

Mobil Exploration & Producing U.S. Inc.

July 12, 1988

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

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

Attention: Mr. W. J. LeMay

INJECTION PRESSURE INCREASE REQUEST
NORTH VACUUM ABO FIELD
NORTH VACUUM UNIT
WELL NO. 131 160, and 230
LEA COUNTY, NEW MEXICO

Gentlemen:

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

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 131 UNIT B, SEC. 10 T-17-S, R-34-E Order No. PMX-140	8663-8722'	1733 psig	3450 psig
WELL No. 160 UNIT B, SEC. 12 T-17-S, R-34-E Order No. PMX-140	8580-8652'	2780 psig	3530 psig

State of New Mexico
North Vacuum Abo Unit

-2-

July 12, 1988

WELL NO. 230			
UNIT J, SEC. 13	8528-8781'	3323 psig	4010 psig
T-17-S, R-34-E			
Order No. WFX-557			

Enclosed are copies of the Step-rate test.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Manager

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

CCSmith/arr

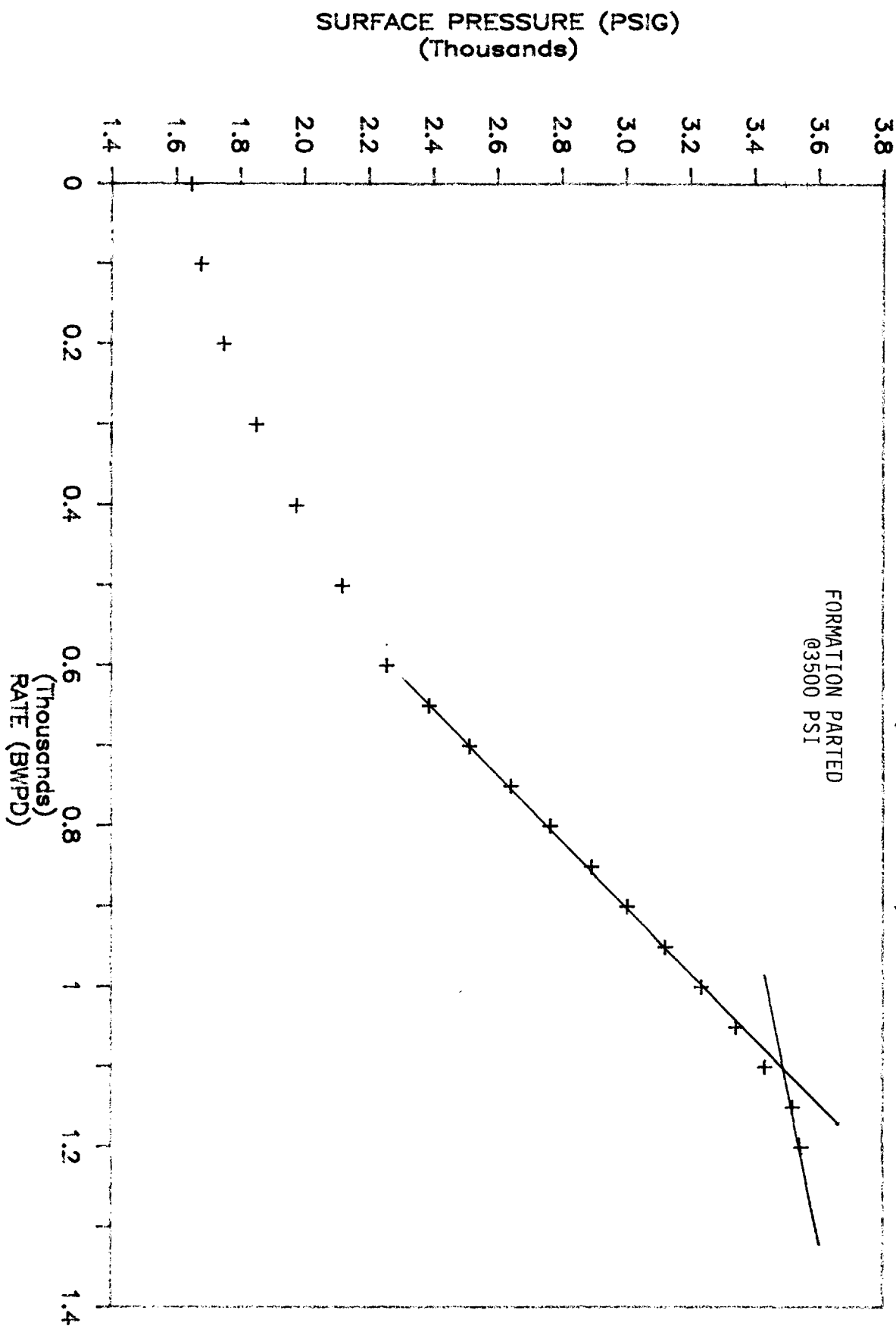
Attachments

cc: District Director OCD - Hobbs

STEP RATE TEST

NVAU 131 (RUN 6-22-88)

FORMATION PARTED
@3500 PSI



STEP RATE TEST -----

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 131
LOCATION: L13-T17S-R34E
TEST DATE: 6-22-88
PERFORATIONS: 8663'-8722'
TOTAL DEPTH: 8850'
PLUG BACK TD: 8817'
PACKER SET AT: 8610'

TIME	SURFACE PRESSURE	RATE (B
08:45	1649	0
08:46	1646	0
08:47	1644	0
08:48	1642	0
08:49	1640	0
08:50	1636	0
08:51	1645	0
08:52	1647	0
08:53	1648	0
08:54	1650	100
08:55	1650	100
08:56	1651	100
