



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 2, 1994

CF 6248
R-5801

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 East Pressure
Maintenance Project Lea County, New Mexico**

Dear Ms. Pollock-Lyon:

Reference is made to your request dated September 27, 1994 to increase the surface injection pressure on 10 wells. This request is based on step rate tests conducted on these wells July 21 and September 20, 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 East Unit Well No.1 Unit J, Section 7,	4310 PSIG
North Vacuum Abo East Unit Well No.3 Unit N, Section 7,	4400 PSIG
North Vacuum Abo East Unit Well No.4 Unit P, Section 7,	4250 PSIG
North Vacuum Abo East Unit Well No.5 Unit B, Section 18,	3785 PSIG
North Vacuum Abo East Unit Well No.6 Unit D, Section 18,	4094 PSIG

Injection Pressure Increase
Mobil Exploration & Producing U.S., Inc.
November 2, 1994
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Well and Location	Maximum Injection Surface Pressure
North Vacuum Abo East Unit Well No.7 Unit F, Section 18,	3820 PSIG
North Vacuum Abo East Unit Well No.8 Unit H, Section 18,	4230 PSIG
North Vacuum Abo East Unit Well No.9 Unit J, Section 18,	4270 PSIG
North Vacuum Abo East Unit Well No.10 Unit L, Section 18,	3905 PSIG
North Vacuum Abo East Unit Well No.11 Unit N, Section 18,	4240 PSIG
All wells located in Township 17 South, Range 35 East, Lea County, New Mexico.	

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,



William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Hobbs
File: 4th Quarter PSI-X; Case File No.6248

md

Mobil Exploration & Producing U.S. Inc.

September 27, 1994

P.O. BOX 633
MIDLAND, TEXAS 79702-0633MIDLAND 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 East Field
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, which are under the provisions in Order No. ~~R-8397~~ dated February 17, 1987, at present rates shown.

5801

Step-rate tests for these wells have been completed which show that a 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>Well</u>	<u>Injection Intervals</u>	<u>Present Surface Injection Pressure Limit</u>	<u>Requested Surface Injection Pressure Limit</u>
NVAE #1 Unit J, Section 7 17-S, 35-E	8699-8903	3800 psig	4280 psig 4310
NVAE #3 Unit N, Section 7 17-S, 35-E	+ 8800	3930 psig	4400 psig
NVAE #4 Unit P, Section 7 17-S, 35-E	8776-8877	3825 psig	4250 psig
NVAE #5 Unit B, Section 18 17-S, 35-E	8702-8791	3515 psig	3800 psig 3785

**Environmental
Awareness**

Injection Pressure Increase Request

NVAE Field

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September 27, 1994

<u>Well</u>	<u>Injection Intervals</u>	<u>Present Surface Injection Pressure Limit</u>	<u>Requested Surface Injection Pressure Limit</u>
NVAE #6 Unit D, Section 18 17-S, 35-E	8592-8780	3610 psig	4090 psig 4094
NVAE #7 Unit F, Section 18 17-S, 35-E	8661-8809	3500 psig	3870 psig 3820
NVAE #8 Unit H, Section 18 17-S, 35-E	8733-8873	3870 psig	↘ 4230 psig
NVAE #9 Unit J, Section 18 17-S, 35-E	8696-8834	3880 psig	↘ 4270 psig
NVAE #10 Unit L, Section 18 17-S, 35-E	8620-8765	3390 psig	3890 psig 3905
NVAE #11 Unit N, Section 18 17-S, 35-E	8672-8722	3950 psig	↘ 4240 psig



**Environmental
Awareness**

Injection Pressure Increase Request
NVAE Field
Page 3
September 27, 1994

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

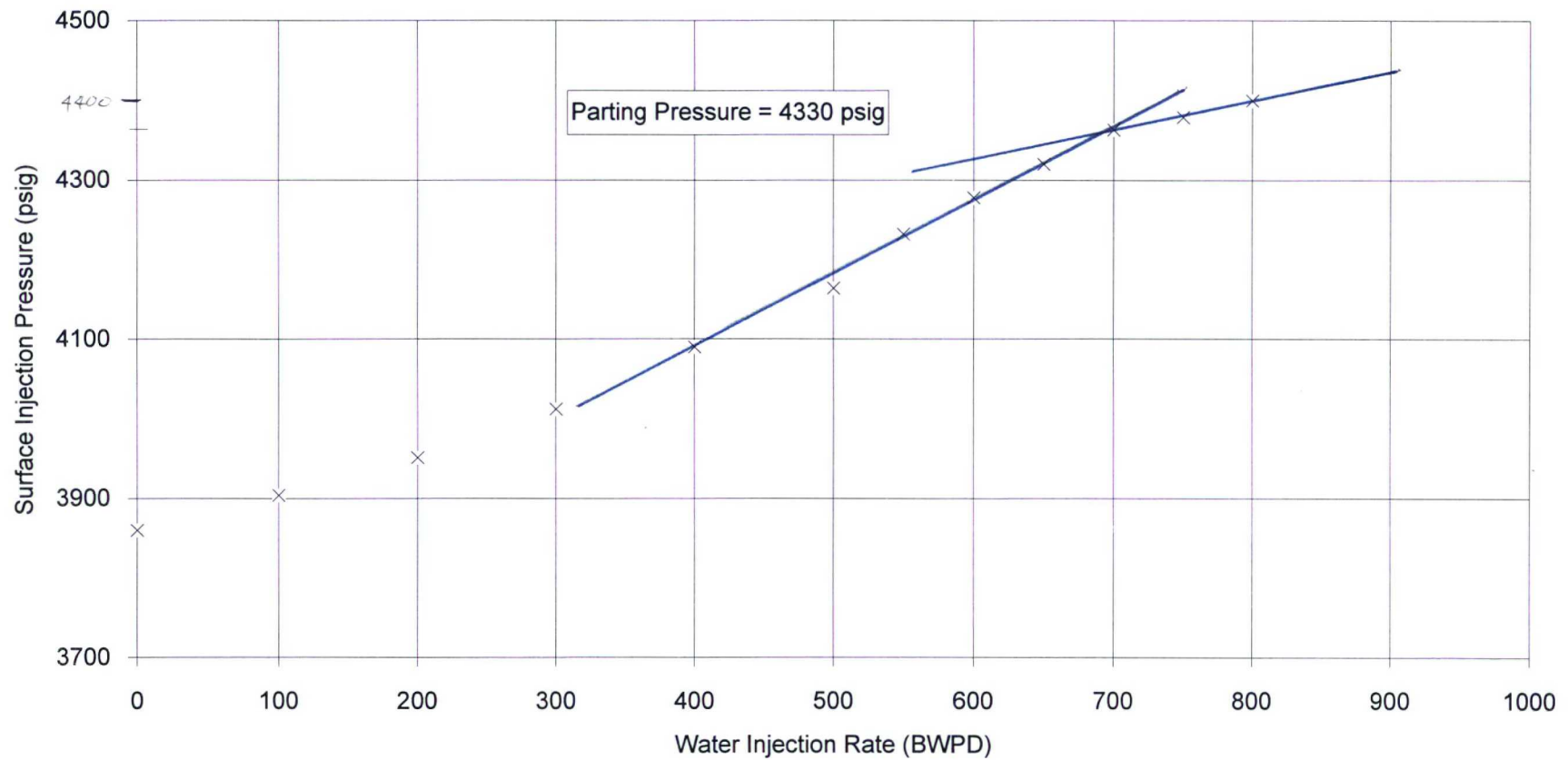
Attachments

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



**Environmental
Awareness**

NVAE #1 Step Rate Test North Vacuum Abo East Field Lea County, New Mexico



Date of Test: 9-7-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 1

Location: Unit J 18-T17S-R35E

Perforations: 8699'-8799'

Total Depth: 8930'

Plug Back TD: 8930'

Packer Set At: 8550'

Technician: Dale Shreffler

Engineer: Chad Jones

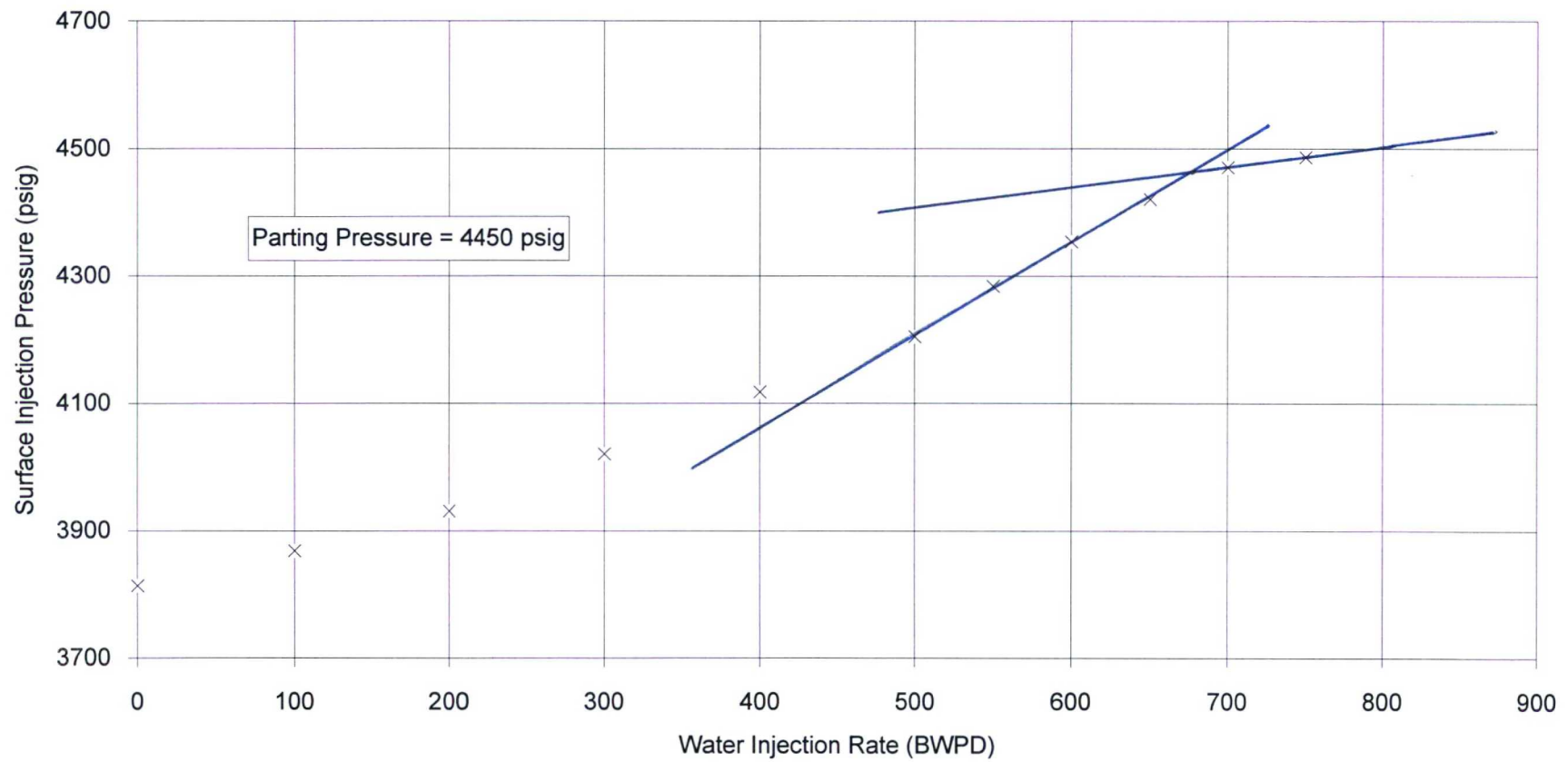
<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/7/94	9:15:32	13	0
2	Wednesday	9:16:32	14	0
3		9:17:32	16	0
4		9:18:32	16	0
5		9:19:32	16	0
6		9:20:32	16	0
7		9:21:32	16	0
8		9:22:32	16	0
9		9:23:32	16	0
10		9:24:32	16	0
11		9:25:32	16	0
12		9:26:32	16	0
13		9:27:32	16	0
14		9:28:32	16	0
15		9:29:32	16	0
16		9:30:32	16	0
17		9:31:32	28	0
18		9:32:32	22	0
19		9:33:32	3857	0
20		9:34:32	3860	0
21		9:35:32	3857	100
22		9:36:32	3862	100
23		9:37:32	3854	100
24		9:38:32	3865	100
25		9:39:32	3852	100
26		9:40:32	3858	100
27		9:41:32	3863	100
28		9:42:32	3887	100
29		9:43:32	3897	100
30		9:44:32	3878	100
31		9:45:32	3881	100
32		9:46:32	3896	100
33		9:47:32	3896	100
34		9:48:32	3901	100
35		9:49:32	3904	100
36		9:50:32	3903	200
37		9:51:32	3904	200
38		9:52:32	3910	200
39		9:53:32	3928	200
40		9:54:32	3938	200
41		9:55:32	3923	200
42		9:56:32	3930	200
43		9:57:32	3926	200
44		9:58:32	3935	200
45		9:59:32	3953	200
46		10:00:32	3952	200
47		10:01:32	3952	200
48		10:02:32	3952	200
49		10:03:32	3952	200

