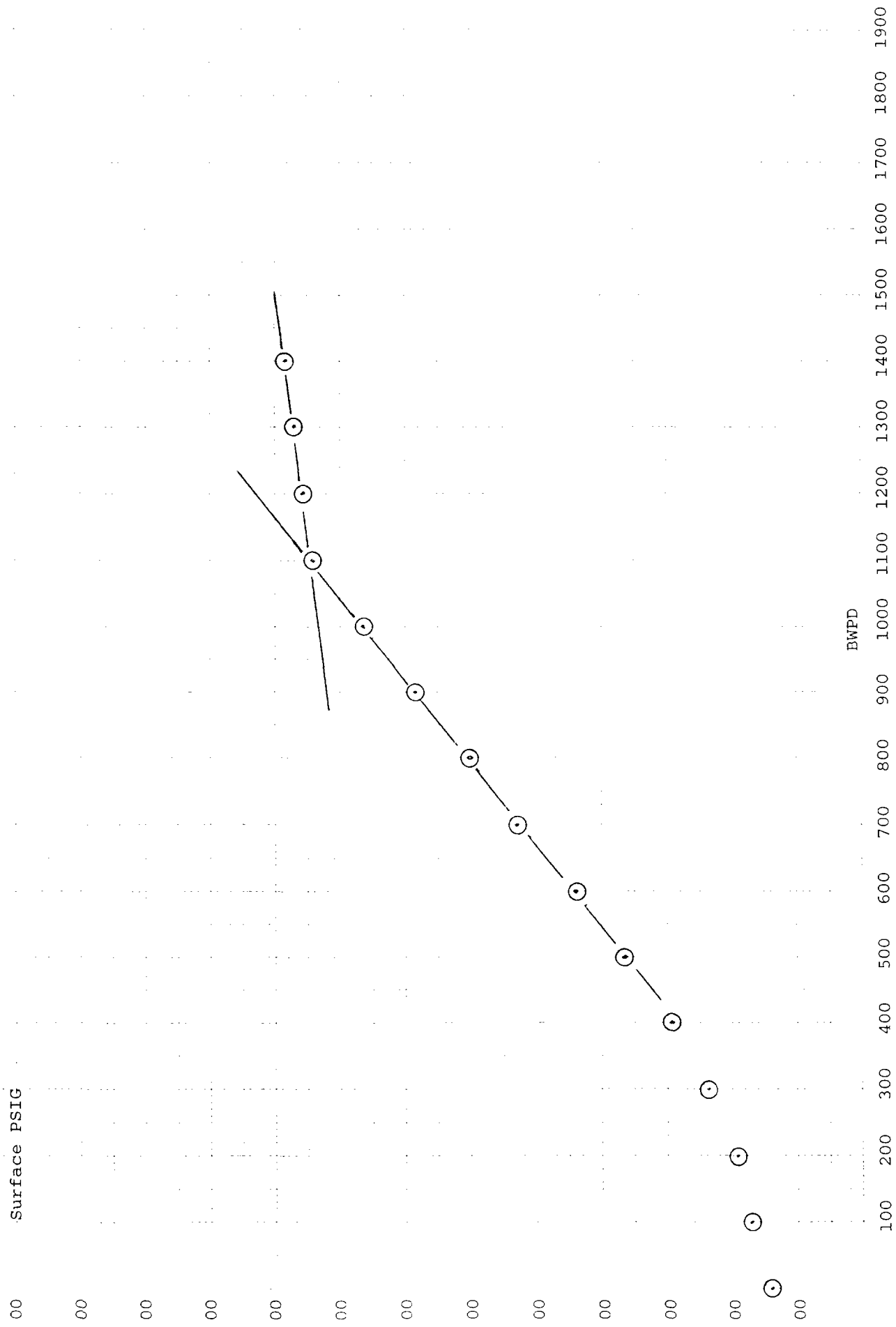
810E



Mobil Producing Texas & NM

N.V.A.U. #137

3-25-87



Step Rate Test

Hobbs, New Mexico 88240

Company Mobil Producing Texas & NM							Test Date	3-25-87	Unit		
Total Depth 8750							Plug Back TD	8725	Elevation	Lease N.V.A.U.	
Csg size 5½							Wt 15.5#	d	Set at	Perfs: From 8472 To 8650	Well # 156
Tbg size 2 3/8							Wt	d	Set at	Perfs: From To	Sec Twp-Blk Rge
Producing thru							Packer set at 8380			County State	Co. Rep David Howell
Time of Reading	Elap Time Hrs.	Well Information					Remarks				
		Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP					
2:30	SI			2260							
2:35	Start	100		2260							
2:40		100		2290							
2:45		100		2300							
2:50	:15	100	1.0	2310							
2:55		200		2350							
3:00		200		2375							
3:05	:30	200	2.1	2390							
3:10		300		2425							
3:15		300		2460							
3:20	:45	300	3.1	2480							
3:25		400		2530							
3:30		400		2560							
3:35	1hr	400	4.2	2590							
3:40		500		2650							
3:45		500		2690							
3:50	1:15	500	5.2	2720							
3:55		600		2775							
4:00		600		2815							
4:05	1:30	600	6.3	2850							
4:10		700		2905							
4:15		700		2945							
4:20	1:45	700	7.3	2980							
4:25		800		3045							
4:30		800		3070							
4:35	2hr	800	8.4	3100							
4:40		900		3150							
4:45		900		3170							
4:50	2:15	900	9.4	3170							

B & D WELL TESTERS, INC.