08:57	1651	100
08:58	1651	100
08:59	1652	100
09:00	1652	100
09:01	1653	100
09:02	1653	100
09:03	1653	100
09:04	1653	100
09:05	1658	100
09:06	1668	100
09:07	1674	100
09:08	1679	100
09:09	1683	200
09:10	1686	200
09:11	1689	200
09:12	1692	200
09:13	1695	200
09:14	1698	200
09:15	1701	200
09:16	1703	200
09:17	1706	200
09:18	1708	200
09:19	1711	200
09:20	1713	200
09:21	1732	200
09:22	1742	200
09:23	1749	200
09:24	1756	300
09:25	1761	300
09:26	1767	300
09:27	1773	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 131
 LOCATION: L13-T17S-R34E
 TEST DATE: 6-22-88
 PERFORATIONS: 8663'-8722'
 TOTAL DEPTH: 8850'
 PLUG BACK TD: 8817'
 PACKER SET AT: 8610'

TIME	SURFACE PRESSURE	RATE (B
09:28	1777	300
09:29	1782	300
09:30	1787	300
09:31	1791	300
09:32	1795	300
09:33	1799	300
09:34	1803	300
09:35	1808	300
09:36	1833	300
09:37	1843	300
09:38	1852	300
09:39	1859	400
09:40	1867	400
09:41	1873	400
09:42	1880	400
09:43	1886	400
09:44	1892	400
09:45	1898	400
09:46	1903	400
09:47	1908	400
09:48	1913	400
09:49	1917	400
09:50	1933	400
09:51	1957	400
09:52	1967	400
09:53	1977	400
09:54	1986	500
09:55	1994	500
09:56	2002	500
09:57	2008	500
09:58	2017	500
09:59	2024	500
10:00	2031	500
10:01	2038	500
10:02	2044	500
10:03	2051	500
10:04	2057	500
10:05	2086	500
10:06	2099	500
10:07	2110	500
10:08	2120	500
10:09	2129	600
10:10	2138	600

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 131
 LOCATION: L13-T17S-R34E
 TEST DATE: 6-22-88
 PERFORATIONS: 8663'-8722'
 TOTAL DEPTH: 8850'
 PLUG BACK TD: 8817'
 PACKER SET AT: 8610'