50	10:04:32	3951	200
51	10:05:32	3950	300
52	10:06:32	3954	300
53	10:07:32	3948	300
54	10:08:32	3949	300
55	10:09:32	3955	300
56	10:10:32	3967	300
57	10:11:32	3960	300
58	10:12:32	3968	300
59	10:13:32	3968	300
60	10:14:32	3965	300
61	10:15:32	3966	300
62	10:16:32	3989	300
63	10:17:32	4002	300
64	10:18:32	4009	300
65	10:19:32	4012	300
66	10:20:32	4018	400
67	10:21:32	4015	400
68	10:22:32	4021	400
69	10:23:32	4028	400
70	10:24:32	4023	400
71	10:25:32	4029	400
72	10:26:32	4039	400
73	10:27:32	4033	400
74	10:28:32	4046	400
75	10:29:32	4048	400
76	10:30:32	4049	400
77	10:31:32	4054	400
78	10:32:32	4080	400
79	10:33:32	4079	400
80	10:34:32	4090	400
81	10:35:32	4086	500
82	10:36:32	4101	500
83	10:37:32	4098	500
84	10:38:32	4106	500
85	10:39:32	4110	500
86	10:40:32	4110	500
87	10:41:32	4121	500
88	10:42:32	4121	500
89	10:43:32	4123	500
90	10:44:32	4127	500
91	10:45:32	4131	500
92	10:46:32	4135	500
93	10:47:32	4156	500
94	10:48:32	4160	500
95	10:49:32	4164	500
96	10:50:32	4168	550
97	10:51:32	4164	550
98	10:52:32	4169	550
99	10:53:32	4174	550
100	10:54:32	4177	550
101	10:55:32	4182	550
102	10:56:32	4184	550
103	10:57:32	4192	550
104	10:58:32	4195	550
105	10:59:32	4193	550
106	11:00:32	4208	550
107	11:01:32	4202	550
108	11:02:32	4208	550
109	11:03:32	4233	550
110	11:04:32	4232	550

111	11:05:32	4236	600
112	11:06:32	4222	600
113	11:07:32	4224	600
114	11:08:32	4221	600
115	11:09:32	4223	600
116	11:10:32	4223	600
117	11:11:32	4227	600
118	11:12:32	4234	600
119	11:13:32	4232	600
120	11:14:32	4234	600
121	11:15:32	4234	600
122	11:16:32	4266	600
123	11:17:32	4269	600
124	11:18:32	4276	600
125	11:19:32	4278	600
126	11:20:32	4278	650
127	11:21:32	4285	650
128	11:22:32	4285	650
129	11:23:32	4281	650
130	11:24:32	4286	650
131	11:25:32	4285	650
132	11:26:32	4290	650
133	11:27:32	4290	650
134	11:28:32	4293	650
135	11:29:32	4292	650
136	11:30:32	4293	650
137	11:31:32	4297	650
138	11:32:32	4311	650
139	11:33:32	4314	650
140	11:34:32	4320	650
141	11:35:32	4319	700
142	11:36:32	4319	700
143	11:37:32	4323	700
144	11:38:32	4321	700
145	11:39:32	4325	700
146	11:40:32	4326	700
147	11:41:32	4330	700
148	11:42:32	4325	700
149	11:43:32	4328	700
150	11:44:32	4332	700
151	11:45:32	4332	700
152	11:46:32	4329	700
153	11:47:32	4338	700
154	11:48:32	4333	700
155	11:49:32	4363	700
156	11:50:32	4366	750
157	11:51:32	4366	750
158	11:52:32	4366	750
159	11:53:32	4360	750
160	11:54:32	4358	750
161	11:55:32	4363	750
162	11:56:32	4379	750
163	11:57:32	4373	750
164	11:58:32	4376	750
165	11:59:32	4374	750
166	12:00:32	4380	750
167	12:01:32	4379	750
168	12:02:32	4397	750
169	12:03:32	4397	750
170	12:04:32	4396	750
171	12:05:32	4400	800

172	12:06:32	4396	800
173	12:07:32	4399	800
174	12:08:32	4400	800
175	12:09:32	4407	800
176	12:10:32	4408	800
177	12:11:32	4404	800
178	12:12:32	4411	800
179	12:13:32	4411	800
180	12:14:32	4407	800
181	12:15:32	4408	800
182	12:16:32	4408	SI
183	12:17:32	4251	SI
184	12:18:32	4224	SI
185	12:19:32	4218	SI
186	12:20:32	4213	SI
187	12:21:32	4210	SI
188	12:22:32	4207	SI
189	12:23:32	4204	SI
190	12:24:32	4201	SI
191	12:25:32	4199	SI
192	12:26:32	4197	SI
193	12:27:32	4194	SI
194	12:28:32	4192	SI
195	12:29:32	4190	SI
196	12:30:32	4188	SI
197	12:31:32	4186	SI
198	12:32:32	4184	SI
End Test			

NVAE #3 Step Rate Test North Vacuum Abo East Field Lea County, New Mexico



Date of Test: 9-19-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 3

Location: Unit N 18-T17S-R35E

Perforations: 8657'-8759'

Total Depth: 8850'

Plug Back TD: 8820'

Packer Set At: 8573'

Technician: Dale Shreffler

Engineer: Chad Jones

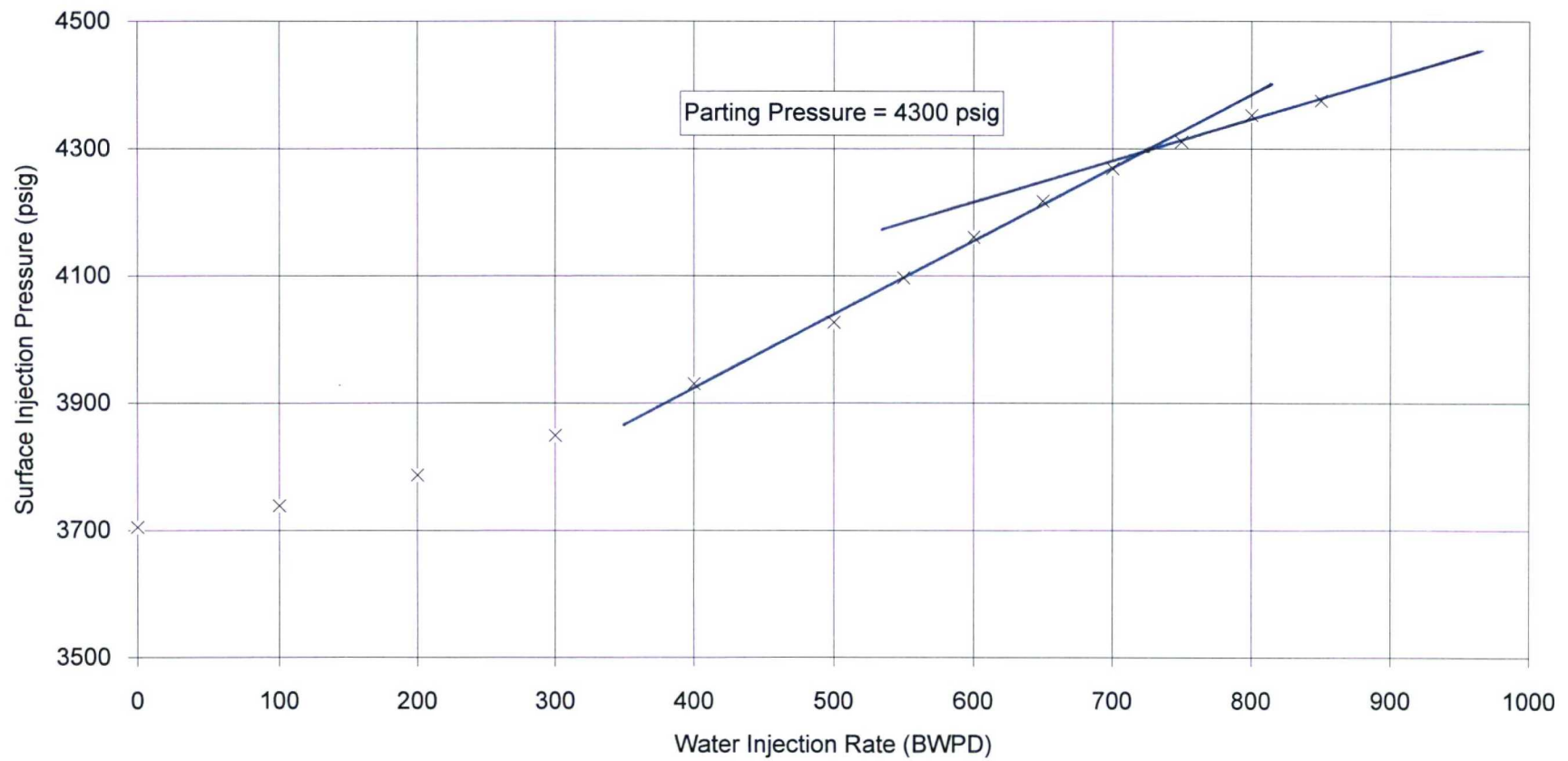
<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/19/94 Monday	8:45:26	15	0
2		8:46:26	15	0
3		8:47:26	15	0
4		8:48:26	15	0
5		8:49:26	15	0
6		8:50:26	15	0
7		8:51:26	15	0
8		8:52:26	15	0
9		8:53:26	15	0
10		8:54:26	15	0
11		8:55:26	15	0
12		8:56:26	15	0
13		8:57:26	15	0
14		8:58:26	15	0
15		8:59:26	15	0
16		9:00:26	15	0
17		9:01:26	3815	0
18		9:02:26	3810	0
19		9:03:26	3813	0
20		9:04:26	3814	0
21		9:05:26	3820	100
22		9:06:26	3825	100
23		9:07:26	3832	100
24		9:08:26	3834	100
25		9:09:26	3836	100
26		9:10:26	3838	100
27		9:11:26	3840	100
28		9:12:26	3841	100
29		9:13:26	3843	100
30		9:14:26	3844	100
31		9:15:26	3846	100
32		9:16:26	3858	100
33		9:17:26	3862	100
34		9:18:26	3865	100
35		9:19:26	3869	100
36		9:20:26	3871	200
37		9:21:26	3874	200
38		9:22:26	3877	200
39		9:23:26	3879	200
40		9:24:26	3881	200
41		9:25:26	3883	200
42		9:26:26	3887	200
43		9:27:26	3890	200
44		9:28:26	3892	200
45		9:29:26	3894	200
46		9:30:26	3896	200
47		9:31:26	3920	200
48		9:32:26	3922	200
49		9:33:26	3927	200

50	9:34:26	3931	200
51	9:35:26	3944	300
52	9:36:26	3955	300
53	9:37:26	3951	300
54	9:38:26	3953	300
55	9:39:26	3957	300
56	9:40:26	3960	300
57	9:41:26	3962	300
58	9:42:26	3965	300
59	9:43:26	3967	300
60	9:44:26	3970	300
61	9:45:26	3972	300
62	9:46:26	4006	300
63	9:47:26	4012	300
64	9:48:26	4017	300
65	9:49:26	4021	300
66	9:50:26	4025	400
67	9:51:26	4028	400
68	9:52:26	4031	400
69	9:53:26	4035	400
70	9:54:26	4037	400
71	9:55:26	4041	400
72	9:56:26	4042	400
73	9:57:26	4045	400
74	9:58:26	4043	400
75	9:59:26	4001	400
76	10:00:26	4096	400
77	10:01:26	4102	400
78	10:02:26	4109	400
79	10:03:26	4112	400
80	10:04:26	4118	400
81	10:05:26	4122	500
82	10:06:26	4128	500
83	10:07:26	4134	500
84	10:08:26	4137	500
85	10:09:26	4141	500
86	10:10:26	4146	500
87	10:11:26	4148	500
88	10:12:26	4153	500
89	10:13:26	4156	500
90	10:14:26	4164	500
91	10:15:26	4166	500
92	10:16:26	4190	500
93	10:17:26	4198	500
94	10:18:26	4202	500
95	10:19:26	4205	500
96	10:20:26	4209	550
97	10:21:26	4215	550
98	10:22:26	4219	550
99	10:23:26	4223	550
100	10:24:26	4226	550
101	10:25:26	4232	550
102	10:26:26	4234	550
103	10:27:26	4239	550
104	10:28:26	4238	550
105	10:29:26	4243	550
106	10:30:26	4248	550
107	10:31:26	4265	550
108	10:32:26	4273	550
109	10:33:26	4278	550
110	10:34:26	4284	550

