



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

November 7, 1988

GARREY CARRUTHERS

GOVERNOR

Mobil Exp & Prod. U.S., Inc.

P.O. Box 633

Midland, TX 79702

Attention: M.E. Sweeney

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

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

Dear Mr. Sweeney:

Reference is made to your request dated October 20, 1988, to increase the surface injection pressure on three wells within the North Vacuum Abo Unit Waterflood Project. This request is based on step rate tests conducted on these wells on October 5, 1988. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

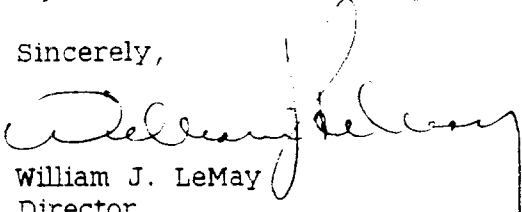
You are therefore authorized to increase the surface injection pressure on the following wells.

<u>WELL AND LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
NVAU Well No. 137 Unit B, Section 26, T-17S, R-34E	3870 PSIG
NVAU Well No. 209 Unit J, Section 22, T-17S, R-34E	3816 PSIG
NVAU Well No. 302 Unit J, Section 3, T-17S, R-34E	3920 PSIG

All in Lea County, New Mexico.

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

Sincerely,

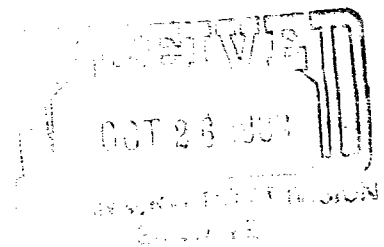

William J. LeMay
Director

cc: OCD - Hobbs
D. McDonald
D. Catanach

File:

PMX-138
PMX-140
WFX-557

Mobil Exploration & Producing U.S. Inc.



October 20, 1988

P.O. BOX 633
MIDLAND, TEXAS 79702

MIDLAND DIVISION

State of New Mexico
Oil Conservation Division
310 Old Santa Fe Trail, Rm. 206
Santa Fe, New Mexico 87503

Attention: Mr. W.J. LeMay

INJECTION PRESSURE INCREASE REQUEST
NORTH VACUUM ABO FIELD
NORTH VACUUM ABO UNIT
WELL NO'S. 137, 209, & 302
LEA COUNTY, NEW MEXICO

Gentlemen:

Under the provisions of Order No. PMX-138 dated November 12, 1985; and 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. 137 UNIT B, SEC. 26 T-17-S, R-34-E Order No. PMX-138	8481-8525'	3600 psig	3870 psig
WELL No. 209 UNIT J, SEC. 22 T-17-S, R-34-E Order No. WFX-557	8654-8720'	3675 psig	3816 psig

State of New Mexico
Oil Conservation Division
North Vacuum Abo Unit
Well No's. 137, 209, & 302

-2-

October 20, 1988

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 302 UNIT J, SEC. 3 T-17-S, R-34-E Order No. PMX-140	8688-8744'	3108 psig	3920 psig

Enclosed are copies of the Step-rate test.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Manager

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

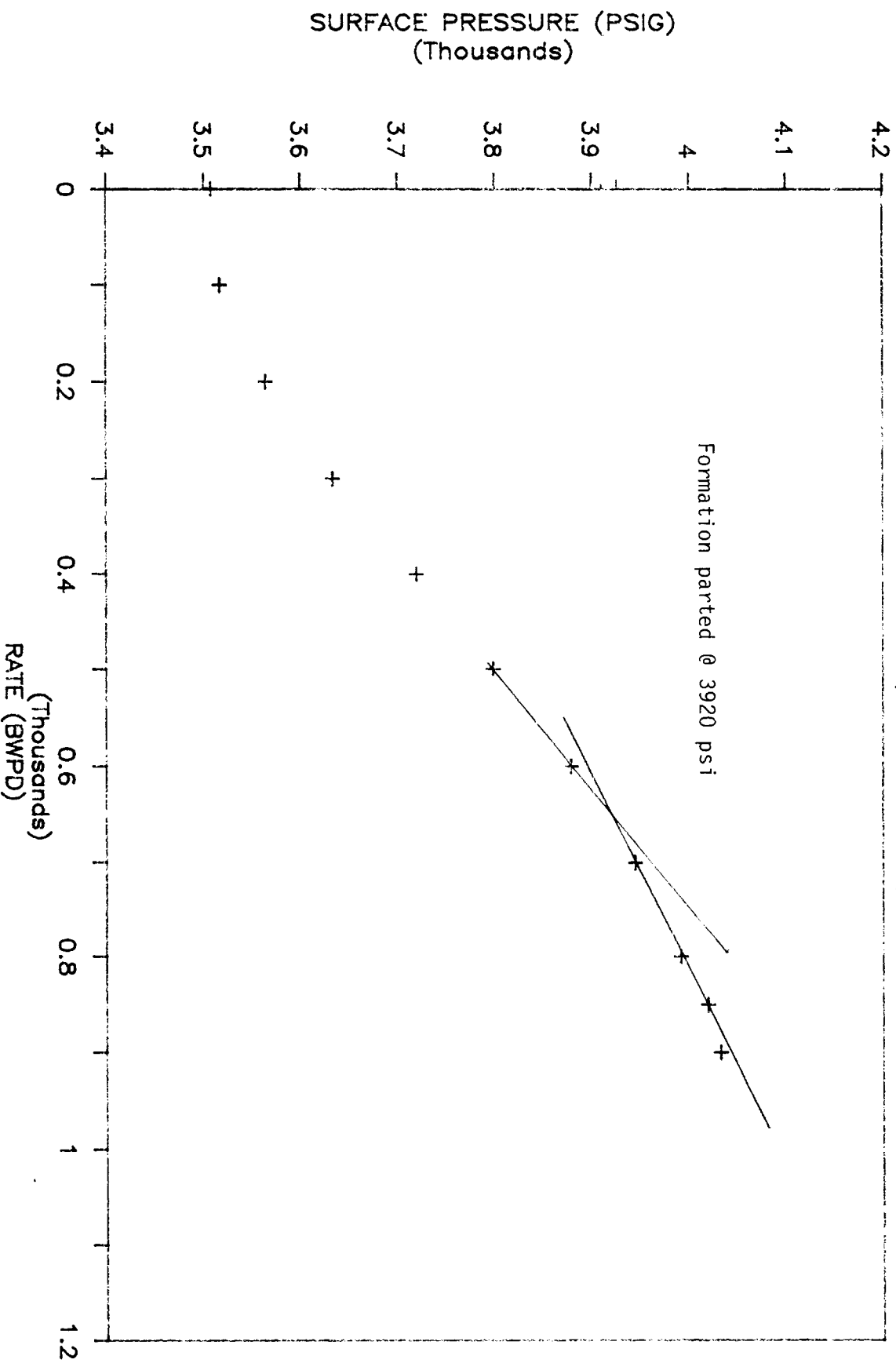
CCSmith/arr

Attachments

cc: District Director OCD - Hobbs

STEP RATE TEST

NVAU 137 (RUN 10--05--88)



08 :04	1400	3521	200
08 :05	1401	3523	200
08 :06	1402	3526	200
08 :07	1403	3527	200
08 :08	1404	3529	200
08 :09	1405	3531	200
08 :10	1406	3532	200
08 :11	1407	3534	200
08 :12	1408	3535	200
08 :13	1409	3536	200

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO: 137
 LOCATION: B26-T17S-R34E
 TEST DATE: 10-05-88
 PERFORATIONS: 8481'-8525'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8600'
 PACKER SET AT: 8377'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
07 :34	1370	10	0
07 :35	1371	10	0
07 :36	1372	10	0
07 :37	1373	10	0
07 :38	1374	10	0
07 :39	1375	10	0
07 :40	1376	10	0
07 :41	1377	10	0
07 :42	1378	3509	100
07 :43	1379	3519	100
07 :44	1380	3515	100
07 :45	1381	3512	100
07 :46	1382	3500	100
07 :47	1383	3505	100
07 :48	1384	3504	100
07 :49	1385	3509	100
07 :50	1386	3509	100
07 :51	1387	3510	100
07 :52	1388	3590	100
07 :53	1389	3509	100
07 :54	1390	3507	100
07 :55	1391	3507	100
07 :56	1392	3507	100
07 :57	1393	3506	100
07 :58	1394	3505	100
07 :59	1395	3505	100
08 :00	1396	3504	100
08 :01	1397	3504	100
08 :02	1398	3504	100
08 :03	1399	3517	100
08 :04	1400	3521	200
08 :05	1401	3523	200
08 :06	1402	3526	200
08 :07	1403	3527	200
08 :08	1404	3529	200
08 :09	1405	3531	200
08 :10	1406	3532	200
08 :11	1407	3534	200
08 :12	1408	3535	200
08 :13	1409	3536	200

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO: 137
 LOCATION: B26-T17S-R34E
 TEST DATE: 10-05-88
 PERFORATIONS: 8481'-8525'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8600'
 PACKER SET AT: 8377'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)

08 :14	1410	3537	200
08 :15	1411	3538	200
08 :16	1412	3539	200
08 :17	1413	3551	200
08 :18	1414	3564	200
08 :19	1415	3568	300
08 :20	1416	3572	300
08 :21	1417	3576	300
08 :22	1418	3578	300
08 :23	1419	3581	300
08 :24	1420	3584	300
08 :25	1421	3586	300
08 :26	1422	3589	300
08 :27	1423	3591	300
08 :28	1424	3593	300
08 :29	1425	3595	300
08 :30	1426	3598	300
08 :31	1427	3599	300
08 :32	1428	3626	300
08 :33	1429	3633	300
08 :34	1430	3637	400
08 :35	1431	3642	400
08 :36	1432	3646	400
08 :37	1433	3649	400
08 :38	1434	3652	400
08 :39	1435	3655	400
08 :40	1436	3659	400
08 :41	1437	3661	400
08 :42	1438	3664	400
08 :43	1439	3667	400
08 :44	1440	3669	400
08 :45	1441	3672	400
08 :46	1442	3704	400
08 :47	1443	3712	400
08 :48	1444	3719	400
08 :49	1445	3720	500
08 :50	1446	3724	500
08 :51	1447	3726	500
08 :52	1448	3730	500
08 :53	1449	3736	500
08 :54	1450	3737	500

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO: 137
LOCATION: B26-T17S-R34E
TEST DATE: 10-05-88
PERFORATIONS: 8481'-8525'
TOTAL DEPTH: 8700'
PLUG BACK TD: 8600'
PACKER SET AT: 8377'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
03 :55	1451	3741	500
03 :56	1452	3741	500
03 :57	1453	3748	500
03 :58	1454	3750	500
03 :59	1455	3750	500
04 :00	1456	3753	500
04 :01	1457	3755	500
04 :02	1458	3791	500
04 :03	1459	3798	500
04 :04	1460	3803	600
04 :05	1461	3808	600
04 :06	1462	3809	600
04 :07	1463	3814	600
04 :08	1464	3818	600
04 :09	1465	3820	600
04 :10	1466	3821	600
04 :11	1467	3825	600
04 :12	1468	3827	600
04 :13	1469	3829	600
04 :14	1470	3833	600
04 :15	1471	3834	600
04 :16	1472	3836	600
04 :17	1473	3873	600
04 :18	1474	3878	600
04 :19	1475	3882	700
04 :20	1476	3885	700
04 :21	1477	3888	700
04 :22	1478	3890	700
04 :23	1479	3892	700
04 :24	1480	3894	700
04 :25	1481	3900	700
04 :26	1482	3901	700
04 :27	1483	3903	700
04 :28	1484	3904	700
04 :29	1485	3905	700
04 :30	1486	3906	700
04 :31	1487	3908	700
04 :32	1488	3942	700
04 :33	1489	3944	700
04 :34	1490	3946	800
04 :35	1491	3949	800

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO: 137
 LOCATION: B26-T17S-R34E
 TEST DATE: 10-05-88
 PERFORMERS: 8481'-8525'
 TOTAL LENGTH: 8700'
 PLUG BATH: 8600'
 PACKER: 8377'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
0:36	1492	3950	800
0:37	1493	3952	800
0:38	1494	3954	800
0:39	1495	3963	800
0:40	1496	3966	800
0:41	1497	3967	800
0:42	1498	3968	800
0:43	1499	3969	800
0:44	1500	3970	800
0:45	1501	3971	800
0:46	1502	3972	800
0:47	1503	3973	800
0:48	1504	3991	800
0:49	1505	3993	850
0:50	1506	3994	850
0:51	1507	3995	850
0:52	1508	3995	850
0:53	1509	3995	850
0:54	1510	3996	850
0:55	1511	3996	850
0:56	1512	3997	850
0:57	1513	3997	850
0:58	1514	3997	850
0:59	1515	3998	850
1:00	1516	3999	850
1:01	1517	4000	850
1:02	1518	4019	850
1:03	1519	4021	900
1:04	1520	4021	900
1:05	1521	4022	900
1:06	1522	4021	900
1:07	1523	4021	900
1:08	1524	4022	900
1:09	1525	4022	900
1:10	1526	4021	900
1:11	1527	4022	900
1:12	1528	4021	900
1:13	1529	4022	900
1:14	1530	4022	900
1:15	1531	4022	900
1:16	1532	4032	900

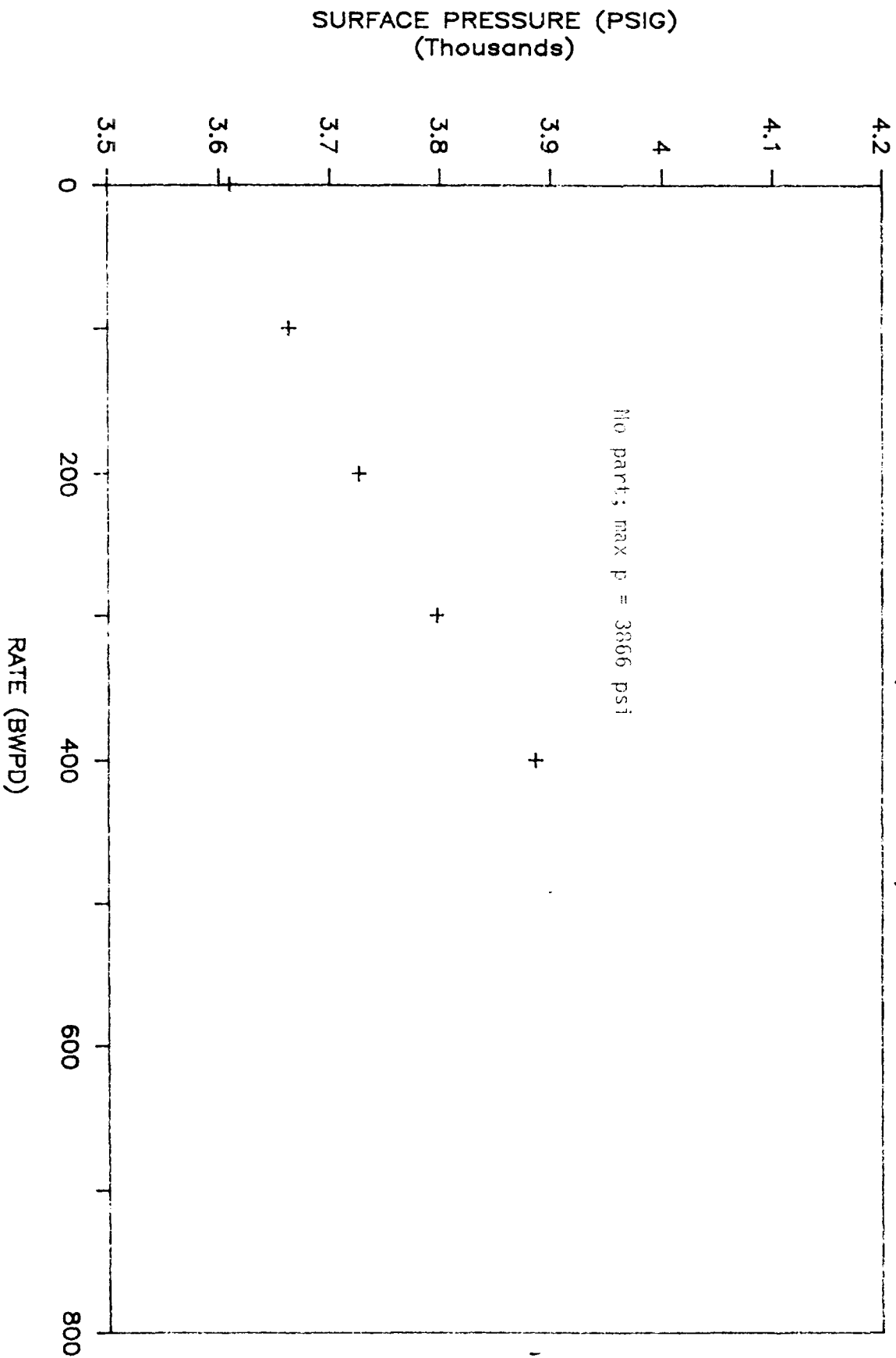
STEP RATE TEST -----

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO: 137
 LOCATION: B26-T17S-R34E
 TEST DATE: 10-05-88
 PERFORATIONS: 8481'-8525'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8600'
 PACKER SET AT: 8377'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
1:17	1533	4033	950
1:18	1534	4033	950
1:19	1535	4033	950
1:20	1536	30	950
1:21	1537	11	950
1:22	1538	4031	950
1:23	1539	4031	950
1:24	1540	4030	950
1:25	1541	4030	950
1:26	1542	4030	950
1:27	1543	4029	950
1:28	1544	4029	950
1:29	1545	4029	950
1:30	1546	4028	0
1:31	1547	3971	
1:32	1548	3847	
1:33	1549	3840	
1:34	1550	3824	
1:35	1551	3813	
1:36	1552	3803	
1:37	1553	19	
1:38	1554	12	
1:39	1555	12	
1:40	1556	12	
1:41	1557	11	
1:42	1558	11	
1:43	1559	11	
1:44	1560	12	
1:45	1561	11	
1:46	1562	12	

STEP RATE TEST

NVAU 209 (RUN 10-05-88)



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO: 209
LOCATION: J22-T17S-R34E
TEST DATE: 10-05-88
PERFORATIONS: 8654'-8720'
TOTAL DEPTH: 8800'
PLUG BACK TD: 8764'
PACKER SET AT: 8593'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
10 :51	1567	12	
10 :52	1568	12	
10 :53	1569	3613	
10 :54	1570	3610	0
10 :55	1571	3607	0
10 :56	1572	3614	0
10 :57	1573	3618	0
10 :58	1574	3622	0
10 :59	1575	3626	100
11 :00	1576	3629	100
11 :01	1577	3631	100
11 :02	1578	3632	100
11 :03	1579	3634	100
11 :04	1580	3635	100
11 :05	1581	3638	100
11 :06	1582	3639	100
11 :07	1583	3641	100
11 :08	1584	3642	100
11 :09	1585	3644	100
11 :10	1586	3645	100
11 :11	1587	3646	100
11 :12	1588	3657	100
11 :13	1589	3663	100
11 :14	1590	3668	200
11 :15	1591	3672	200
11 :16	1592	3676	200
11 :17	1593	3679	200
11 :18	1594	3682	200
11 :19	1595	3685	200
11 :20	1596	3688	200
11 :21	1597	3691	200
11 :22	1598	3694	200
11 :23	1599	3697	200
11 :24	1600	3699	200
11 :25	1601	3701	200
11 :26	1602	3704	200
11 :27	1603	3719	200
11 :28	1604	3726	200
11 :29	1605	3732	300
11 :30	1606	3736	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO: 209
 LOCATION: J22-T17S-R34E
 TEST DATE: 10-05-88
 PERFORATIONS: 8654'-8720'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8764'
 PACKER SET AT: 8593'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
11 :31	1607	3741	300
11 :32	1608	3745	300
11 :33	1609	3749	300
11 :34	1610	3754	300
11 :35	1611	3756	300
11 :36	1612	3760	300
11 :37	1613	3764	300
11 :38	1614	3767	300
11 :39	1615	3770	300
11 :40	1616	3774	300
11 :41	1617	3777	300
11 :42	1618	3793	300
11 :43	1619	3797	300
11 :44	1620	3807	400
11 :45	1621	3814	400
11 :46	1622	3819	400
11 :47	1623	3823	400
11 :48	1624	3828	400
11 :49	1625	3833	400
11 :50	1626	3838	400
11 :51	1627	3842	400
11 :52	1628	3847	400
11 :53	1629	3851	400
11 :54	1630	3857	400
11 :55	1631	3858	400
11 :56	1632	3861	400
11 :57	1633	3880	400
11 :58	1634	3886	400
11 :59	1635	3892	500
12 :00	1636	3897	500
12 :01	1637	3901	500
12 :02	1638	3904	500
12 :03	1639	3908	500
12 :04	1640	3911	500
12 :05	1641	3918	500
12 :06	1642	3921	500
12 :07	1643	3924	500
12 :08	1644	3928	500
12 :09	1645	3932	500
12 :10	1646	3933	500
12 :11	1647	3937	500