TIME	SURFACE PRESSURE	RATE (B
10:11	2146	600
10:12	2155	600
10:13	2163	600
10:14	2170	600
10:15	2177	600
10:16	2185	600
10:17	2192	600
10:18	2199	600
10:19	2206	600
10:20	2239	600
10:21	2240	600
10:22	2249	600
10:23	2258	600
10:24	2266	650
10:25	2273	650
10:26	2281	650
10:27	2289	650
10:28	2296	650
10:29	2303	650
10:30	2310	650
10:31	2318	650
10:32	2323	650
10:33	2334	650
10:34	2341	650
10:35	2362	650
10:36	2372	650
10:37	2381	650
10:38	2389	650
10:39	2397	700
10:40	2405	700
10:41	2412	700
10:42	2419	700
10:43	2426	700
10:44	2434	700
10:45	2440	700
10:46	2446	700
10:47	2452	700
10:48	2460	700
10:49	2467	700
10:50	2489	700
10:51	2498	700
10:52	2507	700
10:53	2515	700

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 131
 LOCATION: L13-T17S-R34E
 TEST DATE: 6-22-88
 PERFORATIONS: 8663'-8722'
 TOTAL DEPTH: 8850'
 PLUG BACK TD: 8817'
 PACKER SET AT: 8610'

TIME	SURFACE PRESSURE	RATE (B
10:54	2522	750
10:55	2529	750
10:56	2536	750
10:57	2543	750
10:58	2550	750
10:59	2563	750
11:00	2569	750
11:01	2576	750
11:02	2583	750
11:03	2590	750
11:04	2597	750
11:05	2618	750
11:06	2627	750
11:07	2635	750
11:08	2644	750
11:09	2651	800
11:10	2658	800
11:11	2665	800
11:12	2672	800
11:13	2679	800
11:14	2685	800
11:15	2692	800
11:16	2698	800
11:17	2705	800
11:18	2711	800
11:19	2719	800
11:20	2742	800
11:21	2751	800
11:22	2759	800
11:23	2767	800
11:24	2774	850
11:25	2781	850
11:26	2792	850
11:27	2793	850
11:28	2800	850
11:29	2807	850
11:30	2813	850
11:31	2819	850
11:32	2833	850
11:33	2841	850
11:34	2843	850
11:35	2868	850
11:36	2875	850

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 131
LOCATION: L13-T17S-R34E
TEST DATE: 6-22-88
PERFORATIONS: 8663'-8722'
TOTAL DEPTH: 8850'
PLUG BACK TD: 8817'
PACKER SET AT: 8610'

TIME	SURFACE PRESSURE	RATE (B
11:37	2885	850
11:38	2895	850
11:39	2900	900
11:40	2906	900
11:41	2912	900
11:42	2918	900
11:43	2926	900
11:44	2934	900
11:45	2939	900
11:46	2943	900
11:47	2950	900
11:48	2955	900
11:49	2961	900
11:50	2985	900
11:51	2994	900
11:52	3001	900
11:53	3007	900
11:54	3013	950
11:55	3020	950
11:56	3025	950
11:57	3030	950
11:58	3041	950
11:59	3048	950
12:00	3055	950
12:01	3059	950
12:02	3067	950
12:03	3072	950
12:04	3078	950
12:05	3105	950
12:06	3111	950
12:07	3119	950
12:08	3126	950
12:09	3132	1000
12:10	3137	1000
12:11	3143	1000
12:12	3149	1000
12:13	3154	1000
12:14	3160	1000
12:15	3173	1000
12:16	3179	1000
12:17	3185	1000
12:18	3191	1000
12:19	3197	1000

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 131
 LOCATION: L13-T17S-R34E
 TEST DATE: 6-22-88
 PERFORATIONS: 8663'-8722'
 TOTAL DEPTH: 8850'
 PLUG BACK TD: 8817'
 PACKER SET AT: 8610'