111	10:35:26	4290	600
112	10:36:26	4293	600
113	10:37:26	4296	600
114	10:38:26	4287	600
115	10:39:26	4304	600
116	10:40:26	4307	600
117	10:41:26	4313	600
118	10:42:26	4317	600
119	10:43:26	4319	600
120	10:44:26	4324	600
121	10:45:26	4327	600
122	10:46:26	4341	600
123	10:47:26	4348	600
124	10:48:26	4351	600
125	10:49:26	4354	600
126	10:50:26	4361	650
127	10:51:26	4363	650
128	10:52:26	4366	650
129	10:53:26	4370	650
130	10:54:26	4371	650
131	10:55:26	4374	650
132	10:56:26	4377	650
133	10:57:26	4379	650
134	10:58:26	4381	650
135	10:59:26	4388	650
136	11:00:26	4391	650
137	11:01:26	4413	650
138	11:02:26	4421	650
139	11:03:26	4419	650
140	11:04:26	4421	650
141	11:05:26	4423	700
142	11:06:26	4428	700
143	11:07:26	4430	700
144	11:08:26	4433	700
145	11:09:26	4438	700
146	11:10:26	4437	700
147	11:11:26	4440	700
148	11:12:26	4442	700
149	11:13:26	4444	700
150	11:14:26	4444	700
151	11:15:26	4446	700
152	11:16:26	4457	700
153	11:17:26	4464	700
154	11:18:26	4466	700
155	11:19:26	4471	700
156	11:20:26	4473	750
157	11:21:26	4477	750
158	11:22:26	4478	750
159	11:23:26	4477	750
160	11:24:26	4479	750
161	11:25:26	4483	750
162	11:26:26	4484	750
163	11:27:26	4485	750
164	11:28:26	4485	750
165	11:29:26	4486	750
166	11:30:26	4487	750
167	11:31:26	4332	SI
168	11:32:26	4318	SI
169	11:33:26	4311	SI
170	11:34:26	4305	SI
171	11:35:26	4299	SI

172	11:36:26	4293	SI
173	11:37:26	4288	SI
174	11:38:26	4284	SI
175	11:39:26	4279	SI
176	11:40:26	4275	SI
177	11:41:26	4271	SI
178	11:42:26	4268	SI
179	11:43:26	4264	SI
180	11:44:26	4261	SI
181	11:45:26	4257	SI
182	11:46:26	4254	SI
183	11:47:26	4251	SI
184	11:48:26	4248	SI
185	11:49:26	4245	SI
186	11:50:26	4243	SI
187	11:51:26	4240	SI
188	11:52:26	4237	SI
189	11:53:26	4235	SI
190	11:54:26	4232	SI
191	11:55:26	4229	SI
End Test			

NVAE #4 Step Rate Test North Vacuum Abo East Field Lea County, New Mexico



Date of Test: 9-8-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 4

Location: Unit P 18-T17S-R35E

Perforations: 8776'-8892'

Total Depth: 8975'

Plug Back TD: 8923'

Packer Set At: 8688'

Technician: Dale Shreffler

Engineer: Chad Jones

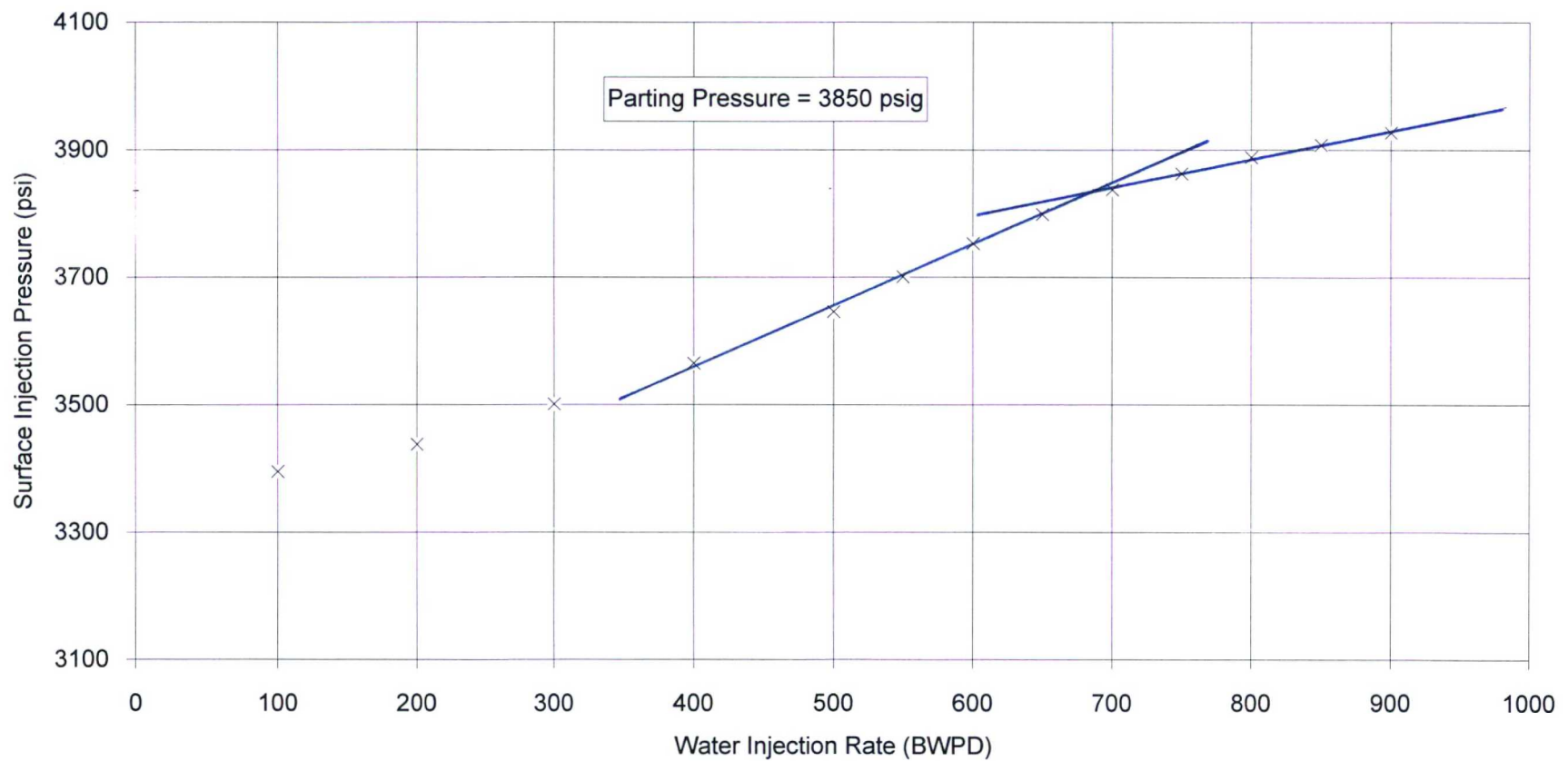
<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/8/94 Thursday	9:45:20	15	0
2		9:46:20	15	0
3		9:47:20	15	0
4		9:48:20	15	0
5		9:49:20	15	0
6		9:50:20	15	0
7		9:51:20	15	0
8		9:52:20	15	0
9		9:53:20	15	0
10		9:54:20	15	0
11		9:55:20	15	0
12		9:56:20	15	0
13		9:57:20	15	0
14		9:58:20	15	0
15		9:59:20	15	0
16		10:00:20	3708	0
17		10:01:20	3698	0
18		10:02:20	3700	0
19		10:03:20	3703	0
20		10:04:20	3705	0
21		10:05:20	3707	100
22		10:06:20	3709	100
23		10:07:20	3710	100
24		10:08:20	3712	100
25		10:09:20	3714	100
26		10:10:20	3715	100
27		10:11:20	3716	100
28		10:12:20	3717	100
29		10:13:20	3718	100
30		10:14:20	3719	100
31		10:15:20	3720	100
32		10:16:20	3722	100
33		10:17:20	3733	100
34		10:18:20	3737	100
35		10:19:20	3739	100
36		10:20:20	3741	200
37		10:21:20	3744	200
38		10:22:20	3746	200
39		10:23:20	3748	200
40		10:24:20	3750	200
41		10:25:20	3752	200
42		10:26:20	3753	200
43		10:27:20	3755	200
44		10:28:20	3757	200
45		10:29:20	3758	200
46		10:30:20	3760	200
47		10:31:20	3777	200
48		10:32:20	3781	200
49		10:33:20	3784	200

50	10:34:20	3787	200
51	10:35:20	3790	300
52	10:36:20	3795	300
53	10:37:20	3798	300
54	10:38:20	3800	300
55	10:39:20	3803	300
56	10:40:20	3805	300
57	10:41:20	3808	300
58	10:42:20	3810	300
59	10:43:20	3812	300
60	10:44:20	3814	300
61	10:45:20	3817	300
62	10:46:20	3837	300
63	10:47:20	3842	300
64	10:48:20	3846	300
65	10:49:20	3849	300
66	10:50:20	3853	400
67	10:51:20	3855	400
68	10:52:20	3857	400
69	10:53:20	3860	400
70	10:54:20	3864	400
71	10:55:20	3866	400
72	10:56:20	3869	400
73	10:57:20	3870	400
74	10:58:20	3872	400
75	10:59:20	3874	400
76	11:00:20	3875	400
77	11:01:20	3888	400
78	11:02:20	3891	400
79	11:03:20	3920	400
80	11:04:20	3930	400
81	11:05:20	3947	500
82	11:06:20	3976	500
83	11:07:20	3979	500
84	11:08:20	3990	500
85	11:09:20	3999	500
86	11:10:20	4006	500
87	11:11:20	4007	500
88	11:12:20	4000	500
89	11:13:20	4007	500
90	11:14:20	4016	500
91	11:15:20	4019	500
92	11:16:20	4022	500
93	11:17:20	4031	500
94	11:18:20	4024	500
95	11:19:20	4027	500
96	11:20:20	4034	550
97	11:21:20	4038	550
98	11:22:20	4043	550
99	11:23:20	4052	550
100	11:24:20	4055	550
101	11:25:20	4063	550
102	11:26:20	4063	550
103	11:27:20	4067	550
104	11:28:20	4067	550
105	11:29:20	4069	550
106	11:30:20	4076	550
107	11:31:20	4081	550
108	11:32:20	4086	550
109	11:33:20	4093	550
110	11:34:20	4097	550

111	11:35:20	4102	600
112	11:36:20	4108	600
113	11:37:20	4112	600
114	11:38:20	4115	600
115	11:39:20	4115	600
116	11:40:20	4120	600
117	11:41:20	4122	600
118	11:42:20	4127	600
119	11:43:20	4128	600
120	11:44:20	4131	600
121	11:45:20	4130	600
122	11:46:20	4151	600
123	11:47:20	4147	600
124	11:48:20	4158	600
125	11:49:20	4161	600
126	11:50:20	4161	650
127	11:51:20	4163	650
128	11:52:20	4172	650
129	11:53:20	4174	650
130	11:54:20	4174	650
131	11:55:20	4174	650
132	11:56:20	4180	650
133	11:57:20	4180	650
134	11:58:20	4189	650
135	11:59:20	4176	650
136	12:00:20	4194	650
137	12:01:20	4224	650
138	12:02:20	4229	650
139	12:03:20	4221	650
140	12:04:20	4218	650
141	12:05:20	4211	700
142	12:06:20	4229	700
143	12:07:20	4231	700
144	12:08:20	4215	700
145	12:09:20	4225	700
146	12:10:20	4224	700
147	12:11:20	4230	700
148	12:12:20	4232	700
149	12:13:20	4236	700
150	12:14:20	4244	700
151	12:15:20	4237	700
152	12:16:20	4255	700
153	12:17:20	4260	700
154	12:18:20	4267	700
155	12:19:20	4269	700
156	12:20:20	4264	750
157	12:21:20	4261	750
158	12:22:20	4268	750
159	12:23:20	4271	750
160	12:24:20	4269	750
161	12:25:20	4270	750
162	12:26:20	4271	750
163	12:27:20	4275	750
164	12:28:20	4278	750
165	12:29:20	4273	750
166	12:30:20	4277	750
167	12:31:20	4283	750
168	12:32:20	4316	750
169	12:33:20	4312	750
170	12:34:20	4311	750
171	12:35:20	4315	800

172	12:36:20	4315	800
173	12:37:20	4325	800
174	12:38:20	4329	800
175	12:39:20	4321	800
176	12:40:20	4324	800
177	12:41:20	4325	800
178	12:42:20	4323	800
179	12:43:20	4326	800
180	12:44:20	4325	800
181	12:45:20	4322	800
182	12:46:20	4357	800
183	12:47:20	4349	800
184	12:48:20	4350	800
185	12:49:20	4353	800
186	12:50:20	4365	850
187	12:51:20	4360	850
188	12:52:20	4360	850
189	12:53:20	4364	850
190	12:54:20	4360	850
191	12:55:20	4367	850
192	12:56:20	4364	850
193	12:57:20	4370	850
194	12:58:20	4371	850
195	12:59:20	4370	850
196	13:00:20	4372	850
197	13:01:20	4376	850
198	13:02:20	4183	SI
199	13:03:20	4163	SI
200	13:04:20	4161	SI
201	13:05:20	4154	SI
202	13:06:20	4149	SI
203	13:07:20	4143	SI
204	13:08:20	4140	SI
205	13:09:20	4135	SI
206	13:10:20	4130	SI
207	13:11:20	4126	SI
208	13:12:20	4122	SI
209	13:13:20	4118	SI

