



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



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

November 10, 1994

PMX-138
PDEV0020700138
PMX-140
PDEV0020700140
WFX-557
PDEV0020600557

Mobil Exploration & Producing U.S., Inc.
P.O. Box 633
Midland, Texas 79702-0633

Attn: Kay Pollock-Lyon

**RE: Injection Pressure Increase North Vacuum Abo Pressure
Maintenance Project Lea County, New Mexico**

Dear Ms. Pollock-Lyon:

Reference is made to your request dated October 24, 1994 to increase the surface injection pressure on 13 wells. This request is based on step rate tests conducted on these wells between September 20 and October 5, 1994. 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:

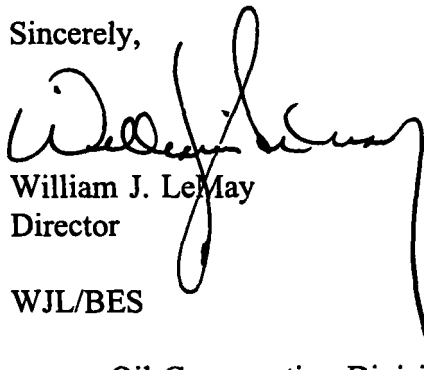
Well and Location	Maximum Injection Surface Pressure
North Vacuum Abo Unit Well No.121 Unit L, Section 13,	4452 PSIG
North Vacuum Abo Unit Well No.131 Unit B, Section 10,	4029 PSIG
North Vacuum Abo Unit Well No.142 Unit J, Section 14,	4380 PSIG

Well and Location	Maximum Injection Surface Pressure
North Vacuum Abo Unit Well No.146 Unit B, Section 14,	4290 PSIG
North Vacuum Abo Unit Well No.152 Unit B, Section 13,	4438 PSIG
North Vacuum Abo Unit Well No.160 Unit B, Section 12,	4270 PSIG
North Vacuum Abo Unit Well No.163 Unit J, Section 15,	4421 PSIG
North Vacuum Abo Unit Well No.164 Unit B, Section 15,	4476 PSIG
North Vacuum Abo Unit Well No.200 Unit L, Section 2,	4487 PSIG
North Vacuum Abo Unit Well No.201 Unit J, Section 10,	4165 PSIG
North Vacuum Abo Unit Well No.210 Unit L, Section 23,	4282 PSIG
North Vacuum Abo Unit Well No.229 Unit L, Section 10,	4590 PSIG
North Vacuum Abo Unit Well No.230 Unit J, Section 13,	4445 PSIG
All wells located in Township 17 South, Range 34 East, Lea County, New Mexico.	

Injection Pressure Increase
Mobil Exploration & Producing U.S., Inc.
November 10, 1994
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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: 4th Quarter PSI-X; Case File No.4831
and PMX-138, PMX-140, WFX-557

Mobil Exploration & Producing U.S. Inc.

October 24, 1994

P.O. BOX 633
MIDLAND, TEXAS 79702-0633

MIDLAND SOUTH ASSET TEAM
ENVIRONMENTAL, REGULATORY &
LOSS PREVENTION

FACSIMILE (915) 688-1514

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

ATTN: William LeMay

REF: Injection Pressure Increase Request
North Vacuum Abo Unit Lease
Vacuum, Abo North
Lea County, New Mexico

Dear Mr. LeMay:

Mobil Exploration & Producing U.S. Inc. as agent for Mobil Producing TX & NM Inc., is requesting to increase injection pressures on the wells listed below. The purpose of these tests is to determine the surface injection pressure at which the formation will begin to fracture. Mobil then requests an increase in surface pressure to within 50 PSIG of the parting pressure. In some cases, the fracturing pressure was not achieved, so the requested pressure limit will be within 50 PSIG of the final pressure during the test. In waterflood operations such as the Vacuum Abo Field, this increase allows additional water to be injected that benefits oil recovery.

<u>Well</u>	<u>Injection Intervals</u>	<u>Present Surface Injection Pressure Limit</u>	<u>Requested Surface Injection Pressure Limit</u>	
NVAU #121 557 Unit L, Section 13, 17-S, 34-E	8481-8617	3851 psig	4450 psig 4452	R-4430
NVAU #131 140 Unit B, Section 10, 17-S, 34-E	8663-8722	3450 psig	4030 psig 4029	PMX 138 140 WFX 557
NVAU #142 557 Unit J, Section 14, 17-S, 34-E	8533-8607	4000 psig	4380 psig	
NVAU #146 140 Unit B, Section 14, 17-S, 34-E	8516-8590	4030 psig	4290 psig	



Environmental
Awareness

Injection Pressure Increase Request
NVAU Lease, NVA Field
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<u>Well</u>	<u>Injection Intervals</u>	<u>Present Surface Injection Pressure Limit</u>	<u>Requested Surface Injection Pressure Limit</u>
NVAU #152 Unit B, Section 13, 17-S, 34-E	8535-8595	4035 psig	✓ 4438 psig
NVAU #160 Unit B, Section 12, 17-S, 34-E	8581-8641	3530 psig	✓ 4270 psig
NVAU #163 ^{SS} Unit J, Section 15, 17-S, 34-E	8710-8753	4120 psig	✓ 4420 psig 4421
NVAU #164 Unit B, Section 15, 17-S, 34-E	8677-8734	4030 psig	4490 psig 4476
NVAU #200 Unit L, Section 2, 17-S, 34-E	8664-8702	3775 psig	4510 psig 4481
NVAU #201 Unit J, Section 10, 17-S, 34-E	8670-8733	3830 psig	✓ 4165 psig
NVAU #210 ^{PMX 138} Unit L, Section 23, 17-S, 34-E	8539-8609	4095 psig	✓ 4280 psig 4282
NVAU #229 ¹⁴⁰ Unit L, Section 10, 17-S, 34-E	8745-8810	4140 psig	✓ 4590 psig

Injection Pressure Increase Request
NVAU Lease, NVA Field
Page 3
October 24, 1994

<u>Well</u>	<u>Injection Intervals</u>	<u>Present Surface Injection Pressure Limit</u>	<u>Requested Surface Injection Pressure Limit</u>
NVAU #230 Unit J, Section 13, 17-S, 34-E	8529-8781	4128 psig	4430 psig 4445

Attached please find step rate tests for each of the above mentioned wells. If there is any question, please contact me at 915-688-2584.

Sincerely,



Kaye Pollock-Lyon
Environmental & Regulatory Technician

Mobil Exploration & Producing US Inc.
as agent for
Mobil Producing TX & NM Inc.

KPL:s

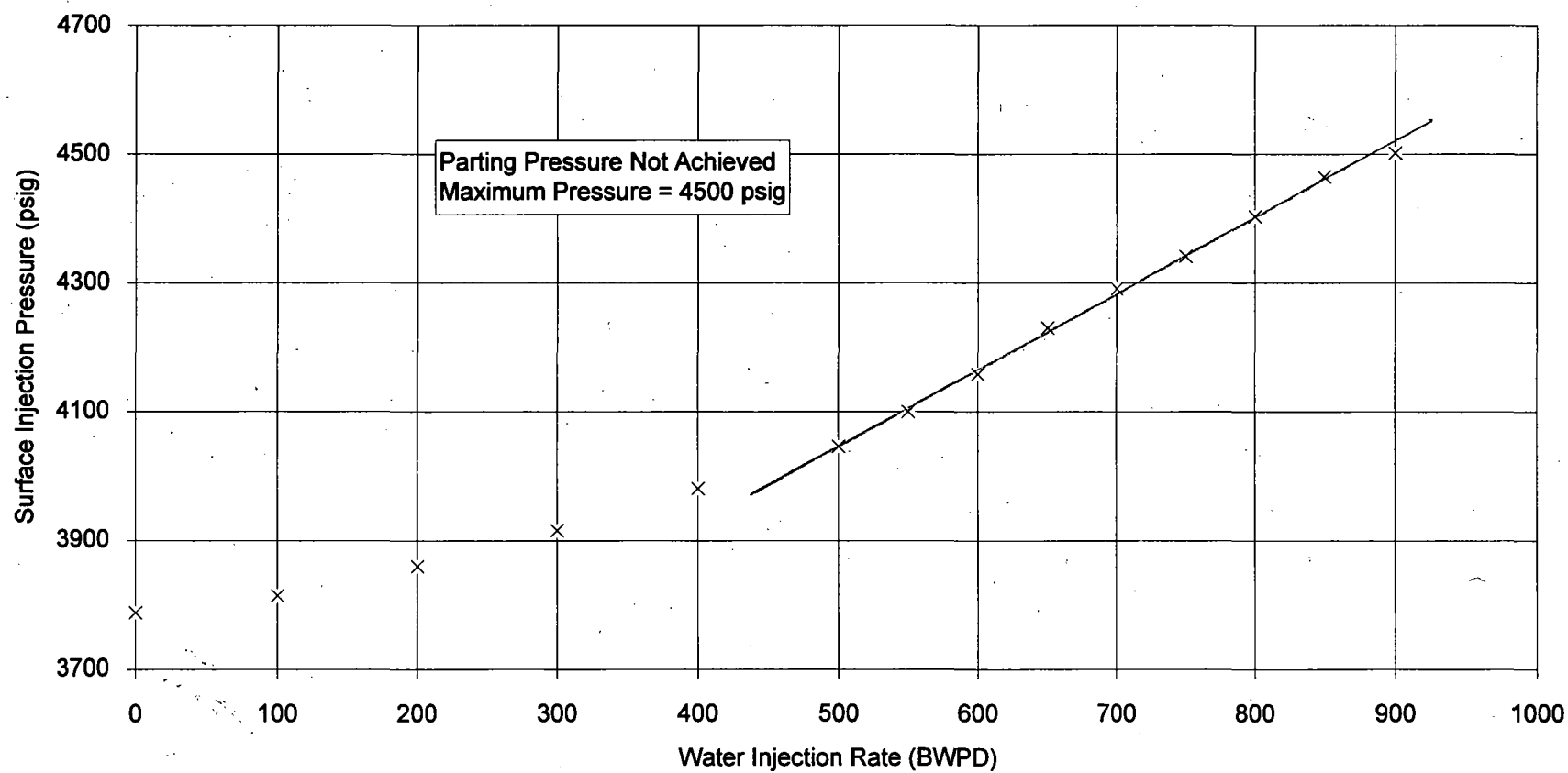
Attachments

cc: District Office - Hobbs
Central Files
ER Files
Res. Engr. -Sal Gutierrez
Field Office

NVA #121 Step Rate Test

North Vacuum Abo Field

Lea County, New Mexico



Date of Test: 9-21-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 121

Location: Unit L 13-T17S-R34E

Perforations: 8485'-8600'

Total Depth: 10550'

Plug Back TD: 9400'

Packer Set At: 8400'

Technician: Dale Shreffler

Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/21/94	8:00:21	13	0
2	Wednesday	8:01:21	13	0
3		8:02:21	13	0
4		8:03:21	13	0
5		8:04:21	13	0
6		8:05:21	13	0
7		8:06:21	13	0
8		8:07:21	13	0
9		8:08:21	13	0
10		8:09:21	13	0
11		8:10:21	13	0
12		8:11:21	13	0
13		8:12:21	13	0
14		8:13:21	13	0
15		8:14:21	13	0
16		8:15:21	3776	0
17		8:16:21	3782	0
18		8:17:21	3786	0
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25		8:24:21	3793	100
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27		8:26:21	3794	100
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38		8:37:21	3822	200
39		8:38:21	3824	200
40		8:39:21	3826	200
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42		8:41:21	3829	200
43		8:42:21	3831	200
44		8:43:21	3832	200
45		8:44:21	3834	200
46		8:45:21	3835	200
47		8:46:21	3850	200
48		8:47:21	3853	200
49		8:48:21	3857	200

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58	8:57:21	3879	300
59	8:58:21	3881	300
60	8:59:21	3883	300
61	9:00:21	3885	300
62	9:01:21	3904	300
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64	9:03:21	3912	300
65	9:04:21	3916	300
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77	9:16:21	3973	400
78	9:17:21	3973	400
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81	9:20:21	3985	500
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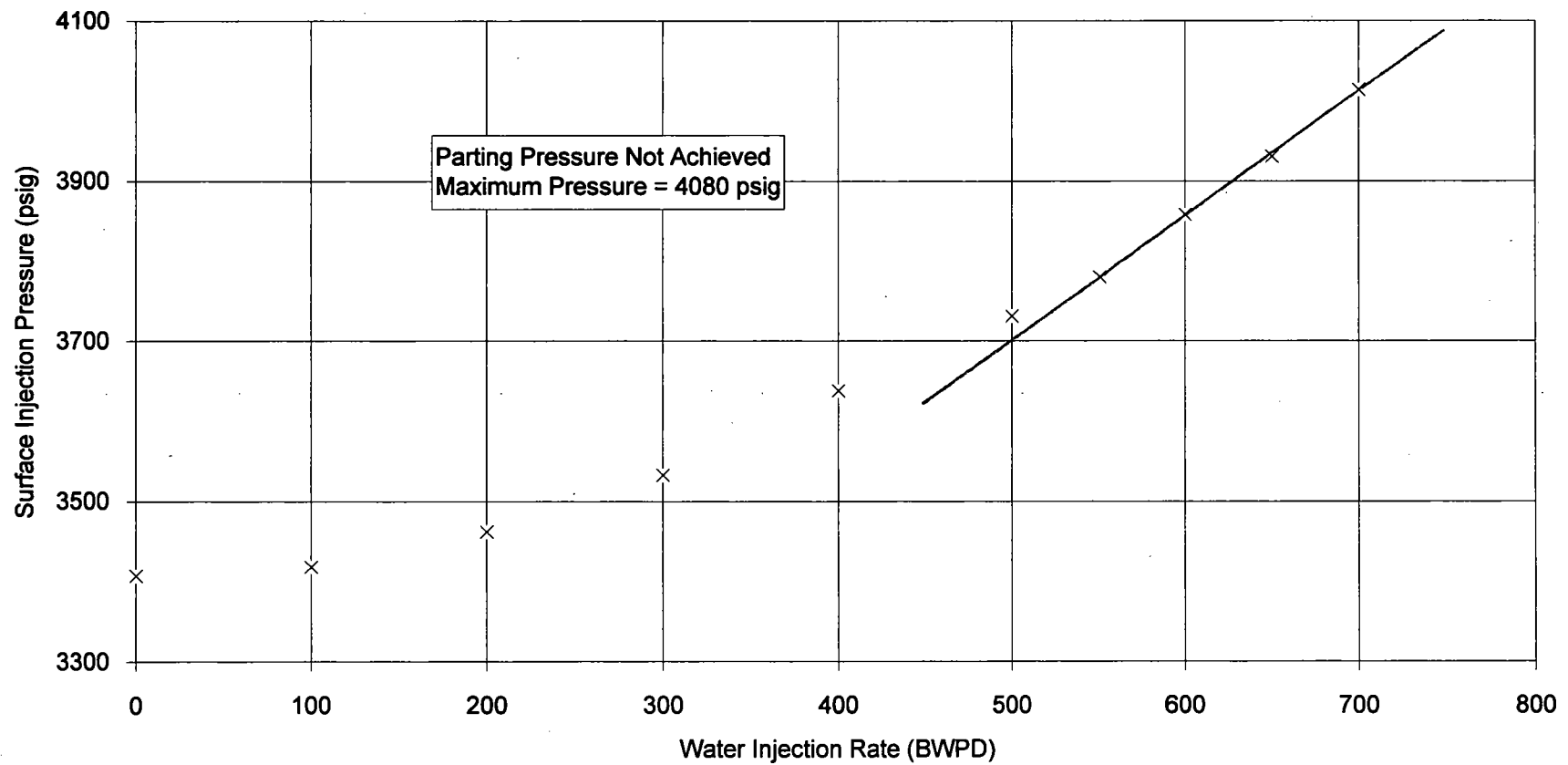
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167	10:46:21	4329	750
168	10:47:21	4333	750
169	10:48:21	4340	750
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228	11:47:21	4247	SI
229	11:48:21	4242	SI
230	11:49:21	4238	SI
231	11:50:21	4233	SI
232	11:51:21	4229	SI