P.O. Box 5683
HOBBS, NEW MEXICO

505 397-3914

MOBIL PRODUCING TEXAS & NM

N.V.A.U. Well #156

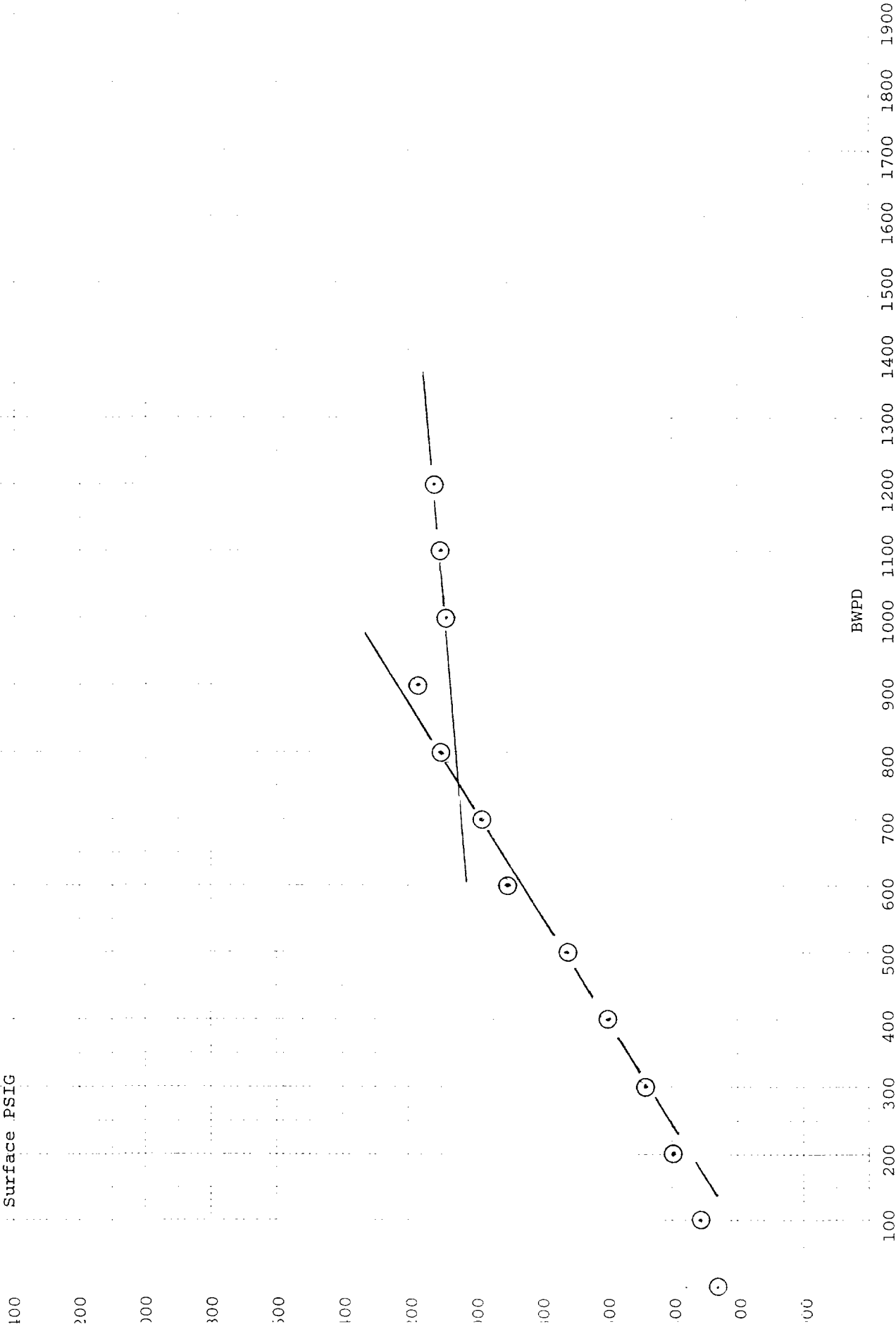
3-25-87



NYROLS CORPORATION BUFFALO, NEW YORK

Surface PSIG

BWPD



Step Rate Test

Hobbs, New Mexico 88240

[illegible]

Step Rate Test

Hobbs, New Mexico 88240

[illegible]