NVAE #5 Step Rate Test North Vacuum Abo East Field Lea County, New Mexico



Date of Test: 8-2-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 5

Location: Unit B 18-T17S-R35E

Perforations: 8702'-8820'

Total Depth: 8850'

Plug Back TD: 8821'

Packer Set At: 8606'

Technician: Dale Shreffler

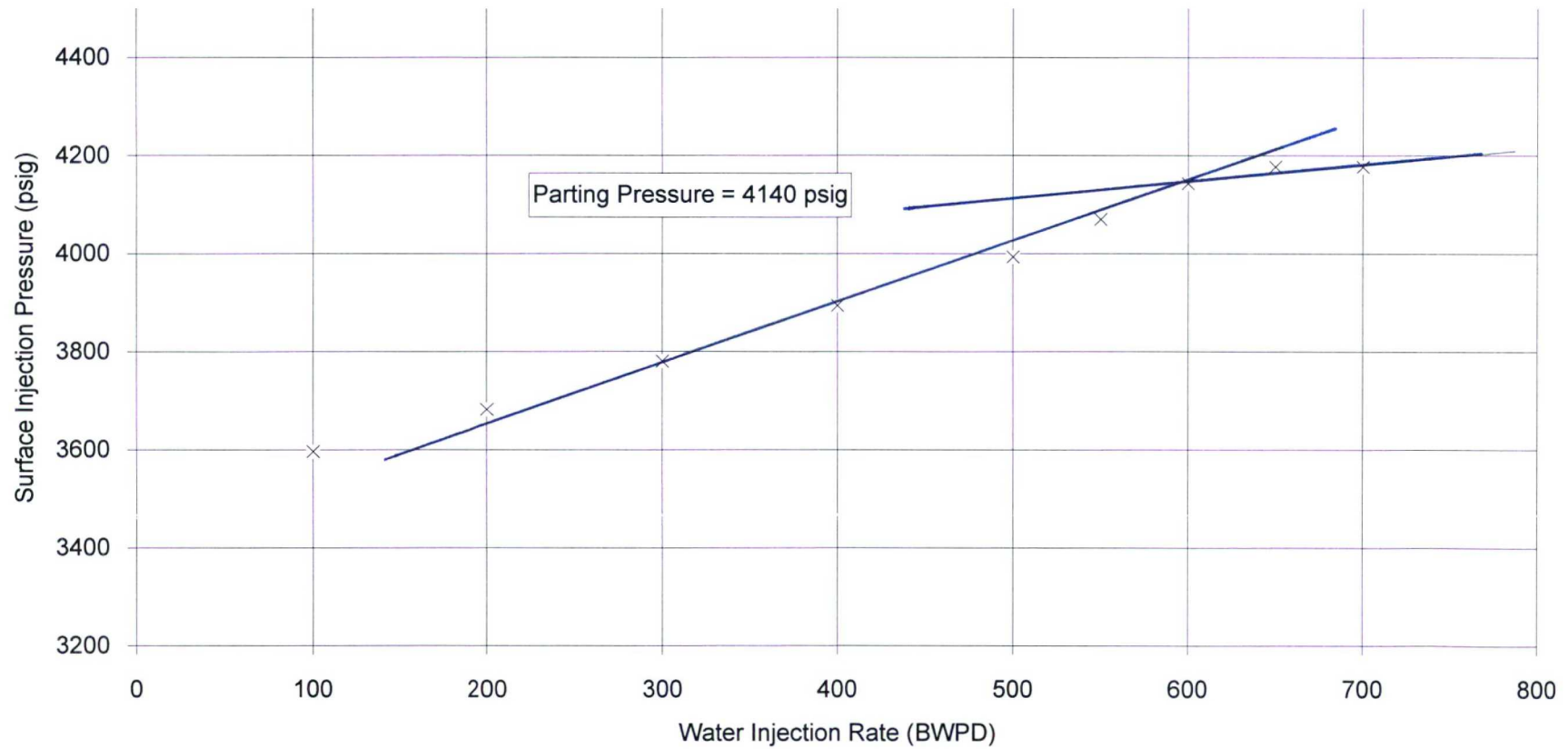
Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	8/2/94 Tuesday	9:00:28	3376	0
2		9:01:28	3376	0
3		9:02:28	3376	0
4		9:03:28	3376	0
5		9:04:28	3376	0
6		9:05:28	3376	0
7		9:06:28	3376	0
8		9:07:28	3376	0
9		9:08:28	3376	0
10		9:09:28	3376	0
11		9:10:28	3376	0
12		9:11:28	3377	0
13		9:12:28	3376	0
14		9:13:28	3376	0
15		9:14:28	3376	0
16		9:15:28	3382	100
17		9:16:28	3384	100
18		9:17:28	3386	100
19		9:18:28	3387	100
20		9:19:28	3389	100
21		9:20:28	3390	100
22		9:21:28	3391	100
23		9:22:28	3393	100
24		9:23:28	3393	100
25		9:24:28	3395	100
26		9:25:28	3400	100
27		9:26:28	3406	100
28		9:27:28	3410	100
29		9:28:28	3413	100
30		9:29:28	3416	100
31		9:30:28	3419	200
32		9:31:28	3421	200
33		9:32:28	3424	200
34		9:33:28	3426	200
35		9:34:28	3428	200
36		9:35:28	3430	200
37		9:36:28	3432	200
38		9:37:28	3434	200
39		9:38:28	3436	200
40		9:39:28	3438	200
41		9:40:28	3439	200
42		9:41:28	3451	200
43		9:42:28	3455	200
44		9:43:28	3459	200
45		9:44:28	3462	200
46		9:45:28	3469	300
47		9:46:28	3473	300
48		9:47:28	3477	300
49		9:48:28	3480	300

50	9:49:28	3484	300
51	9:50:28	3487	300
52	9:51:28	3490	300
53	9:52:28	3493	300
54	9:53:28	3496	300
55	9:54:28	3498	300
56	9:55:28	3501	300
57	9:56:28	3516	300
58	9:57:28	3522	300
59	9:58:28	3526	300
60	9:59:28	3530	300
61	10:00:28	3534	400
62	10:01:28	3538	400
63	10:02:28	3542	400
64	10:03:28	3545	400
65	10:04:28	3549	400
66	10:05:28	3551	400
67	10:06:28	3555	400
68	10:07:28	3558	400
69	10:08:28	3561	400
70	10:09:28	3565	400
71	10:10:28	3576	400
72	10:11:28	3587	400
73	10:12:28	3593	400
74	10:13:28	3597	400
75	10:14:28	3607	400
76	10:15:28	3598	500
77	10:16:28	3614	500
78	10:17:28	3619	500
79	10:18:28	3623	500
80	10:19:28	3627	500
81	10:20:28	3631	500
82	10:21:28	3634	500
83	10:22:28	3638	500
84	10:23:28	3641	500
85	10:24:28	3644	500
86	10:25:28	3647	500
87	10:26:28	3659	500
88	10:27:28	3664	500
89	10:28:28	3667	500
90	10:29:28	3671	500
91	10:30:28	3674	550
92	10:31:28	3678	550
93	10:32:28	3680	550
94	10:33:28	3685	550
95	10:34:28	3689	550
96	10:35:28	3692	550
97	10:36:28	3695	550
98	10:37:28	3697	550
99	10:38:28	3700	550
100	10:39:28	3703	550
101	10:40:28	3705	550
102	10:41:28	3717	550
103	10:42:28	3721	550
104	10:43:28	3724	550
105	10:44:28	3727	550
106	10:45:28	3729	600
107	10:46:28	3732	600
108	10:47:28	3735	600
109	10:48:28	3737	600
110	10:49:28	3739	600

111	10:50:28	3743	600
112	10:51:28	3744	600
113	10:52:28	3748	600
114	10:53:28	3750	600
115	10:54:28	3752	600
116	10:55:28	3764	600
117	10:56:28	3767	600
118	10:57:28	3770	600
119	10:58:28	3772	600
120	10:59:28	3774	600
121	11:00:28	3777	650
122	11:01:28	3779	650
123	11:02:28	3780	650
124	11:03:28	3786	650
125	11:04:28	3787	650
126	11:05:28	3789	650
127	11:06:28	3791	650
128	11:07:28	3793	650
129	11:08:28	3795	650
130	11:09:28	3797	650
131	11:10:28	3799	650
132	11:11:28	3811	650
133	11:12:28	3813	650
134	11:13:28	3815	650
135	11:14:28	3817	650
136	11:15:28	3819	700
137	11:16:28	3822	700
138	11:17:28	3824	700
139	11:18:28	3826	700
140	11:19:28	3828	700
141	11:20:28	3830	700
142	11:21:28	3831	700
143	11:22:28	3834	700
144	11:23:28	3835	700
145	11:24:28	3836	700
146	11:25:28	3838	700
147	11:26:28	3850	700
148	11:27:28	3851	700
149	11:28:28	3853	700
150	11:29:28	3854	700
151	11:30:28	3855	750
152	11:31:28	3857	750
153	11:32:28	3858	750
154	11:33:28	3858	750
155	11:34:28	3861	750
156	11:35:28	3863	750
157	11:36:28	3864	750
158	11:37:28	3865	750
159	11:38:28	3866	750
160	11:39:28	3867	750
161	11:40:28	3868	750
162	11:41:28	3878	750
163	11:42:28	3879	750
164	11:43:28	3880	750
165	11:44:28	3880	750
166	11:45:28	3881	800
167	11:46:28	3882	800

NVAE #6 Step Rate Test
North Vacuum Abo East Field
Lea County, New Mexico



Date of Test: 9-1-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 6

Location: Unit D 18-T17S-R35E

Perforations: 8592'-8780'

Total Depth: 8800'

Plug Back TD: 8790'

Packer Set At: 8503'