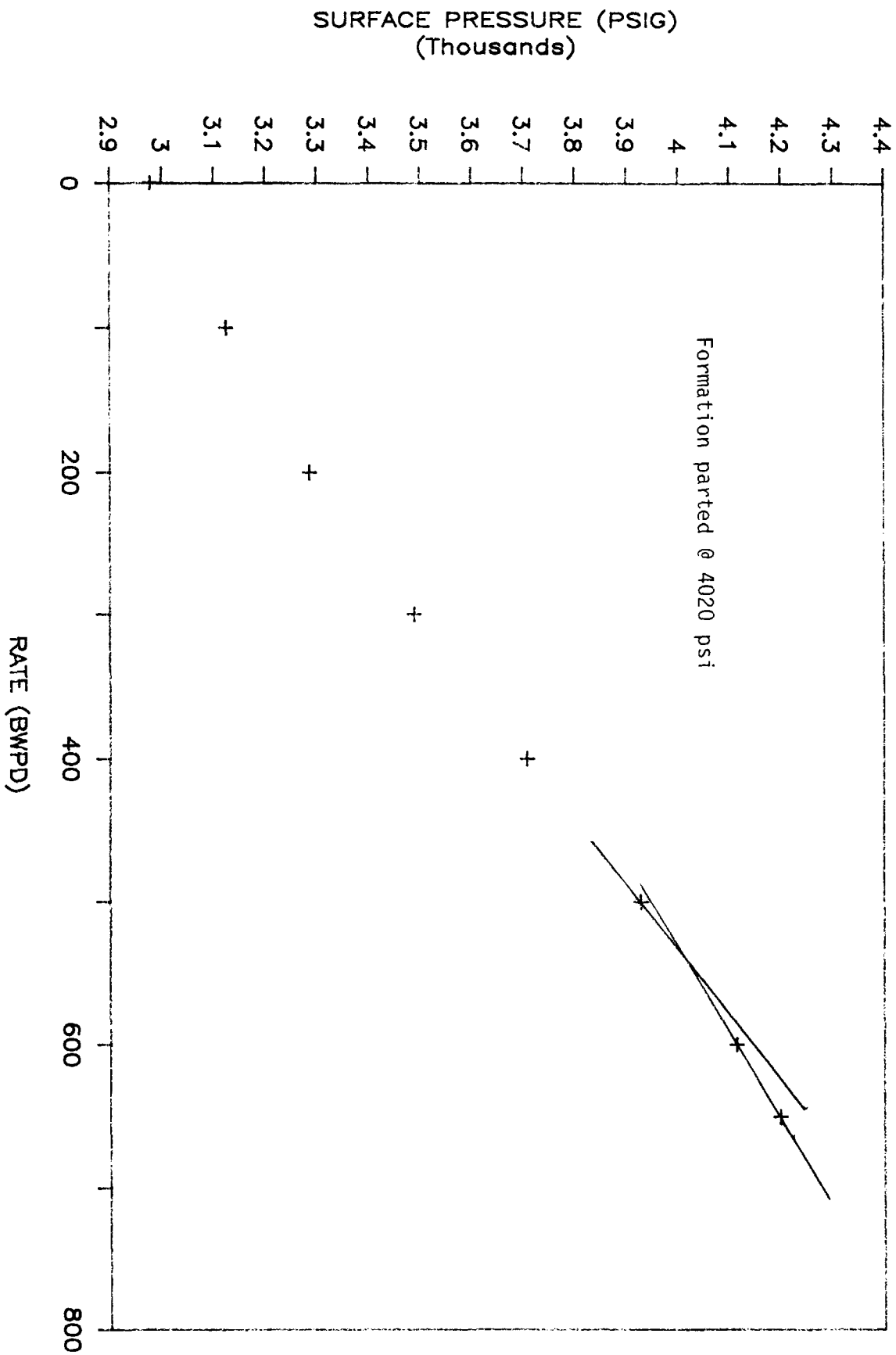
STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO: 209
LOCATION: J22-T17S-R34E
TEST DATE: 10-05-88
PERFORATIONS: 8654'-8720'
TOTAL DEPTH: 8800'
PLUG BACK TD: 8764'
PACKER SET AT: 8593'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
12 :12	1648	3885	500
12 :13	1649	3876	500
12 :14	1650	3866	600
12 :15	1651	3878	600
12 :16	1652	41	600
12 :17	1653	33	600
12 :18	1654	27	600
12 :19	1655	23	600
12 :20	1656	22	600
12 :21	1657	20	600
12 :22	1658	20	600
12 :23	1659	19	600
12 :24	1660	18	600
12 :25	1661	18	600
12 :26	1662	17	600
12 :27	1663	17	600
12 :28	1664	17	600
12 :29	1665	16	700
12 :30	1666	16	
12 :31	1667	15	
12 :32	1668	15	
12 :33	1669	11	

STEP RATE TEST

NVAU 302 (RUN 10-05-88)



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO: 302
 LOCATION: SEC 3-T17S-R34E
 TEST DATE: 10-05-88
 PERFORATIONS: 8688'-8744'
 TOTAL DEPTH: 8849'
 PLUG BACK TD: 8800'
 PACKER SET AT: 8646'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
12 :34	1670	2978	0
12 :35	1671	2990	0
12 :36	1672	3003	0
12 :37	1673	3016	0
12 :38	1674	3025	0
12 :39	1675	3032	100
12 :40	1676	3038	100
12 :41	1677	3043	100
12 :42	1678	3048	100
12 :43	1679	3053	100
12 :44	1680	3058	100
12 :45	1681	3062	100
12 :46	1682	3066	100
12 :47	1683	3070	100
12 :48	1684	3073	100
12 :49	1685	3077	100
12 :50	1686	3080	100
12 :51	1687	3085	100
12 :52	1688	3109	100
12 :53	1689	3125	100
12 :54	1690	3138	200
12 :55	1691	3149	200
12 :56	1692	3159	200
12 :57	1693	3168	200
12 :58	1694	3177	200
12 :59	1695	3185	200
13 :00	1696	3193	200
13 :01	1697	3200	200
13 :02	1698	3207	200
13 :03	1699	3214	200
13 :04	1700	3222	200
13 :05	1701	3229	200
13 :06	1702	3237	200
13 :07	1703	3267	200
13 :08	1704	3286	200
13 :09	1705	3302	300
13 :10	1706	3317	300
13 :11	1707	3330	300
13 :12	1708	3342	300
13 :13	1709	3354	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO: 302
LOCATION: SEC 3-T17S-R34E
TEST DATE: 10-05-88
PERFORATIONS: 8688'-8744'
TOTAL DEPTH: 8849'
PLUG BACK TD: 8800'
PACKER SET AT: 8646'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
13 :14	1710	3363	300
13 :15	1711	3374	300
13 :16	1712	3383	300
13 :17	1713	3397	300
13 :18	1714	3407	300
13 :19	1715	3418	300
13 :20	1716	3427	300
13 :21	1717	3437	300
13 :22	1718	3469	300
13 :23	1719	3489	300
13 :24	1720	3505	400
13 :25	1721	3520	400
13 :26	1722	3535	400
13 :27	1723	3548	400
13 :28	1724	3560	400
13 :29	1725	3571	400
13 :30	1726	3582	400
13 :31	1727	3592	400
13 :32	1728	3601	400
13 :33	1729	3610	400
13 :34	1730	3619	400
13 :35	1731	3635	400
13 :36	1732	3656	400
13 :37	1733	3687	400
13 :38	1734	3707	400
13 :39	1735	3723	500
13 :40	1736	3739	500
13 :41	1737	3753	500
13 :42	1738	3765	500
13 :43	1739	3777	500
13 :44	1740	3793	500
13 :45	1741	3806	500
13 :46	1742	3819	500
13 :47	1743	3830	500
13 :48	1744	3840	500
13 :49	1745	3849	500
13 :50	1746	3859	500
13 :51	1747	3874	500
13 :52	1748	3909	500
13 :53	1749	3927	500
13 :54	1750	3941	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO: 302
 LOCATION: SEC 3-T17S-R34E
 TEST DATE: 10-05-88
 PERFORATIONS: 8688'-8744'
 TOTAL DEPTH: 8849'
 PLUG BACK TD: 8800'
 PACKER SET AT: 8646'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
13 :55	1751	3954	600
13 :56	1752	3970	600
13 :57	1753	3982	600
13 :58	1754	3993	600
13 :59	1755	4003	600
14 :00	1756	4017	600
14 :01	1757	4027	600
14 :02	1758	4036	600
14 :03	1759	4050	600
14 :04	1760	4060	600
14 :05	1761	4069	600
14 :06	1762	4081	600
14 :07	1763	4102	600
14 :08	1764	4113	600
14 :09	1765	4124	650
14 :10	1766	4136	650
14 :11	1767	4144	650
14 :12	1768	4153	650
14 :13	1769	4161	650
14 :14	1770	4168	650
14 :15	1771	4175	650
14 :16	1772	4181	650
14 :17	1773	4187	650
14 :18	1774	4192	650
14 :19	1775	4198	650
14 :20	1776	4204	SI
14 :21	1777	4209	SI
14 :22	1778	4135	SI
14 :23	1779	4110	SI
14 :24	1780	4082	SI
14 :25	1781	4060	SI
14 :26	1782	4039	SI
14 :27	1783	4020	SI
14 :28	1784	171	SI
14 :29	1785	77	SI
14 :30	1786	56	SI
14 :31	1787	53	SI
14 :32	1788	44	SI
14 :33	1789	39	SI
14 :34	1790	35	SI
14 :35	1791	32	SI

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO: 302
LOCATION: SEC 3-T17S-R34E
TEST DATE: 10-05-88
PERFORATIONS: 8688'-8744'
TOTAL DEPTH: 8849'
PLUG BACK TD: 8800'
PACKER SET AT: 8646'

TIME	DATA POINTS	SURFACE PRESSURE	RATE (BWPD)
14 :36	1792	11	SI
14 :37	1793	11	SI
14 :38	1794	27	SI
14 :39	1795	26	SI



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

October 26, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl. & Prod. Inc.	North Vacuum Abo Unit #302-J	3-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

That the pressure limit be increased to 2000 psi.

Very truly yours

Jerry Sexton
Jerry Sexton
Supervisor, District I

/bp



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

GARREY CARRUTHERS
GOVERNOR

October 26, 1988

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl. & Prod. Inc.	North Vacuum abo Unit #209-J	22-17-34
Operator	Lease & Well No. Unit	S-T-R

and my recommendations are as follows:

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE
October 26, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl. & Prod. Inc.	North Vacuum Abo Unit #137-B	26-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

[Signature]

Very truly yours

[Signature]
Jerry Sexton
Supervisor, District I

/bp



ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2098
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

June 22, 1988

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

Attention: M.E. Sweeney

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

Dear Mr. Sweeney:

Reference is made to your request dated June 1, 1988, to increase the surface injection pressure on 4 wells within the North Vacuum Abo Unit Waterflood Project. This request is based on step rate tests conducted on these wells on May 25 and 26, 1988. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

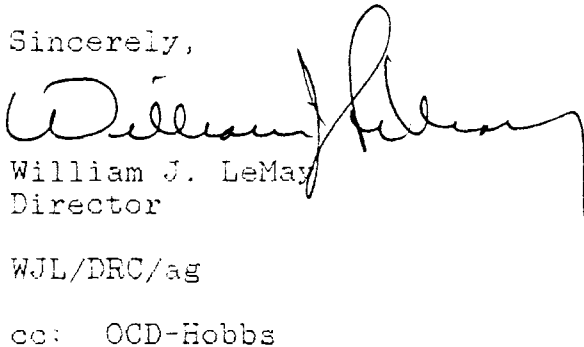
You are therefore authorized to increase the surface injection pressure on the following wells.

<u>WELL AND LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
NVAU Well No. 88 Unit J, Section 26, T-17 South, R-34 East	3785 PSIG
NVAU Well No. 123 Unit B, Section 23, T-17 South, R-34 East	4110 PSIG
NVAU Well No. 103 Unit I, Section 26, T-17 South, R-34 East	4020 PSIG
NVAU Well No. 214 Unit D, Section 11, T-17 South, R-34 East	3810 PSIG

All in Lea County, New Mexico

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

Sincerely,

A handwritten signature in dark ink, appearing to read 'William J. LeMay', with a long, sweeping horizontal stroke extending to the right.

William J. LeMay
Director

WJL/DRC/ag

cc: OCD-Hobbs
File: PMX-138, 140; WFX-557
D. Catanach
D. McDonald

Mobil Exploration & Producing U.S. Inc.

June 13, 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 ABO UNIT WELL NO. 98, 129, 138, AND 214 LEA COUNTY, NEW MEXICO

Gentlemen:

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

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 98 UNIT J SEC. 26 T-17-S, R-34-E Order No. PMX-138	8414-8558	3640 psig	3800 psig
WELL No. 129 UNIT B, SEC. 23 T-17-S, R-34-E Order No. WFX-557	8499-8558	3166 psig	4110 psig
WELL No. 138 UNIT I, SEC. 26 T-17-S, R-34-E Order No. PMX-138	8508-8646	3670 psig	4020 psig

State of New Mexico
North Vacuum Abo Unit

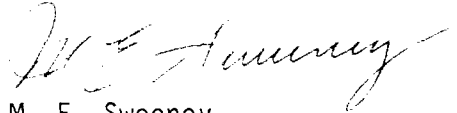
-2-

June 13, 1988

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 214			
UNIT D, SEC. 11	8612-8730	1723 psig	2810 psig
T-17-S, R-34-E			
Order No. PMX-140			

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.

CCS/arr

Attachments

cc: District Director OCD - Hobbs

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 98
 LOCATION: J26-T17S-R34E
 TEST DATE: 5-25-88
 PERFORATIONS: 8414 - 8568'
 TOTAL DEPTH: 11660'
 PLUG BACK TD: 8838'
 PACKER SET AT: 8350

TIME	SURFACE PRESSURE	RATE (BWPD)
7:45	3521	0
7:46	3525	100
7:47	3525	100
7:48	3525	100
7:49	3530	100
7:50	3531	100
7:51	3532	100
7:52	3532	100
7:53	3533	100
7:54	3533	100
7:55	3534	100
7:56	3534	100
7:57	3535	100
7:58	3535	100
7:59	3535	100
8:00	3536	100
8:01	3536	100
8:02	3537	100
8:03	3537	100
8:04	3542	100
8:05	3545	100
8:06	3546	200
8:07	3548	200
8:08	3548	200
8:09	3549	200
8:10	3550	200
8:11	3551	200
8:12	3551	200
8:13	3552	200
8:14	3553	200
8:15	3554	200
8:16	3555	200
8:17	3563	200
8:18	3566	200
8:19	3567	200
8:20	3568	200
8:21	3569	300
8:22	3570	300
8:23	3571	300
8:24	3572	300
8:25	3573	300
8:26	3573	300
8:27	3574	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 98
 LOCATION: J26-T17S-R34E
 TEST DATE: 5-25-88
 PERFORATIONS: 8414 - 8568'
 TOTAL DEPTH: 11660'
 PLUG BACK TD: 8838'
 PACKER SET AT: 8350

TIME	SURFACE PRESSURE	RATE (BWPD)
8:28	3575	300
8:29	3577	300
8:30	3578	300
8:31	3578	300
8:32	3580	300
8:33	3592	300
8:34	3594	300
8:35	3596	300
8:36	3597	400
8:37	3598	400
8:38	3599	400
8:39	3601	400
8:40	3602	400
8:41	3603	400
8:42	3603	400
8:43	3604	400
8:44	3606	400
8:45	3607	400
8:46	3608	400
8:47	3610	400
8:48	3626	400
8:49	3628	400
8:50	3629	400
8:51	3631	500
8:52	3633	500
8:53	3634	500
8:54	3635	500
8:55	3636	500
8:56	3637	500
8:57	3639	500
8:58	3640	500
8:59	3641	500
9:00	3642	500
9:01	3643	500
9:02	3668	500
9:03	3663	500
9:04	3664	500
9:05	3666	500
9:06	3666	600
9:07	3669	600
9:08	3670	600
9:09	3670	600
9:10	3671	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 98
 LOCATION: J26-T17S-R34E
 TEST DATE: 5-25-88
 PERFORATIONS: 8414 - 8568'
 TOTAL DEPTH: 11660'
 PLUG BACK TD: 8838'
 PACKER SET AT: 8350

TIME	SURFACE PRESSURE	RATE (BWPD)
9:11	3672	600
9:12	3673	600
9:13	3673	600
9:14	3676	600
9:15	3677	600
9:16	3677	600
9:17	3678	600
9:18	3701	600
9:19	3701	600
9:20	3704	600
9:21	3705	700
9:22	3706	700
9:23	3707	700
9:24	3708	700
9:25	3710	700
9:26	3712	700
9:27	3711	700
9:28	3713	700
9:29	3714	700
9:30	3715	700
9:31	3715	700
9:32	3745	700
9:33	3745	700
9:34	3746	700
9:35	3747	700
9:36	3749	800
9:37	3750	800
9:38	3750	800
9:39	3751	800
9:40	3752	800
9:41	3754	800
9:42	3754	800
9:43	3755	800
9:44	3756	800
9:45	3757	800
9:46	3757	800
9:47	3760	800
9:48	3772	800
9:49	3773	800
9:50	3775	850
9:51	3775	850
9:52	3776	850
9:53	3777	850

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 98
 LOCATION: J26-T17S-R34E
 TEST DATE: 5-25-88
 PERFORATIONS: 8414 - 8568'
 TOTAL DEPTH: 11660'
 PLUG BACK TD: 8838'
 PACKER SET AT: 8350

TIME	SURFACE PRESSURE	RATE (BWPD)
9:54	3777	850
9:55	3779	850
9:56	3779	850
9:57	3780	850
9:58	3781	850
9:59	3781	850
10:00	3781	850
10:01	3783	850
10:02	3801	850
10:03	3802	850
10:04	3803	850
10:05	3804	850
10:06	3805	900
10:07	3806	900
10:08	3806	900
10:09	3807	900
10:10	3808	900
10:11	3809	900
10:12	3810	900
10:13	3811	900
10:14	3812	900
10:15	3813	900
10:16	3814	900
10:17	3828	900
10:18	3830	900
10:19	3831	900
10:20	3831	900
10:21	3832	950
10:22	3832	950
10:23	3833	950
10:24	3834	950
10:25	3834	950
10:26	3836	950
10:27	3836	950
10:28	3837	950
10:29	3838	950
10:30	3839	950
10:31	3839	950
10:32	3735	0
10:33	3703	0
10:34	3705	0
10:35	3704	0
10:36	3702	0

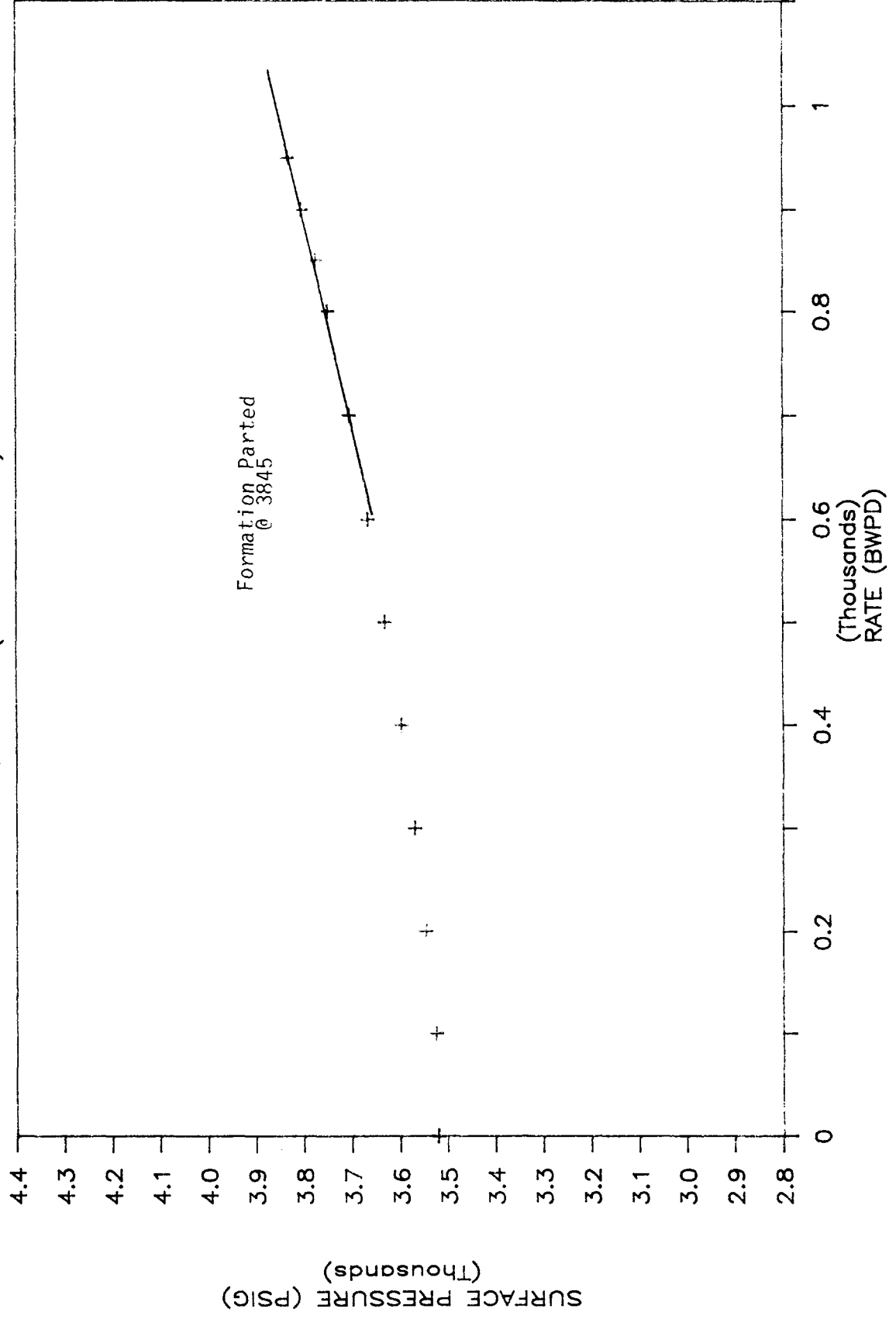
STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 98
LOCATION: J26-T17S-R34E
TEST DATE: 5-25-88
PERFORATIONS: 8414 - 8568'
TOTAL DEPTH: 11660'
PLUG BACK TD: 8838'
PACKER SET AT: 8350

TIME	SURFACE PRESSURE	RATE (BWPD)
10:37	3701	0
10:38	3700	0
10:39	3698	0

STEP RATE TEST

NVAU 98 (RUN 5-25-88)



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 129
 LOCATION: B23-T17S-R34E
 TEST DATE: 5-25-88
 PERFORATIONS: 8493 - 8560'
 TOTAL DEPTH: 8600'
 PLUG BACK TD: 8577'
 PACKER SET AT: 8440'

TIME	SURFACE PRESSURE	RATE (BWPD)
11:20	2927	0
11:21	2925	100
11:22	2925	100
11:23	2924	100
11:24	2931	100
11:25	2938	100
11:26	2945	100
11:27	2950	100
11:28	2955	100
11:29	2959	100
11:30	2963	100
11:31	2968	100
11:32	2971	100
11:33	2975	100
11:34	2979	100
11:35	2982	100
11:36	2985	100
11:37	2989	100
11:38	2992	100
11:39	3004	100
11:40	3011	100
11:41	3020	100
11:42	3028	100
11:43	3035	200
11:44	3042	200
11:45	3048	200
11:46	3055	200
11:47	3061	200
11:48	3067	200
11:49	3072	200
11:50	3078	200
11:51	3084	200
11:52	3091	200
11:53	3091	200
11:54	3104	200
11:55	3119	200
11:56	3129	200
11:57	3139	200
11:58	3148	300
11:59	3156	300
12:00	3164	300
12:01	3172	300
12:02	3180	300

STEP RATE TEST -----

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 129
LOCATION: B23-T17S-R34E
TEST DATE: 5-25-88
PERFORATIONS: 8493 - 8560'
TOTAL DEPTH: 8600'
PLUG BACK TD: 8577'
PACKER SET AT: 8440'

TIME	SURFACE PRESSURE	RATE (BWPD)
12:03	3187	300
12:04	3194	300
12:05	3201	300
12:06	3208	300
12:07	3214	300
12:08	3221	300
12:09	3227	300
12:10	3234	300
12:11	3240	300
12:12	3266	300
12:13	3274	400
12:14	3285	400
12:15	3295	400
12:16	3305	400
12:17	3314	400
12:18	3322	400
12:19	3332	400
12:20	3340	400
12:21	3348	400
12:22	3356	400
12:23	3364	400
12:24	3386	400
12:25	3400	400
12:26	3412	400
12:27	3424	400
12:28	3433	500
12:29	3443	500
12:30	3454	500
12:31	3462	500
12:32	3470	500
12:33	3479	500
12:34	3493	500
12:35	3502	500
12:36	3511	500
12:37	3520	500
12:38	3528	500
12:39	3558	500
12:40	3571	500
12:41	3582	500
12:42	3593	500
12:43	3604	600
12:44	3613	600
12:45	3623	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 129
LOCATION: B23-T17S-R34E
TEST DATE: 5-25-88
PERFORATIONS: 8493 - 8560'
TOTAL DEPTH: 8600'
PLUG BACK TD: 8577'
PACKER SET AT: 8440'