TIME	SURFACE PRESSURE	RATE (B
12:20	3219	1000
12:21	3227	1000
12:22	3232	1000
12:23	3238	1000
12:24	3244	1050
12:25	3250	1050
12:26	3256	1050
12:27	3261	1050
12:28	3269	1050
12:29	3275	1050
12:30	3280	1050
12:31	3286	1050
12:32	3291	1050
12:33	3295	1050
12:34	3300	1050
12:35	3324	1050
12:36	3330	1050
12:37	3335	1050
12:38	3346	1050
12:39	3351	1100
12:40	3357	1100
12:41	3362	1100
12:42	3366	1100
12:43	3371	1100
12:44	3375	1100
12:45	3379	1100
12:46	3383	1100
12:47	3386	1100
12:48	3390	1100
12:49	3394	1100
12:50	3420	1100
12:51	3425	1100
12:52	3429	1100
12:53	3434	1100
12:54	3438	1150
12:55	3441	1150
12:56	3448	1150
12:57	3449	1150
12:58	3452	1150
12:59	3454	1150
13:00	3460	1150
13:01	3469	1150
13:02	3473	1150

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 131
LOCATION: L13-T17S-R34E
TEST DATE: 6-22-88
PERFORATIONS: 8663'-8722'
TOTAL DEPTH: 8850'
PLUG BACK TD: 8817'
PACKER SET AT: 8610'

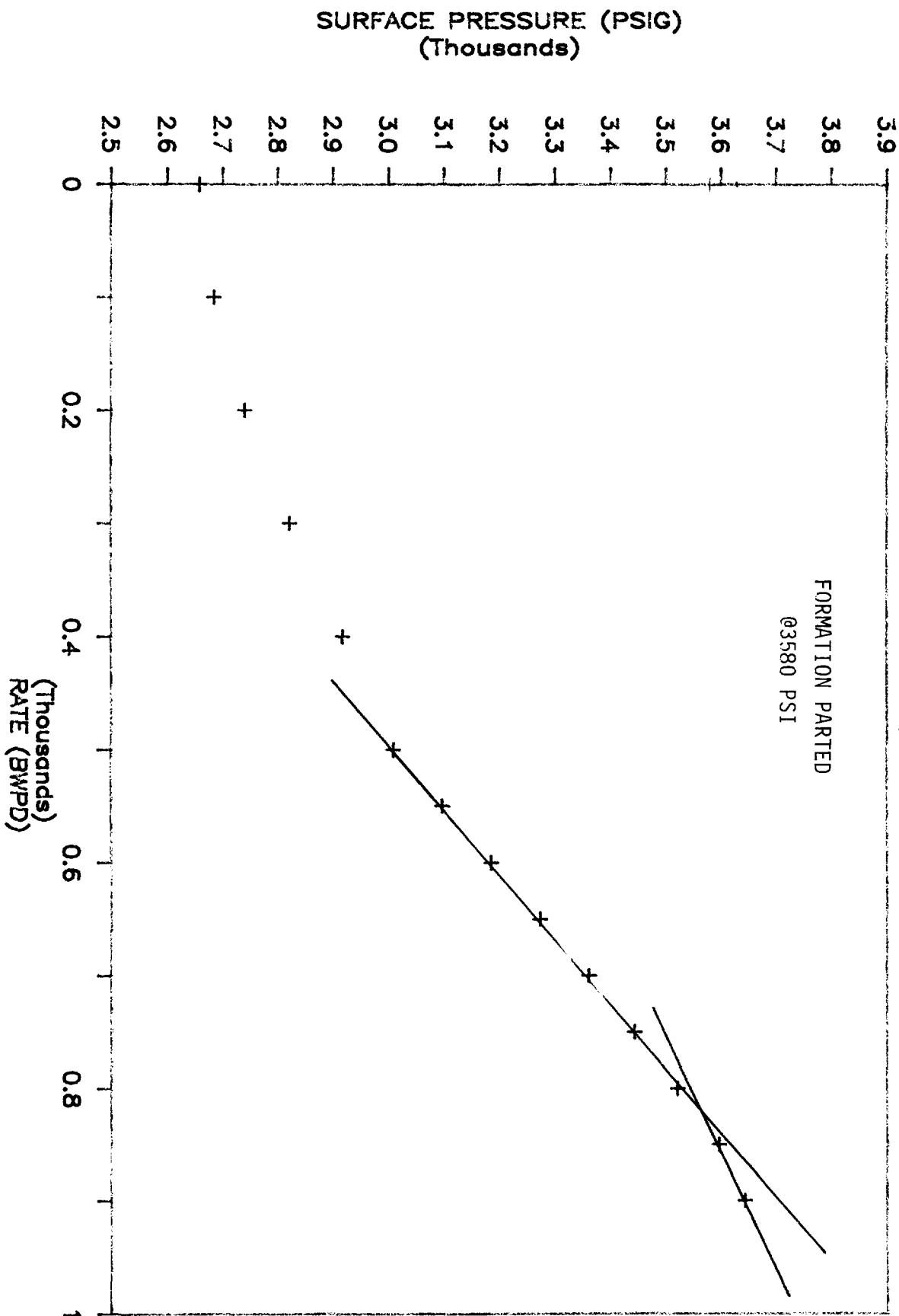
TIME	SURFACE PRESSURE	RATE (B
13:03	3476	1150
13:04	3483	1150
13:05	3505	1150
13:06	3511	1150
13:07	3516	1150
13:08	3520	1150
13:09	3524	1200
13:10	3526	1200
13:11	3530	1200
13:12	3533	1200
13:13	3535	1200
13:14	3539	1200
13:15	3542	1200
13:16	3541	1200
13:17	3543	1200
13:18	3546	1200
13:19	3548	0
13:20	3348	0
13:21	3304	0
13:22	3277	0
13:23	3253	0
13:24	3230	0