Surface PSIG

BWPD

1900

1700

1500

1300

1100

900

700

500

300

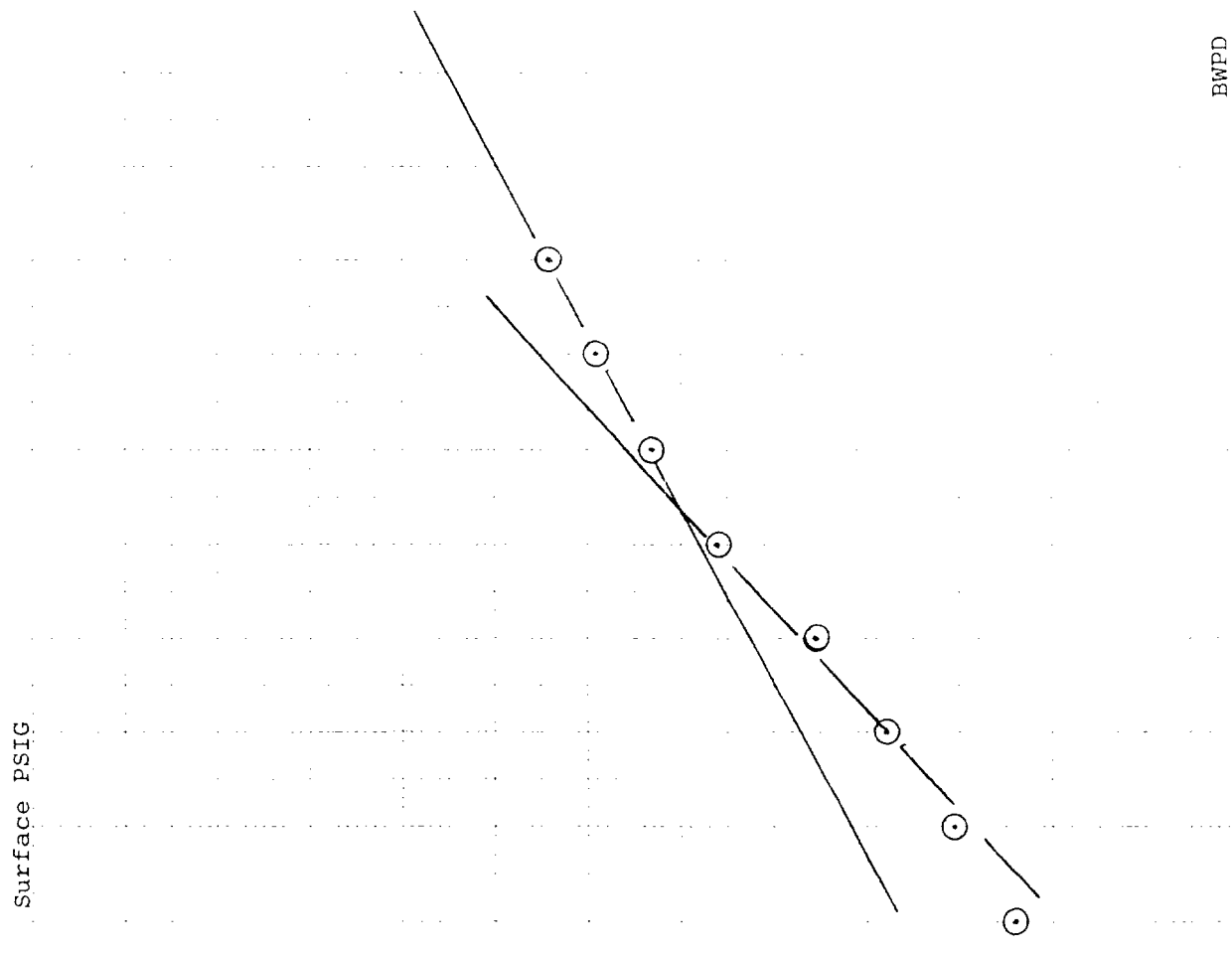
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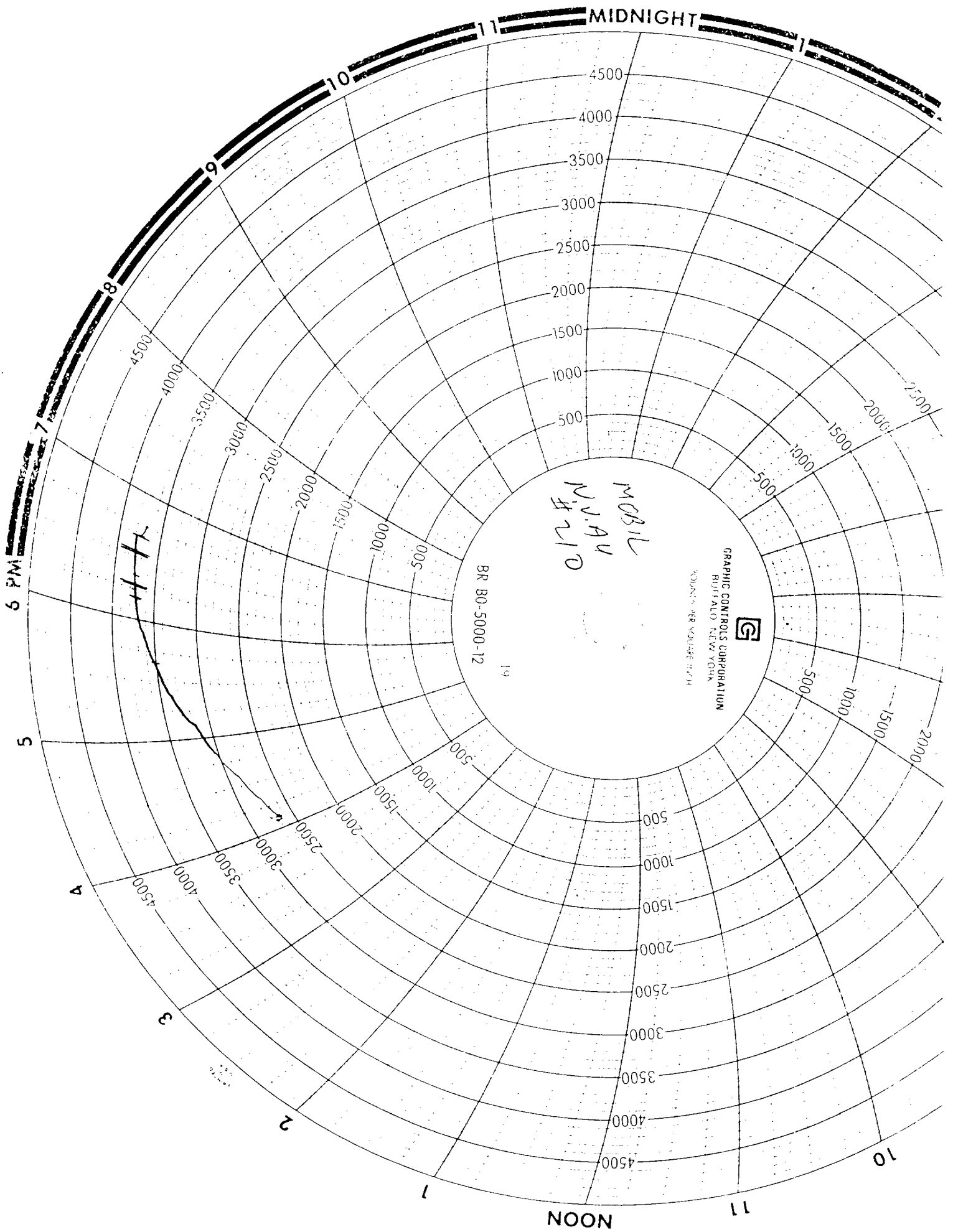
900