NVA #131 Step Rate Test

North Vacuum Abo Field

Lea County, New Mexico



Date of Test: 9-22-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 131

Location: Unit B 10-T17S-R34E

Perforations: 8663'-8721'

Total Depth: 8850'

Plug Back TD: 8817'

Packer Set At: 8610'

Technician: Dale Shreffler

Engineer: Chad Jones

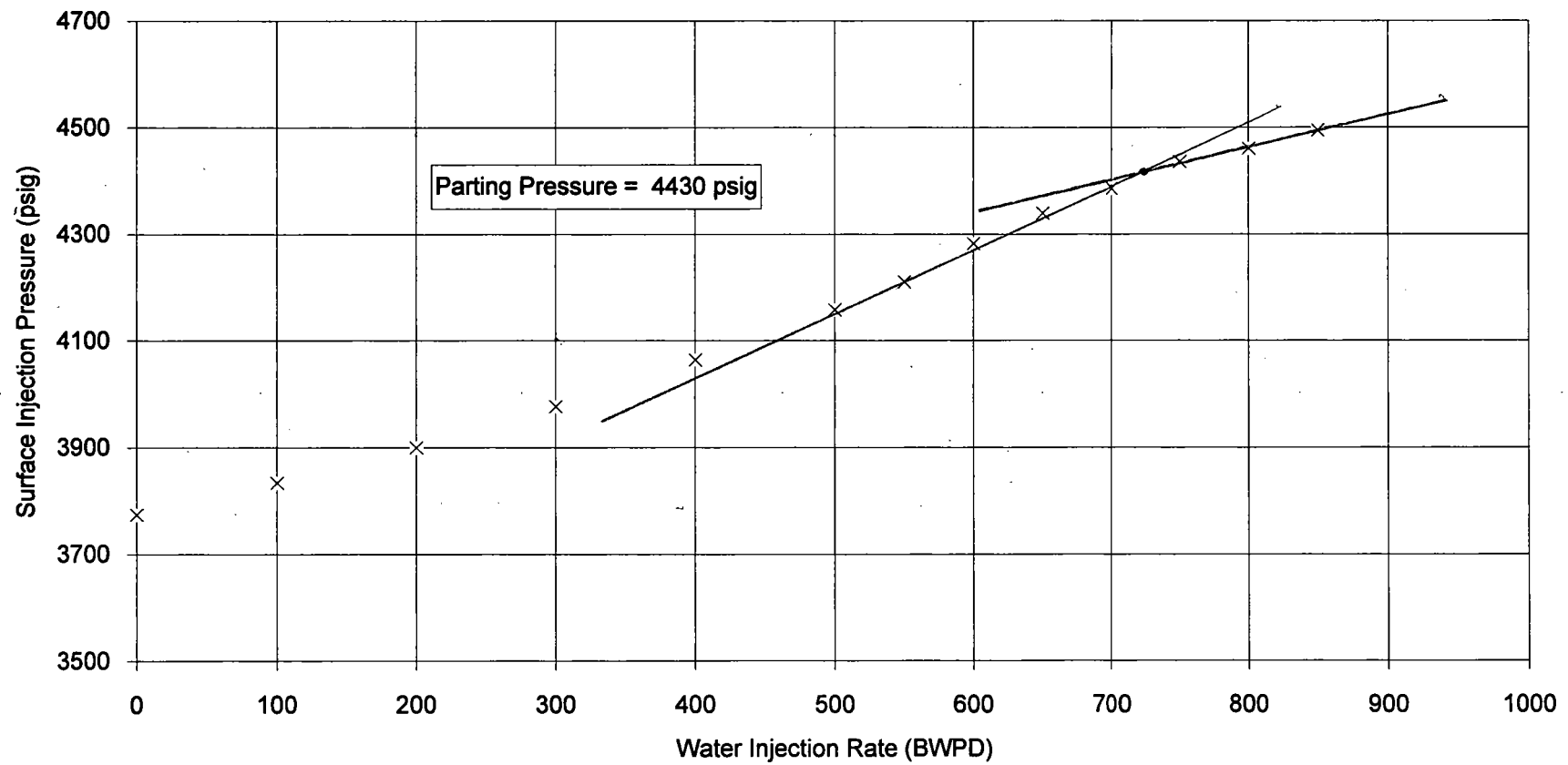
<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
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9		13:23:48	14	0
10		13:24:48	14	0
11		13:25:48	14	0
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13		13:27:48	14	0
14		13:28:48	14	0
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43		13:57:48	3456	200
44		13:58:48	3457	200
45		13:59:48	3459	200
46		14:00:48	3460	200
47		14:01:48	3462	200
48		14:02:48	3488	200
49		14:03:48	3494	200

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52	14:06:48	3505	300
53	14:07:48	3508	300
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154	15:48:48	4044	700
155	15:49:48	4048	700
156	15:50:48	4048	750
157	15:51:48	4054	750
158	15:52:48	4055	750
159	15:53:48	4057	750
160	15:54:48	4061	750
161	15:55:48	4062	750
162	15:56:48	4065	750
163	15:57:48	4066	750
164	15:58:48	4068	750
165	15:59:48	4074	750
166	16:00:48	4077	750
167	16:01:48	4079	750
168	16:02:48	3921	SI
169	16:03:48	3919	SI
170	16:04:48	3901	SI
171	16:05:48	3887	SI

172	16:06:48	3876	SI
173	16:07:48	3866	SI
174	16:08:48	3856	SI
175	16:09:48	3848	SI
176	16:10:48	3840	SI
177	16:11:48	3832	SI
178	16:12:48	3825	SI
179	16:13:48	3819	SI
180	16:14:48	3812	SI
181	16:15:48	3806	SI
182	16:16:48	3800	SI
183	16:17:48	3795	SI
184	16:18:48	3789	SI
185	16:19:48	3785	SI
186	16:20:48	3779	SI
187	16:21:48	3774	
End Test			

NVA #142 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-21-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 142

Location: Unit J 14-T17S-R34E

Perforations: 8532'-8609'

Total Depth: 8700'

Plug Back TD: 8664'

Packer Set At: 8466'

Technician: Dale Shreffler

Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/21/94	14:15:29	15	0
2	Wednesday	14:16:29	15	0
3		14:17:29	15	0
4		14:18:29	15	0
5		14:19:29	15	0
6		14:20:29	15	0
7		14:21:29	15	0
8		14:22:29	15	0
9		14:23:29	15	0
10		14:24:29	15	0
11		14:25:29	15	0
12		14:26:29	15	0
13		14:27:29	15	0
14		14:28:29	15	0
15		14:29:29	15	0
16		14:30:29	3773	0
17		14:31:29	3779	0
18		14:32:29	3788	0
19		14:33:29	3792	0
20		14:34:29	3797	0
21		14:35:29	3801	100
22		14:36:29	3806	100
23		14:37:29	3810	100
24		14:38:29	3813	100
25		14:39:29	3816	100
26		14:40:29	3820	100
27		14:41:29	3823	100
28		14:42:29	3825	100
29		14:43:29	3828	100
30		14:44:29	3830	100
31		14:45:29	3833	100
32		14:46:29	3843	100
33		14:47:29	3851	100
34		14:48:29	3856	100
35		14:49:29	3861	100
36		14:50:29	3865	200
37		14:51:29	3869	200
38		14:52:29	3872	200
39		14:53:29	3876	200
40		14:54:29	3880	200
41		14:55:29	3884	200
42		14:56:29	3885	200
43		14:57:29	3889	200
44		14:58:29	3893	200
45		14:59:29	3897	200
46		15:00:29	3899	200
47		15:01:29	3916	200
48		15:02:29	3925	200
49		15:03:29	3928	200

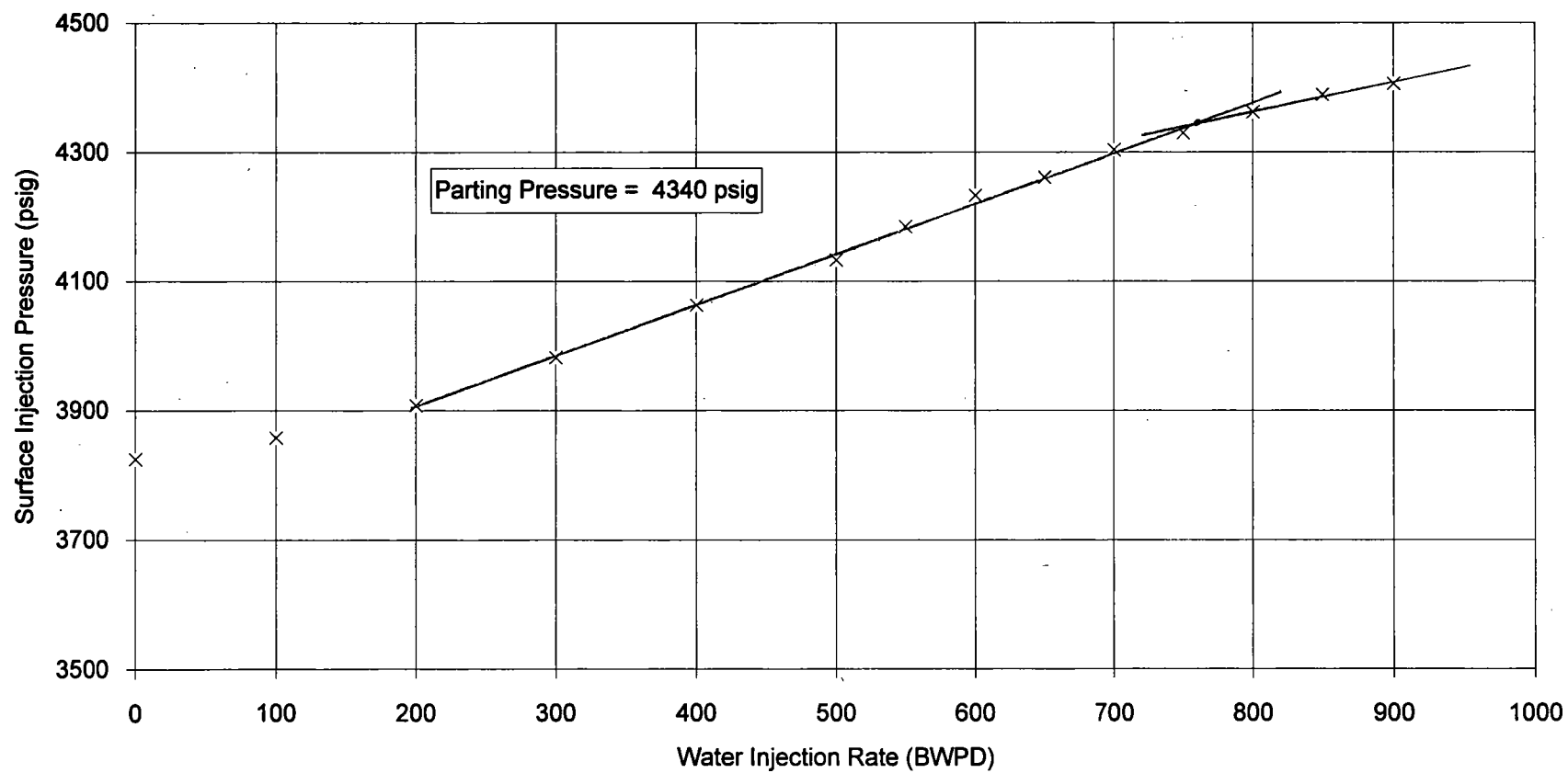
50	15:04:29	3933	200
51	15:05:29	3939	300
52	15:06:29	3943	300
53	15:07:29	3945	300
54	15:08:29	3950	300
55	15:09:29	3955	300
56	15:10:29	3958	300
57	15:11:29	3962	300
58	15:12:29	3965	300
59	15:13:29	3968	300
60	15:14:29	3971	300
61	15:15:29	3974	300
62	15:16:29	4003	300
63	15:17:29	4003	300
64	15:18:29	4008	300
65	15:19:29	4014	300
66	15:20:29	4018	400
67	15:21:29	4022	400
68	15:22:29	4027	400
69	15:23:29	4031	400
70	15:24:29	4040	400
71	15:25:29	4044	400
72	15:26:29	4048	400
73	15:27:29	4052	400
74	15:28:29	4056	400
75	15:29:29	4060	400
76	15:30:29	4064	400
77	15:31:29	4101	400
78	15:32:29	4098	400
79	15:33:29	4103	400
80	15:34:29	4107	400
81	15:35:29	4111	500
82	15:36:29	4115	500
83	15:37:29	4119	500
84	15:38:29	4123	500
85	15:39:29	4125	500
86	15:40:29	4129	500
87	15:41:29	4132	500
88	15:42:29	4146	500
89	15:43:29	4150	500
90	15:44:29	4153	500
91	15:45:29	4156	500
92	15:46:29	4159	500
93	15:47:29	4176	500
94	15:48:29	4172	500
95	15:49:29	4177	500
96	15:50:29	4182	550
97	15:51:29	4181	550
98	15:52:29	4188	550
99	15:53:29	4188	550
100	15:54:29	4191	550
101	15:55:29	4195	550
102	15:56:29	4194	550
103	15:57:29	4205	550
104	15:58:29	4210	550
105	15:59:29	4216	550
106	16:00:29	4218	550
107	16:01:29	4228	550
108	16:02:29	4236	550
109	16:03:29	4240	550
110	16:04:29	4240	550