Technician: Dale Shreffler

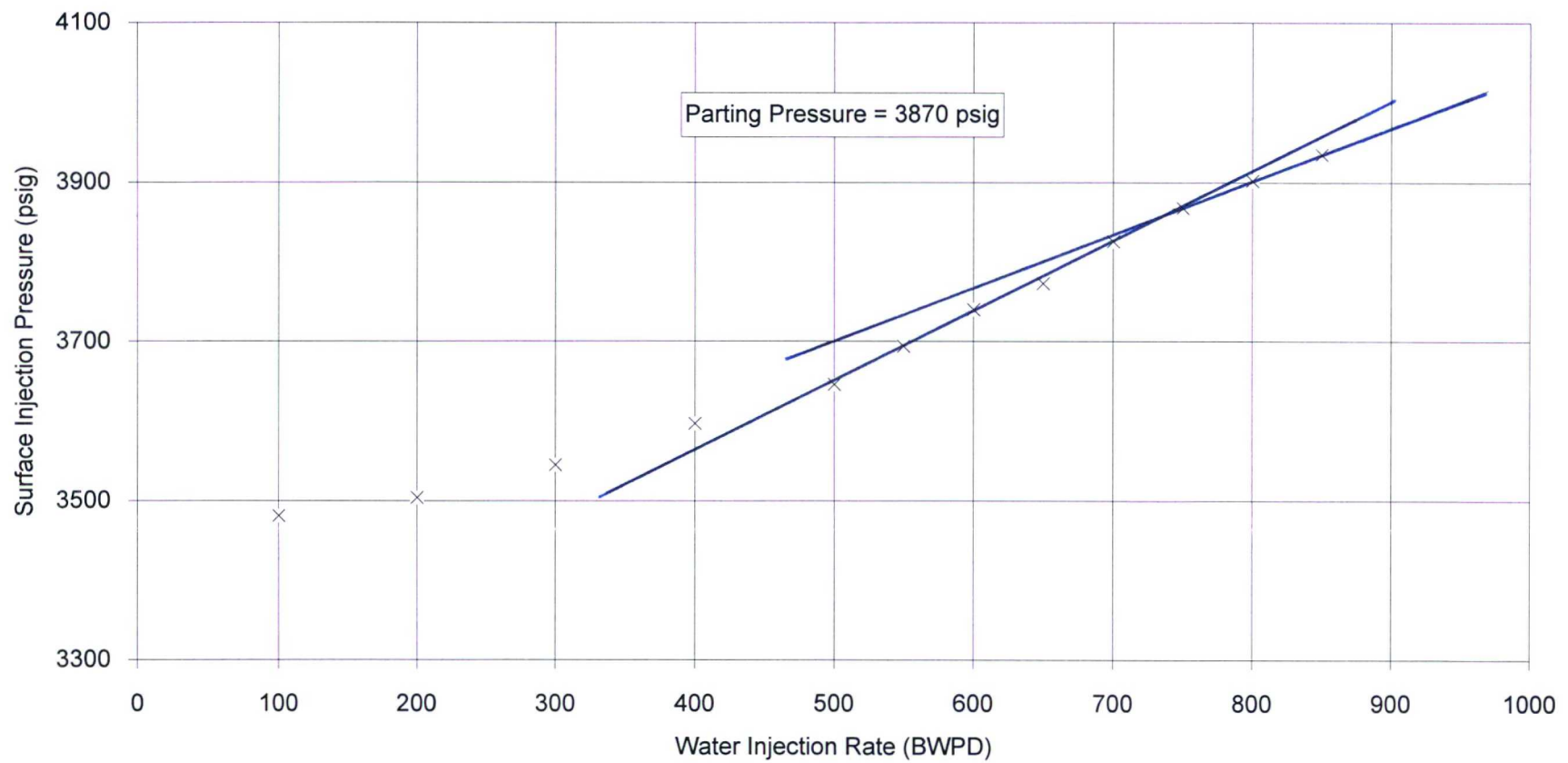
Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	9/1/94 Thursday	9:30:25	3476	0
2		9:31:25	3476	0
3		9:32:25	3476	0
4		9:33:25	3476	0
5		9:34:25	3476	0
6		9:35:25	3476	0
7		9:36:25	3476	0
8		9:37:25	3476	0
9		9:38:25	3476	0
10		9:39:25	3476	0
11		9:40:25	3476	0
12		9:41:25	3476	0
13		9:42:25	3476	0
14		9:43:25	3476	0
15		9:44:25	3476	0
16		9:45:25	3476	0
17		9:46:25	3476	0
18		9:47:25	3514	100
19		9:48:25	3511	100
20		9:49:25	3552	100
21		9:50:25	3551	100
22		9:51:25	3584	100
23		9:52:25	3516	100
24		9:53:25	3554	100
25		9:54:25	3555	100
26		9:55:25	3556	100
27		9:56:25	3557	100
28		9:57:25	3558	100
29		9:58:25	3560	100
30		9:59:25	3561	100
31		10:00:25	3563	100
32		10:01:25	3574	100
33		10:02:25	3581	100
34		10:03:25	3586	100
35		10:04:25	3591	100
36		10:05:25	3596	200
37		10:06:25	3605	200
38		10:07:25	3608	200
39		10:08:25	3613	200
40		10:09:25	3617	200
41		10:10:25	3621	200
42		10:11:25	3625	200
43		10:12:25	3628	200
44		10:13:25	3631	200
45		10:14:25	3635	200
46		10:15:25	3638	200
47		10:16:25	3654	200
48		10:17:25	3661	200
49		10:18:25	3670	200

50	10:19:25	3676	200
51	10:20:25	3682	300
52	10:21:25	3687	300
53	10:22:25	3692	300
54	10:23:25	3696	300
55	10:24:25	3701	300
56	10:25:25	3705	300
57	10:26:25	3709	300
58	10:27:25	3713	300
59	10:28:25	3717	300
60	10:29:25	3720	300
61	10:30:25	3724	300
62	10:31:25	3754	300
63	10:32:25	3759	300
64	10:33:25	3765	300
65	10:34:25	3771	300
66	10:35:25	3780	400
67	10:36:25	3786	400
68	10:37:25	3791	400
69	10:38:25	3796	400
70	10:39:25	3807	400
71	10:40:25	3812	400
72	10:41:25	3817	400
73	10:42:25	3821	400
74	10:43:25	3826	400
75	10:44:25	3830	400
76	10:45:25	3834	400
77	10:46:25	3788	400
78	10:47:25	3871	400
79	10:48:25	3878	400
80	10:49:25	3877	400
81	10:50:25	3894	500
82	10:51:25	3906	500
83	10:52:25	3902	500
84	10:53:25	3914	500
85	10:54:25	3927	500
86	10:55:25	3928	500
87	10:56:25	3926	500
88	10:57:25	3944	500
89	10:58:25	3956	500
90	10:59:25	3945	500
91	11:00:25	3956	500
92	11:01:25	3959	500
93	11:02:25	3984	500
94	11:03:25	3970	500
95	11:04:25	3973	500
96	11:05:25	3993	550
97	11:06:25	3999	550
98	11:07:25	3987	550
99	11:08:25	4001	550
100	11:09:25	4019	550
101	11:10:25	4015	550
102	11:11:25	4007	550
103	11:12:25	4018	550
104	11:13:25	4037	550
105	11:14:25	4039	550
106	11:15:25	4025	550
107	11:16:25	4056	550
108	11:17:25	4055	550
109	11:18:25	4055	550
110	11:19:25	4061	550

111	11:20:25	4070	600
112	11:21:25	4071	600
113	11:22:25	4076	600
114	11:23:25	4082	600
115	11:24:25	4083	600
116	11:25:25	4088	600
117	11:26:25	4094	600
118	11:27:25	4092	600
119	11:28:25	4109	600
120	11:29:25	4118	600
121	11:30:25	4123	600
122	11:31:25	4128	600
123	11:32:25	4131	600
124	11:33:25	4138	600
125	11:34:25	4142	600
126	11:35:25	4143	650
127	11:36:25	4146	650
128	11:37:25	4149	650
129	11:38:25	4152	650
130	11:39:25	4153	650
131	11:40:25	4157	650
132	11:41:25	4161	650
133	11:42:25	4163	650
134	11:43:25	4164	650
135	11:44:25	4165	650
136	11:45:25	4167	650
137	11:46:25	4170	650
138	11:47:25	4174	650
139	11:48:25	4176	650
140	11:49:25	4175	650
141	11:50:25	4177	700
142	11:51:25	4178	700
143	11:52:25	4106	SI
144	11:53:25	4091	SI
145	11:54:25	4072	SI
146	11:55:25	4063	SI
147	11:56:25	4056	SI
148	11:57:25	4048	SI
149	11:58:25	4042	SI
150	11:59:25	4036	SI
151	12:00:25	4030	SI
152	12:01:25	4024	SI
153	12:02:25	4019	SI
154	12:03:25	4014	SI
155	12:04:25	4006	SI
156	12:05:25	4001	SI
157	12:06:25	3996	SI
158	12:07:25	3992	SI
159	12:08:25	3987	SI
160	12:09:25	3983	SI
161	12:10:25	3979	SI
162	12:11:25	3974	SI
163	12:12:25	3970	SI
164	12:13:25	3967	SI
165	12:14:25	3963	SI
166	12:15:25	3959	SI

NVAE #7 Step Rate Test North Vacuum Abo East Field Lea County, New Mexico



Date of Test: 8-4-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 7

Location: Unit F 18-T17S-R35E

Perforations: 8661'-8809'

Total Depth: 8850'

Plug Back TD: 8848'

Packer Set At: 8623'

Technician: Dale Shreffler

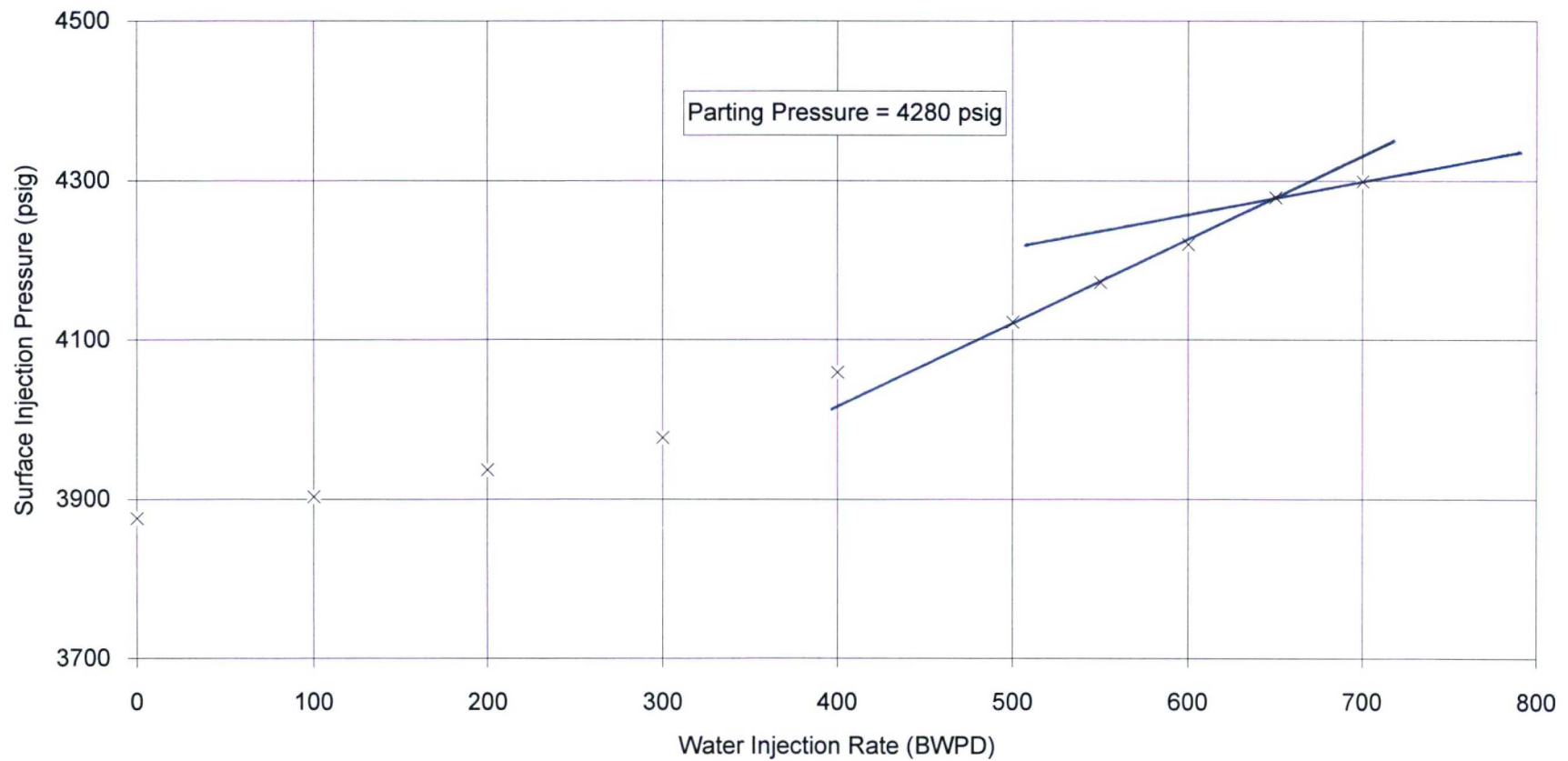
Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	8/4/94 Thursday	8:45:28	3478	0
2		8:46:28	3478	0
3		8:47:28	3478	0
4		8:48:28	3478	0
5		8:49:28	3478	0
6		8:50:28	3478	0
7		8:51:28	3478	0
8		8:52:28	3478	0
9		8:53:28	3478	0
10		8:54:28	3478	0
11		8:55:28	3478	0
12		8:56:28	3478	0
13		8:57:28	3478	0
14		8:58:28	3478	0
15		8:59:28	3478	0
16		9:00:28	3478	100
17		9:01:28	3483	100
18		9:02:28	3478	100
19		9:03:28	3478	100
20		9:04:28	3479	100
21		9:05:28	3479	100
22		9:06:28	3480	100
23		9:07:28	3480	100
24		9:08:28	3480	100
25		9:09:28	3481	100
26		9:10:28	3481	100
27		9:11:28	3488	100
28		9:12:28	3490	100
29		9:13:28	3492	100
30		9:14:28	3493	100
31		9:15:28	3494	200
32		9:16:28	3496	200
33		9:17:28	3496	200
34		9:18:28	3497	200
35		9:19:28	3499	200
36		9:20:28	3499	200
37		9:21:28	3500	200
38		9:22:28	3501	200
39		9:23:28	3502	200
40		9:24:28	3503	200
41		9:25:28	3504	200
42		9:26:28	3516	200
43		9:27:28	3519	200
44		9:28:28	3513	200
45		9:29:28	3527	200
46		9:30:28	3529	300
47		9:31:28	3531	300
48		9:32:28	3533	300
49		9:33:28	3534	300