700

500

100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900





ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARPENTERS
TELEPHONE

May 22, 1987

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
505 426-8802

Mobil Producing Texas & New Mexico, Inc.
P.O. Box 633
Midland, TX 79702

Attention: M. E. Sweeney

RE: Injection Pressure Increase
North Vacuum Abo Unit
Lea County, New Mexico

Dear Sir:

Reference is made to your request dated April 7, 1987, to increase the surface injection pressure on four wells within the North Vacuum Abo Unit. This request is based on step rate tests conducted on these wells on March 25, 1987. 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.

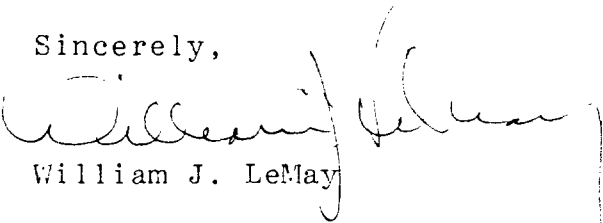
<u>WELL & LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
N. Vacuum Abo Unit No. 136 660 FNL & 860 FWL (Unit D) Section 26, T-17 South, Range-34 East.	2550 PSIG
N. Vacuum Abo Unit No. 137 660 FNL & 2130 FEL (Unit B) Section 26, T-17 South, Range-34 East	3130 PSIG
N. Vacuum Abo Unit No. 156 1893 FSL & 1800 FEL (Unit J) Section 23, T-17 South, Range 34 East	2995 PSIG

N. Vacuum Abo Unit No. 210
1840 FSL & 800 FWL (Unit L)
Section 23, T-17 South,
Range 34 East

3440 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,

A handwritten signature in dark ink, appearing to read "William J. LeMay", is written over the typed name. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

William J. LeMay

WJL/ag

xc: OCD - Hobbs
File - PMX - 138
D. Catanach
D. McDonald

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS
GOVERNOR

May 22, 1987

POST OFFICE BOX 2083
STATE LAND OFFICE BUILDING
SANTA FE NEW MEXICO 87504
(505) 827-6800

Mobil Producing Texas & New Mexico, Inc.
P.O. Box 633
Midland, TX 79702

Attention: M. E. Sweeney

RE: Injection Pressure Increase
North Vacuum Abo Unit
Lea County, New Mexico

Dear Sir:

Reference is made to your request dated April 7, 1987, to increase the surface injection pressure on four wells within the North Vacuum Abo Unit. This request is based on ~~a~~ step rate tests conducted on these wells on March 25, 1987. 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>
N. Vacuum Abo Unit No. 136 660 FNL & 860 FWL (Unit D) Section 26, T-17 South, Range-34 East.	2550 PSIG
N. Vacuum Abo Unit No. 137 660 FNL & 2130 FEL (Unit E) Section 26, T-17 South, Range-34 East	3130 PSIG
N. Vacuum Abo Unit No. 156 1893 FSL & 1800 FEL (Unit J) Section 23, T-17 South, Range 34 East	2995 PSIG

Page 2

N. Vacuum Abo Unit No. 210 3440 PSIG
1840 FSL & 800 FWL (Unit L)
Section 23, T-17 South,
Range 34 East

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

WJL/ag

xc: OCD - Hobbs
 File ~~PIUX~~ 138
 D. Catanach
 D. McDonald

P M X

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



April 1, 1987

GARRETT CARLUTHERS
303 BRICKDISTRICT 114, 115, 116
STATE LAND OFFICE
SANTA FE, NEW MEXICO 87503
859/41-4900

Mobil Producing Texas &
New Mexico Inc.
P.O. Box 633
Midland, Texas 79702

Attn: M. E. Sweeney

Re: Injection Pressure Increase
North Vacuum Abo Unit Well
Nos. 98 & 138 Lea County, New
Mexico

Dear Sir:

Reference is made to your request of March 23, 1987 to increase the surface injection pressure on two wells within the North Vacuum Abo Unit. This request is based on step rate tests conducted on the wells on March 17, 1987. 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.

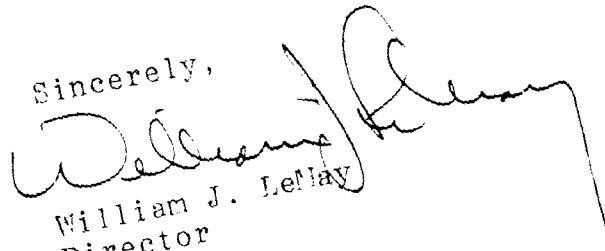
You are therefore authorized to increase your surface injection pressure on the following wells:

<u>Well & Location</u>	<u>Maximum Injection Surface Pressure</u>
N. Vacuum Abo Unit No. 98 1980 FSL & 1780 FEL (Unit J) Section 26, T-17S, R-34E	3360 PSIG
N. Vacuum Abo Unit No. 138 860 FEL & 1980 FSL (Unit I) Section 26, T-17S, R-34E	3150 PSIG

Both 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 it is endangering any fresh water aquifers.