111	16:05:29	4246	600
112	16:06:29	4250	600
113	16:07:29	4253	600
114	16:08:29	4259	600
115	16:09:29	4264	600
116	16:10:29	4266	600
117	16:11:29	4267	600
118	16:12:29	4267	600
119	16:13:29	4275	600
120	16:14:29	4278	600
121	16:15:29	4280	600
122	16:16:29	4298	600
123	16:17:29	4301	600
124	16:18:29	4300	600
125	16:19:29	4309	600
126	16:20:29	4314	650
127	16:21:29	4312	650
128	16:22:29	4322	650
129	16:23:29	4323	650
130	16:24:29	4324	650
131	16:25:29	4329	650
132	16:26:29	4333	650
133	16:27:29	4334	650
134	16:28:29	4337	650
135	16:29:29	4335	650
136	16:30:29	4340	650
137	16:31:29	4345	650
138	16:32:29	4351	650
139	16:33:29	4352	650
140	16:34:29	4352	650
141	16:35:29	4357	700
142	16:36:29	4364	700
143	16:37:29	4367	700
144	16:38:29	4369	700
145	16:39:29	4366	700
146	16:40:29	4378	700
147	16:41:29	4377	700
148	16:42:29	4374	700
149	16:43:29	4380	700
150	16:44:29	4378	700
151	16:45:29	4384	700
152	16:46:29	4399	700
153	16:47:29	4405	700
154	16:48:29	4409	700
155	16:49:29	4409	700
156	16:50:29	4417	750
157	16:51:29	4417	750
158	16:52:29	4419	750
159	16:53:29	4425	750
160	16:54:29	4425	750
161	16:55:29	4422	750
162	16:56:29	4427	750
163	16:57:29	4431	750
164	16:58:29	4430	750
165	16:59:29	4434	750
166	17:00:29	4440	750
167	17:01:29	4450	750
168	17:02:29	4452	750
169	17:03:29	4467	750
170	17:04:29	4443	750
171	17:05:29	4442	800

172	17:06:29	4448	800
173	17:07:29	4448	800
174	17:08:29	4453	800
175	17:09:29	4456	800
176	17:10:29	4451	800
177	17:11:29	4456	800
178	17:12:29	4459	800
179	17:13:29	4454	800
180	17:14:29	4450	800
181	17:15:29	4454	800
182	17:16:29	4466	800
183	17:17:29	4483	800
184	17:18:29	4489	800
185	17:19:29	4490	800
186	17:20:29	4488	850
187	17:21:29	4484	850
188	17:22:29	4490	850
189	17:23:29	4497	850
190	17:24:29	4491	850
191	17:25:29	4494	850
192	17:26:29	4491	850
193	17:27:29	4495	850
194	17:28:29	4490	850
195	17:29:29	4498	850
196	17:30:29	4502	850
197	17:31:29	4502	850
198	17:32:29	4505	850
199	17:33:29	4506	850
200	17:34:29	4499	850
201	17:35:29	4500	900
202	17:36:29	4502	900
203	17:37:29	4504	900
204	17:38:29	4513	900
205	17:39:29	4506	900
206	17:40:29	4513	900
207	17:41:29	4508	900
208	17:42:29	4507	900
209	17:43:29	4513	900
210	17:44:29	4509	900
211	17:45:29	4510	900
212	17:46:29	4308	SI
213	17:47:29	4366	SI
214	17:48:29	4365	SI
215	17:49:29	4359	SI
216	17:50:29	4355	SI
217	17:51:29	4352	SI
218	17:52:29	4348	SI
219	17:53:29	4346	SI
220	17:54:29	4343	SI
221	17:55:29	4340	SI
222	17:56:29	4338	SI
223	17:57:29	4336	SI
224	17:58:29	4334	SI
225	17:59:29	4332	SI
226	18:00:29	4329	SI
227	18:01:29	4327	SI
228	18:02:29	4325	SI
229	18:03:29	4323	SI
230	18:04:29	4322	SI
231	18:05:29	4320	SI
232	18:06:29	4318	SI

233	18:07:29	4317	SI
234	18:08:29	4315	SI
235	18:09:29	4314	SI
236	18:10:29	4314	SI
End Test			

NVA #146 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-29-94

Company: Mobil Exploration & Producing U.S., Inc.
 Lease: North Vacuum Abo Unit
 Well No: 146
 Location: Unit B 14-T17S-R34E
 Perforations: 8516'-8613'
 Total Depth: 8700'
 Plug Back TD: 8669'
 Packer Set At: 8562'

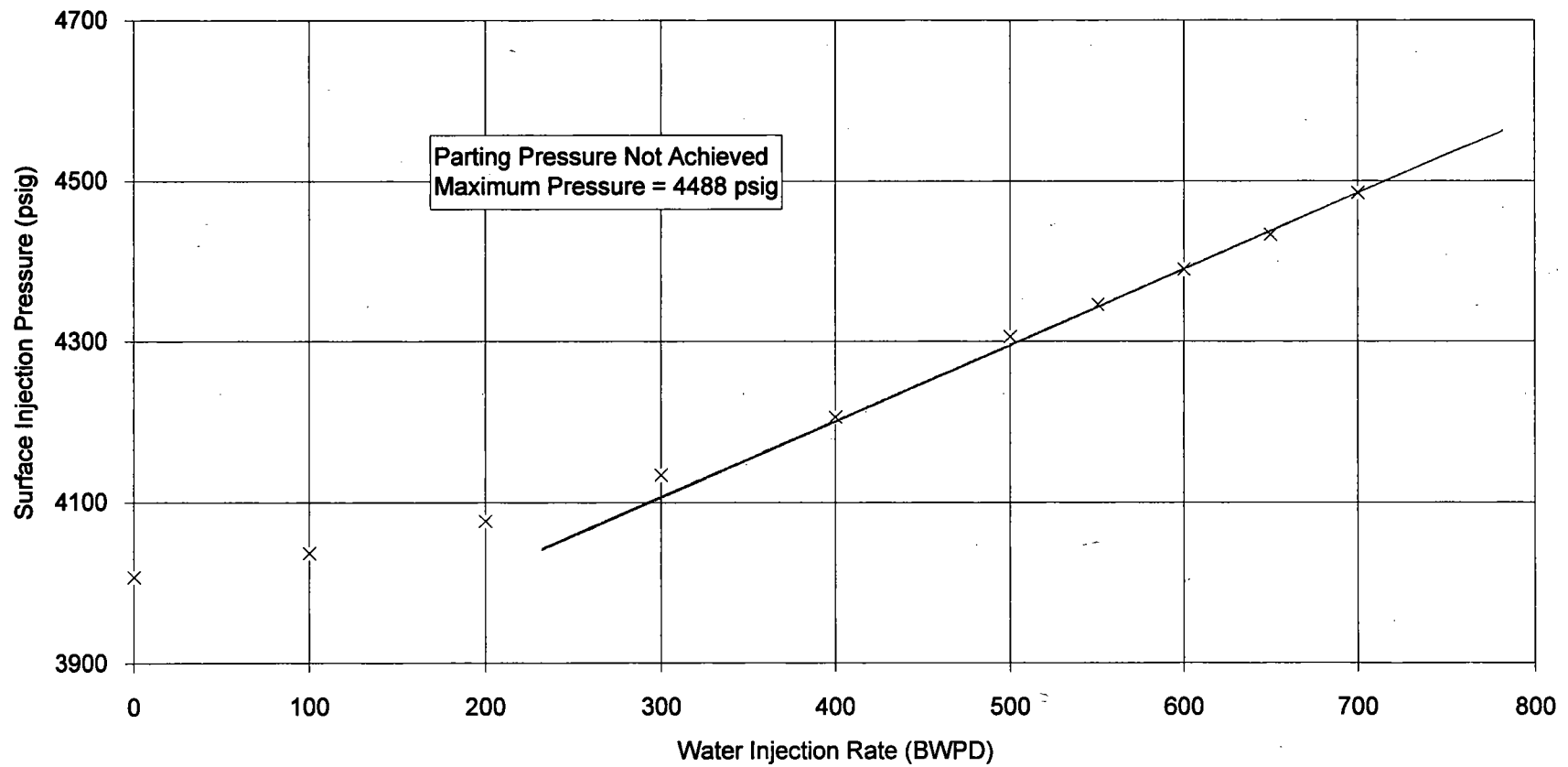
Technician: Dale Shreffler
 Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/29/94 Thursday	11:15:00	13	0
2		11:20:00	13	0
3		11:25:00	13	0
4		11:30:00	3825	0
5		11:35:00	3841	100
6		11:40:00	3852	100
7		11:45:00	3858	100
8		11:50:00	3899	200
9		11:55:00	3902	200
10		12:00:00	3908	200
11		12:05:00	3952	300
12		12:10:00	3964	300
13		12:15:00	3982	300
14		12:20:00	4031	400
15		12:25:00	4045	400
16		12:30:00	4063	400
17		12:35:00	4095	500
18		12:40:00	4117	500
19		12:45:00	4133	500
20		12:50:00	4160	550
21		12:55:00	4174	550
22		13:00:00	4185	550
23		13:05:00	4216	600
24		13:10:00	4222	600
25		13:15:00	4233	600
26		13:20:00	4244	650
27		13:25:00	4251	650
28		13:30:00	4261	650
29		13:35:00	4290	700
30		13:40:00	4297	700
31		13:45:00	4304	700
32		13:50:00	4316	750
33		13:55:00	4325	750
34		14:00:00	4330	750
35		14:05:00	4339	800
36		14:10:00	4354	800
37		14:15:00	4362	800
38		14:20:00	4370	850
39		14:25:00	4386	850
40		14:30:00	4389	850
41		14:35:00	4405	900
42		14:40:00	4405	900
43		14:45:00	4406	900
44		14:50:00		SI
45		14:55:00		SI
46		15:00:00		SI
47		15:05:00		SI
End Test				

NVA #152 Step Rate Test

North Vacuum Abo Field

Lea County, New Mexico



Date of Test: 9-20-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 152

Location: Unit B 13-T17S-R34E

Perforations: 8542'-8595'

Total Depth: 8700'

Plug Back TD: 8661'

Packer Set At: 8470'

Technician: Dale Shreffler

Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/20/94	12:00:20	14	0
2	Tuesday	12:01:20	14	0
3		12:02:20	14	0
4		12:03:20	14	0
5		12:04:20	14	0
6		12:05:20	14	0
7		12:06:20	14	0
8		12:07:20	14	0
9		12:08:20	14	0
10		12:09:20	14	0
11		12:10:20	14	0
12		12:11:20	14	0
13		12:12:20	14	0
14		12:13:20	14	0
15		12:14:20	14	0
16		12:15:20	14	0
17		12:16:20	4018	0
18		12:17:20	4017	0
19		12:18:20	4020	0
20		12:19:20	4022	0
21		12:20:20	4025	100
22		12:21:20	4026	100
23		12:22:20	4028	100
24		12:23:20	4029	100
25		12:24:20	4031	100
26		12:25:20	4032	100
27		12:26:20	4032	100
28		12:27:20	4034	100
29		12:28:20	4034	100
30		12:29:20	4036	100
31		12:30:20	4037	100
32		12:31:20	4050	100
33		12:32:20	4053	100
34		12:33:20	4056	100
35		12:34:20	4058	100
36		12:35:20	4060	200
37		12:36:20	4062	200
38		12:37:20	4064	200
39		12:38:20	4066	200
40		12:39:20	4067	200
41		12:40:20	4069	200
42		12:41:20	4071	200
43		12:42:20	4073	200
44		12:43:20	4074	200
45		12:44:20	4075	200
46		12:45:20	4077	200
47		12:46:20	4096	200
48		12:47:20	4099	200
49		12:48:20	4103	200

50	12:49:20	4105	200
51	12:50:20	4108	300
52	12:51:20	4110	300
53	12:52:20	4112	300
54	12:53:20	4114	300
55	12:54:20	4116	300
56	12:55:20	4118	300
57	12:56:20	4124	300
58	12:57:20	4126	300
59	12:58:20	4129	300
60	12:59:20	4131	300
61	13:00:20	4132	300
62	13:01:20	4167	300
63	13:02:20	4171	300
64	13:03:20	4174	300
65	13:04:20	4178	300
66	13:05:20	4180	400
67	13:06:20	4183	400
68	13:07:20	4185	400
69	13:08:20	4187	400
70	13:09:20	4189	400
71	13:10:20	4191	400
72	13:11:20	4193	400
73	13:12:20	4200	400
74	13:13:20	4202	400
75	13:14:20	4204	400
76	13:15:20	4206	400
77	13:16:20	4223	400
78	13:17:20	4303	400
79	13:18:20	4261	400
80	13:19:20	4262	400
81	13:20:20	4271	500
82	13:21:20	4267	500
83	13:22:20	4275	500
84	13:23:20	4277	500
85	13:24:20	4282	500
86	13:25:20	4286	500
87	13:26:20	4291	500
88	13:27:20	4299	500
89	13:28:20	4298	500
90	13:29:20	4306	500
91	13:30:20	4313	500
92	13:31:20	4311	500
93	13:32:20	4316	500
94	13:33:20	4318	500
95	13:34:20	4322	500
96	13:35:20	4321	550
97	13:36:20	4327	550
98	13:37:20	4326	550
99	13:38:20	4330	550
100	13:39:20	4334	550
101	13:40:20	4336	550
102	13:41:20	4338	550
103	13:42:20	4337	550
104	13:43:20	4340	550
105	13:44:20	4344	550
106	13:45:20	4347	550
107	13:46:20	4361	550
108	13:47:20	4366	550
109	13:48:20	4368	550
110	13:49:20	4374	550

111	13:50:20	4372	600
112	13:51:20	4375	600
113	13:52:20	4375	600
114	13:53:20	4377	600
115	13:54:20	4379	600
116	13:55:20	4381	600
117	13:56:20	4383	600
118	13:57:20	4386	600
119	13:58:20	4386	600
120	13:59:20	4389	600
121	14:00:20	4389	600
122	14:01:20	4426	600
123	14:02:20	4452	600
124	14:03:20	4419	600
125	14:04:20	4424	600
126	14:05:20	4431	650
127	14:06:20	4426	650
128	14:07:20	4420	650
129	14:08:20	4411	650
130	14:09:20	4418	650
131	14:10:20	4411	650
132	14:11:20	4413	650
133	14:12:20	4420	650
134	14:13:20	4418	650
135	14:14:20	4426	650
136	14:15:20	4433	650
137	14:16:20	4453	650
138	14:17:20	4461	650
139	14:18:20	4462	650
140	14:19:20	4463	650
141	14:20:20	4470	700
142	14:21:20	4470	700
143	14:22:20	4472	700
144	14:23:20	4473	700
145	14:24:20	4473	700
146	14:25:20	4479	700
147	14:26:20	4482	700
148	14:27:20	4481	700
149	14:28:20	4483	700
150	14:29:20	4484	700
151	14:30:20	4485	700
152	14:31:20	4488	700
153	14:32:20	4332	SI
154	14:33:20	4327	SI
155	14:34:20	4320	SI
156	14:35:20	4315	SI
157	14:36:20	4311	SI
158	14:37:20	4307	SI
159	14:38:20	4303	SI
160	14:39:20	4299	SI
161	14:40:20	4296	SI
162	14:41:20	4293	SI
163	14:42:20	4290	SI
164	14:43:20	4287	SI
165	14:44:20	4285	SI
166	14:45:20	4282	SI
167	14:46:20	4280	SI
168	14:47:20	4277	SI
169	14:48:20	4275	SI
170	14:49:20	4272	SI
171	14:50:20	4270	SI