TIME	SURFACE PRESSURE	RATE (BWPD)
12:46	3633	600
12:47	3642	600
12:48	3650	600
12:49	3664	600
12:50	3674	600
12:51	3682	600
12:52	3691	600
12:53	3700	600
12:54	3717	600
12:55	3727	600
12:56	3736	600
12:57	3744	600
12:58	3753	650
12:59	3760	650
1:00	3768	650
1:01	3775	650
1:02	3782	650
1:03	3790	650
1:04	3797	650
1:05	3803	650
1:06	3809	650
1:07	3816	650
1:08	3832	650
1:09	3850	650
1:10	3859	650
1:11	3870	650
1:12	3878	650
1:13	3884	700
1:14	3891	700
1:15	3898	700
1:16	3905	700
1:17	3911	700
1:18	3917	700
1:19	3923	700
1:20	3929	700
1:21	3942	700
1:22	3949	700
1:23	3955	700
1:24	3975	700
1:25	3982	700
1:26	3989	700
1:27	3995	700
1:28	4006	750

4:11

4091

0

TIME	SURFACE PRESSURE	RATE (BWPD)
2:12	4082	0
2:13	4075	0
2:14	4068	0
2:15	4061	0
2:16	4054	0

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 129
 LOCATION: B23-T17S-R34E
 TEST DATE: 5-25-88
 PERFORATIONS: 8493 - 8560'
 TOTAL DEPTH: 8600'
 PLUG BACK TD: 8577'
 PACKER SET AT: 8440'

TIME	SURFACE PRESSURE	RATE (BWPD)
1:29	4012	750
1:30	4018	750
1:31	4024	750
1:32	4029	750
1:33	4034	750
1:34	4044	750
1:35	4050	750
1:36	4054	750
1:37	4059	750
1:38	4064	750
1:39	4084	750
1:40	4091	750
1:41	4096	750
1:42	4101	750
1:43	4106	800
1:44	4110	800
1:45	4120	800
1:46	4124	800
1:47	4128	800
1:48	4133	800
1:49	4137	800
1:50	4140	800
1:51	4144	800
1:52	4147	800
1:53	4151	800
1:54	4164	800
1:55	4167	800
1:56	4171	800
1:57	4174	800
1:58	4177	850
1:59	4180	850
2:00	4183	850
2:01	4186	850
2:02	4188	850
2:03	4191	850
2:04	4194	850
2:05	4196	850
2:06	4199	850
2:07	4201	850
2:08	4203	850
2:09	4136	0
2:10	4106	0
2:11	4091	0

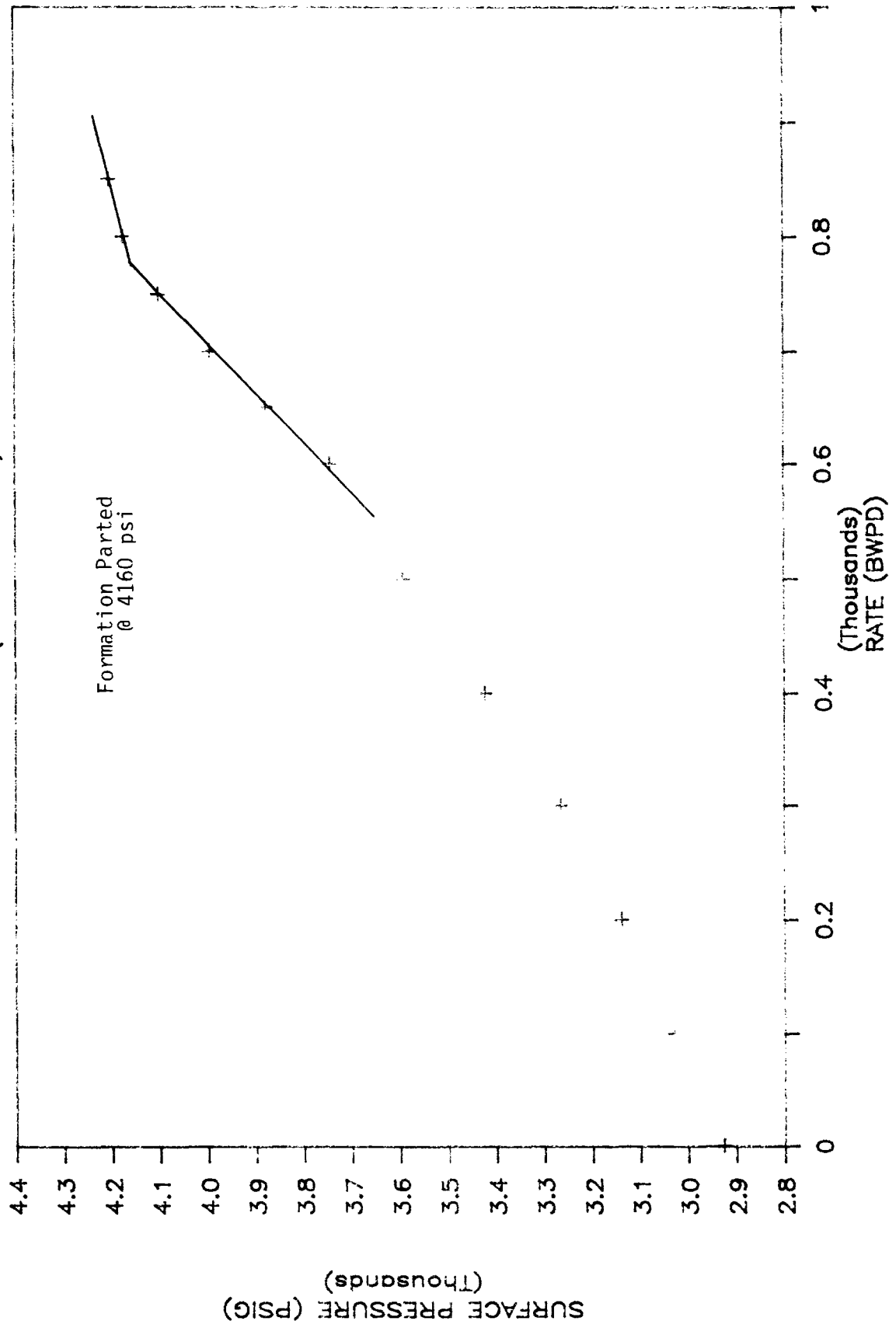
STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 129
LOCATION: B23-T17S-R34E
TEST DATE: 5-25-88
PERFORATIONS: 8493 - 8560'
TOTAL DEPTH: 8600'
PLUG BACK TD: 8577'
PACKER SET AT: 8440'

TIME	SURFACE PRESSURE	RATE (BWPD)
2:12	4082	0
2:13	4075	0
2:14	4068	0
2:15	4061	0
2:16	4054	0

STEP RATE TEST

NVAU 129 (RUN 5-25-88)



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 138
 LOCATION: L26-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8508 - 8646'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8651'
 PACKER SET AT: 8420

TIME	SURFACE PRESSURE	RATE (BWPD)
8:25	3633	0
8:26	3639	100
8:27	3646	100
8:28	3649	100
8:29	3650	100
8:30	3652	100
8:31	3653	100
8:32	3654	100
8:33	3655	100
8:34	3656	100
8:35	3657	100
8:36	3658	100
8:37	3660	100
8:38	3660	100
8:39	3661	100
8:40	3662	100
8:41	3663	100
8:42	3664	100
8:43	3677	100
8:44	3682	100
8:45	3686	200
8:46	3690	200
8:47	3693	200
8:48	3696	200
8:49	3699	200
8:50	3701	200
8:51	3704	200
8:52	3707	200
8:53	3709	200
8:54	3712	200
8:55	3714	200
8:56	3730	200
8:57	3736	200
8:58	3741	200
8:59	3747	200
9:00	3751	300
9:01	3755	300
9:02	3759	300
9:03	3764	300
9:04	3766	300
9:05	3769	300
9:06	3773	300
9:07	3776	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 138
 LOCATION: L26-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8508 - 8646'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8651'
 PACKER SET AT: 8420

TIME	SURFACE PRESSURE	RATE (BWPd)

9:08	3779	300
9:09	3782	300
9:10	3785	300
9:11	3799	300
9:12	3810	300
9:13	3815	300
9:14	3821	300
9:15	3825	400
9:16	3829	400
9:17	3833	400
9:18	3841	400
9:19	3846	400
9:20	3851	400
9:21	3856	400
9:22	3859	400
9:23	3863	400
9:24	3867	400
9:25	3872	400
9:26	3891	400
9:27	3898	400
9:28	3904	400
9:29	3910	400
9:30	3915	500
9:31	3919	500
9:32	3924	500
9:33	3928	500
9:34	3932	500
9:35	3936	500
9:36	3944	500
9:37	3948	500
9:38	3952	500
9:39	3956	500
9:40	3960	500
9:41	3972	500
9:42	3980	500
9:43	3984	500
9:44	3988	500
9:45	3993	550
9:46	3997	550
9:47	4001	550
9:48	4006	550
9:49	4010	550
9:50	4013	550

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 138
 LOCATION: L26-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8508 - 8646'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8651'
 PACKER SET AT: 8420

TIME	SURFACE PRESSURE	RATE (BWPD)

9:51	4016	550
9:52	4019	550
9:58	4022	550
9:59	4026	550
10:00	4029	550
10:01	4044	550
10:02	4047	550
10:03	4051	550
10:04	4055	550
10:05	4059	600
10:06	4062	600
10:07	4064	600
10:08	4067	600
10:09	4070	600
10:10	4076	600
10:11	4079	600
10:12	4082	600
10:13	4084	600
10:14	4086	600
10:15	4087	600
10:16	4094	600
10:17	4102	600
10:18	4105	600
10:19	4107	600
10:20	4108	650
10:21	4110	650
10:22	4114	650
10:23	4115	650
10:24	4116	650
10:25	4117	650
10:26	4118	650
10:27	4119	650
10:28	4120	650
10:29	4120	650
10:30	4120	650
10:31	4132	650
10:32	4133	650
10:33	4134	700
10:34	4134	700
10:35	4134	700
10:36	4133	700
10:37	4133	700
10:38	4134	700

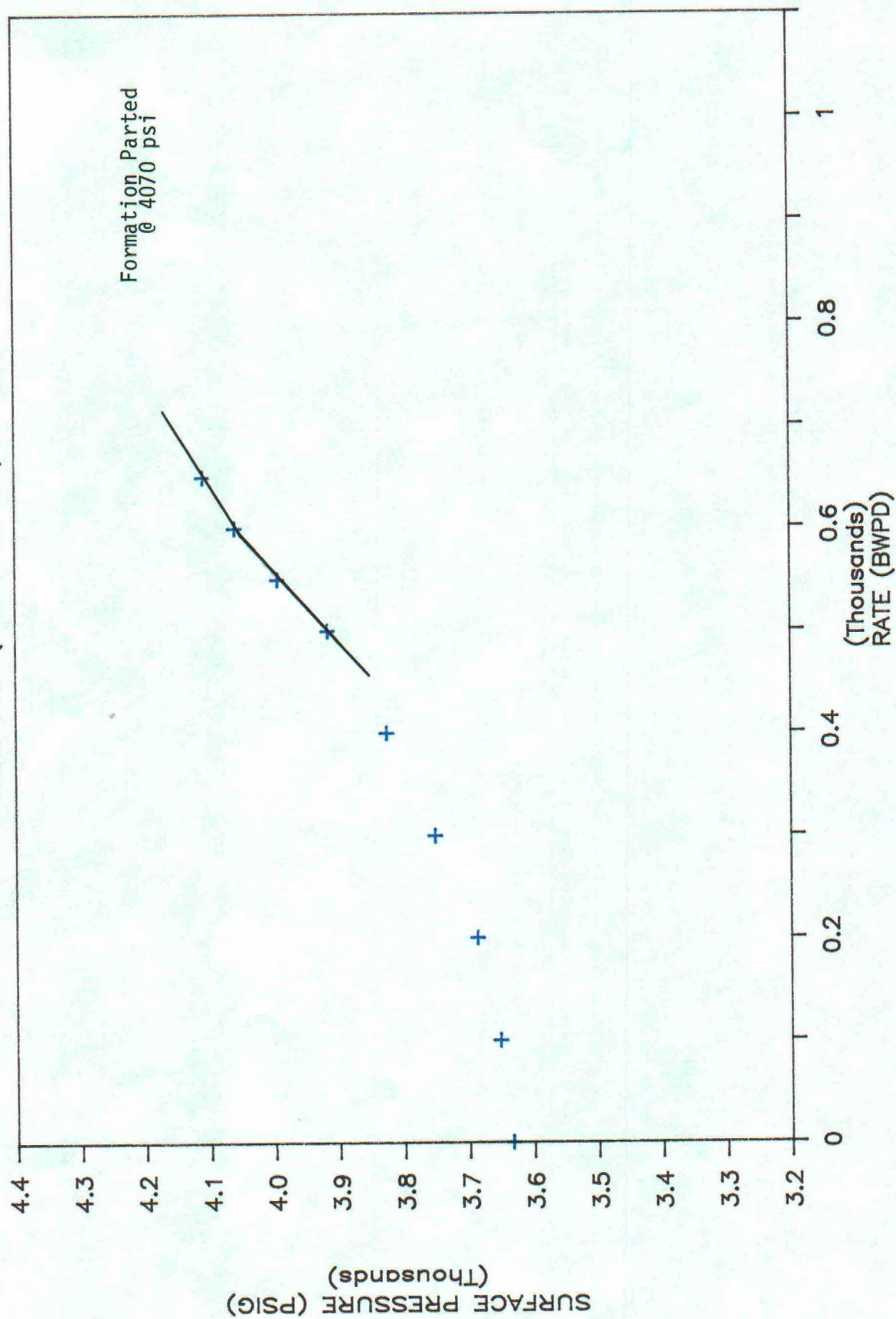
STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 138
 LOCATION: L26-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8508 - 8646'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8651'
 PACKER SET AT: 8420

TIME	SURFACE PRESSURE	RATE (BWPD)
10:39	4133	700
10:40	4134	700
10:41	4134	700
10:42	4132	700
10:43	4131	700
10:44	4131	700
10:45	4130	700
10:46	4012	0
10:47	4040	0
10:48	4023	0
10:49	4012	0
10:50	4003	0
10:51	3995	0

STEP RATE TEST

NVAU 138 (RUN 5-26-88)



STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 214
 LOCATION: D11-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8612 - 8730'
 TOTAL DEPTH: 8714'
 PLUG BACK TD: 8668'
 PACKER SET AT: 8560'

TIME	SURFACE PRESSURE	RATE (BWPD)
11:15	1559	0
11:16	1540	100
11:17	1529	100
11:18	1520	100
11:19	1521	100
11:20	1524	100
11:21	1525	100
11:22	1524	100
11:23	1523	100
11:24	1523	100
11:25	1522	100
11:26	1521	100
11:27	1520	100
11:28	1519	100
11:29	1517	100
11:30	1516	100
11:31	1515	100
11:32	1514	100
11:33	1513	100
11:34	1512	100
11:35	1528	100
11:36	1537	100
11:37	1543	100
11:38	1545	200
11:39	1547	200
11:40	1550	200
11:41	1553	200
11:42	1555	200
11:43	1557	200
11:44	1560	200
11:45	1562	200
11:46	1563	200
11:47	1565	200
11:48	1566	200
11:49	1568	200
11:50	1588	200
11:51	1598	200
11:52	1608	200
11:58	1613	300
11:59	1619	300
12:00	1625	300
12:01	1630	300
12:02	1635	300

STEP RATE TEST -----

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 214
 LOCATION: D11-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8612 - 8730'
 TOTAL DEPTH: 8714'
 PLUG BACK TD: 8668'
 PACKER SET AT: 8560'

TIME	SURFACE PRESSURE	RATE (BWPD)
12:03	1640	300
12:04	1644	300
12:05	1649	300
12:06	1653	300
12:07	1657	300
12:08	1660	300
12:09	1664	300
12:10	1691	300
12:11	1702	300
12:12	1710	300
12:13	1718	400
12:14	1725	400
12:15	1732	400
12:16	1739	400
12:17	1745	400
12:18	1751	400
12:19	1756	400
12:20	1762	400
12:21	1767	400
12:22	1772	400
12:23	1777	400
12:24	1782	400
12:25	1819	400
12:26	1832	400
12:27	1842	400
12:28	1852	500
12:29	1861	500
12:30	1869	500
12:31	1878	500
12:32	1885	500
12:33	1892	500
12:34	1899	500
12:35	1906	500
12:36	1912	500
12:37	1918	500
12:38	1930	500
12:39	1954	500
12:40	1982	500
12:41	1995	500
12:42	2005	500
12:43	2018	600
12:44	2029	600
12:45	2039	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 214
LOCATION: D11-T17S-R34E
TEST DATE: 5-26-88
PERFORATIONS: 8612 - 8730'
TOTAL DEPTH: 8714'
PLUG BACK TD: 8668'
PACKER SET AT: 8560'

TIME	SURFACE PRESSURE	RATE (BWPd)
12:46	2047	600
12:47	2055	600
12:48	2063	600
12:49	2073	600
12:50	2079	600
12:51	2087	600
12:52	2093	600
12:53	2101	600
12:54	2121	600
12:55	2153	600
12:56	2168	600
12:57	2180	600
12:58	2191	700
12:59	2201	700
1:00	2211	700
1:01	2220	700
1:02	2229	700
1:03	2237	700
1:04	2245	700
1:05	2252	700
1:06	2258	700
1:07	2263	700
1:08	2273	700
1:09	2308	700
1:10	2324	700
1:11	2336	700
1:12	2347	700
1:13	2356	800
1:14	2367	800
1:15	2380	800
1:16	2389	800
1:17	2396	800
1:18	2416	800
1:19	2427	800
1:20	2429	800
1:21	2436	800
1:22	2444	800
1:23	2451	800
1:24	2458	800
1:25	2501	800
1:26	2518	800
1:27	2530	800
1:28	2542	900

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 214
 LOCATION: D11-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8612 - 8730'
 TOTAL DEPTH: 8714'
 PLUG BACK TD: 8668'
 PACKER SET AT: 8560'

TIME	SURFACE PRESSURE	RATE (BWPD)
1:29	2552	900
1:30	2562	900
1:31	2571	900
1:32	2580	900
1:33	2591	900
1:34	2599	900
1:35	2608	900
1:36	2616	900
1:37	2623	900
1:38	2630	900
1:39	2655	900
1:40	2668	900
1:41	2674	900
1:42	2683	900
1:43	2693	950
1:44	2701	950
1:45	2709	950
1:46	2717	950
1:47	2723	950
1:48	2730	950
1:49	2737	950
1:50	2743	950
1:51	2750	950
1:52	2756	950
1:53	2769	950
1:54	2783	950
1:55	2801	950
1:56	2809	950
1:57	2818	950
1:58	2825	1000
1:59	2833	1000
2:00	2840	1000
2:01	2846	1000
2:02	2852	1000
2:03	2857	1000
2:04	2862	1000
2:05	2869	1000
2:06	2876	1000
2:07	2881	1000
2:08	2886	1000
2:09	2909	1000
2:10	2917	1000
2:11	2924	1000

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 214
LOCATION: D11-T17S-R34E
TEST DATE: 5-26-88
PERFORATIONS: 8612 - 8730'
TOTAL DEPTH: 8714'
PLUG BACK TD: 8668'
PACKER SET AT: 8560'

TIME	SURFACE PRESSURE	RATE (BWPD)
2:12	2930	1000
2:13	2936	1050
2:14	2941	1050
2:15	2948	1050
2:16	2960	1050
2:17	2963	1050
2:18	2969	1050
2:19	2974	1050
2:20	2979	1050
2:21	2984	1050
2:22	2987	1050
2:23	2992	1050
2:24	2996	1050
2:25	3024	1050
2:26	3032	1050
2:27	3038	1050
2:28	3044	1100
2:29	3051	1100
2:30	3057	1100
2:31	3062	1100
2:32	3067	1100
2:33	3072	1100
2:34	3077	1100
2:35	3081	1100
2:36	3088	1100
2:37	3094	1100
2:38	3095	1100
2:39	3123	1100
2:40	3130	1100
2:41	3137	1100
2:42	3143	1100
2:43	3148	1150
2:44	3152	1150
2:45	3157	1150
2:46	3161	1150
2:47	3165	1150
2:48	3177	1150
2:49	3181	1150
2:50	3186	1150
2:51	3190	1150
2:52	3194	1150
2:53	3197	1150
2:54	3224	1150

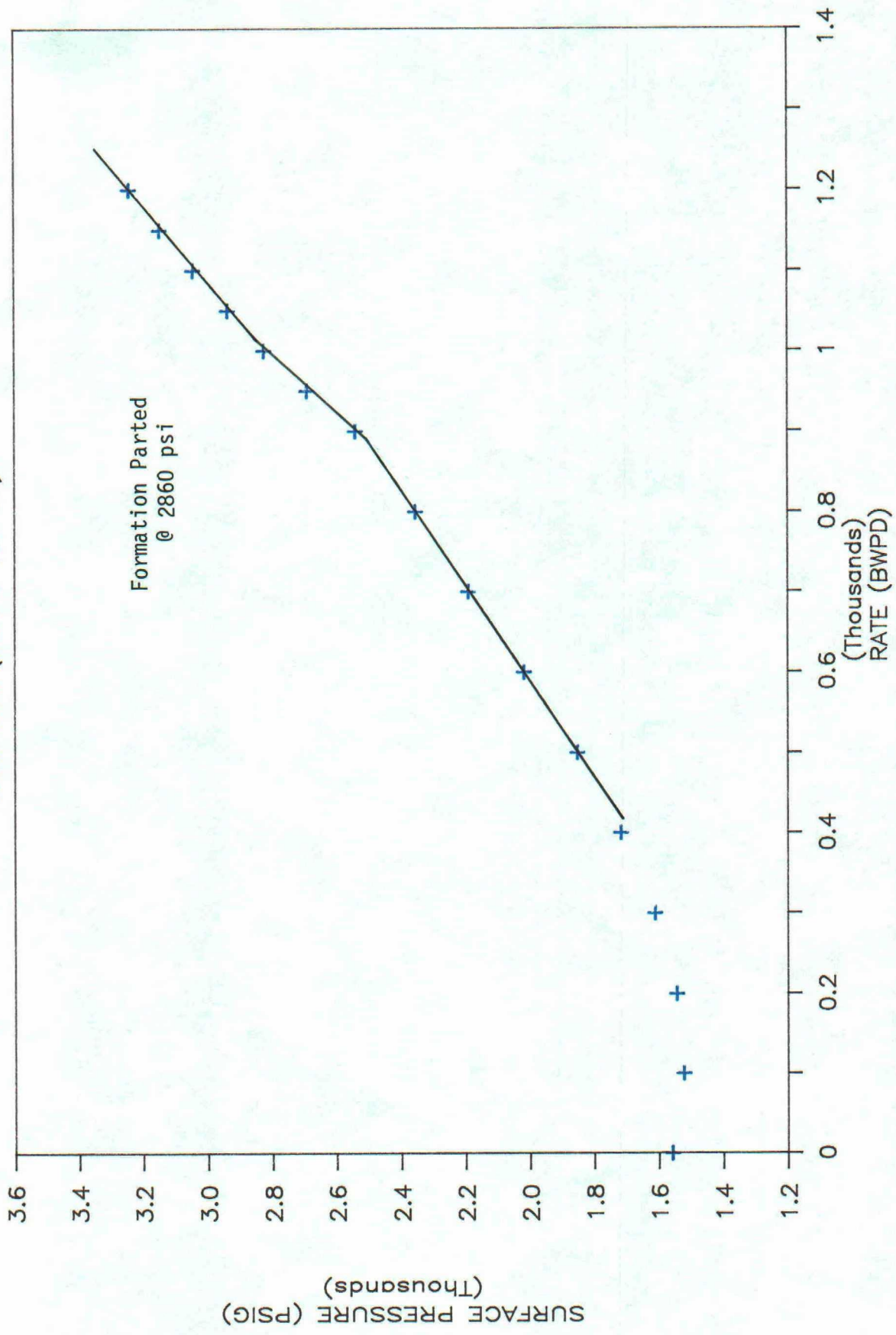
STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 214
 LOCATION: D11-T17S-R34E
 TEST DATE: 5-26-88
 PERFORATIONS: 8612 - 8730'
 TOTAL DEPTH: 8714'
 PLUG BACK TD: 8668'
 PACKER SET AT: 8560'

TIME	SURFACE PRESSURE	RATE (BWPD)
2:55	3230	1150
2:56	3235	1150
2:57	3239	1150
2:58	3243	1200
2:59	3247	1200
3:00	3251	1200
3:01	3254	1200
3:02	3258	1200
3:03	3269	1200
3:04	3273	1200
3:05	3276	1200
3:06	3279	1200
3:07	3282	1200
3:08	3285	1200
3:09	3058	0
3:10	2997	0
3:11	2950	0
3:12	2910	0
3:13	2875	0
3:14	2843	0

STEP RATE TEST

NVAU 214 (RUN 5-26-88)





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

GARREY CARRUTHERS
GOVERNOR

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

April 4, 1988

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

Attention: M. E. Sweeney

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

Dear Sir:

Reference is made to your request dated March 7, 1988, to increase the surface injection pressure on seven wells in the North Vacuum Abo Unit. This request is based on a step rate test conducted on these wells on February 16-19, 1988. 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 wells described on Exhibit "A" attached to this order.