Sincerely,


William J. Lett
Director

RLS/DRC/et

cc: Oil Conservation Division - Hobbs
PMX-138
D. McDonald
D. Catanach

Mobil Producing Texas & New Mexico Inc.

March 23, 1987

State of New Mexico
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

Attention: W. J. LeMay

MOBIL PRODUCING TX. & N.M., INC.
NORTH VACUUM ABO UNIT
WATER INJECTION WELL NOS. 98,
AND 138
NORTH VACUUM ABO FIELD
LEA COUNTY, NEW MEXICO

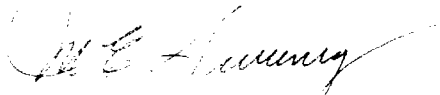
Gentlemen:

Under the provisions of Order No. PMX-138, dated November 12, 1985, Mobil Producing Texas & New Mexico, Inc. (MPTM) was granted permission to inject water into the Abo formation for the subject wells. The order limited the pressure on the injection wells to no more than 0.2 psi per foot to the uppermost injection interval. MPTM has completed step-rate tests for these wells which show that higher pressure will not result in migration of the injected fluid from the Abo formation. MPTM therefore requests an increase in the injection pressure as follows:

	<u>Injection Interval</u>	<u>Present Surface Inj. Pressure Limit</u>	<u>Requested Surface Inj. Pressure Limit</u>
Well No. 98 1980' FSL & 1780' FEL Sec 26, T-17-S, R-34-E	8474-8558'	2655 psig.	3360 psig.
Well No. 138 860' FEL & 1980' FSL, Sec. 26, T-17-S, R-34-E	8508-8600'	1702 psig	3150 psig

Copies of the step-rate tests are enclosed.

Sincerely,



M. E. Sweeney
Environmental & Reg. Mgr.

CCSmith/

cc: Oil Conservation Division - Hobbs

Step Rate Test

Hobbs, New Mexico 88240

Company Mobil Producing Texas & New Mexico Test Date 3-17-87							Unit
Total Depth 11,660 Plug Back TD 8838 Elevation							Lease N.V.A.U.
Csg size 4½ Wt 11.6# d Set at 10,217 Perfs: From 8414 To 8558							Well # 98
Tbg size 2 3/8 Wt 7.5# d Set at 8350 Perfs: From To							Sec Twp-Blk Rge
Producing thru Inj. thru tbg Packer set at 8350							County Lea State New Mexico
Co. Rep David Howell							
Well Information							
Time of Reading	Elap Time Hrs.	Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP	Remarks
9:45	SI			2970			1" TM
9:50	Start	100		2970			
9:55		100		2980			
10:00		100		2995			
10:05	:15	100		3000			
10:10		200		3020			
10:15		200		3040			
10:20	:30	200		3050			
10:25		300		3080			
10:30		300		3090			
10:35	:45	300		3110			
10:40		400		3140			
10:45		400		3160			
10:50	1:00	400		3180			
10:55		500		3210			
11:00		500		3230			
11:05	1:15	500		3240			
11:10		600		3280			
11:15		600		3290			
11:20	1:30	600		3300			
11:25		700		3340			
11:30		700		3350			
11:35	1:45	700		3360			
11:40		800		3390			
11:45		800		3405			
11:50	2:00	800		3415			
11:55		900		3450			
12:00		900		3450			
12:05	2:15	900		3455			