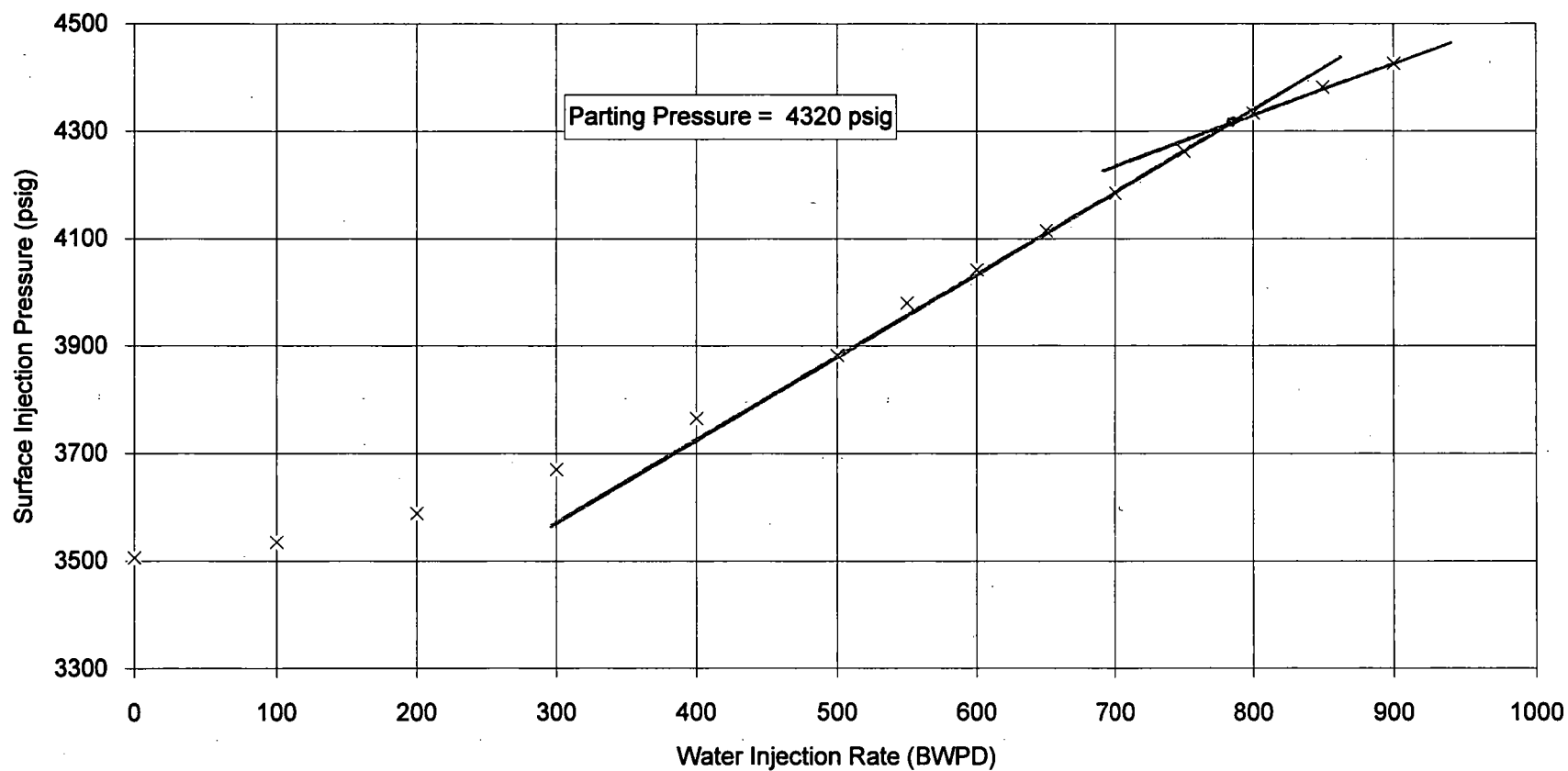
172
End Test

14:51:20

4268

SI

NVA #160 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 10-5-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 160

Location: Unit B 12-T17S-R34E

Perforations: 8581'-8652'

Total Depth: 8800'

Plug Back TD: 8761'

Packer Set At: 8480'

Technician: Dale Shreffler

Engineer: Chad Jones

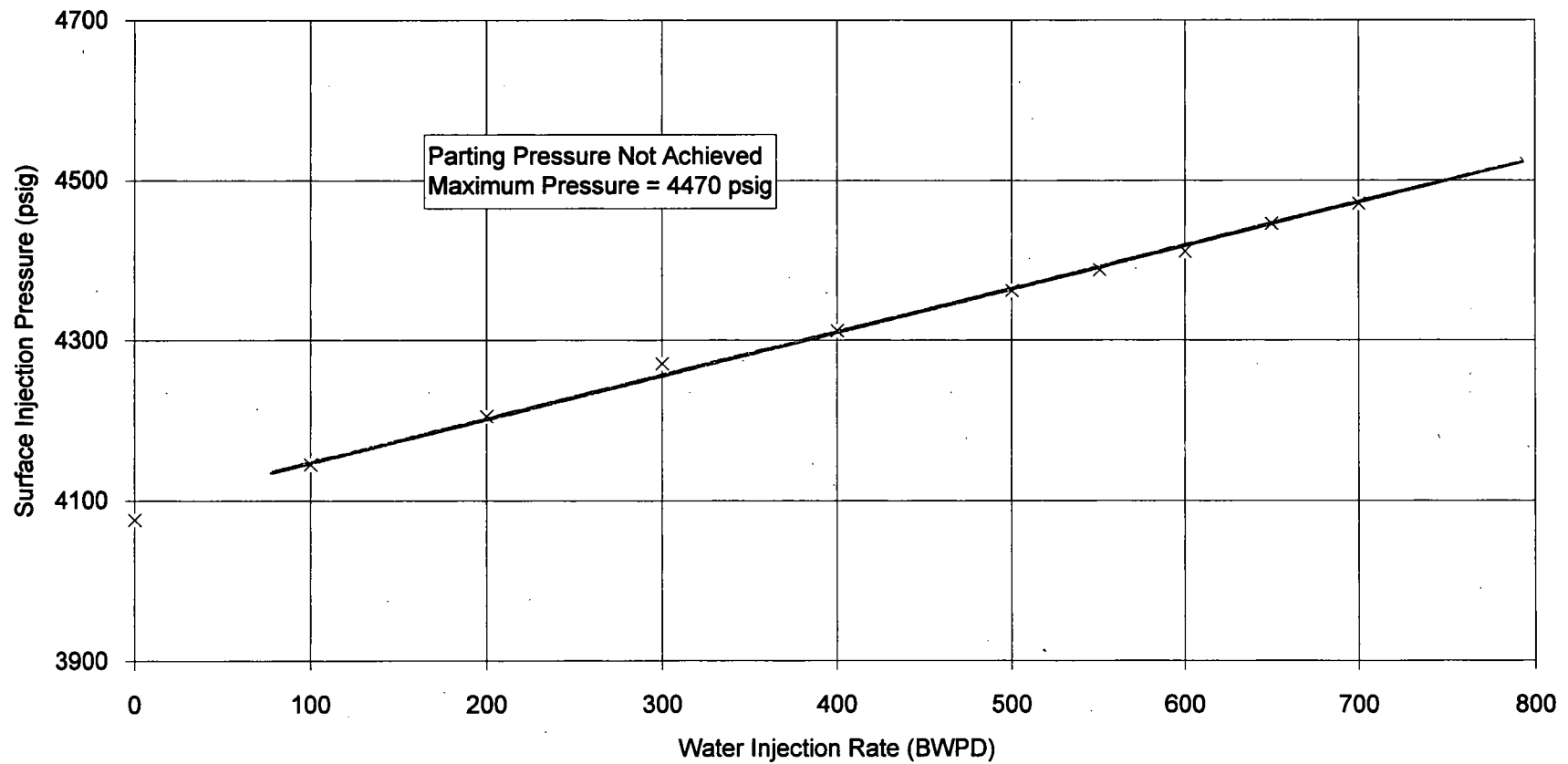
<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	10/5/94	12:45:29	15	0
2	Wednesday	12:46:29	15	0
3		12:47:29	15	0
4		12:48:29	15	0
5		12:49:29	15	0
6		12:50:29	15	0
7		12:51:29	15	0
8		12:52:29	15	0
9		12:53:29	15	0
10		12:54:29	15	0
11		12:55:29	15	0
12		12:56:29	15	0
13		12:57:29	15	0
14		12:58:29	15	0
15		12:59:29	15	0
16		13:00:29	15	0
17		13:01:29	3515	0
18		13:02:29	3516	0
19		13:03:29	3519	0
20		13:04:29	3521	0
21		13:05:29	3523	100
22		13:06:29	3525	100
23		13:07:29	3527	100
24		13:08:29	3527	100
25		13:09:29	3529	100
26		13:10:29	3530	100
27		13:11:29	3531	100
28		13:12:29	3532	100
29		13:13:29	3533	100
30		13:14:29	3535	100
31		13:15:29	3534	100
32		13:16:29	3548	100
33		13:17:29	3552	100
34		13:18:29	3557	100
35		13:19:29	3560	100
36		13:20:29	3562	200
37		13:21:29	3566	200
38		13:22:29	3569	200
39		13:23:29	3572	200
40		13:24:29	3575	200
41		13:25:29	3577	200
42		13:26:29	3579	200
43		13:27:29	3582	200
44		13:28:29	3584	200
45		13:29:29	3586	200
46		13:30:29	3589	200
47		13:31:29	3613	200
48		13:32:29	3619	200
49		13:33:29	3625	200

50	13:34:29	3630	200
51	13:35:29	3633	300
52	13:36:29	3638	300
53	13:37:29	3642	300
54	13:38:29	3645	300
55	13:39:29	3649	300
56	13:40:29	3653	300
57	13:41:29	3655	300
58	13:42:29	3660	300
59	13:43:29	3662	300
60	13:44:29	3666	300
61	13:45:29	3667	300
62	13:46:29	3700	300
63	13:47:29	3709	300
64	13:48:29	3715	300
65	13:49:29	3719	300
66	13:50:29	3725	400
67	13:51:29	3729	400
68	13:52:29	3734	400
69	13:53:29	3739	400
70	13:54:29	3743	400
71	13:55:29	3747	400
72	13:56:29	3751	400
73	13:57:29	3755	400
74	13:58:29	3758	400
75	13:59:29	3762	400
76	14:00:29	3766	400
77	14:01:29	3769	400
78	14:02:29	3811	400
79	14:03:29	3818	400
80	14:04:29	3824	400
81	14:05:29	3831	500
82	14:06:29	3835	500
83	14:07:29	3840	500
84	14:08:29	3846	500
85	14:09:29	3850	500
86	14:10:29	3862	500
87	14:11:29	3866	500
88	14:12:29	3870	500
89	14:13:29	3875	500
90	14:14:29	3878	500
91	14:15:29	3883	500
92	14:16:29	3906	500
93	14:17:29	3911	500
94	14:18:29	3916	500
95	14:19:29	3920	500
96	14:20:29	3926	550
97	14:21:29	3934	550
98	14:22:29	3939	550
99	14:23:29	3946	550
100	14:24:29	3944	550
101	14:25:29	3952	550
102	14:26:29	3955	550
103	14:27:29	3959	550
104	14:28:29	3963	550
105	14:29:29	3966	550
106	14:30:29	3972	550
107	14:31:29	3974	550
108	14:32:29	3984	550
109	14:33:29	3990	550
110	14:34:29	4001	550

111	14:35:29	4002	600
112	14:36:29	4007	600
113	14:37:29	4014	600
114	14:38:29	4016	600
115	14:39:29	4015	600
116	14:40:29	4017	600
117	14:41:29	4026	600
118	14:42:29	4028	600
119	14:43:29	4035	600
120	14:44:29	4034	600
121	14:45:29	4043	600
122	14:46:29	4056	600
123	14:47:29	4065	600
124	14:48:29	4066	600
125	14:49:29	4076	600
126	14:50:29	4074	650
127	14:51:29	4082	650
128	14:52:29	4083	650
129	14:53:29	4090	650
130	14:54:29	4097	650
131	14:55:29	4100	650
132	14:56:29	4104	650
133	14:57:29	4104	650
134	14:58:29	4105	650
135	14:59:29	4108	650
136	15:00:29	4115	650
137	15:01:29	4127	650
138	15:02:29	4142	650
139	15:03:29	4141	650
140	15:04:29	4143	650
141	15:05:29	4147	700
142	15:06:29	4156	700
143	15:07:29	4159	700
144	15:08:29	4169	700
145	15:09:29	4170	700
146	15:10:29	4175	700
147	15:11:29	4180	700
148	15:12:29	4187	700
149	15:13:29	4190	700
150	15:14:29	4194	700
151	15:15:29	4188	700
152	15:16:29	4195	700
153	15:17:29	4208	700
154	15:18:29	4209	700
155	15:19:29	4210	700
156	15:20:29	4221	750
157	15:21:29	4221	750
158	15:22:29	4228	750
159	15:23:29	4230	750
160	15:24:29	4236	750
161	15:25:29	4241	750
162	15:26:29	4242	750
163	15:27:29	4239	750
164	15:28:29	4251	750
165	15:29:29	4255	750
166	15:30:29	4266	750
167	15:31:29	4280	750
168	15:32:29	4282	750
169	15:33:29	4288	750
170	15:34:29	4291	750
171	15:35:29	4296	800

172	15:36:29	4297	800
173	15:37:29	4302	800
174	15:38:29	4308	800
175	15:39:29	4305	800
176	15:40:29	4312	800
177	15:41:29	4315	800
178	15:42:29	4313	800
179	15:43:29	4322	800
180	15:44:29	4321	800
181	15:45:29	4328	800
182	15:46:29	4342	800
183	15:47:29	4345	800
184	15:48:29	4347	800
185	15:49:29	4351	800
186	15:50:29	4354	850
187	15:51:29	4360	850
188	15:52:29	4363	850
189	15:53:29	4366	850
190	15:54:29	4372	850
191	15:55:29	4369	850
192	15:56:29	4378	850
193	15:57:29	4377	850
194	15:58:29	4376	850
195	15:59:29	4378	850
196	16:00:29	4381	850
197	16:01:29	4404	850
198	16:02:29	4409	850
199	16:03:29	4407	850
200	16:04:29	4410	850
201	16:05:29	4410	900
202	16:06:29	4412	900
203	16:07:29	4408	900
204	16:08:29	4411	900
205	16:09:29	4414	900
206	16:10:29	4417	900
207	16:11:29	4416	900
208	16:12:29	4416	900
209	16:13:29	4422	900
210	16:14:29	4421	900
211	16:15:29	4424	900
212	16:16:29	4249	900
213	16:17:29	4243	SI
214	16:18:29	4232	SI
215	16:19:29	4221	SI
216	16:20:29	4211	SI
217	16:21:29	4203	SI
218	16:22:29	4195	SI
219	16:23:29	4188	SI
220	16:24:29	4181	SI
221	16:25:29	4175	SI
222	16:26:29	4169	SI
223	16:27:29	4163	SI
224	16:28:29	4157	SI
225	16:29:29	4152	SI
226	16:30:29	4146	SI
227	16:31:29	4141	SI
228	16:32:29	4136	SI
229	16:33:29	4130	SI
230	16:34:29	4125	SI
231	16:35:29	4121	SI
End Test			