STEP RATE TEST

NVAU 160 (RUN 6--22--88)

FORMATION PARTED

@3580 PSI



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 160
 LOCATION: B-12-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-22-88
 PERFORATIONS: 8580'-8652'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8761'
 PACKER SET AT: 8525'

TIME	SURFACE PRESSURE	RATE (BWPD)
13:43	2650	0
13:44	2648	0
13:45	2654	0
13:46	2655	0
13:47	2657	0
13:48	2658	0
13:49	2659	100
13:50	2660	100
13:51	2660	100
13:52	2661	100
13:53	2661	100
13:54	2662	100
13:55	2662	100
13:56	2663	100
13:57	2663	100
13:58	2663	100
13:59	2663	100
14:00	2668	100
14:01	2676	100
14:02	2680	100
14:03	2684	100
14:04	2687	200
14:05	2690	200
14:06	2693	200
14:07	2695	200
14:08	2698	200
14:09	2700	200
14:10	2702	200
14:11	2704	200
14:12	2706	200
14:13	2708	200
14:14	2710	200
14:15	2712	200
14:16	2728	200
14:17	2734	200
14:18	2740	200
14:19	2745	300
14:20	2750	300
14:21	2752	300
14:22	2757	300
14:23	2761	300
14:24	2765	300
14:25	2769	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 160
 LOCATION: B-12-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-22-88
 PERFORATIONS: 8580'-8652'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8761'
 PACKER SET AT: 8525'

TIME	SURFACE PRESSURE	RATE (BWPD)

14:26	2772	300
14:27	2776	300
14:28	2779	300
14:29	2782	300
14:30	2789	300
14:31	2806	300
14:32	2814	300
14:33	2821	300
14:34	2827	400
14:35	2833	400
14:36	2839	400
14:37	2844	400
14:38	2849	400
14:39	2854	400
14:40	2859	400
14:41	2863	400
14:42	2868	400
14:43	2872	400
14:44	2876	400
14:45	2892	400
14:46	2902	400
14:47	2910	400
14:48	2917	400
14:49	2924	500
14:50	2930	500
14:51	2936	500
14:52	2942	500
14:53	2948	500
14:54	2953	500
14:55	2958	500
14:56	2964	500
14:57	2968	500
14:58	2973	500
14:59	2978	500
15:00	2990	500
15:01	2997	500
15:02	3003	500
15:03	3009	500
15:04	3014	550
15:05	3020	550
15:06	3025	550
15:07	3030	550
15:08	3035	550