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

Sincerely,

A handwritten signature in black ink, appearing to read "William J. LeMay", with a long, sweeping horizontal stroke extending to the right.

William J. LeMay

WJL/DRC/ag

xc: D. Catanach
D. McDonald
PMX-138
PMX-140
WFX-557

EXHIBIT "A"

<u>WELL LOCATION</u>	<u>MAXIMUM SURFACE INJECTION PRESSURE</u>
NVAU Well No. 142 Unit J, Section 14, T-17S, R-34E	3520 PSIG
NVAU Well No. 149 Unit J, Section 27, T-17S, R-34E	3150 PSIG
NVAU Well No. 164 Unit B, Section 15, T-17S, R-34E	3612 PSIG
NVAU Well No. 201 Unit J, Section 10, T-17S, R-34E	2779 PSIG
NVAU Well No. 203 Unit B, Section 22, T-17S, R-34E	3550 PSIG
NVAU Well No. 205 Unit B, Seciton 24, T-17S, R-34E	4174 PSIG
NVAU Well No. 210 Unit L, Section 23, T-17S, R-34E	3600 PSIG

ALL WELLS IN LEA COUNTY, NEW MEXICO

Mobil Exploration & Producing U.S. Inc.

March 7, 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 ABO UNIT
WELL NO. 142, 149, 164, 201, 203, 205, & 210
LEA COUNTY, NEW MEXICO

Gentlemen:

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

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 142 UNIT J, SEC. 14 T-17-S, R-34-E Order No. WFX-557	8532-8609'	3190 psig	3520 psig
WELL No. 149 UNIT J, SEC. 27 T-17-S, R-34-E Order No. WFX-557	8577-8681'	2760 psig	3150 psig
WELL NO. 164 UNIT B, SEC. 15 T-17-S, R-34-E Order No. PMX-140	8676-8735'	3280 psig	3612 psig

A:M736249A.CCS(2)

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 142
 LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-18-88
 PERFORATIONS: 8532'-8609'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8664'
 PACKER SET AT: 8466'

TIME	SURFACE PRESSURE	RATE (BWPD)

12:20	3160	SI
12:21	3160	100
12:22	3162	100
12:23	3164	100
12:24	3167	100
12:25	3167	100
12:26	3168	100
12:27	3168	100
12:28	3171	100
12:29	3171	100
12:30	3172	100
12:31	3172	100
12:32	3175	100
12:33	3175	100
12:34	3176	100
12:35	3176	100
12:36	3178	200
12:37	3178	200
12:38	3179	200
12:39	3184	200
12:40	3188	200
12:41	3191	200
12:42	3194	200
12:43	3197	200
12:44	3198	200
12:45	3200	200
12:46	3203	200
12:47	3204	200
12:48	3206	200
12:49	3207	200
12:50	3210	200
12:51	3212	300
12:52	3221	300
12:53	3226	300
12:54	3230	300
12:55	3233	300
12:56	3237	300
12:57	3240	300
12:58	3243	300
12:59	3246	300
1:00	3249	300
1:01	3251	300
1:02	3254	300

STEP RATE TEST -----

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 142
LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 2-18-88
PERFORATIONS: 8532'-8609'
TOTAL DEPTH: 8700'
PLUG BACK TD: 8664'
PACKER SET AT: 8466'

TIME	SURFACE PRESSURE	RATE (BWPD)

1:03	3257	300
1:04	3259	300
1:05	3262	300
1:06	3264	400
1:07	3276	400
1:08	3281	400
1:09	3286	400
1:10	3290	400
1:11	3294	400
1:12	3297	400
1:13	3301	400
1:14	3305	400
1:15	3308	400
1:16	3311	400
1:17	3314	400
1:18	3318	400
1:19	3320	400
1:20	3323	400
1:21	3335	500
1:22	3341	500
1:23	3346	500
1:24	3350	500
1:25	3354	500
1:26	3358	500
1:27	3362	500
1:28	3366	500
1:29	3369	500
1:30	3372	500
1:31	3376	500
1:32	3379	500
1:33	3382	500
1:34	3385	500
1:35	3388	500
1:36	3391	600
1:37	3407	600
1:38	3413	600
1:39	3417	600
1:40	3421	600
1:41	3425	600
1:42	3428	600
1:43	3432	600
1:44	3435	600
1:45	3439	600

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 142
 LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-18-88
 PERFORATIONS: 8532'-8609'
 TOTAL DEPTH: 8700'
 PLUG BACK TD: 8664'
 PACKER SET AT: 8466'

TIME	SURFACE PRESSURE	RATE (BWPD)

1:46	3442	600
1:47	3445	600
1:48	3448	600
1:49	3451	600
1:50	3454	600
1:51	3458	700
1:52	3461	700
1:53	3479	700
1:54	3482	700
1:55	3486	700
1:56	3490	700
1:57	3493	700
1:58	3497	700
1:59	3499	700
2:00	3503	700
2:01	3506	700
2:02	3509	700
2:03	3512	700
2:04	3514	700
2:05	3517	700
2:06	3536	800
2:07	3540	800
2:08	3543	800
2:09	3547	800
2:10	3550	800
2:11	3553	800
2:12	3556	800
2:13	3559	800
2:14	3561	800
2:15	3564	800
2:16	3567	800
2:17	3569	800
2:18	3575	800
2:19	3577	800
2:20	3580	800
2:21	3597	900
2:22	3603	900
2:23	3607	900
2:24	3609	900
2:25	3613	900
2:26	3615	900
2:27	3618	900
2:28	3620	900

STEP RATE TEST

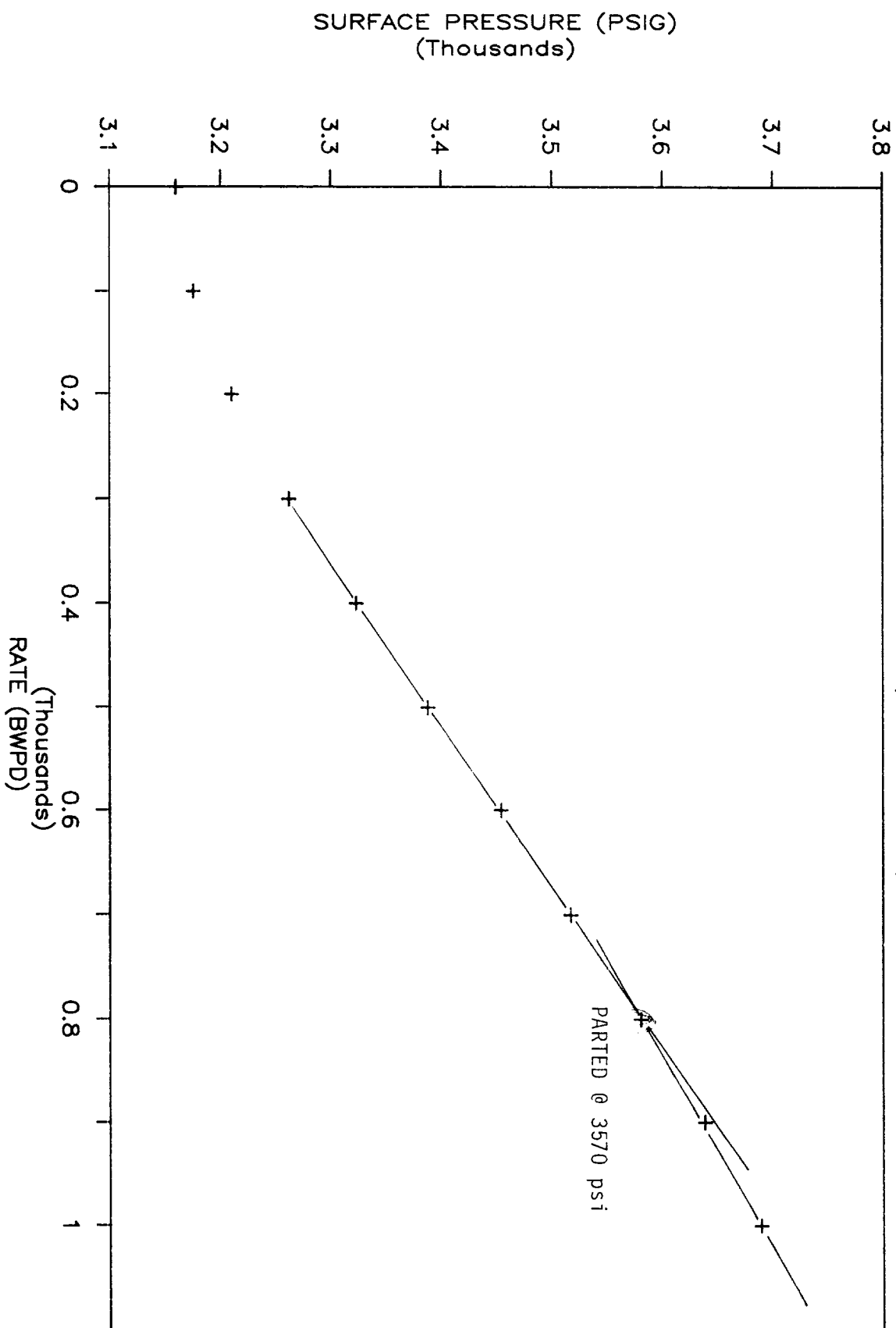
COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 142
LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 2-18-88
PERFORATIONS: 8532'-8609'
TOTAL DEPTH: 8700'
PLUG BACK TD: 8664'
PACKER SET AT: 8466'

TIME	SURFACE PRESSURE	RATE (BWPD)

2:29	3623	900
2:30	3625	900
2:31	3627	900
2:32	3629	900
2:33	3633	900
2:34	3635	900
2:35	3638	900
2:36	3659	1000
2:37	3662	1000
2:38	3665	1000
2:39	3667	1000
2:40	3669	1000
2:41	3670	1000
2:42	3672	1000
2:43	3674	1000
2:44	3675	1000
2:45	3677	1000
2:46	3679	1000
2:47	3683	1000
2:48	3684	1000
2:49	3687	1000
2:50	3689	1000
2:51	3479	SI
2:52	3594	SI
2:53	3585	SI
2:54	3580	SI
2:55	3577	SI

STEP RATE TEST

NVAU 142 (RUN 2-18-88)



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 149
 LOCATION: J-27-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-16-88
 PERFORATIONS: 8577'-8681'
 TOTAL DEPTH: 8750'
 PLUG BACK TD: 8708'
 PACKER SET AT: 8500'

TIME	SURFACE PRESSURE	RATE (BWPD)

7:45	2546	SI
7:46	2558	100
7:47	2560	100
7:48	2561	100
7:49	2562	100
7:50	2563	100
7:51	2564	100
7:52	2564	100
7:53	2565	100
7:54	2565	100
7:55	2565	100
7:56	2566	100
7:57	2566	100
7:58	2567	100
7:59	2567	100
8:00	2567	100
8:01	2568	200
8:02	2578	200
8:03	2581	200
8:04	2586	200
8:05	2589	200
8:06	2592	200
8:07	2595	200
8:08	2598	200
8:09	2600	200
8:10	2601	200
8:11	2605	200
8:12	2607	200
8:13	2610	200
8:14	2612	200
8:15	2614	200
8:16	2616	300
8:17	2629	300
8:18	2637	300
8:19	2643	300
8:20	2648	300
8:21	2653	300
8:22	2658	300
8:23	2662	300
8:24	2667	300
8:25	2671	300
8:26	2675	300
8:27	2679	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 149
 LOCATION: J-27-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-16-88
 PERFORATIONS: 8577'-8681'
 TOTAL DEPTH: 8750'
 PLUG BACK TD: 8708'
 PACKER SET AT: 8500'

TIME	SURFACE PRESSURE	RATE (BWPD)

8:28	2683	300
8:29	2687	300
8:30	2691	300
8:31	2693	400
8:32	2703	400
8:33	2715	400
8:34	2722	400
8:35	2728	400
8:36	2734	400
8:37	2740	400
8:38	2745	400
8:39	2750	400
8:40	2755	400
8:41	2761	400
8:42	2762	400
8:43	2768	400
8:44	2773	400
8:45	2777	400
8:46	2796	500
8:47	2806	500
8:48	2814	500
8:49	2822	500
8:50	2829	500
8:51	2835	500
8:52	2841	500
8:53	2847	500
8:54	2853	500
8:55	2859	500
8:56	2864	500
8:57	2870	500
8:58	2875	500
8:59	2880	500
9:00	2884	500
9:01	2891	600
9:02	2917	600
9:03	2926	600
9:04	2933	600
9:05	2940	600
9:06	2946	600
9:07	2952	600
9:08	2958	600
9:09	2964	600
9:10	2970	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 149
LOCATION: J-27-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 2-16-88
PERFORATIONS: 8577'-8681'
TOTAL DEPTH: 8750'
PLUG BACK TD: 8708'
PACKER SET AT: 8500'

TIME	SURFACE PRESSURE	RATE (BWPD)

9:11	2976	600
9:12	2981	600
9:13	2986	600
9:14	2992	600
9:15	2997	600
9:16	3023	700
9:17	3032	700
9:18	3040	700
9:19	3047	700
9:20	3054	700
9:21	3060	700
9:22	3066	700
9:23	3072	700
9:24	2077	700
9:25	3083	700
9:26	3088	700
9:27	3093	700
9:28	3103	700
9:29	3108	700
9:30	3112	700
9:31	3137	800
9:32	3146	800
9:33	3153	800
9:34	3159	800
9:35	3165	800
9:36	3170	800
9:37	3175	800
9:38	3184	800
9:39	3191	800
9:40	3196	800
9:41	3199	800
9:42	3204	800
9:43	3209	800
9:44	3214	800
9:45	3219	800
9:46	3250	900
9:47	3256	900
9:48	3260	900
9:49	3266	900
9:50	3275	900
9:51	3276	900
9:52	3284	900
9:53	3288	900

STEP RATE TEST

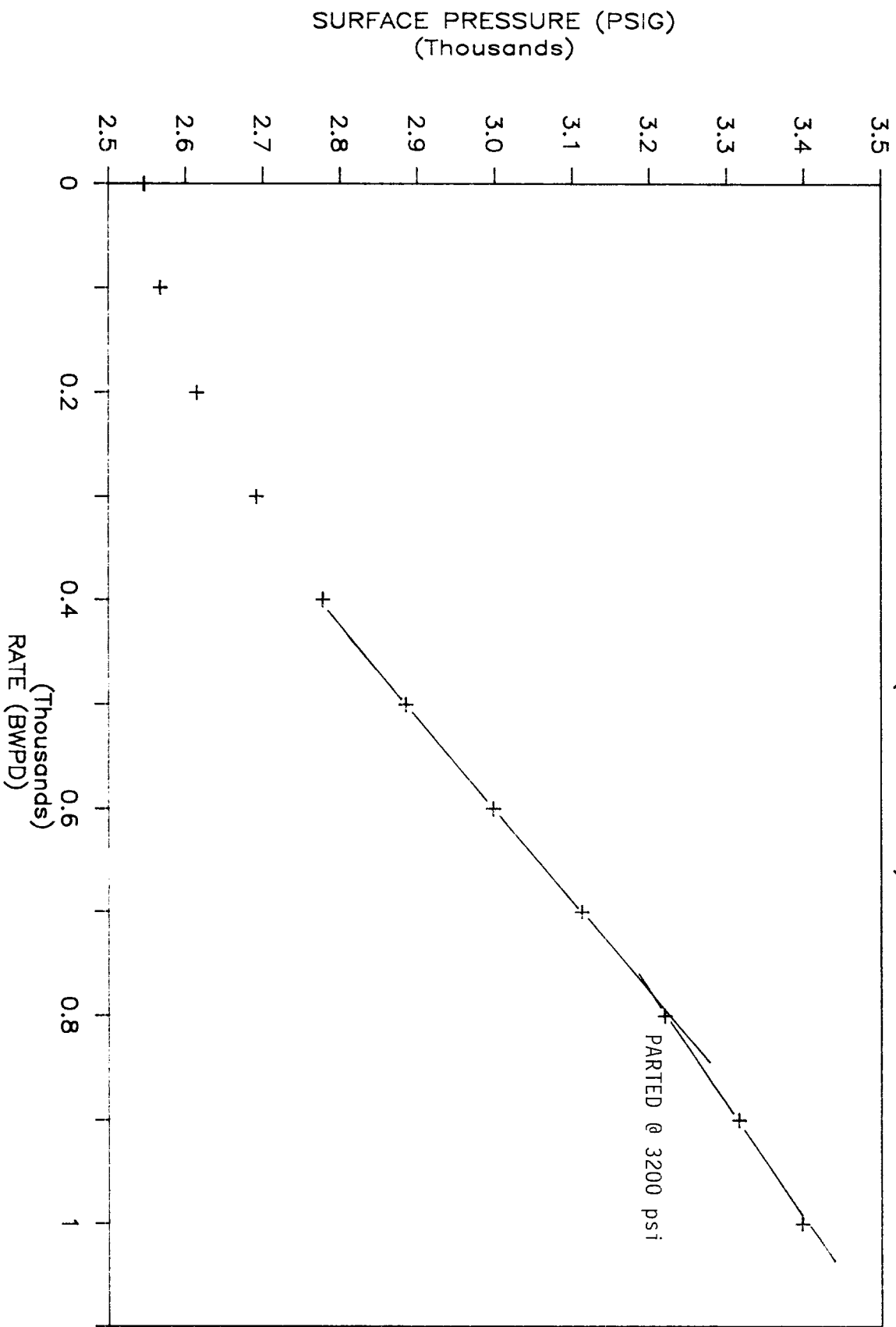
COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 149
 LOCATION: J-27-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-16-88
 PERFORATIONS: 8577'-8681'
 TOTAL DEPTH: 8750'
 PLUG BACK TD: 8708'
 PACKER SET AT: 8500'

TIME	SURFACE PRESSURE	RATE (BWPD)

9:54	3293	900
9:55	3297	900
9:56	3301	900
9:57	3304	900
9:58	3309	900
9:59	3312	900
10:00	3315	900
10:01	3348	1000
10:02	3353	1000
10:03	3358	1000
10:04	3365	1000
10:05	3369	1000
10:06	3373	1000 -
10:07	3373	1000
10:08	3377	1000
10:09	3373	1000
10:10	3382	1000
10:11	3386	1000
10:12	3389	1000
10:13	3392	1000
10:14	3394	1000
10:15	3397	1000
10:16	3273	SI
10:17	3243	SI
10:18	3230	SI
10:19	3220	SI
10:20	3210	SI

STEP RATE TEST

NVAU 149 (RUN 2-16-88)



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 164
 LOCATION: B-15-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8676'-8735'
 TOTAL DEPTH: 8850'
 PLUG BACK TD: 8802'
 PACKER SET AT: 8627'

TIME	SURFACE PRESSURE	RATE (BWPB)

7:35	2977	SI
7:36	2992	100
7:37	2995	100
7:38	2986	100
7:39	2989	100
7:40	2993	100
7:41	2999	100
7:42	3006	100
7:43	3010	100
7:44	3015	100
7:45	3020	100
7:46	3023	100
7:47	3027	100
7:48	3030	100
7:49	3033	100
7:50	3037	100
7:51	3045	200
7:52	3055	200
7:53	3064	200
7:54	3072	200
7:55	3078	200
7:56	3084	200
7:57	3090	200
7:58	3096	200
7:59	3102	200
8:00	3108	200
8:01	3113	200
8:02	3116	200
8:03	3120	200
8:04	3125	200
8:05	3130	200
8:06	3135	300
8:07	3153	300
8:08	3164	300
8:09	3173	300
8:10	3178	300
8:11	3189	300
8:12	3197	300
8:13	3204	300
8:14	3211	300
8:15	3217	300
8:16	3223	300
8:17	3230	300

STEP RATE TEST -----

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 164
 LOCATION: B-15-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8676'-8735'
 TOTAL DEPTH: 8850'
 PLUG BACK TD: 8802'
 PACKER SET AT: 8627'

TIME	SURFACE PRESSURE	RATE (BWPD)
8:18	3235	300
8:19	3240	300
8:20	3246	300
8:21	3252	400
8:22	3274	400
8:23	3285	400
8:24	3294	400
8:25	3303	400
8:26	3312	400
8:27	3320	400
8:28	3327	400
8:29	3338	400
8:30	3345	400
8:31	3350	400
8:32	3357	400
8:33	3364	400
8:34	3371	400
8:35	3377	400
8:36	3384	500
8:37	3411	500
8:38	3422	500
8:39	3431	500
8:40	3443	500
8:41	3451	500
8:42	3460	500
8:43	3465	500
8:44	3474	500
8:45	3483	500
8:46	3492	500
8:47	3501	500
8:48	3506	500
8:49	3514	500
8:50	3520	500
8:51	3531	600
8:52	3558	600
8:53	3568	600
8:54	3578	600
8:55	3585	600
8:56	3593	600
8:57	3600	600
8:58	3612	600
8:59	3620	600
9:00	3628	600