NVA #163 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-29-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 163

Location: Unit J 15-T17S-R34E

Perforations: 8704'-8756'

Total Depth: 8850'

Plug Back TD: 8820'

Packer Set At: 8653'

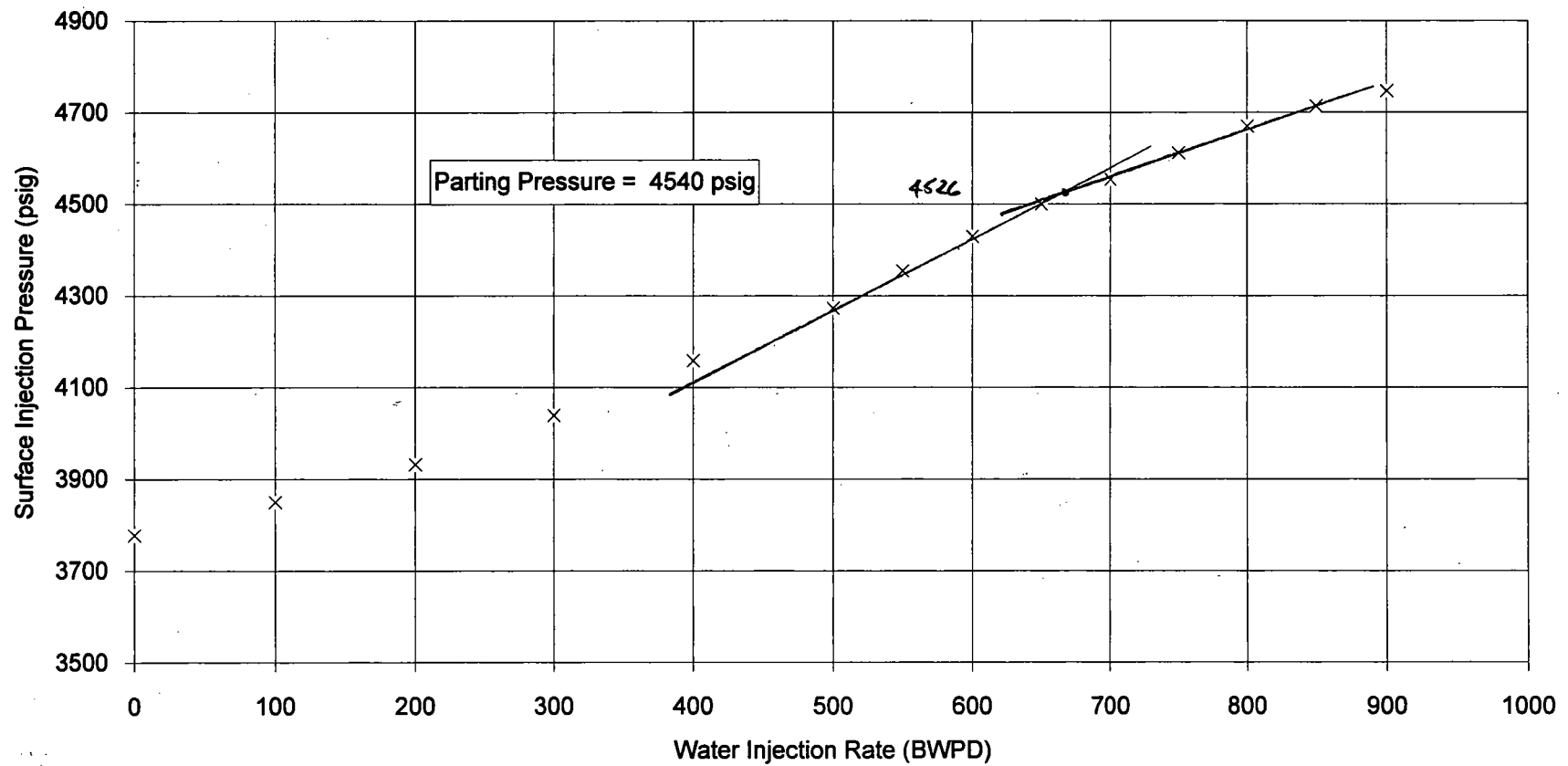
Technician: Dale Shreffler

Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/29/94	7:30:00	12	0
2	Thursday	7:35:00	14	0
3		7:40:00	14	0
4		7:45:00	4076	0
5		7:50:00	4111	100
6		7:55:00	4139	100
7		8:00:00	4145	100
8		8:05:00	4169	200
9		8:10:00	4186	200
10		8:15:00	4205	200
11		8:20:00	4227	300
12		8:25:00	4230	300
13		8:30:00	4271	300
14		8:35:00	4287	400
15		8:40:00	4300	400
16		8:45:00	4312	400
17		8:50:00	4347	500
18		8:55:00	4351	500
19		9:00:00	4362	500
20		9:05:00	4378	550
21		9:10:00	4383	550
22		9:15:00	4388	550
23		9:20:00	4409	600
24		9:25:00	4412	600
25		9:30:00	4411	600
26		9:35:00	4425	650
27		9:40:00	4437	650
28		9:45:00	4446	650
29		9:50:00	4462	700
30		9:55:00	4466	700
31		10:00:00	4471	700
32		10:05:00	4358	SI
33		10:10:00	4321	SI
34		10:15:00	4298	SI
35		10:20:00	2285	SI

End Test

NVA #164 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 10-5-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 164

Location: Unit B 15-T17S-R34E

Perforations: 8676'-8735'

Total Depth: 8850'

Plug Back TD: 8802'

Packer Set At: 8627'

Technician: Dale Shreffler

Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	10/5/94	7:45:22	13	0
2	Wednesday	7:46:22	13	0
3		7:47:22	13	0
4		7:48:22	13	0
5		7:49:22	14	0
6		7:50:22	14	0
7		7:51:22	15	0
8		7:52:22	15	0
9		7:53:22	15	0
10		7:54:22	15	0
11		7:55:22	15	0
12		7:56:22	15	0
13		7:57:22	15	0
14		7:58:22	15	0
15		7:59:22	15	0
16		8:00:22	15	0
17		8:01:22	3779	0
18		8:02:22	3791	0
19		8:03:22	3800	0
20		8:04:22	3806	0
21		8:05:22	3812	100
22		8:06:22	3817	100
23		8:07:22	3821	100
24		8:08:22	3825	100
25		8:09:22	3829	100
26		8:10:22	3832	100
27		8:11:22	3836	100
28		8:12:22	3839	100
29		8:13:22	3842	100
30		8:14:22	3846	100
31		8:15:22	3849	100
32		8:16:22	3861	100
33		8:17:22	3867	100
34		8:18:22	3873	100
35		8:19:22	3878	100
36		8:20:22	3883	200
37		8:21:22	3887	200
38		8:22:22	3892	200
39		8:23:22	3896	200
40		8:24:22	3900	200
41		8:25:22	3904	200
42		8:26:22	3908	200
43		8:27:22	3917	200
44		8:28:22	3922	200
45		8:29:22	3927	200
46		8:30:22	3931	200
47		8:31:22	3954	200
48		8:32:22	3962	200
49		8:33:22	3970	200

50	8:34:22	3976	200
51	8:35:22	3983	300
52	8:36:22	3989	300
53	8:37:22	3998	300
54	8:38:22	4005	300
55	8:39:22	4010	300
56	8:40:22	4016	300
57	8:41:22	4020	300
58	8:42:22	4025	300
59	8:43:22	4029	300
60	8:44:22	4034	300
61	8:45:22	4038	300
62	8:46:22	4069	300
63	8:47:22	4077	300
64	8:48:22	4084	300
65	8:49:22	4089	300
66	8:50:22	4095	400
67	8:51:22	4108	400
68	8:52:22	4114	400
69	8:53:22	4119	400
70	8:54:22	4125	400
71	8:55:22	4130	400
72	8:56:22	4134	400
73	8:57:22	4140	400
74	8:58:22	4147	400
75	8:59:22	4152	400
76	9:00:22	4156	400
77	9:01:22	4168	400
78	9:02:22	4190	400
79	9:03:22	4193	400
80	9:04:22	4206	400
81	9:05:22	4215	500
82	9:06:22	4218	500
83	9:07:22	4227	500
84	9:08:22	4232	500
85	9:09:22	4206	500
86	9:10:22	4248	500
87	9:11:22	4251	500
88	9:12:22	4258	500
89	9:13:22	4260	500
90	9:14:22	4266	500
91	9:15:22	4284	500
92	9:16:22	4290	500
93	9:17:22	4293	500
94	9:18:22	4298	500
95	9:19:22	4303	500
96	9:20:22	4313	550
97	9:21:22	4313	550
98	9:22:22	4319	550
99	9:23:22	4322	550
100	9:24:22	4328	550
101	9:25:22	4333	550
102	9:26:22	4338	550
103	9:27:22	4339	550
104	9:28:22	4343	550
105	9:29:22	4347	550
106	9:30:22	4353	550
107	9:31:22	4367	550
108	9:32:22	4380	550
109	9:33:22	4378	550
110	9:34:22	4381	550

111	9:35:22	4387	600
112	9:36:22	4393	600
113	9:37:22	4396	600
114	9:38:22	4402	600
115	9:39:22	4402	600
116	9:40:22	4405	600
117	9:41:22	4410	600
118	9:42:22	4415	600
119	9:43:22	4417	600
120	9:44:22	4420	600
121	9:45:22	4424	600
122	9:46:22	4429	600
123	9:47:22	4447	600
124	9:48:22	4451	600
125	9:49:22	4455	600
126	9:50:22	4462	650
127	9:51:22	4462	650
128	9:52:22	4468	650
129	9:53:22	4472	650
130	9:54:22	4475	650
131	9:55:22	4481	650
132	9:56:22	4489	650
133	9:57:22	4488	650
134	9:58:22	4490	650
135	9:59:22	4496	650
136	10:00:22	4494	650
137	10:01:22	4511	650
138	10:02:22	4519	650
139	10:03:22	4522	650
140	10:04:22	4523	650
141	10:05:22	4525	700
142	10:06:22	4527	700
143	10:07:22	4530	700
144	10:08:22	4534	700
145	10:09:22	4533	700
146	10:10:22	4540	700
147	10:11:22	4545	700
148	10:12:22	4543	700
149	10:13:22	4545	700
150	10:14:22	4549	700
151	10:15:22	4554	700
152	10:16:22	4567	700
153	10:17:22	4574	700
154	10:18:22	4577	700
155	10:19:22	4580	700
156	10:20:22	4579	750
157	10:21:22	4582	750
158	10:22:22	4586	750
159	10:23:22	4593	750
160	10:24:22	4590	750
161	10:25:22	4599	750
162	10:26:22	4598	750
163	10:27:22	4600	750
164	10:28:22	4606	750
165	10:29:22	4606	750
166	10:30:22	4611	750
167	10:31:22	4620	750
168	10:32:22	4627	750
169	10:33:22	4632	750
170	10:34:22	4641	750
171	10:35:22	4641	800

172	10:36:22	4646	800
173	10:37:22	4649	800
174	10:38:22	4652	800
175	10:39:22	4653	800
176	10:40:22	4656	800
177	10:41:22	4661	800
178	10:42:22	4658	800
179	10:43:22	4662	800
180	10:44:22	4667	800
181	10:45:22	4672	800
182	10:46:22	4684	800
183	10:47:22	4684	800
184	10:48:22	4688	800
185	10:49:22	4692	800
186	10:50:22	4693	850
187	10:51:22	4690	850
188	10:52:22	4695	850
189	10:53:22	4702	850
190	10:54:22	4703	850
191	10:55:22	4702	850
192	10:56:22	4704	850
193	10:57:22	4707	850
194	10:58:22	4710	850
195	10:59:22	4713	850
196	11:00:22	4714	850
197	11:01:22	4731	850
198	11:02:22	4731	850
199	11:03:22	4735	850
200	11:04:22	4733	850
201	11:05:22	4740	900
202	11:06:22	4741	900
203	11:07:22	4743	900
204	11:08:22	4743	900
205	11:09:22	4743	900
206	11:10:22	4746	900
207	11:11:22	4743	900
208	11:12:22	4746	900
209	11:13:22	4744	900
210	11:14:22	4743	900
211	11:15:22	4745	900
212	11:16:22	4514	SI
213	11:17:22	4587	SI
214	11:18:22	4581	SI
215	11:19:22	4571	SI
216	11:20:22	4562	SI
217	11:21:22	4554	SI
218	11:22:22	4546	SI
219	11:23:22	4539	SI
220	11:24:22	4532	SI
221	11:25:22	4526	SI
222	11:26:22	4520	SI
223	11:27:22	4514	SI
224	11:28:22	4508	SI
225	11:29:22	4503	SI
226	11:30:22	4498	SI
227	11:31:22	4493	SI
228	11:32:22	4488	SI
229	11:33:22	4483	SI
230	11:34:22	4478	SI
231	11:35:22	4474	SI
232	11:36:22	4470	SI