Step Rate Test

Page #2

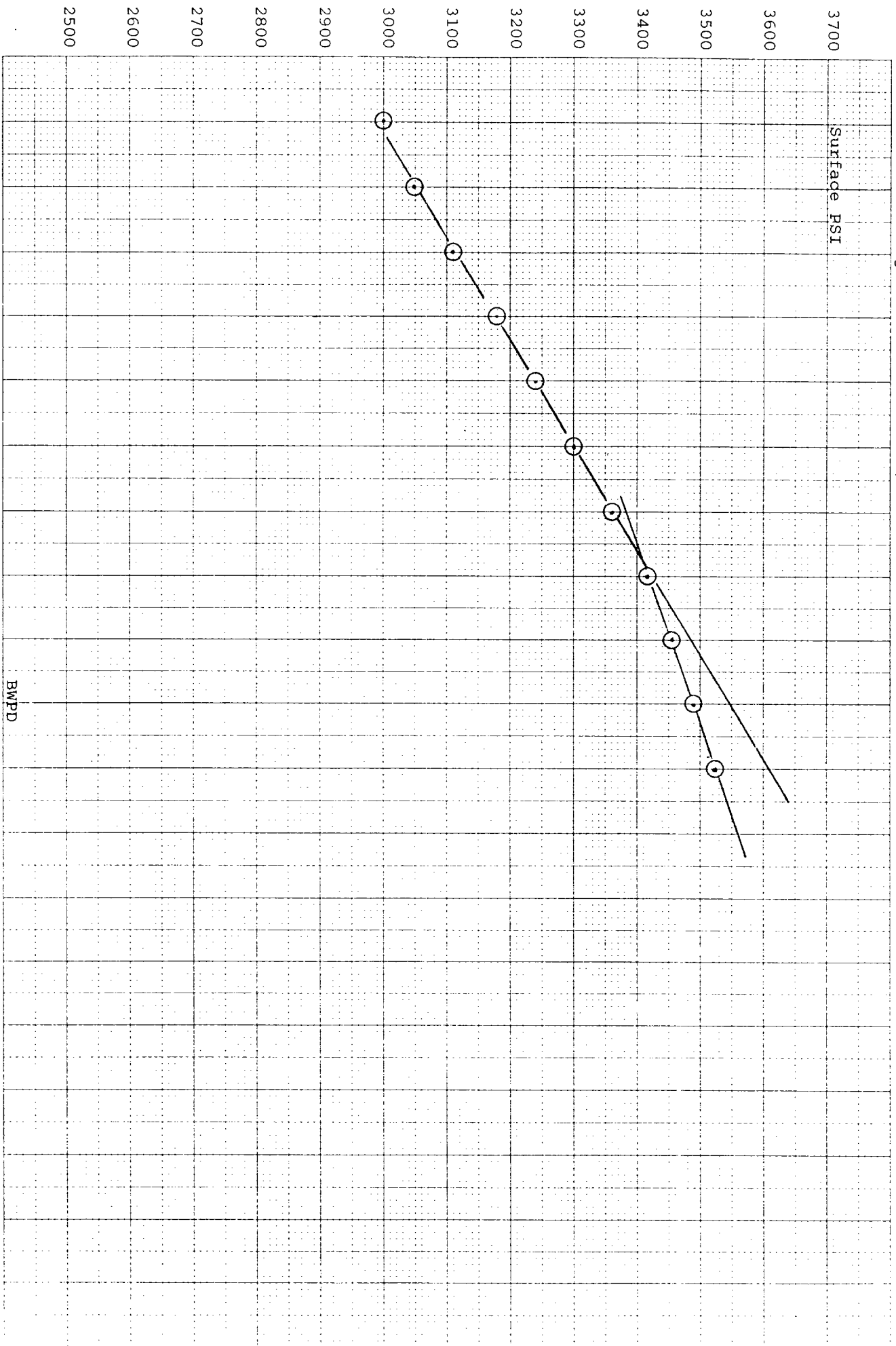
Phone (505) 397-3914

Hobbs, New Mexico 88240

										Unit		
Company Mobil Producing Texas & New Mexico Test Date 3-17-87										Lease N.V.A.U.		
Total Depth 11,660 Plug Back TD 8838 Elevation										Well # 98		
Csg size 4½ Wt 11.6# d Set at 10217 Perfs: From 8414 To 8558										Sec Twp-Blk Rge		
Tbg size 2 3/8 Wt 7.5# d Set at 8350 Perfs: From To										County Lea State New Mexico		
Producing thru inj. thru tbg. Packer set at 8350										Co. Rep David Howell		

[illegible]

Surface PSI



BHPD

B & D WELL TESTERS, INC.

P.O. Box 5683
HOBBS, NEW MEXICO

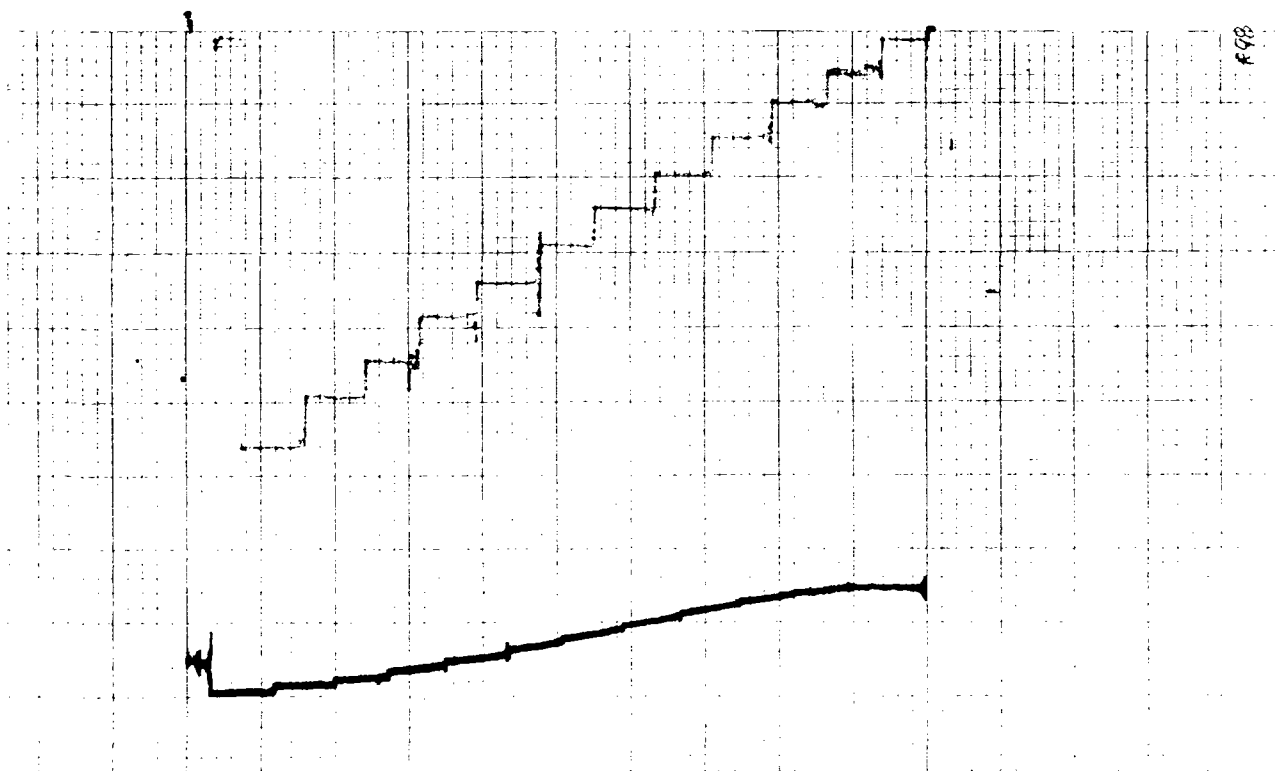
505 397-3914

Mobil Producing Texas & New Mexico, Inc.