50	9:34:28	3536	300
51	9:35:28	3538	300
52	9:36:28	3539	300
53	9:37:28	3540	300
54	9:38:28	3541	300
55	9:39:28	3543	300
56	9:40:28	3544	300
57	9:41:28	3562	300
58	9:42:28	3566	300
59	9:43:28	3569	300
60	9:44:28	3572	300
61	9:45:28	3574	400
62	9:46:28	3576	400
63	9:47:28	3578	400
64	9:48:28	3580	400
65	9:49:28	3582	400
66	9:50:28	3586	400
67	9:51:28	3589	400
68	9:52:28	3591	400
69	9:53:28	3593	400
70	9:54:28	3595	400
71	9:55:28	3597	400
72	9:56:28	3616	400
73	9:57:28	3617	400
74	9:58:28	3621	400
75	9:59:28	3623	400
76	10:00:28	3626	500
77	10:01:28	3628	500
78	10:02:28	3630	500
79	10:03:28	3632	500
80	10:04:28	3634	500
81	10:05:28	3636	500
82	10:06:28	3639	500
83	10:07:28	3640	500
84	10:08:28	3642	500
85	10:09:28	3644	500
86	10:10:28	3646	500
87	10:11:28	3661	500
88	10:12:28	3662	500
89	10:13:28	3664	500
90	10:14:28	3666	500
91	10:15:28	3668	550
92	10:16:28	3673	550
93	10:17:28	3678	550
94	10:18:28	3680	550
95	10:19:28	3683	550
96	10:20:28	3684	550
97	10:21:28	3686	550
98	10:22:28	3689	550
99	10:23:28	3691	550
100	10:24:28	3692	550
101	10:25:28	3694	550
102	10:26:28	3709	550
103	10:27:28	3711	550
104	10:28:28	3713	550
105	10:29:28	3715	550
106	10:30:28	3722	600
107	10:31:28	3723	600
108	10:32:28	3725	600
109	10:33:28	3727	600
110	10:34:28	3729	600

111	10:35:28	3731	600
112	10:36:28	3733	600
113	10:37:28	3734	600
114	10:38:28	3736	600
115	10:39:28	3737	600
116	10:40:28	3739	600
117	10:41:28	3740	600
118	10:42:28	3754	600
119	10:43:28	3756	600
120	10:44:28	3758	600
121	10:45:28	3759	650
122	10:46:28	3761	650
123	10:47:28	3763	650
124	10:48:28	3764	650
125	10:49:28	3765	650
126	10:50:28	3767	650
127	10:51:28	3768	650
128	10:52:28	3769	650
129	10:53:28	3771	650
130	10:54:28	3772	650
131	10:55:28	3773	650
132	10:56:28	3775	650
133	10:57:28	3792	650
134	10:58:28	3793	650
135	10:59:28	3794	650
136	11:00:28	3795	700
137	11:01:28	3798	700
138	11:02:28	3799	700
139	11:03:28	3801	700
140	11:04:28	3802	700
141	11:05:28	3816	700
142	11:06:28	3818	700
143	11:07:28	3819	700
144	11:08:28	3820	700
145	11:09:28	3823	700
146	11:10:28	3826	700
147	11:11:28	3828	700
148	11:12:28	3830	700
149	11:13:28	3832	700
150	11:14:28	3838	700
151	11:15:28	3841	750
152	11:16:28	3842	750
153	11:17:28	3844	750
154	11:18:28	3845	750
155	11:19:28	3847	750
156	11:20:28	3848	750
157	11:21:28	3850	750
158	11:22:28	3851	750
159	11:23:28	3852	750
160	11:24:28	3867	750
161	11:25:28	3869	750
162	11:26:28	3871	750
163	11:27:28	3873	750
164	11:28:28	3879	750
165	11:29:28	3886	750
166	11:30:28	3888	800
167	11:31:28	3889	800

NVAE #8 Step Rate Test North Vacuum Abo East Field Lea County, New Mexico



Date of Test: 9-19-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 8

Location: Unit H 18-T17S-R35E

Perforations: 8733'-8873'

Total Depth: 8910'

Plug Back TD: 8881'

Packer Set At: 8643'

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	9/19/94	13:30:21	17	0
2	Monday	13:31:21	27	0
3		13:32:21	25	0
4		13:33:21	14	0
5		13:34:21	14	0
6		13:35:21	14	0
7		13:36:21	14	0
8		13:37:21	14	0
9		13:38:21	14	0
10		13:39:21	14	0
11		13:40:21	14	0
12		13:41:21	14	0
13		13:42:21	14	0
14		13:43:21	14	0
15		13:44:21	14	0
16		13:45:21	3859	0
17		13:46:21	3881	0
18		13:47:21	3872	0
19		13:48:21	3874	0
20		13:49:21	3876	0
21		13:50:21	3878	100
22		13:51:21	3879	100
23		13:52:21	3880	100
24		13:53:21	3881	100
25		13:54:21	3882	100
26		13:55:21	3884	100
27		13:56:21	3885	100
28		13:57:21	3886	100
29		13:58:21	3887	100
30		13:59:21	3887	100
31		14:00:21	3888	100
32		14:01:21	3896	100
33		14:02:21	3898	100
34		14:03:21	3901	100
35		14:04:21	3903	100
36		14:05:21	3905	200
37		14:06:21	3907	200
38		14:07:21	3908	200
39		14:08:21	3910	200
40		14:09:21	3911	200
41		14:10:21	3913	200
42		14:11:21	3914	200
43		14:12:21	3916	200
44		14:13:21	3917	200
45		14:14:21	3919	200
46		14:15:21	3920	200
47		14:16:21	3927	200
48		14:17:21	3932	200
49		14:18:21	3935	200

50	14:19:21	3937	200
51	14:20:21	3940	300
52	14:21:21	3942	300
53	14:22:21	3944	300
54	14:23:21	3946	300
55	14:24:21	3948	300
56	14:25:21	3950	300
57	14:26:21	3952	300
58	14:27:21	3953	300
59	14:28:21	3955	300
60	14:29:21	3956	300
61	14:30:21	3958	300
62	14:31:21	3968	300
63	14:32:21	3970	300
64	14:33:21	3974	300
65	14:34:21	3977	300
66	14:35:21	3980	400
67	14:36:21	3981	400
68	14:37:21	3984	400
69	14:38:21	3985	400
70	14:39:21	3987	400
71	14:40:21	3990	400
72	14:41:21	3991	400
73	14:42:21	3993	400
74	14:43:21	3994	400
75	14:44:21	3996	400
76	14:45:21	3998	400
77	14:46:21	4002	400
78	14:47:21	4005	400
79	14:48:21	4017	400
80	14:49:21	4059	400
81	14:50:21	4058	500
82	14:51:21	4064	500
83	14:52:21	4072	500
84	14:53:21	4072	500
85	14:54:21	4077	500
86	14:55:21	4080	500
87	14:56:21	4080	500
88	14:57:21	4084	500
89	14:58:21	4087	500
90	14:59:21	4092	500
91	15:00:21	4091	500
92	15:01:21	4110	500
93	15:02:21	4116	500
94	15:03:21	4120	500
95	15:04:21	4122	500
96	15:05:21	4128	550
97	15:06:21	4128	550
98	15:07:21	4131	550
99	15:08:21	4131	550
100	15:09:21	4136	550
101	15:10:21	4138	550
102	15:11:21	4138	550
103	15:12:21	4143	550
104	15:13:21	4142	550
105	15:14:21	4151	550
106	15:15:21	4162	550
107	15:16:21	4164	550
108	15:17:21	4172	550
109	15:18:21	4167	550
110	15:19:21	4172	550

111	15:20:21	4184	600
112	15:21:21	4188	600
113	15:22:21	4190	600
114	15:23:21	4190	600
115	15:24:21	4188	600
116	15:25:21	4192	600
117	15:26:21	4194	600
118	15:27:21	4196	600
119	15:28:21	4200	600
120	15:29:21	4203	600
121	15:30:21	4203	600
122	15:31:21	4210	600
123	15:32:21	4213	600
124	15:33:21	4218	600
125	15:34:21	4220	600
126	15:35:21	4221	650
127	15:36:21	4225	650
128	15:37:21	4238	650
129	15:38:21	4236	650
130	15:39:21	4237	650
131	15:40:21	4239	650
132	15:41:21	4240	650
133	15:42:21	4239	650
134	15:43:21	4244	650
135	15:44:21	4245	650
136	15:45:21	4248	650
137	15:46:21	4265	650
138	15:47:21	4271	650
139	15:48:21	4275	650
140	15:49:21	4279	650
141	15:50:21	4279	700
142	15:51:21	4284	700
143	15:52:21	4282	700
144	15:53:21	4285	700
145	15:54:21	4284	700
146	15:55:21	4288	700
147	15:56:21	4290	700
148	15:57:21	4293	700
149	15:58:21	4291	700
150	15:59:21	4293	700
151	16:00:21	4299	700
152	16:01:21	4175	SI
153	16:02:21	4180	SI
154	16:03:21	4175	SI
155	16:04:21	4171	SI
156	16:05:21	4167	SI
157	16:06:21	4164	SI
158	16:07:21	4162	SI
159	16:08:21	4159	SI
160	16:09:21	4156	SI
161	16:10:21	4154	SI
162	16:11:21	4152	SI
163	16:12:21	4149	SI
164	16:13:21	4149	SI
165	16:14:21	4146	SI
166	16:15:21	4144	SI
167	16:16:21	4143	SI
168	16:17:21	4140	SI
169	16:18:21	4139	SI
170	16:19:21	4138	SI
171	16:20:21	4136	SI

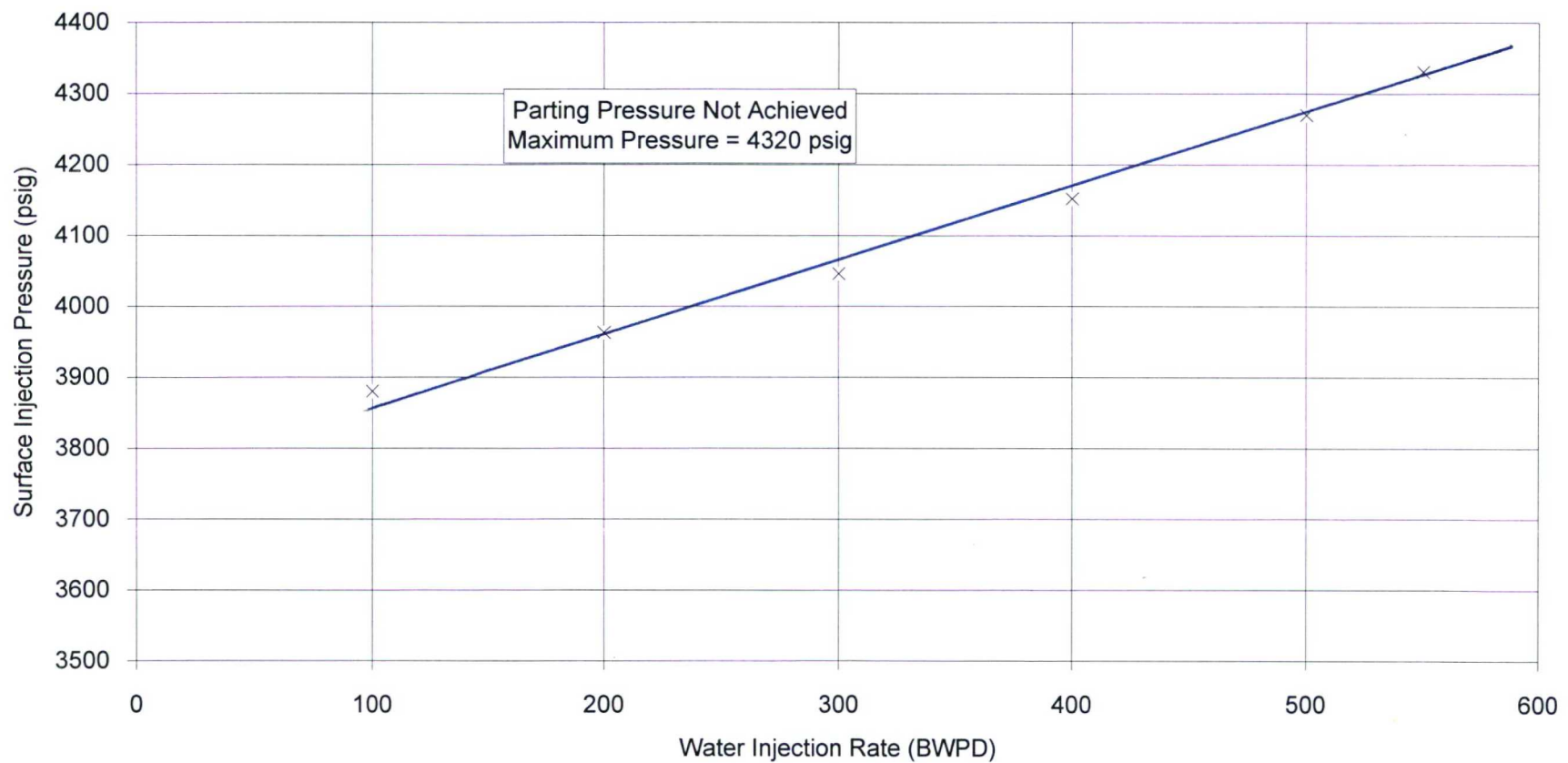
172
End Test

16:21:21

4135

SI

NVAE #9 Step Rate Test North Vacuum Abo East Field Lea County, New Mexico



Date of Test: 7-21-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 9

Location: Unit J 18-T17S-R35E

Perforations: 8696'-8834'