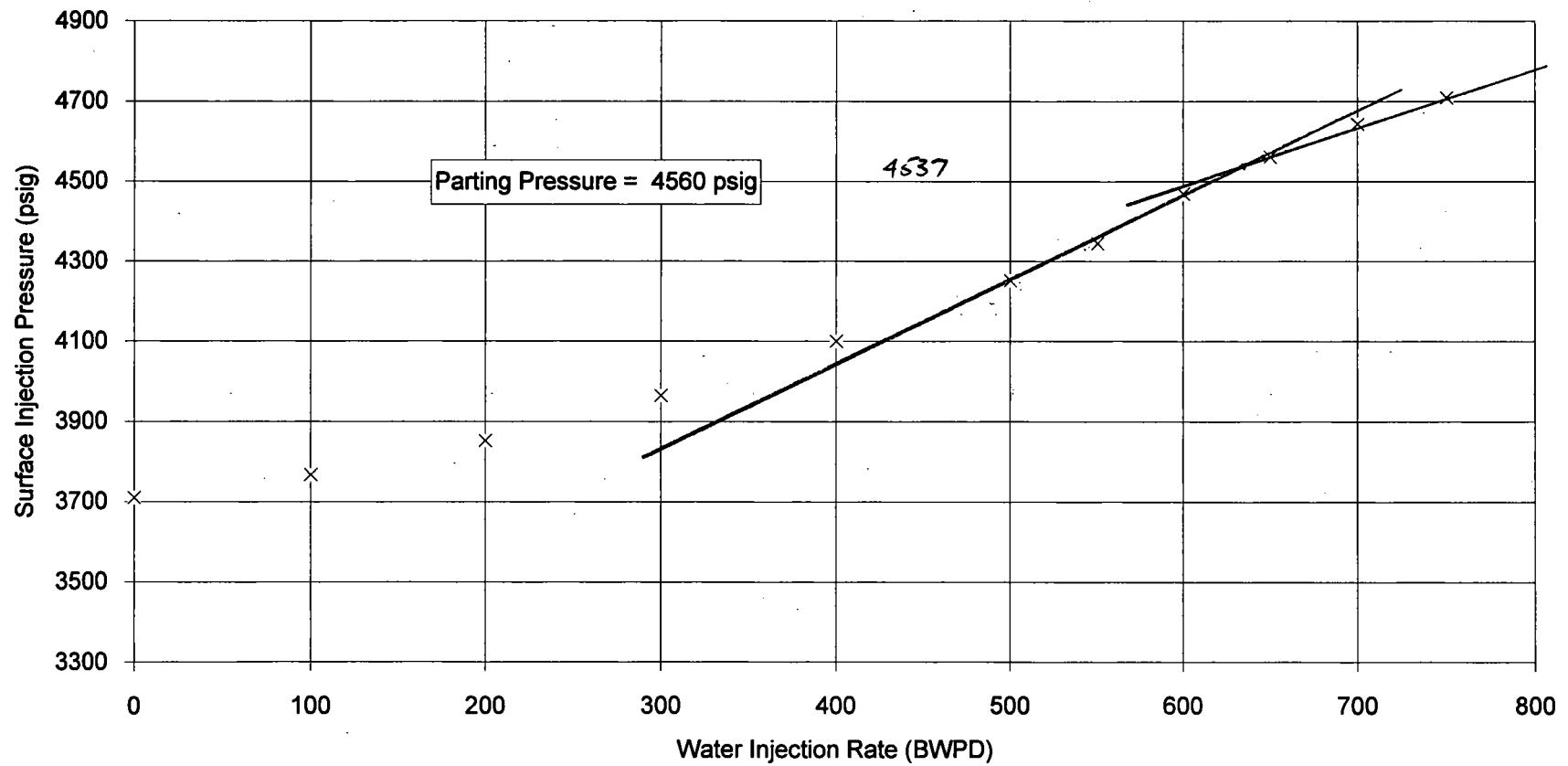
233
234
End Test

11:37:22
11:38:22

4465
4462

SI
SI

NVA #200 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-30-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 200

Location: Unit L 2-T17S-R34E

Perforations: 8664'-8702'

Total Depth: 10990'

Plug Back TD: 8730'

Packer Set At: 8600'

Technician: Dale Shreffler

Engineer: Chad Jones

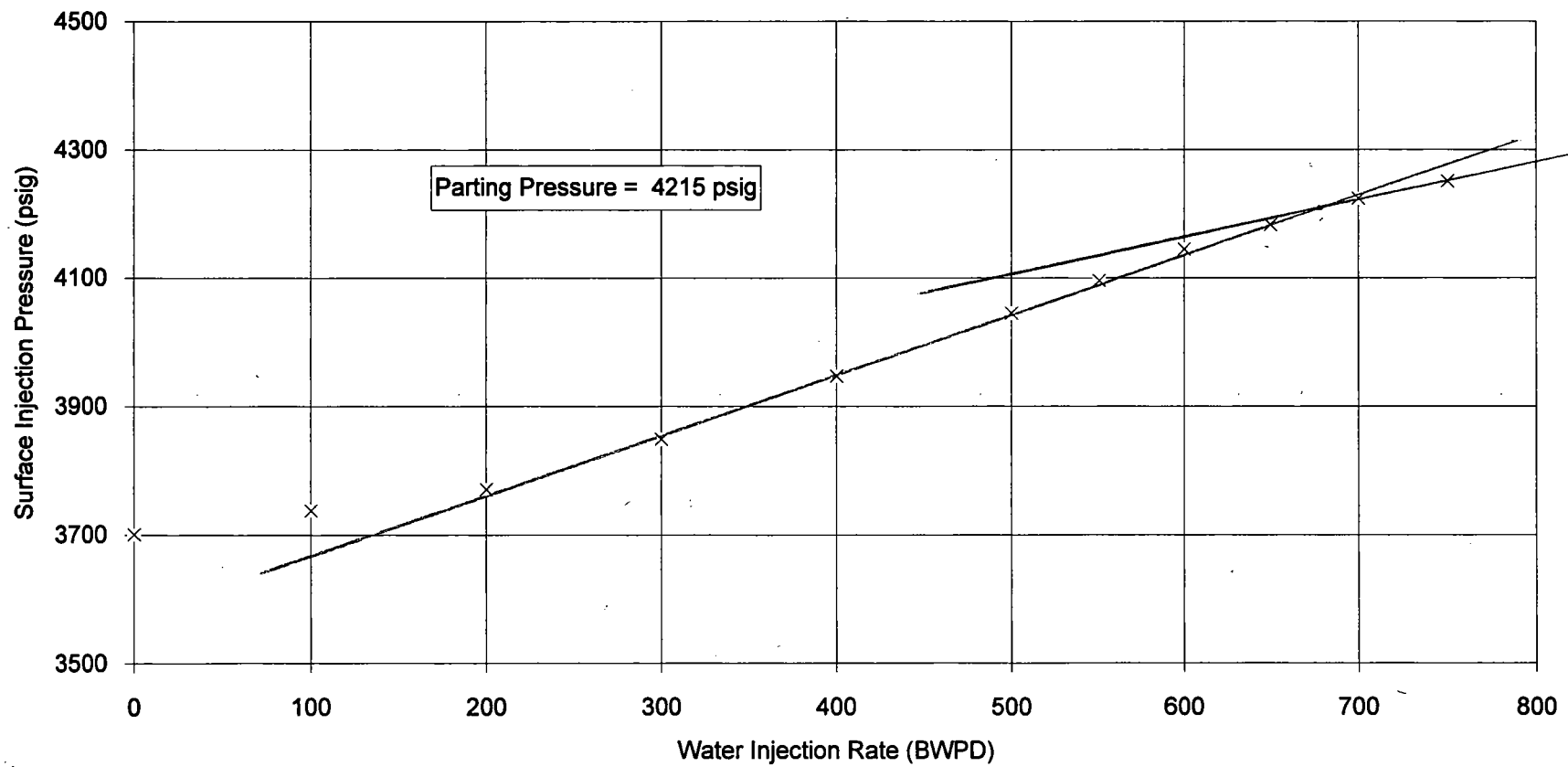
<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/30/94 Friday	11:30:28	15	0
2		11:31:28	15	0
3		11:32:28	15	0
4		11:33:28	14	0
5		11:34:28	14	0
6		11:35:28	14	0
7		11:36:28	14	0
8		11:37:28	14	0
9		11:38:28	14	0
10		11:39:28	14	0
11		11:40:28	14	0
12		11:41:28	14	0
13		11:42:28	14	0
14		11:43:28	14	0
15		11:44:28	14	0
16		11:45:28	14	0
17		11:46:28	14	0
18		11:47:28	3703	0
19		11:48:28	3721	0
20		11:49:28	3728	0
21		11:50:28	3733	100
22		11:51:28	3738	100
23		11:52:28	3742	100
24		11:53:28	3745	100
25		11:54:28	3748	100
26		11:55:28	3751	100
27		11:56:28	3754	100
28		11:57:28	3757	100
29		11:58:28	3759	100
30		11:59:28	3762	100
31		12:00:28	3765	100
32		12:01:28	3769	100
33		12:02:28	3788	100
34		12:03:28	3796	100
35		12:04:28	3802	100
36		12:05:28	3808	200
37		12:06:28	3813	200
38		12:07:28	3818	200
39		12:08:28	3823	200
40		12:09:28	3828	200
41		12:10:28	3832	200
42		12:11:28	3835	200
43		12:12:28	3839	200
44		12:13:28	3844	200
45		12:14:28	3847	200
46		12:15:28	3850	200
47		12:16:28	3877	200
48		12:17:28	3884	200
49		12:18:28	3894	200

50	12:19:28	3902	200
51	12:20:28	3909	300
52	12:21:28	3915	300
53	12:22:28	3921	300
54	12:23:28	3927	300
55	12:24:28	3931	300
56	12:25:28	3936	300
57	12:26:28	3942	300
58	12:27:28	3945	300
59	12:28:28	3950	300
60	12:29:28	3955	300
61	12:30:28	3959	300
62	12:31:28	3967	300
63	12:32:28	4001	300
64	12:33:28	4011	300
65	12:34:28	4019	300
66	12:35:28	4026	400
67	12:36:28	4032	400
68	12:37:28	4043	400
69	12:38:28	4049	400
70	12:39:28	4054	400
71	12:40:28	4060	400
72	12:41:28	4064	400
73	12:42:28	4069	400
74	12:43:28	4079	400
75	12:44:28	4088	400
76	12:45:28	4095	400
77	12:46:28	4100	400
78	12:47:28	4143	400
79	12:48:28	4150	400
80	12:49:28	4160	400
81	12:50:28	4159	500
82	12:51:28	4177	500
83	12:52:28	4184	500
84	12:53:28	4192	500
85	12:54:28	4200	500
86	12:55:28	4209	500
87	12:56:28	4217	500
88	12:57:28	4219	500
89	12:58:28	4233	500
90	12:59:28	4236	500
91	13:00:28	4242	500
92	13:01:28	4248	500
93	13:02:28	4265	500
94	13:03:28	4277	500
95	13:04:28	4289	500
96	13:05:28	4292	550
97	13:06:28	4294	550
98	13:07:28	4300	550
99	13:08:28	4303	550
100	13:09:28	4310	550
101	13:10:28	4313	550
102	13:11:28	4321	550
103	13:12:28	4326	550
104	13:13:28	4330	550
105	13:14:28	4333	550
106	13:15:28	4346	550
107	13:16:28	4348	550
108	13:17:28	4378	550
109	13:18:28	4390	550
110	13:19:28	4393	550

111	13:20:28	4399	600
112	13:21:28	4405	600
113	13:22:28	4412	600
114	13:23:28	4419	600
115	13:24:28	4427	600
116	13:25:28	4434	600
117	13:26:28	4440	600
118	13:27:28	4445	600
119	13:28:28	4449	600
120	13:29:28	4458	600
121	13:30:28	4464	600
122	13:31:28	4468	600
123	13:32:28	4487	600
124	13:33:28	4497	600
125	13:34:28	4501	600
126	13:35:28	4508	650
127	13:36:28	4513	650
128	13:37:28	4520	650
129	13:38:28	4526	650
130	13:39:28	4530	650
131	13:40:28	4537	650
132	13:41:28	4541	650
133	13:42:28	4545	650
134	13:43:28	4551	650
135	13:44:28	4554	650
136	13:45:28	4559	650
137	13:46:28	4563	650
138	13:47:28	4580	650
139	13:48:28	4587	650
140	13:49:28	4594	650
141	13:50:28	4599	700
142	13:51:28	4602	700
143	13:52:28	4607	700
144	13:53:28	4611	700
145	13:54:28	4617	700
146	13:55:28	4623	700
147	13:56:28	4627	700
148	13:57:28	4628	700
149	13:58:28	4631	700
150	13:59:28	4635	700
151	14:00:28	4638	700
152	14:01:28	4646	700
153	14:02:28	4657	700
154	14:03:28	4660	700
155	14:04:28	4662	700
156	14:05:28	4662	750
157	14:06:28	4666	750
158	14:07:28	4670	750
159	14:08:28	4671	750
160	14:09:28	4675	750
161	14:10:28	4677	750
162	14:11:28	4681	750
163	14:12:28	4687	750
164	14:13:28	4686	750
165	14:14:28	4692	750
166	14:15:28	4696	750
167	14:16:28	4707	750
168	14:17:28	4693	SI
169	14:18:28	4595	SI
170	14:19:28	4571	SI
171	14:20:28	4557	SI

172	14:21:28	4546	SI
173	14:22:28	4535	SI
174	14:23:28	4526	SI
175	14:24:28	4516	SI
176	14:25:28	4508	SI
177	14:26:28	4500	SI
178	14:27:28	4491	SI
179	14:28:28	4484	SI
180	14:29:28	4477	SI
181	14:30:28	4470	SI
182	14:31:28	4463	SI
183	14:32:28	4457	SI
184	14:33:28	4451	SI
185	14:34:28	4444	SI
186	14:35:28	4438	SI
End Test			

NVA #201 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-23-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 201

Location: Unit J 10-T17S-R34E

Perforations: 8679'-8729'

Total Depth: 12740'

Plug Back TD: 8906'

Packer Set At: 8600'