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 164
 LOCATION: B-15-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8676'-8735'
 TOTAL DEPTH: 8850'
 PLUG BACK TD: 8802'
 PACKER SET AT: 8627'

TIME	SURFACE PRESSURE	RATE (BWPD)

9:01	3633	600
9:02	3639	600
9:03	3646	600
9:04	3652	600
9:05	3662	600
9:06	3668	700
9:07	3692	700
9:08	3701	700
9:09	3710	700
9:10	3719	700
9:11	3728	700
9:12	3733	700
9:13	3739	700
9:14	3746	700
9:15	3751	700
9:16	3757	700
9:17	3762	700
9:18	3767	700
9:19	3778	700
9:20	3783	700
9:21	3795	800
9:22	3819	800
9:23	3829	800
9:24	3838	800
9:25	3844	800
9:26	3850	800
9:27	3856	800
9:28	3861	800
9:29	3869	800
9:30	3874	800
9:31	3879	800
9:32	3884	800
9:33	3889	800
9:34	3896	800
9:35	3905	800
9:36	3914	850
9:37	3925	850
9:38	3929	850
9:39	3934	850
9:40	3938	850
9:41	3943	850
9:42	3947	850
9:43	3950	850

STEP RATE TEST

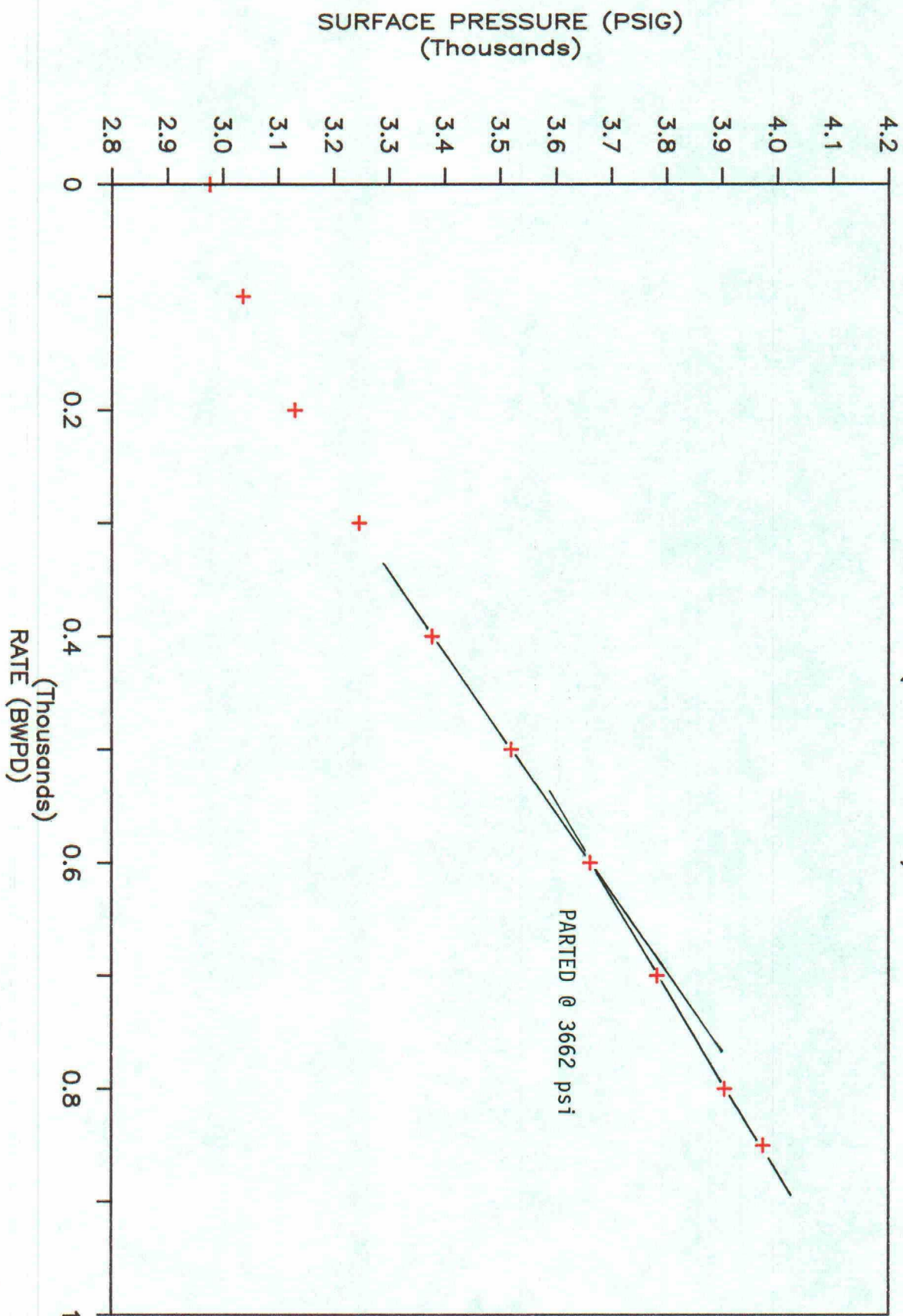
COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 164
LOCATION: B-15-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 2-17-88
PERFORATIONS: 8676'-8735'
TOTAL DEPTH: 8850'
PLUG BACK TD: 8802'
PACKER SET AT: 8627'

TIME	SURFACE PRESSURE	RATE (BWPD)

9:44	3954	850
9:45	3958	850
9:46	3961	850
9:47	3965	850
9:48	3970	850
9:49	3971	850
9:50	3974	850
9:51	3879	SI
9:52	3868	SI
9:53	3860	SI
9:54	3850	SI
9:55	3842	SI

STEP RATE TEST

NVAU 164 (RUN 2-17-88)



STEP RATE TEST -----

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 201
LOCATION: J-10-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 2-17-88
PERFORATIONS: 8670'-8733'
TOTAL DEPTH: 12,740'
PLUG BACK TD: 8906'
PACKER SET AT: 8600'

TIME	SURFACE PRESSURE	RATE (BWPD)
10:15	1393	SI
10:16	1396	100
10:17	1405	100
10:18	1411	100
10:19	1415	100
10:20	1418	100
10:21	1421	100
10:22	1424	100
10:23	1426	100
10:24	1428	100
10:25	1431	100
10:26	1433	100
10:27	1434	100
10:28	1437	100
10:29	1439	100
10:30	1442	100
10:31	1446	200
10:32	1455	200
10:33	1467	200
10:34	1475	200
10:35	1479	200
10:36	1486	200
10:37	1492	200
10:38	1496	200
10:39	1501	200
10:40	1505	200
10:41	1509	200
10:42	1512	200
10:43	1517	200
10:44	1519	200
10:45	1524	200
10:46	1536	300
10:47	1549	300
10:48	1560	300
10:49	1570	300
10:50	1578	300
10:51	1585	300
10:52	1592	300
10:53	1600	300
10:54	1606	300
10:55	1611	300
10:56	1617	300
10:57	1623	300

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 201
 LOCATION: J-10-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8670'-8733'
 TOTAL DEPTH: 12,740'
 PLUG BACK TD: 8906'
 PACKER SET AT: 8600'

TIME	SURFACE PRESSURE	RATE (BWPD)

10:58	1629	300
10:59	1634	300
11:00	1640	300
11:01	1655	400
11:02	1671	400
11:03	1681	400
11:04	1691	400
11:05	1700	400
11:06	1708	400
11:07	1715	400
11:08	1724	400
11:09	1729	400
11:10	1736	400
11:11	1746	400
11:12	1750	400
11:13	1756	400
11:14	1762	400
11:15	1773	400
11:16	1786	500
11:17	1804	500
11:18	1818	500
11:19	1830	500
11:20	1841	500
11:21	1849	500
11:22	1860	500
11:23	1869	500
11:24	1878	500
11:25	1886	500
11:26	1896	500
11:27	1904	500
11:28	1911	500
11:29	1918	500
11:30	1926	500
11:31	1940	600
11:32	1958	600
11:33	1973	600
11:34	1986	600
11:35	1996	600
11:36	2009	600
11:37	2018	600
11:38	2028	600
11:39	2036	600
11:40	2042	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 201
 LOCATION: J-10-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8670'-8733'
 TOTAL DEPTH: 12,740'
 PLUG BACK TD: 8906'
 PACKER SET AT: 8600'

TIME	SURFACE PRESSURE	RATE (BWPD)

11:41	2052	600
11:42	2060	600
11:43	2069	600
11:44	2075	600
11:45	2083	600
11:46	2098	700
11:47	2122	700
11:48	2141	700
11:49	2154	700
11:50	2166	700
11:51	2177	700
11:52	2194	700
11:53	2202	700
11:54	2211	700
11:55	2222	700
11:56	2232	700
11:57	2240	700
11:58	2249	700
11:59	2257	700
12:00	2269	700
12:01	2289	800
12:02	2312	800
12:03	2343	800
12:04	2365	800
12:05	2381	800
12:06	2379	800
12:07	2385	800
12:08	2393	800
12:09	2403	800
12:10	2413	800
12:11	2421	800
12:12	2430	800
12:13	2438	800
12:14	2447	800
12:15	2455	800
12:16	2479	900
12:17	2497	900
12:18	2510	900
12:19	2524	900
12:20	2536	900
12:21	2547	900
12:22	2557	900
12:23	2567	900

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 201
 LOCATION: J-10-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8670'-8733'
 TOTAL DEPTH: 12,740'
 PLUG BACK TD: 8906'
 PACKER SET AT: 8600'

TIME	SURFACE PRESSURE	RATE (BWPd)

12:24	2582	900
12:25	2591	900
12:26	2603	900
12:27	2614	900
12:28	2622	900
12:29	2631	900
12:30	2643	900
12:31	2660	1000
12:32	2679	1000
12:33	2695	1000
12:34	2708	1000
12:35	2719	1000
12:36	2729	1000
12:37	2738	1000
12:38	2747	1000
12:39	2762	1000
12:40	2774	1000
12:41	2783	1000
12:42	2797	1000
12:43	2807	1000
12:44	2817	1000
12:45	2829	1000
12:46	2848	1100
12:47	2871	1100
12:48	2886	1100
12:49	2900	1100
12:50	2910	1100
12:51	2916	1100
12:52	2926	1100
12:53	2934	1100
12:54	2944	1100
12:55	2952	1100
12:56	2960	1100
12:57	2970	1100
12:58	2978	1100
12:59	2984	1100
1:00	2987	1100
1:01	3007	1200
1:02	3027	1200
1:03	3042	1200
1:04	3055	1200
1:05	3063	1200
1:06	3072	1200

STEP RATE TEST

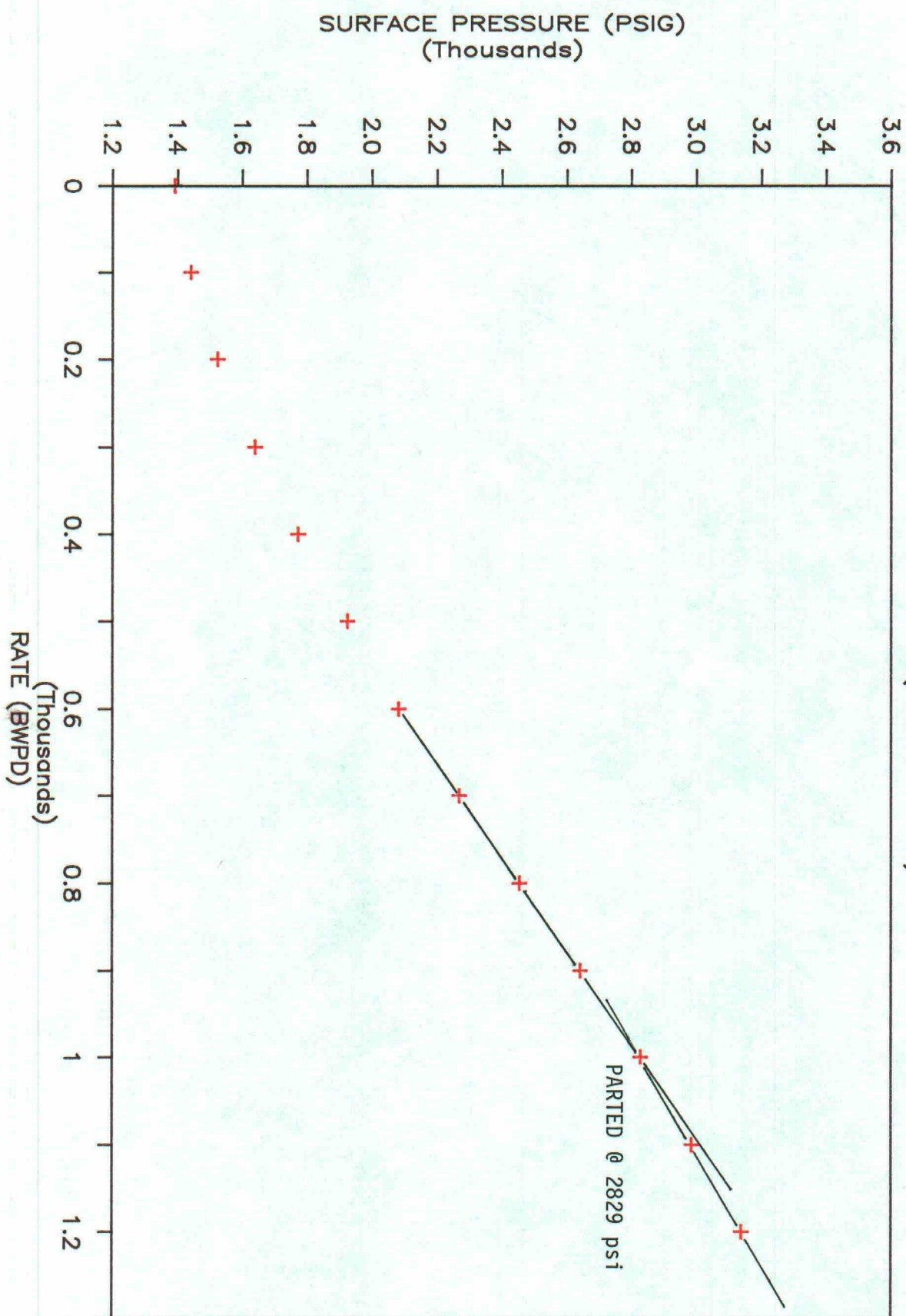
COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 201
 LOCATION: J-10-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8670'-8733'
 TOTAL DEPTH: 12,740'
 PLUG BACK TD: 8906'
 PACKER SET AT: 8600'

TIME	SURFACE PRESSURE	RATE (BWPD)

1:07	3082	1200
1:08	3093	1200
1:09	3101	1200
1:10	3106	1200
1:11	3115	1200
1:12	3123	1200
1:13	3125	1200
1:14	3131	1200
1:15	3140	1200
1:16	2994	SI
1:17	2942	SI
1:18	2898	SI
1:19	2857	SI
1:20	2821	SI

STEP RATE TEST

NVAU 201 (RUN 2-17-88)



STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 203
 LOCATION: B-22-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8692'-8764'
 TOTAL DEPTH: 8900'
 PLUG BACK TD: 8870'
 PACKER SET AT: 8664'

TIME	SURFACE PRESSURE	RATE (BWPD)
1:40	2979	SI
1:41	2974	100
1:42	2980	100
1:43	2986	100
1:44	2990	100
1:45	2992	100
1:46	2996	100
1:47	2998	100
1:48	3000	100
1:49	3002	100
1:50	3004	100
1:51	3004	100
1:52	3007	100
1:53	3009	100
1:54	3012	100
1:55	3018	100
1:56	3022	200
1:57	3026	200
1:58	3030	200
1:59	3032	200
2:00	3037	200
2:01	3043	200
2:02	3047	200
2:03	3053	200
2:04	3057	200
2:05	3060	200
2:06	3066	200
2:07	3070	200
2:08	3070	200
2:09	3073	200
2:10	3079	200
2:11	3088	300
2:12	3091	300
2:13	3096	300
2:14	3103	300
2:15	3110	300
2:16	3117	300
2:17	3122	300
2:18	3127	300
2:19	3133	300
2:20	3141	300
2:21	3143	300
2:22	3149	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 203
 LOCATION: B-22-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8692'-8764'
 TOTAL DEPTH: 8900'
 PLUG BACK TD: 8870'
 PACKER SET AT: 8664'

TIME	SURFACE PRESSURE	RATE (BWPD)

2:23	3154	300
2:24	3158	300
2:25	3163	300
2:26	3171	400
2:27	3181	400
2:28	3190	400
2:29	3198	400
2:30	3208	400
2:31	3213	400
2:32	3221	400
2:33	3229	400
2:34	3234	400
2:35	3241	400
2:36	3247	400
2:37	3254	400
2:38	3259	400
2:39	3264	400
2:40	3273	400
2:41	3282	500
2:42	3292	500
2:43	3301	500
2:44	3311	500
2:45	3317	500
2:46	3325	500
2:47	3333	500
2:48	3342	500
2:49	3348	500
2:50	3355	500
2:51	3362	500
2:52	3371	500
2:53	3376	500
2:54	3381	500
2:55	3388	500
2:56	3400	600
2:57	3412	600
2:58	3421	600
2:59	3429	600
3:00	3438	600
3:01	3443	600
3:02	3451	600
3:03	3460	600
3:04	3465	600
3:05	3471	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 203
 LOCATION: B-22-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8692'-8764'
 TOTAL DEPTH: 8900'
 PLUG BACK TD: 8870'
 PACKER SET AT: 8664'

TIME	SURFACE PRESSURE	RATE (BWPD)

3:06	3478	600
3:07	3485	600
3:08	3491	600
3:09	3497	600
3:10	3506	600
3:11	3518	700
3:12	3525	700
3:13	3533	700
3:14	3539	700
3:15	3547	700
3:16	3554	700
3:17	3561	700
3:18	3567	700
3:19	3575	700
3:20	3582	700
3:21	3587	700
3:22	3594	700
3:23	3597	700
3:24	3603	700
3:25	3611	700
3:26	3618	800
3:27	3629	800
3:28	3637	800
3:29	3644	800
3:30	3650	800
3:31	3657	800
3:32	3661	800
3:33	3667	800
3:34	3673	800
3:35	3678	800
3:36	3683	800
3:37	3687	800
3:38	3692	800
3:39	3697	800
3:40	3705	800
3:41	3717	900
3:42	3725	900
3:43	3728	900
3:44	3735	900
3:45	3741	900
3:46	3746	900
3:47	3750	900
3:48	3756	900

STEP RATE TEST -----

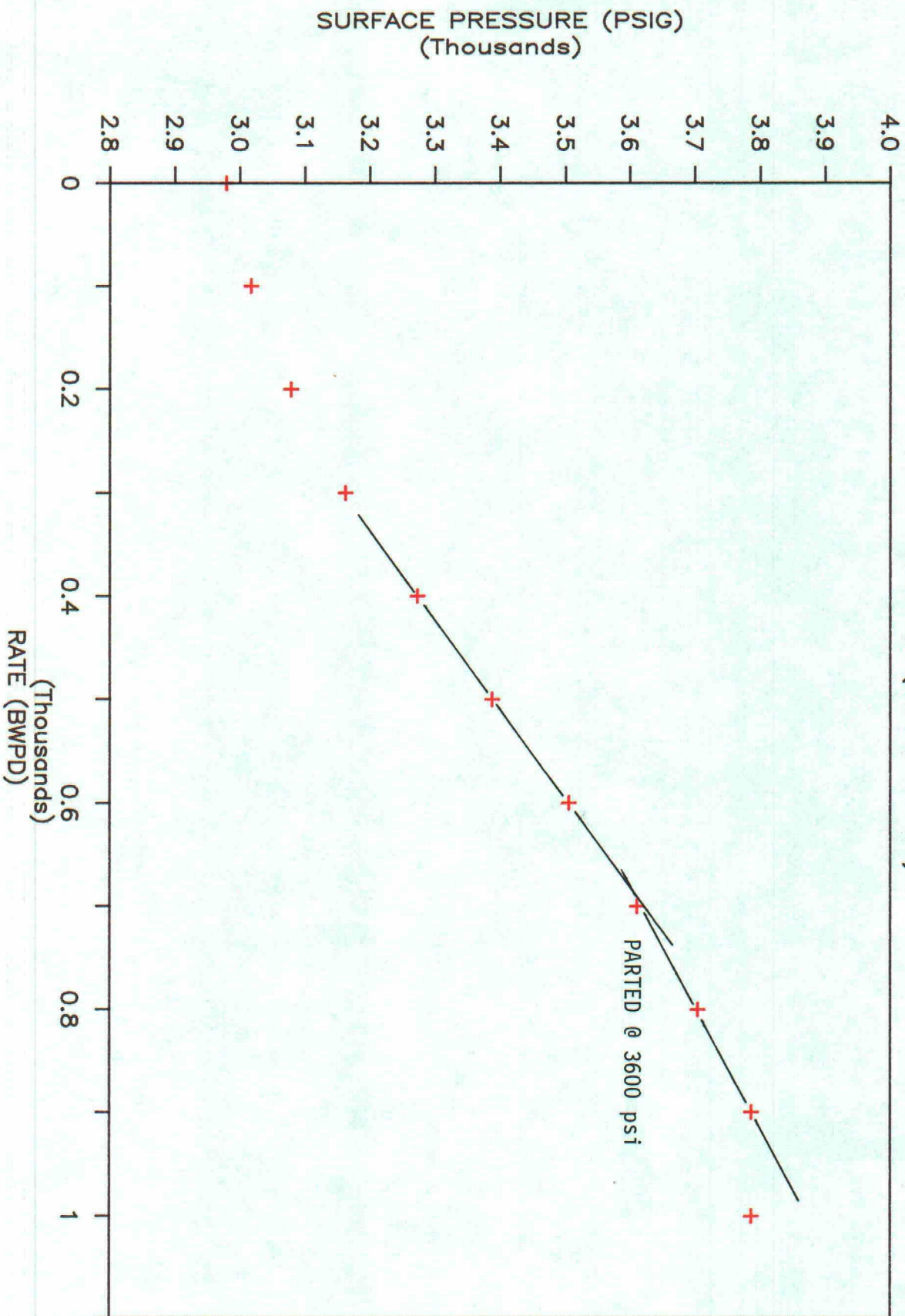
COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 203
 LOCATION: B-22-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-17-88
 PERFORATIONS: 8692'-8764'
 TOTAL DEPTH: 8900'
 PLUG BACK TD: 8870'
 PACKER SET AT: 8664'

TIME	SURFACE PRESSURE	RATE (BWPD)