Total Depth: 12515'

Plug Back TD: 8850'

Packer Set At: 8640'

Technician: Dale Shreffler

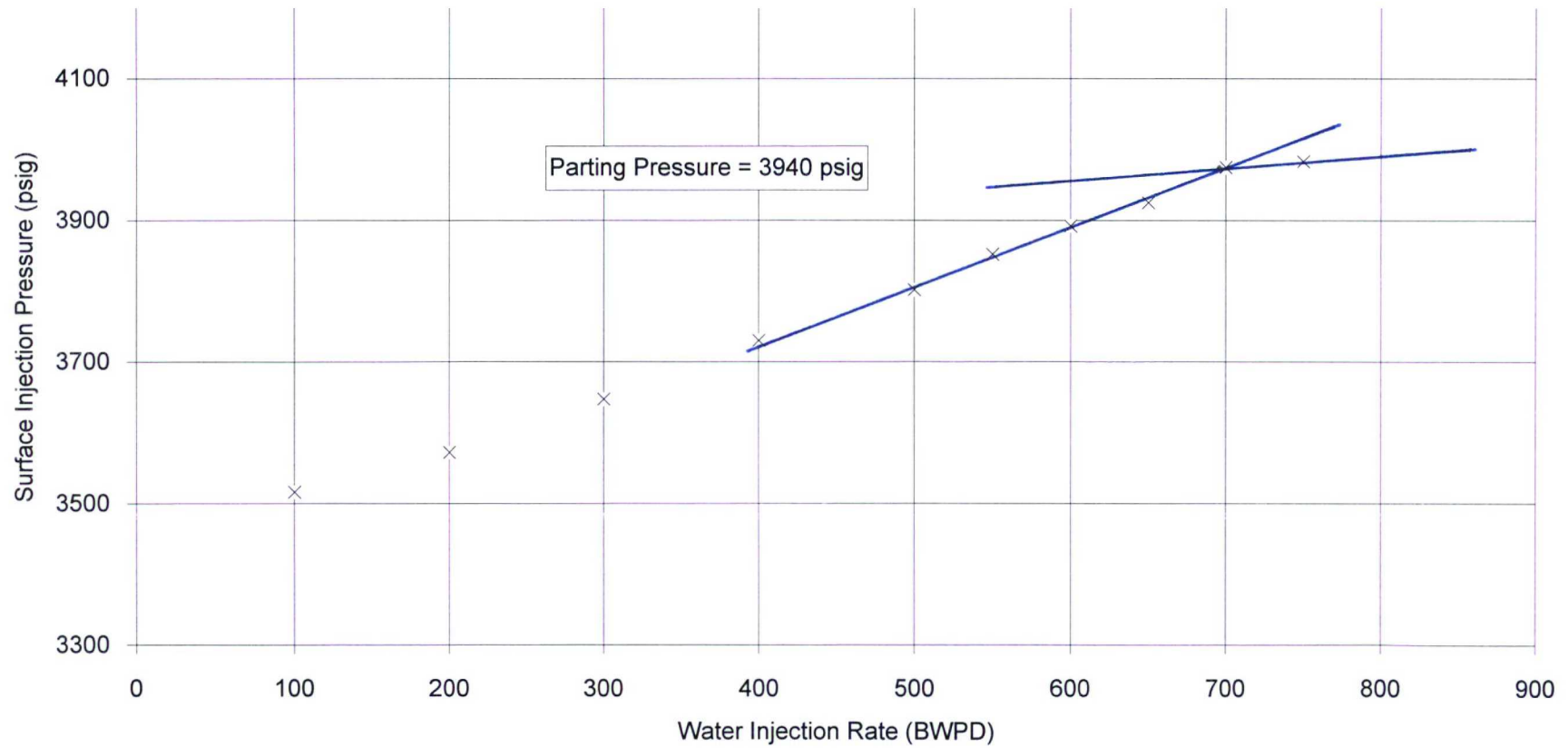
Engineer: Chad Jones

<u>Record</u>	<u>Date</u>	<u>Time</u>	<u>Surface Pressure</u>	<u>Injection Rate (BWPD)</u>
1	7/21/94 Thursday	9:30:28	15	0
2		9:31:28	15	0
3		9:32:28	15	0
4		9:33:28	15	0
5		9:34:28	15	0
6		9:35:28	3844	100
7		9:36:28	3854	100
8		9:37:28	3859	100
9		9:38:28	3863	100
10		9:39:28	3866	100
11		9:40:28	3869	100
12		9:41:28	3872	100
13		9:42:28	3875	100
14		9:43:28	3876	100
15		9:44:28	3878	100
16		9:45:28	3904	100
17		9:46:28	3901	100
18		9:47:28	3908	100
19		9:48:28	3913	100
20		9:49:28	3918	100
21		9:50:28	3922	200
22		9:51:28	3926	200
23		9:52:28	3930	200
24		9:53:28	3938	200
25		9:54:28	3942	200
26		9:55:28	3946	200
27		9:56:28	3950	200
28		9:57:28	3954	200
29		9:58:28	3958	200
30		9:59:28	3961	200
31		10:00:28	3974	200
32		10:01:28	3987	200
33		10:02:28	3993	200
34		10:03:28	3998	200
35		10:04:28	4003	200
36		10:05:28	4007	300
37		10:06:28	4011	300
38		10:07:28	4015	300
39		10:08:28	4022	300
40		10:09:28	4027	300
41		10:10:28	4030	300
42		10:11:28	4034	300
43		10:12:28	4038	300
44		10:13:28	4040	300
45		10:14:28	4044	300
46		10:15:28	4046	300
47		10:16:28	4079	300
48		10:17:28	4088	300
49		10:18:28	4095	300

50	10:19:28	4102	300
51	10:20:28	4106	400
52	10:21:28	4112	400
53	10:22:28	4117	400
54	10:23:28	4122	400
55	10:24:28	4126	400
56	10:25:28	4131	400
57	10:26:28	4136	400
58	10:27:28	4139	400
59	10:28:28	4143	400
60	10:29:28	4147	400
61	10:30:28	4149	400
62	10:31:28	4153	400
63	10:32:28	4160	400
64	10:33:28	4164	400
65	10:34:28	4167	400
66	10:35:28	4270	500
67	10:36:28	4195	500
68	10:37:28	4113	500
69	10:38:28	4104	500
70	10:39:28	4210	500
71	10:40:28	4210	500
72	10:41:28	4221	500
73	10:42:28	4225	500
74	10:43:28	4232	500
75	10:44:28	4238	500
76	10:45:28	4248	550
77	10:46:28	4253	550
78	10:47:28	4259	550
79	10:48:28	4288	550
80	10:49:28	4284	550
81	10:50:28	4170	550
82	10:51:28	4270	550
83	10:52:28	4284	550
84	10:53:28	4294	550
85	10:54:28	4300	550
86	10:55:28	4307	550
87	10:56:28	4312	550
88	10:57:28	4317	550
89	10:58:28	4322	550
90	10:59:28	4325	550
91	11:00:28	4219	SI
92	11:01:28	4202	SI
93	11:02:28	4188	SI
94	11:03:28	4179	SI
95	11:04:28	4173	SI
96	11:05:28	4166	SI
97	11:06:28	4159	SI
98	11:07:28	4154	SI
99	11:08:28	4148	SI
100	11:09:28	4144	SI
101	11:10:28	4140	SI
102	11:11:28	4136	SI
103	11:12:28	4131	SI
104	11:13:28	4127	SI
105	11:14:28	4124	SI
106	11:15:28	4121	SI
107	11:16:28	4117	SI
108	11:17:28	4113	SI
109	11:18:28	4110	SI
110	11:19:28	4108	SI

111	11:20:28	4105	SI
112	11:21:28	4102	SI
113	11:22:28	4098	SI
114	11:23:28	4096	SI
115	11:24:28	4094	SI
116	11:25:28	4090	SI
117	11:26:28	4088	SI
118	11:27:28	4086	SI
119	11:28:28	4083	SI
120	11:29:28	4082	SI
121	11:30:28	4080	SI
122	11:31:28	4078	SI
123	11:32:28	4075	SI
124	11:33:28	4074	SI
125	11:34:28	4072	SI
126	11:35:28	4070	SI
127	11:36:28	4068	SI
128	11:37:28	4066	SI
129	11:38:28	4064	SI
130	11:39:28	4063	SI
131	11:40:28	4061	SI
132	11:41:28	4059	SI
133	11:42:28	4058	SI
134	11:43:28	4055	SI
135	11:44:28	4054	SI
136	11:45:28	4053	SI
137	11:46:28	4051	SI
138	11:47:28	4050	SI
139	11:48:28	4049	SI
140	11:49:28	4047	SI
141	11:50:28	4045	SI
142	11:51:28	4044	SI
143	11:52:28	4043	SI
144	11:53:28	4041	SI
145	11:54:28	4039	SI
146	11:55:28	4039	SI
147	11:56:28	4037	SI
148	11:57:28	4037	SI
149	11:58:28	4035	SI
150	11:59:28	4033	SI
151	12:00:28	4032	SI
152	12:01:28	4031	SI
153	12:02:28	4029	SI
154	12:03:28	4028	SI
155	12:04:28	4027	SI
156	12:05:28	4026	SI
157	12:06:28	4025	SI
158	12:07:28	4025	SI
159	12:08:28	4023	SI
160	12:09:28	4021	SI
161	12:10:28	4021	SI
162	12:11:28	4020	SI
163	12:12:28	4019	SI
164	12:13:28	4017	SI
165	12:14:28	4016	SI
166	12:15:28	4015	SI
167	12:16:28	4014	SI

NVAE #10 Step Rate Test
North Vacuum Abo East Field
Lea County, New Mexico



Date of Test: 7-22-94

Step Rate Test

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

Lease: North Vacuum Abo East Unit

Well No: 10

Location: Unit L 18-T17S-R35E

Perforations: 8620'-8765'

Total Depth: 8800'

Plug Back TD: 8785'

Packer Set At: 8534'

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	7/22/94	11:30:40	3230	0
2	Friday	11:31:40	3204	0
3		11:32:40	3141	0
4		11:33:40	3301	0
5		11:34:40	3225	0
6		11:35:40	3387	100
7		11:36:40	3494	100
8		11:37:40	3498	100
9		11:38:40	3501	100
10		11:39:40	3504	100
11		11:40:40	3506	100
12		11:41:40	3508	100
13		11:42:40	3510	100
14		11:43:40	3512	100
15		11:44:40	3514	100
16		11:45:40	3515	100
17		11:46:40	3525	100
18		11:47:40	3531	100
19		11:48:40	3535	100
20		11:49:40	3539	100
21		11:50:40	3543	100
22		11:51:40	3547	200
23		11:52:40	3550	200
24		11:53:40	3553	200
25		11:54:40	3556	200
26		11:55:40	3559	200
27		11:56:40	3562	200
28		11:57:40	3564	200
29		11:58:40	3567	200
30		11:59:40	3570	200
31		12:00:40	3571	200
32		12:01:40	3585	200
33		12:02:40	3591	200
34		12:03:40	3596	200
35		12:04:40	3601	200
36		12:05:40	3609	300
37		12:06:40	3614	300
38		12:07:40	3618	300
39		12:08:40	3623	300
40		12:09:40	3627	300
41		12:10:40	3631	300
42		12:11:40	3634	300
43		12:12:40	3638	300
44		12:13:40	3642	300
45		12:14:40	3646	300
46		12:15:40	3648	300
47		12:16:40	3661	300
48		12:17:40	3665	300
49		12:18:40	3672	300