Technician: Dale Shreffler

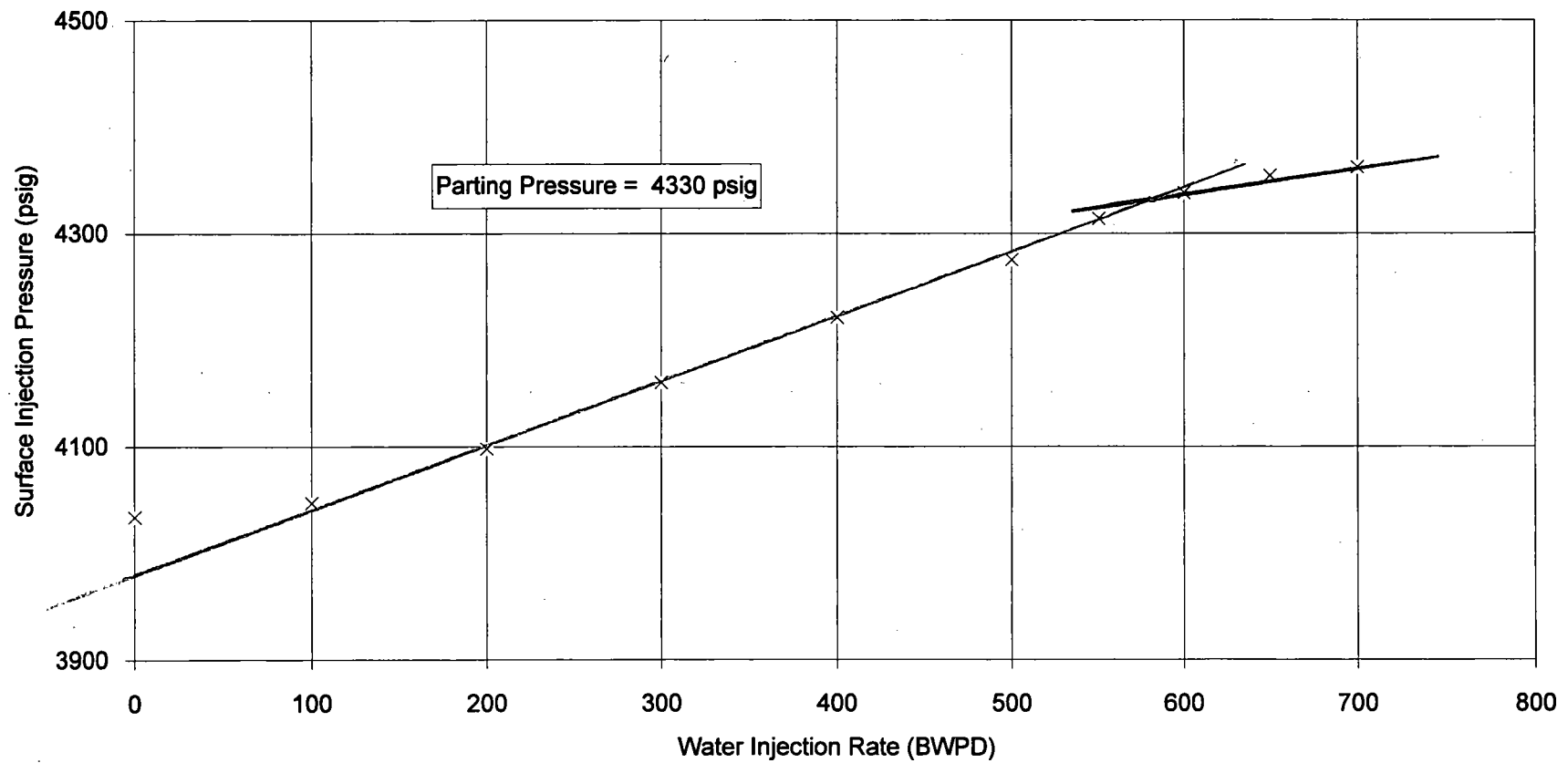
Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/23/94 Friday	7:45:52	15	0
2		7:46:52	14	0
3		7:47:52	14	0
4		7:48:52	14	0
5		7:49:52	14	0
6		7:50:52	14	0
7		7:51:52	14	0
8		7:52:52	14	0
9		7:53:52	14	0
10		7:54:52	14	0
11		7:55:52	14	0
12		7:56:52	14	0
13		7:57:52	14	0
14		7:58:52	14	0
15		7:59:52	14	0
16		8:00:52	14	0
17		8:01:52	14	0
18		8:02:52	3702	0
19		8:03:52	3703	0
20		8:04:52	3704	0
21		8:05:52	3706	100
22		8:06:52	3706	100
23		8:07:52	3707	100
24		8:08:52	3707	100
25		8:09:52	3710	100
26		8:10:52	3710	100
27		8:11:52	3711	100
28		8:12:52	3710	100
29		8:13:52	3713	100
30		8:14:52	3714	100
31		8:15:52	3714	100
32		8:16:52	3715	100
33		8:17:52	3726	100
34		8:18:52	3732	100
35		8:19:52	3736	100
36		8:20:52	3741	200
37		8:21:52	3745	200
38		8:22:52	3748	200
39		8:23:52	3750	200
40		8:24:52	3753	200
41		8:25:52	3757	200
42		8:26:52	3759	200
43		8:27:52	3762	200
44		8:28:52	3763	200
45		8:29:52	3765	200
46		8:30:52	3768	200
47		8:31:52	3780	200
48		8:32:52	3791	200
49		8:33:52	3797	200

50	8:34:52	3804	200
51	8:35:52	3808	300
52	8:36:52	3813	300
53	8:37:52	3818	300
54	8:38:52	3824	300
55	8:39:52	3825	300
56	8:40:52	3830	300
57	8:41:52	3835	300
58	8:42:52	3837	300
59	8:43:52	3839	300
60	8:44:52	3843	300
61	8:45:52	3848	300
62	8:46:52	3863	300
63	8:47:52	3875	300
64	8:48:52	3885	300
65	8:49:52	3890	300
66	8:50:52	3895	400
67	8:51:52	3902	400
68	8:52:52	3904	400
69	8:53:52	3911	400
70	8:54:52	3917	400
71	8:55:52	3924	400
72	8:56:52	3926	400
73	8:57:52	3933	400
74	8:58:52	3936	400
75	8:59:52	3942	400
76	9:00:52	3945	400
77	9:01:52	3947	400
78	9:02:52	3975	400
79	9:03:52	3979	400
80	9:04:52	3987	400
81	9:05:52	3996	500
82	9:06:52	4000	500
83	9:07:52	4007	500
84	9:08:52	4012	500
85	9:09:52	4014	500
86	9:10:52	4020	500
87	9:11:52	4025	500
88	9:12:52	4034	500
89	9:13:52	4034	500
90	9:14:52	4039	500
91	9:15:52	4045	500
92	9:16:52	4047	500
93	9:17:52	4052	500
94	9:18:52	4057	500
95	9:19:52	4059	500
96	9:20:52	4067	550
97	9:21:52	4066	550
98	9:22:52	4072	550
99	9:23:52	4078	550
100	9:24:52	4084	550
101	9:25:52	4081	550
102	9:26:52	4084	550
103	9:27:52	4088	550
104	9:28:52	4093	550
105	9:29:52	4092	550
106	9:30:52	4096	550
107	9:31:52	4104	550
108	9:32:52	4109	550
109	9:33:52	4114	550
110	9:34:52	4116	550

172	10:36:52	4135	SI
173	10:37:52	4130	SI
174	10:38:52	4124	SI
175	10:39:52	4118	SI
176	10:40:52	4114	SI
177	10:41:52	4109	SI
178	10:42:52	4103	SI
179	10:43:52	4100	SI
180	10:44:52	4095	SI
181	10:45:52	4091	SI
182	10:46:52	4087	SI
183	10:47:52	4082	SI
184	10:48:52	4078	SI
185	10:49:52	4074	SI
186	10:50:52	4070	SI
187	10:51:52	4066	SI
End Test			

NVA #210 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-28-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo

Well No: 210

Location: Unit L 23-T17S-R34E

Perforations: 8533'-8717'

Total Depth: 8800'

Plug Back TD: 8764'

Packer Set At: 8492'

Technician: Dale Shreffler

Engineer: Chad Jones

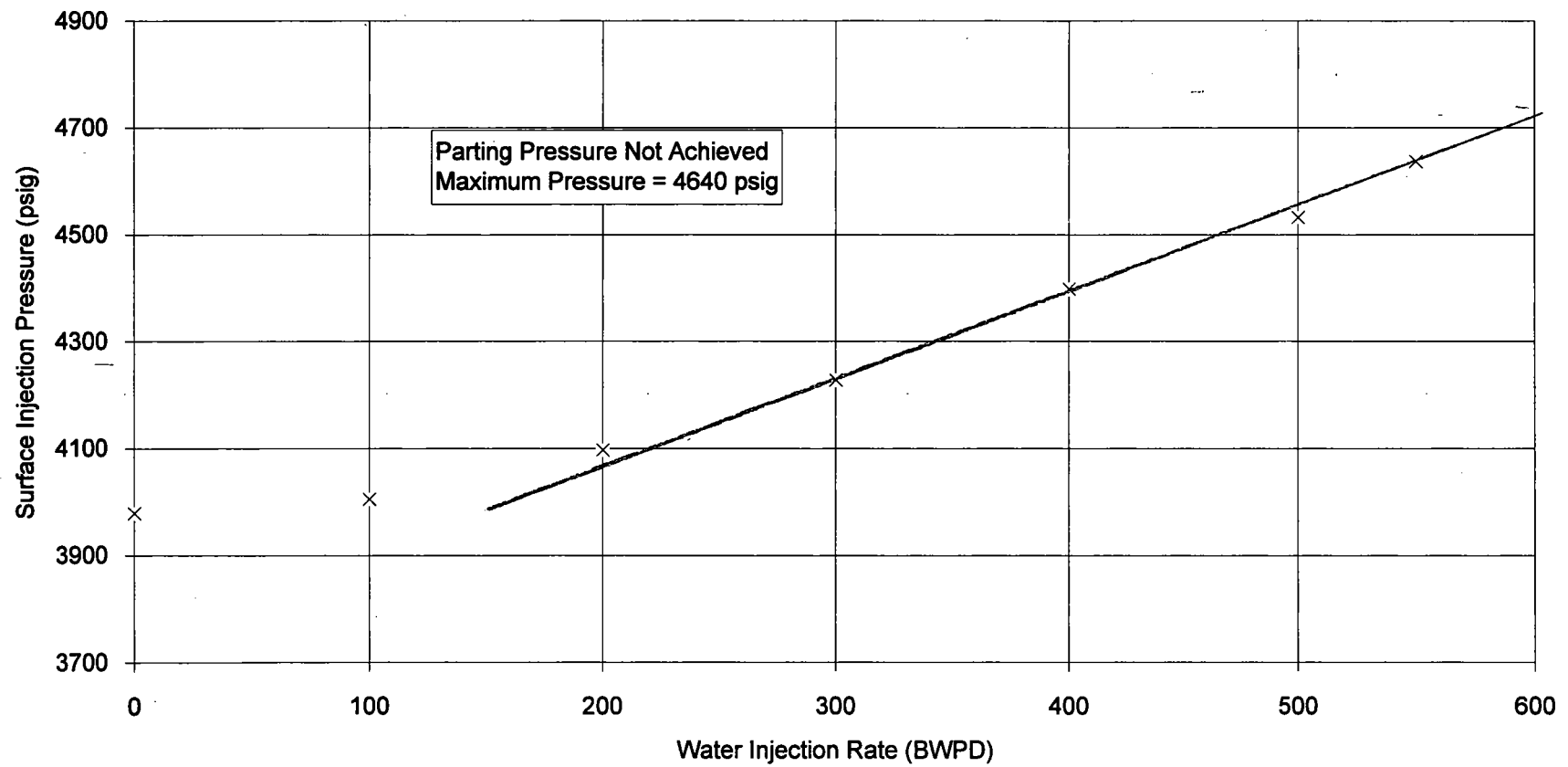
<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/28/94	12:30:21	13	0
2	Wednesday	12:31:21	13	0
3		12:32:21	13	0
4		12:33:21	13	0
5		12:34:21	13	0
6		12:35:21	13	0
7		12:36:21	13	0
8		12:37:21	13	0
9		12:38:21	14	0
10		12:39:21	14	0
11		12:40:21	14	0
12		12:41:21	14	0
13		12:42:21	14	0
14		12:43:21	14	0
15		12:44:21	14	0
16		12:45:21	14	0
17		12:46:21	14	0
18		12:47:21	3981	0
19		12:48:21	4026	0
20		12:49:21	4019	0
21		12:50:21	4024	100
22		12:51:21	4027	100
23		12:52:21	4030	100
24		12:53:21	4033	100
25		12:54:21	4035	100
26		12:55:21	4038	100
27		12:56:21	4040	100
28		12:57:21	4042	100
29		12:58:21	4043	100
30		12:59:21	4045	100
31		13:00:21	4046	100
32		13:01:21	4048	100
33		13:02:21	4056	100
34		13:03:21	4061	100
35		13:04:21	4065	100
36		13:05:21	4069	200
37		13:06:21	4072	200
38		13:07:21	4075	200
39		13:08:21	4078	200
40		13:09:21	4081	200
41		13:10:21	4084	200
42		13:11:21	4086	200
43		13:12:21	4089	200
44		13:13:21	4091	200
45		13:14:21	4093	200
46		13:15:21	4096	200
47		13:16:21	4105	200
48		13:17:21	4109	200
49		13:18:21	4115	200

50	13:19:21	4119	200
51	13:20:21	4123	300
52	13:21:21	4127	300
53	13:22:21	4131	300
54	13:23:21	4135	300
55	13:24:21	4139	300
56	13:25:21	4142	300
57	13:26:21	4146	300
58	13:27:21	4148	300
59	13:28:21	4151	300
60	13:29:21	4154	300
61	13:30:21	4156	300
62	13:31:21	4160	300
63	13:32:21	4171	300
64	13:33:21	4176	300
65	13:34:21	4181	300
66	13:35:21	4185	400
67	13:36:21	4189	400
68	13:37:21	4192	400
69	13:38:21	4198	400
70	13:39:21	4202	400
71	13:40:21	4205	400
72	13:41:21	4209	400
73	13:42:21	4212	400
74	13:43:21	4214	400
75	13:44:21	4217	400
76	13:45:21	4219	400
77	13:46:21	4221	400
78	13:47:21	4221	400
79	13:48:21	4237	400
80	13:49:21	4241	400
81	13:50:21	4246	500
82	13:51:21	4253	500
83	13:52:21	4252	500
84	13:53:21	4255	500
85	13:54:21	4257	500
86	13:55:21	4259	500
87	13:56:21	4267	500
88	13:57:21	4267	500
89	13:58:21	4268	500
90	13:59:21	4272	500
91	14:00:21	4273	500
92	14:01:21	4277	500
93	14:02:21	4282	500
94	14:03:21	4283	500
95	14:04:21	4288	500
96	14:05:21	4289	550
97	14:06:21	4292	550
98	14:07:21	4296	550
99	14:08:21	4299	550
100	14:09:21	4300	550
101	14:10:21	4302	550
102	14:11:21	4304	550
103	14:12:21	4305	550
104	14:13:21	4308	550
105	14:14:21	4310	550
106	14:15:21	4313	550
107	14:16:21	4314	550
108	14:17:21	4317	550
109	14:18:21	4320	550
110	14:19:21	4324	550

111	14:20:21	4322	600
112	14:21:21	4324	600
113	14:22:21	4324	600
114	14:23:21	4330	600
115	14:24:21	4333	600
116	14:25:21	4333	600
117	14:26:21	4333	600
118	14:27:21	4333	600
119	14:28:21	4337	600
120	14:29:21	4337	600
121	14:30:21	4338	600
122	14:31:21	4339	600
123	14:32:21	4344	600
124	14:33:21	4342	600
125	14:34:21	4347	600
126	14:35:21	4341	650
127	14:36:21	4346	650
128	14:37:21	4346	650
129	14:38:21	4345	650
130	14:39:21	4346	650
131	14:40:21	4344	650
132	14:41:21	4347	650
133	14:42:21	4348	650
134	14:43:21	4351	650
135	14:44:21	4350	650
136	14:45:21	4350	650
137	14:46:21	4346	650
138	14:47:21	4354	650
139	14:48:21	4351	650
140	14:49:21	4353	650
141	14:50:21	4359	700
142	14:51:21	4358	700
143	14:52:21	4352	700
144	14:53:21	4357	700
145	14:54:21	4359	700
146	14:55:21	4356	700
147	14:56:21	4362	700
148	14:57:21	4353	700
149	14:58:21	4360	700
150	14:59:21	4361	700
151	15:00:21	4362	700
152	15:01:21	4364	700
153	15:02:21	4241	SI
154	15:03:21	4341	SI
155	15:04:21	4318	SI
156	15:05:21	4317	SI
157	15:06:21	4312	SI
158	15:07:21	4308	SI
159	15:08:21	4306	SI
160	15:09:21	4303	SI
161	15:10:21	4301	SI
162	15:11:21	4299	SI
163	15:12:21	4297	SI
164	15:13:21	4294	SI
165	15:14:21	4293	SI
166	15:15:21	4292	SI
167	15:16:21	4291	SI
168	15:17:21	4290	SI
169	15:18:21	4289	SI
170	15:19:21	4287	SI
171	15:20:21	4286	SI