3:49	3759	900
3:50	3764	900
3:51	3772	900
3:52	3775	900
3:53	3780	900
3:54	3784	900
3:55	3787	900
3:56	3794	1000
3:57	3793	1000
3:58	3790	1000
3:59	3790	1000
4:00	3792	1000
4:01	3794	1000
4:02	3796	1000
4:03	3797	1000
4:04	3800	1000
4:05	3800	1000
4:06	3800	1000
4:07	3800	1000
4:08	3796	1000
4:09	3790	1000
4:10	3787	1000
4:11	3769	SI
4:12	3740	SI
4:13	3732	SI
4:14	3723	SI
4:15	3712	SI

STEP RATE TEST

NVAU 203 (RUN 2-17-88)



STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 205
 LOCATION: B-24-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-19-88
 PERFORATIONS: 8502'-8662'
 TOTAL DEPTH: 10,401'
 PLUG BACK TD: 9492'
 PACKER SET AT: 8438'

TIME	SURFACE PRESSURE	RATE (BWPD)
7:45	3896	SI
7:46	3887	50
7:47	3880	50
7:48	3871	50
7:49	3875	50
7:50	3883	50
7:51	3885	50
7:52	3887	50
7:53	3889	50
7:54	3890	50
7:55	3891	50
7:56	3891	50
7:57	3892	50
7:58	3892	50
7:59	3893	50
8:00	3894	50
8:01	3895	100
8:02	3898	100
8:03	3900	100
8:04	3901	100
8:05	3902	100
8:06	3903	100
8:07	3903	100
8:08	3905	100
8:09	3906	100
8:10	3906	100
8:11	3907	100
8:12	3907	100
8:13	3909	100
8:14	3910	100
8:15	3912	100
8:16	3915	150
8:17	3920	150
8:18	3922	150
8:19	3925	150
8:20	3926	150
8:21	3928	150
8:22	3929	150
8:23	3931	150
8:24	3932	150
8:25	3934	150
8:26	3935	150
8:27	3937	150

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 205
 LOCATION: B-24-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-19-88
 PERFORATIONS: 8502'-8662'
 TOTAL DEPTH: 10,401'
 PLUG BACK TD: 9492'
 PACKER SET AT: 8438'

TIME	SURFACE PRESSURE	RATE (BWPD)

8:28	3938	150
8:29	3940	150
8:30	3942	150
8:31	3945	200
8:32	3951	200
8:33	3953	200
8:34	3957	200
8:35	3960	200
8:36	3962	200
8:37	3964	200
8:38	3967	200
8:39	3968	200
8:40	3970	200
8:41	3974	200
8:42	3975	200
8:43	3977	200
8:44	3979	200
8:45	3981	200
8:46	3987	250
8:47	3993	250
8:48	3997	250
8:49	4001	250
8:50	4004	250
8:51	4007	250
8:52	4010	250
8:53	4013	250
8:54	4014	250
8:55	4017	250
8:56	4019	250
8:57	4022	250
8:58	4024	250
8:59	4026	250
9:00	4028	250
9:01	4034	300
9:02	4040	300
9:03	4044	300
9:04	4047	300
9:05	4050	300
9:06	4053	300
9:07	4055	300
9:08	4061	300
9:09	4061	300
9:10	4064	300

STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 205
 LOCATION: B-24-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-19-88
 PERFORATIONS: 8502'-8662'
 TOTAL DEPTH: 10,401'
 PLUG BACK TD: 9492'
 PACKER SET AT: 8438'

TIME	SURFACE PRESSURE	RATE (BWPD)

9:11	4067	300
9:12	4069	300
9:13	4072	300
9:14	4073	300
9:15	4075	300
9:16	4085	350
9:17	4088	350
9:18	4092	350
9:19	4095	350
9:20	4099	350
9:21	4101	350
9:22	4105	350
9:23	4106	350
9:24	4106	350
9:25	4107	350
9:26	4112	350
9:27	4116	350
9:28	4117	350
9:29	4124	350
9:30	4125	350
9:31	4126	400
9:32	4130	400
9:33	4133	400
9:34	4137	400
9:35	4139	400
9:36	4141	400
9:37	4143	400
9:38	4151	400
9:39	4155	400
9:40	4156	400
9:41	4159	400
9:42	4161	400
9:43	4164	400
9:44	4166	400
9:45	4172	400
9:46	4175	450
9:47	4183	450
9:48	4187	450
9:49	4191	450
9:50	4196	450
9:51	4201	450
9:52	4200	450
9:53	4203	450

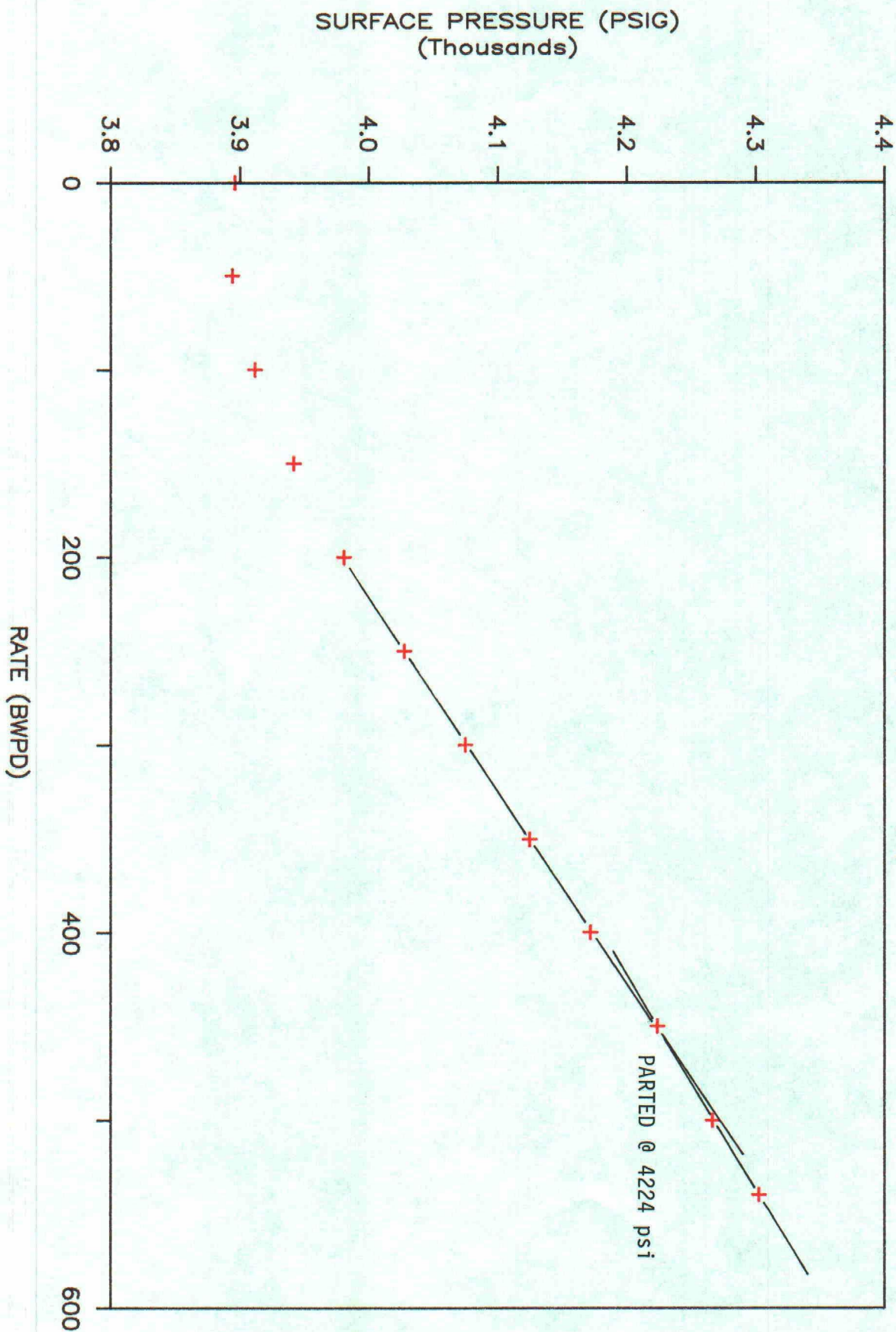
STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 205
 LOCATION: B-24-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-19-88
 PERFORATIONS: 8502'-8662'
 TOTAL DEPTH: 10,401'
 PLUG BACK TD: 9492'
 PACKER SET AT: 8438'

TIME	SURFACE PRESSURE	RATE (BWPD)
9:54	4205	450
9:55	4211	450
9:56	4212	450
9:57	4215	450
9:58	4217	450
9:59	4222	450
10:00	4224	450
10:01	4231	500
10:02	4234	500
10:03	4238	500
10:04	4240	500
10:05	4245	500
10:06	4247	500
10:07	4249	500
10:08	4252	500
10:09	4255	500
10:10	4258	500
10:11	4260	500
10:12	4261	500
10:13	4262	500
10:14	4265	500
10:15	4267	500
10:16	4278	540
10:17	4280	540
10:18	4281	540
10:19	4284	540
10:20	4288	540
10:21	4288	540
10:22	4290	540
10:23	4295	540
10:24	4297	540
10:25	4299	540
10:26	4300	540
10:27	4303	540
10:28	4303	540
10:29	4303	540
10:30	4303	540

STEP RATE TEST

NVAU 205 (RUN 2-19-88)



STEP RATE TEST

 COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 210
 LOCATION: L-23-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-18-88
 PERFORATIONS: 8533'-8717'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8764'
 PACKER SET AT: 8492'

TIME	SURFACE PRESSURE	RATE (BWFD)

9:35	2708	SI
9:36	2721	100
9:37	2732	100
9:38	2740	100
9:39	2749	100
9:40	2756	100
9:41	2763	100
9:42	2769	100
9:43	2773	100
9:44	2780	100
9:45	2786	100
9:46	2791	100
9:47	2796	100
9:48	2800	100
9:49	2805	100
9:50	2809	100
9:51	2814	200
9:52	2830	200
9:53	2842	200
9:54	2851	200
9:55	2860	200
9:56	2868	200
9:57	2875	200
9:58	2882	200
9:59	2889	200
10:00	2896	200
10:01	2901	200
10:02	2908	200
10:03	2914	200
10:04	2920	200
10:05	2926	200
10:06	2936	300
10:07	2951	300
10:08	2963	300
10:09	2973	300
10:10	2982	300
10:11	2991	300
10:12	2999	300
10:13	3008	300
10:14	3016	300
10:15	3023	300
10:16	3031	300
10:17	3038	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 210
 LOCATION: L-23-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-18-88
 PERFORATIONS: 8533'-8717'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8764'
 PACKER SET AT: 8492'

TIME	SURFACE PRESSURE	RATE (BWPD)

10:18	3044	300
10:19	3051	300
10:20	3058	300
10:21	3067	400
10:22	3090	400
10:23	3102	400
10:24	3114	400
10:25	3124	400
10:26	3133	400
10:27	3143	400
10:28	3152	400
10:29	3161	400
10:30	3169	400
10:31	3178	400
10:32	3188	400
10:33	3197	400
10:34	3205	400
10:35	3213	400
10:36	3227	500
10:37	3248	500
10:38	3262	500
10:39	3273	500
10:40	3285	500
10:41	3295	500
10:42	3306	500
10:43	3316	500
10:44	3325	500
10:45	3334	500
10:46	3343	500
10:47	3351	500
10:48	3359	500
10:49	3367	500
10:50	3374	500
10:51	3396	600
10:52	3410	600
10:53	3422	600
10:54	3434	600
10:55	3444	600
10:56	3453	600
10:57	3462	600
10:58	3470	600
10:59	3479	600
11:00	3487	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 210
LOCATION: L-23-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 2-18-88
PERFORATIONS: 8533'-8717'
TOTAL DEPTH: 8800'
PLUG BACK TD: 8764'
PACKER SET AT: 8492'

TIME	SURFACE PRESSURE	RATE (BWPD)

11:01	3494	600
11:02	3502	600
11:03	3509	600
11:04	3520	600
11:05	3529	600
11:06	3535	700
11:07	3543	700
11:08	3565	700
11:09	3579	700
11:10	3590	700
11:11	3599	700
11:12	3608	700
11:13	3616	700
11:14	3625	700
11:15	3634	700
11:16	3641	700
11:17	3648	700
11:18	3655	700
11:19	3662	700
11:20	3669	700
11:21	3690	800
11:22	3702	800
11:23	3711	800
11:24	3720	800
11:25	3727	800
11:26	3734	800
11:27	3740	800
11:28	3746	800
11:29	3752	800
11:30	3758	800
11:31	3763	800
11:32	3768	800
11:33	3773	800
11:34	3783	800
11:35	3790	800
11:36	3810	900
11:37	3819	900
11:38	3826	900
11:39	3833	900
11:40	3838	900
11:41	3843	900
11:42	3848	900
11:43	3856	900

STEP RATE TEST

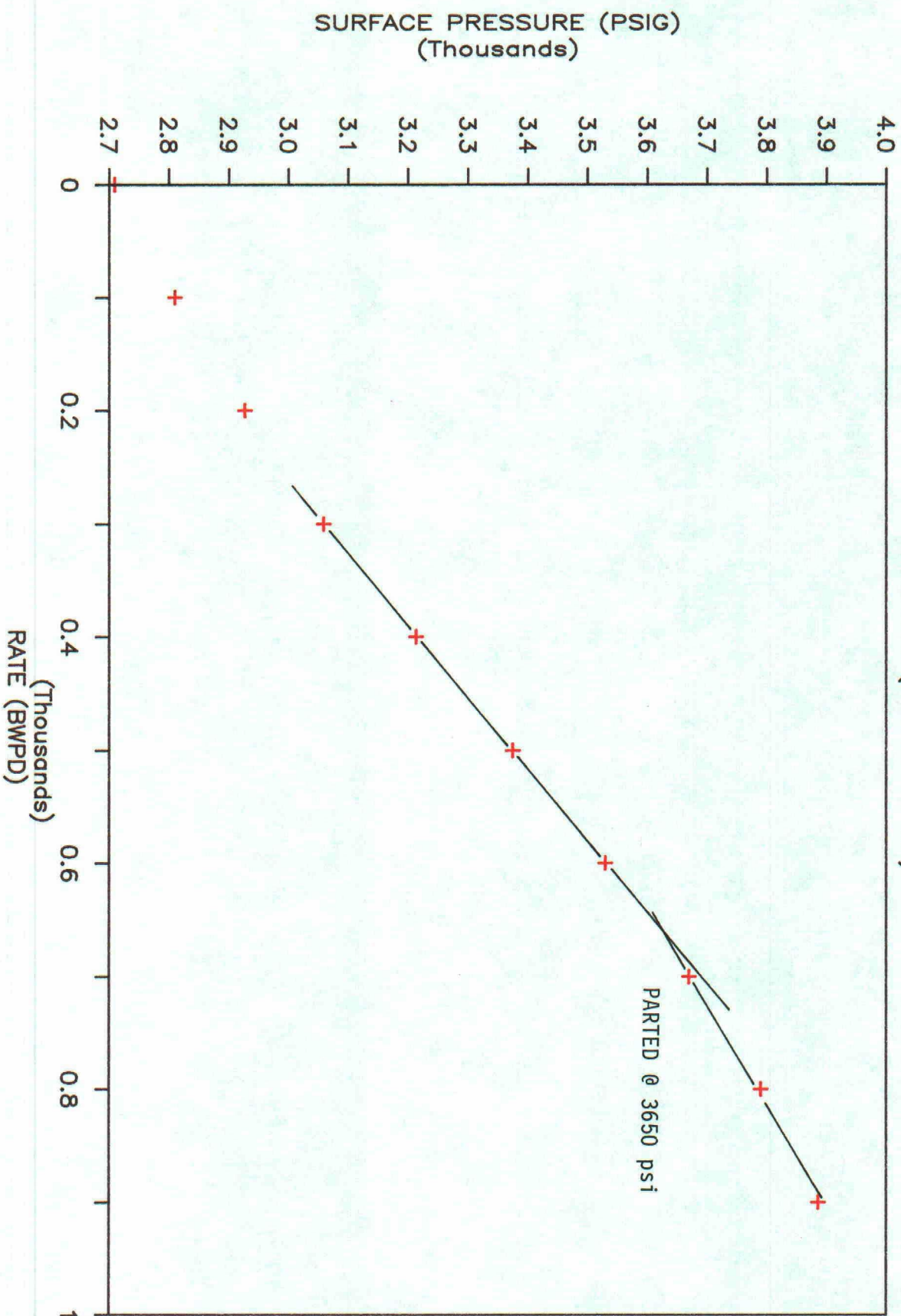
COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 210
 LOCATION: L-23-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 2-18-88
 PERFORATIONS: 8533'-8717'
 TOTAL DEPTH: 8800'
 PLUG BACK TD: 8764'
 PACKER SET AT: 8492'

TIME	SURFACE PRESSURE	RATE (BWPD)

11:44	3861	900
11:45	3866	900
11:46	3870	900
11:47	3874	900
11:48	3877	900
11:49	3881	900
11:50	3885	900
11:51	3779	SI
11:52	3795	SI
11:53	3778	SI
11:54	3765	SI
11:55	3755	SI

STEP RATE TEST

NVAU 210 (RUN 2-18-88)





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

March 14, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Producing TX & NM Inc.	NVA Unit 210-L	23-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

O.K.

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

March 14, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Producing TX & NM Inc.	NVA Unit 205-B	24-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

March 14, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Producing TX & NM Inc.	NVA Unit 203-B	22-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

March 14, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Producing TX & NM Inc.	NVA Unit	201-J	10-17-34
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

On

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

March 14, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Producing TX & NM Inc.	NVA Unit 164-B	15-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

March 14, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Producing TX & NM Inc.	NVA Unit	149-J	27-17-34
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

OIL

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

March 14, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Producing TX & NM Inc.	NVA Unit	142-J	14-17-34
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

February 11, 1988

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

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

Attention: M.E. Sweeney

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

Dear Sir:

Reference is made to your request dated December 29, 1988, to increase the surface injection pressure on five wells located within the North Vacuum Abo Unit. This request is based on step rate tests conducted on these wells on November 25, 1987. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on the NVAU Well Nos. 136 and 209 is justified at this time. Due to inconclusive test results obtained from the NVAU Well Nos. 143, 155, and 302, we request that these wells be re-tested prior to the Division granting an increased injection pressure.

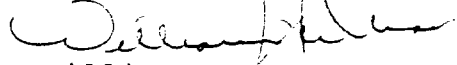
You are therefore authorized to increase the surface injection pressure on the following wells:

<u>Well & Location</u>	<u>Maximum Surface Injection Pressure</u>
NVAU Well No. 136 Unit D, Section 26 T-17S, R-34E	3125 PSIG
NVAU Well No. 209 Unit J, Section 22 T-17S, R-34E	3675 PSIG

Both in Lea County, New Mexico

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

Sincerely,

A handwritten signature in dark ink, appearing to read 'William J. LeMay', written over the printed name.

William J. LeMay
Director

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



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

February 12, 1988

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

Attention: M. E. Sweeney

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

Dear Sir:

Reference is made to your request dated January 18, 1988, to increase the surface injection pressure on five wells located within the North Vacuum Abo Unit. This request is based on step rate tests conducted on these wells January 6, 1988. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

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

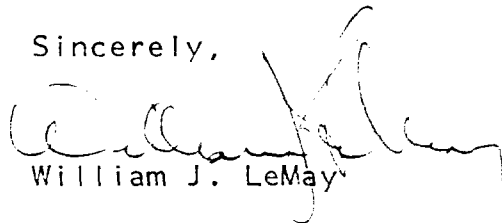
<u>WELL & LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
NVAU Well No. 112 Unit D, Section 25, Township 17 South, Range 34 East;	3960 PSIG
NVAU Well No. 116 Unit L, Section 24, Township 17 South, Range 34 East;	3790 PSIG
NVAU Well No. 137 Unit B, Section 26, Township 17 South, Range 34 East;	3600 PSIG
NVAU Well No. 139 Unit L, Section 14, Township 17 South, Range 34 East;	3625 PSIG

NVAU Well No. 146
Unit B, Section 14,
Township 17 South, Range 34 East.

3420 PSIG

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

Sincerely,

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

William J. LeMay

xc: File - PMX-138, PMX-140, WFX-557
D. Catanach
D. McDonald
OCD - Hobbs

Mobil Exploration & Producing U.S. Inc.

January 18, 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 ABO UNIT
WELL NO. 112, 116, 137, 139, and 146
LEA COUNTY, NEW MEXICO

Gentlemen:

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

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 112 UNIT D, SEC. 25 T-17-S, R-34-E Order No. PMX-138	8392-9991'	3620 psig	3960 psig
WELL No. 116 UNIT L, SEC. 24 T-17-S, R-34-E Order No. PMX-138	8438-8497'	2970 psig	3790 psig
WELL NO. 137 UNIT B, SEC. 26 T-17-S, R-34-E Order No. PMX-138	8481-8580'	3130 psig	3665 psig

State of New Mexico
North Vacuum Abo Unit

-2-

Janaury 18, 1988

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 139 UNIT L, SEC. 14 T-17-S, R-34-E Order No. WFX-557	8587-8661'	2970 psig	3625 psig
WELL NO. 146 UNIT B, SEC. 14 T-17-S, R-34-E Order No. PMX-140	8516-8590'	2930 psig	3420 psig

Enclosed are copies of the Step-rate test.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Manager

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

CCSmith/jlt

Attachments

cc: District Director OCD - Hobbs

Mobil Exploration & Producing U.S. Inc.

January 18, 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 ABO UNIT
WELL NO. 112, 116, 137, 139, and 146
LEA COUNTY, NEW MEXICO

Gentlemen:

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

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 112 UNIT D, SEC. 25 T-17-S, R-34-E Order No. PMX-138	8392-9991'	3620 psig	3960 psig
WELL No. 116 UNIT L, SEC. 24 T-17-S, R-34-E Order No. PMX-138	8438-8497'	2970 psig	3790 psig
WELL NO. 137 UNIT B, SEC. 26 T-17-S, R-34-E Order No. PMX-138	8481-8580'	3130 psig	3665 psig

State of New Mexico
North Vacuum Abo Unit

-2-

January 18, 1988

	<u>INJECTION INTERVALS</u>	<u>PRESENT SURFACE INJECTION PRESSURE LIMIT</u>	<u>REQUESTED SURFACE INJECTION PRESSURE LIMIT</u>
WELL NO. 139 UNIT L, SEC. 14 T-17-S, R-34-E Order No. WFX-557	8587-8661'	2970 psig	3625 psig
WELL NO. 146 UNIT B, SEC. 14 T-17-S, R-34-E Order No. PMX-140	8516-8590'	2930 psig	3420 psig

Enclosed are copies of the Step-rate test.