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 160
 LOCATION: B-12-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-22-88
 PERFORATIONS: 8580'-8652'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8761'
 PACKER SET AT: 8525'

TIME	SURFACE PRESSURE	RATE (BWPD)
15:09	3040	550
15:10	3045	550
15:11	3049	550
15:12	3056	550
15:13	3061	550
15:14	3066	550
15:15	3079	550
15:16	3086	550
15:17	3092	550
15:18	3097	550
15:19	3103	600
15:20	3106	600
15:21	3112	600
15:22	3119	600
15:23	3124	600
15:24	3129	600
15:25	3134	600
15:26	3139	600
15:27	3143	600
15:28	3148	600
15:29	3153	600
15:30	3167	600
15:31	3174	600
15:32	3180	600
15:33	3185	600
15:34	3190	650
15:35	3195	650
15:36	3200	650
15:37	3205	650
15:38	3209	650
15:39	3214	650
15:40	3218	650
15:41	3223	650
15:42	3229	650
15:43	3234	650
15:44	3238	650
15:45	3256	650
15:46	3263	650
15:47	3269	650
15:48	3273	650
15:49	3280	700
15:50	3284	700
15:51	3288	700

STEP RATE TEST

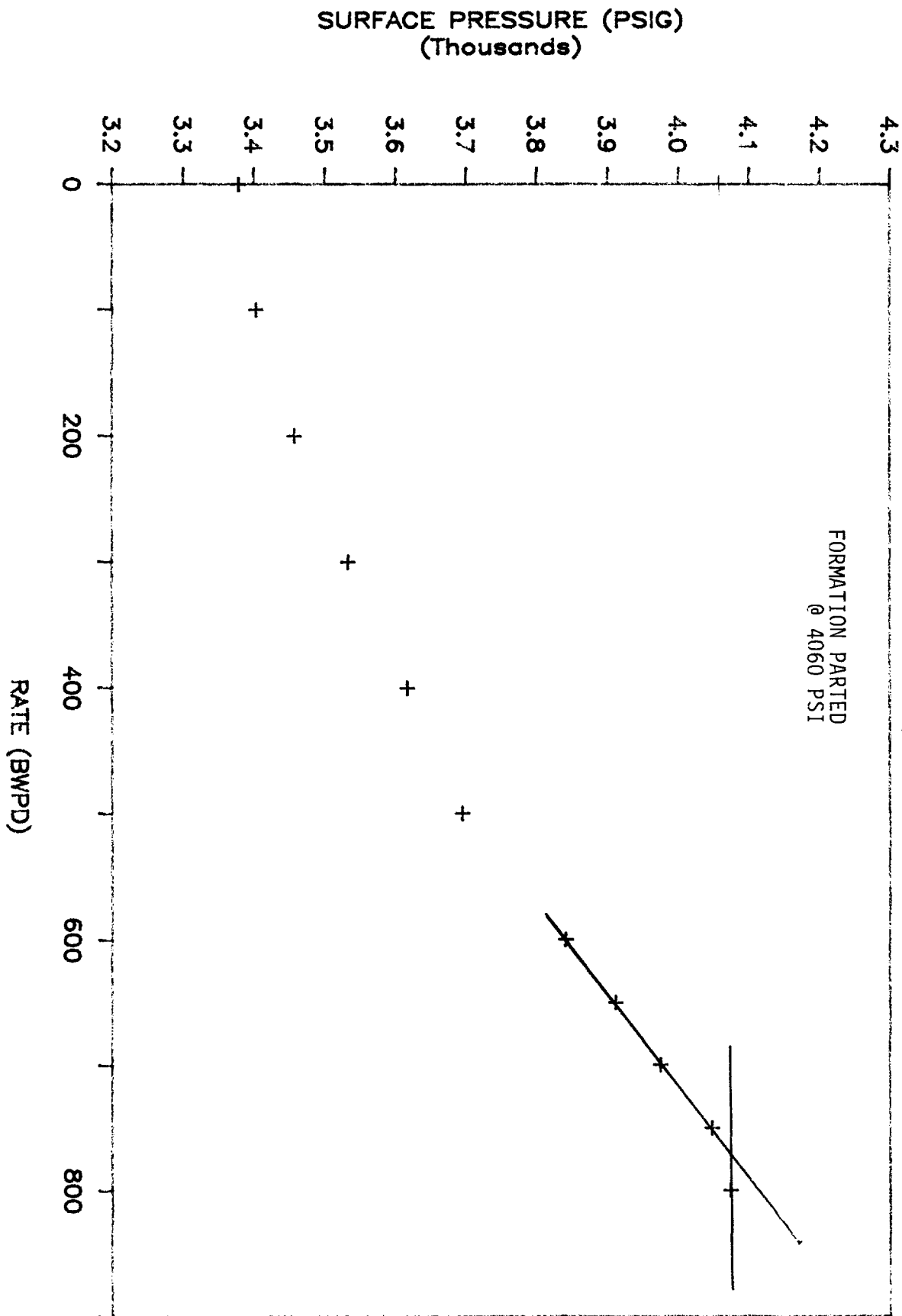
 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 160
 LOCATION: B-12-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-22-88
 PERFORATIONS: 8580'-8652'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8761'
 PACKER SET AT: 8525'