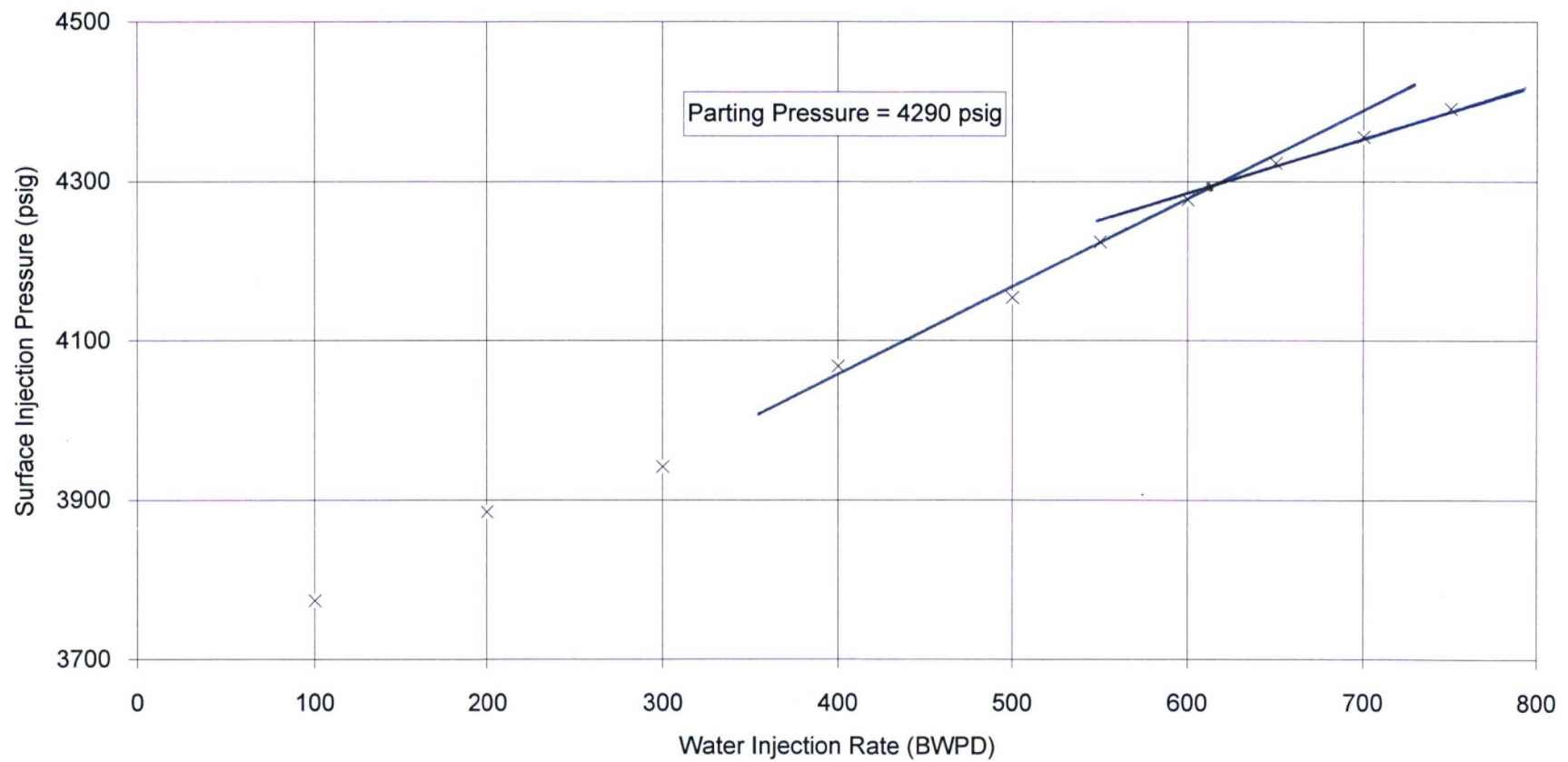
50	12:19:40	3676	300
51	12:20:40	3680	400
52	12:21:40	3684	400
53	12:22:40	3688	400
54	12:23:40	3692	400
55	12:24:40	3696	400
56	12:25:40	3701	400
57	12:26:40	3705	400
58	12:27:40	3710	400
59	12:28:40	3714	400
60	12:29:40	3718	400
61	12:30:40	3733	400
62	12:31:40	3737	400
63	12:32:40	3744	400
64	12:33:40	3750	400
65	12:34:40	3756	400
66	12:35:40	3760	500
67	12:36:40	3765	500
68	12:37:40	3773	500
69	12:38:40	3778	500
70	12:39:40	3782	500
71	12:40:40	3784	500
72	12:41:40	3788	500
73	12:42:40	3791	500
74	12:43:40	3794	500
75	12:44:40	3798	500
76	12:45:40	3801	550
77	12:46:40	3804	550
78	12:47:40	3813	550
79	12:48:40	3817	550
80	12:49:40	3820	550
81	12:50:40	3823	550
82	12:51:40	3826	550
83	12:52:40	3829	550
84	12:53:40	3832	550
85	12:54:40	3835	550
86	12:55:40	3840	550
87	12:56:40	3842	550
88	12:57:40	3844	550
89	12:58:40	3847	550
90	12:59:40	3849	550
91	13:00:40	3851	550
92	13:01:40	3860	550
93	13:02:40	3863	550
94	13:03:40	3865	550
95	13:04:40	3868	550
96	13:05:40	3870	600
97	13:06:40	3873	600
98	13:07:40	3874	600
99	13:08:40	3877	600
100	13:09:40	3880	600
101	13:10:40	3883	600
102	13:11:40	3885	600
103	13:12:40	3887	600
104	13:13:40	3889	600
105	13:14:40	3891	600
106	13:15:40	3892	600
107	13:16:40	3888	600
108	13:17:40	3903	600
109	13:18:40	3905	600
110	13:19:40	3907	600

111	13:20:40	3909	650
112	13:21:40	3911	650
113	13:22:40	3912	650
114	13:23:40	3914	650
115	13:24:40	3916	650
116	13:25:40	3918	650
117	13:26:40	3921	650
118	13:27:40	3922	650
119	13:28:40	3923	650
120	13:29:40	3924	650
121	13:30:40	3927	650
122	13:31:40	3929	650
123	13:32:40	3930	650
124	13:33:40	3930	650
125	13:34:40	3952	650
126	13:35:40	3955	700
127	13:36:40	3958	700
128	13:37:40	3960	700
129	13:38:40	3962	700
130	13:39:40	3964	700
131	13:40:40	3966	700
132	13:41:40	3968	700
133	13:42:40	3970	700
134	13:43:40	3972	700
135	13:44:40	3973	700
136	13:45:40	3975	700
137	13:46:40	3977	700
138	13:47:40	3978	700
139	13:48:40	3980	700
140	13:49:40	3981	700
141	13:50:40	3983	750
142	13:51:40	3984	750
143	13:52:40	3962	750
144	13:53:40	3925	750
145	13:54:40	3923	750
146	13:55:40	3917	SI
147	13:56:40	3914	SI
148	13:57:40	3910	SI
149	13:58:40	3906	SI
150	13:59:40	3904	SI
151	14:00:40	3901	SI
152	14:01:40	3898	SI
153	14:02:40	3895	SI
154	14:03:40	3893	SI
155	14:04:40	3891	SI
156	14:05:40	3888	SI
157	14:06:40	3886	SI
158	14:07:40	3884	SI
159	14:08:40	3884	SI
160	14:09:40	3882	SI
161	14:10:40	3880	SI
162	14:11:40	3878	SI
163	14:12:40	3877	SI
164	14:13:40	3875	SI
165	14:14:40	3874	SI
166	14:15:40	3872	SI
167	14:16:40	3871	SI

NVAE #11 Step Rate Test

North Vacuum Abo East 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 East Unit

Well No: 11

Location: Unit N 18-T17S-R35E

Perforations: 8672'-8722'

Total Depth: 8850'

Plug Back TD: 8814'

Packer Set At: 8596'

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	7:45:20	13	0
2	Tuesday	7:46:20	13	0
3		7:47:20	13	0
4		7:48:20	12	0
5		7:49:20	12	0
6		7:50:20	12	0
7		7:51:20	12	0
8		7:52:20	12	0
9		7:53:20	12	0
10		7:54:20	12	0
11		7:55:20	12	0
12		7:56:20	12	0
13		7:57:20	12	0
14		7:58:20	12	0
15		7:59:20	12	0
16		8:00:20	3488	0
17		8:01:20	3546	0
18		8:02:20	3574	0
19		8:03:20	3598	0
20		8:04:20	3618	0
21		8:05:20	3634	100
22		8:06:20	3649	100
23		8:07:20	3662	100
24		8:08:20	3674	100
25		8:09:20	3685	100
26		8:10:20	3695	100
27		8:11:20	3705	100
28		8:12:20	3714	100
29		8:13:20	3722	100
30		8:14:20	3729	100
31		8:15:20	3736	100
32		8:16:20	3743	100
33		8:17:20	3753	100
34		8:18:20	3764	100
35		8:19:20	3774	100
36		8:20:20	3783	200
37		8:21:20	3790	200
38		8:22:20	3798	200
39		8:23:20	3805	200
40		8:24:20	3811	200
41		8:25:20	3818	200
42		8:26:20	3824	200
43		8:27:20	3829	200
44		8:28:20	3835	200
45		8:29:20	3840	200
46		8:30:20	3845	200
47		8:31:20	3858	200
48		8:32:20	3870	200
49		8:33:20	3878	200

50	8:34:20	3885	200
51	8:35:20	3892	300
52	8:36:20	3898	300
53	8:37:20	3905	300
54	8:38:20	3910	300
55	8:39:20	3915	300
56	8:40:20	3920	300
57	8:41:20	3925	300
58	8:42:20	3930	300
59	8:43:20	3934	300
60	8:44:20	3938	300
61	8:45:20	3942	300
62	8:46:20	3934	300
63	8:47:20	3954	300
64	8:48:20	3901	300
65	8:49:20	3942	300
66	8:50:20	3971	400
67	8:51:20	3976	400
68	8:52:20	3980	400
69	8:53:20	3988	400
70	8:54:20	3994	400
71	8:55:20	4000	400
72	8:56:20	4006	400
73	8:57:20	4011	400
74	8:58:20	4017	400
75	8:59:20	4023	400
76	9:00:20	4028	400
77	9:01:20	4044	400
78	9:02:20	4051	400
79	9:03:20	4059	400
80	9:04:20	4068	400
81	9:05:20	4074	500
82	9:06:20	4079	500
83	9:07:20	4087	500
84	9:08:20	4093	500
85	9:09:20	4098	500
86	9:10:20	4104	500
87	9:11:20	4109	500
88	9:12:20	4115	500
89	9:13:20	4119	500
90	9:14:20	4124	500
91	9:15:20	4129	500
92	9:16:20	4135	500
93	9:17:20	4146	500
94	9:18:20	4148	500
95	9:19:20	4154	500
96	9:20:20	4160	550
97	9:21:20	4166	550
98	9:22:20	4169	550
99	9:23:20	4174	550
100	9:24:20	4177	550
101	9:25:20	4181	550
102	9:26:20	4183	550
103	9:27:20	4189	550
104	9:28:20	4193	550
105	9:29:20	4194	550
106	9:30:20	4202	550
107	9:31:20	4212	550
108	9:32:20	4217	550
109	9:33:20	4221	550
110	9:34:20	4224	550

111	9:35:20	4226	600
112	9:36:20	4233	600
113	9:37:20	4235	600
114	9:38:20	4236	600
115	9:39:20	4243	600
116	9:40:20	4244	600
117	9:41:20	4249	600
118	9:42:20	4250	600
119	9:43:20	4254	600
120	9:44:20	4255	600
121	9:45:20	4259	600
122	9:46:20	4268	600
123	9:47:20	4271	600
124	9:48:20	4276	600
125	9:49:20	4277	600
126	9:50:20	4280	650
127	9:51:20	4284	650
128	9:52:20	4287	650
129	9:53:20	4292	650
130	9:54:20	4295	650
131	9:55:20	4297	650
132	9:56:20	4302	650
133	9:57:20	4304	650
134	9:58:20	4307	650
135	9:59:20	4312	650
136	10:00:20	4312	650
137	10:01:20	4320	650
138	10:02:20	4324	650
139	10:03:20	4328	650
140	10:04:20	4323	650
141	10:05:20	4328	700
142	10:06:20	4330	700
143	10:07:20	4331	700
144	10:08:20	4332	700
145	10:09:20	4335	700
146	10:10:20	4336	700
147	10:11:20	4336	700
148	10:12:20	4337	700
149	10:13:20	4337	700
150	10:14:20	4343	700
151	10:15:20	4344	700
152	10:16:20	4349	700
153	10:17:20	4356	700
154	10:18:20	4357	700
155	10:19:20	4356	700
156	10:20:20	4358	750
157	10:21:20	4362	750
158	10:22:20	4360	750
159	10:23:20	4363	750
160	10:24:20	4362	750
161	10:25:20	4363	750
162	10:26:20	4364	750
163	10:27:20	4365	750
164	10:28:20	4365	750
165	10:29:20	4367	750
166	10:30:20	4365	750
167	10:31:20	4391	750
168	10:32:20	4314	SI
169	10:33:20	4296	SI
170	10:34:20	4292	SI
171	10:35:20	4289	SI

172	10:36:20	4284	SI
173	10:37:20	4281	SI
174	10:38:20	4277	SI
175	10:39:20	4273	SI
176	10:40:20	4269	SI
177	10:41:20	4267	SI
178	10:42:20	4263	SI
179	10:43:20	4259	SI
180	10:44:20	4257	SI
181	10:45:20	4254	SI
182	10:46:20	4251	SI
183	10:47:20	4249	SI
184	10:48:20	4246	SI
185	10:49:20	4242	SI
186	10:50:20	4242	SI
187	10:51:20	4239	SI
End Test			