N.V.A.U. #98

3-17-87

81065.0N



B & D WELL TESTERS

Step Rate Test

Phone (505) 397-3914

Hobbs, New Mexico 88240

Company Mobil Producing Texas & New Mexico						Test Date 3-17-87		Unit	
Total Depth 8700						Plug Back TD 8651		Lease NVAU	
Csg size 5½						Wt 15.5 d		Well # 138	
Tbg size 2 3/8						Wt d		Sec Twp-Blk Rge	
Producing thru						Packer set at		County Lea State New Mexico	
								Co. Rep David Howell	
Time of Reading	Elap Time Hrs.	Well Information					Remarks		
		Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP			
1:30	SI			1770					
1:35	Start	100		1770					
1:40		100		1800					
1:45		100		1810					
1:50	:15	100		1820					
1:55		200		1855					
2:00		200		1880					
2:05	:30	200		1895					
2:10		300		1945					
2:15		300		1975					
2:20	:45	300		2000					
2:25		400		2060					
2:30		400		2090					
2:35	1:00	400		2120					
2:40		500		2180					
2:45		500		2230					
2:50	1:15	500		2270					
2:55		600		2340					
3:00		600		2395					
3:05	1:30	600		2435					
3:10		700		2510					
3:15		700		2575					
3:20	1:45	700		2605					
3:25		800		2705					
3:30		800		2750					
3:35	2:00	800		2780					
3:40		900		2865					
3:45		900		2905					
3:50	2:15	900		2945					
See Page #2									

Company Mobil Producing Texas & New Mexico						Test Date 3-17-87		Unit	
Total Depth 8700						Plug Back TD 8651		Elevation	
Csg size 5½						Wt 15.5 d		Set at 8651 Perfs: From 8508 To 8646	
Tbg size 2 3/8						Wt d		Set at Perfs: From To	
Producing thru						Packer set at		Co. Rep David Howell	
Time of Reading		Elap Time Hrs.		Well Information			Remarks		
				Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP	
3:55				1000		3025			
4:00				1000		3060			
4:05		2:30		1000		3100			
4:10				1100		3160			
4:15				1100		3190			
4:20		2:45		1100		3210			
4:25				1200		3270			
4:30				1200		3290			
4:35		3:00		1200		3300			
4:40				1300		3360			
4:45				1300		3365			
4:50		3:15		1300		3370			
4:51		ISIP				3240			
4:52		5 minute fall off				3170			
4:53						3120			
4:54						3090			
4:55						3075			