TIME	SURFACE PRESSURE	RATE (BWPD)
15:52	3295	700
15:53	3298	700
15:54	3305	700
15:55	3309	700
15:56	3317	700
15:57	3320	700
15:58	3325	700
15:59	3330	700
16:00	3344	700
16:01	3350	700
16:02	3356	700
16:03	3361	700
16:04	3365	750
16:05	3369	750
16:06	3374	750
16:07	3379	750
16:08	3384	750
16:09	3388	750
16:10	3392	750
16:11	3396	750
16:12	3400	750
16:13	3404	750
16:14	3410	750
16:15	3427	750
16:16	3433	750
16:17	3439	750
16:18	3443	750
16:19	3448	800
16:20	3451	800
16:21	3456	800
16:22	3460	800
16:23	3465	800
16:24	3469	800
16:25	3473	800
16:26	3477	800
16:27	3481	800
16:28	3487	800
16:29	3491	800
16:30	3507	800
16:31	3512	800
16:32	3517	800
16:33	3521	800
16:34	3526	850

STEP RATE TEST

NVAU 230 (RUN 6--23--88)

FORMATION PARTED
@ 4060 PSI



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 230
 LOCATION: J-15-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-23-88
 PERFORATIONS: 8528'-8781'
 TOTAL DEPTH: 10,582'
 PLUG BACK TD: 10,106'
 PACKER SET AT: 8482'

TIME	SURFACE PRESSURE	RATE (BWPd)
11:00	3375	0
11:01	3372	0
11:02	3371	0
11:03	3370	0
11:04	3368	0
11:05	3368	0
11:06	3376	0
11:07	3377	0
11:08	3379	0
11:09	3380	100
11:10	3380	100
11:11	3381	100
11:12	3382	100
11:13	3383	100
11:14	3383	100
11:15	3384	100
11:16	3385	100
11:17	3385	100
11:18	3385	100
11:19	3386	100
11:20	3386	100
11:21	3394	100
11:22	3399	100
11:23	3404	100
11:24	3407	200
11:25	3409	200
11:26	3412	200
11:27	3414	200
11:28	3416	200
11:29	3418	200
11:30	3420	200
11:31	3421	200
11:32	3424	200
11:33	3426	200
11:34	3428	200
11:35	3430	200
11:36	3448	200
11:37	3454	200
11:38	3458	200
11:39	3462	300
11:40	3466	300
11:41	3469	300
11:42	3472	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 230
 LOCATION: J-15-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-23-88
 PERFORATIONS: 8528'-8781'
 TOTAL DEPTH: 10,582'
 PLUG BACK TD: 10,106'
 PACKER SET AT: 8482'