Yours very truly,



M. E. Sweeney
Environmental & Regulatory Manager

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

CCSmith/jlt

Attachments

cc: District Director OCD - Hobbs

1 CENTRAL FILES
1 REGULATORY FILES
1 PRORATION ACCT. - HOUSTON
1 RESERVOIR ENGR. MGR.
1 DIST. OP. MGR. *alcott*
1 AREA PROD. SUPV. *Seale*

Step Rate Test

Hobbs, New Mexico 88240

Company Mobil Producing Texas & NM						Test Date 1-6-88		Unit	
Total Depth 10,230						Plug Back TD 9971		Lease NVAU	
Csg size 7 Wt 23# d						Set at		Perfs: From 8392 To 9991	
Tbg size 2 3/8" Wt d						Set at		Perfs: From To	
Producing thru						Packer set at 8310		Well # 112	
								Sec 25 Twp-B k Rge 34E	
								County Lea State New Mexico	
								Co. Rep David Howell	
Well Information									
Time of Reading	Elap Time Hrs	Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP	Re marks		
8:10	SI			3430					
8:15	Start			3430					
8:20		100		3440					
8:25		100		3440					
8:30	:15	100	1.0	3440					
8:35		200		3450					
8:40		200		3450					
8:45	:30	200	2.0	3460					
8:50		300		3480					
8:55		300		3490					
9:00	:45	300	3.1	3500					
9:05		400		3520					
9:10		400		3540					
9:15	1:00	400	4.2	3560					
9:20		500		3580					
9:25		500		3600					
9:30	1:15	500	5.2	3620					
9:35		600		3660					
9:40		600		3670					
9:45	1:30	600	6.3	3690					
9:50		700		3730					
9:55		700		3750					
10:00	1:45	700	7.3	3770					
10:05		800		3810					
10:10		800		3830					
10:15	2:00	800	8.3	3850					
10:20		900		3890					
10:25		900		3920					
10:30	2:15	900	9.4	3930					

Step Rate Test

Phone (505) 397-3914

Page #2

Hobbs, New Mexico 88240

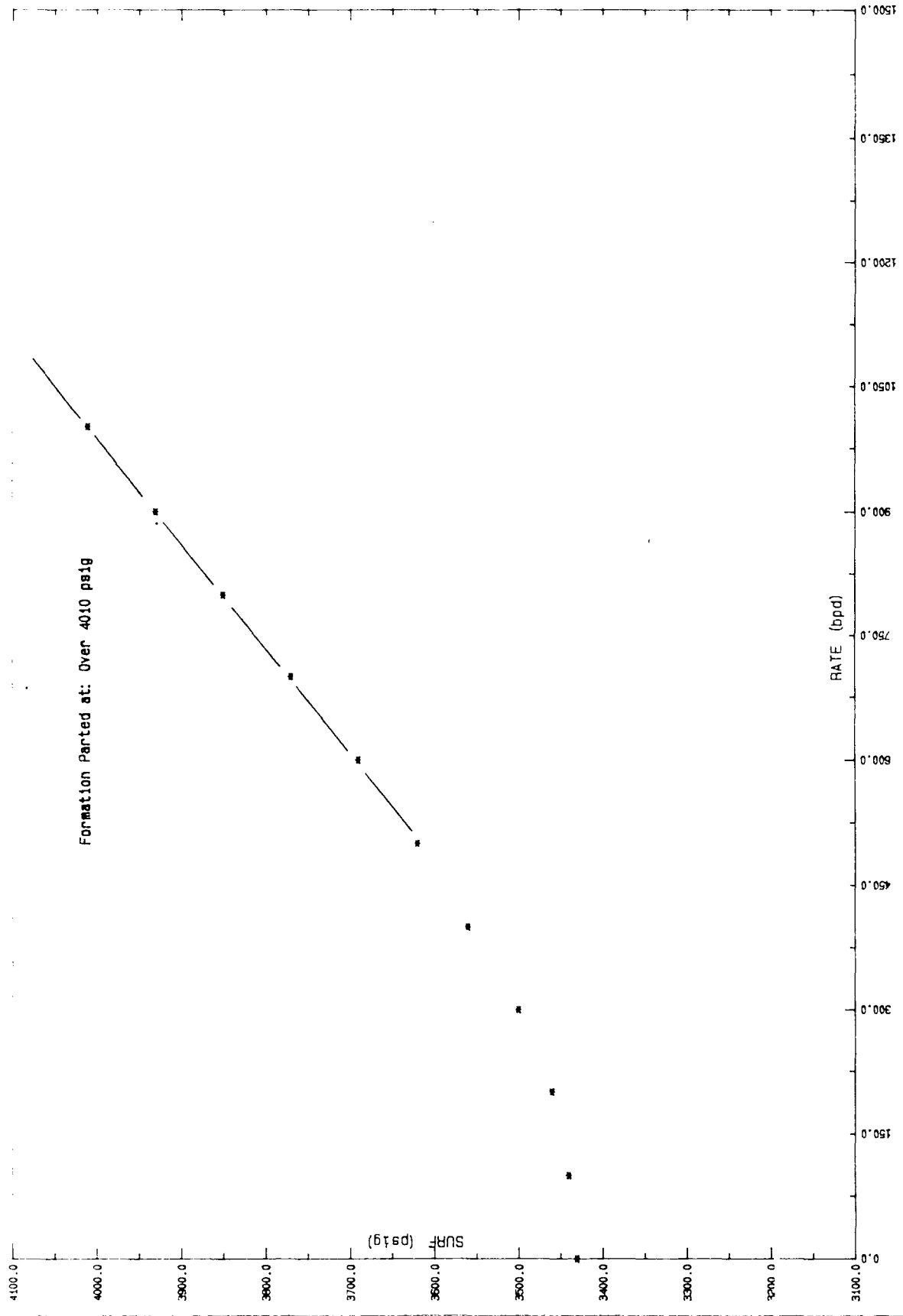
										Unit	
Company Mobil Producing Texas & New Mexico Test Date 1-6-88										Lease NVAU	
Total Depth 10,230		Plug Back TD 9971		Elevation						Well # 112	
Csg size 7		Wt 23#		d		Set at		Perfs: From 8392 To 9991		Sec 25 Twp-Bk Rge34E	
Tbg size 2 3/8		Wt		d		Set at		Perfs: From To		County Lea State New Mexico	
Producing thru				Packer set at		8310				Co. Rep David Howell	

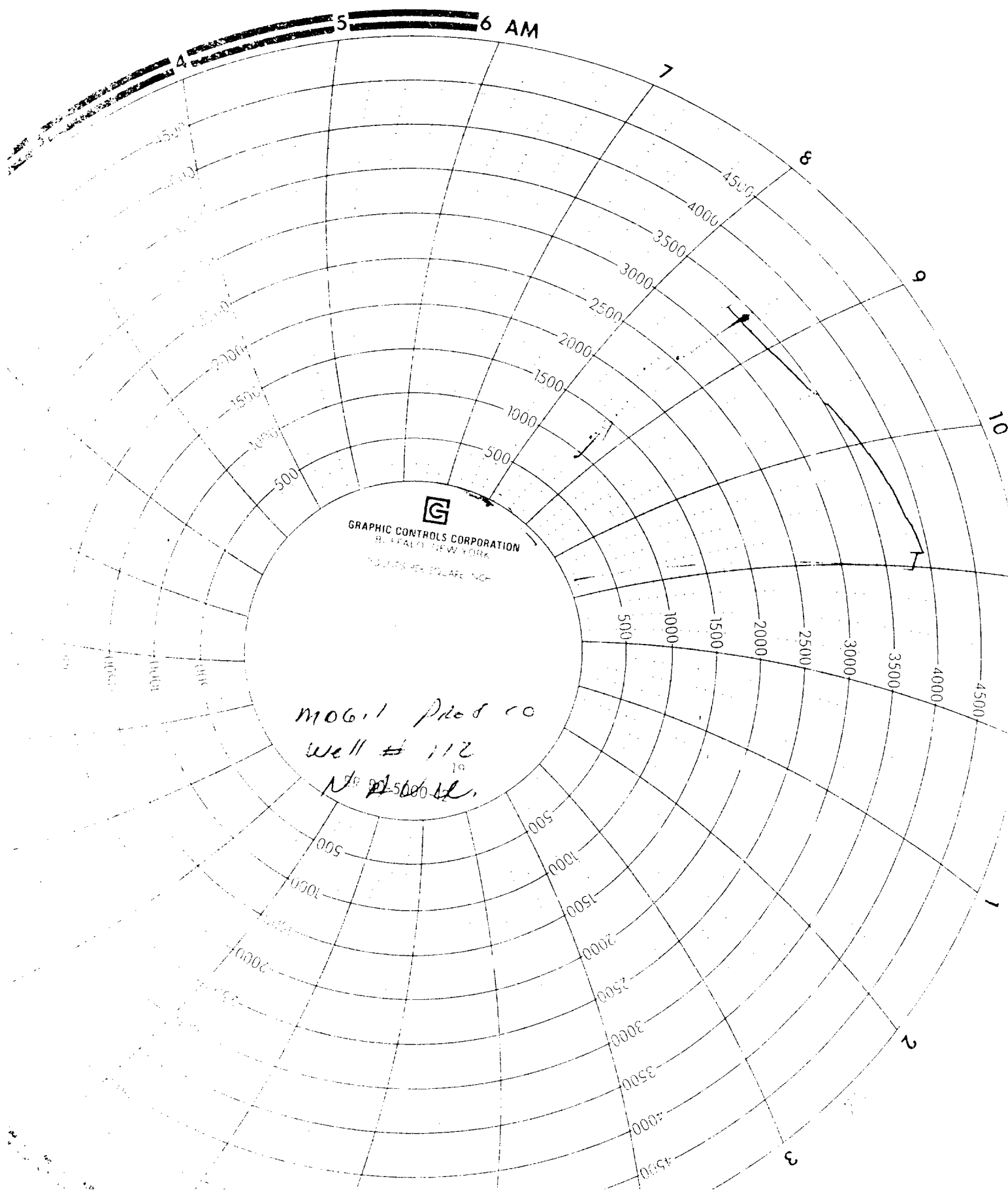
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B & D WELL TESTERS

Customer: Mobil Production
Well: N.V.A.U. #112

1/06/88





Step Rate Test

Hobbs, New Mexico 88240

Company Mobil Producing Texas & New Mexico						Test Date 1-6-88		Unit	
Total Depth 10,436						Plug Back TD 9016		Lease NVAU	
Csg size 7" Wt 23 d						Set at 10436		Perfs: From 8438 To 8586	
Tbg size 2 3/8 Wt d						Set at		Perfs: From To	
Producing thru						Packer set at 8350		Well # 116	
								Sec Twp-Bk Rge	
								County Lea State New Mexico	
								Co. Rep David Howell	
Time of Reading	Elap Time Hrs.	Well Information					Remarks		
		Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP			
8:30	SI			2805					
8:35	Start	100		2805					
8:40		100		2810					
8:45		100		2810					
8:50	:15	100	1.02	2810					
8:55		200		2825					
9:00		200		2830					
9:05	:30	200	2.1	2835					
9:10		300		2860					
9:15		300		2870					
9:20	:45	300	3.1	2875					
9:25		400		2910					
9:30		400		2925					
9:35	1:00	400	4.2	2940					
9:40		500		2980					
9:45		500		3000					
9:50	1:15	500	5.2	3020					
9:55		600		3065					
10:00		600		3090					
10:05	1:30	600	6.3	3105					
10:10		700		3160					
10:15		700		3185					
10:20	1:45	700	7.3	3205					
10:25		800		3270					
10:30		800		3295					
10:35	2:00	800	8.4	3320					
10:40		900		3385					
10:45		900		3420					
10:50	2:15	900	9.4	3440					
See Page #2									

Step Rate Test

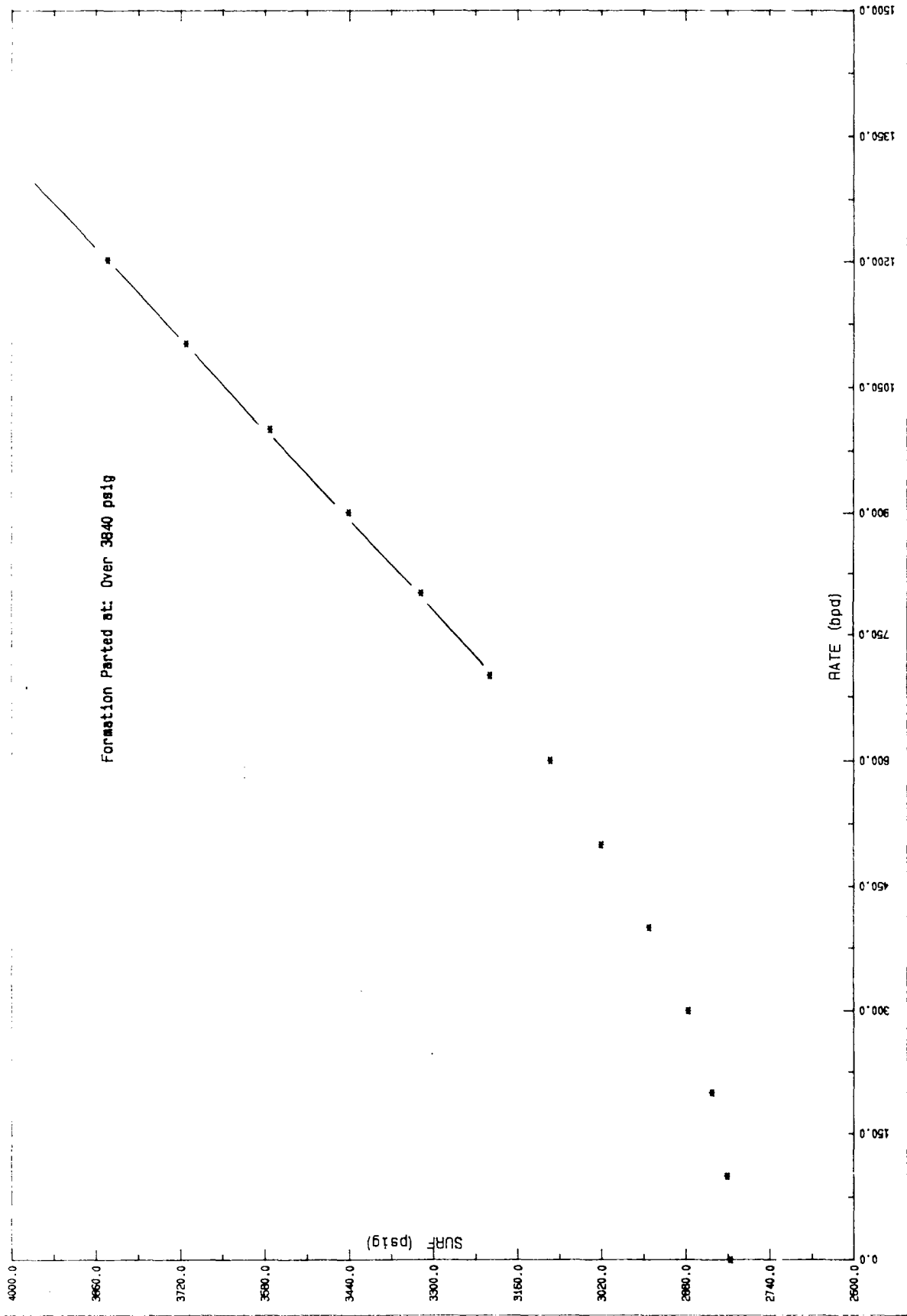
Page #2
Hobbs, New Mexico 88240

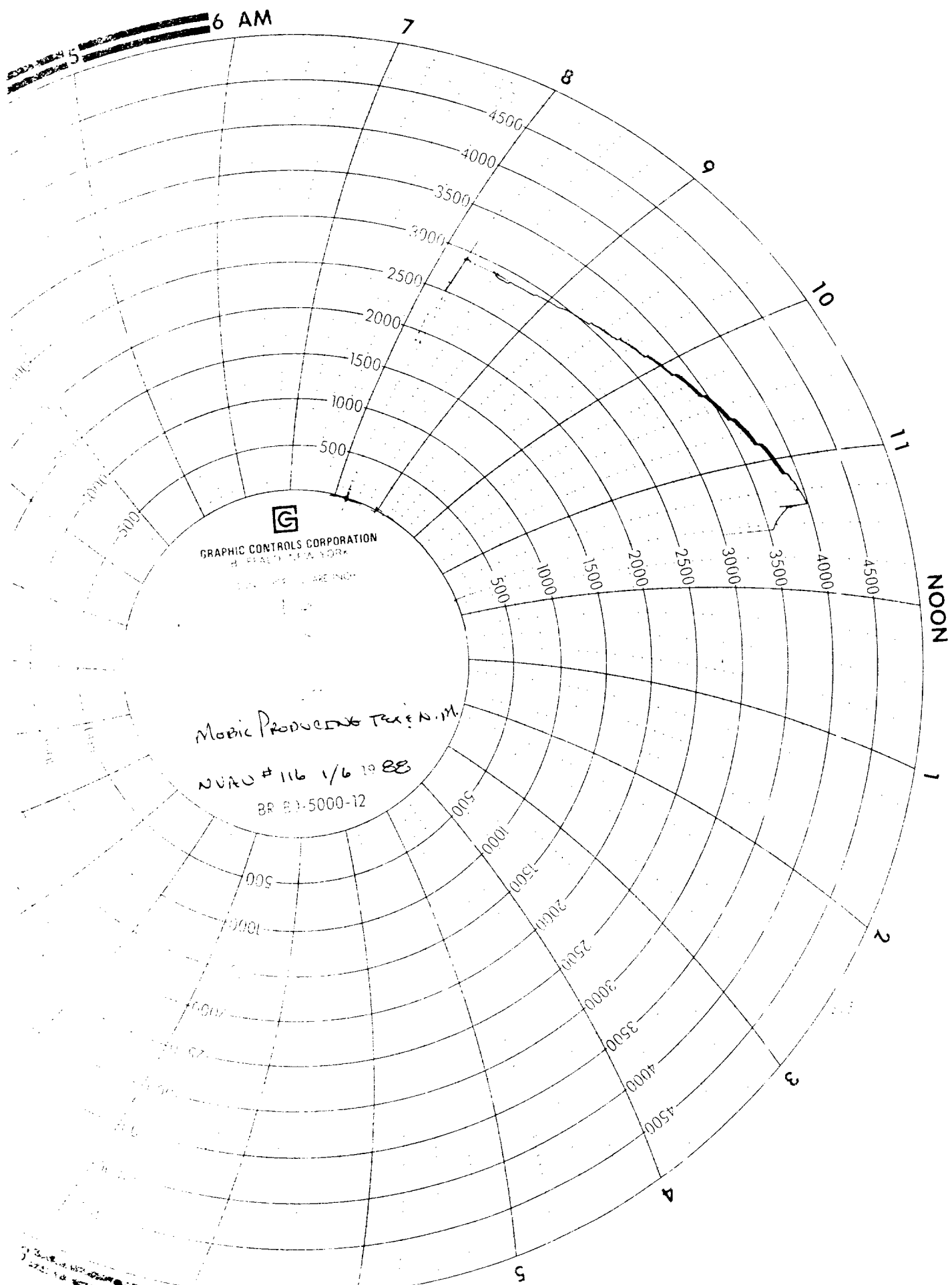
Company Mobil Producing Texas & NM										Unit	
Test Date 1-6-88										Lease NVAU	
Total Depth 10,436		Plug Back TD 9016		Elevation						Well # 116	
Csg size 7"		Wt 23 d		Set at 10436		Perfs: From 8438		To 8586		Sec Twp-Blk Rge	
Tbg size 2 3/8		Wt d		Set at		Perfs: From		To		County Lea State New Mexico	
Producing thru				Packer set at 8350						Co. Rep David Howell	

W & O WELL TESTERS

Customer: Mohil Production
Well: N.V.A.U. #116

1/06/88





GRAPHIC CONTROLS CORPORATION
NEW YORK, N.Y.

TELEPHONE AREA NO.

Mobic Products Test N.M.

NOV 11 1/6 1988

BR 83-5000-12

Step Rate Test

Hobbs, New Mexico 88240

Company Mobil Producing Texas & NM						Test Date 1-6-88		Unit	
Total Depth 8700 Plug Back TD 8600 Elevation								Lease NAVU	
Csg size 5½ Wt d Set at Perfs: From 8481 To 8580						Well # 137			
Tbg size 2 3/8 Wt d Set at Perfs: From To						Sec 26 Twp-Blk Rge 34			
Producing thru Packer set at 8370						County Lea State New Mexico			
Co. Rep David Howell									
Time of Reading	Elap Time Hrs.	Well Information					Remarks		
		Rate BBLS Per Day	Total BBLS Per Rate	Surface PSIG	Surface PSI Cor for Friction	BHP			
11:45	Shut in			2890					
11:50	Start			2890					
11:55		100		2940					
12:00		100		2940					
12:05	:15	100	1.0	2940					
12:10		200		2960					
12:15		200		2980					
12:20	:30	200	2.0	2990					
12:25		300		3010					
12:30		300		3030					
12:35	:45	300	3.1	3040					
12:40		400		3090					
12:45		400		3110					
12:50	1:00	400	4.2	3130					
12:55		500		3180					
1:00		500		3200					
1:05	1:15	500	5.2	3220					
1:10		600		3280					
1:15		600		3310					
1:20	1:30	600	6.2	3330					
1:25		700		3380					
1:30		700		3410					
1:35	1:45	700	7.3	3440					
1:40		800		3490					
1:45		800		3520					
1:50	2:00	800	8.3	3540					
1:55		900		3600					
2:00		900		3630					
2:05	2:15	900	9.4	3640					