172	15:21:21	4285	SI
173	15:22:21	4283	SI
174	15:23:21	4282	SI
End Test			

NVA #229 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-23-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo Unit

Well No: 229

Location: Unit L 10-T17S-R34E

Perforations: 8745'-8810'

Total Depth: 8978'

Plug Back TD: 8945'

Packer Set At: 8670'

Technician: Dale Shreffler

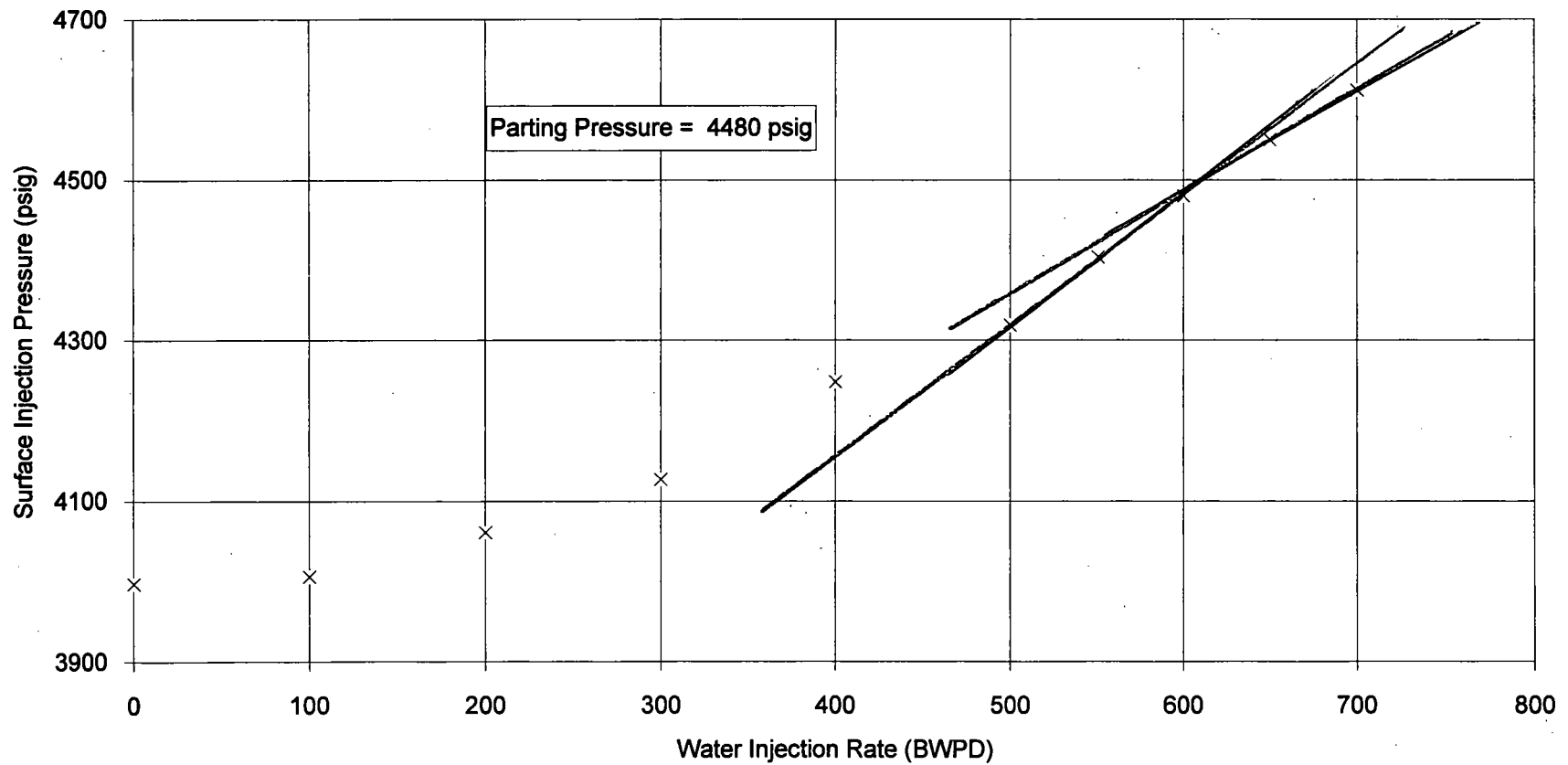
Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/23/94 Friday	13:30:15	13	0
2		13:31:15	13	0
3		13:32:15	13	0
4		13:33:15	13	0
5		13:34:15	13	0
6		13:35:15	13	0
7		13:36:15	13	0
8		13:37:15	13	0
9		13:38:15	13	0
10		13:39:15	13	0
11		13:40:15	13	0
12		13:41:15	13	0
13		13:42:15	13	0
14		13:43:15	13	0
15		13:44:15	13	0
16		13:45:15	3913	0
17		13:46:15	3945	0
18		13:47:15	3976	0
19		13:48:15	3981	0
20		13:49:15	3984	0
21		13:50:15	3988	100
22		13:51:15	3991	100
23		13:52:15	3994	100
24		13:53:15	3996	100
25		13:54:15	3997	100
26		13:55:15	3999	100
27		13:56:15	4001	100
28		13:57:15	4001	100
29		13:58:15	4003	100
30		13:59:15	4004	100
31		14:00:15	4006	100
32		14:01:15	4025	100
33		14:02:15	4035	100
34		14:03:15	4042	100
35		14:04:15	4049	100
36		14:05:15	4055	200
37		14:06:15	4061	200
38		14:07:15	4065	200
39		14:08:15	4071	200
40		14:09:15	4075	200
41		14:10:15	4079	200
42		14:11:15	4083	200
43		14:12:15	4086	200
44		14:13:15	4090	200
45		14:14:15	4094	200
46		14:15:15	4097	200
47		14:16:15	4117	200
48		14:17:15	4129	200
49		14:18:15	4140	200

50	14:19:15	4149	200
51	14:20:15	4156	300
52	14:21:15	4167	300
53	14:22:15	4176	300
54	14:23:15	4183	300
55	14:24:15	4191	300
56	14:25:15	4198	300
57	14:26:15	4204	300
58	14:27:15	4212	300
59	14:28:15	4219	300
60	14:29:15	4224	300
61	14:30:15	4229	300
62	14:31:15	4257	300
63	14:32:15	4271	300
64	14:33:15	4283	300
65	14:34:15	4292	300
66	14:35:15	4291	400
67	14:36:15	4317	400
68	14:37:15	4326	400
69	14:38:15	4334	400
70	14:39:15	4346	400
71	14:40:15	4355	400
72	14:41:15	4365	400
73	14:42:15	4374	400
74	14:43:15	4383	400
75	14:44:15	4393	400
76	14:45:15	4401	400
77	14:46:15	4413	400
78	14:47:15	4431	400
79	14:48:15	4441	400
80	14:49:15	4456	400
81	14:50:15	4462	500
82	14:51:15	4470	500
83	14:52:15	4476	500
84	14:53:15	4487	500
85	14:54:15	4494	500
86	14:55:15	4501	500
87	14:56:15	4517	500
88	14:57:15	4520	500
89	14:58:15	4521	500
90	14:59:15	4523	500
91	15:00:15	4535	500
92	15:01:15	4544	500
93	15:02:15	4557	500
94	15:03:15	4566	500
95	15:04:15	4573	500
96	15:05:15	4580	550
97	15:06:15	4587	550
98	15:07:15	4593	550
99	15:08:15	4602	550
100	15:09:15	4608	550
101	15:10:15	4614	550
102	15:11:15	4622	550
103	15:12:15	4626	550
104	15:13:15	4634	550
105	15:14:15	4640	550
106	15:15:15	4631	550
107	15:16:15	4583	SI
108	15:17:15	4576	SI
109	15:18:15	4563	SI
110	15:19:15	4548	SI

111	15:20:15	4534	SI
112	15:21:15	4522	SI
113	15:22:15	4510	SI
114	15:23:15	4499	SI
115	15:24:15	4488	SI
116	15:25:15	4477	SI
117	15:26:15	4468	SI
118	15:27:15	4459	SI
119	15:28:15	4450	SI
120	15:29:15	4441	SI
121	15:30:15	4432	SI
122	15:31:15	4424	SI
123	15:32:15	4416	SI
124	15:33:15	4408	SI
125	15:34:15	4401	SI
126	15:35:15	4393	SI
End Test			

NVA #230 Step Rate Test
North Vacuum Abo Field
Lea County, New Mexico



Date of Test: 9-28-94

Step Rate Test

Company: Mobil Exploration & Producing U.S., Inc.

Lease: North Vacuum Abo

Well No: 230

Location: Unit J 13-T17S-R34E

Perforations: 8528'-8781'

Total Depth: 10269'

Plug Back TD: 10086'

Packer Set At: 8430'

Technician: Dale Shreffler

Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/28/94	8:15:30	13	0
2	Wednesday	8:16:30	13	0
3		8:17:30	13	0
4		8:18:30	13	0
5		8:19:30	13	0
6		8:20:30	13	0
7		8:21:30	13	0
8		8:22:30	13	0
9		8:23:30	13	0
10		8:24:30	13	0
11		8:25:30	13	0
12		8:26:30	13	0
13		8:27:30	13	0
14		8:28:30	14	0
15		8:29:30	14	0
16		8:30:30	14	0
17		8:31:30	3997	0
18		8:32:30	3998	0
19		8:33:30	3999	0
20		8:34:30	4000	0
21		8:35:30	4000	100
22		8:36:30	4001	100
23		8:37:30	4002	100
24		8:38:30	4002	100
25		8:39:30	4003	100
26		8:40:30	4004	100
27		8:41:30	4004	100
28		8:42:30	4005	100
29		8:43:30	4005	100
30		8:44:30	4006	100
31		8:45:30	4006	100
32		8:46:30	4026	100
33		8:47:30	4038	100
34		8:48:30	4041	100
35		8:49:30	4043	100
36		8:50:30	4045	200
37		8:51:30	4047	200
38		8:52:30	4048	200
39		8:53:30	4050	200
40		8:54:30	4051	200
41		8:55:30	4053	200
42		8:56:30	4054	200
43		8:57:30	4055	200
44		8:58:30	4056	200
45		8:59:30	4058	200
46		9:00:30	4059	200
47		9:01:30	4060	200
48		9:02:30	4082	200
49		9:03:30	4104	200

50	9:04:30	4108	200
51	9:05:30	4111	300
52	9:06:30	4113	300
53	9:07:30	4115	300
54	9:08:30	4117	300
55	9:09:30	4118	300
56	9:10:30	4120	300
57	9:11:30	4122	300
58	9:12:30	4123	300
59	9:13:30	4125	300
60	9:14:30	4125	300
61	9:15:30	4126	300
62	9:16:30	4142	300
63	9:17:30	4196	300
64	9:18:30	4198	300
65	9:19:30	4200	300
66	9:20:30	4201	400
67	9:21:30	4203	400
68	9:22:30	4212	400
69	9:23:30	4214	400
70	9:24:30	4215	400
71	9:25:30	4217	400
72	9:26:30	4220	400
73	9:27:30	4222	400
74	9:28:30	4226	400
75	9:29:30	4229	400
76	9:30:30	4231	400
77	9:31:30	4248	400
78	9:32:30	4249	400
79	9:33:30	4296	400
80	9:34:30	4297	400
81	9:35:30	4294	500
82	9:36:30	4300	500
83	9:37:30	4303	500
84	9:38:30	4307	500
85	9:39:30	4316	500
86	9:40:30	4315	500
87	9:41:30	4320	500
88	9:42:30	4306	500
89	9:43:30	4307	500
90	9:44:30	4312	500
91	9:45:30	4316	500
92	9:46:30	4311	500
93	9:47:30	4336	500
94	9:48:30	4360	500
95	9:49:30	4363	500
96	9:50:30	4371	550
97	9:51:30	4370	550
98	9:52:30	4376	550
99	9:53:30	4385	550
100	9:54:30	4380	550
101	9:55:30	4386	550
102	9:56:30	4393	550
103	9:57:30	4396	550
104	9:58:30	4392	550
105	9:59:30	4392	550
106	10:00:30	4404	550
107	10:01:30	4411	550
108	10:02:30	4428	550
109	10:03:30	4438	550
110	10:04:30	4448	550

111	10:05:30	4443	600
112	10:06:30	4458	600
113	10:07:30	4471	600
114	10:08:30	4481	600
115	10:09:30	4482	600
116	10:10:30	4460	600
117	10:11:30	4465	600
118	10:12:30	4469	600
119	10:13:30	4467	600
120	10:14:30	4468	600
121	10:15:30	4477	600
122	10:16:30	4480	600
123	10:17:30	4503	600
124	10:18:30	4505	600
125	10:19:30	4509	600
126	10:20:30	4514	650
127	10:21:30	4512	650
128	10:22:30	4516	650
129	10:23:30	4525	650
130	10:24:30	4522	650
131	10:25:30	4527	650
132	10:26:30	4535	650
133	10:27:30	4537	650
134	10:28:30	4529	650
135	10:29:30	4532	650
136	10:30:30	4537	650
137	10:31:30	4550	650
138	10:32:30	4576	650
139	10:33:30	4578	650
140	10:34:30	4574	650
141	10:35:30	4581	700
142	10:36:30	4581	700
143	10:37:30	4586	700
144	10:38:30	4584	700
145	10:39:30	4593	700
146	10:40:30	4597	700
147	10:41:30	4592	700
148	10:42:30	4600	700
149	10:43:30	4602	700
150	10:44:30	4609	700
151	10:45:30	4607	700
152	10:46:30	4610	700
153	10:47:30	4292	SI
154	10:48:30	4323	SI
155	10:49:30	4317	SI
156	10:50:30	4310	SI
157	10:51:30	4304	SI
158	10:52:30	4298	SI
159	10:53:30	4293	SI
160	10:54:30	4289	SI
161	10:55:30	4284	SI
162	10:56:30	4280	SI
163	10:57:30	4276	SI
164	10:58:30	4272	SI
165	10:59:30	4269	SI
166	11:00:30	4265	SI
167	11:01:30	4262	SI
168	11:02:30	4259	SI
169	11:03:30	4256	SI
170	11:04:30	4253	SI
171	11:05:30	4249	SI

172
End Test

11:06:30

4246

SI