TIME	SURFACE PRESSURE	RATE (BWPD)
11:43	3475	300
11:44	3478	300
11:45	3481	300
11:46	3484	300
11:47	3486	300
11:48	3489	300
11:49	3492	300
11:50	3495	300
11:51	3522	300
11:52	3526	300
11:53	3534	300
11:54	3537	400
11:55	3539	400
11:56	3545	400
11:57	3549	400
11:58	3552	400
11:59	3556	400
12:00	3559	400
12:01	3563	400
12:02	3567	400
12:03	3569	400
12:04	3573	400
12:05	3576	400
12:06	3607	400
12:07	3612	400
12:08	3618	400
12:09	3622	500
12:10	3626	500
12:11	3631	500
12:12	3635	500
12:13	3638	500
12:14	3643	500
12:15	3646	500
12:16	3650	500
12:17	3659	500
12:18	3664	500
12:19	3667	500
12:20	3672	500
12:21	3682	500
12:22	3688	500
12:23	3695	500
12:24	3698	550
12:25	3705	550

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 230
 LOCATION: J-15-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-23-88
 PERFORATIONS: 8528'-8781'
 TOTAL DEPTH: 10,582'
 PLUG BACK TD: 10,106'
 PACKER SET AT: 8482'

TIME	SURFACE PRESSURE	RATE (BWPD)
12:26	3709	550
12:27	3712	550
12:28	3716	550
12:29	3720	550
12:30	3724	550
12:31	3728	550
12:32	3731	550
12:33	3734	550
12:34	3737	550
12:35	3741	550
12:36	3761	550
12:37	3766	550
12:38	3770	550
12:39	3774	600
12:40	3778	600
12:41	3781	600
12:42	3784	600
12:43	3787	600
12:44	3791	600
12:45	3794	600
12:46	3798	600
12:47	3800	600
12:48	3804	600
12:49	3807	600
12:50	3826	600
12:51	3834	600
12:52	3838	600
12:53	3841	600
12:54	3845	650
12:55	3848	650
12:56	3851	650
12:57	3854	650
12:58	3857	650
12:59	3860	650
13:00	3863	650
13:01	3865	650
13:02	3868	650
13:03	3871	650
13:04	3873	650
13:05	3900	650
13:06	3905	650
13:07	3908	650
13:08	3911	650

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 230
 LOCATION: J-15-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 6-23-88
 PERFORATIONS: 8528'-8781'
 TOTAL DEPTH: 10,582'
 PLUG BACK TD: 10,106'
 PACKER SET AT: 8482'

TIME	SURFACE PRESSURE	RATE (BWPD)
13:09	3914	700
13:10	3917	700
13:11	3920	700
13:12	3923	700
13:13	3939	700
13:14	3929	700
13:15	3932	700
13:16	3934	700
13:17	3939	700
13:18	3942	700
13:19	3944	700
13:20	3965	700
13:21	3968	700
13:22	3971	700
13:23	3975	700
13:24	3977	750
13:25	3979	750
13:26	3982	750
13:27	3984	750
13:28	3990	750
13:29	3993	750
13:30	3995	750
13:31	3998	750
13:32	3999	750
13:33	4001	750
13:34	4004	750
13:35	4006	750
13:36	4008	750
13:37	4014	750
13:38	4015	750
13:39	4017	750
13:40	4040	750
13:41	4043	750
13:42	4045	750
13:43	4047	750
13:44	4048	800
13:45	4050	800
13:46	4052	800
13:47	4054	800
13:48	4055	800
13:49	4056	800
13:50	4058	800
13:51	4059	800

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 230
LOCATION: J-15-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 6-23-88
PERFORATIONS: 8528'-8781'
TOTAL DEPTH: 10,582'
PLUG BACK TD: 10,106'
PACKER SET AT: 8482'

TIME	SURFACE PRESSURE	RATE (BWPD)
13:52	4070	800
13:53	4072	800
13:54	4074	800
13:55	4082	0
13:56	3902	0
13:57	3902	0
13:58	3896	0
13:59	3888	0
14:00	3881	0
14:01	3875	0
14:02	3869	0