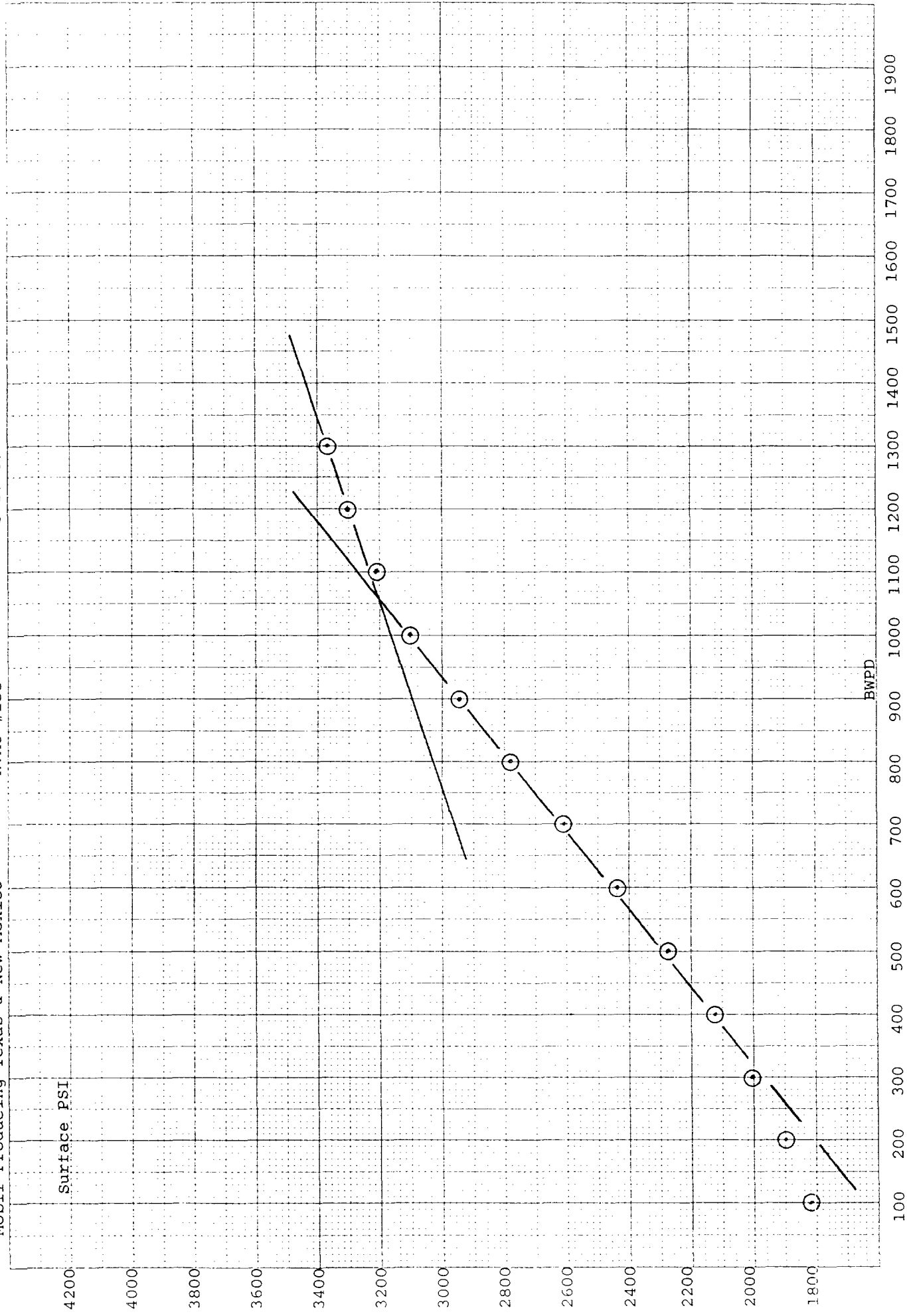
3-17-87

NVAU #138

Mobil Producing Texas & New Mexico

Surface PSI

BWPD



B & D WELL TESTERS, INC.

P.O. Box 5683
HOBBS, NEW MEXICO

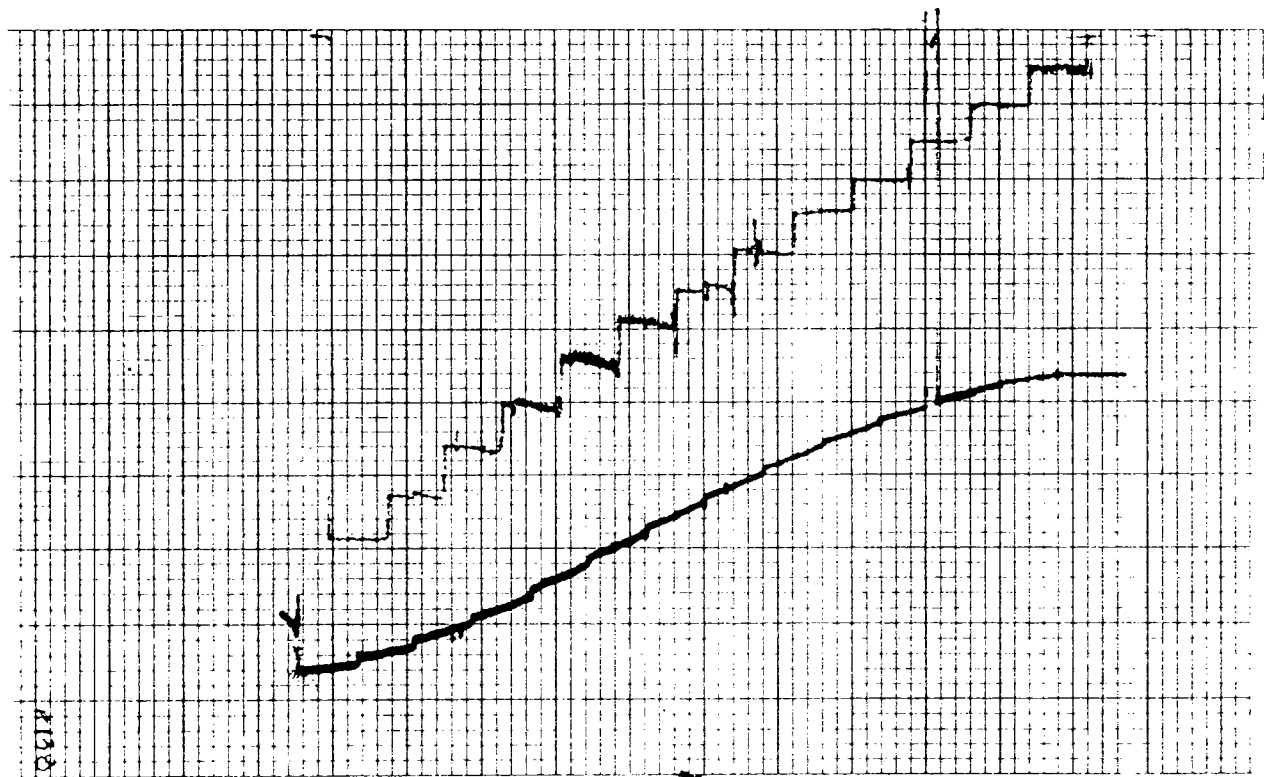
505 397-3914

Mobil Producing Texas & New Mexico, Inc.

N.V.A.U. #138

3-17-87

GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK



ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



January 3, 1987

GARREY CARRUTHERS
DIRECTORPOST OFFICE BOX 2036
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
505/827-5800Mobil Producing Texas &
New Mexico Inc.
P. O. Box 633
Midland, Texas 79702

Attn: M. E. Sweeney

Re: Injection Pressure Increase
North Vacuum Abo Unit
Lea County, New Mexico

Dear Sir:

Reference is made to your request of December 16, 1986 to increase the surface injection pressure on your North Vacuum Abo Unit Wells Nos. 155 & 205. This request is based on step rate tests conducted on the wells on November 22, 1986. 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 your surface injection pressure on the following well(s):

<u>Well & Location</u>	<u>Maximum Injection Surface Pressure</u>
N. Vacuum Abo Unit No. 155 560 FNL & 560 FWL (Unit D) Sec. 23, T-17S, R-34E	2950 PSIG
N. Vacuum Abo Unit No. 205 660 FNL & 1980 FEL (Unit B) Sec. 26, T-17S, R-34E	2943 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 it is endangering any fresh water aquifers.