Step Rate Test

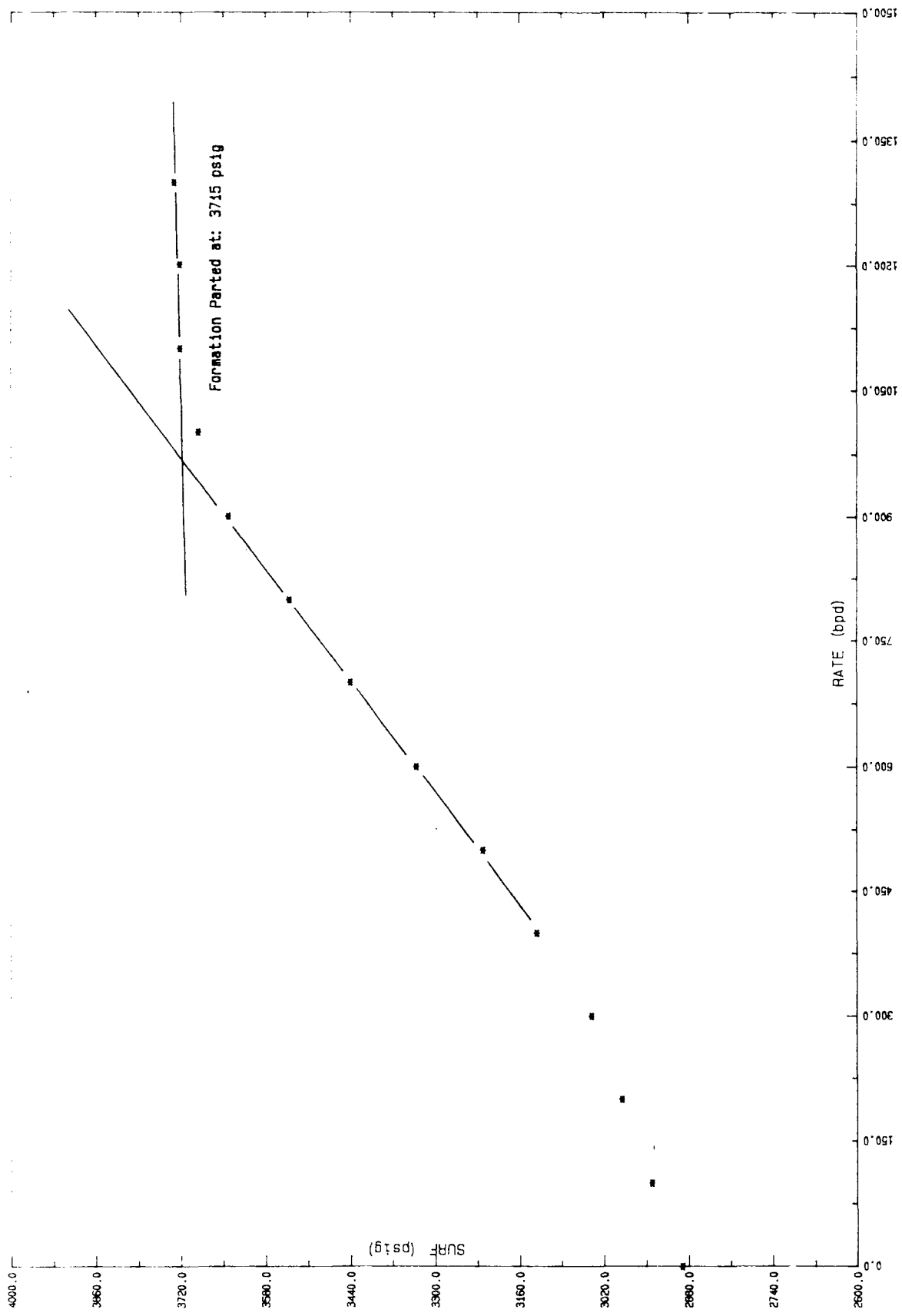
Hobbs, New Mexico 88240

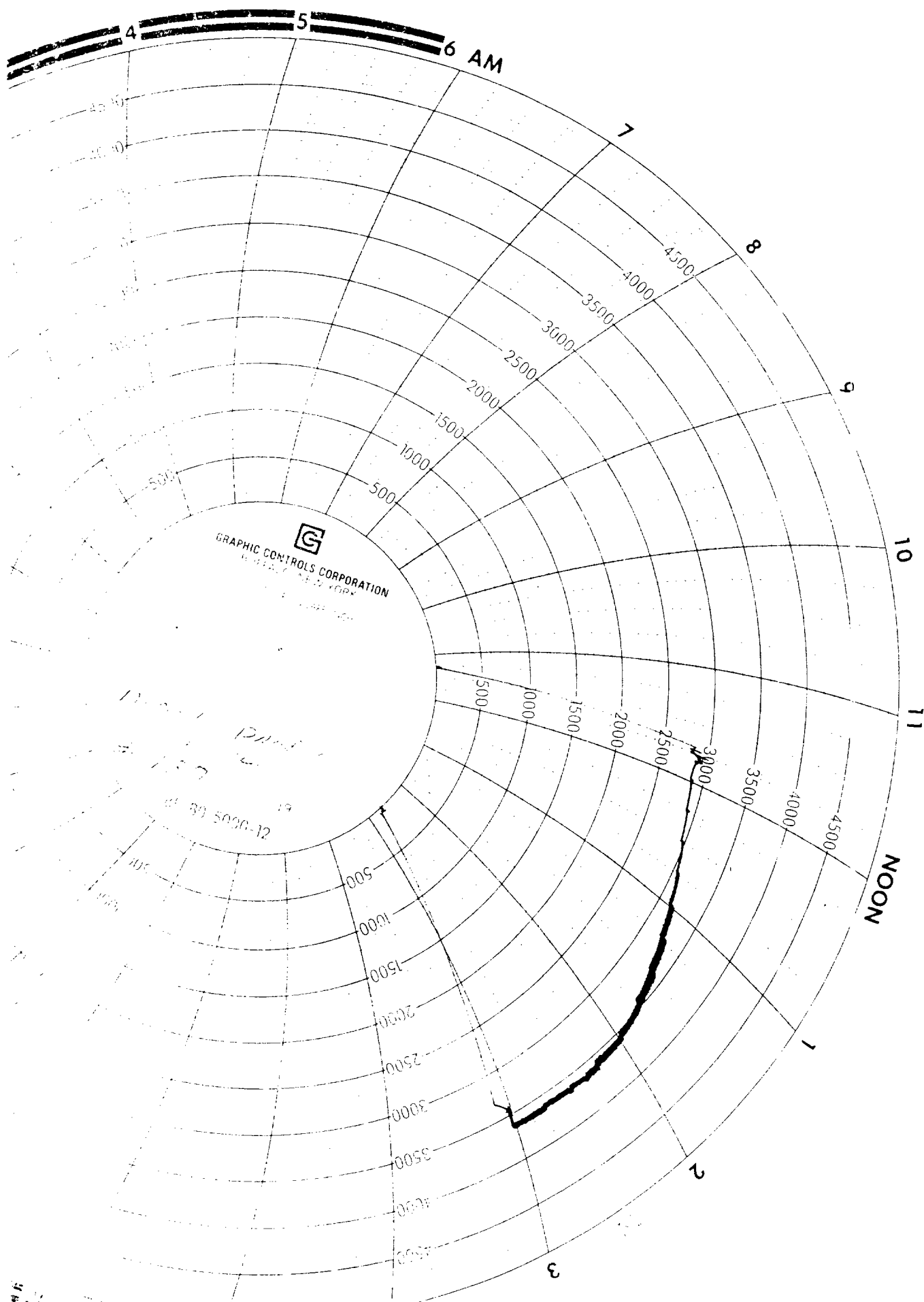
[illegible]

B & D WELL TESTERS

Customer: Mobil Production
Well: N.V.A.U. #13

1/06/88





Step Rate Test

Hobbs, New Mexico 88240

See Page #2

Step Rate Test

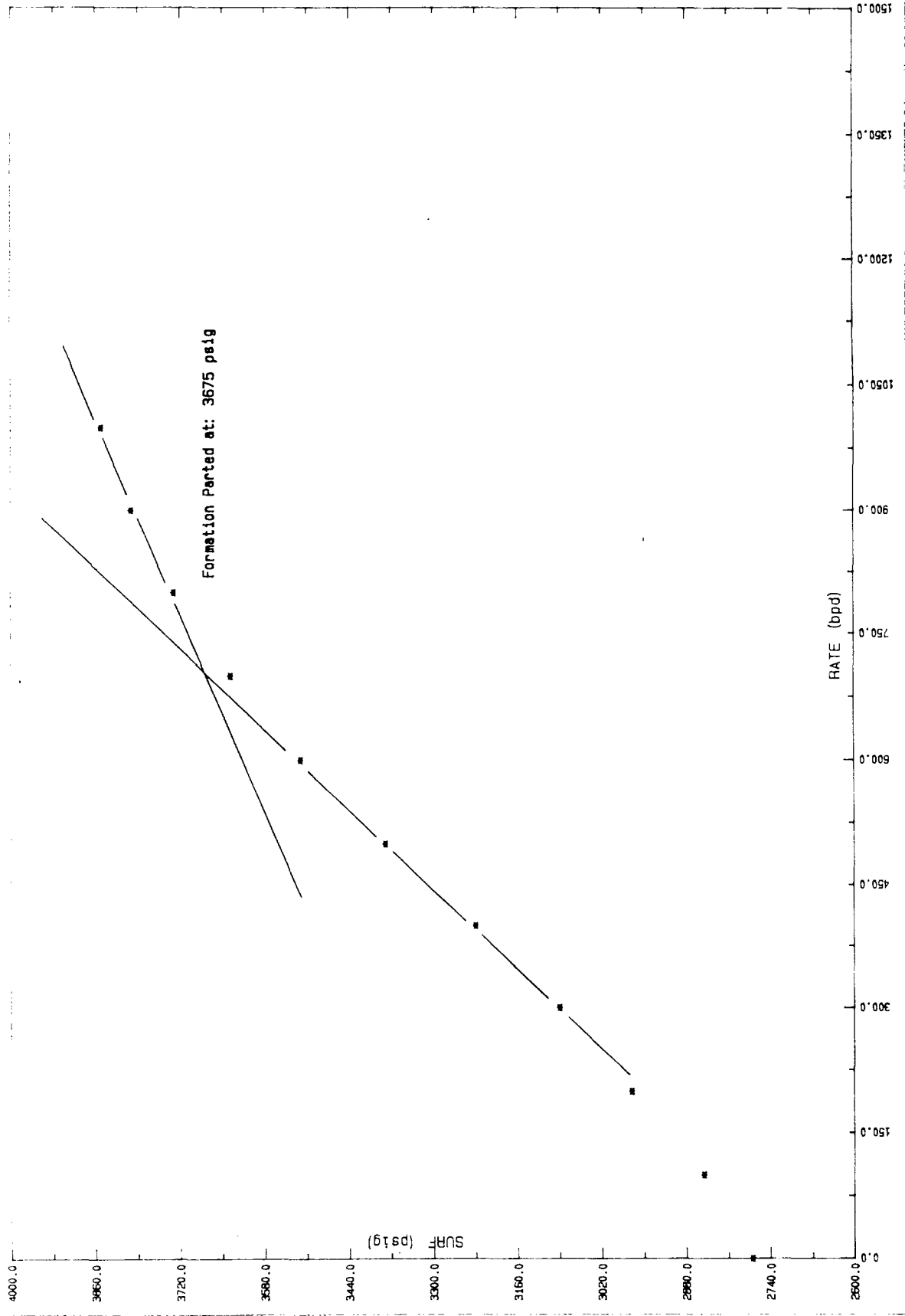
Hobbs, New Mexico 88240

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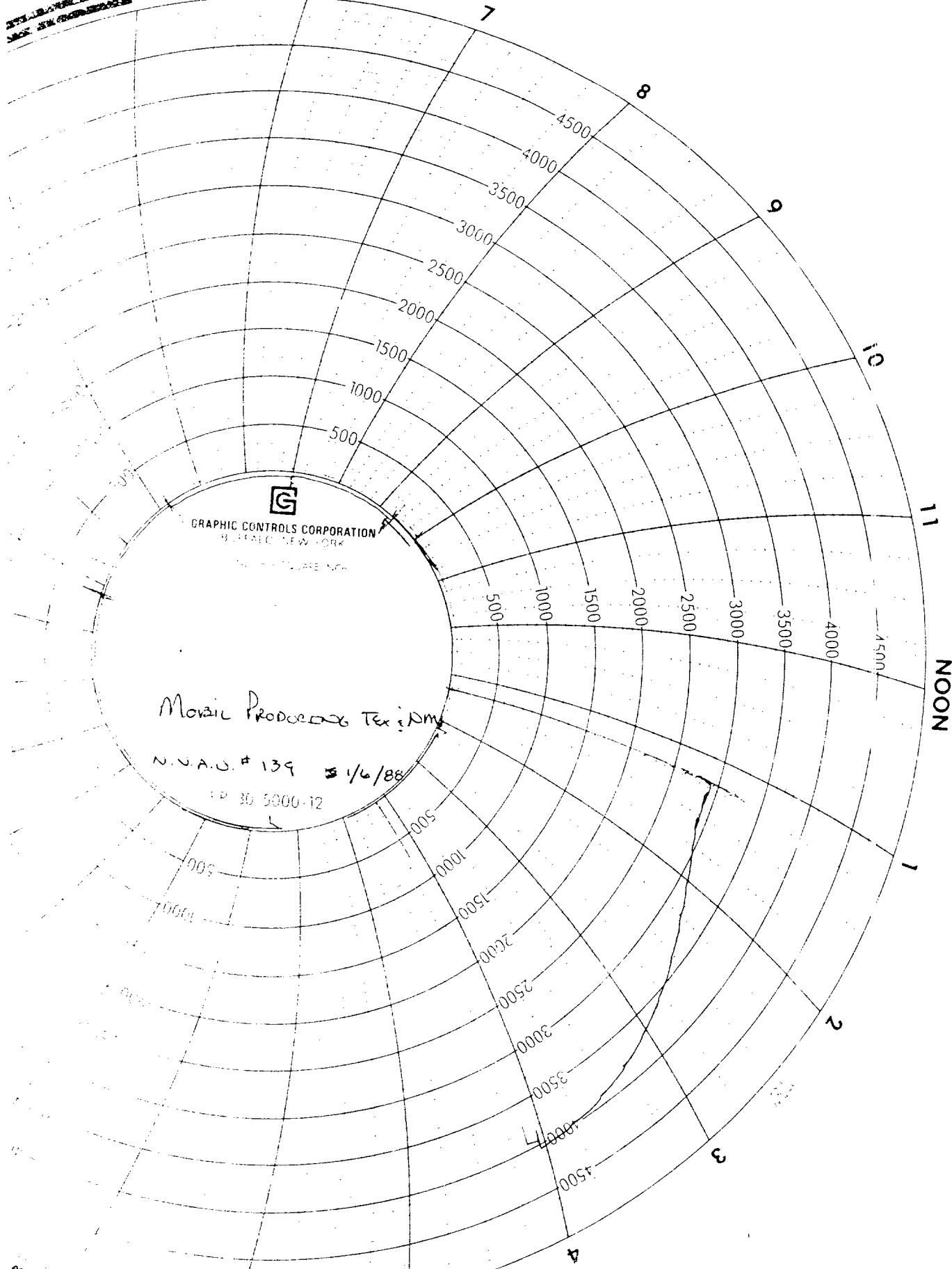
B N D WELL FLOW LOG

Customer: Mobil Production
Well: N.V.A.U. #139

1/06/88



5 6 AM



6 PM

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 146
 LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 1-6-88
 PERFORATIONS: 8516'-8590'
 TOTAL: 8700'
 PLUG BACK TD: 8669'
 PACKER SET AT: 8462'

TIME	SURFACE PRESSURE	RATE (BWPD)

12:45	2851	SI
12:46	2856	100
12:47	2859	100
12:48	2863	100
12:49	2866	100
12:50	2869	100
12:51	2872	100
12:52	2874	100
12:53	2876	100
12:54	2878	100
12:55	2880	100
12:56	2883	100
12:57	2884	100
12:58	2886	100
12:59	2887	100
1:00	2889	100
1:01	2901	200
1:02	2911	200
1:03	2917	200
1:04	2922	200
1:05	2926	200
1:06	2931	200
1:07	2935	200
1:08	2939	200
1:09	2944	200
1:10	2948	200
1:11	2952	200
1:12	2956	200
1:13	2960	200
1:14	2963	200
1:15	2973	200
1:16	2986	300
1:17	2995	300
1:18	3003	300
1:19	3010	300
1:20	3017	300
1:21	3024	300
1:22	3030	300
1:23	3036	300
1:24	3043	300
1:25	3048	300
1:26	3054	300
1:27	3059	300

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 146
 LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 1-6-88
 PERFORATIONS: 8516'-8590'
 TOTAL: 8700'
 PLUG BACK TD: 8669'
 PACKER SET AT: 8462'

TIME	SURFACE PRESSURE	RATE (BWPD)
1:28	3066	300
1:29	3069	300
1:30	3074	300
1:31	3093	400
1:32	3104	400
1:33	3113	400
1:34	3122	400
1:35	3130	400
1:36	3135	400
1:37	3143	400
1:38	3151	400
1:39	3157	400
1:40	3163	400
1:41	3169	400
1:42	3175	400
1:43	3181	400
1:44	3186	400
1:45	3192	400
1:46	3196	500
1:47	3222	500
1:48	3231	500
1:49	3240	500
1:50	3247	500
1:51	3254	500
1:52	3261	500
1:53	3267	500
1:54	3274	500
1:55	3280	500
1:56	3285	500
1:57	3291	500
1:58	3296	500
1:59	3302	500
2:00	3306	500
2:01	3311	600
2:02	3338	600
2:03	3345	600
2:04	3351	600
2:05	3357	600
2:06	3363	600
2:07	3369	600
2:08	3375	600
2:09	3379	600
2:10	3384	600

STEP RATE TEST

COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
 LEASE: NORTH VACUUM ABO UNIT
 WELL NO. 146
 LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
 TEST DATE: 1-6-88
 PERFORATIONS: 8516'-8590'
 TOTAL: 8700'
 PLUG BACK TD: 8669'
 PACKER SET AT: 8462'

TIME	SURFACE PRESSURE	RATE (BWPD)

2:11	3388	600
2:12	3393	600
2:13	3398	600
2:14	3404	600
2:15	3408	600
2:16	3412	700
2:17	3437	700
2:18	3443	700
2:19	3448	700
2:20	3452	700
2:21	3458	700
2:22	3463	700
2:23	3465	700
2:24	3470	700
2:25	3473	700
2:26	3475	700
2:27	3481	700
2:28	3483	700
2:29	3485	700
2:30	3490	700
2:31	3492	800
2:32	3508	800
2:33	3522	800
2:34	3526	800
2:35	3530	800
2:36	3533	800
2:37	3533	800
2:38	3536	800
2:39	3539	800
2:40	3541	800
2:41	3546	800
2:42	3543	800
2:43	3541	800
2:44	3540	800
2:45	3542	800
2:46	3576	900
2:47	3576	900
2:48	3579	900
2:49	3581	900
2:50	3577	900
2:51	3583	900
2:52	3581	900
2:53	3585	900

STEP RATE TEST

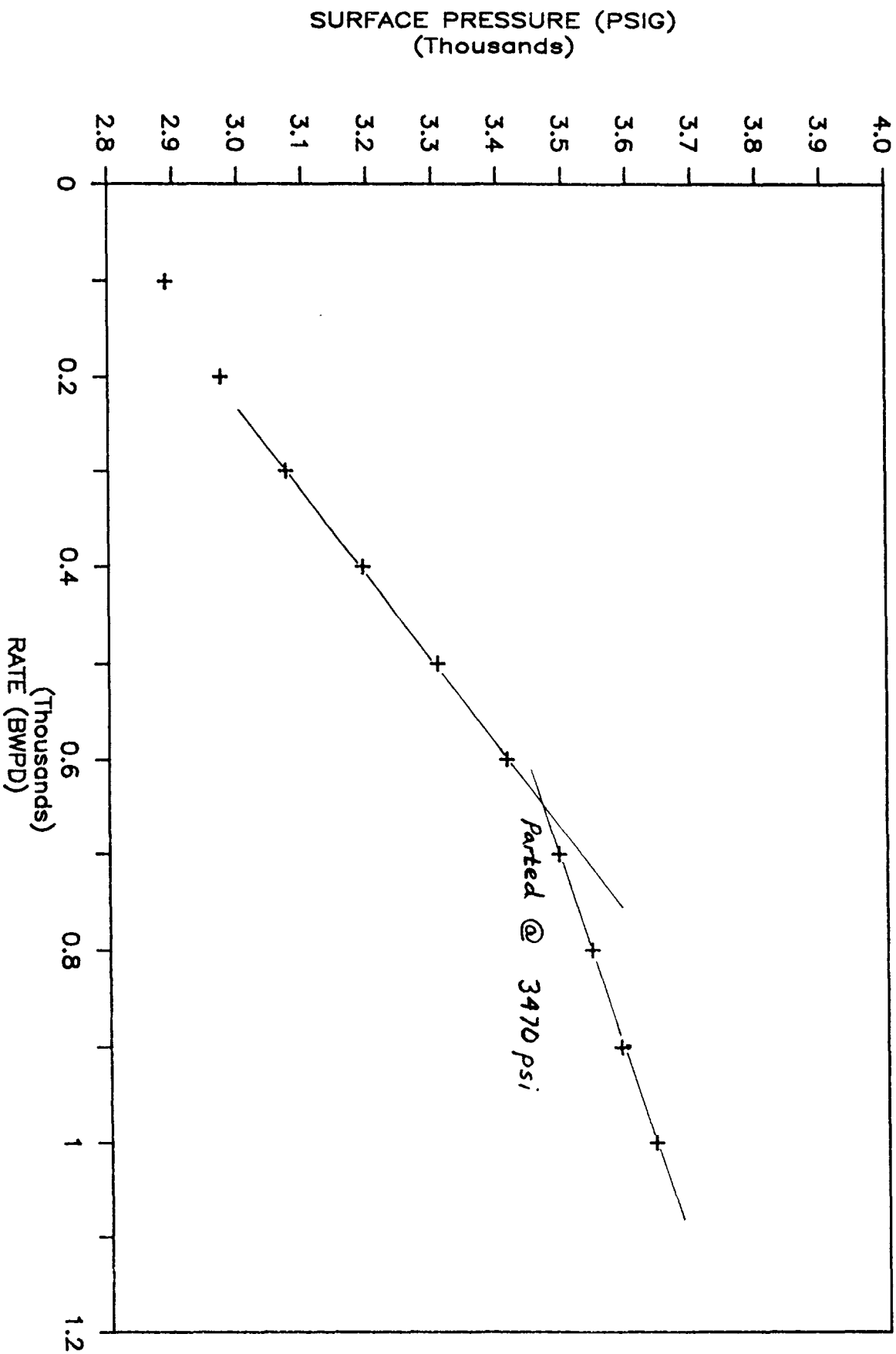
COMPANY: MOBIL EXPLORATION & PRODUCING U.S. INC.
LEASE: NORTH VACUUM ABO UNIT
WELL NO. 146
LOCATION: J-14-T17S-R34E, LEA COUNTY, NEW MEXICO
TEST DATE: 1-6-88
PERFORATIONS: 8516'-8590'
TOTAL: 8700'
PLUG BACK TD: 8669'
PACKER SET AT: 8462'

TIME	SURFACE PRESSURE	RATE (BWPD)

2:54	3585	900
2:55	3589	900
2:56	3587	900
2:57	3586	900
2:58	3588	900
2:59	3589	900
3:00	3587	900
3:01	3592	1000
3:02	3621	1000
3:03	3622	1000
3:04	3625	1000
3:05	3626	1000
3:06	3628	1000
3:07	3629	1000
3:08	3630	1000
3:09	3632	1000
3:10	3629	1000
3:11	3634	1000
3:12	3636	1000
3:13	3637	1000
3:14	3638	1000
3:15	3639	1000
3:16	3640	SI
3:17	3503	SI
3:18	3489	SI
3:19	3484	SI
3:20	3477	SI

STEP RATE TEST

NVAU 146 (RUN 1-6-88)





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

January 21, 1988

GARREY CARRUTHERS
GOVERNOR

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

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl & Prod.	North Vacuum Abo Ut 137-B	26-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

IS PROBABLY A DOUBLE BREAK I WOULD REC 3600
PSI
as FRAC -

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
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OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl. & Prod.	North Vac. Abo Ut 116-L	24-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
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OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl. & Prod.	North Vacuum Abo Ut #139-L	14-17-34
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp



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

January 21, 1988

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl. & Prod.	North Vac. Abo Ut	112-D	25-17-34
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

OK JS

Very truly yours

Jerry Sexton
Jerry Sexton
Supervisor, District I

/bp



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

January 21, 1988

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

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

Gentlemen:

I have examined the step rate test for the:

Mobil Expl. & Prod.	North Vacuum Abo Ut	#146-B	14-17-34
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp