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TWX 710-320-6842 ASTROGRAM CAM ** Brian G. Marsden, Director
Telephone 617-495-7244/7440/7444 ** Conrad M. Bardwell, Associate Director

ERRATA.

MPC	Line	
11986	9	For Klet read Klet
11993	-21	For Klet read Klet
12002	11	For G 0.00 read G 0.25
12002	-25	Add The identifications are by T. Kobayashi unless otherwise stated.
12014	- 7	For Lupiskho read Lupishko
12017	20	For Vavrova read Vavrova
12017	20	For Klet read Klet
12017	22	For Pratto read Prato
12017	-12	For Borngen read Borngen

* * * * *

CORRECTED OBSERVATION.

The following observation corrects that previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Mag.	Obs.
1957 ND	* 1957 07	04.18878	17 08 32.42	-21 11 42.8	MPC 1733	14.2	839

* * * * *

IDENTIFICATION CHANGE.

Continuation to MPC 11887.

Object	Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
1982 UH11*	1982 10	24.93066	02 27 38.01	+15 37 40.0	1982 UA1	17.5	095

* * * * *

IDENTIFICATIONS WITH COMETS.

S. Nakano has identified further comets (cf. MPC 8694-8695, 8961) that had been given minor-planet designations:

1941 OE = P/du Toit-Neujmin-Delporte
1978 NA6 = P/Smirnova-Chernykh
1981 UH18= P/Smirnova-Chernykh
1986 TD4 = P/Urata-Niijima
1986 WP5 = P/Urata-Niijima

INDEX TO ORBITAL ELEMENTS.

The following index to orbital elements continues that on MPC 10990-10995 and refers to orbits of both comets and minor planets published since then. Only the latest orbit for each object is indexed, and multiple-designation minor planets are listed only under the principal designation.

Comet	MPC	Comet	MPC	Comet	MPC	Comet	MPC
/1976 XVI	11152	/1982 I	11501	/1984 X	11623	/1984 XV	11152
/1984 XVI	11623	/1984 XVIII	11623	/1985 II	11624	/1985 VIII	12009
/1985 XIV	11510	/1985 XVII	11510	/1985 XIX	11510	/1985o	11624
/1986c	11236	/1986d	11153	/1986e	11153	/1986i	11153
/1986l	11845	/1986n	11845	/1986o	11738	/1986p	11737
/1987a	11845	/1987b	11844	/1987c	12009	/1987d	11738
/1987g	11522	/1987j	12008	/1987k	11501	/1987o	12008

Comet	MPC	Comet	MPC
/Brorsen-Metcalf	11523	/Churyumov-Gerasimenko	11502
/de Vico-Swift	11624	/du Toit	11519
/Finlay	11519	/Gunn	11502
/Longmore	11519	/Schwassmann-Wachmann 1	11510
/Tempel 1	11501		

Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC
(7)	11982	(8)	11234	(9)	11234	(20)	11982	(43)	11507
(44)	11982	(54)	11723	(63)	11507	(64)	11620	(68)	11507
(74)	11620	(87)	11507	(93)	11508	(150)	11508	(152)	11723
(153)	11723	(161)	11041	(162)	11332	(187)	11620	(213)	11332
(217)	11418	(230)	11508	(242)	11723	(279)	11724	(282)	11724
(290)	11035	(298)	11508	(302)	11620	(310)	11508	(313)	11621
(317)	11332	(324)	11724	(330)	11724	(332)	11333	(334)	11724
(341)	11508	(354)	11509	(355)	11509	(425)	11724	(441)	11725
(471)	11509	(473)	11615	(481)	11621	(485)	11333	(487)	11725
(489)	11725	(502)	11036	(503)	11725	(515)	11725	(539)	11827
(650)	11418	(683)	11725	(701)	11041	(703)	11041	(704)	11036
(705)	11041	(725)	11336	(732)	11036	(739)	11621	(745)	11336
(753)	11333	(782)	11336	(790)	11333	(794)	11621	(814)	11726
(835)	11036	(843)	11036	(858)	11621	(868)	11509	(884)	11621
(886)	11036	(903)	11037	(945)	11726	(962)	11418	(963)	11622
(970)	11622	(1015)	11333	(1024)	11037	(1026)	11421	(1092)	11333
(1094)	11334	(1121)	11622	(1131)	11037	(1156)	11726	(1170)	11037
(1175)	11334	(1178)	11334	(1179)	11506	(1186)	11726	(1189)	11726
(1190)	11037	(1192)	11038	(1202)	11726	(1206)	11038	(1207)	11334
(1211)	11727	(1270)	11334	(1271)	11727	(1325)	11038	(1370)	11038
(1373)	11038	(1387)	11827	(1389)	11334	(1403)	11335	(1435)	11727
(1448)	11038	(1451)	11727	(1454)	11039	(1460)	11727	(1465)	11727
(1472)	11039	(1483)	11418	(1488)	11039	(1494)	11039	(1499)	11039
(1504)	11039	(1513)	11335	(1526)	11728	(1529)	11040	(1540)	11335
(1550)	11335	(1600)	11335	(1604)	11418	(1615)	11827	(1617)	11827
(1645)	11827	(1659)	11335	(1660)	11040	(1661)	11336	(1677)	11040
(1679)	11728	(1683)	11827	(1684)	11040	(1692)	11040	(1707)	11336
(1731)	11336	(1743)	11231	(1748)	11828	(1756)	11828	(1760)	11828
(1764)	11828	(1766)	11231	(1784)	11828	(1798)	11828	(1800)	11418
(1808)	11829	(1813)	11829	(1815)	11829	(1818)	11829	(1825)	11983
(1839)	11419	(1847)	11829	(1874)	11829	(1877)	11419	(1880)	11830
(1910)	11419	(1927)	11983	(1935)	11983	(1940)	11983	(1951)	11235
(1952)	11728	(1988)	11983	(2009)	11984	(2014)	11984	(2016)	11984
(2020)	11231	(2024)	11419	(2036)	11232	(2051)	11984	(2066)	11419
(2079)	11984	(2085)	11984	(2112)	11985	(2125)	11232	(2129)	11985

(2154) 11985	(2156) 11985	(2160) 11232	(2165) 11985	(2167) 11633
(2181) 11419	(2185) 11232	(2186) 11985	(2189) 11633	(2190) 11986
(2199) 11986	(2204) 11986	(2213) 11232	(2220) 11232	(2228) 11233
(2231) 11986	(2234) 11728	(2248) 11633	(2249) 11633	(2250) 11634
(2251) 11634	(2252) 11634	(2256) 11986	(2257) 11986	(2260) 11987
(2271) 11634	(2277) 11429	(2285) 11987	(2288) 11233	(2294) 11634
(2295) 11634	(2296) 11233	(2303) 11987	(2320) 11635	(2321) 11635
(2322) 11635	(2323) 11635	(2324) 11635	(2325) 11635	(2336) 11233
(2341) 11233	(2345) 11636	(2354) 11987	(2359) 11987	(2360) 11987
(2364) 11988	(2369) 11233	(2377) 11041	(2390) 11234	(2393) 11636
(2395) 11730	(2400) 11234	(2415) 11420	(2424) 11983	(2474) 11420
(2496) 11988	(2498) 11988	(2551) 11988	(2644) 11988	(2677) 11988
(2722) 11992	(2726) 11989	(2754) 11989	(2803) 11047	(2818) 11989
(2823) 11989	(2847) 11831	(2868) 11989	(2872) 11989	(2906) 11831
(2920) 11990	(2999) 11990	(3009) 11990	(3010) 11990	(3014) 11235
(3030) 11337	(3039) 11235	(3057) 11990	(3178) 11235	(3192) 11990
(3302) 11832	(3371) 11235	(3487) 11047	(3488) 11048	(3489) 11048
(3490) 11048	(3491) 11049	(3492) 11049	(3493) 11052	(3494) 11056
(3495) 11056	(3496) 11234	(3497) 11236	(3498) 11236	(3499) 11236
(3500) 11238	(3501) 11239	(3502) 11239	(3503) 11239	(3504) 11240
(3505) 11240	(3506) 11240	(3507) 11337	(3508) 11339	(3509) 11340
(3510) 11340	(3511) 11340	(3512) 11341	(3513) 11342	(3514) 11342
(3515) 11343	(3516) 11343	(3517) 11421	(3518) 11421	(3519) 11422
(3520) 11429	(3521) 11429	(3522) 11432	(3523) 11432	(3524) 11433
(3525) 11433	(3526) 11433	(3527) 11434	(3528) 11436	(3529) 11436
(3530) 11437	(3531) 11437	(3532) 11437	(3533) 11438	(3534) 11502
(3535) 11503	(3536) 11503	(3537) 11503	(3538) 11504	(3539) 11506
(3540) 11507	(3541) 11510	(3542) 11513	(3543) 11513	(3544) 11513
(3545) 11513	(3546) 11514	(3547) 11516	(3548) 11615	(3549) 11615
(3550) 11615	(3551) 11616	(3552) 11617	(3553) 11617	(3554) 11618
(3555) 11624	(3556) 11625	(3557) 11626	(3558) 11626	(3559) 11626
(3560) 11627	(3561) 11627	(3562) 11627	(3563) 11628	(3564) 11628
(3565) 11631	(3566) 11631	(3567) 11636	(3568) 11636	(3569) 11637
(3570) 11637	(3571) 11729	(3572) 11730	(3573) 11730	(3574) 11731
(3575) 11731	(3576) 11731	(3577) 11734	(3578) 11734	(3579) 11734
(3580) 11735	(3581) 11735	(3582) 11735	(3583) 11741	(3584) 11741
(3585) 11741	(3586) 11745	(3587) 11745	(3588) 11746	(3589) 11831
(3590) 11832	(3591) 11833	(3592) 11833	(3593) 11833	(3594) 11834
(3595) 11834	(3596) 11835	(3597) 11845	(3598) 11845	(3599) 11846
(3600) 11846	(3601) 11846	(3602) 11847	(3603) 11847	(3604) 11847
(3605) 11848	(3606) 11848	(3607) 11848	(3608) 11849	(3609) 11849
(3610) 11849	(3611) 11850	(3612) 11850	(3613) 11850	(3614) 11851
(3615) 11851	(3616) 11851	(3617) 11851	(3618) 11858	(3619) 11858
(3620) 11858	(3621) 11859	(3622) 11859	(3623) 11859	(3624) 11860
(3625) 11860	(3626) 11861	(3627) 11861	(3628) 11861	(3629) 11862
(3630) 11862	(3631) 11991	(3632) 11992	(3633) 11992	(3634) 11992
(3635) 11993	(3636) 11993	(3637) 11993	(3638) 11994	(3639) 11994
(3640) 11994	(3641) 11998	(3642) 11998	(3643) 11998	(3644) 12002
(3645) 12002	(3646) 12003	(3647) 12003	(3648) 12005	(3649) 12006
(3650) 12006	(3651) 12006	(3652) 12007	(3653) 12008	(3654) 12009
(3655) 12009				

Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC
A904 PC	11618	A908 TC	11738	A910 FA	11519	1925 VF	11742
1929 TK	11439	1930 KP	11825	1930 KU	11825	1931 TU1	11742
1931 UB	11855	1932 EO	11517	1936 OH	11422	1936 PB	11856
1938 GG	11999	1938 HE	11856	1941 HD	11835	1942 RJ	11628
1949 QL	11856	1950 JB	11999	1951 JQ	11735	1952 QX	11629
1953 TH	11343	1955 SF	11339	1962 OB	11746	1964 BE	11230

1964 BF	11230	1964 BG	11230	1964 UP	11241	1964 VT1	11739
1965 UA	11430	1966 CL	11624	1966 PG	11852	1966 PM	11145
1966 PA1	11141	1966 TE	11625	1967 UR	11742	1968 HP	11345
1968 QE	11145	1969 OW	11145	1969 TJ1	11632	1969 TL1	11743
1969 TQ1	11746	1969 TR1	11341	1969 TC2	11746	1969 TP2	11142
1969 TD5	11145	1969 UP1	11728	1970 NB	11146	1970 OF	11146
1970 QA1	11052	1971 BK	11637	1971 OU	11056	1971 SX1	11637
1971 SX3	12007	1972 RF2	11438	1973 FE1	11835	1973 QD2	11057
1973 SZ3	11517	1973 UU5	11856	1973 UV5	11857	1974 QT1	12003
1974 RG1	12004	1974 SR1	12004	1974 SX1	11057	1974 SD3	11423
1975 TS3	11430	1975 UF	12004	1975 XJ	11991	1975 YE	11346
1976 GK2	11852	1976 GR2	11341	1976 QX	11241	1976 QE1	11638
1976 SG2	11434	1976 WD	11504	1976 YU5	11430	1977 DN4	11153
1977 EO	11999	1977 EK1	12004	1977 EM1	12004	1977 FB	11035
1977 HH1	11049	1977 LF1	11230	1977 QA1	11517	1977 QD3	12005
1977 SN	11146	1977 VA	11629	1978 JT1	11144	1978 NN	11141
1978 NU3	11835	1978 NX7	11141	1978 NY7	11146	1978 NZ7	11141
1978 NA8	11141	1978 NB8	11141	1978 NE8	11141	1978 NF8	11141
1978 NG8	11141	1978 NJ8	11141	1978 OK	11995	1978 OP	11338
1978 PE	11721	1978 PB1	11721	1978 PJ2	11632	1978 PL2	11721
1978 PG3	11632	1978 PO3	11504	1978 QX2	11638	1978 RU	11836
1978 RZ	11050	1978 RK1	11050	1978 RL1	11051	1978 RM2	11142
1978 RY5	11344	1978 RR7	11611	1978 RH9	11141	1978 RQ9	11611
1978 RV9	11612	1978 RZ9	11612	1978 RE10	11612	1978 SJ3	11638
1978 SN4	11051	1978 SQ4	11995	1978 SL5	11638	1978 SZ6	11836
1978 TP2	11981	1978 TV2	11981	1978 TL4	11500	1978 TQ5	11825
1978 TU5	11852	1978 TQ7	11344	1978 VB	11836	1978 VN	12008
1978 VZ2	11747	1978 VP3	11721	1978 VM5	11721	1978 VA6	11825
1978 VJ6	11721	1978 VQ6	11721	1978 VC7	11721	1978 VK7	11721
1978 VV7	11721	1978 VA8	11721	1978 VP8	11721	1978 VC9	11721
1978 VD9	11721	1978 VZ9	11721	1978 VH10	11721	1978 VD11	11721
1978 VL11	11995	1978 VT11	11721	1979 HE3	11518	1979 KD	11836
1979 MD1	11825	1979 ME1	11825	1979 MO1	11141	1979 MT1	11825
1979 MA2	11141	1979 MB2	11825	1979 ME3	11825	1979 MH3	11825
1979 MJ3	11825	1979 MO3	11825	1979 MS3	11825	1979 MA4	11629
1979 MB4	11825	1979 ML4	11826	1979 MO4	11826	1979 MH5	11826
1979 MK5	11826	1979 ML5	11826	1979 MU5	11826	1979 MF6	11826
1979 MP6	11826	1979 MT6	11826	1979 MB8	11826	1979 MK8	11826
1979 MN8	11826	1979 MP8	11826	1979 MR8	11826	1979 MY8	11826
1979 ME9	11999	1979 OK15	11147	1979 QC1	11518	1979 QM1	11996
1979 QZ1	11514	1979 QW3	11991	1979 QT8	11500	1979 QE10	11739
1979 SK	11504	1979 SA8	11430	1979 SL9	11154	1979 SU9	12010
1979 SV9	11639	1979 SU11	11739	1979 VG	11434	1980 CG	11423
1980 DL5	11144	1980 FU	11837	1980 FO3	12000	1980 GF	11852
1980 PT	11431	1980 RS2	11853	1980 TQ4	11981	1980 TK5	11423
1980 TA6	11853	1980 VX1	11747	1981 DE	11147	1981 DN	11148
1981 DV	11044	1981 DS1	11148	1981 DG3	11837	1981 EM5	11837
1981 EZ7	11044	1981 EK8	11148	1981 EB9	11837	1981 EJ9	11838
1981 EB11	11042	1981 EH11	11838	1981 EM12	11045	1981 EO14	11838
1981 EW14	11839	1981 EB15	11149	1981 EC15	11839	1981 EX15	11839
1981 EQ18	11042	1981 ER18	11839	1981 EZ18	11045	1981 EF19	11840
1981 EY19	11042	1981 ES20	11045	1981 EU20	11840	1981 EC21	11045
1981 EF21	11840	1981 EW21	11045	1981 ED22	11841	1981 ER22	11043
1981 EX23	11045	1981 EZ23	11045	1981 EL24	11043	1981 ET24	11739
1981 EV24	11841	1981 EJ25	11149	1981 EV26	11043	1981 EY26	11046
1981 EF27	11046	1981 EG28	11150	1981 EV29	11046	1981 EM30	11150
1981 EM31	11150	1981 EL32	11841	1981 EB33	11841	1981 EU33	11150
1981 EW33	11046	1981 EH34	11044	1981 EW39	11842	1981 EA40	11046
1981 EP42	11046	1981 ES42	11046	1981 ET42	11044	1981 EE46	11842

1981 FD	12010	1981 FQ	12010	1981 JS1	11747	1981 JX1	11618
1981 JU2	11435	1981 LJ	11732	1981 PQ	11732	1981 QE1	11740
1981 RG1	11729	1981 RQ2	11721	1981 TQ1	11747	1981 TW1	11722
1981 TL4	11511	1981 UE10	11237	1981 UU11	11722	1981 VS	11629
1981 WO	11416	1981 WM4	11732	1981 XH2	11344	1982 DU	11842
1982 DD2	11144	1982 DR2	11630	1982 FV2	11736	1982 FP3	11052
1982 HS1	11842	1982 KB1	11424	1982 RK1	11154	1982 SF	12011
1982 TU	11515	1982 TX	11053	1982 TF2	11053	1982 UM2	11438
1982 UQ5	12007	1982 US6	11431	1982 UY6	11515	1982 UA7	11431
1982 UD7	11438	1982 UF8	11500	1982 UH8	11230	1982 UR10	11055
1982 UC11	11230	1982 VA1	11722	1982 VC3	11518	1982 VE4	11736
1982 XV	12000	1982 XQ1	12000	1982 YP1	11151	1983 AD	11619
1983 AN	11843	1983 AR	11424	1983 AH1	11732	1983 BE	11853
1983 BF	11346	1983 CC	11035	1983 CN3	11736	1983 CO3	11242
1983 DE	11151	1983 NK	11053	1983 PB	11237	1983 PW	11154
1983 QF	11424	1983 RP2	11843	1983 TE1	11144	1983 XM1	11520
1984 CF	11331	1984 CM1	11331	1984 DA	11996	1984 DE	11346
1984 EN	11622	1984 EP	11612	1984 EY	11331	1984 EC1	11331
1984 EN1	11331	1984 FA	11431	1984 FC	11424	1984 FK	11331
1984 FM	11623	1984 FN	11630	1984 FS	11331	1984 FU	11331
1984 GC	11331	1984 HE1	11516	1984 HK1	12001	1984 HL1	11331
1984 HM1	11331	1984 HC2	11331	1984 JA1	12001	1984 JL1	11331
1984 JP1	11331	1984 JA2	11331	1984 MP	11331	1984 MQ	11331
1984 MR	11331	1984 MS	11331	1984 SG1	11425	1984 SM1	11854
1984 SR1	12001	1984 SC2	11425	1984 UG	11857	1984 WM1	11826
1984 YC	11237	1984 YV	11151	1985 AE	12005	1985 CL	11505
1985 CV	11854	1985 CX	11425	1985 DX	11505	1985 DU1	11826
1985 DL2	11416	1985 DN2	11416	1985 DO2	11612	1985 DV2	11826
1985 DW3	11826	1985 FC	11435	1985 FA2	11238	1985 FF2	11416
1985 FD3	11505	1985 GW	11154	1985 JP	11417	1985 JR	11425
1985 JY	11426	1985 JG1	11417	1985 JN1	11331	1985 JU1	11426
1985 JV1	11521	1985 JW1	11612	1985 JX1	11417	1985 PM	11350
1985 PL1	11981	1985 QC2	11035	1985 QJ2	11981	1985 QG4	11854
1985 QH4	11351	1985 RU	11331	1985 RW	11996	1985 RZ	11428
1985 RS1	11151	1985 RP2	11420	1985 RT2	11426	1985 RU2	11420
1985 RZ2	11515	1985 RC3	11521	1985 RD3	11743	1985 RY3	11509
1985 RJ4	11511	1985 RV4	11515	1985 RZ4	11830	1985 SA	11832
1985 TQ	11435	1985 TW	11035	1985 TW1	11826	1985 TB3	11141
1985 TD3	11417	1985 TE3	11417	1985 TF3	11435	1985 TG3	11417
1985 TL3	11630	1985 TM3	11612	1985 TN3	11722	1985 TO3	11612
1985 TP3	11740	1985 TW3	11722	1985 TZ3	11722	1985 TA4	11722
1985 UC	11035	1985 UE	11417	1985 UJ	11612	1985 UL	11996
1985 UB2	11500	1985 UG2	11500	1985 UH2	11500	1985 UJ3	11500
1985 VS	11619	1985 VE1	11639	1985 VF2	11826	1985 YP	12011
1986 AE	11500	1986 AO2	11331	1986 AQ2	11331	1986 AZ2	11722
1986 CB	11331	1986 CH	11843	1986 EJ	11331	1986 EN	11230
1986 EJ1	11855	1986 EK1	11035	1986 EQ2	11143	1986 GV	11331
1986 GW	11155	1986 GZ	11051	1986 GV1	11054	1986 JH	11054
1986 JK	11147	1986 JT	11035	1986 JV	11055	1986 JZ	11035
1986 JA1	11344	1986 LA	11619	1986 LB	11035	1986 LC	11055
1986 LK1	11141	1986 LL1	11141	1986 NA	11051	1986 NF1	11348
1986 NG1	11230	1986 OA	11331	1986 PA	11997	1986 PB	11331
1986 PE	11331	1986 PM	11035	1986 PN	11035	1986 PO	11141
1986 PS	11141	1986 PT	11141	1986 PU	11141	1986 PW	11231
1986 PX	11231	1986 PY	11722	1986 PC1	11826	1986 PH1	11141
1986 PJ1	11141	1986 PL1	11141	1986 PM1	11141	1986 PQ1	11148
1986 PR1	11141	1986 PS1	11141	1986 PV1	11141	1986 PW1	11141
1986 PZ1	11141	1986 PH2	11141	1986 PK2	11141	1986 PS2	11141
1986 PY2	11141	1986 PH3	11142	1986 PM3	11142	1986 PX3	11231

1986 PB4	11142	1986 PF4	11231	1986 PM4	11830	1986 QJ	11612
1986 QK	11612	1986 QL	11612	1986 QN	11639	1986 QO	11612
1986 QP	11612	1986 RA	11619	1986 RB	11620	1986 RD	11417
1986 RF	11331	1986 RJ	11241	1986 RK	11331	1986 RL	11348
1986 RM	11625	1986 RP	11331	1986 RQ	11342	1986 RU	11231
1986 RV	11231	1986 RW	11331	1986 RY	11231	1986 RD1	11857
1986 RE1	11231	1986 RG1	11348	1986 RH1	11331	1986 RJ1	11231
1986 RK1	11231	1986 RL1	11331	1986 RO1	11331	1986 RX1	11331
1986 RY1	11231	1986 RZ1	11231	1986 RC2	11631	1986 RD2	11331
1986 RE2	11331	1986 RM2	11331	1986 RO2	11331	1986 RQ2	11348
1986 RR2	11349	1986 RS2	11349	1986 RT2	11349	1986 RV2	11331
1986 RW2	11519	1986 RX2	11331	1986 RA3	11332	1986 RF3	11332
1986 SC	11332	1986 SD	11417	1986 SE	11332	1986 SH	11332
1986 SK	11332	1986 SO	11417	1986 SP	11417	1986 SQ	11417
1986 SR	11417	1986 SS	11417	1986 ST	11417	1986 SU	11417
1986 SV	11417	1986 SW	11417	1986 TB	11417	1986 TC	11332
1986 TD	11500	1986 TE	11349	1986 TF	11417	1986 TG	11843
1986 TH	11417	1986 TL	11417	1986 TM	11631	1986 TO	11344
1986 TQ	11417	1986 TR	11417	1986 TS	11417	1986 TU	11612
1986 TV	11612	1986 TX	11350	1986 TB1	11417	1986 TC1	11625
1986 TJ1	11737	1986 TL1	11521	1986 TM1	11500	1986 TW1	11426
1986 TX1	11722	1986 TZ1	11427	1986 TJ2	11432	1986 TK2	11427
1986 TL2	11427	1986 TP2	11427	1986 TR2	11417	1986 TB3	11733
1986 TG3	11417	1986 TH3	11417	1986 TJ3	11417	1986 TK3	11417
1986 TL3	11417	1986 TM3	11417	1986 TO3	11417	1986 TR3	11417
1986 TS3	11417	1986 TT3	11417	1986 TV3	11417	1986 TW3	11417
1986 TX3	11417	1986 TZ3	11417	1986 TB4	11417	1986 TJ4	11345
1986 TK4	11345	1986 TL4	11436	1986 TN6	11722	1986 TP6	11640
1986 TR6	11612	1986 TS6	11612	1986 TT6	11722	1986 TU6	11612
1986 TV6	11612	1986 TZ6	11612	1986 TB7	11612	1986 TD7	11733
1986 UA	11351	1986 UG	11826	1986 UM	11500	1986 UO	11500
1986 UP	11722	1986 UQ	11500	1986 UT	11743	1986 UU	11722
1986 UV	11500	1986 UY	11612	1986 UZ	11440	1986 UL1	11522
1986 UH3	11500	1986 VA	11417	1986 VB	11612	1986 VC	11417
1986 VD	11417	1986 VG	11500	1986 VM	11500	1986 VO	11500
1986 VT	11500	1986 VU	11743	1986 VW	11500	1986 VX	11500
1986 VY	11500	1986 VZ	11612	1986 VB1	11500	1986 VG1	11826
1986 VR5	11612	1986 VX5	11612	1986 VB6	11729	1986 VB7	11722
1986 VE7	11500	1986 VH7	11722	1986 VJ7	11722	1986 WA	11620
1986 WB	11612	1986 WC	11512	1986 WD	11740	1986 WE	11512
1986 WG	11729	1986 WJ	11501	1986 WK	11501	1986 WM	11512
1986 WN	11612	1986 WR	11612	1986 WS	11612	1986 WU	11612
1986 WV	11612	1986 WW	11612	1986 WZ	11612	1986 WB1	12001
1986 WC1	11612	1986 WD1	11612	1986 WE1	11612	1986 WJ1	11612
1986 WL1	11640	1986 WO1	11733	1986 WQ1	11612	1986 WS1	11612
1986 WT1	11612	1986 WV1	11612	1986 WW1	11612	1986 WA2	11612
1986 WC2	11612	1986 WH2	11612	1986 WJ2	11613	1986 WM2	11613
1986 WN2	11613	1986 WP2	11722	1986 WQ2	11501	1986 WR2	11613
1986 WS2	11613	1986 WT2	11613	1986 WU2	11613	1986 WW2	11613
1986 WX2	11613	1986 WY2	11613	1986 WJ3	11613	1986 WN7	11613
1986 WO7	11613	1986 WP7	11613	1986 WQ7	11613	1986 XF	11640
1986 XH	12005	1986 XJ	11613	1986 XT	11613	1986 XU	11613
1986 XX	11613	1986 XD1	11613	1986 XJ1	11501	1986 XO2	11844
1986 XV3	11613	1986 XZ3	11613	1986 XE4	11613	1986 XX4	11722
1986 XD5	11613	1986 XE5	11613	1986 XF5	11613	1986 XG5	11613
1986 XH5	11613	1986 XJ5	11613	1986 XK5	11613	1986 YA	11633
1986 YB	11522	1987 AN	11826	1987 BA	11722	1987 BB	11722
1987 BC	11722	1987 BF	11722	1987 BG	11722	1987 BJ	11744
1987 BK1	11722	1987 BM1	11722	1987 BO1	11981	1987 BP1	11981

1987 BR1	11981	1987 BS1	11981	1987 BT1	11981	1987 BU1	11981
1987 BW1	11981	1987 BX1	11981	1987 BY1	11981	1987 BZ1	11981
1987 BA2	11981	1987 BB2	11981	1987 BC2	11981	1987 BE2	11981
1987 BL2	11722	1987 BN2	11722	1987 BO2	11722	1987 BP2	11722
1987 BQ2	11722	1987 BS2	11981	1987 BT2	11981	1987 BU2	11981
1987 CG	11981	1987 CH	11981	1987 CJ	11981	1987 CM	11722
1987 CN	11722	1987 CO	11722	1987 DD	11981	1987 DE	11997
1987 DF	11982	1987 DJ	12001	1987 DK	11722	1987 DM	11862
1987 DN	11722	1987 DO	11722	1987 DQ	11744	1987 DS	11830
1987 DF1	12002	1987 DY4	11826	1987 EA	11862	1987 EB	11744
1987 EC	11744	1987 FA	11745	1987 FF1	12002	1987 FG1	11982
1987 GA	11982	1987 GC	11855	1987 GD	11826	1987 GF	11982
1987 GG	11997	1987 HK	11982	1987 HW	11982	1987 HY	11982
1987 HA1	11982	1987 HB1	11982	1987 HE1	11982	1987 HM1	11982
1987 JA	11982	1987 JG	11982	1987 KB	11982	1987 KF	11998
1987 MC	11982	2126 P-L	11338	2538 P-L	11338	2820 P-L	11338
4020 P-L	11338	4575 P-L	11350	6047 P-L	11439	6582 P-L	11844
7571 P-L	11522	9522 P-L	11857	9527 P-L	11440		

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OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

046 Klet. Observers A. Mrkos and Z. Vavrova.
086 Odessa. Observers E. N. Kramer, I. S. Shestaka, Yu. M. Gorbanev and L. Ya. Skoblikova. From Kiev Komet. Tsirk.
101 Kharkov. 0.16-m f/4.5 astrograph. Observers P. P. Pavlenko, I. V. Vorontsova and T. I. Gavrish. From Kiev Komet. Tsirk.
168 Kourovskaya. Observers S. N. Timofeev, T. I. Levitskaya, O. G. Yuminova, A. R. Tearo and E. V. Zvonareva.
190 Gissar. Observer S. I. Gerasimenko.
323 Perth Observatory, Bickley. 0.3-m astrograph. Observers M. P. Candy, P. Jekabsons, J. Johnston and A. McGrath.
400 Kitami. Observers K. Endate and T. Fujii. Measured by K. Watanabe.
413 Siding Spring. 1.2-m U.K. Schmidt. Observers C. M. Humphries and R. W. Wilson.
474 Mt. John University Observatory. 0.6-m reflector. Observer A. C. Gilmore. Measured by P. M. Kilmartin.
657 Victoria. Observers D. D. Balam and J. Tatum.
675 Palomar. Observers J. Gibson (1.5-m reflector + CCD) and E. Helin, S. Singer-Brewster and J. Alu (0.46-m Schmidt).
691 University of Arizona, Kitt Peak. 0.91-m SPACEWATCH telescope, CCD in scanning mode. Observers T. Gehrels and J. Scotti.
801 Oak Ridge Observatory. Observers R. E. McCrosky, G. Schwartz and C.-Y. Shao.
892 YGCO Hoshikawa and Nagano Stations. 0.25-m f/3.4 Wright-Schmidt. Observers T. Kojima and S. Hayakawa. From Nihondaira Obs. Circ.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
		Periodic Comet Halley				
/1982i	1985	10 14.95417	06 01 19.48	+20 37 08.7		168
/1982i	1986	05 15.75729	10 28 52.24	-10 05 07.3		168
/1982i	1987	02 24.82637	10 36 48.19	-14 03 21.4		190
/1982i	1987	02 26.79926	10 34 35.58	-13 50 54.1		190
/1982i	1987	02 27.80552	10 33 28.75	-13 44 26.0		190

/1982i	1987	04	23.68246	09	50	17.97	-07	22	11.3	190
/1982i	1987	04	24.65104	09	49	56.58	-07	16	40.2	190
/1982i	1987	04	25.65451	09	49	35.10	-07	10	54.1	190
/1982i	1987	04	26.04908	09	49	27.27	-07	08	42.9	1 801
/1982i	1987	05	01.06211	09	47	56.33	-06	41	43.9	2 801

Comet Churyumov-Solodovnikov (1986i)

/1986i	1987	05	02.73414	22	14	45.94	-70	06	29.8	474
/1986i	1987	05	02.75718	22	14	47.05	-70	06	53.5	474

Comet Wilson (1986l)

/1986l	1986	09	26.74659	20	37	37.34	+12	02	37.6	101
/1986l	1986	09	27.73703	20	35	55.75	+11	40	32.6	101
/1986l	1986	09	27.78210	20	35	51.08	+11	39	30.6	101
/1986l	1986	09	28.72551	20	34	16.09	+11	18	27.2	101
/1986l	1986	09	28.76518	20	34	11.95	+11	17	35.7	101
/1986l	1986	09	28.78332	20	34	10.31	+11	17	11.1	101
/1986l	1986	09	28.83292	20	34	05.38	+11	16	01.5	101

Comet Sorrells (1986n)

/1986n	1986	12	08.81960	02	00	03.92	+24	38	18.2	101
/1986n	1986	12	08.83397	01	59	58.56	+24	37	56.6	101
/1986n	1986	12	08.86389	01	59	48.78	+24	37	15.6	101
/1986n	1986	12	08.87704	01	59	44.38	+24	36	59.3	101
/1986n	1986	12	09.77179	01	54	36.40	+24	15	49.1	101
/1986n	1986	12	09.78608	01	54	31.38	+24	15	28.7	101
/1986n	1986	12	09.82299	01	54	18.56	+24	14	37.7	101
/1986n	1986	12	09.84063	01	54	12.58	+24	14	10.9	101
/1986n	1986	12	18.70743	01	10	43.50	+20	40	57.4	086
/1986n	1986	12	18.72770	01	10	37.99	+20	40	32.0	086
/1986n	1986	12	21.70623	00	58	55.39	+19	32	41.0	086
/1986n	1986	12	21.71572	00	58	53.48	+19	32	28.8	086
/1986n	1986	12	21.72529	00	58	51.03	+19	32	14.5	086
/1986n	1986	12	21.73580	00	58	48.92	+19	32	02.5	086
/1986n	1986	12	21.78516	00	58	37.55	+19	30	55.8	086
/1986n	1986	12	21.79639	00	58	35.34	+19	30	41.9	086
/1986n	1986	12	22.81433	00	54	54.67	+19	08	23.6	086
/1986n	1986	12	22.82214	00	54	52.94	+19	08	12.9	086
/1986n	1986	12	22.83100	00	54	51.15	+19	08	02.8	086
/1986n	1987	06	21.25661	21	51	58.61	+10	49	29.3	801
/1986n	1987	06	23.70278	21	43	07.11	+10	26	13.2	892
/1986n	1987	06	23.72639	21	43	01.88	+10	25	58.9	892
/1986n	1987	06	25.31118	21	37	00.92	+10	08	53.0	657
/1986n	1987	06	26.01771	21	34	15.93	+10	00	50.5	046
/1986n	1987	06	26.02500	21	34	14.09	+10	00	44.8	046
/1986n	1987	06	26.32264	21	33	03.86	+09	57	12.1	657
/1986n	1987	06	28.01458	21	26	15.98	+09	36	09.3	046
/1986n	1987	06	28.01910	21	26	14.85	+09	36	05.2	046
/1986n	1987	06	28.36146	21	24	50.69	+09	31	35.2	657
/1986n	1987	06	28.98021	21	22	17.10	+09	23	16.4	046
/1986n	1987	06	28.98333	21	22	16.45	+09	23	13.3	046
/1986n	1987	06	30.02598	21	17	53.70	+09	08	38.7	046
/1986n	1987	06	30.02899	21	17	52.92	+09	08	35.9	046
/1986n	1987	06	30.41326	21	16	14.93	+09	03	04.7	657
/1986n	1987	06	30.59132	21	15	29.47	+09	00	26.0	400
/1986n	1987	06	30.60451	21	15	26.07	+09	00	16.1	400
/1986n	1987	06	30.99931	21	13	44.38	+08	54	22.8	046
/1986n	1987	07	01.00272	21	13	43.48	+08	54	19.1	046
/1986n	1987	07	02.62222	21	06	40.06	+08	29	11.2	400

/1986n	1987	07	02.63438	21 06 36.95	+08 29 00.1		400
/1986n	1987	07	10.29549	20 31 25.14	+06 07 37.1		657
/1986n	1987	07	13.28299	20 17 16.38	+05 03 54.5		657
/1986n	1987	07	15.31528	20 07 38.96	+04 18 32.1		657
			Comet Nishikawa-Takamizawa-Tago (1987c)				
/1987c	1987	06	01.55140	16 28 36.87	-42 45 14.3		474
/1987c	1987	06	01.55609	16 28 32.16	-42 44 59.7		474
			Periodic Comet Klemola				
/1987i	1987	06	23.71065	23 05 33.43	+04 57 26.6		892
/1987i	1987	06	23.73559	23 05 36.28	+04 57 41.8		892
/1987i	1987	06	24.31680	23 06 40.16	+05 02 46.2		801
/1987i	1987	06	24.41847	23 06 51.26	+05 03 35.4		657
/1987i	1987	06	25.40493	23 08 39.18	+05 12 03.6		657
/1987i	1987	06	26.36917	23 10 23.99	+05 20 10.0		657
/1987i	1987	06	26.41292	23 10 28.75	+05 20 32.5		657
/1987i	1987	06	28.42396	23 14 05.26	+05 36 57.0		657
/1987i	1987	06	30.42160	23 17 37.63	+05 52 33.8		657
/1987i	1987	07	21.36500	23 51 03.90	+07 42 41.0		657
			Comet Torres (1987j)				
/1987j	1987	05	04.50052	12 36 11.86	-35 18 50.6		474
/1987j	1987	05	04.52350	12 36 09.79	-35 18 12.5		474
/1987j	1987	06	01.37443	12 07 32.82	-23 00 53.5		474
/1987j	1987	06	01.39573	12 07 32.01	-23 00 23.0		474
			Periodic Comet Reinmuth 2				
/1987l	1987	06	24.40806	20 38 10.59	-19 30 15.6		657
/1987l	1987	07	17.29799	20 28 38.98	-18 12 47.8		657
/1987l	1987	07	21.31917	20 25 48.59	-18 00 11.4		657
			Comet Shoemaker (1987o)				
/1987o	1987	05	07.28576	16 36 34.56	+08 31 22.6		675
/1987o	1987	05	07.29271	16 36 34.14	+08 31 26.6		675
/1987o	1987	05	08.32958	16 35 28.82	+08 41 36.9		675
/1987o	1987	05	08.34694	16 35 27.72	+08 41 46.9		675
/1987o	1987	06	21.13500	15 47 59.37	+13 50 21.1		801
/1987o	1987	06	23.29861	15 45 54.48	+13 58 19.8		691
/1987o	1987	06	23.31208	15 45 53.66	+13 58 23.1		691
/1987o	1987	06	24.32021	15 44 56.72	+14 01 48.0		657
/1987o	1987	06	25.27264	15 44 03.40	+14 05 01.1		657
/1987o	1987	06	25.94722	15 43 26.05	+14 07 13.6		046
/1987o	1987	06	25.96319	15 43 25.05	+14 07 16.5		046
/1987o	1987	06	27.91007	15 41 39.14	+14 13 11.0		046
/1987o	1987	06	28.21285	15 41 22.87	+14 14 10.5	17.0T	675
/1987o	1987	06	28.92523	15 40 45.08	+14 16 02.9		046
/1987o	1987	06	28.93657	15 40 44.37	+14 16 04.7		046
/1987o	1987	06	29.18186	15 40 31.59	+14 16 47.3		801
/1987o	1987	06	29.92500	15 39 52.50	+14 18 44.4		046
/1987o	1987	06	29.93663	15 39 51.87	+14 18 46.6		046
/1987o	1987	06	30.26250	15 39 34.62	+14 19 43.8		675
/1987o	1987	06	30.90764	15 39 01.62	+14 21 16.2		046
/1987o	1987	06	30.91898	15 39 01.02	+14 21 18.7		046
			Periodic Comet Russell 2				
/1987q	1987	07	01.79167	20 18 11.94	-40 51 45.8		323
/1987q	1987	07	02.70417	20 17 49.30	-40 59 21.0	20 N	323
/1987q	1987	07	02.79792	20 17 46.51	-41 00 10.8		323

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/1987q     1987 07 06.83264  20 15 48.24  -41 31 59.7                    323
/1987q     1987 07 04.76313  20 16 51.76  -41 16 02.5           18  T 3 413

                Periodic Comet Reinmuth 1
/1987r     1987 07 22.44372  03 32 23.47  +11 30 43.7                 4 691
/1987r     1987 07 22.45274  03 32 24.07  +11 30 47.0                 4 691
/1987r     1987 07 22.45722  03 32 24.34  +11 30 46.9                 4 691
/1987r     1987 07 22.46628  03 32 25.17  +11 30 48.5                 4 691
/1987r     1987 07 22.47500  03 32 25.72  +11 30 49.4                 4 691
/1987r     1987 07 23.44436  03 33 39.19  +11 33 52.1           19.6T   691
/1987r     1987 07 23.44892  03 33 39.60  +11 33 52.8                   691
/1987r     1987 07 23.45343  03 33 39.89  +11 33 54.2                   691
/1987r     1987 07 23.45791  03 33 40.23  +11 33 54.1                   691
/1987r     1987 07 23.46240  03 33 40.56  +11 33 56.4                   691
/1987r     1987 07 25.45819  03 36 11.01  +11 39 56.4                   675
/1987r     1987 07 25.46215  03 36 11.21  +11 39 56.8                   675
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Note 1: large coma. 2: coma significantly faded. 3: strongly condensed nucleus, 10" coma and diffuse 0’.4 tail in p.a. 250 . 4: poor set of reference stars owing to twilight interference.

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OBSERVATIONS OF MINOR PLANETS.

The observations are listed separately for each observatory code. Alphabetic note codes shown with some of the observations are defined according to the scheme below. Numerical codes are defined in the headings for the individual observatories.

A earlier approximate position inferior
a sense of motion ambiguous
B black or dark plate
b bad seeing
C correction to earlier position
c crowded star field
D declination uncertain
d diffuse image
E at or near edge of plate
F faint image
G poor guiding
g no guiding
I involved with star
i inkdot measured
M measurement difficult
N near edge of plate, measurement uncertain
O image out of focus
o plate measured in one direction only
P position uncertain
p poor image
R right ascension uncertain
r outside reference star set
S poor sky
s streaked image
T time uncertain
t trailed image
U uncertain image
u unconfirmed image
V very faint image

W weak image
w weak solution

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
033 Tautenburg								
S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg, Democratic Republic of Germany								
Observers F. Borngen, W. Hogner, N. Richter								
Measurer F. Borngen								
1.3-m Schmidt telescope								
SAOC								
1961 DJ	*	1961 02	17.98993	12 17 44.92	+14 55 50.7	18.2		033
1961 DJ		1961 02	18.07326	12 17 42.72	+14 56 36.7			033
1961 DK	*	1961 02	17.98993	12 24 05.62	+14 15 53.0	18.6		033
1961 DK		1961 02	18.07326	12 24 03.67	+14 16 22.6			033
1967 EN1	*	1967 03	08.06528	12 12 08.92	+16 53 44.1	18.0V		033
1967 EN1		1967 03	08.10694	12 12 06.83	+16 53 54.6			033
1967 EN1		1967 03	09.03403	12 11 18.08	+16 58 28.3		V	033
1967 EN1		1967 03	09.12778	12 11 14.23	+16 58 45.5		V	033
1967 EO1	*	1967 03	08.06528	12 15 22.60	+15 48 54.9	17.4V		033
1967 EO1		1967 03	08.10694	12 15 20.70	+15 49 05.1			033
1967 EO1		1967 03	09.03403	12 14 32.21	+15 53 45.2		V	033
1967 EO1		1967 03	09.12778	12 14 29.37	+15 53 59.3		V	033
1967 EP1	*	1967 03	08.06528	12 19 49.42	+15 24 24.5	16.1V		033
1967 EP1		1967 03	08.10694	12 19 48.00	+15 24 42.1			033
1967 EP1		1967 03	09.03403	12 19 12.24	+15 32 17.0			033
1967 EP1		1967 03	09.12778	12 19 08.87	+15 32 56.6			033
1972 BT	*	1972 01	20.94861	09 23 57.12	+20 14 35.5	19.0	V	033
1972 BT		1972 01	20.96944	09 23 56.11	+20 14 36.9		V	033
1972 BU	*	1972 01	20.94861	09 25 08.84	+22 23 59.6	16.8		033
1972 BU		1972 01	20.96944	09 25 08.17	+22 24 09.5			033
1972 BV	*	1972 01	20.94861	09 30 02.75	+22 50 08.9	17.9		033
1972 BV		1972 01	20.96944	09 30 01.97	+22 50 14.2			033
1972 BW	*	1972 01	20.94861	09 31 12.41	+21 12 15.9	17.6		033
1972 BW		1972 01	20.96944	09 31 11.93	+21 12 18.3			033
343		1972 01	20.94861	09 31 56.42	+20 41 45.7	15.3		033
343		1972 01	20.96944	09 31 55.41	+20 41 52.0			033
563		1967 03	08.06528	12 17 29.36	+15 09 02.4	12.4V		033
563		1967 03	08.10694	12 17 27.48	+15 09 17.6			033
563		1967 03	09.03403	12 16 41.13	+15 15 26.6			033
563		1967 03	09.12778	12 16 37.02	+15 15 58.2			033
1417		1972 01	20.94861	09 32 17.95	+22 03 01.9	16.7		033
1417		1972 01	20.96944	09 32 17.35	+22 03 08.3			033
046 Klet								
A. Mrkos, Dept. of Astronomy and Astrophysics, Charles University, Svedska 8, C-15000 Prague 5, Czechoslovakia								
Observers A. Mrkos, Z. Vavrova								
0.6-m Maksutov reflector								
1987 ML1	*	1987 06	25.98646	18 14 19.50	-08 31 50.0	16.5		046
1987 ML1		1987 06	26.00058	18 14 18.76	-08 31 56.6			046
1987 ML1		1987 06	27.94722	18 12 31.94	-08 48 16.6			046
1987 ML1		1987 06	27.95995	18 12 31.23	-08 48 23.9			046
1987 ML1		1987 06	28.95486	18 11 36.70	-08 56 59.3			046
1987 ML1		1987 06	28.96632	18 11 36.10	-08 57 05.0			046
1987 ML1		1987 06	30.93872	18 09 48.97	-09 14 33.3			046
1987 ML1		1987 06	30.95000	18 09 48.31	-09 14 39.9			046
1987 MM1	*	1987 06	25.98646	18 14 48.65	-08 43 30.6	16.6		046

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1987 MM1   1987 06 26.00058  18 14 47.80  -08 43 29.4                    046
1987 MM1   1987 06 27.94722  18 13 08.00  -08 42 08.1                    046
1987 MM1   1987 06 27.95995  18 13 07.24  -08 42 09.7                    046
1987 MM1   1987 06 28.95486  18 12 16.05  -08 41 40.1                    046
1987 MM1   1987 06 28.96632  18 12 15.50  -08 41 40.4                    046
1987 MM1   1987 06 30.93872  18 10 34.66  -08 41 11.3                    046
1987 MM1   1987 06 30.95000  18 10 34.14  -08 41 11.2                    046
 288       1987 06 27.97691  18 30 13.65  -20 18 25.2                    046
 288       1987 06 27.98958  18 30 12.98  -20 18 25.4                    046
 288       1987 06 29.99178  18 28 19.28  -20 23 35.8                    046
 288       1987 06 30.00920  18 28 18.35  -20 23 38.3                    046
 307       1987 06 27.97691  18 25 04.19  -22 30 54.3                    046
 307       1987 06 27.98958  18 25 03.55  -22 30 56.7                    046
 307       1987 06 29.99178  18 23 16.69  -22 34 52.9                    046
 307       1987 06 30.00920  18 23 16.00  -22 34 52.4                    046
1247       1987 06 27.97691  18 24 23.59  -20 44 02.8                    046
1247       1987 06 27.98958  18 24 22.98  -20 44 02.4                    046
1247       1987 06 29.99178  18 22 42.08  -20 45 32.0                    046
1247       1987 06 30.00920  18 22 41.14  -20 45 33.8                    046
2216       1987 06 25.98646  18 14 29.49  -09 13 20.6                    046
2216       1987 06 26.00058  18 14 28.83  -09 13 20.9                    046
2216       1987 06 27.94722  18 12 53.72  -09 16 54.2                    046
2216       1987 06 27.95995  18 12 53.19  -09 16 55.6                    046
2216       1987 06 28.95486  18 12 04.56  -09 18 55.4                    046
2216       1987 06 28.96632  18 12 04.00  -09 18 56.1                    046
2216       1987 06 30.93872  18 10 28.01  -09 23 12.9                    046
2216       1987 06 30.95000  18 10 27.43  -09 23 15.3                    046
```

071 Bulgarian National Observatory
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Measurers E. W. Elst
Reductions E. W. Elst, C. Leterme

```
1986 PS4   1986 08 06.94391  22 02 17.68  -10 26 04.9                    071
1986 PS4   1986 08 06.96752  22 02 16.66  -10 26 02.7                    071
1986 PS4   1986 08 09.04171  22 00 34.65  -10 27 07.9                    071
1986 PT4   1986 08 06.94391  21 56 28.50  -09 31 33.1                    071
1986 PT4   1986 08 06.96752  21 56 27.59  -09 31 43.1                    071
1986 PT4   1986 08 08.03880  21 55 45.12  -09 39 32.2                    071
```

220 Kavalur
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Observers R. Rajmohan, K. Kuppuswamy, A. Paranjpe
0.45-m f/3 Schmidt
SAOC

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1987 FY1 * 1987 03 22.78472  11 10 02.76  +05 37 14.8          16.1    220
1987 FY1   1987 03 23.74306  11 09 24.04  +05 41 37.6                  220
1987 FY1   1987 03 23.84028  11 09 19.44  +05 42 11.6                  220
1987 FY1   1987 03 24.61250  11 08 48.83  +05 45 47.0                  220
1987 FY1   1987 03 26.66667  11 07 28.15  +05 55 01.1                  220
1987 FY1   1987 03 26.77292  11 07 23.35  +05 55 35.7                  220
1987 FZ1 * 1987 03 23.74306  11 03 38.93  +07 36 39.4          16.5    220
1987 FZ1   1987 03 24.61250  11 02 53.23  +07 43 45.0                  220
1987 HQ2 * 1987 04 20.74306  12 29 32.79  -05 52 25.4          16.0    220
1987 HQ2   1987 04 21.73264  12 28 54.48  -05 49 21.5                  220
1987 HR2 * 1987 04 20.74306  12 34 07.58  -05 27 41.5          15.5    220
1987 HR2   1987 04 21.73264  12 33 48.45  -05 26 26.6                  220
  24       1987 05 23.73542  15 35 18.38  -19 44 13.9                  220
  24       1987 05 25.76806  15 33 39.50  -19 38 54.1                  220
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24	1987	05	26.74653	15	32	52.63	-19	36	24.6		220
34	1987	04	05.87847	12	09	38.65	-00	27	07.5		220
34	1987	04	07.89722	12	08	13.89	-00	12	24.4		220
90	1987	04	01.81250	12	09	20.99	+02	09	03.7		220
150	1987	05	25.86250	15	55	37.39	-18	27	10.8		220
150	1987	05	31.74931	15	50	44.03	-18	09	42.4		220
169	1987	03	24.67014	11	17	36.43	+04	38	56.6		220
169	1987	03	24.71944	11	17	33.80	+04	39	09.5		220
169	1987	03	25.61875	11	16	43.45	+04	42	34.6		220
169	1987	03	25.67778	11	16	39.76	+04	42	46.8		220
169	1987	03	27.66667	11	14	50.51	+04	50	01.2		220
229	1987	03	29.61806	11	35	56.99	+04	11	26.4		220
229	1987	03	30.71736	11	35	14.97	+04	15	24.1		220
299	1987	03	25.67778	11	17	15.54	+02	01	12.6		220
299	1987	03	27.66667	11	15	38.42	+02	12	38.8		220
418	1987	05	25.72569	15	49	17.31	-21	28	38.5		220
418	1987	05	26.79167	15	48	16.73	-21	23	05.7		220
418	1987	05	30.74931	15	44	37.91	-21	02	14.2		220
421	1987	03	25.67778	11	15	30.32	+01	55	18.9		220
421	1987	03	27.66667	11	14	00.19	+02	09	54.2		220
436	1987	03	24.88333	11	27	00.63	+01	26	29.1		220
436	1987	03	27.71181	11	24	40.18	+01	29	18.0		220
673	1987	05	23.77778	15	34	48.17	-18	22	24.9		220
673	1987	05	25.64097	15	33	13.01	-18	15	10.2		220
673	1987	05	26.66806	15	32	21.53	-18	11	17.0		220
757	1987	04	22.80278	13	19	00.42	-09	13	51.4		220
892	1987	03	27.86458	11	38	15.42	+03	36	46.6		220
892	1987	03	29.61806	11	37	12.60	+03	54	17.9		220
892	1987	03	30.71736	11	36	33.70	+04	05	08.9		220
1121	1987	03	22.78472	11	12	09.90	+06	10	53.2		220
1121	1987	03	23.74306	11	11	19.03	+06	13	56.2		220
1121	1987	03	23.84028	11	11	14.35	+06	14	11.3		220
1121	1987	03	24.61250	11	10	34.64	+06	16	38.3		220
1121	1987	03	26.66667	11	08	50.58	+06	22	32.6		220
1121	1987	03	26.77292	11	08	44.79	+06	22	53.8		220
1142	1987	04	01.81250	12	09	15.31	+01	27	21.1		220
1142	1987	04	02.70139	12	08	37.30	+01	31	49.9		220
1188	1987	03	23.84028	11	16	57.90	+06	22	06.8		220
1458	1987	03	29.73611	12	09	48.00	+00	05	10.1		220
1458	1987	04	02.70139	12	06	43.12	+00	46	25.2		220
1704	1987	03	26.84236	11	39	38.58	+00	10	41.6		220
1704	1987	03	28.66875	11	38	01.94	+00	21	47.9		220
1720	1987	03	29.73611	12	03	14.06	+00	50	40.9		220
1720	1987	04	01.81250	12	00	17.92	+01	10	04.6		220
1720	1987	04	02.70139	11	59	28.37	+01	15	29.8		220
1998	1987	03	22.78472	11	09	19.56	+05	11	37.6	15.8	220
1998	1987	03	23.74306	11	08	23.91	+05	13	28.6		220
1998	1987	03	23.84028	11	08	18.67	+05	13	38.4		220
1998	1987	03	24.61250	11	07	35.12	+05	15	06.6		220
2022	1987	03	23.74306	11	00	48.51	+08	19	55.2		220
2022	1987	03	24.61250	11	00	07.76	+08	22	17.9		220
2236	1987	04	20.74306	12	27	09.55	-05	53	37.1		220
2236	1987	04	21.73264	12	26	11.17	-05	51	37.1		220
2361	1987	04	01.81250	12	08	01.08	+00	47	38.0		220
2440	1987	05	26.82639	15	49	01.58	-17	51	25.7		220
2440	1987	05	30.78958	15	45	05.79	-17	26	58.9		220
3044	1987	05	25.72569	15	40	44.07	-20	34	26.3		220
3044	1987	05	26.79167	15	39	49.32	-20	25	27.9		220

474 Mount John
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Observer A. C. Gilmore
Measurer P. M. Kilmartin
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AGK3, SAOC, CPZ, field plates from Carter Observatory

1963	RH	1987 02 23.56188	13 51 05.41	-38 18 36.8				474
1963	RH	1987 02 23.59104	13 51 04.92	-38 18 49.9				474
1963	RH	1987 05 04.57853	12 49 43.69	-37 37 08.5				474
1981	GD1	1986 03 07.48299	10 05 13.35	+06 24 03.3				474
1981	GD1	1986 03 07.51910	10 05 11.73	+06 24 13.7				474
1981	GD1	1987 05 02.59606	16 31 03.85	-20 46 35.5				474
1981	GD1	1987 05 02.62529	16 31 02.70	-20 46 31.1				474
1981	GD1	1987 06 05.55019	16 04 45.35	-19 09 28.2				474
1981	GD1	1987 06 05.57161	16 04 44.29	-19 09 24.7				474
1987	JF	1987 05 04.64097	15 47 13.55	-22 24 53.2				474
1987	JF	1987 05 04.68015	15 47 11.91	-22 24 35.9				474
1987	JG	1987 06 01.48838	15 16 49.99	-19 10 18.9				474
1987	JG	1987 06 01.51737	15 16 48.38	-19 10 05.5				474
1987	JG	1987 06 05.47860	15 13 53.10	-18 43 02.5				474
1987	JG	1987 06 05.50071	15 13 52.13	-18 42 53.0				474
1987	MB	1987 07 06.58148	20 33 27.56	-19 16 35.4		17		474
1987	MB	1987 07 06.62639	20 33 21.45	-19 16 42.7				474

657 Victoria, Climenhaga Observatory
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14		1986 10 12.31701	03 22 51.71	+08 40 30.1				657
49		1987 07 17.29799	20 30 17.59	-17 37 07.2				657
49		1987 07 21.31917	20 27 00.64	-17 44 25.8				657
121		1987 05 05.30701	14 28 53.89	-08 30 05.1				657
121		1987 05 05.34590	14 28 52.18	-08 30 01.2				657
121		1987 05 06.27854	14 28 12.46	-08 27 55.9				657
121		1987 05 06.34660	14 28 09.46	-08 27 46.7				657
136		1986 10 12.31701	03 27 50.86	+10 09 39.1				657
183		1987 06 25.27264	15 45 34.97	+14 03 46.3				657
846		1987 07 17.29799	20 26 03.66	-18 57 49.8				657
1114		1987 06 25.37368	23 06 08.97	+03 57 17.8				657
1114		1987 06 25.40493	23 06 09.82	+03 57 23.4				657
3166		1987 05 05.30701	14 24 53.49	-08 36 46.9				657
3166		1987 05 05.34590	14 24 51.12	-08 36 44.8				657
3166		1987 05 06.27854	14 23 54.86	-08 35 49.4				657
3166		1987 05 06.34660	14 23 50.67	-08 35 46.9				657

675 Palomar
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Measurers J. Alu, J. Gibson, C. Shoemaker
1.5-m reflector, 1.2-m and 0.46-m Schmidt telescopes

1976	EC	1987 06 28.21875	16 08 56.94	-18 27 03.0		17.0	2	675
1976	EC	1987 06 30.26701	16 07 53.89	-18 25 03.9			2	675
1981	EC13	1984 12 31.41321	06 17 23.13	+28 55 45.4			1	675
1981	EC13	1987 06 17.36535	19 03 58.04	-28 02 55.2			1	675

1981	EC13		1987	06	17.38292	19	03	57.16	-28	02	55.7		1 675
1981	EC13		1987	06	23.42118	18	58	47.09	-28	02	47.6		1 675
1981	EC13		1987	06	23.43417	18	58	46.38	-28	02	47.7		1 675
1984	YC		1987	07	04.39722	21	20	29.03	+04	10	35.8	18.0	2 675
1984	YC		1987	07	04.45972	21	20	26.65	+04	10	59.1		2 675
1986	PQ		1986	08	04.47013	21	59	47.47	-13	44	37.2	16	2 675
1986	PQ		1986	08	04.48750	21	59	46.80	-13	44	42.6		2 675
1986	PD1		1986	08	04.47013	21	59	48.53	-13	11	29.8	17	2 675
1986	PD1		1986	08	04.48750	21	59	47.87	-13	11	39.8		2 675
1986	PU1		1986	08	04.47013	22	05	32.36	-15	40	19.7	17.5	2 675
1986	PU1		1986	08	04.48750	22	05	31.53	-15	40	23.3		2 675
1986	TO		1987	06	16.45625	01	08	10.35	-02	59	37.0		1 675
1986	TO		1987	06	16.46458	01	08	11.33	-02	59	36.7		1 675
1986	TO		1987	06	17.45972	01	10	10.78	-02	59	09.3		1 675
1986	TO		1987	06	17.46720	01	10	11.69	-02	59	09.1		1 675
1987	GG		1987	05	08.27053	15	24	30.31	+40	55	57.7		1 675
1987	GG		1987	05	08.28014	15	24	29.92	+40	55	59.1		1 675
1987	GG		1987	06	26.27361	15	11	29.90	+31	29	55.3	16.0	2 675
1987	GG		1987	06	27.27743	15	11	51.78	+31	08	11.4		2 675
1987	KD1		1987	06	20.22708	16	23	19.05	+09	46	51.7	15.5	2 675
1987	KD1		1987	06	20.27569	16	23	17.22	+09	46	34.7		2 675
1987	KD1		1987	06	29.21528	16	19	05.98	+08	41	27.5		2 675
1987	KD1		1987	06	29.27778	16	19	04.60	+08	40	54.6		2 675
1987	MB	*	1987	06	24.38733	20	59	20.20	-18	42	56.8	17	3 675
1987	MB		1987	06	24.41406	20	59	16.89	-18	43	01.2		3 675
1987	MP	*	1987	06	26.37674	17	47	43.60	-08	58	17.3	15.5	2 675
1987	MP		1987	06	28.35104	17	46	16.36	-09	08	12.4		2 675
1987	MQ	*	1987	06	26.37674	17	48	52.01	-10	25	15.5	17.5	2 675
1987	MQ		1987	06	28.35104	17	47	03.44	-10	23	36.4		2 675
1987	MR	*	1987	06	26.37674	17	49	47.11	-10	30	20.7	16.8	2 675
1987	MR		1987	06	28.35104	17	48	03.00	-10	32	28.8		2 675
1987	MS	*	1987	06	26.37674	17	51	32.59	-09	20	03.1	16.5	2 675
1987	MS		1987	06	28.35104	17	49	59.34	-09	17	27.3		2 675
1987	MT	*	1987	06	26.41111	17	20	57.64	-25	27	25.9	16.8	2 675
1987	MT		1987	06	30.32708	17	17	16.47	-24	47	02.4		2 675
1987	MU		1987	05	23.44462	18	01	17.49	-21	43	24.5	17.0	2 675
1987	MU		1987	05	23.46528	18	01	17.24	-21	43	29.0		2 675
1987	MU	*	1987	06	26.41111	17	30	47.24	-23	46	41.8	16.5	2 675
1987	MU		1987	06	30.32708	17	26	47.60	-24	00	46.5		2 675
1987	MV	*	1987	06	28.34167	18	45	21.87	-00	47	57.3	17.0	2 675
1987	MV		1987	06	30.34236	18	43	43.41	-00	44	19.4		2 675
1987	MW	*	1987	06	28.38090	18	47	27.58	-26	07	08.7	17.0	2 675
1987	MW		1987	06	30.34722	18	45	23.58	-26	11	33.2		2 675
1987	MX	*	1987	06	28.38785	20	28	31.90	-30	02	34.6	17.0	2 675
1987	MX		1987	06	30.39375	20	27	26.56	-30	14	52.1		2 675
1987	MY	*	1987	06	28.38785	20	40	12.47	-27	46	38.4	17.0	2 675
1987	MY		1987	06	30.37014	20	38	48.13	-27	56	25.3		2 675
1987	MZ	*	1987	06	26.37674	17	57	53.85	-07	27	27.8	16.8	2 675
1987	MZ		1987	06	28.35104	17	56	19.67	-07	31	18.2		2 675
1987	MA1		1987	06	20.29236	17	53	49.08	-01	20	45.8		2 675
1987	MA1		1987	06	20.35486	17	53	46.18	-01	20	59.6		2 675
1987	MA1	*	1987	06	28.33056	17	47	48.36	-01	58	22.6	15.5	2 675
1987	MA1		1987	06	30.33785	17	46	22.00	-02	10	53.4		2 675
1987	MB1	*	1987	06	28.33056	18	12	44.97	-01	22	43.6	16.5	2 675
1987	MB1		1987	06	30.33785	18	11	06.47	-01	23	07.2		2 675
1987	MC1	*	1987	06	28.38785	20	08	57.59	-29	56	35.5	17.0	2 675
1987	MC1		1987	06	30.39375	20	07	20.02	-29	56	25.9		2 675
1987	MD1	*	1987	06	28.33750	18	48	36.96	-01	05	44.8	17.0	2 675
1987	MD1		1987	06	30.37986	18	46	49.33	-01	10	21.3		2 675

1987	ME1	*	1987 06 26.37674	18	07	14.12	-09	35	54.5	16.5	2	675
1987	ME1		1987 06 28.32500	18	05	39.47	-09	40	17.0		2	675
1987	MJ1	*	1987 06 27.26493	14	56	53.76	-27	09	49.4	17.5	2	675
1987	MJ1		1987 06 29.24722	14	56	26.49	-27	04	07.6		2	675
1987	MK1	*	1987 06 28.21875	16	06	33.08	-18	00	15.7	17.0	2	675
1987	MK1		1987 06 30.26701	16	05	41.16	-17	52	15.4		2	675
1987	NA	*	1987 07 04.39722	21	27	21.13	+05	31	16.1	16.5	2	675
1987	NA		1987 07 04.45972	21	27	20.06	+05	30	27.3		2	675
1987	NB	*	1987 07 04.39722	21	21	47.39	+03	46	59.3	18.0	2	675
1987	NB		1987 07 04.45972	21	21	50.17	+03	45	47.3		2	675
1987	NC	*	1987 07 06.35764	20	11	01.88	+10	55	54.7	18.0	2	675
1987	NC		1987 07 06.42014	20	10	58.91	+10	56	07.4		2	675
253			1987 06 28.24201	12	34	03.29	+00	06	54.4	17.2	2	675
253			1987 06 30.22813	12	35	11.30	-00	00	06.5		2	675
1250			1987 06 28.38090	19	01	38.66	-27	05	56.6	17.5	2	675
1250			1987 06 30.34722	18	59	26.56	-27	00	46.3		2	675
1566			1987 06 16.21597	08	29	22.24	+40	07	09.5		1	675
1566			1987 06 16.21788	08	29	25.36	+40	07	00.8		1	675
1566			1987 06 16.21951	08	29	27.93	+40	06	53.0		1	675
2002			1987 06 28.20417	12	55	06.60	+01	17	22.9	17.0	2	675
2002			1987 06 30.23229	12	57	02.82	+01	05	10.3		2	675
3046			1987 07 04.39722	21	26	37.05	+05	36	14.8	18.2	2	675
3046			1987 07 04.45972	21	26	35.72	+05	36	16.6		2	675

688 Lowell Observatory, Anderson Mesa Station
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observer B. A. Skiff
Measurer E. Bowell
0.33-m photographic telescope
PDS scanning microdensitometer
AGK3 and Perth 70 secondary nets, global solutions
See also MPC 9533

1970	NB		1987 07 02.35128	20	37	56.75	-16	41	01.3	16.0		688
1970	NB		1987 07 02.37280	20	37	56.05	-16	41	12.0			688
1970	NB		1987 07 03.36042	20	37	27.65	-16	50	10.6	15.8		688
1970	NB		1987 07 03.38197	20	37	27.02	-16	50	23.5			688
1970	NB		1987 07 07.38861	20	35	16.37	-17	28	39.3	16.0		688
1970	NB		1987 07 07.40678	20	35	15.71	-17	28	49.7			688
1981	YX1		1987 05 04.33176	15	00	43.10	-18	30	46.1	16.8		688
1981	YX1		1987 05 04.37558	15	00	40.51	-18	30	27.1			688
1987	HD2		1987 05 04.33176	15	09	22.28	-15	11	13.2	16.2		688
1987	HD2		1987 05 04.37558	15	09	20.04	-15	11	02.7			688
1987	MB		1987 07 02.35128	20	42	46.77	-19	05	00.1	16.8		688
1987	MB		1987 07 02.37280	20	42	43.90	-19	05	04.2			688
1987	MB		1987 07 03.36042	20	40	34.46	-19	07	50.9	16.8	R	688
1987	MB		1987 07 03.38197	20	40	31.35	-19	07	53.4		R	688
1987	MB		1987 07 07.38861	20	31	39.53	-19	18	59.8	17.0		688
49			1987 07 02.35128	20	40	35.87	-17	15	47.7			688
49			1987 07 02.37280	20	40	35.13	-17	15	48.7			688
49			1987 07 03.36042	20	40	01.20	-17	16	51.1			688
49			1987 07 03.38197	20	40	00.40	-17	16	52.7			688
49			1987 07 07.38861	20	37	31.49	-17	21	42.1			688
49			1987 07 07.40678	20	37	30.72	-17	21	43.7			688
283			1987 07 02.35128	20	50	41.60	-18	44	52.0			688
283			1987 07 02.37280	20	50	40.88	-18	44	51.2			688
351			1987 07 02.35128	20	40	46.47	-22	48	45.3			688
351			1987 07 02.37280	20	40	45.67	-22	48	51.5			688
351			1987 07 03.36042	20	40	07.69	-22	54	03.5			688

351	1987	07	03.38197	20	40	06.79	-22	54 09.6	688
351	1987	07	07.38861	20	37	22.11	-23	15 27.8	688
351	1987	07	07.40678	20	37	21.31	-23	15 32.7	688
518	1987	05	04.33176	15	16	42.97	-13	27 32.7	688
518	1987	05	04.37558	15	16	40.67	-13	27 13.8	688
846	1987	07	02.35128	20	36	16.49	-18	22 47.4	688
846	1987	07	02.37280	20	36	15.72	-18	22 49.7	688
846	1987	07	03.36042	20	35	41.58	-18	24 48.2	688
846	1987	07	03.38197	20	35	40.89	-18	24 51.7	688
846	1987	07	07.38861	20	33	12.23	-18	33 28.6	688
846	1987	07	07.40678	20	33	11.46	-18	33 31.4	688
1193	1987	05	04.33176	14	57	17.91	-14	43 37.9	688
1193	1987	05	04.37558	14	57	15.00	-14	43 45.8	688
1523	1987	07	02.37280	20	52	47.57	-21	57 11.7	688
1618	1987	07	02.35128	20	35	44.81	-19	52 44.6	688
1618	1987	07	02.37280	20	35	43.94	-19	52 48.7	688
1618	1987	07	03.36042	20	35	08.00	-19	56 17.6	688
1618	1987	07	03.38197	20	35	07.20	-19	56 22.8	688
1618	1987	07	07.38861	20	32	30.30	-20	11 04.1	688
1618	1987	07	07.40678	20	32	29.50	-20	11 07.9	688
1778	1987	07	02.35128	20	42	06.60	-19	00 32.3	688
1778	1987	07	02.37280	20	42	05.66	-19	00 37.6	688
1778	1987	07	03.36042	20	41	31.94	-19	03 39.4	688
1778	1987	07	03.38197	20	41	31.15	-19	03 42.3	688
1778	1987	07	07.38861	20	39	03.89	-19	16 28.9	688
1778	1987	07	07.40678	20	39	03.10	-19	16 32.9	688
2430	1987	05	04.33176	15	13	41.75	-19	51 55.9	16.8 688
2430	1987	05	04.37558	15	13	38.33	-19	52 07.0	688
2697	1987	05	04.33176	15	00	46.15	-20	41 55.9	688
2697	1987	05	04.37558	15	00	44.17	-20	41 48.2	688
2893	1987	07	07.38861	20	24	01.64	-22	58 27.3	688
2893	1987	07	07.40678	20	24	01.18	-22	58 32.9	688
2985	1987	07	02.35128	20	49	50.27	-21	55 15.3	688
2985	1987	07	03.36042	20	49	16.30	-21	58 26.6	688
2985	1987	07	03.38197	20	49	15.46	-21	58 27.7	688
3251	1987	07	02.37280	20	40	39.74	-17	54 34.2	688
3413	1987	07	02.35128	20	31	35.38	-21	35 12.8	17.2 688
3413	1987	07	02.37280	20	31	33.94	-21	35 12.5	688
3413	1987	07	03.36042	20	30	44.57	-21	34 51.5	688
3413	1987	07	03.38197	20	30	43.38	-21	34 52.8	688

691 Kitt Peak, Steward Observatory
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0.91-m SPACEWATCH telescope, CCD in scanning mode
SAOC 1984
See also MPC 9198 and 10373

1981 FD	1987	06	24.17213	15	06	30.98	-20	26 36.5	691
1981 FD	1987	06	24.18146	15	06	30.93	-20	26 36.1	691
1981 FD	1987	06	24.22877	15	06	30.61	-20	26 34.2	691
1985 YP	1987	06	24.39322	22	12	06.69	+02	52 32.6	17.3V 691
1985 YP	1987	06	24.40706	22	12	07.18	+02	52 52.7	691
1985 YP	1987	06	24.41407	22	12	07.41	+02	53 03.3	691
1986 PA	1987	06	23.34397	19	03	28.98	+04	47 02.6	691
1986 PA	1987	06	23.34940	19	03	28.12	+04	47 02.7	691
1986 PA	1987	06	23.36560	19	03	25.65	+04	47 01.4	19.1V 691
3292	1987	06	22.32425	18	36	57.83	-25	04 28.1	c 691

3292		1987	06	23.32257	18	36	08.94	-25	05	25.5	c 691
3292		1987	06	23.33209	18	36	08.45	-25	05	25.8	c 691
3292		1987	06	23.34010	18	36	08.05	-25	05	26.7	c 691

760 Goethe Link
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Measurer D. Owings et al.

1958	WB	1958	11	20.34421	03	47	17.41	+28	48	36.6	760
1959	CT	1959	02	03.08955	05	49	03.49	-01	20	21.7	760
1959	CW	1959	02	07.25839	09	29	20.14	+14	14	02.4	760
1959	CW	1959	02	07.30213	09	29	17.10	+14	14	20.1	760
1959	JJ	1959	05	02.30698	14	50	11.32	-00	53	57.1	760
1959	JJ	1959	05	02.34344	14	50	09.15	-00	53	44.1	760
1959	LA	1959	06	03.17743	15	10	51.21	-03	30	05.2	A 760
1959	LA	1959	06	03.22287	15	10	49.23	-03	30	12.6	A 760
1959	NS	1959	07	09.13087	17	46	46.11	-32	32	24.8	760
1959	PD	1959	08	08.13615	19	10	11.08	-06	39	02.6	760
1959	PD	1959	08	08.17886	19	10	09.45	-06	39	10.4	760
1959	PE	1959	08	10.25486	21	24	44.06	-19	02	58.3	760
1959	PE	1959	08	10.29757	21	24	41.15	-19	02	47.9	760
1959	QB	1959	08	29.24599	23	40	27.46	+03	05	54.4	760
1959	RK	1959	09	07.30362	00	03	21.91	-06	51	59.4	760
1959	RK	1959	09	07.34667	00	03	20.73	-06	51	51.5	760
1959	UC	1959	10	28.24677	01	13	42.95	+13	47	24.4	760
1959	UC	1959	10	28.28945	01	13	40.81	+13	47	15.8	760
1959	UG	1959	10	28.24677	01	00	24.94	+16	41	18.3	760
1959	UG	1959	10	28.28945	01	00	23.06	+16	41	09.5	760
1959	VG	1959	11	10.42907	05	08	34.22	+19	52	03.6	760
1959	VK	1959	11	03.13093	00	59	42.90	+15	49	30.4	760
1959	VK	1959	11	03.17677	00	59	41.45	+15	49	11.0	760
1959	WC	1959	11	30.26564	05	03	09.18	+18	49	44.1	760
1959	XC	1959	12	02.12559	04	35	01.64	+26	29	13.6	760
1959	XC	1959	12	02.17387	04	34	57.85	+26	28	35.4	760
1959	XD	1959	12	04.31968	05	47	28.26	+18	42	42.1	760
1960	VE	1960	11	12.17663	03	09	01.87	+16	32	59.3	760
1960	VE	1960	11	12.22351	03	09	02.71	+16	32	52.8	760
1961	TT1	1961	10	13.15001	00	55	03.25	+07	49	40.5	760
1963	SH	1963	09	19.18750	23	54	27.74	-01	47	01.5	760
1964	TJ	1964	10	04.18143	01	30	46.80	+21	40	27.9	760
1964	TJ	1964	10	04.22517	01	30	44.21	+21	40	34.8	760
3628		1962	05	05.29271	16	06	45.26	-09	28	55.3	760
3628		1962	05	05.33646	16	06	43.19	-09	28	50.8	760

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1.5-m reflector
AC

1970	NB	1987	06	29.27085	20	39	15.31	-16	14	17.8	801
1973	FE1	1987	06	29.10920	12	36	42.92	+07	44	29.4	801
1974	QO2	1987	05	30.29489	17	33	53.64	-16	14	40.4	801
1974	QO2	1987	06	21.21130	17	13	14.55	-16	28	49.4	801
1979	HP	1985	06	22.19430	17	12	27.76	-20	51	14.1	801
1980	TG	1987	05	31.29387	17	35	10.22	-18	43	42.2	801
1980	TG	1987	06	21.23015	17	17	02.33	-18	45	13.7	801
1984	QJ1	1987	06	24.15234	16	02	26.49	-14	31	02.4	801
1985	FZ1	1986	07	08.25043	19	29	48.45	-10	47	21.9	801

6047 P-L 1987 04 30.29441 15 52 31.49 -15 32 29.0 W 801
6047 P-L 1987 06 29.15061 15 09 39.33 -11 41 40.2 W 801
3644 1987 03 27.31716 12 59 31.89 -08 19 06.4 t 801

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Observers H. Debehogne, W. Ferreri
Reductions H. Debehogne, J. Dumoulin, G. Peeters, G. De Sanctis
0.4-m GPO astrograph and 1.0-m Schmidt telescope

1976 YP1 1986 09 05.10660 22 17 59.80 -12 11 09.4 17.0 3 809
1976 YP1 1986 09 05.11181 22 17 59.56 -12 11 10.5 3 809
1976 YP1 1986 09 05.11701 22 17 59.33 -12 11 11.6 3 809
1976 YP1 1986 09 06.22951 22 17 07.58 -12 15 23.8 3 809
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1976 YP1 1986 09 06.23924 22 17 07.12 -12 15 25.9 3 809
1976 YP1 1986 09 07.20035 22 16 23.12 -12 18 58.1 3 809
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1976 YP1 1986 09 07.21042 22 16 22.63 -12 19 00.0 3 809
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1976 YP1 1986 09 09.12326 22 14 56.35 -12 25 52.8 3 809
1976 YP1 1986 09 09.12812 22 14 56.12 -12 25 53.8 3 809
1978 SL5 1986 03 05.19826 11 51 26.92 +00 12 09.6 1 809
1978 SL5 1986 03 05.22674 11 51 25.63 +00 12 18.0 1 809
1978 SL5 1986 03 10.14896 11 47 45.78 +00 33 56.0 1 809
1978 SL5 1986 03 10.17396 11 47 44.60 +00 34 03.3 1 809
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1978 SZ6 1986 09 05.08160 21 40 03.37 -12 16 52.2 3 809
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1978 SZ6 1986 09 06.09618 21 39 16.46 -12 19 53.6 3 809
1979 HP 1986 08 28.17222 22 05 16.84 -13 31 05.2 16.5 3 809
1979 HP 1986 08 28.17778 22 05 16.60 -13 31 06.6 3 809
1979 HP 1986 08 28.18333 22 05 16.36 -13 31 08.1 3 809
1979 HP 1986 08 30.23970 22 03 46.91 -13 39 58.7 3 809
1979 HP 1986 08 30.24526 22 03 46.67 -13 40 00.1 3 809
1979 HP 1986 08 30.25081 22 03 46.43 -13 40 01.5 3 809
1979 HP 1986 09 01.21840 22 02 22.02 -13 48 17.6 3 809
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1979 HP 1986 09 02.27812 22 01 36.99 -13 52 39.6 3 809
1979 HP 1986 09 02.28299 22 01 36.79 -13 52 40.8 3 809
1979 HP 1986 09 02.28785 22 01 36.58 -13 52 42.0 3 809
1979 HP 1986 09 03.24271 22 00 56.39 -13 56 35.7 3 809
1979 HP 1986 09 03.24757 22 00 56.19 -13 56 36.9 3 809
1979 HP 1986 09 03.25243 22 00 55.99 -13 56 38.1 3 809
1979 HP 1986 09 04.17396 22 00 17.67 -14 00 19.6 3 809
1979 HP 1986 09 04.17882 22 00 17.50 -14 00 20.7 3 809

1979	HP	1986	09	04.18368	22	00	17.30	-14	00	21.9		3 809
1979	HP	1986	09	05.28160	21	59	31.96	-14	04	42.1		3 809
1979	HP	1986	09	05.28646	21	59	31.76	-14	04	43.5		3 809
1979	HP	1986	09	05.29201	21	59	31.53	-14	04	45.0		3 809
1979	HP	1986	09	07.18229	21	58	15.17	-14	12	01.8		3 809
1979	HP	1986	09	07.18715	21	58	14.96	-14	12	02.9		3 809
1979	HP	1986	09	07.19201	21	58	14.76	-14	12	04.0		3 809
1979	HP	1986	09	09.10035	21	56	59.74	-14	19	09.3		3 809
1979	HP	1986	09	09.10555	21	56	59.54	-14	19	10.5		3 809
1979	HP	1986	09	09.11076	21	56	59.33	-14	19	11.5		3 809
1979	HP	1986	09	11.18958	21	55	40.04	-14	26	35.5		3 809
1979	HP	1986	09	11.19479	21	55	39.84	-14	26	36.7		3 809
1979	HP	1986	09	11.20000	21	55	39.65	-14	26	37.8		3 809
1981	EL19	1986	03	13.22604	13	51	32.49	-08	46	53.4		1 809
1981	EL19	1986	03	13.25035	13	51	32.00	-08	46	46.3		1 809
1981	JA	1986	03	09.08924	11	05	45.44	+06	51	14.3		1 809
1981	JA	1986	03	09.10938	11	05	44.50	+06	51	20.9		1 809
1981	JA	1986	03	14.12049	11	01	58.41	+07	17	15.0		1 809
1981	JA	1986	03	14.13924	11	01	57.56	+07	17	21.4		1 809
1981	JA	1986	03	15.09757	11	01	15.10	+07	22	10.6		1 809
1981	JA	1986	03	15.11840	11	01	14.16	+07	22	17.4		1 809
1981	JA	1986	03	18.09618	10	59	04.52	+07	36	56.8		1 809
1981	JA	1986	03	18.11910	10	59	03.50	+07	37	03.7		1 809
1982	BU1	1986	03	06.11632	11	50	19.46	+04	32	17.7		1 809
1982	BU1	1986	03	06.13438	11	50	18.58	+04	32	26.4		1 809
1982	BU1	1986	03	16.11910	11	41	48.52	+05	45	51.8		1 809
1982	BU1	1986	03	16.14757	11	41	46.98	+05	46	03.7		1 809
1982	FH3	1986	03	13.26007	14	13	06.24	-12	06	16.7		1 809
1982	FH3	1986	03	13.28576	14	13	06.07	-12	06	11.6		1 809
1982	HB2	1986	08	29.36944	23	34	36.31	-10	27	19.7	17.5	3 809
1982	HB2	1986	08	29.37500	23	34	35.99	-10	27	21.5		3 809
1982	HB2	1986	08	29.38055	23	34	35.68	-10	27	23.4		3 809
1982	HB2	1986	09	01.37951	23	31	44.43	-10	44	03.3		3 809
1982	HB2	1986	09	01.38437	23	31	44.15	-10	44	05.0		3 809
1982	HB2	1986	09	01.38924	23	31	43.87	-10	44	06.9		3 809
1982	HB2	1986	09	04.39062	23	28	44.95	-11	00	36.7		3 809
1982	HB2	1986	09	04.39548	23	28	44.66	-11	00	38.4		3 809
1982	HB2	1986	09	04.40035	23	28	44.37	-11	00	40.2		3 809
1982	HB2	1986	09	08.40208	23	24	38.04	-11	22	00.3		3 809
1982	HB2	1986	09	08.40660	23	24	37.76	-11	22	01.8		3 809
1982	HB2	1986	09	08.41146	23	24	37.45	-11	22	03.3		3 809
1982	YP1	1986	08	26.15833	21	50	26.54	-17	09	47.2	16.9	3 809
1982	YP1	1986	08	26.16389	21	50	26.28	-17	09	47.9		3 809
1982	YP1	1986	08	26.16944	21	50	26.02	-17	09	48.9		3 809
1982	YP1	1986	08	28.05555	21	49	00.43	-17	12	44.3		3 809
1982	YP1	1986	08	28.06111	21	49	00.17	-17	12	45.1		3 809
1982	YP1	1986	08	28.06667	21	48	59.91	-17	12	45.7		3 809
1982	YP1	1986	08	28.13333	21	48	56.87	-17	12	52.8	17.3	3 809
1982	YP1	1986	08	28.13889	21	48	56.63	-17	12	53.3		3 809
1982	YP1	1986	08	28.14444	21	48	56.35	-17	12	53.7		3 809
1982	YP1	1986	08	30.22083	21	47	23.27	-17	15	52.4		3 809
1982	YP1	1986	08	30.22639	21	47	23.03	-17	15	53.1		3 809
1982	YP1	1986	08	30.23194	21	47	22.78	-17	15	53.7		3 809
1982	YP1	1986	08	30.29873	21	47	19.80	-17	15	59.7		3 809
1982	YP1	1986	08	30.30451	21	47	19.54	-17	16	00.0		3 809
1982	YP1	1986	08	30.31030	21	47	19.28	-17	16	00.2		3 809
1982	YP1	1986	09	01.05104	21	46	02.92	-17	18	19.2		3 809
1982	YP1	1986	09	01.05590	21	46	02.69	-17	18	19.5		3 809
1982	YP1	1986	09	01.06076	21	46	02.48	-17	18	19.8		3 809

1982	YP1	1986	09	01.08993	21	46	01.16	-17	18	22.4		3 809
1982	YP1	1986	09	01.09479	21	46	00.94	-17	18	22.9		3 809
1982	YP1	1986	09	01.09965	21	46	00.74	-17	18	23.4		3 809
1982	YP1	1986	09	02.13090	21	45	15.96	-17	19	38.1		3 809
1982	YP1	1986	09	02.13576	21	45	15.76	-17	19	38.7		3 809
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1982	YP1	1986	09	03.07847	21	44	35.34	-17	20	45.2		3 809
1982	YP1	1986	09	03.08368	21	44	35.11	-17	20	45.6		3 809
1982	YP1	1986	09	03.08854	21	44	34.89	-17	20	46.3		3 809
1982	YP1	1986	09	04.06215	21	43	53.66	-17	21	49.4		3 809
1982	YP1	1986	09	04.06701	21	43	53.45	-17	21	49.9		3 809
1982	YP1	1986	09	04.07188	21	43	53.27	-17	21	50.2		3 809
1982	YP1	1986	09	05.04549	21	43	12.52	-17	22	50.5		3 809
1982	YP1	1986	09	05.05104	21	43	12.29	-17	22	51.0		3 809
1982	YP1	1986	09	05.05590	21	43	12.09	-17	22	51.6		3 809
1982	YP1	1986	09	06.07118	21	42	30.18	-17	23	49.7		3 809
1982	YP1	1986	09	06.07604	21	42	29.98	-17	23	50.3		3 809
1982	YP1	1986	09	06.08090	21	42	29.77	-17	23	50.6		3 809
1982	YP1	1986	09	06.10243	21	42	28.88	-17	23	51.7		3 809
1982	YP1	1986	09	06.10729	21	42	28.67	-17	23	52.2		3 809
1982	YP1	1986	09	06.11215	21	42	28.47	-17	23	52.6		3 809
1982	YP1	1986	09	08.07882	21	41	09.36	-17	25	31.8		3 809
1982	YP1	1986	09	08.08368	21	41	09.16	-17	25	31.9		3 809
1982	YP1	1986	09	08.08854	21	41	08.97	-17	25	32.1		3 809
1982	YP1	1986	09	08.11146	21	41	08.01	-17	25	34.3		3 809
1982	YP1	1986	09	08.11632	21	41	07.81	-17	25	34.5		3 809
1982	YP1	1986	09	08.12118	21	41	07.60	-17	25	34.7		3 809
1982	YP1	1986	09	10.17187	21	39	47.92	-17	27	00.2		3 809
1982	YP1	1986	09	10.17674	21	39	47.74	-17	27	00.4		3 809
1982	YP1	1986	09	10.18160	21	39	47.55	-17	27	00.8		3 809
1982	YP1	1986	09	10.28021	21	39	43.63	-17	27	03.7		3 809
1982	YP1	1986	09	10.28507	21	39	43.44	-17	27	03.8		3 809
1982	YP1	1986	09	10.28993	21	39	43.25	-17	27	03.9		3 809
1982	YP1	1986	09	12.19757	21	38	32.25	-17	28	05.6		3 809
1982	YP1	1986	09	12.20243	21	38	32.06	-17	28	06.0		3 809
1982	YP1	1986	09	12.20729	21	38	31.88	-17	28	06.2		3 809
1984	QO	1986	03	06.14618	11	57	37.18	-04	49	29.2		1 809
1984	QO	1986	03	06.16771	11	57	35.74	-04	49	28.5		1 809
1984	QO	1986	03	07.13819	11	56	33.52	-04	49	06.2		1 809
1984	QO	1986	03	07.15764	11	56	32.18	-04	49	05.5		1 809
1984	QO	1986	03	11.15382	11	52	10.38	-04	46	23.2		1 809
1984	QO	1986	03	11.17674	11	52	08.76	-04	46	21.4		1 809
1984	QO	1986	03	16.21215	11	46	32.51	-04	40	40.5		1 809
1984	QO	1986	03	16.23715	11	46	30.73	-04	40	37.8		1 809
1985	FU1	1986	09	07.21840	22	28	58.49	-12	37	39.5	16.7	3 809
1985	FU1	1986	09	07.22326	22	28	58.24	-12	37	41.5		3 809
1985	FU1	1986	09	07.22813	22	28	57.99	-12	37	43.5		3 809
1985	FU1	1986	09	08.34618	22	27	58.56	-12	44	54.7		3 809
1985	FU1	1986	09	08.35104	22	27	58.32	-12	44	56.7		3 809
1985	FU1	1986	09	08.35590	22	27	58.06	-12	44	58.4		3 809
1985	FU1	1986	09	11.23021	22	25	29.84	-13	02	48.7		3 809
1985	FU1	1986	09	11.23576	22	25	29.52	-13	02	50.7		3 809
1985	FU1	1986	09	11.24062	22	25	29.27	-13	02	52.2		3 809
1986	ET	1986	03	09.08924	11	02	31.60	+06	38	25.2		1 809
1986	ET	1986	03	09.10938	11	02	30.39	+06	38	28.3		1 809
1986	ET	1986	03	14.12049	10	57	24.19	+06	50	38.9		1 809
1986	ET	1986	03	14.13924	10	57	23.02	+06	50	41.5		1 809
1986	EV	1986	03	14.12049	11	04	05.72	+07	36	09.2		1 809
1986	EV	1986	03	14.13924	11	04	04.39	+07	36	14.2		1 809

1986	EV	1986	03	15.09757	11	03	06.38	+07	39	40.9	1 809
1986	EV	1986	03	15.11840	11	03	05.05	+07	39	46.1	1 809
1986	EK1	1986	03	06.28229	13	11	37.64	-04	53	03.0	1 809
1986	EK1	1986	03	06.30521	13	11	36.09	-04	53	15.5	1 809
1986	EK1	1986	03	07.27292	13	10	30.70	-05	01	51.1	1 809
1986	EK1	1986	03	07.29514	13	10	29.06	-05	02	03.9	1 809
1986	EK1	1986	03	10.25243	13	06	56.15	-05	27	55.5	1 809
1986	EK1	1986	03	10.27118	13	06	54.68	-05	28	02.4	1 809
1986	EM1	1986	03	06.28229	13	13	20.26	-05	16	45.0	1 809
1986	EM1	1986	03	06.30521	13	13	19.45	-05	16	41.1	1 809
1986	EM1	1986	03	07.27292	13	12	45.90	-05	14	26.4	1 809
1986	EM1	1986	03	07.29514	13	12	45.13	-05	14	23.2	1 809
1986	EM1	1986	03	10.25243	13	10	52.74	-05	06	41.2	1 809
1986	EM1	1986	03	10.27118	13	10	51.93	-05	06	36.6	1 809
1986	EM1	1986	03	17.19757	13	05	33.64	-04	44	07.6	1 809
1986	EM1	1986	03	17.21632	13	05	32.59	-04	44	03.4	1 809
1986	EE2	1986	03	04.22188	12	01	25.75	+00	19	37.8	1 809
1986	EE2	1986	03	04.24340	12	01	24.87	+00	19	51.0	1 809
1986	EF2	1986	03	08.14861	12	05	00.89	-00	32	07.3	1 809
1986	EF2	1986	03	08.16528	12	04	59.98	-00	32	05.0	1 809
1986	EF2	1986	03	09.18576	12	04	02.80	-00	29	27.6	1 809
1986	EF2	1986	03	09.20799	12	04	01.50	-00	29	23.4	1 809
1986	EF2	1986	03	15.19271	11	58	07.94	-00	12	14.2	1 809
1986	EF2	1986	03	15.21840	11	58	06.27	-00	12	09.8	1 809
1986	EG2	1986	03	08.14861	12	05	52.71	-00	52	29.2	1 809
1986	EG2	1986	03	08.16528	12	05	52.01	-00	52	24.6	1 809
1986	EG2	1986	03	09.18576	12	05	10.67	-00	47	35.3	1 809
1986	EG2	1986	03	09.20799	12	05	09.72	-00	47	28.2	1 809
1986	EG2	1986	03	15.19271	12	00	56.50	-00	17	57.6	1 809
1986	EG2	1986	03	15.21840	12	00	55.31	-00	17	49.4	1 809
1986	EM2	1986	03	08.12014	11	45	11.10	-01	51	36.5	1 809
1986	EM2	1986	03	08.13889	11	45	10.04	-01	51	29.9	1 809
1986	EM2	1986	03	09.15451	11	44	13.28	-01	46	12.0	1 809
1986	EM2	1986	03	09.17465	11	44	12.17	-01	46	05.6	1 809
1986	EM2	1986	03	12.11979	11	41	25.52	-01	30	08.4	1 809
1986	EM2	1986	03	12.14201	11	41	24.32	-01	30	02.2	1 809
1986	EM2	1986	03	15.16076	11	38	31.77	-01	13	05.0	1 809
1986	EM2	1986	03	15.18160	11	38	30.50	-01	12	57.4	1 809
1986	EN4	1986	03	06.11632	11	43	21.20	+03	54	43.9	1 809
1986	EN4	1986	03	06.13438	11	43	20.44	+03	54	49.6	1 809
1986	EN4	1986	03	07.10903	11	42	39.18	+03	59	08.6	1 809
1986	EN4	1986	03	07.12847	11	42	38.39	+03	59	14.2	1 809
1986	EN4	1986	03	11.12465	11	39	45.65	+04	17	10.6	1 809
1986	EN4	1986	03	11.14340	11	39	44.85	+04	17	15.9	1 809
1986	EN4	1986	03	16.11910	11	36	04.98	+04	39	41.1	1 809
1986	EN4	1986	03	16.14757	11	36	03.74	+04	39	48.8	1 809
1986	EZ4	1986	03	04.22188	11	54	19.48	+01	01	52.5	1 809
1986	EZ4	1986	03	04.24340	11	54	18.28	+01	01	58.0	1 809
1986	EZ4	1986	03	05.19826	11	53	30.68	+01	06	30.4	1 809
1986	EZ4	1986	03	05.22674	11	53	29.14	+01	06	38.4	1 809
1986	EZ4	1986	03	10.14896	11	49	09.72	+01	31	20.8	1 809
1986	EZ4	1986	03	10.17396	11	49	08.31	+01	31	28.8	1 809
1986	EZ4	1986	03	14.18090	11	45	26.68	+01	52	33.2	1 809
1986	EZ4	1986	03	14.20174	11	45	25.39	+01	52	41.2	1 809
1986	EA5	1986	03	04.22188	11	54	00.60	+00	44	35.9	1 809
1986	EA5	1986	03	04.24340	11	53	59.64	+00	44	41.4	1 809
1986	EA5	1986	03	05.19826	11	53	18.77	+00	48	53.6	1 809
1986	EA5	1986	03	05.22674	11	53	17.48	+00	49	01.1	1 809
1986	EA5	1986	03	10.14896	11	49	32.76	+01	12	05.6	1 809

1986	EA5		1986	03	10.17396	11	49	31.61	+01	12	13.1	1 809
1986	EA5		1986	03	14.18090	11	46	16.72	+01	32	12.4	1 809
1986	EA5		1986	03	14.20174	11	46	15.61	+01	32	19.4	1 809
1986	ED5	*	1986	03	04.18785	11	29	09.00	+01	50	26.0	1 809
1986	ED5		1986	03	04.21076	11	29	07.62	+01	50	32.1	1 809
1986	ED5		1986	03	05.16354	11	28	16.64	+01	54	39.9	1 809
1986	ED5		1986	03	05.18715	11	28	15.39	+01	54	46.5	1 809
1986	ED5		1986	03	10.12257	11	23	42.59	+02	17	17.8	1 809
1986	ED5		1986	03	10.13993	11	23	41.59	+02	17	23.3	1 809
1986	ED5		1986	03	14.14965	11	19	55.92	+02	36	23.3	1 809
1986	ED5		1986	03	14.17118	11	19	54.70	+02	36	30.8	1 809
1986	EE5	*	1986	03	05.11076	10	23	27.50	+10	12	00.6	1 809
1986	EE5		1986	03	05.13368	10	23	26.38	+10	12	07.6	1 809
1986	EE5		1986	03	05.14653	10	23	25.80	+10	12	12.1	1 809
1986	EE5		1986	03	13.08924	10	17	52.42	+10	47	37.5	1 809
1986	EE5		1986	03	13.11215	10	17	51.45	+10	47	46.6	1 809
1986	EE5		1986	03	18.06779	10	14	51.21	+11	06	51.6	1 809
1986	EE5		1986	03	18.08646	10	14	50.66	+11	06	56.2	1 809
1986	EF5	*	1986	03	05.19826	11	59	14.56	+00	04	36.5	1 809
1986	EF5		1986	03	05.22674	11	59	12.97	+00	04	46.2	1 809
1986	EF5		1986	03	10.14896	11	55	00.60	+00	32	37.5	1 809
1986	EF5		1986	03	10.17396	11	54	59.23	+00	32	46.7	1 809
1986	EF5		1986	03	14.18090	11	51	21.83	+00	56	43.4	1 809
1986	EF5		1986	03	14.20174	11	51	20.63	+00	56	52.5	1 809
1986	EG5	*	1986	03	05.23785	12	07	17.18	-02	48	17.4	1 809
1986	EG5		1986	03	05.25729	12	07	16.15	-02	48	16.0	1 809
1986	EG5		1986	03	10.18576	12	02	28.87	-02	31	51.6	1 809
1986	EG5		1986	03	10.20938	12	02	27.21	-02	31	45.0	1 809
1986	EG5		1986	03	14.21076	11	58	19.79	-02	16	40.9	1 809
1986	EG5		1986	03	14.22951	11	58	19.26	-02	16	34.5	1 809
1986	EH5	*	1986	03	05.23785	12	14	48.79	-04	00	30.2	1 809
1986	EH5		1986	03	05.25729	12	14	47.81	-04	00	27.2	1 809
1986	EH5		1986	03	13.16215	12	07	44.68	-03	45	37.2	1 809
1986	EH5		1986	03	13.18507	12	07	43.32	-03	45	33.4	1 809
1986	EJ5	*	1986	03	06.07813	11	08	40.82	+03	48	11.5	1 809
1986	EJ5		1986	03	06.10521	11	08	39.27	+03	48	14.5	1 809
1986	EJ5		1986	03	07.07847	11	07	47.61	+03	50	00.9	1 809
1986	EJ5		1986	03	07.09931	11	07	46.46	+03	50	02.8	1 809
1986	EJ5		1986	03	11.09340	11	04	15.03	+03	57	27.8	1 809
1986	EJ5		1986	03	11.11424	11	04	13.83	+03	57	30.1	1 809
1986	EK5	*	1986	03	06.18299	12	23	31.99	-03	04	25.7	1 809
1986	EK5		1986	03	06.20104	12	23	31.07	-03	04	25.5	1 809
1986	EK5		1986	03	07.16806	12	22	46.22	-03	03	49.5	1 809
1986	EK5		1986	03	07.18958	12	22	45.10	-03	03	49.8	1 809
1986	EL5	*	1986	03	06.18299	12	25	40.22	-02	12	50.1	1 809
1986	EL5		1986	03	06.20104	12	25	39.42	-02	12	45.7	1 809
1986	EL5		1986	03	07.16806	12	24	53.63	-02	09	53.6	1 809
1986	EL5		1986	03	07.18958	12	24	52.53	-02	09	48.2	1 809
1986	EL5		1986	03	11.18924	12	21	32.93	-01	56	56.2	1 809
1986	EL5		1986	03	11.20799	12	21	31.91	-01	56	51.7	1 809
1986	EL5		1986	03	17.11632	12	16	14.93	-01	35	40.8	1 809
1986	EL5		1986	03	17.13646	12	16	13.82	-01	35	36.5	1 809
1986	EM5	*	1986	03	06.21354	12	50	54.24	-10	05	38.9	1 809
1986	EM5		1986	03	06.24201	12	50	53.04	-10	05	44.3	1 809
1986	EM5		1986	03	07.19931	12	50	11.93	-10	08	56.3	1 809
1986	EM5		1986	03	07.22639	12	50	10.71	-10	09	00.8	1 809
1986	EN5	*	1986	03	06.25243	13	11	55.49	-08	54	34.5	1 809
1986	EN5		1986	03	06.27188	13	11	55.00	-08	54	28.5	1 809
1986	EN5		1986	03	07.23958	13	11	31.95	-08	49	38.0	1 809

1986	EN5		1986	03	07.26458	13	11	31.31	-08	49	30.3	1 809
1986	EN5		1986	03	11.24618	13	09	42.37	-08	27	44.2	1 809
1986	EN5		1986	03	11.26840	13	09	41.66	-08	27	35.4	1 809
1986	EN5		1986	03	17.22465	13	06	19.96	-07	49	47.9	1 809
1986	EN5		1986	03	17.24618	13	06	19.05	-07	49	38.6	1 809
1986	EO5	*	1986	03	06.28229	13	12	00.95	-06	33	32.0	1 809
1986	EO5		1986	03	06.30521	13	12	00.35	-06	33	26.2	1 809
1986	EO5		1986	03	07.27292	13	11	35.89	-06	29	26.8	1 809
1986	EO5		1986	03	07.29514	13	11	35.38	-06	29	20.2	1 809
1986	EP5	*	1986	03	06.28229	13	12	02.34	-06	22	52.4	1 809
1986	EP5		1986	03	06.30521	13	12	01.78	-06	22	47.4	1 809
1986	EP5		1986	03	07.27292	13	11	38.52	-06	19	36.2	1 809
1986	EP5		1986	03	07.29514	13	11	37.99	-06	19	30.9	1 809
1986	EP5		1986	03	10.25243	13	10	20.25	-06	09	06.8	1 809
1986	EP5		1986	03	10.27118	13	10	19.69	-06	09	00.7	1 809
1986	EP5		1986	03	17.19757	13	06	41.87	-05	40	58.4	1 809
1986	EP5		1986	03	17.21632	13	06	41.16	-05	40	53.7	1 809
1986	EQ5	*	1986	03	07.30486	14	10	03.80	-12	20	41.4	1 809
1986	EQ5		1986	03	07.32500	14	10	03.58	-12	20	47.3	1 809
1986	EQ5		1986	03	11.27812	14	09	17.49	-12	39	02.5	1 809
1986	EQ5		1986	03	11.30451	14	09	17.03	-12	39	08.7	1 809
1986	EQ5		1986	03	13.26007	14	08	43.37	-12	47	39.3	1 809
1986	EQ5		1986	03	13.28576	14	08	42.78	-12	47	45.3	1 809
1986	EQ5		1986	03	18.20382	14	06	46.14	-13	07	37.6	1 809
1986	EQ5		1986	03	18.22604	14	06	45.47	-13	07	42.1	1 809
1986	ER5	*	1986	03	08.14861	12	07	12.73	-00	42	59.4	1 809
1986	ER5		1986	03	08.16528	12	07	12.07	-00	42	51.4	1 809
1986	ER5		1986	03	09.18576	12	06	33.22	-00	35	19.7	1 809
1986	ER5		1986	03	09.20799	12	06	32.32	-00	35	09.4	1 809
1986	ES5	*	1986	03	09.08924	11	07	59.19	+07	50	01.8	1 809
1986	ES5		1986	03	09.10938	11	07	58.29	+07	50	07.0	1 809
1986	ES5		1986	03	14.12049	11	04	10.51	+08	12	09.5	1 809
1986	ES5		1986	03	14.13924	11	04	09.66	+08	12	16.2	1 809
1986	ES5		1986	03	15.09757	11	03	27.02	+08	16	18.8	1 809
1986	ES5		1986	03	15.11840	11	03	26.06	+08	16	23.9	1 809
1986	ES5		1986	03	18.09618	11	01	16.16	+08	28	34.7	1 809
1986	ES5		1986	03	18.11910	11	01	15.04	+08	28	41.1	1 809
1986	ET5	*	1986	03	09.08924	11	08	16.04	+07	04	00.7	1 809
1986	ET5		1986	03	09.10938	11	08	14.97	+07	04	13.2	1 809
1986	ET5		1986	03	14.12049	11	04	05.51	+07	51	47.8	1 809
1986	ET5		1986	03	14.13924	11	04	04.42	+07	52	01.1	1 809
1986	ET5		1986	03	15.09757	11	03	18.09	+08	00	49.5	1 809
1986	ET5		1986	03	15.11840	11	03	17.08	+08	01	01.9	1 809
1986	EU5	*	1986	03	10.28090	13	54	27.64	-08	28	20.8	1 809
1986	EU5		1986	03	10.30313	13	54	27.30	-08	28	19.9	1 809
1986	EU5		1986	03	17.25590	13	52	13.66	-08	10	08.3	1 809
1986	EU5		1986	03	17.27465	13	52	13.16	-08	10	02.6	1 809
1986	EU5		1986	03	17.28611	13	52	12.87	-08	10	02.2	1 809
1986	EV5	*	1986	03	11.18924	12	26	01.93	-01	40	53.7	1 809
1986	EV5		1986	03	11.20799	12	26	01.22	-01	40	45.9	1 809
1986	EV5		1986	03	17.11632	12	21	20.74	-01	00	52.0	1 809
1986	EV5		1986	03	17.13646	12	21	19.84	-01	00	36.8	1 809
1986	EW5	*	1986	03	11.24618	13	05	47.03	-08	34	38.7	1 809
1986	EW5		1986	03	11.26840	13	05	46.10	-08	34	28.5	1 809
1986	EW5		1986	03	17.22465	13	01	53.73	-08	05	07.9	1 809
1986	EW5		1986	03	17.24618	13	01	52.80	-08	05	00.5	1 809
1986	GL		1986	03	06.21354	12	47	47.03	-10	27	23.9	1 809
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1986	GL		1986	03	07.22639	12	47	10.34	-10	24	21.2	1 809

1986	GL	1986	03	11.21910	12	44	36.10	-10	10	57.7		1 809
1986	GL	1986	03	11.23715	12	44	35.34	-10	10	54.1		1 809
1986	GL	1986	03	17.15660	12	40	22.72	-09	47	10.4		1 809
1986	GL	1986	03	17.18090	12	40	21.56	-09	47	04.4		1 809
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1986	GY1	1986	03	16.27049	13	21	55.09	-09	22	34.8		1 809
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1986	PE1	1986	09	01.04479	21	40	31.66	-16	51	24.0	3 809
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1986	PU1	1986	08	26.16389	21	47	29.16	-17	03	18.8		3 809
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1986	PU1	1986	08	27.05555	21	46	43.61	-17	06	04.9		3 809
1986	PU1	1986	08	27.06111	21	46	43.35	-17	06	05.9		3 809
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1986	PU1	1986	09	01.04479	21	42	37.32	-17	19	43.5		3 809
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1986	PU1	1986	09	02.06979	21	41	49.67	-17	22	06.0		3 809
1986	PU1	1986	09	03.07847	21	41	03.88	-17	24	16.5		3 809
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1986	PU1	1986	09	03.08854	21	41	03.43	-17	24	17.8		3 809
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1986	PO2	1986	09	01.04479	21	35	58.81	-18	09	23.7		3 809
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1986	PO2	1986	09	02.09549	21	35	25.44	-18	23	05.8		3 809
1986	PO2	1986	09	04.03437	21	34	28.32	-18	47	45.0		3 809
1986	PO2	1986	09	04.03924	21	34	28.16	-18	47	48.8		3 809
1986	PO2	1986	09	04.04410	21	34	28.04	-18	47	52.2		3 809
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1986	PO2	1986	09	10.15879	21	32	06.21	-19	59	40.8		3 809
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1986	PO2	1986	09	12.09347	21	31	36.67	-20	20	10.6		3 809

1986	PO2	1986	09	12.09833	21	31	36.59	-20	20	13.5		3 809
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1986	PH4	1986	08	26.12291	21	51	02.08	-12	43	55.9		3 809
1986	PH4	1986	08	26.12847	21	51	01.77	-12	43	58.5		3 809
1986	PH4	1986	08	28.07986	21	49	18.35	-12	57	18.1		3 809
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1986	PH4	1986	08	28.09097	21	49	17.74	-12	57	22.7		3 809
1986	PH4	1986	08	30.25903	21	47	25.30	-13	11	48.3		3 809
1986	PH4	1986	08	30.26458	21	47	25.01	-13	11	50.5		3 809
1986	PH4	1986	08	30.27014	21	47	24.73	-13	11	52.7		3 809
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1986	PH4	1986	09	02.04549	21	45	08.10	-13	29	39.7		3 809
1986	PH4	1986	09	02.05035	21	45	07.86	-13	29	41.4		3 809
1986	PH4	1986	09	07.07882	21	41	21.34	-13	59	27.5		3 809
1986	PH4	1986	09	07.08368	21	41	21.11	-13	59	29.4		3 809
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1986	PH4	1986	09	08.09965	21	40	39.51	-14	05	05.1		3 809
1986	PH4	1986	09	08.10451	21	40	39.30	-14	05	06.7		3 809
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1986	PJ4	1986	09	08.13160	21	43	38.01	-15	59	59.5		3 809
1986	PJ4	1986	09	08.13646	21	43	37.84	-16	00	01.4		3 809
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1986	PJ4	1986	09	12.22326	21	41	27.72	-16	21	21.2		3 809
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1986	PT4	1986	09	12.16704	21	33	17.24	-14	01	47.5		3 809
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1986	QK	1986	09	05.99410	21	01	31.27	-12	41	28.0		3 809

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1986	QQ		1986	08	27.10208	22	24	51.93	-13	25	46.1	3 809
1986	QQ		1986	08	28.21042	22	23	41.86	-13	30	11.4	3 809
1986	QQ		1986	08	28.21597	22	23	41.50	-13	30	12.6	3 809
1986	QQ		1986	08	28.22153	22	23	41.13	-13	30	14.0	3 809
1986	QQ		1986	08	29.19167	22	22	39.96	-13	34	02.3	3 809
1986	QQ		1986	08	29.19722	22	22	39.60	-13	34	03.6	3 809
1986	QQ		1986	08	29.20278	22	22	39.24	-13	34	05.1	3 809
1986	QQ		1986	08	31.33958	22	20	23.98	-13	42	15.7	3 809
1986	QQ		1986	08	31.34479	22	20	23.65	-13	42	16.9	3 809
1986	QQ		1986	08	31.35000	22	20	23.31	-13	42	18.1	3 809
1986	QQ		1986	09	01.29618	22	19	23.79	-13	45	50.4	3 809
1986	QQ		1986	09	01.30104	22	19	23.48	-13	45	51.5	3 809
1986	QQ		1986	09	01.30590	22	19	23.18	-13	45	52.6	3 809
1986	QQ		1986	09	02.31354	22	18	19.79	-13	49	33.6	3 809
1986	QQ		1986	09	02.31840	22	18	19.48	-13	49	34.6	3 809
1986	QQ		1986	09	02.32326	22	18	19.18	-13	49	35.7	3 809
1986	QQ		1986	09	02.34549	22	18	17.78	-13	49	39.7	3 809
1986	QQ		1986	09	02.35035	22	18	17.45	-13	49	40.6	3 809
1986	QQ		1986	09	02.35521	22	18	17.15	-13	49	41.8	3 809
1986	QQ		1986	09	03.20521	22	17	24.21	-13	52	45.1	3 809
1986	QQ		1986	09	03.21007	22	17	23.91	-13	52	46.2	3 809
1986	QQ		1986	09	03.21493	22	17	23.59	-13	52	47.2	3 809
1986	QQ		1986	09	03.29259	22	17	18.55	-13	53	03.5	3 809
1986	QQ		1986	09	03.29676	22	17	18.29	-13	53	04.5	3 809
1986	QQ		1986	09	03.30092	22	17	18.04	-13	53	05.4	3 809
1986	QQ		1986	09	04.15451	22	16	25.28	-13	56	04.1	3 809
1986	QQ		1986	09	04.15937	22	16	24.98	-13	56	05.1	3 809
1986	QQ		1986	09	04.16424	22	16	24.69	-13	56	06.2	3 809
1986	QQ		1986	09	04.19410	22	16	22.72	-13	56	12.5	3 809
1986	QQ		1986	09	04.19896	22	16	22.41	-13	56	13.7	3 809
1986	QQ		1986	09	04.20382	22	16	22.09	-13	56	14.7	3 809
1986	QQ		1986	09	05.25521	22	15	17.06	-13	59	48.2	3 809
1986	QQ		1986	09	05.26215	22	15	16.62	-13	59	49.8	3 809

1986	QQ		1986	09	05.26910	22	15	16.19	-13	59	50.9	3 809
1986	QQ		1986	09	06.21424	22	14	18.35	-14	02	57.7	3 809
1986	QQ		1986	09	06.21910	22	14	18.04	-14	02	58.8	3 809
1986	QQ		1986	09	06.22396	22	14	17.73	-14	02	59.9	3 809
1986	QQ		1986	09	08.29479	22	12	12.77	-14	09	27.9	3 809
1986	QQ		1986	09	08.29965	22	12	12.48	-14	09	28.9	3 809
1986	QQ		1986	09	08.30625	22	12	12.09	-14	09	30.2	3 809
1986	QQ		1986	09	08.31354	22	12	11.62	-14	09	31.1	3 809
1986	QQ		1986	09	08.31840	22	12	11.32	-14	09	32.0	3 809
1986	QQ		1986	09	08.32326	22	12	11.02	-14	09	32.6	3 809
1986	QQ		1986	09	11.06562	22	09	31.60	-14	17	19.6	3 809
1986	QQ		1986	09	11.07118	22	09	31.28	-14	17	20.4	3 809
1986	QQ		1986	09	11.07674	22	09	30.96	-14	17	21.2	3 809
1986	QQ		1986	09	11.08854	22	09	30.20	-14	17	23.0	3 809
1986	QQ		1986	09	11.09410	22	09	29.87	-14	17	23.9	3 809
1986	QQ		1986	09	11.09965	22	09	29.54	-14	17	24.9	3 809
1986	QQ		1986	09	12.32674	22	08	19.84	-14	20	33.6	3 809
1986	QQ		1986	09	12.33160	22	08	19.56	-14	20	34.4	3 809
1986	QQ		1986	09	12.33646	22	08	19.28	-14	20	35.2	3 809
1986	QR	*	1986	08	26.13750	22	26	43.55	-12	49	21.1	17.2 3 809
1986	QR		1986	08	26.14305	22	26	43.22	-12	49	20.9	3 809
1986	QR		1986	08	26.14861	22	26	42.87	-12	49	20.6	3 809
1986	QR		1986	08	27.09097	22	25	46.39	-12	48	39.0	3 809
1986	QR		1986	08	27.09653	22	25	46.04	-12	48	38.8	3 809
1986	QR		1986	08	27.10208	22	25	45.69	-12	48	38.5	3 809
1986	QR		1986	08	29.19167	22	23	39.88	-12	46	56.6	3 809
1986	QR		1986	08	29.19722	22	23	39.55	-12	46	56.3	3 809
1986	QR		1986	08	29.20278	22	23	39.22	-12	46	56.0	3 809
1986	QR		1986	09	01.12882	22	20	46.37	-12	44	03.0	3 809
1986	QR		1986	09	01.13403	22	20	46.07	-12	44	02.3	3 809
1986	QR		1986	09	01.13923	22	20	45.74	-12	44	01.9	3 809
1986	QR		1986	09	02.18385	22	19	44.83	-12	42	51.1	3 809
1986	QR		1986	09	02.18906	22	19	44.50	-12	42	50.3	3 809
1986	QR		1986	09	02.19427	22	19	44.19	-12	42	49.9	3 809
1986	QR		1986	09	03.29259	22	18	41.02	-12	41	27.4	3 809
1986	QR		1986	09	03.29676	22	18	40.77	-12	41	27.3	3 809
1986	QR		1986	09	03.30092	22	18	40.53	-12	41	27.1	3 809
1986	QR		1986	09	04.19410	22	17	50.58	-12	40	17.0	3 809
1986	QR		1986	09	04.19896	22	17	50.31	-12	40	16.6	3 809
1986	QR		1986	09	04.20382	22	17	50.03	-12	40	16.2	3 809
1986	QR		1986	09	05.10660	22	17	00.41	-12	39	00.1	3 809
1986	QR		1986	09	05.11181	22	17	00.07	-12	38	59.7	3 809
1986	QR		1986	09	05.11701	22	16	59.80	-12	38	59.3	3 809
1986	QR		1986	09	05.30799	22	16	48.61	-12	38	41.5	3 809
1986	QR		1986	09	05.31285	22	16	48.36	-12	38	41.2	3 809
1986	QR		1986	09	05.31771	22	16	48.09	-12	38	40.7	3 809
1986	QR		1986	09	06.22951	22	15	58.93	-12	37	16.7	3 809
1986	QR		1986	09	06.23437	22	15	58.67	-12	37	16.4	3 809
1986	QR		1986	09	06.23924	22	15	58.41	-12	37	15.9	3 809
1986	QR		1986	09	06.27674	22	15	56.23	-12	37	12.8	3 809
1986	QR		1986	09	06.28160	22	15	55.97	-12	37	12.4	3 809
1986	QR		1986	09	06.28646	22	15	55.70	-12	37	11.9	3 809
1986	QR		1986	09	07.20035	22	15	07.58	-12	35	43.3	3 809
1986	QR		1986	09	07.20521	22	15	07.30	-12	35	42.8	3 809
1986	QR		1986	09	07.21042	22	15	07.01	-12	35	42.3	3 809
1986	QR		1986	09	09.11840	22	13	29.92	-12	32	20.0	3 809
1986	QR		1986	09	09.12326	22	13	29.66	-12	32	19.5	3 809
1986	QR		1986	09	09.12812	22	13	29.40	-12	32	18.9	3 809
1986	QS	*	1986	08	26.13750	22	28	16.78	-13	39	33.8	16.6 3 809

1986	QS	1986	08	26.14305	22	28	16.46	-13	39	34.2	3 809
1986	QS	1986	08	26.14861	22	28	16.16	-13	39	34.9	3 809
1986	QS	1986	08	27.09097	22	27	22.82	-13	41	16.3	3 809
1986	QS	1986	08	27.09653	22	27	22.51	-13	41	16.8	3 809
1986	QS	1986	08	27.10208	22	27	22.22	-13	41	17.7	3 809
1986	QS	1986	08	29.19167	22	25	22.94	-13	44	54.4	3 809
1986	QS	1986	08	29.19722	22	25	22.62	-13	44	54.9	3 809
1986	QS	1986	08	29.20278	22	25	22.29	-13	44	55.5	3 809
1986	QS	1986	08	31.33958	22	23	19.92	-13	48	22.5	3 809
1986	QS	1986	08	31.34479	22	23	19.62	-13	48	22.9	3 809
1986	QS	1986	08	31.35000	22	23	19.31	-13	48	23.4	3 809
1986	QS	1986	09	01.12882	22	22	35.25	-13	49	35.6	3 809
1986	QS	1986	09	01.13403	22	22	34.94	-13	49	35.7	3 809
1986	QS	1986	09	01.13923	22	22	34.63	-13	49	36.5	3 809
1986	QS	1986	09	01.29618	22	22	25.36	-13	49	50.0	3 809
1986	QS	1986	09	01.30104	22	22	25.09	-13	49	50.5	3 809
1986	QS	1986	09	01.30590	22	22	24.83	-13	49	50.9	3 809
1986	QS	1986	09	02.18385	22	21	35.04	-13	51	08.1	3 809
1986	QS	1986	09	02.18906	22	21	34.74	-13	51	08.5	3 809
1986	QS	1986	09	02.19427	22	21	34.44	-13	51	09.0	3 809
1986	QS	1986	09	02.34549	22	21	25.59	-13	51	20.8	3 809
1986	QS	1986	09	02.35035	22	21	25.36	-13	51	21.2	3 809
1986	QS	1986	09	02.35521	22	21	25.03	-13	51	21.4	3 809
1986	QS	1986	09	03.20521	22	20	37.01	-13	52	32.9	3 809
1986	QS	1986	09	03.21007	22	20	36.72	-13	52	33.6	3 809
1986	QS	1986	09	03.21493	22	20	36.44	-13	52	34.4	3 809
1986	QS	1986	09	03.29259	22	20	31.97	-13	52	39.9	3 809
1986	QS	1986	09	03.29676	22	20	31.73	-13	52	40.2	3 809
1986	QS	1986	09	03.30092	22	20	31.50	-13	52	40.7	3 809
1986	QS	1986	09	04.15451	22	19	43.57	-13	53	48.4	3 809
1986	QS	1986	09	04.15937	22	19	43.30	-13	53	48.7	3 809
1986	QS	1986	09	04.16424	22	19	43.02	-13	53	49.1	3 809
1986	QS	1986	09	04.19410	22	19	41.24	-13	53	51.9	3 809
1986	QS	1986	09	04.19896	22	19	40.96	-13	53	52.6	3 809
1986	QS	1986	09	04.20382	22	19	40.69	-13	53	52.8	3 809
1986	QS	1986	09	05.25521	22	18	41.63	-13	55	09.8	3 809
1986	QS	1986	09	05.26215	22	18	41.24	-13	55	10.3	3 809
1986	QS	1986	09	05.26910	22	18	40.84	-13	55	10.8	3 809
1986	QS	1986	09	05.30799	22	18	38.59	-13	55	14.1	3 809
1986	QS	1986	09	05.31285	22	18	38.32	-13	55	14.4	3 809
1986	QS	1986	09	05.31771	22	18	38.06	-13	55	14.7	3 809
1986	QS	1986	09	06.21424	22	17	48.34	-13	56	16.3	3 809
1986	QS	1986	09	06.21910	22	17	48.07	-13	56	16.6	3 809
1986	QS	1986	09	06.22396	22	17	47.80	-13	56	17.0	3 809
1986	QS	1986	09	06.22951	22	17	47.45	-13	56	16.9	3 809
1986	QS	1986	09	06.23437	22	17	47.15	-13	56	17.3	3 809
1986	QS	1986	09	06.23924	22	17	46.89	-13	56	18.1	3 809
1986	QS	1986	09	06.27674	22	17	44.75	-13	56	20.4	3 809
1986	QS	1986	09	06.28160	22	17	44.47	-13	56	20.9	3 809
1986	QS	1986	09	06.28646	22	17	44.19	-13	56	21.5	3 809
1986	QS	1986	09	07.20035	22	16	53.89	-13	57	19.7	3 809
1986	QS	1986	09	07.20521	22	16	53.63	-13	57	19.7	3 809
1986	QS	1986	09	07.21042	22	16	53.34	-13	57	19.8	3 809
1986	QS	1986	09	08.29479	22	15	54.02	-13	58	21.7	3 809
1986	QS	1986	09	08.29965	22	15	53.76	-13	58	22.0	3 809
1986	QS	1986	09	08.30625	22	15	53.41	-13	58	22.4	3 809
1986	QS	1986	09	08.31354	22	15	52.99	-13	58	23.4	3 809
1986	QS	1986	09	08.31840	22	15	52.73	-13	58	23.9	3 809
1986	QS	1986	09	08.32326	22	15	52.46	-13	58	24.4	3 809

1986	QS		1986	09	09.11840	22	15	09.88	-13	59	06.1	3 809
1986	QS		1986	09	09.12326	22	15	09.61	-13	59	06.8	3 809
1986	QS		1986	09	09.12812	22	15	09.36	-13	59	07.3	3 809
1986	QS		1986	09	11.08854	22	13	25.52	-14	00	32.9	3 809
1986	QS		1986	09	11.09410	22	13	25.23	-14	00	33.1	3 809
1986	QS		1986	09	11.09965	22	13	24.94	-14	00	33.3	3 809
1986	QS		1986	09	11.20868	22	13	19.01	-14	00	38.1	3 809
1986	QS		1986	09	11.21354	22	13	18.75	-14	00	38.4	3 809
1986	QS		1986	09	11.21840	22	13	18.51	-14	00	38.6	3 809
1986	QS		1986	09	12.32674	22	12	21.09	-14	01	15.5	3 809
1986	QS		1986	09	12.33160	22	12	20.83	-14	01	15.7	3 809
1986	QS		1986	09	12.33646	22	12	20.57	-14	01	16.0	3 809
1986	QT	*	1986	08	26.13750	22	29	38.56	-12	44	00.9	16.5 3 809
1986	QT		1986	08	26.14305	22	29	38.27	-12	44	03.0	3 809
1986	QT		1986	08	26.14861	22	29	37.97	-12	44	05.5	3 809
1986	QT		1986	08	27.09097	22	28	47.00	-12	50	52.6	3 809
1986	QT		1986	08	27.09653	22	28	46.68	-12	50	54.7	3 809
1986	QT		1986	08	27.10208	22	28	46.36	-12	50	57.4	3 809
1986	QT		1986	08	29.19167	22	26	52.60	-13	05	47.0	3 809
1986	QT		1986	08	29.19722	22	26	52.30	-13	05	49.5	3 809
1986	QT		1986	08	29.20278	22	26	51.98	-13	05	52.1	3 809
1986	QT		1986	09	01.12882	22	24	14.66	-13	25	56.0	3 809
1986	QT		1986	09	01.13403	22	24	14.37	-13	25	57.9	3 809
1986	QT		1986	09	01.13923	22	24	14.06	-13	26	00.1	3 809
1986	QT		1986	09	02.18385	22	23	18.41	-13	32	55.8	3 809
1986	QT		1986	09	02.18906	22	23	18.14	-13	32	57.9	3 809
1986	QT		1986	09	02.19427	22	23	17.85	-13	33	00.0	3 809
1986	QT		1986	09	04.19410	22	21	33.51	-13	45	50.7	3 809
1986	QT		1986	09	04.19896	22	21	33.23	-13	45	52.1	3 809
1986	QT		1986	09	04.20382	22	21	32.98	-13	45	54.3	3 809
1986	QT		1986	09	05.30799	22	20	36.23	-13	52	44.2	3 809
1986	QT		1986	09	05.31285	22	20	35.99	-13	52	45.9	3 809
1986	QT		1986	09	05.31771	22	20	35.74	-13	52	47.6	3 809
1986	QT		1986	09	06.27674	22	19	47.74	-13	58	34.4	3 809
1986	QT		1986	09	06.28160	22	19	47.49	-13	58	36.1	3 809
1986	QT		1986	09	06.28646	22	19	47.25	-13	58	37.7	3 809
1986	QT		1986	09	07.20035	22	19	02.44	-14	03	59.6	3 809
1986	QT		1986	09	07.20521	22	19	02.20	-14	04	01.4	3 809
1986	QT		1986	09	07.21042	22	19	01.96	-14	04	03.2	3 809
1986	QT		1986	09	09.11840	22	17	31.04	-14	14	46.4	3 809
1986	QT		1986	09	09.12326	22	17	30.79	-14	14	48.0	3 809
1986	QT		1986	09	09.12812	22	17	30.53	-14	14	49.7	3 809
1986	QT		1986	09	11.20868	22	15	55.77	-14	25	43.3	3 809
1986	QT		1986	09	11.21354	22	15	55.53	-14	25	44.8	3 809
1986	QT		1986	09	11.21840	22	15	55.30	-14	25	46.4	3 809
1986	QU	*	1986	08	26.13750	22	31	42.95	-13	22	11.2	17.2 3 809
1986	QU		1986	08	26.14305	22	31	42.69	-13	22	12.3	3 809
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1986	QU		1986	08	29.19722	22	29	17.36	-13	32	28.9	3 809
1986	QU		1986	08	29.20278	22	29	17.10	-13	32	29.9	3 809
1986	QU		1986	09	01.12882	22	26	57.84	-13	41	54.5	3 809
1986	QU		1986	09	01.13403	22	26	57.60	-13	41	55.6	3 809
1986	QU		1986	09	01.13923	22	26	57.34	-13	41	56.6	3 809
1986	QU		1986	09	02.18385	22	26	07.65	-13	45	10.4	3 809
1986	QU		1986	09	02.18906	22	26	07.40	-13	45	11.4	3 809

1986	QU		1986	09	02.19427	22	26	07.15	-13	45	12.4	3 809
1986	QU		1986	09	04.19410	22	24	32.96	-13	51	10.3	3 809
1986	QU		1986	09	04.19896	22	24	32.72	-13	51	11.2	3 809
1986	QU		1986	09	04.20382	22	24	32.48	-13	51	11.9	3 809
1986	QU		1986	09	05.30799	22	23	40.91	-13	54	20.4	3 809
1986	QU		1986	09	05.31285	22	23	40.69	-13	54	21.3	3 809
1986	QU		1986	09	05.31771	22	23	40.47	-13	54	22.2	3 809
1986	QU		1986	09	09.11840	22	20	48.30	-14	04	23.7	3 809
1986	QU		1986	09	09.12326	22	20	48.07	-14	04	24.5	3 809
1986	QU		1986	09	09.12812	22	20	47.88	-14	04	25.1	3 809
1986	QU		1986	09	09.15729	22	20	46.49	-14	04	29.1	3 809
1986	QU		1986	09	09.16215	22	20	46.26	-14	04	29.7	3 809
1986	QU		1986	09	09.16701	22	20	46.04	-14	04	30.4	3 809
1986	QU		1986	09	11.26632	22	19	14.49	-14	09	24.4	3 809
1986	QU		1986	09	11.27187	22	19	14.24	-14	09	25.2	3 809
1986	QU		1986	09	11.27674	22	19	14.03	-14	09	25.9	3 809
1986	QV	*	1986	08	26.13750	22	31	47.97	-13	38	41.0	17.6 3 809
1986	QV		1986	08	26.14305	22	31	47.58	-13	38	39.0	3 809
1986	QV		1986	08	26.14861	22	31	47.19	-13	38	36.4	3 809
1986	QV		1986	08	27.09097	22	30	41.05	-13	32	05.4	3 809
1986	QV		1986	08	27.09653	22	30	40.65	-13	32	03.3	3 809
1986	QV		1986	08	27.10208	22	30	40.24	-13	32	00.9	3 809
1986	QV		1986	08	29.19167	22	28	11.81	-13	17	17.5	3 809
1986	QV		1986	08	29.19722	22	28	11.41	-13	17	14.8	3 809
1986	QV		1986	08	29.20278	22	28	11.01	-13	17	12.2	3 809
1986	QV		1986	09	04.19410	22	21	06.68	-12	32	35.3	3 809
1986	QV		1986	09	04.19896	22	21	06.32	-12	32	33.0	3 809
1986	QV		1986	09	04.20382	22	21	05.98	-12	32	30.8	3 809
1986	QV		1986	09	06.22951	22	18	45.78	-12	16	38.1	3 809
1986	QV		1986	09	06.23437	22	18	45.46	-12	16	35.9	3 809
1986	QV		1986	09	06.23924	22	18	45.12	-12	16	33.8	3 809
1986	QW	*	1986	08	26.15833	21	43	31.91	-16	21	34.1	17.3 3 809
1986	QW		1986	08	26.16389	21	43	31.58	-16	21	36.2	3 809
1986	QW		1986	08	26.16944	21	43	31.26	-16	21	38.3	3 809
1986	QW		1986	08	27.05555	21	42	40.67	-16	27	25.0	3 809
1986	QW		1986	08	27.06111	21	42	40.37	-16	27	27.0	3 809
1986	QW		1986	08	27.06667	21	42	40.03	-16	27	29.2	3 809
1986	QW		1986	08	28.05555	21	41	43.81	-16	33	51.3	3 809
1986	QW		1986	08	28.06111	21	41	43.50	-16	33	53.1	3 809
1986	QW		1986	08	28.06667	21	41	43.20	-16	33	55.2	3 809
1986	QW		1986	08	29.12847	21	40	43.19	-16	40	37.2	3 809
1986	QW		1986	08	29.13403	21	40	42.89	-16	40	39.4	3 809
1986	QW		1986	08	29.13958	21	40	42.59	-16	40	41.4	3 809
1986	QW		1986	09	01.03472	21	38	04.03	-16	58	17.6	3 809
1986	QW		1986	09	01.03993	21	38	03.75	-16	58	19.8	3 809
1986	QW		1986	09	01.04479	21	38	03.48	-16	58	21.7	3 809
1986	QX	*	1986	08	26.15833	21	50	00.16	-17	18	20.6	17.6 3 809
1986	QX		1986	08	26.16389	21	49	59.88	-17	18	23.0	3 809
1986	QX		1986	08	26.16944	21	49	59.59	-17	18	25.6	3 809
1986	QX		1986	08	28.05555	21	48	18.57	-17	32	23.5	3 809
1986	QX		1986	08	28.06111	21	48	18.28	-17	32	26.0	3 809
1986	QX		1986	08	28.06667	21	48	17.99	-17	32	28.6	3 809
1986	QY	*	1986	08	26.17778	22	43	58.61	-13	27	08.4	17.4 3 809
1986	QY		1986	08	26.18333	22	43	58.32	-13	27	09.9	3 809
1986	QY		1986	08	26.18889	22	43	58.03	-13	27	11.2	3 809
1986	QY		1986	08	27.11181	22	43	09.88	-13	30	46.9	3 809
1986	QY		1986	08	27.11736	22	43	09.59	-13	30	48.2	3 809
1986	QY		1986	08	27.12291	22	43	09.29	-13	30	49.6	3 809
1986	QY		1986	08	29.21042	22	41	18.74	-13	38	52.6	3 809

1986	QY		1986	08	29.21597	22	41	18.44	-13	38	54.1	3 809
1986	QY		1986	08	29.22153	22	41	18.13	-13	38	55.5	3 809
1986	QY		1986	09	02.21701	22	37	43.78	-13	53	49.4	3 809
1986	QY		1986	09	02.22187	22	37	43.49	-13	53	50.2	3 809
1986	QY		1986	09	02.22674	22	37	43.23	-13	53	51.1	3 809
1986	QY		1986	09	03.31076	22	36	44.69	-13	57	43.4	3 809
1986	QY		1986	09	03.31562	22	36	44.41	-13	57	44.5	3 809
1986	QY		1986	09	03.32049	22	36	44.15	-13	57	45.5	3 809
1986	QY		1986	09	04.24132	22	35	54.70	-14	01	00.0	3 809
1986	QY		1986	09	04.24618	22	35	54.45	-14	01	00.9	3 809
1986	QY		1986	09	04.25104	22	35	54.20	-14	01	01.9	3 809
1986	QY		1986	09	05.34305	22	34	55.30	-14	04	46.6	3 809
1986	QY		1986	09	05.34826	22	34	55.03	-14	04	47.8	3 809
1986	QY		1986	09	05.35312	22	34	54.77	-14	04	49.0	3 809
1986	QY		1986	09	05.37674	22	34	53.46	-14	04	53.3	3 809
1986	QY		1986	09	05.38160	22	34	53.21	-14	04	54.3	3 809
1986	QY		1986	09	05.38646	22	34	52.95	-14	04	55.3	3 809
1986	QY		1986	09	06.30937	22	34	03.59	-14	08	00.5	3 809
1986	QY		1986	09	06.31424	22	34	03.33	-14	08	01.6	3 809
1986	QY		1986	09	06.31910	22	34	03.06	-14	08	02.5	3 809
1986	QY		1986	09	07.23437	22	33	14.38	-14	11	02.8	3 809
1986	QY		1986	09	07.23900	22	33	14.13	-14	11	03.8	3 809
1986	QY		1986	09	07.24386	22	33	13.86	-14	11	04.8	3 809
1986	QY		1986	09	07.27674	22	33	12.06	-14	11	10.9	3 809
1986	QY		1986	09	07.28160	22	33	11.80	-14	11	11.9	3 809
1986	QY		1986	09	07.28646	22	33	11.53	-14	11	12.8	3 809
1986	QY		1986	09	09.18507	22	31	31.30	-14	17	10.5	3 809
1986	QY		1986	09	09.18993	22	31	31.05	-14	17	11.5	3 809
1986	QY		1986	09	09.19479	22	31	30.79	-14	17	12.5	3 809
1986	QZ	*	1986	08	26.17778	22	45	04.81	-13	41	16.7	15.8 3 809
1986	QZ		1986	08	26.18333	22	45	04.51	-13	41	19.5	3 809
1986	QZ		1986	08	26.18889	22	45	04.27	-13	41	22.3	3 809
1986	QZ		1986	08	27.11181	22	44	23.67	-13	49	09.6	3 809
1986	QZ		1986	08	27.11736	22	44	23.43	-13	49	12.7	3 809
1986	QZ		1986	08	27.12291	22	44	23.18	-13	49	15.2	3 809
1986	QZ		1986	08	29.21042	22	42	48.51	-14	06	44.9	3 809
1986	QZ		1986	08	29.21597	22	42	48.23	-14	06	47.7	3 809
1986	QZ		1986	08	29.22153	22	42	47.92	-14	06	50.5	3 809
1986	QZ		1986	09	01.16215	22	40	32.36	-14	30	53.5	3 809
1986	QZ		1986	09	01.16701	22	40	32.13	-14	30	56.0	3 809
1986	QZ		1986	09	01.17187	22	40	31.91	-14	30	58.3	3 809
1986	QZ		1986	09	02.21701	22	39	43.06	-14	39	17.1	3 809
1986	QZ		1986	09	02.22187	22	39	42.84	-14	39	19.4	3 809
1986	QZ		1986	09	02.22674	22	39	42.60	-14	39	21.7	3 809
1986	QZ		1986	09	03.31076	22	38	51.82	-14	47	48.5	3 809
1986	QZ		1986	09	03.31562	22	38	51.60	-14	47	50.9	3 809
1986	QZ		1986	09	03.32049	22	38	51.37	-14	47	53.2	3 809
1986	QZ		1986	09	04.24132	22	38	08.93	-14	54	57.4	3 809
1986	QZ		1986	09	04.24618	22	38	08.70	-14	54	59.6	3 809
1986	QZ		1986	09	04.25104	22	38	08.47	-14	55	01.8	3 809
1986	QZ		1986	09	05.34305	22	37	17.81	-15	03	12.4	3 809
1986	QZ		1986	09	05.34826	22	37	17.57	-15	03	15.1	3 809
1986	QZ		1986	09	05.35312	22	37	17.35	-15	03	17.5	3 809
1986	QZ		1986	09	06.30937	22	36	33.65	-15	10	18.0	3 809
1986	QZ		1986	09	06.31424	22	36	33.43	-15	10	20.0	3 809
1986	QZ		1986	09	06.31910	22	36	33.21	-15	10	22.2	3 809
1986	QZ		1986	09	07.23437	22	35	52.02	-15	16	55.0	3 809
1986	QZ		1986	09	07.23900	22	35	51.80	-15	16	56.9	3 809
1986	QZ		1986	09	07.24386	22	35	51.57	-15	16	59.2	3 809

1986	QZ		1986	09	09.18507	22	34	25.68	-15	30	18.7	3 809
1986	QZ		1986	09	09.18993	22	34	25.46	-15	30	20.7	3 809
1986	QZ		1986	09	09.19479	22	34	25.24	-15	30	22.7	3 809
1986	QZ		1986	09	11.28576	22	32	55.42	-15	43	47.8	3 809
1986	QZ		1986	09	11.29062	22	32	55.23	-15	43	49.6	3 809
1986	QZ		1986	09	11.29549	22	32	55.00	-15	43	51.6	3 809
1986	QZ		1986	09	14.35798	22	30	51.99	-16	01	36.5	3 809
1986	QZ		1986	09	14.36285	22	30	51.79	-16	01	37.9	3 809
1986	QZ		1986	09	14.36771	22	30	51.60	-16	01	39.7	3 809
1986	QA1	*	1986	08	26.17778	22	45	17.76	-13	23	34.9	17.6 3 809
1986	QA1		1986	08	26.18333	22	45	17.48	-13	23	36.5	3 809
1986	QA1		1986	08	26.18889	22	45	17.20	-13	23	38.1	3 809
1986	QA1		1986	08	27.11181	22	44	30.19	-13	28	10.4	3 809
1986	QA1		1986	08	27.11736	22	44	29.90	-13	28	12.0	3 809
1986	QA1		1986	08	27.12291	22	44	29.62	-13	28	13.5	3 809
1986	QA1		1986	08	29.21042	22	42	41.79	-13	38	24.7	3 809
1986	QA1		1986	08	29.21597	22	42	41.52	-13	38	26.4	3 809
1986	QA1		1986	08	29.22153	22	42	41.22	-13	38	27.9	3 809
1986	QA1		1986	09	02.21701	22	39	13.16	-13	57	18.3	3 809
1986	QA1		1986	09	02.22187	22	39	12.91	-13	57	19.6	3 809
1986	QA1		1986	09	02.22674	22	39	12.64	-13	57	20.8	3 809
1986	QA1		1986	09	04.24132	22	37	27.70	-14	06	26.8	3 809
1986	QA1		1986	09	04.24618	22	37	27.46	-14	06	28.2	3 809
1986	QA1		1986	09	04.25104	22	37	27.20	-14	06	29.7	3 809
1986	QA1		1986	09	05.34305	22	36	30.44	-14	11	16.6	3 809
1986	QA1		1986	09	05.34826	22	36	30.17	-14	11	17.9	3 809
1986	QA1		1986	09	05.35312	22	36	29.90	-14	11	19.2	3 809
1986	QA1		1986	09	06.30937	22	35	40.66	-14	15	26.4	3 809
1986	QA1		1986	09	06.31424	22	35	40.39	-14	15	27.6	3 809
1986	QA1		1986	09	06.31910	22	35	40.16	-14	15	28.9	3 809
1986	QA1		1986	09	07.23437	22	34	53.28	-14	19	19.9	3 809
1986	QA1		1986	09	07.23900	22	34	53.03	-14	19	20.9	3 809
1986	QA1		1986	09	07.24386	22	34	52.78	-14	19	22.0	3 809
1986	QA1		1986	09	07.27674	22	34	51.03	-14	19	30.4	3 809
1986	QA1		1986	09	07.28160	22	34	50.78	-14	19	31.6	3 809
1986	QA1		1986	09	07.28646	22	34	50.53	-14	19	32.8	3 809
1986	QA1		1986	09	11.28576	22	31	29.60	-14	35	19.9	3 809
1986	QA1		1986	09	11.29062	22	31	29.37	-14	35	21.0	3 809
1986	QA1		1986	09	11.29549	22	31	29.14	-14	35	22.2	3 809
1986	QB1	*	1986	08	26.17778	22	45	22.59	-13	20	00.7	16.0 3 809
1986	QB1		1986	08	26.18333	22	45	22.33	-13	20	02.3	3 809
1986	QB1		1986	08	26.18889	22	45	22.06	-13	20	04.1	3 809
1986	QB1		1986	08	27.11181	22	44	37.94	-13	24	26.8	3 809
1986	QB1		1986	08	27.11736	22	44	37.67	-13	24	28.6	3 809
1986	QB1		1986	08	27.12291	22	44	37.40	-13	24	30.3	3 809
1986	QB1		1986	08	29.21042	22	42	56.25	-13	34	20.8	3 809
1986	QB1		1986	08	29.21597	22	42	55.96	-13	34	22.4	3 809
1986	QB1		1986	08	29.22153	22	42	55.67	-13	34	24.1	3 809
1986	QB1		1986	09	01.16215	22	40	32.17	-13	47	56.6	3 809
1986	QB1		1986	09	01.16701	22	40	31.91	-13	47	58.1	3 809
1986	QB1		1986	09	01.17187	22	40	31.65	-13	47	59.8	3 809
1986	QB1		1986	09	02.21701	22	39	40.42	-13	52	40.7	3 809
1986	QB1		1986	09	02.22187	22	39	40.18	-13	52	42.0	3 809
1986	QB1		1986	09	02.22674	22	39	39.95	-13	52	43.0	3 809
1986	QB1		1986	09	03.31076	22	38	46.69	-13	57	30.9	3 809
1986	QB1		1986	09	03.31562	22	38	46.44	-13	57	32.2	3 809
1986	QB1		1986	09	03.32049	22	38	46.24	-13	57	33.3	3 809
1986	QB1		1986	09	04.24132	22	38	01.40	-14	01	34.0	3 809
1986	QB1		1986	09	04.24618	22	38	01.15	-14	01	35.5	3 809

1986	QB1		1986	09	04.25104	22	38	00.92	-14	01	36.6	3 809
1986	QB1		1986	09	05.34305	22	37	07.55	-14	06	16.4	3 809
1986	QB1		1986	09	05.34826	22	37	07.29	-14	06	17.5	3 809
1986	QB1		1986	09	05.35312	22	37	07.05	-14	06	18.9	3 809
1986	QB1		1986	09	05.37674	22	37	05.90	-14	06	24.4	3 809
1986	QB1		1986	09	05.38160	22	37	05.65	-14	06	25.8	3 809
1986	QB1		1986	09	05.38646	22	37	05.40	-14	06	27.1	3 809
1986	QB1		1986	09	06.30937	22	36	20.72	-14	10	18.8	3 809
1986	QB1		1986	09	06.31424	22	36	20.49	-14	10	19.9	3 809
1986	QB1		1986	09	06.31910	22	36	20.26	-14	10	21.1	3 809
1986	QB1		1986	09	06.32465	22	36	20.04	-14	10	22.5	3 809
1986	QB1		1986	09	06.32951	22	36	19.80	-14	10	23.8	3 809
1986	QB1		1986	09	06.33437	22	36	19.54	-14	10	25.0	3 809
1986	QB1		1986	09	07.23437	22	35	36.19	-14	14	07.4	3 809
1986	QB1		1986	09	07.23900	22	35	35.95	-14	14	08.2	3 809
1986	QB1		1986	09	07.24386	22	35	35.74	-14	14	09.7	3 809
1986	QB1		1986	09	07.27674	22	35	34.13	-14	14	17.1	3 809
1986	QB1		1986	09	07.28160	22	35	33.90	-14	14	18.3	3 809
1986	QB1		1986	09	07.28646	22	35	33.65	-14	14	19.5	3 809
1986	QB1		1986	09	09.18507	22	34	03.22	-14	21	52.4	3 809
1986	QB1		1986	09	09.18993	22	34	02.97	-14	21	53.6	3 809
1986	QB1		1986	09	09.19479	22	34	02.74	-14	21	54.9	3 809
1986	QB1		1986	09	11.28576	22	32	24.61	-14	29	46.1	3 809
1986	QB1		1986	09	11.29062	22	32	24.39	-14	29	47.2	3 809
1986	QB1		1986	09	11.29549	22	32	24.16	-14	29	48.0	3 809
1986	QB1		1986	09	14.35798	22	30	05.12	-14	40	28.2	3 809
1986	QB1		1986	09	14.36285	22	30	04.90	-14	40	29.1	3 809
1986	QB1		1986	09	14.36771	22	30	04.68	-14	40	30.2	3 809
1986	QC1	*	1986	08	26.17778	22	47	54.69	-13	35	19.6	17.0 3 809
1986	QC1		1986	08	26.18333	22	47	54.42	-13	35	21.6	3 809
1986	QC1		1986	08	26.18889	22	47	54.16	-13	35	23.4	3 809
1986	QC1		1986	08	27.11181	22	47	10.07	-13	41	01.1	3 809
1986	QC1		1986	08	27.11736	22	47	09.79	-13	41	02.7	3 809
1986	QC1		1986	08	27.12291	22	47	09.52	-13	41	04.7	3 809
1986	QC1		1986	08	29.21042	22	45	28.28	-13	53	40.0	3 809
1986	QC1		1986	08	29.21597	22	45	28.00	-13	53	41.9	3 809
1986	QC1		1986	08	29.22153	22	45	27.71	-13	53	44.2	3 809
1986	QC1		1986	09	01.16215	22	43	03.96	-14	11	02.6	3 809
1986	QC1		1986	09	01.16701	22	43	03.71	-14	11	04.7	3 809
1986	QC1		1986	09	01.17187	22	43	03.46	-14	11	06.5	3 809
1986	QC1		1986	09	02.21701	22	42	12.05	-14	17	07.1	3 809
1986	QC1		1986	09	02.22187	22	42	11.83	-14	17	08.4	3 809
1986	QC1		1986	09	02.22674	22	42	11.59	-14	17	09.9	3 809
1986	QC1		1986	09	03.31076	22	41	18.25	-14	23	17.6	3 809
1986	QC1		1986	09	03.31562	22	41	18.01	-14	23	19.3	3 809
1986	QC1		1986	09	03.32049	22	41	17.76	-14	23	20.9	3 809
1986	QC1		1986	09	04.24132	22	40	32.84	-14	28	29.6	3 809
1986	QC1		1986	09	04.24618	22	40	32.58	-14	28	31.4	3 809
1986	QC1		1986	09	04.25104	22	40	32.33	-14	28	32.7	3 809
1986	QC1		1986	09	05.34305	22	39	38.94	-14	34	30.3	3 809
1986	QC1		1986	09	05.34826	22	39	38.69	-14	34	32.0	3 809
1986	QC1		1986	09	05.35312	22	39	38.44	-14	34	33.4	3 809
1986	QC1		1986	09	06.30937	22	38	52.10	-14	39	41.4	3 809
1986	QC1		1986	09	06.31424	22	38	51.86	-14	39	43.2	3 809
1986	QC1		1986	09	06.31910	22	38	51.62	-14	39	44.8	3 809
1986	QC1		1986	09	07.23437	22	38	07.60	-14	44	34.5	3 809
1986	QC1		1986	09	07.23900	22	38	07.38	-14	44	35.9	3 809
1986	QC1		1986	09	07.24386	22	38	07.14	-14	44	37.4	3 809
1986	QC1		1986	09	09.18507	22	36	34.69	-14	54	30.9	3 809

1986	QC1		1986	09	09.18993	22	36	34.46	-14	54	32.2	3 809
1986	QC1		1986	09	09.19479	22	36	34.23	-14	54	33.7	3 809
1986	QC1		1986	09	11.28576	22	34	56.45	-15	04	41.6	3 809
1986	QC1		1986	09	11.29062	22	34	56.22	-15	04	43.0	3 809
1986	QC1		1986	09	11.29549	22	34	55.97	-15	04	44.3	3 809
1986	QD1	*	1986	08	26.17778	22	48	52.76	-14	37	20.7	17.5 3 809
1986	QD1		1986	08	26.18333	22	48	52.49	-14	37	24.7	3 809
1986	QD1		1986	08	26.18889	22	48	52.22	-14	37	28.9	3 809
1986	QD1		1986	08	27.11181	22	48	10.40	-14	48	28.2	3 809
1986	QD1		1986	08	27.11736	22	48	10.15	-14	48	32.1	3 809
1986	QD1		1986	08	27.12291	22	48	09.89	-14	48	35.9	3 809
1986	QD1		1986	08	29.21042	22	46	32.03	-15	13	25.5	3 809
1986	QD1		1986	08	29.21597	22	46	31.75	-15	13	29.4	3 809
1986	QD1		1986	08	29.22153	22	46	31.51	-15	13	33.5	3 809
1986	QD1		1986	09	01.16215	22	44	09.93	-15	48	10.8	3 809
1986	QD1		1986	09	01.16701	22	44	09.70	-15	48	14.3	3 809
1986	QD1		1986	09	01.17187	22	44	09.46	-15	48	17.8	3 809
1986	QD1		1986	09	02.23229	22	43	17.25	-16	00	36.8	3 809
1986	QD1		1986	09	02.23715	22	43	17.03	-16	00	40.2	3 809
1986	QD1		1986	09	02.24201	22	43	16.81	-16	00	43.5	3 809
1986	QD1		1986	09	05.14549	22	40	53.84	-16	33	48.7	3 809
1986	QD1		1986	09	05.15035	22	40	53.60	-16	33	52.0	3 809
1986	QD1		1986	09	05.15521	22	40	53.37	-16	33	55.3	3 809
1986	QD1		1986	09	09.20104	22	37	34.81	-17	17	50.0	3 809
1986	QD1		1986	09	09.20799	22	37	34.47	-17	17	54.6	3 809
1986	QD1		1986	09	09.22049	22	37	33.82	-17	18	02.9	3 809
1986	QD1		1986	09	11.30312	22	35	53.98	-17	39	23.5	3 809
1986	QD1		1986	09	11.30799	22	35	53.76	-17	39	26.4	3 809
1986	QD1		1986	09	11.31285	22	35	53.52	-17	39	29.3	3 809
1986	QE1	*	1986	08	26.17778	22	50	40.67	-13	49	03.9	16.9 3 809
1986	QE1		1986	08	26.18333	22	50	40.35	-13	49	05.9	3 809
1986	QE1		1986	08	26.18889	22	50	40.08	-13	49	07.8	3 809
1986	QE1		1986	08	27.11181	22	49	53.85	-13	54	33.8	3 809
1986	QE1		1986	08	27.11736	22	49	53.55	-13	54	35.8	3 809
1986	QE1		1986	08	27.12291	22	49	53.26	-13	54	37.8	3 809
1986	QE1		1986	08	29.21042	22	48	05.86	-14	06	46.0	3 809
1986	QE1		1986	08	29.21597	22	48	05.56	-14	06	48.0	3 809
1986	QE1		1986	08	29.22153	22	48	05.27	-14	06	50.2	3 809
1986	QE1		1986	09	01.16215	22	45	31.44	-14	23	19.2	3 809
1986	QE1		1986	09	01.16701	22	45	31.18	-14	23	20.8	3 809
1986	QE1		1986	09	01.17187	22	45	30.92	-14	23	22.5	3 809
1986	QE1		1986	09	02.21701	22	44	35.57	-14	29	00.2	3 809
1986	QE1		1986	09	02.22187	22	44	35.32	-14	29	01.7	3 809
1986	QE1		1986	09	02.22674	22	44	35.06	-14	29	03.2	3 809
1986	QE1		1986	09	03.31076	22	43	37.53	-14	34	44.9	3 809
1986	QE1		1986	09	03.31562	22	43	37.26	-14	34	46.4	3 809
1986	QE1		1986	09	03.32049	22	43	36.98	-14	34	47.9	3 809
1986	QE1		1986	09	04.24132	22	42	48.71	-14	39	31.6	3 809
1986	QE1		1986	09	04.24618	22	42	48.45	-14	39	33.1	3 809
1986	QE1		1986	09	04.25104	22	42	48.20	-14	39	34.5	3 809
1986	QE1		1986	09	05.34305	22	41	50.55	-14	45	00.6	3 809
1986	QE1		1986	09	05.34826	22	41	50.26	-14	45	02.1	3 809
1986	QE1		1986	09	05.35312	22	41	50.00	-14	45	03.5	3 809
1986	QE1		1986	09	06.30937	22	41	00.19	-14	49	39.8	3 809
1986	QE1		1986	09	06.31424	22	40	59.92	-14	49	41.1	3 809
1986	QE1		1986	09	06.31910	22	40	59.66	-14	49	42.4	3 809
1986	QE1		1986	09	07.23437	22	40	12.53	-14	53	59.2	3 809
1986	QE1		1986	09	07.23900	22	40	12.26	-14	54	00.5	3 809
1986	QE1		1986	09	07.24386	22	40	12.00	-14	54	01.8	3 809

1986	QE1		1986	09	09.18507	22	38	33.21	-15	02	36.7	3 809
1986	QE1		1986	09	09.18993	22	38	32.97	-15	02	37.8	3 809
1986	QE1		1986	09	09.19479	22	38	32.71	-15	02	39.2	3 809
1986	QE1		1986	09	11.28576	22	36	48.82	-15	11	04.4	3 809
1986	QE1		1986	09	11.29062	22	36	48.57	-15	11	05.3	3 809
1986	QE1		1986	09	11.29549	22	36	48.32	-15	11	06.2	3 809
1986	QE1		1986	09	14.35798	22	34	23.98	-15	21	49.0	3 809
1986	QE1		1986	09	14.36285	22	34	23.76	-15	21	49.7	3 809
1986	QE1		1986	09	14.36771	22	34	23.54	-15	21	50.7	3 809
1986	QF1	*	1986	08	26.17778	22	51	04.24	-13	41	16.1	17.0 3 809
1986	QF1		1986	08	26.18333	22	51	03.91	-13	41	17.1	3 809
1986	QF1		1986	08	26.18889	22	51	03.59	-13	41	18.3	3 809
1986	QF1		1986	08	27.11181	22	50	08.29	-13	43	58.5	3 809
1986	QF1		1986	08	27.11736	22	50	07.95	-13	43	59.6	3 809
1986	QF1		1986	08	27.12291	22	50	07.63	-13	44	00.7	3 809
1986	QF1		1986	08	29.21042	22	47	59.40	-13	49	57.1	3 809
1986	QF1		1986	08	29.21597	22	47	59.05	-13	49	58.3	3 809
1986	QF1		1986	08	29.22153	22	47	58.71	-13	49	59.3	3 809
1986	QF1		1986	08	31.35660	22	45	44.99	-13	55	43.9	3 809
1986	QF1		1986	08	31.36146	22	45	44.67	-13	55	44.6	3 809
1986	QF1		1986	08	31.36632	22	45	44.36	-13	55	45.3	3 809
1986	QF1		1986	09	01.16215	22	44	54.74	-13	57	48.6	3 809
1986	QF1		1986	09	01.16701	22	44	54.41	-13	57	49.2	3 809
1986	QF1		1986	09	01.17187	22	44	54.08	-13	57	49.8	3 809
1986	QF1		1986	09	01.26076	22	44	48.18	-13	58	03.9	3 809
1986	QF1		1986	09	01.26562	22	44	47.87	-13	58	04.4	3 809
1986	QF1		1986	09	01.27048	22	44	47.55	-13	58	05.0	3 809
1986	QF1		1986	09	01.31354	22	44	44.67	-13	58	11.5	3 809
1986	QF1		1986	09	01.31840	22	44	44.38	-13	58	12.3	3 809
1986	QF1		1986	09	01.32326	22	44	44.09	-13	58	13.0	3 809
1986	QF1		1986	09	02.21701	22	43	47.80	-14	00	26.4	3 809
1986	QF1		1986	09	02.22187	22	43	47.48	-14	00	26.9	3 809
1986	QF1		1986	09	02.22674	22	43	47.15	-14	00	27.6	3 809
1986	QF1		1986	09	03.31076	22	42	38.18	-14	03	01.9	3 809
1986	QF1		1986	09	03.31562	22	42	37.87	-14	03	02.4	3 809
1986	QF1		1986	09	03.32049	22	42	37.56	-14	03	03.1	3 809
1986	QF1		1986	09	04.24132	22	41	39.31	-14	05	09.0	3 809
1986	QF1		1986	09	04.24618	22	41	38.98	-14	05	09.5	3 809
1986	QF1		1986	09	04.25104	22	41	38.66	-14	05	10.1	3 809
1986	QF1		1986	09	05.34305	22	40	29.24	-14	07	29.6	3 809
1986	QF1		1986	09	05.34826	22	40	28.91	-14	07	30.1	3 809
1986	QF1		1986	09	05.35312	22	40	28.59	-14	07	30.6	3 809
1986	QF1		1986	09	05.37674	22	40	27.05	-14	07	33.2	3 809
1986	QF1		1986	09	05.38160	22	40	26.74	-14	07	33.6	3 809
1986	QF1		1986	09	05.38646	22	40	26.42	-14	07	34.3	3 809
1986	QF1		1986	09	06.30937	22	39	28.28	-14	09	26.4	3 809
1986	QF1		1986	09	06.31424	22	39	27.96	-14	09	26.9	3 809
1986	QF1		1986	09	06.31910	22	39	27.64	-14	09	27.6	3 809
1986	QF1		1986	09	06.32465	22	39	27.33	-14	09	27.8	3 809
1986	QF1		1986	09	06.32951	22	39	27.00	-14	09	28.3	3 809
1986	QF1		1986	09	06.33437	22	39	26.71	-14	09	28.7	3 809
1986	QF1		1986	09	07.23437	22	38	30.34	-14	11	11.2	3 809
1986	QF1		1986	09	07.23900	22	38	30.03	-14	11	11.6	3 809
1986	QF1		1986	09	07.24386	22	38	29.72	-14	11	12.2	3 809
1986	QF1		1986	09	07.27674	22	38	27.54	-14	11	15.5	3 809
1986	QF1		1986	09	07.28160	22	38	27.24	-14	11	15.9	3 809
1986	QF1		1986	09	07.28646	22	38	26.95	-14	11	16.5	3 809
1986	QF1		1986	09	09.18507	22	36	29.14	-14	14	28.0	3 809
1986	QF1		1986	09	09.18993	22	36	28.84	-14	14	28.3	3 809

1986	QF1		1986	09	09.19479	22	36	28.53	-14	14	28.8	3 809
1986	QF1		1986	09	09.22674	22	36	26.43	-14	14	30.7	3 809
1986	QF1		1986	09	09.23160	22	36	26.11	-14	14	31.2	3 809
1986	QF1		1986	09	09.23646	22	36	25.80	-14	14	31.7	3 809
1986	QG1	*	1986	08	26.17778	22	51	08.94	-13	25	41.3	17.6 3 809
1986	QG1		1986	08	26.18333	22	51	08.65	-13	25	43.7	3 809
1986	QG1		1986	08	26.18889	22	51	08.35	-13	25	46.1	3 809
1986	QG1		1986	08	27.11181	22	50	19.16	-13	32	36.5	3 809
1986	QG1		1986	08	27.11736	22	50	18.85	-13	32	39.2	3 809
1986	QG1		1986	08	27.12291	22	50	18.54	-13	32	41.4	3 809
1986	QG1		1986	08	29.21042	22	48	25.13	-13	48	02.2	3 809
1986	QG1		1986	08	29.21597	22	48	24.83	-13	48	04.7	3 809
1986	QG1		1986	08	29.22153	22	48	24.53	-13	48	07.1	3 809
1986	QG1		1986	09	01.16215	22	45	42.76	-14	09	18.4	3 809
1986	QG1		1986	09	01.16701	22	45	42.46	-14	09	20.8	3 809
1986	QG1		1986	09	01.17187	22	45	42.20	-14	09	22.9	3 809
1986	QG1		1986	09	01.26076	22	45	37.11	-14	10	01.3	3 809
1986	QG1		1986	09	01.26562	22	45	36.84	-14	10	03.4	3 809
1986	QG1		1986	09	01.27048	22	45	36.57	-14	10	05.6	3 809
1986	QG1		1986	09	01.31354	22	45	34.03	-14	10	22.2	3 809
1986	QG1		1986	09	01.31840	22	45	33.76	-14	10	24.4	3 809
1986	QG1		1986	09	01.32326	22	45	33.49	-14	10	26.5	3 809
1986	QG1		1986	09	04.24132	22	42	51.93	-14	30	43.7	3 809
1986	QG1		1986	09	04.24618	22	42	51.66	-14	30	45.8	3 809
1986	QG1		1986	09	04.25104	22	42	51.39	-14	30	47.9	3 809
1986	QG1		1986	09	07.23437	22	40	07.13	-14	50	33.3	3 809
1986	QG1		1986	09	07.23900	22	40	06.90	-14	50	35.2	3 809
1986	QG1		1986	09	07.24386	22	40	06.65	-14	50	37.1	3 809
1986	QH1	*	1986	08	27.09097	22	25	34.42	-13	32	21.4	17.3 3 809
1986	QH1		1986	08	27.09653	22	25	34.11	-13	32	21.2	3 809
1986	QH1		1986	08	27.10208	22	25	33.80	-13	32	21.0	3 809
1986	QH1		1986	08	28.21042	22	24	31.47	-13	31	58.6	3 809
1986	QH1		1986	08	28.21597	22	24	31.15	-13	31	58.4	3 809
1986	QH1		1986	08	28.22153	22	24	30.83	-13	31	58.3	3 809
1986	QH1		1986	08	29.19167	22	23	36.44	-13	31	34.8	3 809
1986	QH1		1986	08	29.19722	22	23	36.12	-13	31	34.7	3 809
1986	QH1		1986	08	29.20278	22	23	35.80	-13	31	34.5	3 809
1986	QH1		1986	09	01.12882	22	20	52.32	-13	30	08.8	3 809
1986	QH1		1986	09	01.13403	22	20	52.01	-13	30	08.7	3 809
1986	QH1		1986	09	01.13923	22	20	51.72	-13	30	08.5	3 809
1986	QH1		1986	09	02.34549	22	19	44.39	-13	29	24.7	3 809
1986	QH1		1986	09	02.35035	22	19	44.13	-13	29	24.4	3 809
1986	QH1		1986	09	02.35521	22	19	43.84	-13	29	24.3	3 809
1986	QH1		1986	09	03.29259	22	18	52.12	-13	28	46.0	3 809
1986	QH1		1986	09	03.29676	22	18	51.89	-13	28	45.8	3 809
1986	QH1		1986	09	03.30092	22	18	51.67	-13	28	45.6	3 809
1986	QH1		1986	09	04.19410	22	18	02.82	-13	28	07.0	3 809
1986	QH1		1986	09	04.19896	22	18	02.54	-13	28	07.2	3 809
1986	QH1		1986	09	04.20382	22	18	02.27	-13	28	07.0	3 809
1986	QH1		1986	09	05.30799	22	17	01.95	-13	27	15.0	3 809
1986	QH1		1986	09	05.31285	22	17	01.67	-13	27	14.9	3 809
1986	QH1		1986	09	05.31771	22	17	01.41	-13	27	14.5	3 809
1986	QH1		1986	09	06.22951	22	16	12.32	-13	26	27.8	3 809
1986	QH1		1986	09	06.23437	22	16	12.05	-13	26	27.1	3 809
1986	QH1		1986	09	06.23924	22	16	11.80	-13	26	26.5	3 809
1986	QH1		1986	09	06.27674	22	16	09.71	-13	26	24.6	3 809
1986	QH1		1986	09	06.28160	22	16	09.40	-13	26	24.4	3 809
1986	QH1		1986	09	06.28646	22	16	09.14	-13	26	24.1	3 809
1986	QH1		1986	09	07.20035	22	15	20.41	-13	25	34.0	3 809

1986	QH1		1986	09	07.20521	22	15	20.15	-13	25	33.6	3 809
1986	QH1		1986	09	07.21042	22	15	19.86	-13	25	33.3	3 809
1986	QH1		1986	09	09.11840	22	13	39.60	-13	23	35.8	3 809
1986	QH1		1986	09	09.12326	22	13	39.37	-13	23	35.3	3 809
1986	QH1		1986	09	09.12812	22	13	39.12	-13	23	34.9	3 809
1986	QJ1	*	1986	08	27.13194	22	34	36.51	-12	38	45.7	17.0 3 809
1986	QJ1		1986	08	27.13750	22	34	36.29	-12	38	49.7	3 809
1986	QJ1		1986	08	27.14305	22	34	36.07	-12	38	53.5	3 809
1986	QJ1		1986	08	28.23472	22	33	53.12	-12	52	54.0	3 809
1986	QJ1		1986	08	28.24028	22	33	52.89	-12	52	58.2	3 809
1986	QJ1		1986	08	28.24583	22	33	52.67	-12	53	02.4	3 809
1986	QJ1		1986	09	01.14479	22	31	19.16	-13	42	27.4	3 809
1986	QJ1		1986	09	01.14965	22	31	18.95	-13	42	31.0	3 809
1986	QJ1		1986	09	01.15451	22	31	18.75	-13	42	34.8	3 809
1986	QJ1		1986	09	02.20035	22	30	37.40	-13	55	36.7	3 809
1986	QJ1		1986	09	02.20521	22	30	37.21	-13	55	40.4	3 809
1986	QJ1		1986	09	02.21007	22	30	37.01	-13	55	43.9	3 809
1986	QJ1		1986	09	04.22292	22	29	18.24	-14	20	27.2	3 809
1986	QJ1		1986	09	04.22778	22	29	18.07	-14	20	30.6	3 809
1986	QJ1		1986	09	04.23298	22	29	17.88	-14	20	34.3	3 809
1986	QK1	*	1986	08	27.13194	22	37	05.01	-12	56	15.4	16.6 3 809
1986	QK1		1986	08	27.13750	22	37	04.76	-12	56	17.0	3 809
1986	QK1		1986	08	27.14305	22	37	04.52	-12	56	18.7	3 809
1986	QK1		1986	08	28.23472	22	36	16.09	-13	01	33.6	3 809
1986	QK1		1986	08	28.24028	22	36	15.84	-13	01	35.2	3 809
1986	QK1		1986	08	28.24583	22	36	15.59	-13	01	37.1	3 809
1986	QK1		1986	09	01.14479	22	33	21.48	-13	20	04.3	3 809
1986	QK1		1986	09	01.14965	22	33	21.25	-13	20	05.9	3 809
1986	QK1		1986	09	01.15451	22	33	21.02	-13	20	07.4	3 809
1986	QK1		1986	09	02.20035	22	32	34.05	-13	24	57.3	3 809
1986	QK1		1986	09	02.20521	22	32	33.81	-13	24	59.0	3 809
1986	QK1		1986	09	02.21007	22	32	33.59	-13	25	00.2	3 809
1986	QK1		1986	09	04.22292	22	31	03.33	-13	34	10.7	3 809
1986	QK1		1986	09	04.22778	22	31	03.11	-13	34	11.9	3 809
1986	QK1		1986	09	04.23298	22	31	02.88	-13	34	13.4	3 809
1986	QK1		1986	09	05.32396	22	30	14.13	-13	39	03.8	3 809
1986	QK1		1986	09	05.32951	22	30	13.87	-13	39	05.3	3 809
1986	QK1		1986	09	05.33507	22	30	13.63	-13	39	06.8	3 809
1986	QK1		1986	09	07.21840	22	28	50.38	-13	47	20.2	3 809
1986	QK1		1986	09	07.22326	22	28	50.16	-13	47	21.4	3 809
1986	QK1		1986	09	07.22813	22	28	49.94	-13	47	22.4	3 809
1986	QK1		1986	09	08.34618	22	28	00.80	-13	52	06.8	3 809
1986	QK1		1986	09	08.35104	22	28	00.58	-13	52	08.0	3 809
1986	QK1		1986	09	08.35590	22	28	00.37	-13	52	09.1	3 809
1986	QK1		1986	09	09.13438	22	27	26.76	-13	55	24.2	3 809
1986	QK1		1986	09	09.13923	22	27	26.56	-13	55	25.4	3 809
1986	QK1		1986	09	09.14410	22	27	26.34	-13	55	26.5	3 809
1986	QK1		1986	09	11.14896	22	26	00.33	-14	03	32.8	3 809
1986	QK1		1986	09	11.15382	22	26	00.13	-14	03	34.0	3 809
1986	QK1		1986	09	11.15868	22	25	59.94	-14	03	35.0	3 809
1986	QK1		1986	09	11.23021	22	25	56.77	-14	03	52.6	3 809
1986	QK1		1986	09	11.23576	22	25	56.53	-14	03	53.9	3 809
1986	QK1		1986	09	11.24062	22	25	56.30	-14	03	55.3	3 809
1986	QL1	*	1986	08	27.13194	22	39	59.77	-13	36	05.3	17.2 3 809
1986	QL1		1986	08	27.13750	22	39	59.45	-13	36	06.7	3 809
1986	QL1		1986	08	27.14305	22	39	59.14	-13	36	08.1	3 809
1986	QL1		1986	08	28.23472	22	38	57.29	-13	40	32.8	3 809
1986	QL1		1986	08	28.24028	22	38	56.97	-13	40	34.2	3 809
1986	QL1		1986	08	28.24583	22	38	56.66	-13	40	35.6	3 809

1986	QL1		1986	09	01.14479	22	35	14.40	-13	55	56.3	3 809
1986	QL1		1986	09	01.14965	22	35	14.10	-13	55	57.5	3 809
1986	QL1		1986	09	01.15451	22	35	13.82	-13	55	58.8	3 809
1986	QL1		1986	09	02.20035	22	34	13.76	-13	59	57.7	3 809
1986	QL1		1986	09	02.20521	22	34	13.49	-13	59	58.9	3 809
1986	QL1		1986	09	02.21007	22	34	13.21	-14	00	00.1	3 809
1986	QL1		1986	09	04.22292	22	32	17.87	-14	07	25.4	3 809
1986	QL1		1986	09	04.22778	22	32	17.59	-14	07	26.6	3 809
1986	QL1		1986	09	04.23298	22	32	17.29	-14	07	27.7	3 809
1986	QL1		1986	09	05.32396	22	31	14.99	-14	11	20.6	3 809
1986	QL1		1986	09	05.32951	22	31	14.66	-14	11	21.5	3 809
1986	QL1		1986	09	05.33507	22	31	14.34	-14	11	22.9	3 809
1986	QL1		1986	09	07.21840	22	29	27.83	-14	17	52.2	3 809
1986	QL1		1986	09	07.22326	22	29	27.55	-14	17	53.0	3 809
1986	QL1		1986	09	07.22813	22	29	27.25	-14	17	53.6	3 809
1986	QL1		1986	09	09.13438	22	27	40.81	-14	24	06.7	3 809
1986	QL1		1986	09	09.13923	22	27	40.54	-14	24	07.7	3 809
1986	QL1		1986	09	09.14410	22	27	40.27	-14	24	08.5	3 809
1986	QL1		1986	09	11.14896	22	25	50.01	-14	30	16.5	3 809
1986	QL1		1986	09	11.15382	22	25	49.74	-14	30	17.3	3 809
1986	QL1		1986	09	11.15868	22	25	49.48	-14	30	18.2	3 809
1986	QL1		1986	09	13.33819	22	23	52.11	-14	36	27.8	3 809
1986	QL1		1986	09	13.34236	22	23	51.89	-14	36	28.7	3 809
1986	QL1		1986	09	13.34687	22	23	51.64	-14	36	29.5	3 809
1986	QM1	*	1986	08	27.13194	22	40	10.45	-13	19	52.2	17.5 3 809
1986	QM1		1986	08	27.13750	22	40	10.20	-13	19	53.5	3 809
1986	QM1		1986	08	27.14305	22	40	09.90	-13	19	55.3	3 809
1986	QM1		1986	08	28.23472	22	39	16.29	-13	25	38.2	3 809
1986	QM1		1986	08	28.24028	22	39	16.00	-13	25	39.7	3 809
1986	QM1		1986	08	28.24583	22	39	15.71	-13	25	41.6	3 809
1986	QM1		1986	09	01.14479	22	36	04.92	-13	45	12.0	3 809
1986	QM1		1986	09	01.14965	22	36	04.66	-13	45	13.4	3 809
1986	QM1		1986	09	01.15451	22	36	04.40	-13	45	14.8	3 809
1986	QM1		1986	09	02.20035	22	35	13.20	-13	50	11.5	3 809
1986	QM1		1986	09	02.20521	22	35	12.95	-13	50	12.8	3 809
1986	QM1		1986	09	02.21007	22	35	12.70	-13	50	14.1	3 809
1986	QM1		1986	09	04.22292	22	33	35.59	-13	59	19.8	3 809
1986	QM1		1986	09	04.22778	22	33	35.34	-13	59	21.1	3 809
1986	QM1		1986	09	04.23298	22	33	35.07	-13	59	22.5	3 809
1986	QM1		1986	09	05.32396	22	32	43.06	-14	04	02.0	3 809
1986	QM1		1986	09	05.32951	22	32	42.77	-14	04	03.7	3 809
1986	QM1		1986	09	05.33507	22	32	42.48	-14	04	05.4	3 809
1986	QM1		1986	09	07.21840	22	31	15.52	-14	11	42.9	3 809
1986	QM1		1986	09	07.22326	22	31	15.28	-14	11	44.1	3 809
1986	QM1		1986	09	07.22813	22	31	15.04	-14	11	45.2	3 809
1986	QM1		1986	09	09.13438	22	29	50.10	-14	18	50.2	3 809
1986	QM1		1986	09	09.13923	22	29	49.87	-14	18	50.9	3 809
1986	QM1		1986	09	09.14410	22	29	49.64	-14	18	51.9	3 809
1986	QN1	*	1986	08	27.13194	22	40	26.49	-12	32	52.0	17.1 3 809
1986	QN1		1986	08	27.13750	22	40	26.18	-12	32	52.1	3 809
1986	QN1		1986	08	27.14305	22	40	25.86	-12	32	52.1	3 809
1986	QN1		1986	08	28.23472	22	39	23.53	-12	33	02.5	3 809
1986	QN1		1986	08	28.24028	22	39	23.20	-12	33	02.5	3 809
1986	QN1		1986	08	28.24583	22	39	22.87	-12	33	02.5	3 809
1986	QN1		1986	09	01.14479	22	35	39.27	-12	33	13.5	3 809
1986	QN1		1986	09	01.14965	22	35	38.97	-12	33	13.5	3 809
1986	QN1		1986	09	01.15451	22	35	38.67	-12	33	13.5	3 809
1986	QN1		1986	09	02.20035	22	34	38.38	-12	33	08.0	3 809
1986	QN1		1986	09	02.20521	22	34	38.11	-12	33	08.0	3 809

1986	QN1		1986	09	02.21007	22	34	37.82	-12	33	07.9	3 809
1986	QN1		1986	09	04.22292	22	32	42.34	-12	32	48.6	3 809
1986	QN1		1986	09	04.22778	22	32	42.07	-12	32	48.6	3 809
1986	QN1		1986	09	04.23298	22	32	41.76	-12	32	48.5	3 809
1986	QO1	*	1986	08	27.13194	22	40	46.21	-13	34	24.0	17.0 3 809
1986	QO1		1986	08	27.13750	22	40	45.95	-13	34	25.9	3 809
1986	QO1		1986	08	27.14305	22	40	45.72	-13	34	28.1	3 809
1986	QO1		1986	08	28.23472	22	39	55.26	-13	41	10.8	3 809
1986	QO1		1986	08	28.24028	22	39	55.01	-13	41	12.7	3 809
1986	QO1		1986	08	28.24583	22	39	54.76	-13	41	14.6	3 809
1986	QO1		1986	09	01.14479	22	36	54.15	-14	04	35.0	3 809
1986	QO1		1986	09	01.14965	22	36	53.91	-14	04	36.9	3 809
1986	QO1		1986	09	01.15451	22	36	53.68	-14	04	38.8	3 809
1986	QO1		1986	09	02.20035	22	36	05.02	-14	10	44.2	3 809
1986	QO1		1986	09	02.20521	22	36	04.79	-14	10	45.9	3 809
1986	QO1		1986	09	02.21007	22	36	04.56	-14	10	47.6	3 809
1986	QO1		1986	09	04.22292	22	34	31.68	-14	22	12.2	3 809
1986	QO1		1986	09	04.22778	22	34	31.45	-14	22	13.9	3 809
1986	QO1		1986	09	04.23298	22	34	31.22	-14	22	15.6	3 809
1986	QO1		1986	09	05.32396	22	33	41.10	-14	28	16.4	3 809
1986	QO1		1986	09	05.32951	22	33	40.84	-14	28	18.2	3 809
1986	QO1		1986	09	05.33507	22	33	40.58	-14	28	20.0	3 809
1986	QO1		1986	09	09.13438	22	30	50.87	-14	48	14.9	3 809
1986	QO1		1986	09	09.13923	22	30	50.66	-14	48	16.5	3 809
1986	QO1		1986	09	09.14410	22	30	50.45	-14	48	17.8	3 809
1986	QO1		1986	09	11.14896	22	29	23.86	-14	58	03.8	3 809
1986	QO1		1986	09	11.15382	22	29	23.63	-14	58	05.2	3 809
1986	QO1		1986	09	11.15868	22	29	23.40	-14	58	06.6	3 809
1986	QO1		1986	09	13.33819	22	27	52.27	-15	08	04.0	3 809
1986	QO1		1986	09	13.34236	22	27	52.09	-15	08	05.2	3 809
1986	QO1		1986	09	13.34687	22	27	51.92	-15	08	06.4	3 809
1986	QP1	*	1986	08	27.13194	22	41	07.32	-12	54	19.0	17.2 3 809
1986	QP1		1986	08	27.13750	22	41	07.04	-12	54	20.1	3 809
1986	QP1		1986	08	27.14305	22	41	06.76	-12	54	21.6	3 809
1986	QP1		1986	08	28.23472	22	40	13.21	-12	59	32.4	3 809
1986	QP1		1986	08	28.24028	22	40	12.96	-12	59	34.0	3 809
1986	QP1		1986	08	28.24583	22	40	12.67	-12	59	35.6	3 809
1986	QP1		1986	09	01.14479	22	37	00.46	-13	17	42.8	3 809
1986	QP1		1986	09	01.14965	22	37	00.22	-13	17	44.2	3 809
1986	QP1		1986	09	01.15451	22	36	59.97	-13	17	45.6	3 809
1986	QP1		1986	09	02.20035	22	36	08.04	-13	22	30.8	3 809
1986	QP1		1986	09	02.20521	22	36	07.80	-13	22	31.9	3 809
1986	QP1		1986	09	02.21007	22	36	07.53	-13	22	33.3	3 809
1986	QP1		1986	09	04.22292	22	34	28.01	-13	31	28.9	3 809
1986	QP1		1986	09	04.22778	22	34	27.76	-13	31	30.2	3 809
1986	QP1		1986	09	04.23298	22	34	27.49	-13	31	31.9	3 809
1986	QP1		1986	09	05.32396	22	33	33.67	-13	36	13.2	3 809
1986	QP1		1986	09	05.32951	22	33	33.40	-13	36	14.7	3 809
1986	QP1		1986	09	05.33507	22	33	33.13	-13	36	16.2	3 809
1986	QP1		1986	09	07.21840	22	32	01.33	-13	44	12.5	3 809
1986	QP1		1986	09	07.22326	22	32	01.08	-13	44	13.5	3 809
1986	QP1		1986	09	07.22813	22	32	00.84	-13	44	14.7	3 809
1986	QP1		1986	09	08.34618	22	31	06.66	-13	48	48.3	3 809
1986	QP1		1986	09	08.35104	22	31	06.42	-13	48	49.8	3 809
1986	QP1		1986	09	08.35590	22	31	06.18	-13	48	50.8	3 809
1986	QP1		1986	09	09.13438	22	30	29.20	-13	51	56.6	3 809
1986	QP1		1986	09	09.13923	22	30	28.96	-13	51	57.9	3 809
1986	QP1		1986	09	09.14410	22	30	28.74	-13	51	59.2	3 809
1986	QP1		1986	09	11.14896	22	28	53.95	-13	59	42.9	3 809

1986	QP1		1986	09	11.15382	22	28	53.74	-13	59	44.2	3 809
1986	QP1		1986	09	11.15868	22	28	53.51	-13	59	45.3	3 809
1986	QP1		1986	09	11.23021	22	28	50.08	-14	00	01.9	3 809
1986	QP1		1986	09	11.23576	22	28	49.82	-14	00	03.2	3 809
1986	QP1		1986	09	11.24062	22	28	49.59	-14	00	04.4	3 809
1986	QQ1	*	1986	08	27.15208	22	03	11.93	-16	25	26.0	16.8 3 809
1986	QQ1		1986	08	27.15764	22	03	11.61	-16	25	27.4	3 809
1986	QQ1		1986	08	27.16319	22	03	11.30	-16	25	28.8	3 809
1986	QQ1		1986	08	28.15278	22	02	14.67	-16	29	33.7	17.1 3 809
1986	QQ1		1986	08	28.15833	22	02	14.35	-16	29	34.9	3 809
1986	QQ1		1986	08	28.16389	22	02	14.04	-16	29	36.2	3 809
1986	QQ1		1986	08	29.14861	22	01	17.74	-16	33	34.3	3 809
1986	QQ1		1986	08	29.15416	22	01	17.44	-16	33	35.8	3 809
1986	QQ1		1986	08	29.15972	22	01	17.15	-16	33	36.9	3 809
1986	QQ1		1986	08	30.32361	22	00	10.63	-16	38	10.9	3 809
1986	QQ1		1986	08	30.32917	22	00	10.30	-16	38	12.3	3 809
1986	QQ1		1986	08	30.33472	22	00	09.99	-16	38	13.4	3 809
1986	QQ1		1986	09	03.16910	21	56	36.29	-16	52	15.5	3 809
1986	QQ1		1986	09	03.17396	21	56	36.02	-16	52	16.3	3 809
1986	QQ1		1986	09	03.17882	21	56	35.73	-16	52	17.6	3 809
1986	QQ1		1986	09	04.11423	21	55	44.97	-16	55	27.5	3 809
1986	QQ1		1986	09	04.11944	21	55	44.68	-16	55	28.4	3 809
1986	QQ1		1986	09	04.12465	21	55	44.40	-16	55	29.8	3 809
1986	QQ1		1986	09	05.22014	21	54	45.38	-16	59	02.4	3 809
1986	QQ1		1986	09	05.22500	21	54	45.11	-16	59	03.4	3 809
1986	QQ1		1986	09	05.22951	21	54	44.87	-16	59	04.1	3 809
1986	QQ1		1986	09	06.17951	21	53	54.68	-17	02	01.0	3 809
1986	QQ1		1986	09	06.18437	21	53	54.44	-17	02	01.9	3 809
1986	QQ1		1986	09	06.18924	21	53	54.17	-17	02	02.5	3 809
1986	QQ1		1986	09	07.09618	21	53	07.26	-17	04	44.6	3 809
1986	QQ1		1986	09	07.10104	21	53	07.01	-17	04	45.5	3 809
1986	QQ1		1986	09	07.10590	21	53	06.75	-17	04	46.3	3 809
1986	QQ1		1986	09	08.23576	21	52	08.79	-17	07	57.0	3 809
1986	QQ1		1986	09	08.24271	21	52	08.45	-17	07	58.2	3 809
1986	QQ1		1986	09	08.24965	21	52	08.10	-17	07	59.3	3 809
1986	QQ1		1986	09	10.31840	21	50	25.99	-17	13	19.8	3 809
1986	QQ1		1986	09	10.32326	21	50	25.74	-17	13	20.6	3 809
1986	QQ1		1986	09	10.32812	21	50	25.50	-17	13	21.4	3 809
1986	QQ1		1986	09	12.27465	21	48	54.25	-17	17	47.3	3 809
1986	QQ1		1986	09	12.27951	21	48	54.02	-17	17	47.9	3 809
1986	QQ1		1986	09	12.28437	21	48	53.80	-17	17	48.5	3 809
1986	QR1	*	1986	08	27.15208	22	07	03.65	-14	31	57.9	17.2 3 809
1986	QR1		1986	08	27.15764	22	07	03.33	-14	31	58.9	3 809
1986	QR1		1986	08	27.16319	22	07	03.01	-14	31	59.8	3 809
1986	QR1		1986	08	28.17222	22	06	04.13	-14	34	38.0	3 809
1986	QR1		1986	08	28.17778	22	06	03.80	-14	34	38.7	3 809
1986	QR1		1986	08	28.18333	22	06	03.47	-14	34	39.9	3 809
1986	QR1		1986	08	30.23970	22	04	04.80	-14	39	47.3	3 809
1986	QR1		1986	08	30.24526	22	04	04.47	-14	39	48.2	3 809
1986	QR1		1986	08	30.25081	22	04	04.15	-14	39	49.0	3 809
1986	QR1		1986	09	01.21840	22	02	13.04	-14	44	22.0	3 809
1986	QR1		1986	09	01.22326	22	02	12.78	-14	44	22.6	3 809
1986	QR1		1986	09	01.22813	22	02	12.52	-14	44	23.3	3 809
1986	QR1		1986	09	04.17396	21	59	31.68	-14	50	27.0	3 809
1986	QR1		1986	09	04.17882	21	59	31.39	-14	50	27.6	3 809
1986	QR1		1986	09	04.18368	21	59	31.11	-14	50	28.3	3 809
1986	QR1		1986	09	05.28160	21	58	32.95	-14	52	28.4	3 809
1986	QR1		1986	09	05.28646	21	58	32.71	-14	52	28.9	3 809
1986	QR1		1986	09	05.29201	21	58	32.41	-14	52	29.6	3 809

1986	QS1	*	1986	08	27.15208	22	07	03.81	-15	11	42.1	16.4	3 809
1986	QS1		1986	08	27.15764	22	07	03.53	-15	11	44.9		3 809
1986	QS1		1986	08	27.16319	22	07	03.25	-15	11	47.9		3 809
1986	QS1		1986	08	29.14861	22	05	24.87	-15	28	58.7		3 809
1986	QS1		1986	08	29.15416	22	05	24.60	-15	29	01.3		3 809
1986	QS1		1986	08	29.15972	22	05	24.33	-15	29	04.1		3 809
1986	QS1		1986	09	01.18160	22	02	57.17	-15	54	20.9		3 809
1986	QS1		1986	09	01.18646	22	02	56.95	-15	54	23.3		3 809
1986	QS1		1986	09	01.19132	22	02	56.72	-15	54	25.8		3 809
1986	QS1		1986	09	01.19965	22	02	56.24	-15	54	31.0		3 809
1986	QS1		1986	09	01.20451	22	02	56.00	-15	54	33.2		3 809
1986	QS1		1986	09	01.20937	22	02	55.77	-15	54	35.8		3 809
1986	QS1		1986	09	02.26146	22	02	05.56	-16	03	06.3		3 809
1986	QS1		1986	09	02.26632	22	02	05.33	-16	03	08.8		3 809
1986	QS1		1986	09	02.27118	22	02	05.09	-16	03	11.1		3 809
1986	QS1		1986	09	03.22778	22	01	20.42	-16	10	46.4		3 809
1986	QS1		1986	09	03.23264	22	01	20.17	-16	10	48.6		3 809
1986	QS1		1986	09	03.23715	22	01	19.94	-16	10	50.8		3 809
1986	QS1		1986	09	05.12535	21	59	54.07	-16	25	25.5		3 809
1986	QS1		1986	09	05.13021	21	59	53.85	-16	25	27.8		3 809
1986	QS1		1986	09	05.13507	21	59	53.62	-16	25	30.0		3 809
1986	QS1		1986	09	06.25937	21	59	03.51	-16	33	51.1		3 809
1986	QS1		1986	09	06.26424	21	59	03.29	-16	33	52.9		3 809
1986	QS1		1986	09	06.26910	21	59	03.07	-16	33	55.0		3 809
1986	QS1		1986	09	07.14826	21	58	25.45	-16	40	18.5		3 809
1986	QS1		1986	09	07.15312	21	58	25.26	-16	40	20.5		3 809
1986	QS1		1986	09	07.15799	21	58	25.05	-16	40	22.5		3 809
1986	QS1		1986	09	09.08333	21	57	05.42	-16	53	49.0		3 809
1986	QS1		1986	09	09.08750	21	57	05.25	-16	53	50.7		3 809
1986	QS1		1986	09	09.09166	21	57	05.06	-16	53	52.4		3 809
1986	QS1		1986	09	11.17118	21	55	43.87	-17	07	32.0		3 809
1986	QS1		1986	09	11.17604	21	55	43.69	-17	07	33.9		3 809
1986	QS1		1986	09	11.18090	21	55	43.49	-17	07	35.8		3 809
1986	QT1	*	1986	08	27.15208	22	08	12.88	-15	09	27.1	17.2	3 809
1986	QT1		1986	08	27.15764	22	08	12.55	-15	09	28.3		3 809
1986	QT1		1986	08	27.16319	22	08	12.20	-15	09	29.7		3 809
1986	QT1		1986	08	29.14861	22	06	16.27	-15	17	26.8		3 809
1986	QT1		1986	08	29.15416	22	06	15.95	-15	17	28.1		3 809
1986	QT1		1986	08	29.15972	22	06	15.63	-15	17	29.4		3 809
1986	QT1		1986	09	01.19965	22	03	19.51	-15	28	59.4		3 809
1986	QT1		1986	09	01.20451	22	03	19.23	-15	29	00.5		3 809
1986	QT1		1986	09	01.20937	22	03	18.95	-15	29	01.7		3 809
1986	QT1		1986	09	02.26146	22	02	18.69	-15	32	46.3		3 809
1986	QT1		1986	09	02.26632	22	02	18.41	-15	32	47.4		3 809
1986	QT1		1986	09	02.27118	22	02	18.14	-15	32	48.4		3 809
1986	QT1		1986	09	03.22778	22	01	24.22	-15	36	06.5		3 809
1986	QT1		1986	09	03.23264	22	01	23.92	-15	36	07.4		3 809
1986	QT1		1986	09	03.23715	22	01	23.66	-15	36	08.4		3 809
1986	QT1		1986	09	05.12535	21	59	39.12	-15	42	19.2		3 809
1986	QT1		1986	09	05.13021	21	59	38.85	-15	42	20.0		3 809
1986	QT1		1986	09	05.13507	21	59	38.58	-15	42	21.0		3 809
1986	QT1		1986	09	06.25937	21	58	37.10	-15	45	48.6		3 809
1986	QT1		1986	09	06.26424	21	58	36.83	-15	45	49.5		3 809
1986	QT1		1986	09	06.26910	21	58	36.55	-15	45	50.4		3 809
1986	QT1		1986	09	07.14826	21	57	49.97	-15	48	25.4		3 809
1986	QT1		1986	09	07.15312	21	57	49.71	-15	48	26.4		3 809
1986	QT1		1986	09	07.15799	21	57	49.46	-15	48	27.1		3 809
1986	QT1		1986	09	09.08333	21	56	09.65	-15	53	42.3		3 809
1986	QT1		1986	09	09.08750	21	56	09.43	-15	53	43.0		3 809

1986	QT1		1986	09	09.09166	21	56	09.20	-15	53	43.6	3 809
1986	QT1		1986	09	11.17118	21	54	25.88	-15	58	46.3	3 809
1986	QT1		1986	09	11.17604	21	54	25.63	-15	58	46.9	3 809
1986	QT1		1986	09	11.18090	21	54	25.38	-15	58	47.5	3 809
1986	QT1		1986	09	14.31041	21	52	00.76	-16	05	02.2	3 809
1986	QT1		1986	09	14.31458	21	52	00.58	-16	05	02.8	3 809
1986	QU1	*	1986	08	27.15208	22	08	56.65	-14	34	30.6	17.5 3 809
1986	QU1		1986	08	27.15764	22	08	56.37	-14	34	32.8	3 809
1986	QU1		1986	08	27.16319	22	08	56.09	-14	34	34.6	3 809
1986	QU1		1986	08	29.14861	22	07	17.13	-14	46	31.9	3 809
1986	QU1		1986	08	29.15416	22	07	16.84	-14	46	33.9	3 809
1986	QU1		1986	08	29.15972	22	07	16.54	-14	46	35.9	3 809
1986	QU1		1986	09	01.19965	22	04	47.32	-15	04	10.3	3 809
1986	QU1		1986	09	01.20451	22	04	47.08	-15	04	11.8	3 809
1986	QU1		1986	09	01.20937	22	04	46.84	-15	04	13.8	3 809
1986	QU1		1986	09	02.26146	22	03	56.21	-15	10	03.5	3 809
1986	QU1		1986	09	02.26632	22	03	55.98	-15	10	05.2	3 809
1986	QU1		1986	09	02.27118	22	03	55.75	-15	10	06.8	3 809
1986	QU1		1986	09	09.08333	21	58	52.73	-15	44	02.5	3 809
1986	QU1		1986	09	09.08750	21	58	52.55	-15	44	03.6	3 809
1986	QU1		1986	09	09.09166	21	58	52.36	-15	44	04.8	3 809
1986	QV1	*	1986	08	27.15208	22	09	54.89	-15	19	37.8	17.5 3 809
1986	QV1		1986	08	27.15764	22	09	54.63	-15	19	45.5	3 809
1986	QV1		1986	08	27.16319	22	09	54.36	-15	19	53.7	3 809
1986	QW1	*	1986	08	27.17234	22	52	07.16	-10	12	39.1	17.3 3 809
1986	QW1		1986	08	27.17812	22	52	06.91	-10	12	41.0	3 809
1986	QW1		1986	08	27.18391	22	52	06.65	-10	12	42.6	3 809
1986	QW1		1986	08	29.25625	22	50	35.58	-10	22	13.1	3 809
1986	QW1		1986	08	29.26215	22	50	35.30	-10	22	14.7	3 809
1986	QW1		1986	08	29.26805	22	50	35.04	-10	22	16.3	3 809
1986	QW1		1986	09	01.24549	22	48	22.52	-10	35	51.5	3 809
1986	QW1		1986	09	01.25035	22	48	22.30	-10	35	52.8	3 809
1986	QW1		1986	09	01.25521	22	48	22.09	-10	35	54.0	3 809
1986	QW1		1986	09	02.29687	22	47	35.34	-10	40	35.4	3 809
1986	QW1		1986	09	02.30173	22	47	35.12	-10	40	36.7	3 809
1986	QW1		1986	09	02.30660	22	47	34.91	-10	40	38.0	3 809
1986	QW1		1986	09	03.27604	22	46	51.51	-10	44	57.6	3 809
1986	QW1		1986	09	03.28090	22	46	51.29	-10	44	58.9	3 809
1986	QW1		1986	09	03.28576	22	46	51.08	-10	45	00.2	3 809
1986	QW1		1986	09	04.28299	22	46	06.51	-10	49	24.8	3 809
1986	QW1		1986	09	04.28785	22	46	06.30	-10	49	26.2	3 809
1986	QW1		1986	09	04.29288	22	46	06.07	-10	49	27.6	3 809
1986	QW1		1986	09	06.36666	22	44	33.49	-10	58	28.8	3 809
1986	QW1		1986	09	06.37083	22	44	33.30	-10	58	29.8	3 809
1986	QW1		1986	09	06.37500	22	44	33.14	-10	58	31.0	3 809
1986	QW1		1986	09	07.32465	22	43	51.12	-11	02	33.8	3 809
1986	QW1		1986	09	07.32951	22	43	50.89	-11	02	35.6	3 809
1986	QW1		1986	09	07.33437	22	43	50.71	-11	02	36.2	3 809
1986	QW1		1986	09	09.26076	22	42	26.32	-11	10	37.8	3 809
1986	QW1		1986	09	09.26562	22	42	26.11	-11	10	39.0	3 809
1986	QW1		1986	09	09.27048	22	42	25.91	-11	10	40.2	3 809
1986	QW1		1986	09	09.33403	22	42	23.04	-11	10	55.6	3 809
1986	QW1		1986	09	09.33958	22	42	22.82	-11	10	57.0	3 809
1986	QW1		1986	09	09.34514	22	42	22.58	-11	10	58.5	3 809
1986	QW1		1986	09	10.36944	22	41	38.25	-11	15	06.0	3 809
1986	QW1		1986	09	10.37430	22	41	38.04	-11	15	07.1	3 809
1986	QW1		1986	09	10.37847	22	41	37.87	-11	15	08.3	3 809
1986	QW1		1986	09	11.33993	22	40	56.76	-11	18	56.8	3 809
1986	QW1		1986	09	11.34479	22	40	56.55	-11	18	58.0	3 809

1986	QW1		1986	09	11.34965	22	40	56.34	-11	18	59.1		3 809
1986	QX1	*	1986	08	27.17234	22	52	12.11	-11	42	44.4	16.8	3 809
1986	QX1		1986	08	27.17812	22	52	11.75	-11	42	45.9		3 809
1986	QX1		1986	08	27.18391	22	52	11.40	-11	42	47.4		3 809
1986	QX1		1986	08	29.25625	22	50	04.56	-11	51	50.7		3 809
1986	QX1		1986	08	29.26215	22	50	04.20	-11	51	52.2		3 809
1986	QX1		1986	08	29.26805	22	50	03.83	-11	51	53.8		3 809
1986	QX1		1986	09	01.24549	22	46	59.68	-12	04	31.4		3 809
1986	QX1		1986	09	01.25035	22	46	59.36	-12	04	32.5		3 809
1986	QX1		1986	09	01.25521	22	46	59.05	-12	04	34.1		3 809
1986	QX1		1986	09	02.29687	22	45	54.23	-12	08	51.3		3 809
1986	QX1		1986	09	02.30173	22	45	53.93	-12	08	52.2		3 809
1986	QX1		1986	09	02.30660	22	45	53.63	-12	08	53.3		3 809
1986	QX1		1986	09	03.27604	22	44	53.59	-12	12	47.5		3 809
1986	QX1		1986	09	03.28090	22	44	53.28	-12	12	48.7		3 809
1986	QX1		1986	09	03.28576	22	44	52.99	-12	12	49.8		3 809
1986	QX1		1986	09	03.34132	22	44	49.34	-12	13	03.2		3 809
1986	QX1		1986	09	03.34618	22	44	49.03	-12	13	04.3		3 809
1986	QX1		1986	09	03.35104	22	44	48.74	-12	13	05.5		3 809
1986	QX1		1986	09	04.26354	22	43	52.51	-12	16	40.7		3 809
1986	QX1		1986	09	04.26840	22	43	52.19	-12	16	42.0		3 809
1986	QX1		1986	09	04.27326	22	43	51.89	-12	16	43.3		3 809
1986	QX1		1986	09	04.28299	22	43	51.33	-12	16	45.4		3 809
1986	QX1		1986	09	04.28785	22	43	51.02	-12	16	46.6		3 809
1986	QX1		1986	09	04.29288	22	43	50.70	-12	16	47.8		3 809
1986	QX1		1986	09	06.32465	22	41	45.91	-12	24	28.2		3 809
1986	QX1		1986	09	06.32951	22	41	45.62	-12	24	29.4		3 809
1986	QX1		1986	09	06.33437	22	41	45.32	-12	24	30.4		3 809
1986	QX1		1986	09	06.36666	22	41	43.26	-12	24	36.5		3 809
1986	QX1		1986	09	06.37083	22	41	43.00	-12	24	37.4		3 809
1986	QX1		1986	09	06.37500	22	41	42.74	-12	24	38.4		3 809
1986	QX1		1986	09	07.32465	22	40	45.20	-12	28	03.7		3 809
1986	QX1		1986	09	07.32951	22	40	44.89	-12	28	04.7		3 809
1986	QX1		1986	09	07.33437	22	40	44.59	-12	28	05.6		3 809
1986	QX1		1986	09	09.22674	22	38	51.62	-12	34	35.1		3 809
1986	QX1		1986	09	09.23160	22	38	51.33	-12	34	36.0		3 809
1986	QX1		1986	09	09.23646	22	38	51.04	-12	34	36.9		3 809
1986	QX1		1986	09	09.26076	22	38	49.57	-12	34	41.8		3 809
1986	QX1		1986	09	09.26562	22	38	49.26	-12	34	42.7		3 809
1986	QX1		1986	09	09.27048	22	38	48.98	-12	34	43.4		3 809
1986	QX1		1986	09	09.33403	22	38	45.07	-12	34	55.5		3 809
1986	QX1		1986	09	09.33958	22	38	44.73	-12	34	56.8		3 809
1986	QX1		1986	09	09.34514	22	38	44.40	-12	34	58.1		3 809
1986	QX1		1986	09	10.36944	22	37	44.33	-12	38	14.8		3 809
1986	QX1		1986	09	10.37430	22	37	44.05	-12	38	15.6		3 809
1986	QX1		1986	09	10.37847	22	37	43.80	-12	38	16.3		3 809
1986	QX1		1986	09	11.33993	22	36	48.27	-12	41	13.3		3 809
1986	QX1		1986	09	11.34479	22	36	48.00	-12	41	14.2		3 809
1986	QX1		1986	09	11.34965	22	36	47.71	-12	41	15.3		3 809
1986	QX1		1986	09	14.37708	22	33	58.92	-12	49	37.2		3 809
1986	QX1		1986	09	14.38125	22	33	58.69	-12	49	37.8		3 809
1986	QX1		1986	09	14.38541	22	33	58.46	-12	49	38.4		3 809
1986	QY1	*	1986	08	28.07986	21	45	10.57	-12	46	26.6	17.5	3 809
1986	QY1		1986	08	28.08542	21	45	10.35	-12	46	28.1		3 809
1986	QY1		1986	08	28.09097	21	45	10.12	-12	46	29.5		3 809
1986	QY1		1986	08	30.25903	21	43	35.64	-12	55	56.3		3 809
1986	QY1		1986	08	30.26458	21	43	35.40	-12	55	57.8		3 809
1986	QY1		1986	08	30.27014	21	43	35.15	-12	55	59.4		3 809
1986	QY1		1986	09	02.04062	21	41	38.81	-13	07	43.1		3 809

1986	QY1		1986	09	02.04549	21	41	38.60	-13	07	44.4	3 809
1986	QY1		1986	09	02.05035	21	41	38.40	-13	07	45.7	3 809
1986	QY1		1986	09	03.13368	21	40	54.01	-13	12	13.4	3 809
1986	QY1		1986	09	03.13854	21	40	53.80	-13	12	14.6	3 809
1986	QY1		1986	09	03.14340	21	40	53.59	-13	12	15.8	3 809
1986	QY1		1986	09	05.07188	21	39	36.98	-13	20	00.7	3 809
1986	QY1		1986	09	05.07674	21	39	36.77	-13	20	01.8	3 809
1986	QY1		1986	09	05.08160	21	39	36.56	-13	20	03.1	3 809
1986	QY1		1986	09	06.08646	21	38	57.80	-13	23	59.4	3 809
1986	QY1		1986	09	06.09132	21	38	57.62	-13	24	00.8	3 809
1986	QY1		1986	09	06.09618	21	38	57.44	-13	24	01.9	3 809
1986	QY1		1986	09	07.07882	21	38	20.39	-13	27	47.7	3 809
1986	QY1		1986	09	07.08368	21	38	20.23	-13	27	49.0	3 809
1986	QY1		1986	09	07.08854	21	38	20.06	-13	27	50.3	3 809
1986	QY1		1986	09	08.09479	21	37	43.02	-13	31	36.6	3 809
1986	QY1		1986	09	08.09965	21	37	42.84	-13	31	38.0	3 809
1986	QY1		1986	09	08.10451	21	37	42.66	-13	31	39.0	3 809
1986	QZ1	*	1986	08	28.07986	21	45	18.50	-13	12	30.4	16.7 3 809
1986	QZ1		1986	08	28.08542	21	45	18.28	-13	12	32.8	3 809
1986	QZ1		1986	08	28.09097	21	45	18.07	-13	12	35.3	3 809
1986	QZ1		1986	08	30.25903	21	43	46.87	-13	27	41.6	3 809
1986	QZ1		1986	08	30.26458	21	43	46.63	-13	27	43.9	3 809
1986	QZ1		1986	08	30.27014	21	43	46.39	-13	27	46.2	3 809
1986	QZ1		1986	09	07.07882	21	38	40.81	-14	19	39.9	3 809
1986	QZ1		1986	09	07.08368	21	38	40.62	-14	19	41.7	3 809
1986	QZ1		1986	09	07.08854	21	38	40.42	-14	19	43.8	3 809
1986	QZ1		1986	09	08.09479	21	38	04.21	-14	26	02.9	3 809
1986	QZ1		1986	09	08.09965	21	38	04.03	-14	26	04.7	3 809
1986	QZ1		1986	09	08.10451	21	38	03.86	-14	26	06.5	3 809
1986	QZ1		1986	09	10.18993	21	36	51.47	-14	38	52.4	3 809
1986	QZ1		1986	09	10.19479	21	36	51.30	-14	38	54.2	3 809
1986	QZ1		1986	09	10.19965	21	36	51.11	-14	38	55.9	3 809
1986	QA2	*	1986	08	28.07986	21	45	21.90	-13	22	43.9	16.9 3 809
1986	QA2		1986	08	28.08542	21	45	21.51	-13	22	43.3	3 809
1986	QA2		1986	08	28.09097	21	45	21.12	-13	22	42.6	3 809
1986	QA2		1986	08	30.25903	21	42	44.43	-13	18	25.8	3 809
1986	QA2		1986	08	30.26458	21	42	44.02	-13	18	25.1	3 809
1986	QA2		1986	08	30.27014	21	42	43.63	-13	18	24.4	3 809
1986	QC2	*	1986	08	28.13333	21	52	41.77	-16	10	24.8	16.8 3 809
1986	QC2		1986	08	28.13889	21	52	41.46	-16	10	24.0	3 809
1986	QC2		1986	08	28.14444	21	52	41.12	-16	10	23.3	3 809
1986	QC2		1986	08	30.29873	21	50	33.41	-16	05	55.5	3 809
1986	QC2		1986	08	30.30451	21	50	33.06	-16	05	54.6	3 809
1986	QC2		1986	08	30.31030	21	50	32.71	-16	05	53.9	3 809
1986	QC2		1986	09	01.08993	21	48	51.13	-16	01	54.6	3 809
1986	QC2		1986	09	01.09479	21	48	50.84	-16	01	53.9	3 809
1986	QC2		1986	09	01.09965	21	48	50.55	-16	01	53.3	3 809
1986	QC2		1986	09	04.06215	21	46	08.05	-15	54	38.4	3 809
1986	QC2		1986	09	04.06701	21	46	07.76	-15	54	37.6	3 809
1986	QC2		1986	09	04.07188	21	46	07.51	-15	54	36.9	3 809
1986	QC2		1986	09	06.11771	21	44	21.35	-15	49	09.2	3 809
1986	QC2		1986	09	06.12257	21	44	21.11	-15	49	08.4	3 809
1986	QC2		1986	09	06.12743	21	44	20.86	-15	49	07.6	3 809
1986	QC2		1986	09	08.12674	21	42	42.74	-15	43	24.0	3 809
1986	QC2		1986	09	08.13160	21	42	42.50	-15	43	23.2	3 809
1986	QC2		1986	09	08.13646	21	42	42.26	-15	43	22.5	3 809
1986	QC2		1986	09	08.18646	21	42	39.71	-15	43	12.9	3 809
1986	QC2		1986	09	08.19132	21	42	39.49	-15	43	12.1	3 809
1986	QC2		1986	09	08.19618	21	42	39.24	-15	43	11.4	3 809

1986	QC2		1986	09	10.23368	21	41	05.49	-15	36	57.4	3 809
1986	QC2		1986	09	10.23854	21	41	05.27	-15	36	56.9	3 809
1986	QC2		1986	09	10.24340	21	41	05.05	-15	36	56.0	3 809
1986	QC2		1986	09	10.26354	21	41	04.07	-15	36	51.6	3 809
1986	QC2		1986	09	10.26910	21	41	03.81	-15	36	50.6	3 809
1986	QC2		1986	09	10.27396	21	41	03.59	-15	36	49.8	3 809
1986	QC2		1986	09	12.17430	21	39	42.36	-15	30	40.4	3 809
1986	QC2		1986	09	12.17951	21	39	42.13	-15	30	39.2	3 809
1986	QC2		1986	09	12.18403	21	39	41.94	-15	30	38.2	3 809
1986	QE2	*	1986	08	28.13333	21	55	21.32	-17	20	10.4	16.6 3 809
1986	QE2		1986	08	28.13889	21	55	21.04	-17	20	12.4	3 809
1986	QE2		1986	08	28.14444	21	55	20.76	-17	20	14.6	3 809
1986	QE2		1986	09	01.07049	21	52	07.02	-17	45	58.8	3 809
1986	QE2		1986	09	01.07535	21	52	06.77	-17	46	00.8	3 809
1986	QE2		1986	09	01.08021	21	52	06.53	-17	46	02.7	3 809
1986	QE2		1986	09	03.15174	21	50	29.12	-17	58	32.8	3 809
1986	QE2		1986	09	03.15590	21	50	28.94	-17	58	34.2	3 809
1986	QE2		1986	09	03.16007	21	50	28.75	-17	58	35.7	3 809
1986	QE2		1986	09	05.08924	21	49	02.78	-18	09	29.7	3 809
1986	QE2		1986	09	05.09410	21	49	02.55	-18	09	31.4	3 809
1986	QE2		1986	09	05.09896	21	49	02.35	-18	09	33.0	3 809
1986	QE2		1986	09	06.16354	21	48	16.57	-18	15	14.2	3 809
1986	QE2		1986	09	06.16840	21	48	16.35	-18	15	15.7	3 809
1986	QE2		1986	09	06.17326	21	48	16.12	-18	15	17.2	3 809
1986	QE2		1986	09	08.21910	21	46	52.81	-18	25	30.2	3 809
1986	QE2		1986	09	08.22430	21	46	52.58	-18	25	31.8	3 809
1986	QE2		1986	09	08.22951	21	46	52.35	-18	25	33.4	3 809
1986	QE2		1986	09	10.29965	21	45	34.60	-18	34	56.9	3 809
1986	QE2		1986	09	10.30451	21	45	34.42	-18	34	58.5	3 809
1986	QE2		1986	09	10.30937	21	45	34.24	-18	34	59.9	3 809
1986	QE2		1986	09	12.24201	21	44	28.32	-18	42	53.3	3 809
1986	QE2		1986	09	12.24687	21	44	28.14	-18	42	54.3	3 809
1986	QE2		1986	09	12.25208	21	44	27.95	-18	42	55.5	3 809
1986	QF2	*	1986	08	28.15278	21	58	27.35	-16	32	33.5	17.3 3 809
1986	QF2		1986	08	28.15833	21	58	27.06	-16	32	34.6	3 809
1986	QF2		1986	08	28.16389	21	58	26.76	-16	32	35.7	3 809
1986	QG2	*	1986	08	28.15278	21	58	34.90	-16	12	30.5	16.9 3 809
1986	QG2		1986	08	28.15833	21	58	34.69	-16	12	33.4	3 809
1986	QG2		1986	08	28.16389	21	58	34.48	-16	12	35.9	3 809
1986	QG2		1986	08	30.32361	21	57	24.24	-16	30	32.0	3 809
1986	QG2		1986	08	30.32917	21	57	24.05	-16	30	34.7	3 809
1986	QG2		1986	08	30.33472	21	57	23.86	-16	30	37.5	3 809
1986	QG2		1986	09	02.16632	21	55	58.93	-16	52	53.6	3 809
1986	QG2		1986	09	02.17118	21	55	58.79	-16	52	55.8	3 809
1986	QG2		1986	09	02.17604	21	55	58.66	-16	52	58.0	3 809
1986	QG2		1986	09	03.16910	21	55	30.55	-17	00	22.4	3 809
1986	QG2		1986	09	03.17396	21	55	30.42	-17	00	24.7	3 809
1986	QG2		1986	09	03.17882	21	55	30.28	-17	00	26.9	3 809
1986	QG2		1986	09	04.11423	21	55	05.06	-17	07	12.6	3 809
1986	QG2		1986	09	04.11944	21	55	04.91	-17	07	14.7	3 809
1986	QG2		1986	09	04.12465	21	55	04.78	-17	07	16.9	3 809
1986	QG2		1986	09	05.22014	21	54	35.91	-17	14	58.2	3 809
1986	QG2		1986	09	05.22500	21	54	35.79	-17	15	00.1	3 809
1986	QG2		1986	09	05.22951	21	54	35.67	-17	15	01.8	3 809
1986	QG2		1986	09	06.17951	21	54	12.56	-17	21	26.6	3 809
1986	QG2		1986	09	06.18437	21	54	12.43	-17	21	28.6	3 809
1986	QG2		1986	09	06.18924	21	54	12.29	-17	21	30.7	3 809
1986	QG2		1986	09	07.09618	21	53	51.67	-17	27	25.9	3 809
1986	QG2		1986	09	07.10104	21	53	51.54	-17	27	27.8	3 809

1986	QG2		1986	09	07.10590	21	53	51.42	-17	27	29.7	3 809
1986	QG2		1986	09	08.23576	21	53	26.34	-17	34	33.5	3 809
1986	QG2		1986	09	08.24271	21	53	26.19	-17	34	35.9	3 809
1986	QG2		1986	09	08.24965	21	53	26.03	-17	34	38.8	3 809
1986	QG2		1986	09	10.31840	21	52	46.35	-17	46	40.2	3 809
1986	QG2		1986	09	10.32326	21	52	46.24	-17	46	41.7	3 809
1986	QG2		1986	09	10.32812	21	52	46.15	-17	46	43.2	3 809
1986	QH2	*	1986	08	28.15278	21	59	38.23	-17	04	12.3	16.9 3 809
1986	QH2		1986	08	28.15833	21	59	37.93	-17	04	14.6	3 809
1986	QH2		1986	08	28.16389	21	59	37.63	-17	04	17.0	3 809
1986	QH2		1986	09	01.07049	21	56	06.94	-17	35	06.5	3 809
1986	QH2		1986	09	01.07535	21	56	06.69	-17	35	08.7	3 809
1986	QH2		1986	09	01.08021	21	56	06.40	-17	35	10.9	3 809
1986	QH2		1986	09	03.15174	21	54	18.07	-17	50	39.4	3 809
1986	QH2		1986	09	03.15590	21	54	17.85	-17	50	41.5	3 809
1986	QH2		1986	09	03.16007	21	54	17.65	-17	50	43.4	3 809
1986	QH2		1986	09	05.08924	21	52	40.01	-18	04	31.1	3 809
1986	QH2		1986	09	05.09410	21	52	39.75	-18	04	33.2	3 809
1986	QH2		1986	09	05.09896	21	52	39.50	-18	04	35.1	3 809
1986	QH2		1986	09	06.16354	21	51	46.85	-18	11	55.7	3 809
1986	QH2		1986	09	06.16840	21	51	46.60	-18	11	57.7	3 809
1986	QH2		1986	09	06.17326	21	51	46.36	-18	11	59.7	3 809
1986	QH2		1986	09	08.21910	21	50	08.62	-18	25	31.9	3 809
1986	QH2		1986	09	08.22430	21	50	08.37	-18	25	33.9	3 809
1986	QH2		1986	09	08.22951	21	50	08.12	-18	25	35.8	3 809
1986	QH2		1986	09	10.29965	21	48	34.11	-18	38	29.3	3 809
1986	QH2		1986	09	10.30451	21	48	33.90	-18	38	30.9	3 809
1986	QH2		1986	09	10.30937	21	48	33.68	-18	38	32.7	3 809
1986	QH2		1986	09	12.24201	21	47	11.02	-18	49	50.1	3 809
1986	QH2		1986	09	12.24687	21	47	10.81	-18	49	51.7	3 809
1986	QH2		1986	09	12.25208	21	47	10.58	-18	49	53.5	3 809
1986	QJ2	*	1986	08	28.15278	22	00	28.43	-16	38	47.7	17.2 3 809
1986	QJ2		1986	08	28.15833	22	00	28.18	-16	38	48.4	3 809
1986	QJ2		1986	08	28.16389	22	00	27.93	-16	38	49.2	3 809
1986	QJ2		1986	08	30.32361	21	58	45.24	-16	44	02.8	3 809
1986	QJ2		1986	08	30.32917	21	58	44.97	-16	44	03.6	3 809
1986	QJ2		1986	08	30.33472	21	58	44.71	-16	44	04.3	3 809
1986	QJ2		1986	09	02.16632	21	56	33.89	-16	50	19.9	3 809
1986	QJ2		1986	09	02.17118	21	56	33.67	-16	50	20.9	3 809
1986	QJ2		1986	09	02.17604	21	56	33.46	-16	50	21.5	3 809
1986	QJ2		1986	09	03.16910	21	55	48.64	-16	52	21.4	3 809
1986	QJ2		1986	09	03.17396	21	55	48.41	-16	52	22.2	3 809
1986	QJ2		1986	09	03.17882	21	55	48.18	-16	52	22.7	3 809
1986	QJ2		1986	09	04.11423	21	55	06.63	-16	54	11.8	3 809
1986	QJ2		1986	09	04.11944	21	55	06.39	-16	54	12.5	3 809
1986	QJ2		1986	09	04.12465	21	55	06.16	-16	54	13.1	3 809
1986	QJ2		1986	09	05.22014	21	54	18.02	-16	56	13.4	3 809
1986	QJ2		1986	09	05.22500	21	54	17.81	-16	56	14.1	3 809
1986	QJ2		1986	09	05.22951	21	54	17.60	-16	56	14.6	3 809
1986	QJ2		1986	09	06.17951	21	53	36.82	-16	57	52.8	3 809
1986	QJ2		1986	09	06.18437	21	53	36.61	-16	57	53.3	3 809
1986	QJ2		1986	09	06.18924	21	53	36.41	-16	57	53.7	3 809
1986	QJ2		1986	09	07.09618	21	52	58.29	-16	59	22.6	3 809
1986	QJ2		1986	09	07.10104	21	52	58.10	-16	59	23.1	3 809
1986	QJ2		1986	09	07.10590	21	52	57.90	-16	59	23.6	3 809
1986	QJ2		1986	09	08.23576	21	52	10.97	-17	01	06.2	3 809
1986	QJ2		1986	09	08.24271	21	52	10.67	-17	01	06.8	3 809
1986	QJ2		1986	09	08.24965	21	52	10.37	-17	01	07.4	3 809
1986	QK2	*	1986	08	28.15278	22	02	28.95	-16	48	30.7	17.2 3 809

1986	QK2		1986	08	28.15833	22	02	28.68	-16	48	34.6	3 809
1986	QK2		1986	08	28.16389	22	02	28.41	-16	48	38.6	3 809
1986	QK2		1986	08	30.32361	22	00	43.81	-17	15	11.9	3 809
1986	QK2		1986	08	30.32917	22	00	43.55	-17	15	15.8	3 809
1986	QK2		1986	08	30.33472	22	00	43.29	-17	15	19.7	3 809
1986	QK2		1986	09	03.15174	21	57	46.01	-18	00	20.9	3 809
1986	QK2		1986	09	03.15590	21	57	45.80	-18	00	23.8	3 809
1986	QK2		1986	09	03.16007	21	57	45.59	-18	00	26.7	3 809
1986	QL2	*	1986	08	28.17222	22	01	24.73	-13	37	32.3	17.1 3 809
1986	QL2		1986	08	28.17778	22	01	24.45	-13	37	33.2	3 809
1986	QL2		1986	08	28.18333	22	01	24.20	-13	37	34.2	3 809
1986	QL2		1986	08	30.23970	21	59	49.13	-13	43	27.5	3 809
1986	QL2		1986	08	30.24526	21	59	48.88	-13	43	28.5	3 809
1986	QL2		1986	08	30.25081	21	59	48.61	-13	43	29.6	3 809
1986	QL2		1986	09	01.21840	21	58	19.37	-13	48	53.8	3 809
1986	QL2		1986	09	01.22326	21	58	19.15	-13	48	54.8	3 809
1986	QL2		1986	09	01.22813	21	58	18.93	-13	48	55.9	3 809
1986	QL2		1986	09	02.27812	21	57	32.06	-13	51	43.4	3 809
1986	QL2		1986	09	02.28299	21	57	31.84	-13	51	44.1	3 809
1986	QL2		1986	09	02.28785	21	57	31.62	-13	51	44.8	3 809
1986	QL2		1986	09	03.24271	21	56	49.64	-13	54	13.4	3 809
1986	QL2		1986	09	03.24757	21	56	49.43	-13	54	14.2	3 809
1986	QL2		1986	09	03.25243	21	56	49.22	-13	54	15.4	3 809
1986	QL2		1986	09	04.17396	21	56	09.23	-13	56	35.9	3 809
1986	QL2		1986	09	04.17882	21	56	09.00	-13	56	36.6	3 809
1986	QL2		1986	09	04.18368	21	56	08.77	-13	56	37.3	3 809
1986	QL2		1986	09	05.28160	21	55	21.67	-13	59	18.9	3 809
1986	QL2		1986	09	05.28646	21	55	21.47	-13	59	19.6	3 809
1986	QL2		1986	09	05.29201	21	55	21.22	-13	59	20.3	3 809
1986	QL2		1986	09	07.18229	21	54	02.46	-14	03	46.4	3 809
1986	QL2		1986	09	07.18715	21	54	02.25	-14	03	47.1	3 809
1986	QL2		1986	09	07.19201	21	54	02.04	-14	03	47.9	3 809
1986	QL2		1986	09	09.10035	21	52	45.38	-14	07	58.3	3 809
1986	QL2		1986	09	09.10555	21	52	45.17	-14	07	58.7	3 809
1986	QL2		1986	09	09.11076	21	52	44.96	-14	07	59.5	3 809
1986	QL2		1986	09	11.18958	21	51	24.73	-14	12	11.8	3 809
1986	QL2		1986	09	11.19479	21	51	24.54	-14	12	12.3	3 809
1986	QL2		1986	09	11.20000	21	51	24.33	-14	12	13.0	3 809
1986	QM2	*	1986	08	28.17222	22	02	54.91	-12	58	15.5	17.2 3 809
1986	QM2		1986	08	28.17778	22	02	54.57	-12	58	16.6	3 809
1986	QM2		1986	08	28.18333	22	02	54.22	-12	58	17.6	3 809
1986	QM2		1986	08	30.23970	22	00	47.25	-13	05	04.4	3 809
1986	QM2		1986	08	30.24526	22	00	46.90	-13	05	05.5	3 809
1986	QM2		1986	08	30.25081	22	00	46.55	-13	05	06.5	3 809
1986	QM2		1986	09	04.17396	21	55	54.02	-13	19	56.8	3 809
1986	QM2		1986	09	04.17882	21	55	53.73	-13	19	57.6	3 809
1986	QM2		1986	09	04.18368	21	55	53.44	-13	19	58.3	3 809
1986	QN2	*	1986	08	28.17222	22	05	46.48	-13	53	47.0	17.3 3 809
1986	QN2		1986	08	28.17778	22	05	46.14	-13	53	46.2	3 809
1986	QN2		1986	08	28.18333	22	05	45.78	-13	53	45.6	3 809
1986	QN2		1986	08	30.23970	22	03	39.73	-13	49	53.4	3 809
1986	QN2		1986	08	30.24526	22	03	39.39	-13	49	52.8	3 809
1986	QN2		1986	08	30.25081	22	03	39.04	-13	49	52.3	3 809
1986	QN2		1986	09	04.17396	21	58	50.55	-13	39	33.7	3 809
1986	QN2		1986	09	04.17882	21	58	50.27	-13	39	33.0	3 809
1986	QN2		1986	09	04.18368	21	58	49.98	-13	39	32.4	3 809
1986	QN2		1986	09	07.18229	21	56	05.60	-13	32	29.6	3 809
1986	QN2		1986	09	07.18715	21	56	05.35	-13	32	28.9	3 809
1986	QN2		1986	09	07.19201	21	56	05.08	-13	32	28.3	3 809

1986	QO2	*	1986	08	28.17222	22	06	38.56	-13	17	37.3	16.5	3	809
1986	QO2		1986	08	28.17778	22	06	38.31	-13	17	39.0		3	809
1986	QO2		1986	08	28.18333	22	06	38.07	-13	17	40.4		3	809
1986	QO2		1986	08	30.23970	22	05	07.88	-13	27	09.9		3	809
1986	QO2		1986	08	30.24526	22	05	07.63	-13	27	11.4		3	809
1986	QO2		1986	08	30.25081	22	05	07.37	-13	27	13.1		3	809
1986	QO2		1986	09	01.21840	22	03	42.71	-13	36	03.7		3	809
1986	QO2		1986	09	01.22326	22	03	42.49	-13	36	05.1		3	809
1986	QO2		1986	09	01.22813	22	03	42.28	-13	36	06.5		3	809
1986	QO2		1986	09	02.27812	22	02	57.74	-13	40	41.6		3	809
1986	QO2		1986	09	02.28299	22	02	57.53	-13	40	43.0		3	809
1986	QO2		1986	09	02.28785	22	02	57.32	-13	40	44.0		3	809
1986	QO2		1986	09	04.17396	22	01	39.08	-13	48	48.2		3	809
1986	QO2		1986	09	04.17882	22	01	38.88	-13	48	49.4		3	809
1986	QO2		1986	09	04.18368	22	01	38.68	-13	48	50.6		3	809
1986	QO2		1986	09	05.28160	22	00	53.92	-13	53	22.9		3	809
1986	QO2		1986	09	05.28646	22	00	53.72	-13	53	24.2		3	809
1986	QO2		1986	09	05.29201	22	00	53.50	-13	53	25.5		3	809
1986	QO2		1986	09	07.18229	21	59	38.98	-14	01	00.6		3	809
1986	QO2		1986	09	07.18715	21	59	38.79	-14	01	01.8		3	809
1986	QO2		1986	09	07.19201	21	59	38.61	-14	01	03.0		3	809
1986	QO2		1986	09	09.10035	21	58	26.37	-14	08	18.2		3	809
1986	QO2		1986	09	09.10555	21	58	26.18	-14	08	19.7		3	809
1986	QO2		1986	09	09.11076	21	58	25.98	-14	08	20.9		3	809
1986	QO2		1986	09	11.18958	21	57	10.72	-14	15	48.2		3	809
1986	QO2		1986	09	11.19479	21	57	10.54	-14	15	50.0		3	809
1986	QO2		1986	09	11.20000	21	57	10.36	-14	15	51.2		3	809
1986	QP2	*	1986	08	28.17222	22	08	54.09	-13	02	32.1	17.0	3	809
1986	QP2		1986	08	28.17778	22	08	53.85	-13	02	33.6		3	809
1986	QP2		1986	08	28.18333	22	08	53.61	-13	02	35.1		3	809
1986	QP2		1986	08	30.23970	22	07	24.72	-13	12	34.1		3	809
1986	QP2		1986	08	30.24526	22	07	24.47	-13	12	35.7		3	809
1986	QP2		1986	08	30.25081	22	07	24.22	-13	12	37.3		3	809
1986	QP2		1986	09	01.21840	22	06	00.63	-13	21	56.3		3	809
1986	QP2		1986	09	01.22326	22	06	00.42	-13	21	57.8		3	809
1986	QP2		1986	09	01.22813	22	06	00.21	-13	21	59.3		3	809
1986	QQ2	*	1986	08	28.19167	22	11	32.63	-15	25	47.8	17.5	3	809
1986	QQ2		1986	08	28.19722	22	11	32.33	-15	25	50.6		3	809
1986	QQ2		1986	08	28.20278	22	11	32.04	-15	25	53.5		3	809
1986	QQ2		1986	09	01.27951	22	07	55.52	-16	00	51.5		3	809
1986	QQ2		1986	09	01.28437	22	07	55.27	-16	00	54.0		3	809
1986	QQ2		1986	09	01.28924	22	07	55.00	-16	00	56.5		3	809
1986	QQ2		1986	09	03.35868	22	06	07.40	-16	17	58.0		3	809
1986	QQ2		1986	09	03.36354	22	06	07.15	-16	18	00.4		3	809
1986	QQ2		1986	09	03.36840	22	06	06.91	-16	18	02.8		3	809
1986	QQ2		1986	09	05.20243	22	04	33.88	-16	32	40.3		3	809
1986	QQ2		1986	09	05.20729	22	04	33.62	-16	32	42.7		3	809
1986	QQ2		1986	09	05.21215	22	04	33.37	-16	32	45.0		3	809
1986	QQ2		1986	09	07.11354	22	02	59.50	-16	47	22.0		3	809
1986	QQ2		1986	09	07.11840	22	02	59.25	-16	47	24.2		3	809
1986	QQ2		1986	09	07.12430	22	02	58.95	-16	47	27.0		3	809
1986	QQ2		1986	09	08.27882	22	02	02.95	-16	56	01.9		3	809
1986	QQ2		1986	09	08.28368	22	02	02.72	-16	56	04.1		3	809
1986	QQ2		1986	09	08.28854	22	02	02.48	-16	56	06.3		3	809
1986	QQ2		1986	09	09.24410	22	01	17.44	-17	03	02.4		3	809
1986	QQ2		1986	09	09.24896	22	01	17.21	-17	03	04.5		3	809
1986	QQ2		1986	09	09.25417	22	01	16.96	-17	03	06.7		3	809
1986	QQ2		1986	09	12.30833	21	58	59.24	-17	24	08.1		3	809
1986	QQ2		1986	09	12.31354	21	58	59.01	-17	24	10.2		3	809

1986	QQ2		1986	09	12.31840	21	58	58.78	-17	24	12.2	3 809
1986	QR2	*	1986	08	28.19167	22	14	12.32	-14	44	32.6	15.5 3 809
1986	QR2		1986	08	28.19722	22	14	12.13	-14	44	38.1	3 809
1986	QR2		1986	08	28.20278	22	14	11.93	-14	44	43.6	3 809
1986	QR2		1986	09	01.27951	22	12	04.71	-15	49	53.9	3 809
1986	QR2		1986	09	01.28437	22	12	04.55	-15	49	58.6	3 809
1986	QR2		1986	09	01.28924	22	12	04.40	-15	50	03.1	3 809
1986	QR2		1986	09	02.33021	22	11	32.74	-16	06	21.1	3 809
1986	QR2		1986	09	02.33507	22	11	32.58	-16	06	25.4	3 809
1986	QR2		1986	09	02.33993	22	11	32.42	-16	06	29.9	3 809
1986	QR2		1986	09	03.18646	22	11	07.59	-16	19	39.3	3 809
1986	QR2		1986	09	03.19132	22	11	07.44	-16	19	43.8	3 809
1986	QR2		1986	09	03.19618	22	11	07.27	-16	19	48.7	3 809
1986	QR2		1986	09	09.24410	22	08	21.90	-17	49	22.2	3 809
1986	QR2		1986	09	09.24896	22	08	21.77	-17	49	26.5	3 809
1986	QR2		1986	09	09.25417	22	08	21.63	-17	49	31.1	3 809
1986	QR2		1986	09	12.30833	22	07	12.22	-18	31	11.6	3 809
1986	QR2		1986	09	12.31354	22	07	12.08	-18	31	15.9	3 809
1986	QR2		1986	09	12.31840	22	07	11.97	-18	31	19.9	3 809
1986	QS2	*	1986	08	28.19167	22	16	01.39	-13	58	21.6	16.9 3 809
1986	QS2		1986	08	28.19722	22	16	01.14	-13	58	22.0	3 809
1986	QS2		1986	08	28.20278	22	16	00.86	-13	58	22.4	3 809
1986	QT2	*	1986	08	28.19167	22	16	05.17	-13	57	39.8	16.5 3 809
1986	QT2		1986	08	28.19722	22	16	04.85	-13	57	41.8	3 809
1986	QT2		1986	08	28.20278	22	16	04.55	-13	57	43.9	3 809
1986	QT2		1986	09	01.27951	22	12	33.54	-14	22	54.7	3 809
1986	QT2		1986	09	01.28437	22	12	33.27	-14	22	56.4	3 809
1986	QT2		1986	09	01.28924	22	12	33.01	-14	22	58.1	3 809
1986	QT2		1986	09	02.33021	22	11	40.61	-14	29	02.4	3 809
1986	QT2		1986	09	02.33507	22	11	40.37	-14	29	04.0	3 809
1986	QT2		1986	09	02.33993	22	11	40.12	-14	29	05.8	3 809
1986	QT2		1986	09	03.18646	22	10	58.73	-14	33	56.0	3 809
1986	QT2		1986	09	03.19132	22	10	58.50	-14	33	57.7	3 809
1986	QT2		1986	09	03.19618	22	10	58.26	-14	33	59.3	3 809
1986	QT2		1986	09	04.13576	22	10	12.76	-14	39	12.4	3 809
1986	QT2		1986	09	04.14062	22	10	12.51	-14	39	14.0	3 809
1986	QT2		1986	09	04.14549	22	10	12.25	-14	39	15.5	3 809
1986	QT2		1986	09	05.23785	22	09	19.86	-14	45	07.2	3 809
1986	QT2		1986	09	05.24340	22	09	19.57	-14	45	09.0	3 809
1986	QT2		1986	09	05.24826	22	09	19.34	-14	45	10.7	3 809
1986	QT2		1986	09	06.19688	22	08	35.35	-14	50	06.8	3 809
1986	QT2		1986	09	06.20173	22	08	35.11	-14	50	08.3	3 809
1986	QT2		1986	09	06.20660	22	08	34.87	-14	50	09.7	3 809
1986	QT2		1986	09	08.25590	22	07	03.07	-15	00	15.4	3 809
1986	QT2		1986	09	08.26076	22	07	02.84	-15	00	16.8	3 809
1986	QT2		1986	09	08.26562	22	07	02.64	-15	00	18.1	3 809
1986	QT2		1986	09	10.33889	22	05	35.65	-15	09	38.2	3 809
1986	QT2		1986	09	10.34375	22	05	35.45	-15	09	39.5	3 809
1986	QT2		1986	09	10.34792	22	05	35.27	-15	09	40.4	3 809
1986	QT2		1986	09	12.29201	22	04	19.84	-15	17	38.4	3 809
1986	QT2		1986	09	12.29731	22	04	19.63	-15	17	39.7	3 809
1986	QT2		1986	09	12.30260	22	04	19.37	-15	17	41.0	3 809
1986	QU2	*	1986	08	28.19167	22	16	47.97	-15	19	44.6	17.3 3 809
1986	QU2		1986	08	28.19722	22	16	47.64	-15	19	45.8	3 809
1986	QU2		1986	08	28.20278	22	16	47.34	-15	19	47.0	3 809
1986	QU2		1986	09	01.27951	22	13	15.38	-15	34	34.2	3 809
1986	QU2		1986	09	01.28437	22	13	15.13	-15	34	35.2	3 809
1986	QU2		1986	09	01.28924	22	13	14.87	-15	34	36.3	3 809
1986	QU2		1986	09	02.33021	22	12	21.55	-15	38	08.5	3 809

1986	QU2		1986	09	02.33507	22	12	21.29	-15	38	09.4	3 809
1986	QU2		1986	09	02.33993	22	12	21.04	-15	38	10.3	3 809
1986	QU2		1986	09	03.18646	22	11	38.24	-15	41	00.2	3 809
1986	QU2		1986	09	03.19132	22	11	37.98	-15	41	01.1	3 809
1986	QU2		1986	09	03.19618	22	11	37.73	-15	41	02.1	3 809
1986	QU2		1986	09	04.13576	22	10	50.52	-15	44	05.0	3 809
1986	QU2		1986	09	04.14062	22	10	50.28	-15	44	05.9	3 809
1986	QU2		1986	09	04.14549	22	10	50.03	-15	44	06.8	3 809
1986	QU2		1986	09	05.23785	22	09	55.41	-15	47	32.0	3 809
1986	QU2		1986	09	05.24340	22	09	55.13	-15	47	33.0	3 809
1986	QU2		1986	09	05.24826	22	09	54.88	-15	47	33.9	3 809
1986	QU2		1986	09	06.19688	22	09	08.29	-15	50	26.6	3 809
1986	QU2		1986	09	06.20173	22	09	08.03	-15	50	27.5	3 809
1986	QU2		1986	09	06.20660	22	09	07.79	-15	50	28.3	3 809
1986	QU2		1986	09	07.11354	22	08	23.85	-15	53	07.7	3 809
1986	QU2		1986	09	07.11840	22	08	23.61	-15	53	08.5	3 809
1986	QU2		1986	09	07.12430	22	08	23.32	-15	53	09.5	3 809
1986	QU2		1986	09	08.14479	22	07	34.36	-15	56	02.2	3 809
1986	QU2		1986	09	08.14965	22	07	34.12	-15	56	03.0	3 809
1986	QU2		1986	09	08.15451	22	07	33.88	-15	56	03.9	3 809
1986	QU2		1986	09	08.25590	22	07	28.88	-15	56	21.0	3 809
1986	QU2		1986	09	08.26076	22	07	28.64	-15	56	21.7	3 809
1986	QU2		1986	09	08.26562	22	07	28.40	-15	56	22.5	3 809
1986	QU2		1986	09	08.27882	22	07	27.77	-15	56	24.6	3 809
1986	QU2		1986	09	08.28368	22	07	27.53	-15	56	25.4	3 809
1986	QU2		1986	09	08.28854	22	07	27.31	-15	56	26.1	3 809
1986	QU2		1986	09	12.29201	22	04	24.06	-16	06	30.3	3 809
1986	QU2		1986	09	12.29731	22	04	23.79	-16	06	31.0	3 809
1986	QU2		1986	09	12.30260	22	04	23.56	-16	06	31.7	3 809
1986	QV2	*	1986	08	28.19167	22	16	55.94	-13	57	27.4	16.7 3 809
1986	QV2		1986	08	28.19722	22	16	55.68	-13	57	30.0	3 809
1986	QV2		1986	08	28.20278	22	16	55.42	-13	57	32.3	3 809
1986	QV2		1986	09	01.27951	22	13	43.83	-14	25	38.3	3 809
1986	QV2		1986	09	01.28437	22	13	43.60	-14	25	40.6	3 809
1986	QV2		1986	09	01.28924	22	13	43.38	-14	25	42.5	3 809
1986	QV2		1986	09	02.33021	22	12	55.25	-14	32	39.6	3 809
1986	QV2		1986	09	02.33507	22	12	55.02	-14	32	41.4	3 809
1986	QV2		1986	09	02.33993	22	12	54.83	-14	32	43.3	3 809
1986	QV2		1986	09	03.18646	22	12	16.32	-14	38	18.0	3 809
1986	QV2		1986	09	03.19132	22	12	16.11	-14	38	19.9	3 809
1986	QV2		1986	09	03.19618	22	12	15.88	-14	38	22.0	3 809
1986	QV2		1986	09	04.13576	22	11	33.35	-14	44	27.8	3 809
1986	QV2		1986	09	04.14062	22	11	33.11	-14	44	29.9	3 809
1986	QV2		1986	09	04.14549	22	11	32.91	-14	44	32.1	3 809
1986	QV2		1986	09	05.23785	22	10	43.83	-14	51	30.6	3 809
1986	QV2		1986	09	05.24340	22	10	43.58	-14	51	32.7	3 809
1986	QV2		1986	09	05.24826	22	10	43.36	-14	51	34.5	3 809
1986	QV2		1986	09	06.19688	22	10	01.60	-14	57	31.5	3 809
1986	QV2		1986	09	06.20173	22	10	01.38	-14	57	33.3	3 809
1986	QV2		1986	09	06.20660	22	10	01.16	-14	57	35.1	3 809
1986	QV2		1986	09	08.14479	22	08	37.60	-15	09	24.3	3 809
1986	QV2		1986	09	08.14965	22	08	37.41	-15	09	26.0	3 809
1986	QV2		1986	09	08.15451	22	08	37.21	-15	09	27.8	3 809
1986	QV2		1986	09	08.25590	22	08	32.68	-15	10	03.4	3 809
1986	QV2		1986	09	08.26076	22	08	32.45	-15	10	05.1	3 809
1986	QV2		1986	09	08.26562	22	08	32.25	-15	10	06.9	3 809
1986	QV2		1986	09	10.33889	22	07	06.01	-15	22	11.4	3 809
1986	QV2		1986	09	10.34375	22	07	05.81	-15	22	13.1	3 809
1986	QV2		1986	09	10.34792	22	07	05.64	-15	22	14.4	3 809

1986	QV2		1986	09	12.29201	22	05	48.29	-15	33	02.5	3 809
1986	QV2		1986	09	12.29731	22	05	48.08	-15	33	04.4	3 809
1986	QV2		1986	09	12.30260	22	05	47.87	-15	33	06.2	3 809
1986	QW2	*	1986	08	28.21042	22	20	42.80	-14	30	42.8	16.9 3 809
1986	QW2		1986	08	28.21597	22	20	42.53	-14	30	46.0	3 809
1986	QW2		1986	08	28.22153	22	20	42.25	-14	30	49.1	3 809
1986	QW2		1986	08	31.33958	22	18	11.27	-15	00	25.9	3 809
1986	QW2		1986	08	31.34479	22	18	11.01	-15	00	29.0	3 809
1986	QW2		1986	08	31.35000	22	18	10.73	-15	00	31.9	3 809
1986	QW2		1986	09	01.29618	22	17	25.74	-15	09	16.4	3 809
1986	QW2		1986	09	01.30104	22	17	25.51	-15	09	19.1	3 809
1986	QW2		1986	09	01.30590	22	17	25.28	-15	09	22.1	3 809
1986	QW2		1986	09	03.20521	22	15	56.37	-15	26	28.4	3 809
1986	QW2		1986	09	03.21007	22	15	56.14	-15	26	31.0	3 809
1986	QW2		1986	09	03.21493	22	15	55.88	-15	26	33.6	3 809
1986	QW2		1986	09	04.15451	22	15	12.80	-15	34	48.2	3 809
1986	QW2		1986	09	04.15937	22	15	12.59	-15	34	50.8	3 809
1986	QW2		1986	09	04.16424	22	15	12.36	-15	34	53.7	3 809
1986	QW2		1986	09	05.25521	22	14	22.66	-15	44	14.0	3 809
1986	QW2		1986	09	05.26215	22	14	22.34	-15	44	17.5	3 809
1986	QW2		1986	09	05.26910	22	14	22.00	-15	44	20.9	3 809
1986	QW2		1986	09	07.13090	22	13	00.53	-15	59	46.4	3 809
1986	QW2		1986	09	07.13576	22	13	00.32	-15	59	48.8	3 809
1986	QW2		1986	09	07.14062	22	13	00.10	-15	59	50.9	3 809
1986	QW2		1986	09	11.10868	22	10	18.23	-16	30	08.9	3 809
1986	QW2		1986	09	11.11354	22	10	18.04	-16	30	11.1	3 809
1986	QW2		1986	09	11.11840	22	10	17.83	-16	30	13.5	3 809
1986	QX2	*	1986	08	28.21042	22	22	18.79	-13	48	38.5	16.5 3 809
1986	QX2		1986	08	28.21597	22	22	18.53	-13	48	40.0	3 809
1986	QX2		1986	08	28.22153	22	22	18.26	-13	48	41.8	3 809
1986	QX2		1986	08	31.33958	22	19	58.30	-14	03	36.6	3 809
1986	QX2		1986	08	31.34479	22	19	58.06	-14	03	38.1	3 809
1986	QX2		1986	08	31.35000	22	19	57.83	-14	03	39.5	3 809
1986	QX2		1986	09	01.12882	22	19	23.55	-14	07	17.7	3 809
1986	QX2		1986	09	01.13403	22	19	23.32	-14	07	19.2	3 809
1986	QX2		1986	09	01.13923	22	19	23.09	-14	07	20.7	3 809
1986	QX2		1986	09	01.29618	22	19	15.86	-14	08	04.2	3 809
1986	QX2		1986	09	01.30104	22	19	15.64	-14	08	05.5	3 809
1986	QX2		1986	09	01.30590	22	19	15.42	-14	08	06.7	3 809
1986	QX2		1986	09	02.31354	22	18	30.92	-14	12	44.5	3 809
1986	QX2		1986	09	02.31840	22	18	30.70	-14	12	45.7	3 809
1986	QX2		1986	09	02.32326	22	18	30.48	-14	12	47.0	3 809
1986	QX2		1986	09	02.34549	22	18	29.52	-14	12	52.3	3 809
1986	QX2		1986	09	02.35035	22	18	29.31	-14	12	53.4	3 809
1986	QX2		1986	09	02.35521	22	18	29.10	-14	12	54.8	3 809
1986	QX2		1986	09	03.20521	22	17	52.01	-14	16	46.1	3 809
1986	QX2		1986	09	03.21007	22	17	51.79	-14	16	47.4	3 809
1986	QX2		1986	09	03.21493	22	17	51.57	-14	16	48.6	3 809
1986	QX2		1986	09	03.29259	22	17	48.09	-14	17	08.7	3 809
1986	QX2		1986	09	03.29676	22	17	47.90	-14	17	09.9	3 809
1986	QX2		1986	09	03.30092	22	17	47.72	-14	17	11.1	3 809
1986	QX2		1986	09	04.15451	22	17	10.89	-14	20	58.1	3 809
1986	QX2		1986	09	04.15937	22	17	10.67	-14	20	59.4	3 809
1986	QX2		1986	09	04.16424	22	17	10.45	-14	21	00.7	3 809
1986	QX2		1986	09	04.19410	22	17	09.11	-14	21	08.8	3 809
1986	QX2		1986	09	04.19896	22	17	08.90	-14	21	10.0	3 809
1986	QX2		1986	09	04.20382	22	17	08.67	-14	21	11.3	3 809
1986	QX2		1986	09	05.25521	22	16	23.38	-14	25	45.3	3 809
1986	QX2		1986	09	05.26215	22	16	23.07	-14	25	47.3	3 809

1986	QX2		1986	09	05.26910	22	16	22.76	-14	25	48.9	3 809
1986	QX2		1986	09	05.30799	22	16	21.07	-14	25	59.5	3 809
1986	QX2		1986	09	05.31285	22	16	20.86	-14	26	00.6	3 809
1986	QX2		1986	09	05.31771	22	16	20.65	-14	26	01.9	3 809
1986	QX2		1986	09	06.21424	22	15	42.69	-14	29	50.7	3 809
1986	QX2		1986	09	06.21910	22	15	42.51	-14	29	52.0	3 809
1986	QX2		1986	09	06.22396	22	15	42.32	-14	29	53.2	3 809
1986	QX2		1986	09	08.29479	22	14	16.02	-14	38	25.0	3 809
1986	QX2		1986	09	08.29965	22	14	15.81	-14	38	25.6	3 809
1986	QX2		1986	09	08.30625	22	14	15.54	-14	38	27.2	3 809
1986	QX2		1986	09	08.31354	22	14	15.20	-14	38	28.3	3 809
1986	QX2		1986	09	08.31840	22	14	15.00	-14	38	29.5	3 809
1986	QX2		1986	09	08.32326	22	14	14.80	-14	38	30.6	3 809
1986	QX2		1986	09	11.06562	22	12	25.30	-14	49	07.9	3 809
1986	QX2		1986	09	11.07118	22	12	25.08	-14	49	09.1	3 809
1986	QX2		1986	09	11.07674	22	12	24.87	-14	49	10.4	3 809
1986	QX2		1986	09	11.08854	22	12	24.41	-14	49	13.0	3 809
1986	QX2		1986	09	11.09410	22	12	24.19	-14	49	14.3	3 809
1986	QX2		1986	09	11.09965	22	12	23.96	-14	49	15.6	3 809
1986	QX2		1986	09	11.20868	22	12	19.55	-14	49	39.7	3 809
1986	QX2		1986	09	11.21354	22	12	19.36	-14	49	40.8	3 809
1986	QX2		1986	09	11.21840	22	12	19.15	-14	49	42.0	3 809
1986	QX2		1986	09	12.32674	22	11	36.35	-14	53	44.0	3 809
1986	QX2		1986	09	12.33160	22	11	36.15	-14	53	45.0	3 809
1986	QX2		1986	09	12.33646	22	11	35.97	-14	53	46.0	3 809
1986	QY2	*	1986	08	28.21042	22	22	35.78	-13	34	36.7	15.8 3 809
1986	QY2		1986	08	28.21597	22	22	35.57	-13	34	42.0	3 809
1986	QY2		1986	08	28.22153	22	22	35.35	-13	34	47.3	3 809
1986	QY2		1986	08	31.33958	22	20	43.93	-14	23	35.1	3 809
1986	QY2		1986	08	31.34479	22	20	43.75	-14	23	40.0	3 809
1986	QY2		1986	08	31.35000	22	20	43.56	-14	23	45.0	3 809
1986	QY2		1986	09	01.29618	22	20	10.22	-14	38	21.0	3 809
1986	QY2		1986	09	01.30104	22	20	10.05	-14	38	25.7	3 809
1986	QY2		1986	09	01.30590	22	20	09.86	-14	38	30.4	3 809
1986	QY2		1986	09	02.34549	22	19	33.29	-14	54	24.2	3 809
1986	QY2		1986	09	02.35035	22	19	33.11	-14	54	28.6	3 809
1986	QY2		1986	09	02.35521	22	19	32.94	-14	54	33.1	3 809
1986	QY2		1986	09	03.20521	22	19	03.81	-15	07	27.0	3 809
1986	QY2		1986	09	03.21007	22	19	03.62	-15	07	31.3	3 809
1986	QY2		1986	09	03.21493	22	19	03.44	-15	07	35.6	3 809
1986	QY2		1986	09	04.15451	22	18	31.40	-15	21	42.8	3 809
1986	QY2		1986	09	04.15937	22	18	31.24	-15	21	47.2	3 809
1986	QY2		1986	09	04.16424	22	18	31.09	-15	21	51.5	3 809
1986	QY2		1986	09	05.25521	22	17	53.95	-15	38	01.7	3 809
1986	QY2		1986	09	05.26215	22	17	53.70	-15	38	07.9	3 809
1986	QY2		1986	09	05.26910	22	17	53.45	-15	38	14.1	3 809
1986	QY2		1986	09	07.13090	22	16	52.75	-16	05	17.8	3 809
1986	QY2		1986	09	07.13576	22	16	52.60	-16	05	22.0	3 809
1986	QY2		1986	09	07.14062	22	16	52.43	-16	05	26.1	3 809
1986	QY2		1986	09	08.32882	22	16	14.20	-16	22	16.7	3 809
1986	QY2		1986	09	08.33368	22	16	14.05	-16	22	20.9	3 809
1986	QY2		1986	09	08.33854	22	16	13.90	-16	22	25.0	3 809
1986	QY2		1986	09	11.10868	22	14	51.62	-17	00	26.0	3 809
1986	QY2		1986	09	11.11354	22	14	51.47	-17	00	30.0	3 809
1986	QY2		1986	09	11.11840	22	14	51.31	-17	00	33.8	3 809
1986	QY2		1986	09	13.31667	22	13	50.57	-17	29	15.5	3 809
1986	QY2		1986	09	13.32396	22	13	50.36	-17	29	20.9	3 809
1986	QY2		1986	09	13.32882	22	13	50.24	-17	29	24.7	3 809
1986	QZ2	*	1986	08	28.27222	23	25	15.29	-12	15	32.1	16.4 3 809

1986	QZ2		1986	08	28.27778	23	25	14.97	-12	15	32.9	3 809
1986	QZ2		1986	08	28.28333	23	25	14.65	-12	15	33.7	3 809
1986	QZ2		1986	09	01.39479	23	21	13.77	-12	25	42.2	3 809
1986	QZ2		1986	09	01.39965	23	21	13.48	-12	25	42.9	3 809
1986	QZ2		1986	09	01.40451	23	21	13.21	-12	25	43.4	3 809
1986	QZ2		1986	09	03.37743	23	19	14.57	-12	30	16.7	3 809
1986	QZ2		1986	09	03.38229	23	19	14.27	-12	30	17.4	3 809
1986	QZ2		1986	09	03.38715	23	19	13.98	-12	30	18.0	3 809
1986	QZ2		1986	09	07.39340	23	15	09.59	-12	38	44.6	3 809
1986	QZ2		1986	09	07.39826	23	15	09.29	-12	38	45.2	3 809
1986	QZ2		1986	09	07.40312	23	15	08.99	-12	38	45.8	3 809
1986	QA3	*	1986	08	29.19167	22	29	55.17	-12	17	27.4	16.1 3 809
1986	QA3		1986	08	29.19722	22	29	54.86	-12	17	29.4	3 809
1986	QA3		1986	08	29.20278	22	29	54.55	-12	17	31.4	3 809
1986	QA3		1986	09	01.12882	22	27	10.71	-12	34	38.4	3 809
1986	QA3		1986	09	01.13403	22	27	10.41	-12	34	40.3	3 809
1986	QA3		1986	09	01.13923	22	27	10.11	-12	34	42.1	3 809
1986	QA3		1986	09	02.18385	22	26	12.00	-12	40	38.7	3 809
1986	QA3		1986	09	02.18906	22	26	11.69	-12	40	40.5	3 809
1986	QA3		1986	09	02.19427	22	26	11.40	-12	40	42.0	3 809
1986	QA3		1986	09	04.19410	22	24	21.80	-12	51	41.7	3 809
1986	QA3		1986	09	04.19896	22	24	21.52	-12	51	43.5	3 809
1986	QA3		1986	09	04.20382	22	24	21.26	-12	51	45.1	3 809
1986	QA3		1986	09	05.30799	22	23	21.60	-12	57	38.0	3 809
1986	QA3		1986	09	05.31285	22	23	21.34	-12	57	39.6	3 809
1986	QA3		1986	09	05.31771	22	23	21.07	-12	57	41.1	3 809
1986	QA3		1986	09	06.27674	22	22	30.32	-13	02	39.5	3 809
1986	QA3		1986	09	06.28160	22	22	30.07	-13	02	41.0	3 809
1986	QA3		1986	09	06.28646	22	22	29.82	-13	02	42.6	3 809
1986	QA3		1986	09	07.20035	22	21	42.33	-13	07	19.7	3 809
1986	QA3		1986	09	07.20521	22	21	42.07	-13	07	21.2	3 809
1986	QA3		1986	09	07.21042	22	21	41.78	-13	07	22.8	3 809
1986	QA3		1986	09	09.11840	22	20	05.07	-13	16	36.9	3 809
1986	QA3		1986	09	09.12326	22	20	04.82	-13	16	38.4	3 809
1986	QA3		1986	09	09.12812	22	20	04.58	-13	16	39.9	3 809
1986	QA3		1986	09	09.15729	22	20	03.01	-13	16	47.9	3 809
1986	QA3		1986	09	09.16215	22	20	02.75	-13	16	49.3	3 809
1986	QA3		1986	09	09.16701	22	20	02.50	-13	16	50.8	3 809
1986	QA3		1986	09	11.20868	22	18	23.09	-13	26	03.9	3 809
1986	QA3		1986	09	11.21354	22	18	22.87	-13	26	05.4	3 809
1986	QA3		1986	09	11.21840	22	18	22.65	-13	26	06.4	3 809
1986	QA3		1986	09	11.26632	22	18	20.22	-13	26	18.5	3 809
1986	QA3		1986	09	11.27187	22	18	19.95	-13	26	20.0	3 809
1986	QA3		1986	09	11.27674	22	18	19.72	-13	26	21.4	3 809
1986	QB3	*	1986	08	29.25625	22	50	53.86	-12	07	16.8	16.9 3 809
1986	QB3		1986	08	29.26215	22	50	53.60	-12	07	18.6	3 809
1986	QB3		1986	08	29.26805	22	50	53.35	-12	07	20.2	3 809
1986	QB3		1986	08	29.27778	22	50	52.93	-12	07	23.1	3 809
1986	QB3		1986	08	29.28333	22	50	52.68	-12	07	24.8	3 809
1986	QB3		1986	08	29.28889	22	50	52.43	-12	07	26.2	3 809
1986	QB3		1986	08	31.35660	22	49	22.19	-12	17	35.9	3 809
1986	QB3		1986	08	31.36146	22	49	21.96	-12	17	37.5	3 809
1986	QB3		1986	08	31.36632	22	49	21.75	-12	17	38.9	3 809
1986	QB3		1986	09	01.26076	22	48	42.59	-12	22	01.3	3 809
1986	QB3		1986	09	01.26562	22	48	42.38	-12	22	02.7	3 809
1986	QB3		1986	09	01.27048	22	48	42.14	-12	22	04.1	3 809
1986	QB3		1986	09	01.31354	22	48	40.18	-12	22	16.5	3 809
1986	QB3		1986	09	01.31840	22	48	39.94	-12	22	17.9	3 809
1986	QB3		1986	09	01.32326	22	48	39.73	-12	22	19.3	3 809

1986	QB3		1986	09	02.36250	22	47	53.82	-12	27	19.4	3 809
1986	QB3		1986	09	02.36666	22	47	53.65	-12	27	20.7	3 809
1986	QB3		1986	09	02.37083	22	47	53.48	-12	27	22.3	3 809
1986	QB3		1986	09	03.27604	22	47	13.55	-12	31	42.7	3 809
1986	QB3		1986	09	03.28090	22	47	13.35	-12	31	44.2	3 809
1986	QB3		1986	09	03.28576	22	47	13.14	-12	31	45.4	3 809
1986	QB3		1986	09	04.30035	22	46	28.13	-12	36	33.9	3 809
1986	QB3		1986	09	04.30590	22	46	27.89	-12	36	35.5	3 809
1986	QB3		1986	09	04.31076	22	46	27.70	-12	36	36.9	3 809
1986	QB3		1986	09	05.35937	22	45	41.24	-12	41	30.4	3 809
1986	QB3		1986	09	05.36423	22	45	41.04	-12	41	31.7	3 809
1986	QB3		1986	09	05.36910	22	45	40.82	-12	41	33.0	3 809
1986	QB3		1986	09	06.36666	22	44	56.74	-12	46	07.2	3 809
1986	QB3		1986	09	06.37083	22	44	56.57	-12	46	08.4	3 809
1986	QB3		1986	09	06.37500	22	44	56.37	-12	46	09.7	3 809
1986	QB3		1986	09	07.29271	22	44	16.07	-12	50	19.4	3 809
1986	QB3		1986	09	07.29757	22	44	15.87	-12	50	20.8	3 809
1986	QB3		1986	09	07.30243	22	44	15.66	-12	50	22.4	3 809
1986	QB3		1986	09	07.32465	22	44	14.65	-12	50	28.7	3 809
1986	QB3		1986	09	07.32951	22	44	14.43	-12	50	30.0	3 809
1986	QB3		1986	09	07.33437	22	44	14.21	-12	50	31.1	3 809
1986	QB3		1986	09	09.22674	22	42	51.63	-12	58	50.8	3 809
1986	QB3		1986	09	09.23160	22	42	51.41	-12	58	51.9	3 809
1986	QB3		1986	09	09.23646	22	42	51.19	-12	58	53.3	3 809
1986	QB3		1986	09	09.33403	22	42	46.83	-12	59	18.9	3 809
1986	QB3		1986	09	09.33958	22	42	46.58	-12	59	20.4	3 809
1986	QB3		1986	09	09.34514	22	42	46.34	-12	59	21.7	3 809
1986	QB3		1986	09	11.32049	22	41	21.31	-13	07	41.9	3 809
1986	QB3		1986	09	11.32535	22	41	21.13	-13	07	43.1	3 809
1986	QB3		1986	09	11.33021	22	41	20.92	-13	07	44.2	3 809
1986	QB3		1986	09	11.33993	22	41	20.46	-13	07	46.8	3 809
1986	QB3		1986	09	11.34479	22	41	20.27	-13	07	48.4	3 809
1986	QB3		1986	09	11.34965	22	41	20.04	-13	07	49.9	3 809
1986	QB3		1986	09	13.35763	22	39	55.47	-13	15	52.9	3 809
1986	QB3		1986	09	13.36180	22	39	55.30	-13	15	54.0	3 809
1986	QB3		1986	09	13.36597	22	39	55.12	-13	15	54.8	3 809
1986	QB3		1986	09	14.37708	22	39	13.29	-13	19	49.8	3 809
1986	QB3		1986	09	14.38125	22	39	13.12	-13	19	50.9	3 809
1986	QB3		1986	09	14.38541	22	39	12.94	-13	19	51.8	3 809
1986	QC3	*	1986	08	29.27778	22	50	44.01	-12	10	05.4	17.4 3 809
1986	QC3		1986	08	29.28333	22	50	43.64	-12	10	06.0	3 809
1986	QC3		1986	08	29.28889	22	50	43.26	-12	10	06.6	3 809
1986	QC3		1986	08	31.35660	22	48	27.12	-12	14	16.7	3 809
1986	QC3		1986	08	31.36146	22	48	26.80	-12	14	17.3	3 809
1986	QC3		1986	08	31.36632	22	48	26.47	-12	14	17.9	3 809
1986	QC3		1986	09	01.31354	22	47	23.72	-12	16	08.7	3 809
1986	QC3		1986	09	01.31840	22	47	23.39	-12	16	09.2	3 809
1986	QC3		1986	09	01.32326	22	47	23.05	-12	16	09.7	3 809
1986	QC3		1986	09	06.32465	22	41	49.38	-12	24	48.6	3 809
1986	QC3		1986	09	06.32951	22	41	49.06	-12	24	49.0	3 809
1986	QC3		1986	09	06.33437	22	41	48.74	-12	24	49.4	3 809
1986	QC3		1986	09	06.36666	22	41	46.55	-12	24	52.1	3 809
1986	QC3		1986	09	06.37083	22	41	46.28	-12	24	52.7	3 809
1986	QC3		1986	09	06.37500	22	41	45.98	-12	24	53.2	3 809
1986	QC3		1986	09	09.26076	22	38	35.63	-12	28	50.5	3 809
1986	QC3		1986	09	09.26562	22	38	35.31	-12	28	51.0	3 809
1986	QC3		1986	09	09.27048	22	38	34.99	-12	28	51.5	3 809
1986	QD3	*	1986	08	29.27778	22	53	59.61	-13	50	23.1	17.5 3 809
1986	QD3		1986	08	29.28333	22	53	59.26	-13	50	23.7	3 809

1986	QD3		1986	08	29.28889	22	53	58.91	-13	50	24.5	3 809
1986	QD3		1986	08	31.35660	22	51	47.31	-13	53	50.2	3 809
1986	QD3		1986	08	31.36146	22	51	46.99	-13	53	50.7	3 809
1986	QD3		1986	08	31.36632	22	51	46.67	-13	53	51.3	3 809
1986	QD3		1986	09	01.31354	22	50	46.18	-13	55	18.0	3 809
1986	QD3		1986	09	01.31840	22	50	45.87	-13	55	18.4	3 809
1986	QD3		1986	09	01.32326	22	50	45.57	-13	55	18.8	3 809
1986	QD3		1986	09	02.36250	22	49	39.08	-13	56	47.2	3 809
1986	QD3		1986	09	02.36666	22	49	38.82	-13	56	47.5	3 809
1986	QD3		1986	09	02.37083	22	49	38.56	-13	56	47.8	3 809
1986	QD3		1986	09	04.30035	22	47	35.39	-13	59	14.4	3 809
1986	QD3		1986	09	04.30590	22	47	35.03	-13	59	14.9	3 809
1986	QD3		1986	09	04.31076	22	47	34.73	-13	59	15.3	3 809
1986	QD3		1986	09	07.29271	22	44	26.32	-14	02	09.6	3 809
1986	QD3		1986	09	07.29757	22	44	26.03	-14	02	09.8	3 809
1986	QD3		1986	09	07.30243	22	44	25.73	-14	02	10.0	3 809
1986	QD3		1986	09	09.22674	22	42	26.64	-14	03	25.5	3 809
1986	QD3		1986	09	09.23160	22	42	26.33	-14	03	25.5	3 809
1986	QD3		1986	09	09.23646	22	42	26.05	-14	03	25.5	3 809
1986	QD3		1986	09	11.32049	22	40	19.88	-14	04	09.7	3 809
1986	QD3		1986	09	11.32535	22	40	19.58	-14	04	09.8	3 809
1986	QD3		1986	09	11.33021	22	40	19.28	-14	04	09.9	3 809
1986	QE3	*	1986	08	29.27778	22	54	11.02	-13	51	05.4	17.5 3 809
1986	QE3		1986	08	29.28333	22	54	10.67	-13	51	05.9	3 809
1986	QE3		1986	08	29.28889	22	54	10.33	-13	51	06.2	3 809
1986	QE3		1986	08	31.35660	22	52	00.09	-13	53	20.5	3 809
1986	QE3		1986	08	31.36146	22	51	59.78	-13	53	20.8	3 809
1986	QE3		1986	08	31.36632	22	51	59.47	-13	53	21.0	3 809
1986	QE3		1986	09	01.31354	22	50	59.25	-13	54	17.6	3 809
1986	QE3		1986	09	01.31840	22	50	58.94	-13	54	18.0	3 809
1986	QE3		1986	09	01.32326	22	50	58.63	-13	54	18.4	3 809
1986	QE3		1986	09	02.36250	22	49	52.32	-13	55	15.6	3 809
1986	QE3		1986	09	02.36666	22	49	52.07	-13	55	15.9	3 809
1986	QE3		1986	09	02.37083	22	49	51.81	-13	55	16.2	3 809
1986	QE3		1986	09	04.30035	22	47	48.16	-13	56	48.6	3 809
1986	QE3		1986	09	04.30590	22	47	47.79	-13	56	48.9	3 809
1986	QE3		1986	09	04.31076	22	47	47.48	-13	56	49.0	3 809
1986	QE3		1986	09	07.29271	22	44	36.18	-13	58	36.2	3 809
1986	QE3		1986	09	07.29757	22	44	35.85	-13	58	36.2	3 809
1986	QE3		1986	09	07.30243	22	44	35.53	-13	58	36.4	3 809
1986	QE3		1986	09	09.22674	22	42	32.80	-13	59	17.0	3 809
1986	QE3		1986	09	09.23160	22	42	32.48	-13	59	17.1	3 809
1986	QE3		1986	09	09.23646	22	42	32.16	-13	59	17.3	3 809
1986	QE3		1986	09	11.32049	22	40	20.39	-13	59	34.4	3 809
1986	QE3		1986	09	11.32535	22	40	20.07	-13	59	34.5	3 809
1986	QE3		1986	09	11.33021	22	40	19.76	-13	59	34.6	3 809
1986	QF3	*	1986	08	29.27778	22	54	26.90	-13	48	02.3	16.8 3 809
1986	QF3		1986	08	29.28333	22	54	26.66	-13	48	04.8	3 809
1986	QF3		1986	08	29.28889	22	54	26.44	-13	48	07.7	3 809
1986	QF3		1986	08	31.35660	22	52	56.51	-14	04	57.7	3 809
1986	QF3		1986	08	31.36146	22	52	56.30	-14	05	00.1	3 809
1986	QF3		1986	08	31.36632	22	52	56.08	-14	05	02.6	3 809
1986	QF3		1986	09	01.31354	22	52	14.44	-14	12	41.4	3 809
1986	QF3		1986	09	01.31840	22	52	14.21	-14	12	43.8	3 809
1986	QF3		1986	09	01.32326	22	52	13.98	-14	12	46.3	3 809
1986	QF3		1986	09	01.32882	22	52	13.68	-14	12	49.6	16.8 3 809
1986	QF3		1986	09	01.33368	22	52	13.49	-14	12	52.1	3 809
1986	QF3		1986	09	01.33854	22	52	13.31	-14	12	54.5	3 809
1986	QF3		1986	09	02.36250	22	51	27.55	-14	21	05.1	3 809

1986	QF3		1986	09	02.36666	22	51	27.37	-14	21	06.9	3 809
1986	QF3		1986	09	02.37083	22	51	27.18	-14	21	08.7	3 809
1986	QF3		1986	09	06.38009	22	48	25.88	-14	52	14.9	16.6 3 809
1986	QF3		1986	09	06.38426	22	48	25.69	-14	52	16.8	3 809
1986	QF3		1986	09	06.38843	22	48	25.50	-14	52	18.6	3 809
1986	QF3		1986	09	07.30868	22	47	43.99	-14	59	12.4	3 809
1986	QF3		1986	09	07.31354	22	47	43.76	-14	59	15.0	3 809
1986	QF3		1986	09	07.31840	22	47	43.53	-14	59	17.1	3 809
1986	QF3		1986	09	09.35347	22	46	11.82	-15	14	04.1	3 809
1986	QF3		1986	09	09.35868	22	46	11.58	-15	14	06.6	3 809
1986	QF3		1986	09	09.36389	22	46	11.36	-15	14	09.0	3 809
1986	QF3		1986	09	11.35868	22	44	43.02	-15	27	57.3	3 809
1986	QF3		1986	09	11.36354	22	44	42.81	-15	27	59.3	3 809
1986	QF3		1986	09	11.36840	22	44	42.62	-15	28	01.3	3 809
1986	QG3	*	1986	08	29.27778	22	55	19.06	-12	28	49.8	17.0 3 809
1986	QG3		1986	08	29.28333	22	55	18.74	-12	28	50.6	3 809
1986	QG3		1986	08	29.28889	22	55	18.42	-12	28	51.4	3 809
1986	QG3		1986	08	31.35660	22	53	30.69	-12	35	05.9	3 809
1986	QG3		1986	08	31.36146	22	53	30.41	-12	35	06.7	3 809
1986	QG3		1986	08	31.36632	22	53	30.12	-12	35	07.6	3 809
1986	QG3		1986	09	01.31354	22	52	40.43	-12	37	55.8	3 809
1986	QG3		1986	09	01.31840	22	52	40.16	-12	37	56.7	3 809
1986	QG3		1986	09	01.32326	22	52	39.88	-12	37	57.9	3 809
1986	QG3		1986	09	02.36250	22	51	44.95	-12	40	56.8	3 809
1986	QG3		1986	09	02.36666	22	51	44.72	-12	40	57.6	3 809
1986	QG3		1986	09	02.37083	22	51	44.49	-12	40	58.4	3 809
1986	QG3		1986	09	04.30035	22	50	02.25	-12	46	22.5	3 809
1986	QG3		1986	09	04.30590	22	50	01.95	-12	46	23.1	3 809
1986	QG3		1986	09	04.31076	22	50	01.70	-12	46	23.9	3 809
1986	QG3		1986	09	07.29271	22	47	23.66	-12	54	07.9	3 809
1986	QG3		1986	09	07.29757	22	47	23.39	-12	54	08.7	3 809
1986	QG3		1986	09	07.30243	22	47	23.13	-12	54	09.4	3 809
1986	QG3		1986	09	07.32465	22	47	21.93	-12	54	13.5	3 809
1986	QG3		1986	09	07.32951	22	47	21.66	-12	54	14.3	3 809
1986	QG3		1986	09	07.33437	22	47	21.38	-12	54	15.0	3 809
1986	QG3		1986	09	09.33403	22	45	36.43	-12	58	57.4	3 809
1986	QG3		1986	09	09.33958	22	45	36.14	-12	58	58.2	3 809
1986	QG3		1986	09	09.34514	22	45	35.85	-12	58	59.0	3 809
1986	QG3		1986	09	11.33993	22	43	52.74	-13	03	15.4	3 809
1986	QG3		1986	09	11.34479	22	43	52.49	-13	03	15.9	3 809
1986	QG3		1986	09	11.34965	22	43	52.22	-13	03	16.4	3 809
1986	QH3	*	1986	08	29.27778	22	56	53.33	-13	14	32.4	17.6 3 809
1986	QH3		1986	08	29.28333	22	56	53.06	-13	14	35.0	3 809
1986	QH3		1986	08	29.28889	22	56	52.78	-13	14	37.6	3 809
1986	QH3		1986	08	29.29740	22	56	52.36	-13	14	41.9	3 809
1986	QH3		1986	08	29.30382	22	56	52.04	-13	14	45.0	3 809
1986	QH3		1986	08	29.31024	22	56	51.70	-13	14	48.3	3 809
1986	QH3		1986	08	31.37187	22	55	11.11	-13	31	17.7	3 809
1986	QH3		1986	08	31.37674	22	55	10.86	-13	31	20.0	3 809
1986	QH3		1986	08	31.38160	22	55	10.65	-13	31	22.4	3 809
1986	QH3		1986	09	01.32882	22	54	23.93	-13	38	54.2	3 809
1986	QH3		1986	09	01.33368	22	54	23.68	-13	38	56.8	3 809
1986	QH3		1986	09	01.33854	22	54	23.44	-13	38	59.1	3 809
1986	QH3		1986	09	02.37569	22	53	31.81	-13	47	07.5	3 809
1986	QH3		1986	09	02.37986	22	53	31.58	-13	47	09.7	3 809
1986	QH3		1986	09	02.38403	22	53	31.37	-13	47	11.7	3 809
1986	QH3		1986	09	07.30868	22	49	24.66	-14	24	47.3	3 809
1986	QH3		1986	09	07.31354	22	49	24.41	-14	24	49.7	3 809
1986	QH3		1986	09	07.31840	22	49	24.17	-14	24	52.0	3 809

1986	QH3		1986	09	07.34062	22	49	23.00	-14	25	01.0	3 809
1986	QH3		1986	09	07.34549	22	49	22.76	-14	25	03.3	3 809
1986	QH3		1986	09	07.35035	22	49	22.51	-14	25	05.5	3 809
1986	QH3		1986	09	09.35347	22	47	42.61	-14	39	38.2	3 809
1986	QH3		1986	09	09.35868	22	47	42.33	-14	39	40.3	3 809
1986	QH3		1986	09	09.36389	22	47	42.07	-14	39	42.6	3 809
1986	QJ3	*	1986	08	29.29740	22	57	17.76	-12	35	13.6	17.5 3 809
1986	QJ3		1986	08	29.30382	22	57	17.43	-12	35	15.6	3 809
1986	QJ3		1986	08	29.31024	22	57	17.11	-12	35	17.7	3 809
1986	QJ3		1986	08	31.37187	22	55	32.38	-12	46	09.8	3 809
1986	QJ3		1986	08	31.37674	22	55	32.11	-12	46	11.4	3 809
1986	QJ3		1986	08	31.38160	22	55	31.87	-12	46	12.8	3 809
1986	QJ3		1986	09	01.32882	22	54	43.44	-12	51	09.9	3 809
1986	QJ3		1986	09	01.33368	22	54	43.21	-12	51	11.3	3 809
1986	QJ3		1986	09	01.33854	22	54	42.97	-12	51	12.7	3 809
1986	QJ3		1986	09	04.32917	22	52	08.70	-13	06	28.2	3 809
1986	QJ3		1986	09	04.33472	22	52	08.42	-13	06	30.2	3 809
1986	QJ3		1986	09	04.34028	22	52	08.15	-13	06	32.2	3 809
1986	QJ3		1986	09	06.38009	22	50	22.62	-13	16	35.3	3 809
1986	QJ3		1986	09	06.38426	22	50	22.40	-13	16	36.6	3 809
1986	QJ3		1986	09	06.38843	22	50	22.19	-13	16	37.9	3 809
1986	QJ3		1986	09	09.35347	22	47	49.65	-13	30	40.0	3 809
1986	QJ3		1986	09	09.35868	22	47	49.38	-13	30	41.5	3 809
1986	QJ3		1986	09	09.36389	22	47	49.11	-13	30	43.0	3 809
1986	QK3	*	1986	08	29.29740	22	58	31.91	-13	28	04.5	17.3 3 809
1986	QK3		1986	08	29.30382	22	58	31.62	-13	28	08.2	3 809
1986	QK3		1986	08	29.31024	22	58	31.33	-13	28	11.6	3 809
1986	QK3		1986	08	31.37187	22	56	57.77	-13	47	10.2	3 809
1986	QK3		1986	08	31.37674	22	56	57.54	-13	47	12.9	3 809
1986	QK3		1986	08	31.38160	22	56	57.32	-13	47	15.6	3 809
1986	QK3		1986	09	01.32882	22	56	13.80	-13	55	53.3	3 809
1986	QK3		1986	09	01.33368	22	56	13.56	-13	55	56.0	3 809
1986	QK3		1986	09	01.33854	22	56	13.33	-13	55	58.7	3 809
1986	QK3		1986	09	02.37569	22	55	25.07	-14	05	18.6	3 809
1986	QK3		1986	09	02.37986	22	55	24.86	-14	05	20.9	3 809
1986	QK3		1986	09	02.38403	22	55	24.69	-14	05	23.1	3 809
1986	QK3		1986	09	04.32917	22	53	53.81	-14	22	38.4	3 809
1986	QK3		1986	09	04.33472	22	53	53.53	-14	22	41.3	3 809
1986	QK3		1986	09	04.34028	22	53	53.26	-14	22	44.2	3 809
1986	QK3		1986	09	06.38009	22	52	17.33	-14	40	16.7	3 809
1986	QK3		1986	09	06.38426	22	52	17.13	-14	40	18.9	3 809
1986	QK3		1986	09	06.38843	22	52	16.93	-14	40	21.0	3 809
1986	QK3		1986	09	07.30868	22	51	33.93	-14	48	04.6	3 809
1986	QK3		1986	09	07.31354	22	51	33.72	-14	48	07.0	3 809
1986	QK3		1986	09	07.31840	22	51	33.49	-14	48	09.3	3 809
1986	QK3		1986	09	07.34062	22	51	32.38	-14	48	20.2	3 809
1986	QK3		1986	09	07.34549	22	51	32.15	-14	48	22.3	3 809
1986	QK3		1986	09	07.35035	22	51	31.92	-14	48	24.8	3 809
1986	QK3		1986	09	09.35347	22	49	58.79	-15	04	42.8	3 809
1986	QK3		1986	09	09.35868	22	49	58.56	-15	04	45.2	3 809
1986	QK3		1986	09	09.36389	22	49	58.32	-15	04	47.6	3 809
1986	QK3		1986	09	10.38611	22	49	11.36	-15	12	48.5	3 809
1986	QK3		1986	09	10.39028	22	49	11.15	-15	12	50.4	3 809
1986	QK3		1986	09	10.39444	22	49	10.95	-15	12	52.3	3 809
1986	QK3		1986	09	11.35868	22	48	27.20	-15	20	15.5	3 809
1986	QK3		1986	09	11.36354	22	48	26.97	-15	20	17.7	3 809
1986	QK3		1986	09	11.36840	22	48	26.76	-15	20	19.9	3 809
1986	QL3	*	1986	08	29.29740	23	00	08.31	-12	23	02.0	16.9 3 809
1986	QL3		1986	08	29.30382	23	00	08.11	-12	23	05.5	3 809

1986	QL3		1986	08	29.31024	23	00	07.91	-12	23	09.0		3 809
1986	QL3		1986	08	31.37187	22	59	06.65	-12	41	41.6		3 809
1986	QL3		1986	08	31.37674	22	59	06.50	-12	41	44.3		3 809
1986	QL3		1986	08	31.38160	22	59	06.35	-12	41	46.8		3 809
1986	QL3		1986	09	01.32882	22	58	37.73	-12	50	12.8		3 809
1986	QL3		1986	09	01.33368	22	58	37.59	-12	50	15.4		3 809
1986	QL3		1986	09	01.33854	22	58	37.44	-12	50	18.0		3 809
1986	QL3		1986	09	02.37569	22	58	05.59	-12	59	24.0		3 809
1986	QL3		1986	09	02.37986	22	58	05.44	-12	59	26.2		3 809
1986	QL3		1986	09	02.38403	22	58	05.31	-12	59	28.5		3 809
1986	QL3		1986	09	04.32917	22	57	05.15	-13	16	14.6		3 809
1986	QL3		1986	09	04.33472	22	57	04.98	-13	16	17.3		3 809
1986	QL3		1986	09	04.34028	22	57	04.81	-13	16	20.0		3 809
1986	QL3		1986	09	06.38009	22	56	01.22	-13	33	20.6		3 809
1986	QL3		1986	09	06.38426	22	56	01.09	-13	33	22.6		3 809
1986	QL3		1986	09	06.38843	22	56	00.95	-13	33	24.5		3 809
1986	QL3		1986	09	07.34062	22	55	31.54	-13	41	07.9		3 809
1986	QL3		1986	09	07.34549	22	55	31.41	-13	41	10.3		3 809
1986	QL3		1986	09	07.35035	22	55	31.26	-13	41	12.9		3 809
1986	QL3		1986	09	10.38611	22	53	58.98	-14	04	40.2		3 809
1986	QL3		1986	09	10.39028	22	53	58.84	-14	04	42.2		3 809
1986	QL3		1986	09	10.39444	22	53	58.71	-14	04	44.2		3 809
1986	QM3	*	1986	08	29.29740	23	01	35.18	-13	01	18.5	15.8	3 809
1986	QM3		1986	08	29.30382	23	01	34.89	-13	01	21.6		3 809
1986	QM3		1986	08	29.31024	23	01	34.60	-13	01	24.8		3 809
1986	QM3		1986	08	31.37187	23	00	01.23	-13	17	51.9		3 809
1986	QM3		1986	08	31.37674	23	00	01.03	-13	17	54.4		3 809
1986	QM3		1986	08	31.38160	23	00	00.81	-13	17	56.9		3 809
1986	QM3		1986	09	01.32882	22	59	17.60	-13	25	26.2		3 809
1986	QM3		1986	09	01.33368	22	59	17.39	-13	25	28.6		3 809
1986	QM3		1986	09	01.33854	22	59	17.17	-13	25	31.1		3 809
1986	QM3		1986	09	02.37569	22	58	29.47	-13	33	38.9		3 809
1986	QM3		1986	09	02.37986	22	58	29.27	-13	33	40.9		3 809
1986	QM3		1986	09	02.38403	22	58	29.11	-13	33	43.0		3 809
1986	QM3		1986	09	04.32917	22	56	59.42	-13	48	48.7		3 809
1986	QM3		1986	09	04.33472	22	56	59.17	-13	48	51.2		3 809
1986	QM3		1986	09	04.34028	22	56	58.91	-13	48	53.8		3 809
1986	QM3		1986	09	06.38009	22	55	24.74	-14	04	22.0		3 809
1986	QM3		1986	09	06.38426	22	55	24.57	-14	04	23.8		3 809
1986	QM3		1986	09	06.38843	22	55	24.36	-14	04	25.7		3 809
1986	QM3		1986	09	07.34062	22	54	40.48	-14	11	31.6		3 809
1986	QM3		1986	09	07.34549	22	54	40.28	-14	11	33.5		3 809
1986	QM3		1986	09	07.35035	22	54	40.07	-14	11	35.8		3 809
1986	QM3		1986	09	09.35347	22	53	08.12	-14	26	12.0		3 809
1986	QM3		1986	09	09.35868	22	53	07.89	-14	26	14.2		3 809
1986	QM3		1986	09	09.36389	22	53	07.65	-14	26	16.6		3 809
1986	QM3		1986	09	10.38611	22	52	21.12	-14	33	33.3		3 809
1986	QM3		1986	09	10.39028	22	52	20.93	-14	33	35.2		3 809
1986	QM3		1986	09	10.39444	22	52	20.74	-14	33	37.2		3 809
1986	QM3		1986	09	11.35868	22	51	37.20	-14	40	21.7		3 809
1986	QM3		1986	09	11.36354	22	51	36.98	-14	40	23.6		3 809
1986	QM3		1986	09	11.36840	22	51	36.76	-14	40	25.5		3 809
1986	QN3	*	1986	08	29.29740	23	04	56.81	-12	42	46.4	17.1	3 809
1986	QN3		1986	08	29.30382	23	04	56.48	-12	42	49.0		3 809
1986	QN3		1986	08	29.31024	23	04	56.14	-12	42	51.4		3 809
1986	QN3		1986	08	29.31944	23	04	55.65	-12	42	55.1		3 809
1986	QN3		1986	08	29.32500	23	04	55.35	-12	42	57.2		3 809
1986	QN3		1986	08	29.33055	23	04	55.07	-12	42	59.2		3 809
1986	QN3		1986	08	31.38728	23	03	08.67	-12	56	24.6		3 809

1986	QN3		1986	08	31.39205	23	03	08.41	-12	56	26.2	3 809
1986	QN3		1986	08	31.39683	23	03	08.15	-12	56	27.9	3 809
1986	QN3		1986	09	01.34687	23	02	18.14	-13	02	36.4	3 809
1986	QN3		1986	09	01.35174	23	02	17.88	-13	02	38.2	3 809
1986	QN3		1986	09	01.35660	23	02	17.61	-13	02	39.8	3 809
1986	QN3		1986	09	02.38958	23	01	22.49	-13	09	17.0	3 809
1986	QN3		1986	09	02.39375	23	01	22.24	-13	09	18.5	3 809
1986	QN3		1986	09	02.39791	23	01	22.04	-13	09	20.2	3 809
1986	QN3		1986	09	04.34896	22	59	36.78	-13	21	35.1	3 809
1986	QN3		1986	09	04.35382	22	59	36.53	-13	21	36.9	3 809
1986	QN3		1986	09	04.35868	22	59	36.27	-13	21	38.8	3 809
1986	QN3		1986	09	07.34062	22	56	53.54	-13	39	34.9	3 809
1986	QN3		1986	09	07.34549	22	56	53.27	-13	39	37.0	3 809
1986	QN3		1986	09	07.35035	22	56	53.02	-13	39	38.8	3 809
1986	QN3		1986	09	07.36597	22	56	52.10	-13	39	43.9	3 809
1986	QN3		1986	09	07.37014	22	56	51.86	-13	39	45.6	3 809
1986	QN3		1986	09	07.37430	22	56	51.63	-13	39	47.1	3 809
1986	QN3		1986	09	09.37153	22	55	02.63	-13	51	09.2	3 809
1986	QN3		1986	09	09.37569	22	55	02.40	-13	51	10.6	3 809
1986	QN3		1986	09	09.37986	22	55	02.18	-13	51	11.7	3 809
1986	QN3		1986	09	10.38611	22	54	07.61	-13	56	41.2	3 809
1986	QN3		1986	09	10.39028	22	54	07.39	-13	56	42.5	3 809
1986	QN3		1986	09	10.39444	22	54	07.16	-13	56	43.9	3 809
1986	QN3		1986	09	11.37674	22	53	14.29	-14	01	55.9	3 809
1986	QN3		1986	09	11.38160	22	53	14.02	-14	01	57.5	3 809
1986	QN3		1986	09	11.38681	22	53	13.73	-14	01	59.2	3 809
1986	QO3	*	1986	08	29.31944	23	05	55.93	-13	06	54.8	17.4 3 809
1986	QO3		1986	08	29.32500	23	05	55.64	-13	06	56.5	3 809
1986	QO3		1986	08	29.33055	23	05	55.35	-13	06	58.2	3 809
1986	QO3		1986	08	31.38728	23	04	12.18	-13	17	33.2	3 809
1986	QO3		1986	08	31.39205	23	04	11.93	-13	17	34.7	3 809
1986	QO3		1986	08	31.39683	23	04	11.70	-13	17	36.2	3 809
1986	QO3		1986	09	01.34687	23	03	23.03	-13	22	25.6	3 809
1986	QO3		1986	09	01.35174	23	03	22.77	-13	22	27.1	3 809
1986	QO3		1986	09	01.35660	23	03	22.52	-13	22	28.6	3 809
1986	QO3		1986	09	02.38958	23	02	28.77	-13	27	40.0	3 809
1986	QO3		1986	09	02.39375	23	02	28.55	-13	27	41.4	3 809
1986	QO3		1986	09	02.39791	23	02	28.33	-13	27	42.8	3 809
1986	QO3		1986	09	04.34896	23	00	45.32	-13	37	17.1	3 809
1986	QO3		1986	09	04.35382	23	00	45.05	-13	37	18.5	3 809
1986	QO3		1986	09	04.35868	23	00	44.77	-13	37	19.9	3 809
1986	QO3		1986	09	07.36597	22	58	03.34	-13	51	20.9	3 809
1986	QO3		1986	09	07.37014	22	58	03.12	-13	51	22.1	3 809
1986	QO3		1986	09	07.37430	22	58	02.88	-13	51	23.3	3 809
1986	QO3		1986	09	09.37153	22	56	15.04	-14	00	04.5	3 809
1986	QO3		1986	09	09.37569	22	56	14.82	-14	00	05.5	3 809
1986	QO3		1986	09	09.37986	22	56	14.60	-14	00	06.6	3 809
1986	QO3		1986	09	10.38611	22	55	20.44	-14	04	16.1	3 809
1986	QO3		1986	09	10.39028	22	55	20.21	-14	04	17.3	3 809
1986	QO3		1986	09	10.39444	22	55	19.99	-14	04	18.6	3 809
1986	QO3		1986	09	11.37674	22	54	27.38	-14	08	13.5	3 809
1986	QO3		1986	09	11.38160	22	54	27.12	-14	08	14.6	3 809
1986	QO3		1986	09	11.38681	22	54	26.84	-14	08	15.9	3 809
1986	QP3	*	1986	08	29.31944	23	10	23.33	-12	02	16.0	16.8 3 809
1986	QP3		1986	08	29.32500	23	10	23.06	-12	02	17.6	3 809
1986	QP3		1986	08	29.33055	23	10	22.79	-12	02	19.3	3 809
1986	QP3		1986	08	31.38728	23	08	41.83	-12	10	57.5	3 809
1986	QP3		1986	08	31.39205	23	08	41.57	-12	10	58.8	3 809
1986	QP3		1986	08	31.39683	23	08	41.36	-12	11	00.0	3 809

1986	QP3		1986	09	01.34687	23	07	53.56	-12	14	56.8	3 809
1986	QP3		1986	09	01.35174	23	07	53.30	-12	14	58.0	3 809
1986	QP3		1986	09	01.35660	23	07	53.04	-12	14	59.2	3 809
1986	QP3		1986	09	02.38958	23	07	00.07	-12	19	11.9	3 809
1986	QP3		1986	09	02.39375	23	06	59.85	-12	19	12.7	3 809
1986	QP3		1986	09	02.39791	23	06	59.64	-12	19	13.7	3 809
1986	QP3		1986	09	04.34896	23	05	17.94	-12	27	01.5	3 809
1986	QP3		1986	09	04.35382	23	05	17.67	-12	27	02.5	3 809
1986	QP3		1986	09	04.35868	23	05	17.42	-12	27	03.8	3 809
1986	QP3		1986	09	07.36597	23	02	37.26	-12	38	21.5	3 809
1986	QP3		1986	09	07.37014	23	02	37.04	-12	38	22.3	3 809
1986	QP3		1986	09	07.37430	23	02	36.82	-12	38	23.1	3 809
1986	QP3		1986	09	11.37674	22	59	02.58	-12	51	39.9	3 809
1986	QP3		1986	09	11.38160	22	59	02.31	-12	51	40.6	3 809
1986	QP3		1986	09	11.38681	22	59	02.02	-12	51	41.5	3 809
1986	QQ3	*	1986	08	29.31944	23	10	33.46	-11	42	34.8	17.0 3 809
1986	QQ3		1986	08	29.32500	23	10	33.19	-11	42	36.3	3 809
1986	QQ3		1986	08	29.33055	23	10	32.91	-11	42	37.9	3 809
1986	QQ3		1986	08	31.38728	23	08	50.81	-11	52	14.6	3 809
1986	QQ3		1986	08	31.39205	23	08	50.56	-11	52	16.1	3 809
1986	QQ3		1986	08	31.39683	23	08	50.32	-11	52	17.7	3 809
1986	QQ3		1986	09	01.34687	23	08	02.32	-11	56	42.2	3 809
1986	QQ3		1986	09	01.35174	23	08	02.07	-11	56	43.5	3 809
1986	QQ3		1986	09	01.35660	23	08	01.81	-11	56	44.8	3 809
1986	QQ3		1986	09	02.38958	23	07	08.95	-12	01	29.4	3 809
1986	QQ3		1986	09	02.39375	23	07	08.74	-12	01	30.5	3 809
1986	QQ3		1986	09	02.39791	23	07	08.53	-12	01	32.0	3 809
1986	QQ3		1986	09	04.34896	23	05	27.60	-12	10	21.9	3 809
1986	QQ3		1986	09	04.35382	23	05	27.34	-12	10	23.0	3 809
1986	QQ3		1986	09	04.35868	23	05	27.08	-12	10	24.4	3 809
1986	QQ3		1986	09	11.37674	22	59	18.42	-12	39	42.9	3 809
1986	QQ3		1986	09	11.38160	22	59	18.17	-12	39	44.1	3 809
1986	QQ3		1986	09	11.38681	22	59	17.88	-12	39	45.4	3 809
1986	QR3	*	1986	08	29.33889	23	14	18.73	-11	57	03.0	16.7 3 809
1986	QR3		1986	08	29.34444	23	14	18.41	-11	57	04.2	3 809
1986	QR3		1986	08	29.35000	23	14	18.08	-11	57	05.7	3 809
1986	QR3		1986	08	31.40243	23	12	18.63	-12	06	01.6	3 809
1986	QR3		1986	08	31.40729	23	12	18.33	-12	06	02.8	3 809
1986	QR3		1986	08	31.41215	23	12	18.03	-12	06	04.1	3 809
1986	QR3		1986	09	01.36215	23	11	21.97	-12	10	09.4	3 809
1986	QR3		1986	09	01.36701	23	11	21.70	-12	10	10.7	3 809
1986	QR3		1986	09	01.37187	23	11	21.40	-12	10	11.9	3 809
1986	QR3		1986	09	02.40278	23	10	19.95	-12	14	33.2	3 809
1986	QR3		1986	09	02.40694	23	10	19.70	-12	14	34.4	3 809
1986	QR3		1986	09	02.41111	23	10	19.45	-12	14	35.4	3 809
1986	QR3		1986	09	04.37187	23	08	21.57	-12	22	41.2	3 809
1986	QR3		1986	09	04.37674	23	08	21.27	-12	22	42.4	3 809
1986	QR3		1986	09	04.38160	23	08	20.98	-12	22	43.6	3 809
1986	QR3		1986	09	07.37917	23	05	19.29	-12	34	27.5	3 809
1986	QR3		1986	09	07.38333	23	05	19.04	-12	34	28.5	3 809
1986	QR3		1986	09	07.38750	23	05	18.78	-12	34	29.5	3 809
1986	QS3	*	1986	08	29.33889	23	16	43.39	-11	32	13.8	16.9 3 809
1986	QS3		1986	08	29.34444	23	16	43.18	-11	32	16.6	3 809
1986	QS3		1986	08	29.35000	23	16	42.95	-11	32	19.7	3 809
1986	QS3		1986	08	31.40243	23	15	20.85	-11	49	24.2	3 809
1986	QS3		1986	08	31.40729	23	15	20.66	-11	49	26.5	3 809
1986	QS3		1986	08	31.41215	23	15	20.45	-11	49	28.9	3 809
1986	QS3		1986	09	01.36215	23	14	41.80	-11	57	22.6	3 809
1986	QS3		1986	09	01.36701	23	14	41.60	-11	57	25.0	3 809

1986	QS3		1986	09	01.37187	23	14	41.41	-11	57	27.3	3 809
1986	QS3		1986	09	02.40278	23	13	58.96	-12	05	58.6	3 809
1986	QS3		1986	09	02.40694	23	13	58.79	-12	06	00.6	3 809
1986	QS3		1986	09	02.41111	23	13	58.62	-12	06	02.6	3 809
1986	QS3		1986	09	04.37187	23	12	37.14	-12	22	08.6	3 809
1986	QS3		1986	09	04.37674	23	12	36.93	-12	22	10.6	3 809
1986	QS3		1986	09	04.38160	23	12	36.72	-12	22	12.8	3 809
1986	QT3	*	1986	08	29.36944	23	39	30.03	-10	54	12.6	17.5 3 809
1986	QT3		1986	08	29.37500	23	39	29.78	-10	54	15.1	3 809
1986	QT3		1986	08	29.38055	23	39	29.55	-10	54	17.6	3 809
1986	QT3		1986	09	01.37951	23	37	18.03	-11	16	46.1	3 809
1986	QT3		1986	09	01.38437	23	37	17.80	-11	16	48.3	3 809
1986	QT3		1986	09	01.38924	23	37	17.56	-11	16	50.5	3 809
1986	QT3		1986	09	03.39340	23	35	43.15	-11	31	56.8	3 809
1986	QT3		1986	09	03.39826	23	35	42.91	-11	31	59.2	3 809
1986	QT3		1986	09	03.40312	23	35	42.68	-11	32	01.2	3 809
1986	QT3		1986	09	04.39062	23	34	54.45	-11	39	26.4	3 809
1986	QT3		1986	09	04.39548	23	34	54.21	-11	39	28.6	3 809
1986	QT3		1986	09	04.40035	23	34	53.94	-11	39	30.8	3 809
1986	QU3	*	1986	08	29.38819	23	42	58.03	-09	06	05.4	16.2 3 809
1986	QU3		1986	08	29.39375	23	42	57.75	-09	06	07.5	3 809
1986	QU3		1986	08	29.39974	23	42	57.48	-09	06	09.5	3 809
1986	QV3	*	1986	08	29.38819	23	46	16.43	-09	49	27.5	15.5 3 809
1986	QV3		1986	08	29.39375	23	46	16.29	-09	49	30.5	3 809
1986	QV3		1986	08	29.39974	23	46	16.11	-09	49	33.6	3 809
1986	QW3	*	1986	08	31.32257	22	13	05.25	-13	13	40.7	17.0 3 809
1986	QW3		1986	08	31.32743	22	13	04.97	-13	13	40.7	3 809
1986	QW3		1986	08	31.33229	22	13	04.70	-13	13	40.8	3 809
1986	QX3	*	1986	08	31.35660	22	46	13.59	-12	33	36.9	16.7 3 809
1986	QX3		1986	08	31.36146	22	46	13.32	-12	33	38.8	3 809
1986	QX3		1986	08	31.36632	22	46	13.07	-12	33	40.8	3 809
1986	QX3		1986	09	01.26076	22	45	26.60	-12	39	38.7	3 809
1986	QX3		1986	09	01.26562	22	45	26.33	-12	39	41.0	3 809
1986	QX3		1986	09	01.27048	22	45	26.08	-12	39	42.8	3 809
1986	QX3		1986	09	01.31354	22	45	23.76	-12	39	59.6	3 809
1986	QX3		1986	09	01.31840	22	45	23.50	-12	40	01.6	3 809
1986	QX3		1986	09	01.32326	22	45	23.24	-12	40	03.6	3 809
1986	QX3		1986	09	02.36250	22	44	29.03	-12	46	54.0	3 809
1986	QX3		1986	09	02.36666	22	44	28.80	-12	46	55.6	3 809
1986	QX3		1986	09	02.37083	22	44	28.58	-12	46	57.2	3 809
1986	QX3		1986	09	03.34132	22	43	38.11	-12	53	15.3	3 809
1986	QX3		1986	09	03.34618	22	43	37.85	-12	53	17.2	3 809
1986	QX3		1986	09	03.35104	22	43	37.60	-12	53	19.1	3 809
1986	QX3		1986	09	04.26354	22	42	50.52	-12	59	09.3	3 809
1986	QX3		1986	09	04.26840	22	42	50.27	-12	59	11.3	3 809
1986	QX3		1986	09	04.27326	22	42	50.01	-12	59	13.1	3 809
1986	QX3		1986	09	04.30035	22	42	48.46	-12	59	23.1	3 809
1986	QX3		1986	09	04.30590	22	42	48.17	-12	59	25.2	3 809
1986	QX3		1986	09	04.31076	22	42	47.92	-12	59	27.0	3 809
1986	QX3		1986	09	05.35937	22	41	53.80	-13	06	02.2	3 809
1986	QX3		1986	09	05.36423	22	41	53.54	-13	06	04.1	3 809
1986	QX3		1986	09	05.36910	22	41	53.28	-13	06	06.0	3 809
1986	QX3		1986	09	05.37674	22	41	52.90	-13	06	08.4	3 809
1986	QX3		1986	09	05.38160	22	41	52.65	-13	06	10.1	3 809
1986	QX3		1986	09	05.38646	22	41	52.39	-13	06	11.9	3 809
1986	QX3		1986	09	06.32465	22	41	04.42	-13	11	59.4	3 809
1986	QX3		1986	09	06.32951	22	41	04.17	-13	12	01.3	3 809
1986	QX3		1986	09	06.33437	22	41	03.91	-13	12	03.1	3 809
1986	QX3		1986	09	07.29271	22	40	15.34	-13	17	50.6	3 809

1986	QX3		1986	09	07.29757	22	40	15.10	-13	17	52.1		3 809
1986	QX3		1986	09	07.30243	22	40	14.85	-13	17	53.9		3 809
1986	QX3		1986	09	09.22674	22	38	38.67	-13	29	11.0		3 809
1986	QX3		1986	09	09.23160	22	38	38.43	-13	29	12.7		3 809
1986	QX3		1986	09	09.23646	22	38	38.19	-13	29	14.2		3 809
1986	QX3		1986	09	11.32049	22	36	56.47	-13	40	50.0		3 809
1986	QX3		1986	09	11.32535	22	36	56.22	-13	40	51.5		3 809
1986	QX3		1986	09	11.33021	22	36	55.99	-13	40	53.0		3 809
1986	QY3	*	1986	08	31.35660	22	46	45.22	-12	43	20.9	17.0	3 809
1986	QY3		1986	08	31.36146	22	46	45.00	-12	43	23.0		3 809
1986	QY3		1986	08	31.36632	22	46	44.78	-12	43	25.1		3 809
1986	QY3		1986	09	01.26076	22	46	03.00	-12	49	51.4		3 809
1986	QY3		1986	09	01.26562	22	46	02.76	-12	49	53.5		3 809
1986	QY3		1986	09	01.27048	22	46	02.51	-12	49	55.5		3 809
1986	QY3		1986	09	01.31354	22	46	00.35	-12	50	13.8		3 809
1986	QY3		1986	09	01.31840	22	46	00.12	-12	50	15.8		3 809
1986	QY3		1986	09	01.32326	22	45	59.90	-12	50	17.9		3 809
1986	QY3		1986	09	02.36250	22	45	10.94	-12	57	40.2		3 809
1986	QY3		1986	09	02.36666	22	45	10.74	-12	57	42.0		3 809
1986	QY3		1986	09	02.37083	22	45	10.54	-12	57	43.8		3 809
1986	QY3		1986	09	03.34132	22	44	24.89	-13	04	31.7		3 809
1986	QY3		1986	09	03.34618	22	44	24.65	-13	04	33.6		3 809
1986	QY3		1986	09	03.35104	22	44	24.41	-13	04	35.7		3 809
1986	QY3		1986	09	04.26354	22	43	41.75	-13	10	53.6		3 809
1986	QY3		1986	09	04.26840	22	43	41.50	-13	10	55.6		3 809
1986	QY3		1986	09	04.27326	22	43	41.27	-13	10	57.6		3 809
1986	QY3		1986	09	04.30035	22	43	39.94	-13	11	09.7		3 809
1986	QY3		1986	09	04.30590	22	43	39.66	-13	11	12.0		3 809
1986	QY3		1986	09	04.31076	22	43	39.42	-13	11	14.0		3 809
1986	QY3		1986	09	06.32465	22	42	05.44	-13	24	45.6		3 809
1986	QY3		1986	09	06.32951	22	42	05.21	-13	24	47.4		3 809
1986	QY3		1986	09	06.33437	22	42	05.01	-13	24	49.6		3 809
1986	QY3		1986	09	07.29271	22	41	20.88	-13	31	04.3		3 809
1986	QY3		1986	09	07.29757	22	41	20.64	-13	31	06.5		3 809
1986	QY3		1986	09	07.30243	22	41	20.40	-13	31	08.4		3 809
1986	QY3		1986	09	09.22674	22	39	53.23	-13	43	16.4		3 809
1986	QY3		1986	09	09.23160	22	39	53.00	-13	43	18.1		3 809
1986	QY3		1986	09	09.23646	22	39	52.76	-13	43	20.1		3 809
1986	QY3		1986	09	11.32049	22	38	20.61	-13	55	46.3		3 809
1986	QY3		1986	09	11.32535	22	38	20.40	-13	55	48.0		3 809
1986	QY3		1986	09	11.33021	22	38	20.18	-13	55	49.8		3 809
1986	RP2		1986	08	29.33889	23	19	25.88	-11	57	21.5	15.7	3 809
1986	RP2		1986	08	29.34444	23	19	25.68	-11	57	25.7		3 809
1986	RP2		1986	08	29.35000	23	19	25.46	-11	57	30.8		3 809
1986	RP2		1986	08	31.40243	23	18	17.23	-12	25	34.6		3 809
1986	RP2		1986	08	31.40729	23	18	17.06	-12	25	38.6		3 809
1986	RP2		1986	08	31.41215	23	18	16.89	-12	25	42.6		3 809
1986	RP2		1986	09	02.40278	23	17	07.39	-12	52	56.3		3 809
1986	RP2		1986	09	02.40694	23	17	07.24	-12	52	59.8		3 809
1986	RP2		1986	09	02.41111	23	17	07.10	-12	53	03.1		3 809
1986	RP2		1986	09	13.28923	23	10	19.40	-15	15	24.3	16.0	3 809
1986	RP2		1986	09	13.29409	23	10	19.22	-15	15	28.0		3 809
1986	RP2		1986	09	13.29896	23	10	19.04	-15	15	31.6		3 809
1986	RJ4		1986	08	28.15278	21	55	23.59	-15	26	31.5	16.5	3 809
1986	RJ4		1986	08	28.15833	21	55	23.08	-15	26	27.7		3 809
1986	RJ4		1986	08	28.16389	21	55	22.53	-15	26	24.0		3 809
1986	RJ4		1986	09	06.08646	21	41	23.83	-13	52	23.1		3 809
1986	RJ4		1986	09	06.09132	21	41	23.36	-13	52	20.2		3 809
1986	RJ4		1986	09	06.09618	21	41	22.90	-13	52	17.1		3 809

1986	RJ4		1986	09	07.07882	21	39	56.55	-13	41	25.6	3 809
1986	RJ4		1986	09	07.08368	21	39	56.15	-13	41	22.4	3 809
1986	RJ4		1986	09	07.08854	21	39	55.73	-13	41	19.2	3 809
1986	RJ4		1986	09	08.09479	21	38	28.89	-13	30	08.2	3 809
1986	RJ4		1986	09	08.09965	21	38	28.47	-13	30	04.9	3 809
1986	RJ4		1986	09	08.10451	21	38	28.03	-13	30	01.7	3 809
1986	RJ4		1986	09	10.18993	21	35	33.52	-13	06	33.6	3 809
1986	RJ4		1986	09	10.19479	21	35	33.11	-13	06	30.2	3 809
1986	RJ4		1986	09	10.19965	21	35	32.71	-13	06	26.9	3 809
1986	RY4	*	1986	09	01.03472	21	40	29.96	-18	33	17.3	16.6 3 809
1986	RY4		1986	09	01.03993	21	40	29.70	-18	33	17.1	3 809
1986	RY4		1986	09	01.04479	21	40	29.47	-18	33	16.8	3 809
1986	RY4		1986	09	02.06007	21	39	39.56	-18	32	23.0	3 809
1986	RY4		1986	09	02.06493	21	39	39.32	-18	32	22.8	3 809
1986	RY4		1986	09	02.06979	21	39	39.07	-18	32	22.5	3 809
1986	RY4		1986	09	02.08576	21	39	38.19	-18	32	21.9	3 809
1986	RY4		1986	09	02.09062	21	39	37.95	-18	32	21.6	3 809
1986	RY4		1986	09	02.09549	21	39	37.71	-18	32	21.3	3 809
1986	RY4		1986	09	03.07847	21	38	50.93	-18	31	18.0	3 809
1986	RY4		1986	09	03.08368	21	38	50.69	-18	31	17.6	3 809
1986	RY4		1986	09	03.08854	21	38	50.46	-18	31	17.1	3 809
1986	RY4		1986	09	04.01562	21	38	07.86	-18	30	08.9	3 809
1986	RY4		1986	09	04.02048	21	38	07.64	-18	30	08.7	3 809
1986	RY4		1986	09	04.02535	21	38	07.41	-18	30	08.4	3 809
1986	RY4		1986	09	04.03437	21	38	06.95	-18	30	07.5	3 809
1986	RY4		1986	09	04.03924	21	38	06.72	-18	30	07.2	3 809
1986	RY4		1986	09	04.04410	21	38	06.49	-18	30	07.0	3 809
1986	RY4		1986	09	05.04549	21	37	21.81	-18	28	42.0	3 809
1986	RY4		1986	09	05.05104	21	37	21.57	-18	28	41.5	3 809
1986	RY4		1986	09	05.05590	21	37	21.35	-18	28	41.3	3 809
1986	RY4		1986	09	06.02743	21	36	39.75	-18	27	09.0	3 809
1986	RY4		1986	09	06.03299	21	36	39.52	-18	27	08.7	3 809
1986	RY4		1986	09	06.03785	21	36	39.31	-18	27	08.2	3 809
1986	RY4		1986	09	06.07118	21	36	37.79	-18	27	05.0	3 809
1986	RY4		1986	09	06.07604	21	36	37.58	-18	27	04.9	3 809
1986	RY4		1986	09	06.08090	21	36	37.37	-18	27	04.6	3 809
1986	RY4		1986	09	08.07882	21	35	17.02	-18	23	23.4	3 809
1986	RY4		1986	09	08.08368	21	35	16.83	-18	23	22.8	3 809
1986	RY4		1986	09	08.08854	21	35	16.63	-18	23	22.2	3 809
1986	RY4		1986	09	10.13576	21	34	02.06	-18	18	52.3	3 809
1986	RY4		1986	09	10.14062	21	34	01.87	-18	18	51.5	3 809
1986	RY4		1986	09	10.14549	21	34	01.67	-18	18	50.8	3 809
1986	RY4		1986	09	12.13889	21	32	57.44	-18	13	45.9	3 809
1986	RY4		1986	09	12.14410	21	32	57.27	-18	13	45.0	3 809
1986	RY4		1986	09	12.14896	21	32	57.10	-18	13	44.4	3 809
1986	RZ4	*	1986	09	01.07049	21	53	07.79	-19	16	40.8	16.8 3 809
1986	RZ4		1986	09	01.07535	21	53	07.57	-19	16	41.9	3 809
1986	RZ4		1986	09	01.08021	21	53	07.36	-19	16	43.5	3 809
1986	RA5	*	1986	09	01.07049	21	56	24.30	-18	36	27.3	16.5 3 809
1986	RA5		1986	09	01.07535	21	56	24.13	-18	36	29.3	3 809
1986	RA5		1986	09	01.08021	21	56	23.97	-18	36	31.6	3 809
1986	RA5		1986	09	03.15174	21	55	04.24	-18	51	51.9	3 809
1986	RA5		1986	09	03.15590	21	55	04.05	-18	51	53.7	3 809
1986	RA5		1986	09	03.16007	21	55	03.89	-18	51	55.5	3 809
1986	RA5		1986	09	05.08924	21	53	53.81	-19	05	23.2	3 809
1986	RA5		1986	09	05.09410	21	53	53.62	-19	05	25.2	3 809
1986	RA5		1986	09	05.09896	21	53	53.43	-19	05	27.2	3 809
1986	RA5		1986	09	06.16354	21	53	16.17	-19	12	31.9	3 809
1986	RA5		1986	09	06.16840	21	53	16.01	-19	12	33.9	3 809

1986	RA5		1986	09	06.17326	21	53	15.82	-19	12	35.8	3 809
1986	RA5		1986	09	08.21910	21	52	08.49	-19	25	26.4	3 809
1986	RA5		1986	09	08.22430	21	52	08.31	-19	25	28.4	3 809
1986	RA5		1986	09	08.22951	21	52	08.13	-19	25	30.4	3 809
1986	RA5		1986	09	10.29965	21	51	05.79	-19	37	26.4	3 809
1986	RA5		1986	09	10.30451	21	51	05.65	-19	37	27.9	3 809
1986	RA5		1986	09	10.30937	21	51	05.50	-19	37	29.5	3 809
1986	RA5		1986	09	12.24201	21	50	13.37	-19	47	41.6	3 809
1986	RA5		1986	09	12.24687	21	50	13.26	-19	47	43.0	3 809
1986	RA5		1986	09	12.25208	21	50	13.13	-19	47	44.6	3 809
1986	RB5	*	1986	09	01.07049	21	56	44.97	-19	02	59.7	15.4 3 809
1986	RB5		1986	09	01.07535	21	56	44.77	-19	03	01.9	3 809
1986	RB5		1986	09	01.08021	21	56	44.59	-19	03	04.1	3 809
1986	RB5		1986	09	03.15174	21	55	19.08	-19	18	24.1	3 809
1986	RB5		1986	09	03.15590	21	55	18.92	-19	18	25.9	3 809
1986	RB5		1986	09	03.16007	21	55	18.75	-19	18	27.7	3 809
1986	RB5		1986	09	05.08924	21	54	04.05	-19	31	47.8	3 809
1986	RB5		1986	09	05.09410	21	54	03.84	-19	31	49.7	3 809
1986	RB5		1986	09	05.09896	21	54	03.67	-19	31	51.4	3 809
1986	RB5		1986	09	06.16354	21	53	23.96	-19	38	50.0	3 809
1986	RB5		1986	09	06.16840	21	53	23.77	-19	38	51.9	3 809
1986	RB5		1986	09	06.17326	21	53	23.57	-19	38	53.6	3 809
1986	RB5		1986	09	08.21910	21	52	12.20	-19	51	23.1	3 809
1986	RB5		1986	09	08.22430	21	52	12.04	-19	51	24.9	3 809
1986	RB5		1986	09	08.22951	21	52	11.85	-19	51	26.7	3 809
1986	RB5		1986	09	10.29965	21	51	06.20	-20	02	53.0	3 809
1986	RB5		1986	09	10.30451	21	51	06.04	-20	02	54.4	3 809
1986	RB5		1986	09	10.30937	21	51	05.88	-20	02	55.9	3 809
1986	RB5		1986	09	12.24201	21	50	11.47	-20	12	32.2	3 809
1986	RB5		1986	09	12.24687	21	50	11.34	-20	12	33.6	3 809
1986	RB5		1986	09	12.25208	21	50	11.20	-20	12	35.0	3 809
1986	RC5	*	1986	09	02.29687	22	41	45.81	-12	05	49.6	17.0 3 809
1986	RC5		1986	09	02.30173	22	41	45.68	-12	05	54.8	3 809
1986	RC5		1986	09	02.30660	22	41	45.54	-12	05	59.9	3 809
1986	RC5		1986	09	03.27604	22	41	18.87	-12	22	49.6	3 809
1986	RC5		1986	09	03.28090	22	41	18.71	-12	22	54.5	3 809
1986	RC5		1986	09	03.28576	22	41	18.57	-12	22	59.8	3 809
1986	RC5		1986	09	03.34132	22	41	16.90	-12	23	57.2	3 809
1986	RC5		1986	09	03.34618	22	41	16.76	-12	24	02.2	3 809
1986	RC5		1986	09	03.35104	22	41	16.61	-12	24	07.2	3 809
1986	RC5		1986	09	04.26354	22	40	51.75	-12	39	51.4	3 809
1986	RC5		1986	09	04.26840	22	40	51.60	-12	39	56.4	3 809
1986	RC5		1986	09	04.27326	22	40	51.45	-12	40	01.3	3 809
1986	RC5		1986	09	05.37674	22	40	21.10	-12	58	50.5	3 809
1986	RC5		1986	09	05.38160	22	40	20.97	-12	58	55.9	3 809
1986	RC5		1986	09	05.38646	22	40	20.84	-12	59	01.2	3 809
1986	RC5		1986	09	06.32465	22	39	55.51	-13	14	53.6	3 809
1986	RC5		1986	09	06.32951	22	39	55.37	-13	14	58.6	3 809
1986	RC5		1986	09	06.33437	22	39	55.23	-13	15	03.7	3 809
1986	RC5		1986	09	07.27674	22	39	30.25	-13	30	50.7	3 809
1986	RC5		1986	09	07.28160	22	39	30.12	-13	30	55.8	3 809
1986	RC5		1986	09	07.28646	22	39	29.99	-13	31	00.8	3 809
1986	RC5		1986	09	09.22674	22	38	39.61	-14	02	54.5	3 809
1986	RC5		1986	09	09.23160	22	38	39.46	-14	02	59.2	3 809
1986	RC5		1986	09	09.23646	22	38	39.32	-14	03	04.0	3 809
1986	RC5		1986	09	11.32049	22	37	47.26	-14	36	19.9	3 809
1986	RC5		1986	09	11.32535	22	37	47.14	-14	36	24.5	3 809
1986	RC5		1986	09	11.33021	22	37	47.02	-14	36	29.1	3 809
1986	RD5	*	1986	09	03.29259	22	14	45.60	-12	22	51.2	17.0 3 809

1986	RD5		1986	09	03.29676	22	14	45.40	-12	22	51.8	3 809
1986	RD5		1986	09	03.30092	22	14	45.21	-12	22	52.5	3 809
1986	RD5		1986	09	05.10660	22	13	21.08	-12	27	47.8	3 809
1986	RD5		1986	09	05.11181	22	13	20.84	-12	27	48.6	3 809
1986	RD5		1986	09	05.11701	22	13	20.60	-12	27	49.5	3 809
1986	RD5		1986	09	06.22951	22	12	29.29	-12	30	42.7	3 809
1986	RD5		1986	09	06.23437	22	12	29.06	-12	30	43.7	3 809
1986	RD5		1986	09	06.23924	22	12	28.84	-12	30	44.7	3 809
1986	RE5	*	1986	09	04.03437	21	36	08.74	-19	12	03.1	17.6 3 809
1986	RE5		1986	09	04.03924	21	36	08.48	-19	12	01.9	3 809
1986	RE5		1986	09	04.04410	21	36	08.24	-19	12	00.7	3 809
1986	RE5		1986	09	06.04340	21	34	27.58	-19	04	25.3	3 809
1986	RE5		1986	09	06.04861	21	34	27.32	-19	04	24.0	3 809
1986	RE5		1986	09	06.05382	21	34	27.05	-19	04	22.8	3 809
1986	RE5		1986	09	08.05000	21	32	52.59	-18	56	15.5	3 809
1986	RE5		1986	09	08.05521	21	32	52.34	-18	56	14.4	3 809
1986	RE5		1986	09	08.06042	21	32	52.09	-18	56	13.2	3 809
1986	RE5		1986	09	10.13576	21	31	20.56	-18	47	13.0	3 809
1986	RE5		1986	09	10.14062	21	31	20.34	-18	47	11.8	3 809
1986	RE5		1986	09	10.14549	21	31	20.11	-18	47	10.5	3 809
1986	RF5	*	1986	09	04.13576	22	11	50.05	-16	26	14.2	16.0 3 809
1986	RF5		1986	09	04.14062	22	11	49.80	-16	26	13.9	3 809
1986	RF5		1986	09	04.14549	22	11	49.55	-16	26	13.6	3 809
1986	RF5		1986	09	05.23785	22	10	51.39	-16	24	40.1	3 809
1986	RF5		1986	09	05.24340	22	10	51.08	-16	24	39.6	3 809
1986	RF5		1986	09	05.24826	22	10	50.82	-16	24	39.2	3 809
1986	RF5		1986	09	06.19688	22	10	01.84	-16	23	08.7	3 809
1986	RF5		1986	09	06.20173	22	10	01.57	-16	23	08.4	3 809
1986	RF5		1986	09	06.20660	22	10	01.30	-16	23	08.1	3 809
1986	RF5		1986	09	07.11354	22	09	15.63	-16	21	33.1	3 809
1986	RF5		1986	09	07.11840	22	09	15.38	-16	21	32.5	3 809
1986	RF5		1986	09	07.12430	22	09	15.08	-16	21	32.0	3 809
1986	RF5		1986	09	08.14479	22	08	24.47	-16	19	34.9	3 809
1986	RF5		1986	09	08.14965	22	08	24.22	-16	19	34.5	3 809
1986	RF5		1986	09	08.15451	22	08	23.96	-16	19	33.7	3 809
1986	RF5		1986	09	08.25590	22	08	18.57	-16	19	21.2	3 809
1986	RF5		1986	09	08.26076	22	08	18.33	-16	19	20.7	3 809
1986	RF5		1986	09	08.26562	22	08	18.10	-16	19	20.2	3 809
1986	RF5		1986	09	08.27882	22	08	17.46	-16	19	17.9	3 809
1986	RF5		1986	09	08.28368	22	08	17.21	-16	19	17.3	3 809
1986	RF5		1986	09	08.28854	22	08	16.96	-16	19	16.7	3 809
1986	RF5		1986	09	10.33889	22	06	40.13	-16	14	46.1	3 809
1986	RF5		1986	09	10.34375	22	06	39.91	-16	14	45.4	3 809
1986	RF5		1986	09	10.34792	22	06	39.70	-16	14	44.8	3 809
1986	RF5		1986	09	12.29201	22	05	13.97	-16	09	47.5	3 809
1986	RF5		1986	09	12.29731	22	05	13.74	-16	09	46.6	3 809
1986	RF5		1986	09	12.30260	22	05	13.50	-16	09	45.9	3 809
1986	RF5		1986	09	13.09479	22	04	41.03	-16	07	34.1	3 809
1986	RF5		1986	09	13.09826	22	04	40.89	-16	07	33.6	3 809
1986	RF5		1986	09	13.10173	22	04	40.75	-16	07	33.0	3 809
1986	RG5	*	1986	09	04.32917	22	49	57.65	-14	15	40.7	17.3 3 809
1986	RG5		1986	09	04.33472	22	49	57.31	-14	15	47.4	3 809
1986	RG5		1986	09	04.34028	22	49	56.96	-14	15	54.1	3 809
1986	RH5	*	1986	09	04.32917	22	56	00.41	-14	16	26.4	16.8 3 809
1986	RH5		1986	09	04.33472	22	56	00.08	-14	16	26.7	3 809
1986	RH5		1986	09	04.34028	22	55	59.75	-14	16	27.1	3 809
1986	RH5		1986	09	06.38009	22	54	02.44	-14	17	48.6	3 809
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1986	RH5		1986	09	06.38843	22	54	01.96	-14	17	48.7	3 809

1986	RH5		1986	09	07.30868	22	53	09.22	-14	18	17.8	3 809
1986	RH5		1986	09	07.31354	22	53	08.93	-14	18	17.8	3 809
1986	RH5		1986	09	07.31840	22	53	08.64	-14	18	18.2	3 809
1986	RH5		1986	09	07.34062	22	53	07.30	-14	18	17.8	3 809
1986	RH5		1986	09	07.34549	22	53	07.02	-14	18	18.0	3 809
1986	RH5		1986	09	07.35035	22	53	06.75	-14	18	18.2	3 809
1986	RH5		1986	09	09.35347	22	51	12.25	-14	19	00.3	3 809
1986	RH5		1986	09	09.35868	22	51	11.96	-14	19	00.8	3 809
1986	RH5		1986	09	09.36389	22	51	11.66	-14	19	00.8	3 809
1986	RH5		1986	09	10.38611	22	50	13.66	-14	19	09.1	3 809
1986	RH5		1986	09	10.39028	22	50	13.43	-14	19	09.1	3 809
1986	RH5		1986	09	10.39444	22	50	13.17	-14	19	09.4	3 809
1986	RH5		1986	09	11.35868	22	49	18.86	-14	19	12.2	3 809
1986	RH5		1986	09	11.36354	22	49	18.58	-14	19	12.3	3 809
1986	RH5		1986	09	11.36840	22	49	18.33	-14	19	12.3	3 809
1986	RJ5	*	1986	09	04.37187	23	09	18.08	-13	40	52.8	17.1 3 809
1986	RJ5		1986	09	04.37674	23	09	17.78	-13	40	53.0	3 809
1986	RJ5		1986	09	04.38160	23	09	17.49	-13	40	53.3	3 809
1986	RJ5		1986	09	07.37917	23	06	11.49	-13	43	00.9	3 809
1986	RJ5		1986	09	07.38333	23	06	11.24	-13	43	01.4	3 809
1986	RJ5		1986	09	07.38750	23	06	11.00	-13	43	01.8	3 809
1986	RJ5		1986	09	08.38819	23	05	09.00	-13	43	31.9	3 809
1986	RJ5		1986	09	08.39236	23	05	08.74	-13	43	32.0	3 809
1986	RJ5		1986	09	08.39653	23	05	08.49	-13	43	32.2	3 809
1986	RJ5		1986	09	09.38542	23	04	07.61	-13	43	56.6	3 809
1986	RJ5		1986	09	09.38958	23	04	07.35	-13	43	56.7	3 809
1986	RJ5		1986	09	09.39375	23	04	07.09	-13	43	56.8	3 809
1986	RK5	*	1986	09	05.10660	22	13	45.30	-11	57	33.0	17.0 3 809
1986	RK5		1986	09	05.11181	22	13	45.08	-11	57	34.5	3 809
1986	RK5		1986	09	05.11701	22	13	44.87	-11	57	35.9	3 809
1986	RK5		1986	09	06.22951	22	12	59.60	-12	02	42.9	3 809
1986	RK5		1986	09	06.23437	22	12	59.41	-12	02	44.2	3 809
1986	RK5		1986	09	06.23924	22	12	59.20	-12	02	45.6	3 809
1986	RL5	*	1986	09	05.14549	22	40	06.91	-17	16	10.9	16.9 3 809
1986	RL5		1986	09	05.15035	22	40	06.66	-17	16	11.3	3 809
1986	RL5		1986	09	05.15521	22	40	06.40	-17	16	12.0	3 809
1986	RL5		1986	09	07.25035	22	38	17.62	-17	18	49.3	3 809
1986	RL5		1986	09	07.25521	22	38	17.38	-17	18	49.6	3 809
1986	RL5		1986	09	07.26007	22	38	17.14	-17	18	49.8	3 809
1986	RL5		1986	09	09.20104	22	36	38.10	-17	20	48.5	3 809
1986	RL5		1986	09	09.20799	22	36	37.74	-17	20	48.9	3 809
1986	RL5		1986	09	09.22049	22	36	37.08	-17	20	49.5	3 809
1986	RL5		1986	09	11.30312	22	34	52.56	-17	22	26.4	3 809
1986	RL5		1986	09	11.30799	22	34	52.33	-17	22	26.7	3 809
1986	RL5		1986	09	11.31285	22	34	52.08	-17	22	26.9	3 809
1986	RM5	*	1986	09	06.11771	21	44	34.89	-16	04	49.5	17.0 3 809
1986	RM5		1986	09	06.12257	21	44	34.69	-16	04	50.2	3 809
1986	RM5		1986	09	06.12743	21	44	34.49	-16	04	51.1	3 809
1986	RM5		1986	09	08.12674	21	43	10.23	-16	10	13.4	3 809
1986	RM5		1986	09	08.13160	21	43	10.03	-16	10	14.1	3 809
1986	RM5		1986	09	08.13646	21	43	09.83	-16	10	14.9	3 809
1986	RM5		1986	09	08.18646	21	43	07.68	-16	10	23.2	3 809
1986	RM5		1986	09	08.19132	21	43	07.48	-16	10	24.0	3 809
1986	RM5		1986	09	08.19618	21	43	07.27	-16	10	24.6	3 809
1986	RM5		1986	09	10.23368	21	41	45.41	-16	15	28.0	3 809
1986	RM5		1986	09	10.23854	21	41	45.22	-16	15	28.8	3 809
1986	RM5		1986	09	10.24340	21	41	45.02	-16	15	29.4	3 809
1986	RM5		1986	09	10.26354	21	41	44.20	-16	15	32.2	3 809
1986	RM5		1986	09	10.26910	21	41	43.99	-16	15	32.7	3 809

1986	RM5		1986	09	10.27396	21	41	43.80	-16	15	33.4			3 809
1986	RN5	*	1986	09	07.13090	22	15	17.80	-16	35	08.5		15.7	3 809
1986	RN5		1986	09	07.13576	22	15	17.54	-16	35	07.5			3 809
1986	RN5		1986	09	07.14062	22	15	17.29	-16	35	06.5			3 809
1986	RN5		1986	09	08.32882	22	14	14.08	-16	31	08.3			3 809
1986	RN5		1986	09	08.33368	22	14	13.82	-16	31	07.1			3 809
1986	RN5		1986	09	08.33854	22	14	13.59	-16	31	06.0			3 809
1986	RN5		1986	09	11.10868	22	11	55.97	-16	21	02.0			3 809
1986	RN5		1986	09	11.11354	22	11	55.76	-16	21	01.0			3 809
1986	RN5		1986	09	11.11840	22	11	55.51	-16	21	00.0			3 809
1986	RO5	*	1986	09	08.21910	21	50	51.78	-20	02	10.2		17.3	3 809
1986	RO5		1986	09	08.22430	21	50	51.54	-20	02	09.7			3 809
1986	RO5		1986	09	08.22951	21	50	51.30	-20	02	09.2			3 809
1986	RO5		1986	09	10.29965	21	49	13.63	-19	57	42.4			3 809
1986	RO5		1986	09	10.30451	21	49	13.39	-19	57	41.8			3 809
1986	RO5		1986	09	10.30937	21	49	13.16	-19	57	41.2			3 809
1986	RP5	*	1986	09	09.29687	23	39	02.06	-14	03	06.7		16.7	3 809
1986	RP5		1986	09	09.30173	23	39	01.79	-14	03	06.6			3 809
1986	RP5		1986	09	09.30660	23	39	01.52	-14	03	06.4			3 809
1986	RP5		1986	09	12.39375	23	36	07.06	-14	03	08.2			3 809
1986	RP5		1986	09	12.39791	23	36	06.81	-14	03	08.0			3 809
1986	RP5		1986	09	12.40208	23	36	06.58	-14	03	07.7			3 809
1986	RP5		1986	09	13.39236	23	35	10.06	-14	02	53.1			3 809
1986	RP5		1986	09	13.39791	23	35	09.74	-14	02	53.0			3 809
1986	RP5		1986	09	13.40208	23	35	09.51	-14	02	53.0			3 809
1986	RP5		1986	09	14.39375	23	34	12.67	-14	02	31.8			3 809
1986	RP5		1986	09	14.39791	23	34	12.44	-14	02	31.6			3 809
1986	RP5		1986	09	14.40208	23	34	12.20	-14	02	31.5			3 809
1986	RQ5	*	1986	09	09.29687	23	45	07.92	-14	04	39.4		16.8	3 809
1986	RQ5		1986	09	09.30173	23	45	07.66	-14	04	41.0			3 809
1986	RQ5		1986	09	09.30660	23	45	07.39	-14	04	42.7			3 809
1986	RQ5		1986	09	09.31285	23	45	07.06	-14	04	44.9			3 809
1986	RQ5		1986	09	09.31771	23	45	06.80	-14	04	46.6			3 809
1986	RQ5		1986	09	09.32257	23	45	06.54	-14	04	48.1			3 809
1986	RQ5		1986	09	12.39375	23	42	24.59	-14	21	35.0			3 809
1986	RQ5		1986	09	12.39791	23	42	24.37	-14	21	36.4			3 809
1986	RQ5		1986	09	12.40208	23	42	24.13	-14	21	37.9			3 809
1986	RQ5		1986	09	14.39375	23	40	36.67	-14	32	00.3			3 809
1986	RQ5		1986	09	14.39791	23	40	36.44	-14	32	01.5			3 809
1986	RQ5		1986	09	14.40208	23	40	36.23	-14	32	02.8			3 809
66			1986	03	08.23542	13	28	23.16	-09	39	35.9			1 809
66			1986	03	08.25486	13	28	22.52	-09	39	32.9			1 809
66			1986	03	09.28715	13	27	49.97	-09	37	22.0			1 809
66			1986	03	09.30729	13	27	49.31	-09	37	18.6			1 809
66			1986	03	12.24757	13	26	09.45	-09	30	21.5			1 809
66			1986	03	12.27049	13	26	08.59	-09	30	18.0			1 809
66			1986	03	16.24826	13	23	37.19	-09	19	14.9			1 809
66			1986	03	16.27049	13	23	36.26	-09	19	10.4			1 809
109			1986	03	06.11632	11	46	31.62	+04	05	55.1			1 809
109			1986	03	06.13438	11	46	30.56	+04	05	59.2			1 809
109			1986	03	07.10903	11	45	34.45	+04	09	30.1			1 809
109			1986	03	07.12847	11	45	33.30	+04	09	34.5			1 809
109			1986	03	11.12465	11	41	40.31	+04	24	02.6			1 809
109			1986	03	11.14340	11	41	39.15	+04	24	06.5			1 809
109			1986	03	16.11910	11	36	47.51	+04	41	44.9			1 809
109			1986	03	16.14757	11	36	45.81	+04	41	51.2			1 809
150			1986	03	15.12813	11	30	46.92	+01	18	21.3			1 809
150			1986	03	15.15174	11	30	45.82	+01	18	28.8			1 809
200			1986	03	06.14618	11	57	49.71	-05	41	11.9			1 809

200	1986	03	06.16771	11	57	48.62	-05	41	07.9	1 809
200	1986	03	07.13819	11	57	00.35	-05	38	25.0	1 809
200	1986	03	07.15764	11	56	59.36	-05	38	21.1	1 809
200	1986	03	11.15382	11	53	35.37	-05	26	03.4	1 809
200	1986	03	11.17674	11	53	34.12	-05	25	58.9	1 809
200	1986	03	16.21215	11	49	09.20	-05	08	23.0	1 809
200	1986	03	16.23715	11	49	07.84	-05	08	16.9	1 809
358	1986	03	06.18299	12	23	33.18	-01	50	11.5	1 809
358	1986	03	06.20104	12	23	32.44	-01	50	05.1	1 809
358	1986	03	07.16806	12	22	53.89	-01	44	48.6	1 809
358	1986	03	07.18958	12	22	53.01	-01	44	40.6	1 809
358	1986	03	11.18924	12	20	06.14	-01	22	01.5	1 809
358	1986	03	11.20799	12	20	05.31	-01	21	54.5	1 809
358	1986	03	17.11632	12	15	42.46	-00	46	43.7	1 809
358	1986	03	17.13646	12	15	41.53	-00	46	36.8	1 809
514	1986	03	08.08750	11	34	05.56	-03	18	46.7	1 809
514	1986	03	08.11111	11	34	04.46	-03	18	40.3	1 809
514	1986	03	09.11979	11	33	18.85	-03	14	15.2	1 809
514	1986	03	09.14271	11	33	17.74	-03	14	08.6	1 809
514	1986	03	12.08854	11	31	03.64	-03	00	49.0	1 809
514	1986	03	12.10868	11	31	02.69	-03	00	41.9	1 809
533	1986	03	08.14861	12	07	27.50	-01	26	00.4	1 809
533	1986	03	08.16528	12	07	26.81	-01	25	53.7	1 809
533	1986	03	09.18576	12	06	46.49	-01	19	13.9	1 809
533	1986	03	09.20799	12	06	45.57	-01	19	04.4	1 809
533	1986	03	15.19271	12	02	37.93	-00	38	31.5	1 809
533	1986	03	15.21840	12	02	36.76	-00	38	19.5	1 809
650	1986	03	08.12014	11	49	10.86	-01	38	28.7	1 809
650	1986	03	08.13889	11	49	09.90	-01	38	22.1	1 809
650	1986	03	09.15451	11	48	16.68	-01	32	09.3	1 809
650	1986	03	09.17465	11	48	15.60	-01	32	02.1	1 809
650	1986	03	12.11979	11	45	39.38	-01	13	36.7	1 809
650	1986	03	12.14201	11	45	38.17	-01	13	29.0	1 809
650	1986	03	15.16076	11	42	55.97	-00	54	06.6	1 809
650	1986	03	15.18160	11	42	54.80	-00	53	58.8	1 809
670	1986	03	08.14861	12	07	11.65	-00	11	34.8	1 809
670	1986	03	08.16528	12	07	10.91	-00	11	28.1	1 809
670	1986	03	09.18576	12	06	27.94	-00	04	58.5	1 809
670	1986	03	09.20799	12	06	26.93	-00	04	49.2	1 809
915	1986	03	06.11632	11	46	11.27	+04	45	00.7	1 809
915	1986	03	06.13438	11	46	10.11	+04	45	05.9	1 809
915	1986	03	07.10903	11	45	08.86	+04	49	20.1	1 809
915	1986	03	07.12847	11	45	07.58	+04	49	25.8	1 809
915	1986	03	11.12465	11	40	51.54	+05	06	52.2	1 809
915	1986	03	11.14340	11	40	50.28	+05	06	57.3	1 809
915	1986	03	16.11910	11	35	27.18	+05	28	09.4	1 809
915	1986	03	16.14757	11	35	25.28	+05	28	16.2	1 809
938	1986	03	10.28090	13	52	33.59	-07	56	41.7	1 809
938	1986	03	10.30313	13	52	33.04	-07	56	39.1	1 809
938	1986	03	13.22604	13	51	27.85	-07	48	04.2	1 809
938	1986	03	13.25035	13	51	27.19	-07	47	59.5	1 809
938	1986	03	17.25590	13	49	43.43	-07	35	06.6	1 809
938	1986	03	17.27465	13	49	42.87	-07	35	02.1	1 809
938	1986	03	17.28611	13	49	42.55	-07	34	59.7	1 809
1079	1986	03	06.07813	11	13	32.60	+04	24	46.6	1 809
1079	1986	03	06.10521	11	13	31.24	+04	24	55.1	1 809
1079	1986	03	07.07847	11	12	43.48	+04	29	33.0	1 809
1079	1986	03	07.09931	11	12	42.41	+04	29	39.3	1 809
1079	1986	03	11.09340	11	09	26.06	+04	48	42.3	1 809

1079	1986	03	11.11424	11	09	25.03	+04	48	48.1	1 809
1079	1986	03	17.08090	11	04	37.55	+05	16	42.5	1 809
1079	1986	03	17.10451	11	04	36.41	+05	16	50.0	1 809
1082	1986	03	08.26458	13	55	19.43	-09	49	37.9	1 809
1082	1986	03	08.28889	13	55	18.98	-09	49	33.9	1 809
1082	1986	03	10.28090	13	54	42.36	-09	44	48.1	1 809
1082	1986	03	10.30313	13	54	41.89	-09	44	45.2	1 809
1082	1986	03	13.22604	13	53	39.88	-09	37	02.3	1 809
1082	1986	03	13.25035	13	53	39.39	-09	36	57.7	1 809
1082	1986	03	17.25590	13	51	59.49	-09	25	03.0	1 809
1082	1986	03	17.27465	13	51	59.03	-09	24	59.5	1 809
1082	1986	03	17.28611	13	51	58.72	-09	24	57.6	1 809
1120	1986	03	09.08924	11	07	24.94	+06	39	33.9	1 809
1120	1986	03	09.10938	11	07	23.73	+06	39	43.5	1 809
1120	1986	03	14.12049	11	02	33.34	+07	18	22.5	1 809
1120	1986	03	14.13924	11	02	32.26	+07	18	32.0	1 809
1120	1986	03	15.09757	11	01	38.03	+07	25	42.5	1 809
1120	1986	03	15.11840	11	01	36.80	+07	25	51.8	1 809
1120	1986	03	18.09618	10	58	51.85	+07	47	36.5	1 809
1120	1986	03	18.11910	10	58	50.55	+07	47	46.7	1 809
1145	1986	03	08.20556	13	11	10.70	-11	22	23.1	1 809
1145	1986	03	08.22569	13	11	10.02	-11	22	24.3	1 809
1145	1986	03	09.25382	13	10	36.55	-11	23	33.9	1 809
1145	1986	03	09.27604	13	10	35.78	-11	23	34.5	1 809
1145	1986	03	12.21632	13	08	50.34	-11	25	54.6	1 809
1145	1986	03	12.23785	13	08	49.44	-11	25	55.0	1 809
1145	1986	03	15.25729	13	06	46.25	-11	26	46.3	1 809
1145	1986	03	15.28368	13	06	45.06	-11	26	46.5	1 809
1231	1986	03	06.14618	11	56	39.74	-04	10	53.4	1 809
1231	1986	03	06.16771	11	56	38.49	-04	10	53.0	1 809
1231	1986	03	07.13819	11	55	44.91	-04	10	51.1	1 809
1231	1986	03	07.15764	11	55	43.80	-04	10	50.9	1 809
1231	1986	03	11.15382	11	51	55.28	-04	09	36.4	1 809
1231	1986	03	11.17674	11	51	53.88	-04	09	34.9	1 809
1231	1986	03	16.21215	11	46	53.55	-04	05	50.3	1 809
1231	1986	03	16.23715	11	46	52.01	-04	05	48.5	1 809
1247	1986	03	06.18299	12	25	06.51	-01	53	57.1	1 809
1247	1986	03	06.20104	12	25	05.82	-01	53	51.8	1 809
1247	1986	03	07.16806	12	24	31.13	-01	49	36.3	1 809
1247	1986	03	07.18958	12	24	30.35	-01	49	29.7	1 809
1247	1986	03	11.18924	12	21	59.00	-01	31	04.3	1 809
1247	1986	03	11.20799	12	21	58.23	-01	30	58.0	1 809
1247	1986	03	17.11632	12	17	57.30	-01	01	55.1	1 809
1247	1986	03	17.13646	12	17	56.43	-01	01	49.0	1 809
1352	1986	03	04.12257	09	37	12.11	+10	40	46.9	1 809
1352	1986	03	04.14110	09	37	11.25	+10	40	53.0	1 809
1352	1986	03	10.05868	09	33	16.73	+11	09	59.0	1 809
1352	1986	03	10.07951	09	33	15.92	+11	10	05.3	1 809
1352	1986	03	14.05313	09	31	00.71	+11	27	59.5	1 809
1352	1986	03	14.07674	09	30	59.99	+11	28	06.5	1 809
1389	1986	03	08.05660	10	33	25.69	+08	16	19.7	1 809
1389	1986	03	08.07535	10	33	24.79	+08	16	26.3	1 809
1389	1986	03	09.06076	10	32	38.87	+08	21	42.2	1 809
1389	1986	03	09.07951	10	32	37.93	+08	21	48.9	1 809
1389	1986	03	12.05660	10	30	22.29	+08	37	25.8	1 809
1389	1986	03	12.07882	10	30	21.23	+08	37	32.8	1 809
1389	1986	03	15.06840	10	28	10.91	+08	52	36.9	1 809
1389	1986	03	15.08785	10	28	10.04	+08	52	42.8	1 809
1418	1986	03	08.14861	12	07	47.96	-01	11	56.5	1 809

1418	1986	03	08.16528	12	07	46.97	-01	11	53.0	1 809
1418	1986	03	09.18576	12	06	47.22	-01	08	26.4	1 809
1418	1986	03	09.20799	12	06	45.86	-01	08	21.4	1 809
1418	1986	03	15.19271	12	00	38.58	-00	46	36.4	1 809
1418	1986	03	15.21840	12	00	36.88	-00	46	29.7	1 809
1438	1986	03	06.25243	13	12	30.36	-09	42	46.6	1 809
1438	1986	03	06.27188	13	12	29.77	-09	42	43.0	1 809
1438	1986	03	07.23958	13	12	03.07	-09	40	09.4	1 809
1438	1986	03	07.26458	13	12	02.30	-09	40	05.4	1 809
1438	1986	03	11.24618	13	10	03.93	-09	28	34.1	1 809
1438	1986	03	11.26840	13	10	03.14	-09	28	28.1	1 809
1438	1986	03	17.22465	13	06	43.52	-09	08	29.5	1 809
1438	1986	03	17.24618	13	06	42.64	-09	08	26.7	1 809
1469	1986	03	08.26458	13	50	48.67	-08	34	51.3	1 809
1469	1986	03	08.28889	13	50	48.26	-08	34	42.9	1 809
1469	1986	03	10.28090	13	50	14.36	-08	23	59.2	1 809
1469	1986	03	10.30313	13	50	13.92	-08	23	53.0	1 809
1469	1986	03	13.22604	13	49	16.13	-08	07	17.6	1 809
1469	1986	03	13.25035	13	49	15.56	-08	07	09.3	1 809
1469	1986	03	17.25590	13	47	41.09	-07	42	52.5	1 809
1469	1986	03	17.27465	13	47	40.59	-07	42	45.1	1 809
1469	1986	03	17.28611	13	47	40.30	-07	42	40.4	1 809
1496	1986	03	04.12257	09	40	04.24	+11	21	27.5	1 809
1496	1986	03	04.14110	09	40	03.14	+11	21	33.0	1 809
1496	1986	03	05.02674	09	39	12.80	+11	25	22.9	1 809
1496	1986	03	05.05521	09	39	11.13	+11	25	30.8	1 809
1496	1986	03	10.05868	09	34	42.79	+11	46	07.1	1 809
1496	1986	03	10.07951	09	34	41.68	+11	46	12.6	1 809
1496	1986	03	14.05313	09	31	33.25	+12	00	49.0	1 809
1496	1986	03	14.07674	09	31	32.20	+12	00	54.0	1 809
1519	1986	03	06.28229	13	11	18.03	-05	55	46.1	1 809
1519	1986	03	06.30521	13	11	17.33	-05	55	44.4	1 809
1519	1986	03	07.27292	13	10	46.40	-05	54	20.5	1 809
1519	1986	03	07.29514	13	10	45.63	-05	54	18.9	1 809
1519	1986	03	10.25243	13	09	05.87	-05	49	38.1	1 809
1519	1986	03	10.27118	13	09	05.17	-05	49	36.3	1 809
1519	1986	03	17.19757	13	04	43.89	-05	36	18.3	1 809
1519	1986	03	17.21632	13	04	43.09	-05	36	16.1	1 809
1671	1986	03	06.28229	13	15	11.94	-06	47	03.3	1 809
1671	1986	03	06.30521	13	15	11.20	-06	46	55.9	1 809
1671	1986	03	07.27292	13	14	39.09	-06	42	13.3	1 809
1671	1986	03	07.29514	13	14	38.26	-06	42	06.3	1 809
1671	1986	03	10.25243	13	12	52.62	-06	26	54.7	1 809
1671	1986	03	10.27118	13	12	52.00	-06	26	48.2	1 809
1671	1986	03	17.19757	13	08	05.90	-05	47	18.1	1 809
1671	1986	03	17.21632	13	08	05.01	-05	47	10.9	1 809
1700	1986	03	06.25243	13	10	58.90	-08	58	21.1	1 809
1700	1986	03	06.27188	13	10	58.22	-08	58	18.8	1 809
1700	1986	03	07.23958	13	10	22.13	-08	56	13.9	1 809
1700	1986	03	07.26458	13	10	21.13	-08	56	10.4	1 809
1700	1986	03	11.24618	13	07	39.85	-08	46	18.2	1 809
1700	1986	03	11.26840	13	07	38.79	-08	46	11.3	1 809
1700	1986	03	17.22465	13	03	03.15	-08	27	41.6	1 809
1700	1986	03	17.24618	13	03	02.08	-08	27	35.4	1 809
1706	1986	03	08.20556	13	10	43.79	-11	07	39.3	1 809
1706	1986	03	08.22569	13	10	43.19	-11	07	37.7	1 809
1706	1986	03	09.25382	13	10	14.96	-11	06	17.1	1 809
1706	1986	03	09.27604	13	10	14.28	-11	06	14.7	1 809
1706	1986	03	12.21632	13	08	42.36	-11	01	05.5	1 809

1706	1986	03	12.23785	13	08	41.59	-11	01	03.1	1 809
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1706	1986	03	15.28368	13	06	48.99	-10	53	36.3	1 809
1722	1986	03	04.22188	12	01	29.38	+00	45	27.4	1 809
1722	1986	03	04.24340	12	01	28.37	+00	45	37.3	1 809
1734	1986	03	15.12813	11	28	52.82	+01	18	59.1	1 809
1734	1986	03	15.15174	11	28	51.71	+01	19	09.1	1 809
1854	1986	03	10.18576	12	08	06.66	-02	43	47.4	1 809
1854	1986	03	10.20938	12	08	05.42	-02	43	36.3	1 809
1854	1986	03	13.16215	12	05	44.27	-02	21	30.0	1 809
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1854	1986	03	14.21076	12	04	52.75	-02	13	27.3	1 809
1854	1986	03	14.22951	12	04	51.85	-02	13	19.1	1 809
1882	1986	03	11.27812	14	07	17.98	-12	49	26.0	1 809
1882	1986	03	11.30451	14	07	17.60	-12	49	19.9	1 809
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1882	1986	03	13.28576	14	06	47.72	-12	41	51.7	1 809
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1882	1986	03	18.22604	14	05	12.12	-12	21	08.2	1 809
1975	1986	03	06.07813	11	10	59.17	+04	34	49.5	1 809
1975	1986	03	06.10521	11	10	57.84	+04	35	00.4	1 809
1975	1986	03	07.07847	11	10	12.63	+04	41	27.8	1 809
1975	1986	03	07.09931	11	10	11.61	+04	41	36.4	1 809
1975	1986	03	11.09340	11	07	05.69	+05	08	07.7	1 809
1975	1986	03	11.11424	11	07	04.72	+05	08	15.9	1 809
1975	1986	03	17.08090	11	02	32.26	+05	47	14.0	1 809
1975	1986	03	17.10451	11	02	31.25	+05	47	23.0	1 809
2088	1986	03	06.18299	12	27	46.38	-02	37	46.7	1 809
2088	1986	03	06.20104	12	27	45.38	-02	37	43.6	1 809
2088	1986	03	07.16806	12	26	54.09	-02	35	27.9	1 809
2088	1986	03	07.18958	12	26	52.87	-02	35	24.6	1 809
2088	1986	03	08.17431	12	25	59.27	-02	32	58.2	1 809
2088	1986	03	08.19653	12	25	57.98	-02	32	54.2	1 809
2088	1986	03	09.22049	12	25	00.82	-02	30	16.2	1 809
2088	1986	03	09.24201	12	24	59.56	-02	30	12.0	1 809
2088	1986	03	11.18924	12	23	07.57	-02	24	48.4	1 809
2088	1986	03	11.20799	12	23	06.40	-02	24	44.8	1 809
2088	1986	03	17.11632	12	17	04.38	-02	06	15.4	1 809
2088	1986	03	17.13646	12	17	03.00	-02	06	11.3	1 809
2125	1986	03	06.07813	11	09	32.85	+04	02	26.9	1 809
2125	1986	03	06.10521	11	09	31.47	+04	02	34.4	1 809
2125	1986	03	07.07847	11	08	43.12	+04	07	12.9	1 809
2125	1986	03	07.09931	11	08	42.03	+04	07	19.0	1 809
2125	1986	03	11.09340	11	05	23.41	+04	26	26.2	1 809
2125	1986	03	11.11424	11	05	22.34	+04	26	31.9	1 809
2125	1986	03	17.08090	11	00	31.16	+04	54	43.7	1 809
2125	1986	03	17.10451	11	00	30.04	+04	54	51.0	1 809
2159	1986	03	04.22188	11	56	30.26	+00	13	24.2	1 809
2159	1986	03	04.24340	11	56	29.12	+00	13	29.3	1 809
2159	1986	03	05.19826	11	55	40.60	+00	17	09.8	1 809
2159	1986	03	05.22674	11	55	39.07	+00	17	16.6	1 809
2159	1986	03	10.14896	11	51	17.10	+00	37	22.7	1 809
2159	1986	03	10.17396	11	51	15.69	+00	37	29.1	1 809
2159	1986	03	14.18090	11	47	32.52	+00	54	51.6	1 809
2159	1986	03	14.20174	11	47	31.26	+00	54	57.8	1 809
2182	1986	03	06.11632	11	48	52.79	+04	25	50.3	1 809
2182	1986	03	06.13438	11	48	52.02	+04	25	55.5	1 809
2182	1986	03	07.10903	11	48	09.75	+04	30	23.8	1 809
2182	1986	03	07.12847	11	48	08.85	+04	30	29.1	1 809

2182	1986	03	11.12465	11	45	10.66	+04	49	04.3	1 809
2182	1986	03	11.14340	11	45	09.74	+04	49	09.4	1 809
2182	1986	03	16.11910	11	41	20.78	+05	12	18.6	1 809
2182	1986	03	16.14757	11	41	19.41	+05	12	26.4	1 809
2240	1986	03	07.30486	14	10	19.85	-12	24	42.6	1 809
2240	1986	03	07.32500	14	10	19.56	-12	24	41.1	1 809
2240	1986	03	11.27812	14	09	16.15	-12	19	04.6	1 809
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2267	1986	03	05.11076	10	22	54.17	+09	28	27.0	1 809
2267	1986	03	05.13368	10	22	52.69	+09	28	34.2	1 809
2267	1986	03	05.14653	10	22	51.81	+09	28	38.1	1 809
2267	1986	03	11.06076	10	16	49.88	+09	57	11.6	1 809
2267	1986	03	11.08229	10	16	48.47	+09	57	18.3	1 809
2267	1986	03	13.08924	10	14	52.48	+10	06	20.0	1 809
2267	1986	03	13.11215	10	14	51.09	+10	06	27.2	1 809
2267	1986	03	18.06779	10	10	25.63	+10	26	47.2	1 809
2267	1986	03	18.08646	10	10	24.65	+10	26	52.0	1 809
2281	1986	03	15.12813	11	28	08.58	+01	55	38.7	1 809
2281	1986	03	15.15174	11	28	07.09	+01	55	49.5	1 809
2351	1986	03	05.11076	10	24	46.52	+09	22	55.7	1 809
2351	1986	03	05.13368	10	24	45.25	+09	23	02.0	1 809
2351	1986	03	05.14653	10	24	44.56	+09	23	04.4	1 809
2540	1986	03	04.22188	11	58	34.08	-00	18	27.0	1 809
2540	1986	03	04.24340	11	58	32.95	-00	18	18.8	1 809
2540	1986	03	05.19826	11	57	43.54	-00	12	17.0	1 809
2540	1986	03	05.22674	11	57	41.97	-00	12	06.1	1 809
2540	1986	03	10.14896	11	53	13.26	+00	20	37.8	1 809
2540	1986	03	10.17396	11	53	11.84	+00	20	47.9	1 809
2540	1986	03	14.18090	11	49	21.22	+00	48	48.8	1 809
2540	1986	03	14.20174	11	49	19.95	+00	48	58.2	1 809
2561	1986	03	04.18785	11	32	10.73	+03	13	25.5	1 809
2561	1986	03	04.21076	11	32	09.48	+03	13	34.8	1 809
2561	1986	03	05.16354	11	31	19.13	+03	20	16.0	1 809
2561	1986	03	05.18715	11	31	17.75	+03	20	26.2	1 809
2575	1986	03	06.14618	11	55	35.93	-04	26	02.9	1 809
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2575	1986	03	07.13819	11	54	40.67	-04	23	42.4	1 809
2575	1986	03	07.15764	11	54	39.50	-04	23	39.5	1 809
2575	1986	03	11.15382	11	50	46.65	-04	12	38.3	1 809
2575	1986	03	11.17674	11	50	45.22	-04	12	33.3	1 809
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2626	1986	03	10.24340	12	42	32.70	-04	54	51.8	1 809
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2715	1986	03	06.27187	13	11	34.16	-09	31	19.0	1 809
2715	1986	03	07.23958	13	11	07.24	-09	27	21.3	1 809
2715	1986	03	07.26458	13	11	06.51	-09	27	14.6	1 809
2715	1986	03	11.24618	13	09	04.64	-09	09	31.4	1 809
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2793	1986	03	14.18090	11	49	07.99	+01	43	17.0	1 809
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3490 1986 03 14.17118 11 20 01.20 +02 52 28.4 1 809

877 Okutama
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Measurer N. Kawasato
0.26-m f/6.3 reflector
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3648 1987 04 24.59931 13 17 46.95 -08 42 51.2 F 877
3648 1987 04 24.68681 13 17 43.54 -08 42 10.7 F 877

999 Floirac
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Automatic meridian circle
1 1986 02 10.08620 11 20 18.85 +21 47 13.5 999
1 1986 02 11.08341 11 19 43.31 +21 55 18.4 999

1	1986	02	12.08065	11	19	06.40	+22	03	22.1	999
1	1986	03	07.00476	11	00	43.85	+24	40	22.2	999
1	1986	03	08.99879	10	58	58.60	+24	49	37.2	999
1	1986	03	12.98501	10	55	32.00	+25	05	13.8	999
1	1986	03	14.97821	10	53	51.75	+25	11	32.5	999
1	1986	03	16.97198	10	52	14.25	+25	16	48.9	999
1	1986	03	17.96794	10	51	26.76	+25	19	03.5	999
1	1986	03	19.96245	10	49	54.31	+25	22	46.2	999
1	1986	03	21.95539	10	48	25.92	+25	25	26.9	999
1	1986	04	03.91510	10	40	51.57	+25	18	17.3	999
1	1986	04	10.89345	10	38	29.42	+24	58	08.0	999
1	1986	04	11.89146	10	38	15.51	+24	54	24.5	999
1	1986	04	24.85556	10	37	41.92	+23	49	30.3	999
1	1986	04	28.84425	10	38	24.59	+23	24	10.6	999
2	1986	02	08.85240	05	38	02.11	-22	55	12.9	999
2	1986	02	12.84193	05	39	13.31	-21	31	31.1	999
2	1986	02	20.82247	05	43	07.37	-18	39	36.9	999
2	1986	03	07.79107	05	55	24.82	-13	16	03.7	999
3	1986	03	22.21513	17	03	27.69	-08	57	09.1	999
3	1986	05	12.06844	16	52	43.35	-04	48	58.0	999
3	1986	05	31.00575	16	37	46.17	-03	41	59.3	999
3	1986	06	06.98292	16	31	52.35	-03	27	27.0	999
3	1986	06	12.96276	16	26	57.13	-03	20	08.0	999
3	1986	06	18.94379	16	22	18.96	-03	17	44.4	999
3	1986	06	22.93026	16	19	27.01	-03	18	50.9	999
3	1986	06	22.93109	16	19	26.97	-03	18	50.8	999
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3	1986	06	24.92462	16	18	05.76	-03	20	12.8	999
3	1986	06	27.91469	16	16	10.49	-03	23	13.3	999
3	1986	06	30.90583	16	14	23.70	-03	27	22.6	999
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3	1986	07	01.90263	16	13	50.12	-03	29	00.9	999
4	1986	08	14.16108	01	17	31.30	-02	18	34.3	999
4	1986	08	15.15843	01	17	40.14	-02	22	14.4	999
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4	1986	09	01.11058	01	15	51.45	-03	47	34.1	999
4	1986	09	08.08981	01	12	44.24	-04	33	02.3	999
4	1986	09	10.08322	01	11	36.53	-04	46	43.0	999
4	1986	09	27.02778	00	58	38.59	-06	44	57.4	999
4	1986	09	27.02861	00	58	38.55	-06	44	57.5	999
4	1986	09	28.02494	00	57	44.53	-06	51	31.6	999
4	1986	09	30.01804	00	55	54.93	-07	04	21.5	999
4	1986	10	01.01504	00	54	59.52	-07	10	37.2	999
4	1986	10	03.00762	00	53	07.80	-07	22	44.3	999
4	1986	10	04.00409	00	52	11.67	-07	28	35.6	999
4	1986	10	05.00101	00	51	15.39	-07	34	18.7	999
4	1986	10	07.99128	00	48	26.81	-07	50	28.9	999
4	1986	10	08.98823	00	47	30.93	-07	55	31.5	999
4	1986	10	09.98383	00	46	35.40	-08	00	23.3	999
4	1986	10	12.97408	00	43	51.05	-08	13	49.8	999
4	1986	10	26.92856	00	32	35.42	-08	51	15.0	999
4	1986	10	30.91586	00	30	03.11	-08	53	47.4	999
4	1986	11	02.90570	00	28	23.81	-08	53	17.4	999
4	1986	11	06.89374	00	26	32.66	-08	49	28.0	999
4	1986	11	07.89049	00	26	08.85	-08	47	57.6	999
4	1986	11	08.88786	00	25	46.61	-08	46	13.9	999
4	1986	11	09.88478	00	25	26.00	-08	44	18.2	999
4	1986	11	10.88158	00	25	07.00	-08	42	09.3	999
4	1986	11	18.85948	00	23	33.34	-08	17	53.1	999

4	1986	11	26.83757	00	23	42.08	-07	42	06.3	999
4	1986	11	28.83191	00	23	59.79	-07	31	32.9	999
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4	1986	11	30.82647	00	24	23.54	-07	20	23.9	999
4	1986	12	01.82473	00	24	37.65	-07	14	35.3	999
4	1986	12	04.81685	00	25	28.78	-06	56	23.1	999
4	1986	12	05.81441	00	25	48.67	-06	50	02.5	999
4	1986	12	07.80989	00	26	32.66	-06	36	58.8	999
4	1986	12	10.80236	00	27	48.80	-06	16	30.2	999
4	1986	12	21.77584	00	34	04.35	-04	53	18.5	999
4	1986	12	24.76911	00	36	10.91	-04	28	42.6	999
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5	1986	12	01.18653	09	04	09.85	+12	40	16.9	999
5	1986	12	03.18283	09	05	32.97	+12	35	34.0	999
5	1986	12	11.16388	09	09	59.23	+12	22	42.3	999
6	1986	02	07.19104	13	39	25.17	+03	48	41.7	999
6	1986	02	10.18378	13	40	03.85	+04	06	37.7	999
6	1986	02	12.17772	13	40	22.73	+04	19	21.7	999
6	1986	03	07.11345	13	37	09.65	+07	24	40.1	999
6	1986	03	08.10993	13	36	44.16	+07	33	55.7	999
6	1986	03	09.10759	13	36	17.29	+07	43	16.2	999
6	1986	03	14.09150	13	33	43.44	+08	30	30.1	999
6	1986	03	15.08839	13	33	08.91	+08	40	00.8	999
6	1986	03	20.07221	13	29	59.32	+09	27	29.2	999
6	1986	04	11.00007	13	12	21.07	+12	32	25.9	999
6	1986	05	03.92555	12	54	38.25	+14	09	21.5	999
6	1986	05	09.90665	12	51	16.44	+14	14	19.7	999
6	1986	05	10.90402	12	50	46.94	+14	14	22.0	999
6	1986	05	11.90082	12	50	18.67	+14	14	10.1	999
7	1986	02	07.20826	14	03	55.54	-18	40	49.3	999
7	1986	02	10.20122	14	04	59.84	-18	50	51.3	999
7	1986	03	07.13332	14	05	30.19	-19	29	49.5	999
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7	1986	03	20.09308	13	59	32.44	-19	13	07.6	999
7	1986	03	22.08720	13	58	16.44	-19	08	04.6	999
7	1986	04	08.03154	13	44	39.73	-17	59	39.3	999
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8	1986	03	18.07298	13	22	31.46	+01	22	00.1	999
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8	1986	03	22.06017	13	19	16.63	+01	50	25.9	999
8	1986	04	10.99201	13	00	15.26	+04	03	51.5	999
8	1986	04	28.93247	12	44	30.30	+05	17	08.4	999
8	1986	04	29.92830	12	43	47.54	+05	19	19.8	999
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9	1986	09	20.19390	04	30	50.38	+18	31	05.7	999
9	1986	09	27.17856	04	36	17.15	+18	50	13.4	999
9	1986	09	27.17942	04	36	17.18	+18	50	13.5	999
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9	1986	09	29.17416	04	37	35.80	+18	55	19.9	999
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9	1986	09	30.17170	04	38	12.50	+18	57	49.7	999
9	1986	10	07.15565	04	41	37.90	+19	14	25.7	999
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9	1986	10	12.14319	04	43	05.96	+19	25	28.4	999
9	1986	10	13.13973	04	43	17.41	+19	27	36.7	999
9	1986	10	13.14059	04	43	17.42	+19	27	36.9	999
9	1986	10	15.13446	04	43	34.07	+19	31	49.9	999
9	1986	10	15.13532	04	43	34.07	+19	31	49.9	999
9	1986	10	16.13180	04	43	39.21	+19	33	55.0	999
9	1986	10	16.13266	04	43	39.21	+19	33	54.9	999
9	1986	10	27.10161	04	42	10.98	+19	55	32.6	999
9	1986	10	30.09174	04	41	00.19	+20	01	02.0	999
9	1986	10	30.09261	04	41	00.15	+20	01	01.9	999
9	1986	11	03.07947	04	38	55.20	+20	08	02.8	999
9	1986	11	03.08034	04	38	55.15	+20	08	03.1	999
9	1986	11	04.07622	04	38	18.65	+20	09	45.2	999
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9	1986	11	10.05738	04	33	58.40	+20	19	28.5	999
9	1986	11	14.04402	04	30	29.91	+20	25	26.6	999
9	1986	11	28.99201	04	14	47.84	+20	43	48.6	999
9	1986	11	29.98878	04	13	41.04	+20	44	49.7	999
9	1986	12	01.98213	04	11	27.93	+20	46	49.9	999
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9	1986	12	03.97420	04	09	16.29	+20	48	46.9	999
9	1986	12	07.96044	04	05	00.51	+20	52	37.8	999
9	1986	12	09.95345	04	02	58.14	+20	54	34.3	999
9	1986	12	21.91439	03	52	43.20	+21	07	59.2	999
9	1986	12	22.91110	03	52	03.39	+21	09	19.7	999
10	1986	10	10.20612	06	05	58.53	+25	27	20.1	999
10	1986	10	12.20114	06	06	32.56	+25	27	13.1	999
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10	1986	10	30.15224	06	07	49.38	+25	25	51.9	999
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10	1986	11	10.12095	06	05	01.40	+25	24	23.9	999
10	1986	11	27.06782	05	55	37.32	+25	18	46.9	999
10	1986	11	29.06133	05	54	10.07	+25	17	39.7	999
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10	1986	12	08.03178	05	46	58.18	+25	11	04.9	999
11	1986	11	11.16198	07	09	09.81	+18	39	56.9	999
11	1986	11	29.11018	07	04	40.26	+18	48	16.3	999
11	1986	12	01.10322	07	03	34.36	+18	50	39.0	999
11	1986	12	02.10045	07	02	58.83	+18	51	56.6	999
11	1986	12	03.09755	07	02	21.61	+18	53	18.6	999
11	1986	12	04.09397	07	01	42.75	+18	54	44.5	999
11	1986	12	23.03103	06	45	07.10	+19	32	32.7	999
12	1986	09	28.19913	05	08	36.25	+23	01	04.4	999
12	1986	10	01.19153	05	09	56.48	+22	54	22.0	999
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12	1986	10	09.17156	05	12	10.04	+22	33	29.3	999
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12	1986	11	09.07918	05	01	17.29	+20	33	11.6	999
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12	1986	12	01.00288	04	38	52.04	+18	38	53.3	999
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13	1986	08	02.14365	00	04	24.71	-23	12	16.3	999
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13	1986	09	02.04590	23	45	02.56	-26	06	44.5	999
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13	1986	10	12.90710	23	06	42.49	-25	53	45.0	999
13	1986	10	26.86391	23	00	23.62	-24	21	04.1	999
13	1986	11	02.84486	22	59	13.32	-23	22	42.1	999
13	1986	11	03.84121	22	59	09.76	-23	13	50.3	999
13	1986	11	04.83844	22	59	07.80	-23	04	50.4	999
14	1986	09	06.18913	03	28	03.31	+09	44	34.7	999
14	1986	09	10.17831	03	29	01.04	+09	41	45.9	999
14	1986	09	27.13186	03	28	57.78	+09	17	00.1	999
14	1986	09	28.12897	03	28	44.37	+09	14	57.2	999
14	1986	09	29.12607	03	28	29.44	+09	12	51.1	999
14	1986	10	06.10630	03	26	02.66	+08	56	38.9	999
14	1986	10	12.08739	03	22	59.63	+08	41	07.8	999
14	1986	10	15.07816	03	21	09.47	+08	32	59.2	999
14	1986	11	05.00861	03	03	47.18	+07	36	30.7	999
14	1986	11	07.99872	03	00	54.19	+07	29	42.7	999
14	1986	11	08.99434	02	59	56.23	+07	27	35.0	999
14	1986	11	09.99093	02	58	58.11	+07	25	31.7	999
14	1986	11	10.98799	02	57	59.93	+07	23	32.8	999
14	1986	11	13.97733	02	55	05.97	+07	18	07.6	999
14	1986	11	13.97817	02	55	05.92	+07	18	07.2	999
14	1986	11	18.96038	02	50	21.02	+07	10	56.1	999
14	1986	11	26.93389	02	43	13.88	+07	05	01.5	999
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14	1986	11	28.92806	02	41	35.29	+07	04	44.5	999
14	1986	11	30.92128	02	40	00.80	+07	04	58.4	999
14	1986	12	01.91720	02	39	15.24	+07	05	17.3	999
14	1986	12	02.91396	02	38	30.77	+07	05	43.4	999
14	1986	12	05.90527	02	36	24.64	+07	07	50.7	999
14	1986	12	09.89245	02	33	54.72	+07	12	32.7	999
15	1986	11	29.26244	10	44	55.33	+01	43	57.3	999
16	1986	01	25.83962	04	23	35.99	+17	51	55.4	999
16	1986	12	11.24269	11	04	27.52	+05	44	45.3	999
17	1986	10	08.20699	05	59	52.88	+18	01	58.0	999
17	1986	11	04.13531	06	02	31.78	+17	35	49.8	999
17	1986	11	11.11383	05	59	58.38	+17	31	08.1	999
17	1986	12	08.02543	05	39	00.12	+17	27	00.8	999
17	1986	12	10.01941	05	36	57.84	+17	27	39.9	999
18	1986	01	20.94130	06	32	04.80	+11	13	13.2	999
18	1986	01	25.92517	06	28	30.15	+11	53	19.3	999
18	1986	02	08.88303	06	22	44.71	+13	44	36.4	999
18	1986	02	10.87758	06	22	27.96	+13	59	54.2	999
18	1986	02	11.87513	06	22	22.67	+14	07	28.4	999
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18	1986	03	03.82462	06	27	23.87	+16	22	43.8	999
18	1986	03	06.81696	06	29	09.69	+16	39	57.8	999
18	1986	03	07.81526	06	29	48.14	+16	45	31.4	999
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18	1986	03	12.80369	06	33	22.81	+17	11	48.3	999
19	1986	09	30.15076	04	06	50.48	+20	32	17.6	999
19	1986	10	04.14011	04	08	11.96	+20	31	36.6	999

19	1986	10	05.13831	04	08	27.03	+20	31	10.4	999
19	1986	10	06.13573	04	08	39.95	+20	30	37.4	999
19	1986	10	07.13327	04	08	50.70	+20	29	58.0	999
19	1986	10	30.06642	04	02	59.23	+19	45	55.0	999
19	1986	11	03.05338	04	00	09.49	+19	32	54.3	999
19	1986	11	04.04986	03	59	23.05	+19	29	26.6	999
19	1986	11	11.02596	03	53	21.60	+19	03	16.1	999
19	1986	11	14.01581	03	50	32.11	+18	51	14.7	999
19	1986	11	14.01667	03	50	32.06	+18	51	14.3	999
19	1986	11	26.97209	03	37	52.32	+17	57	36.2	999
19	1986	11	28.96564	03	36	00.59	+17	49	41.1	999
19	1986	11	30.95902	03	34	12.44	+17	41	59.0	999
19	1986	12	02.95176	03	32	28.64	+17	34	34.9	999
19	1986	12	05.94225	03	30	02.39	+17	24	07.3	999
19	1986	12	07.93561	03	28	32.11	+17	17	38.9	999
19	1986	12	27.87545	03	20	09.73	+16	41	10.4	999
19	1986	12	29.86941	03	20	03.62	+16	40	40.8	999
20	1986	06	26.09770	20	32	34.29	-17	44	53.7	999
20	1986	07	25.00127	20	07	32.90	-19	04	31.4	999
20	1986	07	29.98487	20	02	34.66	-19	19	39.1	999
20	1986	08	04.96422	19	56	48.39	-19	36	52.8	999
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20	1986	08	13.93454	19	49	01.10	-19	59	43.0	999
20	1986	08	14.93101	19	48	14.56	-20	01	58.6	999
20	1986	08	20.91152	19	44	02.40	-20	14	15.6	999
20	1986	08	24.89915	19	41	42.67	-20	21	12.9	999
20	1986	08	29.88382	19	39	22.63	-20	28	26.0	999
20	1986	08	30.88085	19	38	59.49	-20	29	42.4	999
20	1986	08	31.87721	19	38	37.97	-20	30	52.7	999
20	1986	09	01.87425	19	38	18.17	-20	31	59.7	999
20	1986	09	28.80213	19	39	50.85	-20	37	53.6	999
20	1986	09	30.79709	19	40	43.38	-20	36	29.2	999
20	1986	10	02.79197	19	41	41.62	-20	34	48.9	999
20	1986	10	03.78978	19	42	12.87	-20	33	53.2	999
20	1986	10	04.78833	19	42	45.59	-20	32	53.4	999
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20	1986	10	08.77866	19	45	09.75	-20	28	14.3	999
21	1986	11	27.25083	10	20	05.67	+13	08	59.6	999
22	1986	10	04.18012	05	05	03.48	+19	58	41.3	999
22	1986	10	06.17491	05	05	41.46	+20	06	18.5	999
22	1986	10	07.17199	05	05	58.06	+20	10	08.4	999
22	1986	10	09.16681	05	06	26.43	+20	17	50.5	999
22	1986	10	10.16411	05	06	38.15	+20	21	42.4	999
22	1986	10	12.15905	05	06	56.62	+20	29	29.7	999
22	1986	10	13.15644	05	07	03.32	+20	33	24.7	999
22	1986	10	15.15180	05	07	11.67	+20	41	18.1	999
22	1986	10	27.11695	05	05	33.65	+21	30	01.3	999
22	1986	11	05.08992	05	01	30.39	+22	07	44.8	999
22	1986	11	10.07438	04	58	15.54	+22	28	47.3	999
22	1986	11	27.01675	04	43	04.38	+23	37	01.3	999
22	1986	12	02.99699	04	36	47.39	+23	58	34.6	999
22	1986	12	07.97871	04	31	30.40	+24	15	12.9	999
22	1986	12	09.97231	04	29	25.33	+24	21	31.9	999
22	1986	12	21.93156	04	17	55.36	+24	55	44.6	999
23	1986	02	10.24148	15	03	48.98	-08	35	34.7	999
23	1986	02	12.23744	15	05	32.96	-08	41	41.8	999
23	1986	03	07.18305	15	18	29.12	-09	24	13.4	999
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23		1986	04	04.10320	15	13	43.36	-09	19	31.9	999
23		1986	05	09.98362	14	41	27.76	-08	49	34.5	999
23		1986	05	10.98004	14	40	29.04	-08	49	32.7	999
23		1986	05	11.97619	14	39	30.92	-08	49	36.4	999
23		1986	05	24.93325	14	28	14.88	-08	58	47.0	999
24		1986	01	21.06399	09	27	53.32	+16	10	43.5	999
24		1986	02	07.00735	09	14	29.39	+17	13	24.7	999
24		1986	02	09.99852	09	11	58.83	+17	24	21.5	999
24		1986	02	10.99412	09	11	09.06	+17	27	54.6	999
24		1986	03	08.91172	08	53	58.54	+18	33	54.7	999
24		1986	03	09.90901	08	53	34.84	+18	35	08.8	999
24		1986	03	12.89962	08	52	32.76	+18	38	11.5	999
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27		1986	09	06.16703	02	55	51.80	+14	28	29.3	999
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27		1986	09	08.16213	02	56	58.78	+14	31	53.3	999
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27		1986	10	30.01058	02	43	00.31	+13	10	45.6	999
27		1986	11	02.99644	02	39	05.12	+12	54	29.5	999
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27		1986	11	26.91673	02	17	38.39	+11	34	30.4	999
27		1986	11	28.91001	02	16	23.37	+11	30	57.1	999
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27		1986	12	04.89131	02	13	24.57	+11	24	30.8	999
27		1986	12	05.88899	02	13	01.93	+11	24	05.1	999
27		1986	12	07.88252	02	12	23.06	+11	23	47.5	999
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27		1986	12	21.84366	02	11	54.17	+11	42	48.7	999
28		1986	08	25.13761	01	27	15.04	+00	08	12.1	999
28		1986	09	04.10936	01	25	33.25	-00	47	41.2	999
28		1986	09	07.10068	01	24	37.04	-01	06	46.3	999
28		1986	09	08.09767	01	24	15.78	-01	13	20.5	999
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28	1986	10	26.94117	00	51	24.36	-06	40	35.4	999
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29	1986	08	14.06129	22	52	50.83	-11	27	25.3	999
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29	1986	09	06.98016	22	31	06.78	-12	38	32.2	999
29	1986	09	26.91446	22	15	04.87	-13	06	59.5	999
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29	1986	09	30.90237	22	12	51.02	-13	06	37.7	999
29	1986	10	02.89587	22	11	53.42	-13	05	36.4	999
29	1986	10	03.89315	22	11	27.06	-13	04	54.2	999
29	1986	10	04.89056	22	11	02.32	-13	04	02.9	999
29	1986	10	06.88401	22	10	17.90	-13	01	55.7	999
29	1986	10	07.88189	22	09	58.20	-13	00	38.7	999
29	1986	10	11.86997	22	08	56.51	-12	54	10.7	999
29	1986	10	18.84965	22	08	14.34	-12	37	40.9	999
29	1986	11	03.80846	22	11	40.20	-11	36	55.4	999
29	1986	11	08.79692	22	14	04.65	-11	11	49.0	999
29	1986	11	17.77613	22	19	48.98	-10	19	59.6	999
29	1986	11	18.77352	22	20	33.32	-10	13	43.3	999
29	1986	12	01.74668	22	31	50.33	-08	43	50.3	999
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29	1986	12	09.73029	22	40	08.23	-07	41	08.5	999
30	1986	11	27.20271	09	10	32.85	+17	06	40.6	999
30	1986	11	29.19778	09	11	32.62	+17	01	14.0	999
30	1986	12	01.19307	09	12	25.32	+16	56	15.0	999
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37	1986	03	07.04225	11	55	24.00	+01	44	18.4	999
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37	1986	03	16.01212	11	47	22.89	+02	26	15.3	999
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37	1986	03	28.96942	11	36	00.08	+03	23	57.0	999
37	1986	04	11.92469	11	26	06.11	+04	10	13.3	999
37	1986	05	01.86475	11	19	14.68	+04	31	35.7	999
39	1986	03	08.23148	16	31	44.50	-10	43	18.9	999
39	1986	04	04.16439	16	41	29.37	-09	02	49.7	999
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39	1986	06	12.94567	16	01	42.69	-04	50	09.6	999
39	1986	06	22.91352	15	55	05.21	-04	56	42.9	999
39	1986	06	25.90407	15	53	26.29	-05	01	31.3	999
39	1986	06	28.89555	15	51	58.00	-05	07	34.6	999
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40	1986	03	16.18128	15	50	07.82	-15	07	22.6	999
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40	1986	04	04.13030	15	52	21.69	-14	56	20.3	999
40	1986	05	04.03585	15	33	52.15	-13	52	37.2	999
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45	1986	03	12.83735	07	21	47.21	+19	13	48.5	999
45	1986	03	15.82935	07	22	20.52	+19	20	46.4	999
45	1986	03	17.82359	07	22	50.60	+19	25	04.6	999
46	1986	10	15.09950	03	53	07.40	+17	34	35.3	999

46	1986	10	16.09660	03	52	44.33	+17	31	39.0	999
46	1986	10	30.05305	03	44	11.19	+16	41	42.2	999
46	1986	11	03.03960	03	40	49.97	+16	25	02.5	999
46	1986	11	04.03647	03	39	56.89	+16	20	46.7	999
46	1986	11	05.03244	03	39	02.91	+16	16	28.9	999
46	1986	11	14.00202	03	30	28.77	+15	37	15.1	999
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46	1986	11	28.95130	03	16	29.56	+14	38	04.0	999
46	1986	11	30.94543	03	14	51.35	+14	31	34.5	999
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52	1986	10	05.92208	23	00	10.82	-13	49	11.3	999
52	1986	10	08.91188	22	58	42.08	-13	58	10.3	999
52	1986	10	09.90967	22	58	14.43	-14	00	52.5	999
52	1986	10	11.90322	22	57	22.38	-14	05	48.2	999
52	1986	10	12.90056	22	56	57.95	-14	08	02.3	999
52	1986	10	23.86749	22	53	44.18	-14	22	29.1	999
52	1986	10	26.85936	22	53	16.32	-14	23	14.6	999
52	1986	11	02.84033	22	52	54.77	-14	19	49.8	999
52	1986	11	03.83716	22	52	56.64	-14	18	46.3	999
52	1986	11	06.82911	22	53	09.78	-14	14	45.3	999
52	1986	12	01.76653	23	01	44.34	-12	57	49.4	999
63	1986	11	29.26105	10	42	47.37	+10	38	26.1	999
65	1986	01	09.88274	04	23	02.20	+17	07	29.7	999
65	1986	02	12.78875	04	20	57.36	+17	40	46.0	999
65	1986	11	27.19111	08	54	58.94	+14	48	15.2	999
68	1986	03	04.11354	13	24	58.47	-02	23	53.8	999
68	1986	03	15.07913	13	19	00.58	-01	50	25.6	999

68	1986	03	20.06277	13	15	37.05	-01	32	51.2	999
68	1986	03	22.05641	13	14	09.74	-01	25	33.6	999
68	1986	04	04.01372	13	03	44.89	-00	37	08.1	999
68	1986	05	01.92148	12	41	48.18	+00	38	47.1	999
68	1986	05	03.91553	12	40	33.88	+00	41	13.0	999
68	1986	05	09.89692	12	37	15.94	+00	45	34.4	999
88	1986	07	15.13673	22	43	42.87	-01	57	29.9	999
88	1986	07	21.11962	22	43	00.35	-01	38	11.3	999
88	1986	08	02.08390	22	38	45.19	-01	18	22.4	999
88	1986	08	05.07521	22	37	08.30	-01	17	30.4	999
88	1986	08	13.04933	22	31	56.51	-01	22	57.0	999
88	1986	08	17.03616	22	28	57.43	-01	29	36.8	999
88	1986	08	25.01018	22	22	31.31	-01	49	42.5	999
88	1986	09	03.97754	22	14	19.30	-02	24	20.1	999
88	1986	09	04.97360	22	13	32.00	-02	28	09.8	999
88	1986	09	05.97079	22	12	45.30	-02	32	02.5	999
88	1986	09	07.96364	22	11	14.07	-02	39	53.1	999
88	1986	09	09.95760	22	09	46.08	-02	47	48.7	999
88	1986	10	03.88442	21	58	41.50	-04	12	11.4	999
88	1986	10	04.88114	21	58	32.96	-04	14	44.1	999
88	1986	10	06.87635	21	58	20.94	-04	19	30.6	999
88	1986	10	07.87277	21	58	17.47	-04	21	43.1	999
88	1986	10	08.87002	21	58	15.67	-04	23	48.7	999
88	1986	10	10.86475	21	58	17.17	-04	27	38.5	999
88	1986	10	11.86235	21	58	20.45	-04	29	22.5	999
88	1986	11	26.75688	22	26	40.56	-03	28	25.6	999
88	1986	11	29.75030	22	29	54.18	-03	15	20.1	999
88	1986	12	04.74067	22	35	33.13	-02	51	18.7	999
88	1986	12	05.73908	22	36	43.23	-02	46	11.7	999
88	1986	12	09.73114	22	41	30.41	-02	24	41.2	999
89	1986	01	20.89692	05	27	44.37	+37	07	17.0	999
89	1986	01	20.89789	05	27	44.35	+37	07	16.4	999
89	1986	01	25.88228	05	25	29.74	+36	20	36.3	999
89	1986	02	25.80133	05	30	39.74	+32	06	14.9	999
89	1986	03	03.78758	05	34	48.10	+31	26	13.7	999
97	1986	03	16.08135	13	27	22.02	+00	45	37.0	999
97	1986	04	11.99399	13	06	59.34	+04	23	41.4	999
97	1986	04	28.93891	12	54	41.17	+05	59	24.6	999
97	1986	05	11.89883	12	48	07.58	+06	36	57.7	999
115	1986	12	11.26030	11	29	27.38	-01	29	35.9	999
129	1986	06	14.11667	20	11	53.10	-10	08	16.2	999
129	1986	06	19.10134	20	10	15.86	-10	26	01.7	999
129	1986	06	26.08032	20	06	58.05	-10	58	28.0	999
129	1986	06	28.07345	20	05	49.47	-11	09	18.6	999
129	1986	07	01.06479	20	03	57.53	-11	26	48.2	999
129	1986	07	02.06078	20	03	18.02	-11	32	57.1	999
129	1986	07	02.06161	20	03	18.01	-11	32	57.3	999
129	1986	07	05.05196	20	01	13.42	-11	52	18.4	999
129	1986	07	09.03899	19	58	15.46	-12	20	02.6	999
129	1986	07	24.98645	19	45	26.92	-14	26	03.4	999
129	1986	07	25.98247	19	44	39.79	-14	34	20.8	999
129	1986	07	26.97982	19	43	53.12	-14	42	40.4	999
129	1986	07	29.96967	19	41	36.69	-15	07	36.3	999
129	1986	08	04.95091	19	37	25.16	-15	57	01.3	999
129	1986	08	05.94756	19	36	46.70	-16	05	08.6	999
129	1986	08	06.94399	19	36	09.36	-16	13	11.7	999
129	1986	08	12.92592	19	32	51.48	-17	00	15.1	999
129	1986	08	13.92271	19	32	23.25	-17	07	50.4	999
129	1986	08	14.91972	19	31	56.45	-17	15	20.4	999

129	1986	08	24.89063	19	28	52.13	-18	25	13.4	999
129	1986	08	25.88725	19	28	42.41	-18	31	39.0	999
129	1986	08	29.87638	19	28	19.85	-18	56	16.3	999
129	1986	08	30.87377	19	28	18.30	-19	02	08.7	999
129	1986	09	04.86009	19	28	35.43	-19	29	46.2	999
129	1986	10	05.78571	19	44	30.18	-21	15	17.7	999
129	1986	10	09.77727	19	48	04.60	-21	20	49.3	999
192	1986	12	11.25190	11	16	54.92	+06	58	12.7	999
196	1986	09	03.17491	02	56	31.44	+10	18	05.1	999
196	1986	09	20.12904	02	56	07.61	+10	07	34.0	999
196	1986	09	28.10505	02	53	44.59	+09	55	25.5	999
196	1986	09	29.10246	02	53	20.88	+09	53	37.3	999
196	1986	09	30.09882	02	52	55.93	+09	51	45.1	999
196	1986	10	04.08751	02	51	03.74	+09	43	46.0	999
196	1986	10	07.07824	02	49	27.27	+09	37	15.6	999
196	1986	10	16.04921	02	43	42.62	+09	15	52.6	999
196	1986	10	27.01303	02	35	18.35	+08	48	17.5	999
196	1986	11	02.98969	02	29	34.26	+08	31	43.7	999
196	1986	11	28.90661	02	10	46.26	+07	58	00.9	999
196	1986	12	22.83511	02	03	33.18	+08	28	11.0	999
216	1986	02	12.77882	04	07	30.02	+08	19	56.4	999
230	1986	12	02.19490	09	19	35.65	+04	55	37.6	999
230	1986	12	03.19196	09	19	57.12	+04	48	00.4	999
337	1986	03	07.08555	12	57	54.18	-08	22	05.6	999
337	1986	03	14.06343	12	52	10.22	-08	18	03.9	999
337	1986	03	20.04245	12	46	28.92	-08	09	12.5	999
337	1986	04	03.99118	12	30	51.97	-07	31	44.5	999
337	1986	04	11.96352	12	22	52.23	-07	07	51.8	999
337	1986	04	28.90802	12	09	52.30	-06	26	15.0	999
337	1986	05	09.87549	12	05	29.57	-06	14	22.6	999
337	1986	05	10.87213	12	05	15.99	-06	14	03.2	999
337	1986	05	11.86970	12	05	04.16	-06	13	52.0	999
349	1986	07	10.12913	22	13	06.26	-23	33	27.8	999
349	1986	07	17.10865	22	10	44.29	-24	03	41.0	999
349	1986	07	27.07781	22	05	21.27	-24	50	11.5	999
349	1986	07	30.06834	22	03	19.60	-25	04	13.9	999
349	1986	08	07.04197	21	57	09.79	-25	39	53.7	999
349	1986	08	15.01505	21	50	15.17	-26	10	19.4	999
349	1986	08	31.95871	21	35	26.57	-26	45	46.2	999
349	1986	09	01.95478	21	34	38.79	-26	46	22.2	999
349	1986	09	03.94944	21	33	05.83	-26	47	02.9	999
349	1986	09	04.94599	21	32	20.89	-26	47	05.8	999
349	1986	09	05.94241	21	31	36.92	-26	47	00.2	999
349	1986	09	26.87729	21	21	18.07	-26	06	27.3	999
349	1986	09	27.87489	21	21	05.13	-26	02	52.1	999
349	1986	09	29.86902	21	20	43.95	-25	55	16.5	999
349	1986	09	30.86658	21	20	35.84	-25	51	17.8	999
349	1986	10	02.86107	21	20	24.33	-25	42	58.2	999
349	1986	10	03.85806	21	20	21.04	-25	38	37.2	999
349	1986	10	04.85515	21	20	19.35	-25	34	09.0	999
349	1986	10	06.84946	21	20	20.80	-25	24	51.9	999
349	1986	10	07.84662	21	20	23.92	-25	20	02.1	999
349	1986	10	08.84463	21	20	28.66	-25	15	05.7	999
349	1986	10	09.84144	21	20	34.92	-25	10	04.3	999
349	1986	10	23.80633	21	24	40.61	-23	49	20.2	999
349	1986	10	26.79899	21	26	09.06	-23	29	47.7	999
349	1986	11	03.78058	21	31	00.85	-22	34	16.8	999
349	1986	11	07.77132	21	33	55.08	-22	04	47.5	999
349	1986	11	10.76564	21	36	17.23	-21	41	56.7	999

349	1986	11	30.72431	21	55	35.55	-18	55	23.1	999
354	1986	01	09.84323	03	25	52.37	-04	49	28.1	999
354	1986	01	25.80111	03	28	27.05	-02	13	38.3	999
433	1986	09	07.88316	20	13	40.82	-11	24	09.2	999
451	1986	01	20.90505	05	39	34.70	+26	20	17.9	999
451	1986	01	20.90595	05	39	34.68	+26	20	17.9	999
451	1986	02	08.84983	05	33	29.38	+27	22	23.9	999
451	1986	02	10.84456	05	33	26.63	+27	28	09.6	999
451	1986	02	11.84139	05	33	27.80	+27	30	59.6	999
471	1986	11	27.10095	06	42	59.79	+23	52	54.3	999
471	1986	11	29.09447	06	41	52.09	+24	08	37.1	999
471	1986	12	08.06507	06	35	18.74	+25	21	42.2	999
471	1986	12	11.05463	06	32	39.63	+25	46	25.1	999
511	1986	01	09.95398	06	06	34.05	+19	15	10.5	999
511	1986	01	20.91874	05	58	45.83	+20	32	35.3	999
511	1986	01	25.90283	05	56	08.35	+21	06	27.7	999
511	1986	02	25.81881	05	55	43.74	+24	07	15.3	999
511	1986	03	06.79749	06	00	38.18	+24	48	52.6	999
511	1986	03	09.79079	06	02	42.95	+25	01	34.3	999
532	1986	02	11.77226	03	53	42.74	+11	19	14.3	999
704	1986	11	27.18888	08	51	17.61	+12	11	08.6	999
704	1986	11	29.18369	08	51	20.50	+11	59	55.6	999
704	1986	12	01.17840	08	51	17.81	+11	48	57.4	999
704	1986	12	02.17516	08	51	14.32	+11	43	34.7	999
704	1986	12	03.17310	08	51	09.43	+11	38	15.2	999
704	1986	12	11.15016	08	49	39.40	+10	58	14.7	999

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ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

The columns headed Arc and O give the time span in days covered by the observations and the number of observations utilized in the computation (0 = 10 or more). In the note column N, D means that there are double (or other multiple) designations, E means that the value of the eccentricity was assumed, F means both; the designations are listed at the end.

The orbit computers (column C) are B = C. M. Bardwell, G = D. W. E. Green, M = B. G. Marsden, N = S. Nakano.

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1986 ET	14.0	860219	27.78	135.43	348.46	5.32	0.1289	2.3382	9	6		M
1986 EV	14.5	860219	52.51	97.41	0.27	3.83	0.1063	2.2482	10	6		M
1986 EK1	13.5	860311	46.69	108.02	5.90	23.41	0.2325	2.3224	35	0		M
1986 EE2	13.5	860219	317.10	44.83	171.43	10.46	0.0527	2.3973	6	6		M
1986 EF2	13.5	860311	293.34	259.40	355.08	5.97	0.1082	2.3444	9	8		M
1986 EZ4		860219	357.22	169.44	1.49	1.29	0.0440	2.4069	10	0	E	M
1986 EA5		860311	344.72	197.83	358.28	0.40	0.1857	2.6664	29	0	D	M
1986 ED5		860219	339.77	224.47	324.73	1.88	0.1203	2.4004	10	8		M
1986 EE5		860311	342.75	37.59	152.87	0.91	0.2749	3.2605	13	7		M
1986 EF5		860219	346.22	9.06	174.25	0.19	0.0113	2.3761	9	6	E	M
1986 EJ5		860219	4.36	176.84	336.21	5.01	0.2435	2.7891	5	6		M
1986 EL5		860311	76.40	88.31	2.05	4.93	0.1115	2.5692	11	8		M
1986 EN5		860311	281.40	104.00	193.20	8.28	0.2614	2.6242	11	8		M
1986 EP5		860311	294.92	103.17	165.24	2.10	0.1258	3.1841	11	8		M
1986 EQ5		860311	333.95	212.55	18.43	12.30	0.1317	2.6656	11	8		M
1986 ET5		860311	11.63	353.18	159.62	6.23	0.1028	2.3520	6	6	E	M

1986	GM	13.0	860311	11.68	324.14	204.11	7.30	0.1370	2.6817	34	0	M
1986	GY1		860311	169.68	167.66	214.71	1.32	0.0205	2.8953	33	0	M
1986	PQ	13.5	860818	287.93	278.67	131.79	5.36	0.1246	2.5378	15	0	B
1986	PY	15.0	860818	351.26	195.15	145.60	7.98	0.2470	2.1887	36	0	B
1986	PD1	13.5	860818	301.86	266.33	138.95	15.70	0.2070	2.6115	17	0	B
1986	PE1	13.5	860818	311.41	244.70	138.08	8.34	0.1003	2.4339	15	0	B
1986	PJ1	14.5	860907	29.49	151.91	129.29	4.25	0.2850	2.5753	34	0	N
1986	PL1	12.0	860818	6.63	186.92	127.98	6.31	0.1458	3.2215	40	0	B
1986	PT1	15.0	860818	353.28	206.89	128.49	4.41	0.2053	2.3035	15	0	B
1986	PU1	14.5	860818	343.10	322.62	27.47	1.98	0.1971	2.4031	38	0	B
1986	PO2	14.5	860907	340.10	234.86	140.29	8.33	0.3424	2.3839	11	0	B
1986	PS4	12.5	860818	353.89	16.67	316.95	8.63	0.1141	2.9528	33	8	D M
1986	PT4	11.5	860818	61.13	105.21	151.11	13.75	0.0728	3.1597	36	0	D M
1986	QK	15.0	860818	338.53	51.96	301.49	4.33	0.1990	2.2975	15	0	B
1986	QM	14.5	860818	9.83	9.78	297.38	1.95	0.1651	2.3920	16	0	B
1986	QQ	12.5	860818	261.85	86.49	358.37	4.36	0.1477	2.2801	17	0	G
1986	QR	15.5	860818	12.30	324.00	345.77	5.49	0.2125	2.2248	14	0	G
1986	QS	12.5	860818	301.70	58.20	348.37	8.71	0.1611	2.7816	17	0	G
1986	QT	14.0	860818	31.98	165.34	121.56	2.79	0.1559	2.2121	16	0	G
1986	QU	13.0	860818	351.28	328.07	15.80	3.47	0.1673	3.0928	16	0	G
1986	QV	15.5	860818	342.34	21.41	340.83	14.36	0.2882	2.6151	11	0	G
1986	QW	14.0	860818	278.70	296.11	123.91	3.57	0.1232	2.2497	6	0	G
1986	QY	13.0	860818	277.04	61.13	13.48	5.15	0.1575	2.7482	14	0	G
1986	QZ	14.0	860818	347.61	230.92	118.45	3.96	0.1904	2.2016	19	0	G
1986	QA1	13.0	860818	189.21	93.88	51.12	3.30	0.0211	2.6624	16	0	G
1986	QC1	13.0	860818	37.68	187.74	103.04	4.23	0.0727	2.7429	16	0	G
1986	QD1	15.0	860818	315.29	263.62	132.86	8.53	0.2025	2.2799	16	0	G
1986	QE1	14.5	860818	355.52	262.86	75.30	2.83	0.1606	2.2496	19	0	G
1986	QF1	14.5	860818	319.94	15.50	8.86	5.28	0.1411	2.2185	14	0	G
1986	QG1	14.0	860818	165.32	57.21	111.11	4.57	0.0094	2.3233	12	0	G
1986	QH1	13.0	860818	336.52	19.26	341.28	15.19	0.1179	3.1655	13	0	G
1986	QJ1	14.0	860818	357.84	188.48	146.22	12.50	0.1932	2.6535	8	0	G
1986	QM1	15.5	860818	12.84	230.69	79.19	2.09	0.2255	2.3049	13	0	G
1986	QN1	13.0	860818	334.38	20.44	346.25	12.30	0.1401	2.9492	8	0	G
1986	QO1	13.0	860818	18.39	195.33	112.86	4.27	0.1436	2.8743	17	0	G
1986	QQ1	13.5	860818	303.39	20.04	27.35	2.81	0.2172	2.5460	16	0	B
1986	QR1	14.0	860818	34.09	295.02	351.74	4.18	0.0973	2.4136	9	0	G
1986	QS1	14.0	860818	332.90	231.14	133.16	5.51	0.1552	2.3152	15	0	G
1986	QT1	14.5	860818	311.76	21.30	16.76	2.52	0.2174	2.4259	18	0	G
1986	QU1	15.0	860818	337.69	247.49	113.22	2.35	0.1937	2.4006	13	0	G
1986	QW1	13.0	860818	15.96	239.94	72.38	1.72	0.1784	3.1763	15	0	G
1986	QX1	14.0	860818	40.99	265.89	18.09	3.16	0.1001	2.1726	18	0	G
1986	QY1	13.0	860818	326.96	204.89	164.61	1.57	0.1492	3.1364	11	0	B
1986	QZ1	12.0	860818	288.31	257.78	148.51	10.52	0.0814	3.0406	13	0	B
1986	QC2	13.5	860818	23.48	314.03	337.85	10.94	0.1795	2.6569	15	0	B
1986	QE2	14.0	860818	342.17	233.01	116.73	3.90	0.1440	2.2484	15	0	B
1986	QG2	15.5	860818	355.89	200.74	132.49	4.72	0.2700	2.3405	13	0	B
1986	QH2	13.5	860818	247.07	316.31	129.24	7.38	0.0556	2.2859	15	0	B
1986	QJ2	12.5	860818	34.07	278.07	5.37	4.55	0.1269	3.1244	11	0	B
1986	QK2	14.5	860818	338.88	212.93	139.24	11.98	0.0862	2.2712	6	9	B
1986	QL2	12.5	860818	49.79	280.57	345.12	3.57	0.1272	3.1808	14	0	B
1986	QM2	14.5	860818	314.89	41.82	341.08	2.69	0.1146	2.1586	7	9	B
1986	QN2	14.0	860818	31.69	304.68	336.07	12.82	0.2033	2.7691	10	0	B
1986	QO2	12.5	860818	2.83	203.91	120.34	1.86	0.1753	3.1263	14	0	B
1986	QP2	12.5	860818	28.76	158.39	130.85	2.78	0.1641	3.2242	4	9	B
1986	QQ2	15.0	860818	283.43	282.40	134.15	7.48	0.0991	2.3425	15	0	B
1986	QR2	13.5	860818	344.62	212.11	145.16	13.19	0.2972	2.6320	15	0	B
1986	QT2	14.5	860818	13.78	194.82	114.65	2.21	0.1532	2.1617	15	0	B
1986	QU2	13.0	860818	101.06	204.27	21.25	3.61	0.0271	2.7286	15	0	B

1986	QV2	12.5	860818	71.90	107.55	137.10	7.36	0.1194	2.7701	15	0	G
1986	QW2	14.5	860818	5.22	186.90	135.20	6.08	0.1382	2.2311	14	0	G
1986	QY2	13.0	860818	354.23	191.77	147.36	15.34	0.2290	2.6492	16	0	G
1986	QB3	12.5	860818	342.06	274.69	86.48	2.89	0.1828	3.1947	16	0	G
1986	QC3	14.5	860818	288.44	60.78	355.24	7.81	0.0946	2.2480	11	0	G
1986	QD3	15.0	860818	27.66	291.72	5.51	6.75	0.1332	2.2950	13	0	G
1986	QF3	14.0	860818	333.49	259.41	117.75	4.91	0.2508	2.5472	13	0	B
1986	QG3	13.5	860818	344.38	342.46	13.78	4.99	0.1592	2.7304	13	0	G
1986	QH3	14.0	860818	311.29	269.23	123.84	6.11	0.0989	2.5155	11	0	G
1986	QJ3	13.0	860818	243.18	29.89	66.27	3.42	0.0320	2.6531	11	0	G
1986	QK3	15.0	860818	350.40	222.02	125.08	5.72	0.1640	2.3392	13	0	G
1986	QL3	15.0	860818	3.31	193.75	131.93	5.58	0.3359	2.7077	12	0	G
1986	QO3	15.0	860818	327.10	331.44	53.64	3.41	0.2236	2.3828	13	0	G
1986	QP3	14.5	860818	336.47	329.88	40.40	3.15	0.2118	2.2459	13	0	G
1986	QQ3	13.5	860818	333.43	327.17	44.96	3.63	0.1471	2.5969	13	0	G
1986	QR3	13.5	860818	46.04	255.24	28.22	4.74	0.0818	2.2984	9	0	B
1986	QS3	12.0	860818	39.20	153.87	140.21	11.02	0.0834	3.0201	6	0	B
1986	QT3	15.5	860818	315.07	307.14	92.46	4.24	0.1684	2.2296	6	0	B
1986	QX3	13.5	860818	44.38	157.95	116.07	3.67	0.1656	2.4994	11	0	B
1986	QY3	14.5	860818	4.61	205.13	120.68	3.76	0.1870	2.4423	11	0	B
1986	RP2	13.5	860907	354.97	207.94	144.10	12.42	0.2053	2.5923	36	0	B
1986	RJ4	14.0	860818	310.37	66.08	332.59	25.49	0.2228	2.3445	13	0	B
1986	RY4	14.5	860907	356.95	339.49	357.83	4.36	0.1889	2.2643	11	0	B
1986	RA5	14.0	860907	356.67	213.96	125.38	6.34	0.2224	2.5168	11	0	B
1986	RB5	13.0	860907	357.40	216.84	121.66	5.50	0.1852	2.2357	11	0	B
1986	RC5	14.5	860907	5.49	177.60	152.09	15.57	0.3026	2.7788	9	0	B
1986	RD5	13.5	860818	2.09	332.96	353.75	2.44	0.1982	2.8188	3	9	B
1986	RE5	14.5	860907	350.91	0.12	343.85	10.23	0.1891	2.6254	6	0	B
1986	RH5	13.0	860907	345.66	356.07	4.87	9.39	0.1643	2.7830	7	0	B
1986	RJ5	13.5	860907	53.29	264.79	4.78	11.54	0.1874	2.6902	5	0	B
1986	RL5	12.0	860907	43.47	277.48	8.60	10.25	0.0915	3.0710	6	0	B
1986	RM5	11.5	860907	91.20	196.25	16.37	2.20	0.2335	2.8965	4	0	E B
1986	RN5	13.5	860907	10.59	322.72	357.27	7.31	0.2240	2.3861	4	9	B
1986	RP5	13.0	860907	341.80	359.21	16.49	13.19	0.2238	3.0776	5	0	B
1986	RQ5	13.0	860907	298.55	10.86	63.99	7.07	0.2246	2.6579	5	0	B
1987	FY1	10.5	870306	133.86	222.59	165.20	1.77	0.0836	3.0994	4	6	E G
1987	HD2	15.0	870415	11.38	27.25	168.03	1.12	0.2592	2.1631	5	6	E M
1987	JG	14.0	870505	336.27	13.86	245.41	5.83	0.0824	2.3143	31	0	G
1987	MA1	12.5	870614	350.26	130.17	152.30	12.22	0.2665	2.6953	10	4	M
1987	ML1	13.0	870614	16.95	121.27	124.34	15.79	0.1537	2.6317	5	8	G
1987	MM1	12.5	870614	321.03	127.88	194.85	8.87	0.1567	2.7984	5	8	G

1986 EA5 = 1986 GE2 (B. G. Marsden)
1986 PS4 = 1986 RV4 (E. W. Elst)
1986 PT4 = 1986 RW4 (C. M. Bardwell, E. W. Elst, S. Nakano)

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ORBITAL ELEMENTS BY L. D. SCHMADEL, ASTRONOMISCHES RECHEN-INSTITUT.

(70) Panopaea
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	247.74042	(1950.0)		P	Q
n	0.23315785	Peri.	254.34746	+0.51496198	+0.84427058
a	2.6143838	Node	47.62168	-0.68918997	+0.51071424
e	0.1840950	Incl.	11.58872	-0.50973654	+0.16241353
P	4.23	H	7.99	G 0.15	

From 116 observations at 32 oppositions 1920-1987, mean residual 1".3.

(594) Mireille
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	7.19515	(1950.0)	P	Q
n	0.23131617	Peri. 77.13740	-0.55264315	+0.80097217
a	2.6282422	Node 154.67542	-0.80277065	-0.58583810
e	0.3531837	Incl. 32.57197	+0.22393044	-0.12343945
P	4.26	H 12.6	G 0.25	

From 41 observations at 10 oppositions 1906-1979, mean residual 1".7.

(801) Helwerthia
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	83.76167	(1950.0)	P	Q
n	0.23432373	Peri. 334.77058	-0.94141784	-0.33636183
a	2.6057048	Node 185.73968	+0.33567907	-0.92766114
e	0.0756735	Incl. 14.09503	+0.03243480	-0.16218979
P	4.21	H 11.39	G 0.15	

From 54 observations at 13 oppositions 1915-1984, mean residual 1".2.

(847) Agnia
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	119.37471	(1950.0)	P	Q
n	0.21223411	Peri. 128.42947	+0.77293859	-0.63300672
a	2.7835087	Node 270.88585	+0.56779191	+0.72049352
e	0.0927547	Incl. 2.47770	+0.28315771	+0.28318117
P	4.64	H 10.27	G 0.25	

From 78 observations at 20 oppositions 1908-1984, mean residual 1".1.

(1406) Komppa
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	133.46162	(1950.0)	P	Q
n	0.22255537	Peri. 85.52729	+0.51328273	-0.85258893
a	2.6967705	Node 332.87581	+0.67695301	+0.47250912
e	0.0967032	Incl. 12.43157	+0.52751821	+0.22322016
P	4.43	H 11.3	G 0.25	

From 37 observations at 11 oppositions 1936-1987, mean residual 1".5.

(1425) Tuorla
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	354.40565	(1950.0)	P	Q
n	0.23343696	Peri. 339.56179	-0.96569810	-0.25875259
a	2.6122995	Node 185.57942	+0.25828521	-0.94853104
e	0.1007473	Incl. 12.94387	+0.02675706	-0.18258139
P	4.22	H 11.7	G 0.25	

From 57 observations at 17 oppositions 1937-1987, mean residual 1".2.

(1449) Virtanen
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	257.52916	(1950.0)	P	Q
n	0.29756793	Peri. 131.44505	-0.46769078	+0.87722016
a	2.2220064	Node 110.36449	-0.84149228	-0.40436756
e	0.1427633	Incl. 6.63966	-0.27047380	-0.25878884
P	3.31	H 12.6	G 0.25	

From 55 observations at 15 oppositions 1928-1984, mean residual 1".3.

(1492) Oppolzer
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	118.97424	(1950.0)	P	Q
n	0.30759408	Peri. 80.65331	-0.78362704	+0.61711118
a	2.1734554	Node 137.40748	-0.60331216	-0.72855807
e	0.1161595	Incl. 6.05863	-0.14813200	-0.29728259
P	3.20	H 12.98	G 0.25	

From 32 observations at 10 oppositions 1938-1981, mean residual 1".5.

(1496) Turku
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	21.51338	(1950.0)	P	Q
n	0.30086041	Peri. 0.36452	+0.41292872	+0.90989151
a	2.2057656	Node 294.02478	-0.83567833	+0.36113050
e	0.1615478	Incl. 2.50002	-0.36212098	+0.20416218
P	3.28	H 12.46	G 0.25	

From 42 observations at 13 oppositions 1928-1986, mean residual 1".3.

(1500) Jyvaskyla
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	185.05893	(1950.0)	P	Q
n	0.29342280	Peri. 16.51907	+0.80950774	-0.58551317
a	2.2428840	Node 19.51107	+0.52292103	+0.68554396
e	0.1896601	Incl. 7.44239	+0.26692847	+0.43267055
P	3.36	H 13.12	G 0.25	

From 36 observations at 10 oppositions 1938-1985, mean residual 1".4.

(1522) Kokkola
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	100.97142	(1950.0)	P	Q
n	0.27038623	Peri. 30.96341	-0.01794309	-0.99655908
a	2.3685343	Node 60.17621	+0.89713851	-0.05177559
e	0.0714839	Incl. 5.35194	+0.44138481	+0.06472477
P	3.65	H 12.54	G 0.25	

From 60 observations at 12 oppositions 1938-1985, mean residual 1".3.

(1523) Pieksamaki
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	142.24570	(1950.0)	P	Q
n	0.29370716	Peri. 186.93967	-0.90140013	-0.43028968
a	2.2414361	Node 327.43773	+0.40142419	-0.78871479
e	0.0941327	Incl. 5.14395	+0.16228499	-0.43906693
P	3.36	H 12.54	G 0.25	

From 70 observations at 15 oppositions 1936-1986, mean residual 1".6.

(1536) Pielinen
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	223.52642	(1950.0)	P	Q
n	0.30112074	Peri. 170.14855	+0.99563548	-0.09306407
a	2.2044941	Node 195.19666	+0.08369982	+0.92361265
e	0.1951384	Incl. 1.53144	+0.04128365	+0.37185851
P	3.27	H 13.07	G 0.25	

From 56 observations at 18 oppositions 1903-1987, mean residual 1".4.

(1609) Brenda
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	218.93480	(1950.0)	P	Q
n	0.23740694	Peri. 227.26687	+0.84822967	+0.42939041
a	2.5830954	Node 105.08185	-0.34121308	+0.89077484
e	0.2474921	Incl. 18.73003	-0.40506797	+0.14880876
P	4.15	H 10.72	G 0.15	

From 49 observations at 14 oppositions 1934-1984, mean residual 1".6.

(1614) Goldschmidt
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	335.21003	(1950.0)	P	Q
n	0.19015302	Peri. 347.09339	-0.86137309	-0.50245704
a	2.9950258	Node 162.14602	+0.48499423	-0.85718046
e	0.0722740	Incl. 14.09312	+0.15105299	-0.11304239
P	5.18	H 10.45	G 0.15	

From 82 observations at 22 oppositions 1928-1985, mean residual 1".3.

(1625) The NORC
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	60.56311	(1950.0)	P	Q
n	0.17348628	Peri. 276.60207	-0.47530279	+0.86553941
a	3.1838991	Node 323.62500	-0.66463146	-0.47080955
e	0.2329729	Incl. 15.43967	-0.57650002	-0.17082125
P	5.68	H 10.32	G 0.15	

From 51 observations at 14 oppositions 1929-1982, mean residual 1".5.

(1675) Simonida
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	10.84925	(1950.0)	P	Q
n	0.29536410	Peri. 49.57134	+0.18777657	-0.98045315
a	2.2330455	Node 29.76050	+0.86147085	+0.13566653
e	0.1245002	Incl. 6.79737	+0.47181345	+0.14249989
P	3.34	H 12.0	G 0.25	

From 76 observations at 14 oppositions 1931-1985, mean residual 1".2.

(1681) Steinmetz
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	243.00700	(1950.0)	P	Q
n	0.22263708	Peri. 0.20105	-0.07591337	-0.98921752
a	2.6961107	Node 94.15425	+0.91461421	-0.11910794
e	0.2054841	Incl. 7.21385	+0.39713727	+0.08521734
P	4.43	H 11.6	G 0.25	

From 48 observations at 15 oppositions 1914-1987, mean residual 1".2.

(1713) Bancilhon
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	297.68909	(1950.0)	P	Q
n	0.29625944	Peri. 255.89200	+0.72552776	+0.68582382
a	2.2285442	Node 60.77173	-0.60346012	+0.67386139
e	0.1838195	Incl. 3.74855	-0.33082526	+0.27487544
P	3.33	H 13.1	G 0.25	

From 57 observations at 12 oppositions 1931-1986, mean residual 0".9.

ORBITAL ELEMENTS BY H. OISHI, NIIZA, JAPAN.

The identifications are by H. Oishi unless otherwise stated.

1976 GO3 = 1981 NX = 1984 CF1
The identification 1976 GO3 = 1969 TM6 (NOC 1067) is invalid.
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	230.20785	(1950.0)	P	Q
n	0.23037606	Peri. 90.46636	-0.92003553	+0.39026225
a	2.6353928	Node 112.50479	-0.37289684	-0.84456465
e	0.0931924	Incl. 2.17560	-0.12034354	-0.36661416
P	4.28	H 13.4	G 0.25	

Residuals in seconds of arc

760401	095	0.6-	2.8+	760423	095	0.9+	0.0	840204	688	0.5-	0.7-
760402	095	1.1-	2.8-	810702	805	0.3+	0.2+	840204	688	0.8+	2.0+
760404	095	0.6+	0.3-	810702	805	0.6-	1.0+				

1981 JE3 = 1972 GB2
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	145.76161	(1950.0)	P	Q
n	0.22477134	Peri. 30.84029	-0.61098626	+0.79158933
a	2.6790220	Node 201.50301	-0.73123070	-0.56871069
e	0.1432526	Incl. 1.41669	-0.30331082	-0.22350502
P	4.38	H 14.3	G 0.25	

Residuals in seconds of arc

720409	805	0.2+	0.1+	810411	675	0.3+	0.3+	810506	675	0.4+	0.9-
720409	805	0.9+	1.4-	810411	675	0.4-	1.5-	810511	675	0.2+	1.2+
720410	805	0.4-	1.6+	810505	675	0.2+	0.2+				
720410	805	0.6-	0.0	810506	675	0.8-	0.4+				

1981 QH2 = 1971 OZ = 1971 QG2
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	277.32149	(1950.0)	P	Q
n	0.29904953	Peri. 197.41498	+0.99034796	+0.13460133
a	2.2146612	Node 154.77856	-0.11612137	+0.93600672
e	0.1925638	Incl. 4.45059	-0.07567522	+0.32522899
P	3.30	H 14.6	G 0.25	

Residuals in seconds of arc

710727	095	0.9-	1.0-	810830	688	0.2+	1.5+	810926	688	0.8-	0.5-
710819	808	1.1+	0.1-	810905	095	0.4+	0.1+	811004	688	0.4+	1.0-
810830	688	0.5+	1.7+	810926	688	2.8-	0.9-	811004	688	1.8+	0.3-

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ORBITAL ELEMENTS BY W. LANDGRAF, UNIVERSITY OF GOTTINGEN.

Periodic Comet Schwassmann-Wachmann 3
Epoch 1990 May 29.0 ET = JDE 2448040.5
T 1990 May 19.34312 ET

q	0.9362731	(1950.0)	P	Q
n	0.18414107	Peri. 198.77059	-0.04011759	+0.98191222
a	3.0598650	Node 69.27130	-0.88950576	+0.04926158
e	0.6940149	Incl. 11.41096	-0.45515940	-0.18281597
P	5.35			

From 244 observations 1930-1979, mean residual 1".4. Nongravitational parameters A1 = +0.58, A2 = +0.0387, A3 = -0.25.

ORBITAL ELEMENTS BY T. KOBAYASHI, GUNMA, JAPAN.

The following orbital elements are taken in part from Kobataka Circ. Nos. 26, 29, 31 and 32.

Periodic Comet Pons-Winnecke
Epoch 1989 Aug. 22.0 ET = JDE 2447760.5
T 1989 Aug. 19.90114 ET

q 1.2609642		(1950.0)	P	Q
n 0.15443235	Peri.	172.32103	-0.07597267	+0.92244333
a 3.4406767	Node	92.74940	-0.93375567	+0.06736266
e 0.6335127	Incl.	22.27306	-0.34975491	-0.38021123
P 6.38				

From 29 observations 1964-1983, mean residual 1".2. Nongravitational parameters A1 = 0.00, A2 = +0.0034.

Periodic Comet Kopff
Epoch 1990 Jan. 29.0 ET = JDE 2447920.5
T 1990 Jan. 20.39284 ET

q 1.5851475		(1950.0)	P	Q
n 0.15257858	Peri.	162.82615	+0.22776524	+0.97111954
a 3.4684892	Node	120.28850	-0.90271327	+0.23795123
e 0.5429862	Incl.	4.72054	-0.36500925	+0.01749419
P 6.46				

From 144 observations 1970-1983, mean residual 1".2. Nongravitational parameters A1 = +0.51, A2 = -0.0938.

Periodic Comet Johnson
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5
T 1990 Nov. 18.96313 ET

q 2.3125613		(1950.0)	P	Q
n 0.14143140	Peri.	208.27665	+0.80667233	+0.55201330
a 3.6484255	Node	116.67362	-0.48786697	+0.82357489
e 0.3661482	Incl.	13.66447	-0.33356494	+0.13040599
P 6.97				

From 44 observations 1963-1984, mean residual 1".1. Nongravitational parameters A1 = +0.59, A2 = -0.0262.

Periodic Comet Kearns-Kwee
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5
T 1990 Nov. 22.65386 ET

q 2.2153802		(1950.0)	P	Q
n 0.10994275	Peri.	131.84924	+0.04798496	-0.99270065
a 4.3154391	Node	315.02793	+0.86371260	+0.09687706
e 0.4866385	Incl.	9.00702	+0.50169511	-0.07183494
P 8.96				

From 141 observations 1963-1982, mean residual 1".2. Nongravitational parameters A1 = -1.18, A2 = -0.4548.

1977 RR6 = 1976 JN9 = 1981 UR9
The identifications are by T. Kobayashi.
Epoch 1987 July 24.0 ET = JDE 2447000.5
M 213.08391 (1950.0) P Q

n 0.25927363	Peri.	12.11752	+0.99190802	-0.12676743
a 2.4357375	Node	355.14909	+0.10851287	+0.87499374
e 0.1730751	Incl.	4.72408	+0.06590479	+0.46724296
P 3.80	H	14.0	G	0.25

Residuals in seconds of arc

760502	809	0.1+	0.2+	770921	095	1.1-	0.2+	811030	381	0.1-	3.2-
770911	095	0.3+	0.3-	811028	095	0.1-	6.1+				
770918	095	0.9+	0.1+	811030	381	0.2+	2.7-				

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ORBITAL ELEMENTS BY D. W. E. GREEN, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by D. W. E. Green unless otherwise stated.

Comet Shoemaker (1985 XII)
Epoch 1985 Sept. 12.0 ET = JDE 2446320.5
T 1985 Sept. 4.59240 ET

		(1950.0)	P	Q
q	2.6965104			
z	-0.0002654	Peri.	235.46184	-0.65096494	+0.34863401
	+/-0.0000016	Node	48.98515	+0.12297778	+0.92499715
e	1.0007157	Incl.	116.66115	-0.74908018	-0.15111122

From 95 observations 1984 May 27-1987 Feb. 28, mean residual 0".9.

Periodic Comet Lovas 2 (1986p)
Epoch 1986 Sept. 7.0 ET = JDE 2446680.5
T 1986 Sept. 2.15424 ET

		(1950.0)	P	Q
q	1.4573045			
n	0.14599466	Peri.	71.51062	+0.99481983	+0.09828010
a	3.5719996	Node	282.84293	-0.10038686	+0.90960136
e	0.5920200	Incl.	1.52644	-0.01599980	+0.40369096
P	6.75				

From 18 observations 1986 Dec. 2-1987 Mar. 3, mean residual 0".5.

Periodic Comet Wiseman-Skiff (1987b)
Epoch 1986 Nov. 26.0 ET = JDE 2446760.5
T 1986 Nov. 22.75889 ET

		(1950.0)	P	Q
q	1.5050240			
n	0.15122825	Peri.	171.76530	+0.11869605	-0.94256096
a	3.4891054	Node	271.00440	+0.89223028	+0.23923270
e	0.5686505	Incl.	18.19681	+0.43570217	-0.23312346
P	6.52				

From 30 observations 1986 Dec. 28-1987 May 25, mean residual 0".9.

Comet Levy (1987a)
Epoch 1987 Jan. 5.0 ET = JDE 2446800.5
T 1986 Dec. 17.52857 ET

		(1950.0)	P	Q
q	0.9214853			
z	-0.0004160	Peri.	95.24267	-0.05541116	-0.95817090
	+/-0.0000756	Node	16.41791	-0.51767686	-0.21289390
e	1.0003834	Incl.	96.57689	+0.85377999	-0.19127130

From 33 observations 1987 Jan. 8-May 24, mean residual 0".9.

Periodic Comet Gehrels 2
Epoch 1989 Nov. 10.0 ET = JDE 2447840.5
T 1989 Nov. 3.13874 ET

		(1950.0)	P	Q
q	2.3483567			
n	0.12418050	Peri.	183.54068	+0.77666613	-0.62628357
a	3.9789375	Node	215.52509	+0.58072269	+0.75341550
e	0.4098031	Incl.	6.67268	+0.24403051	+0.20033465
P	7.94				

From 28 observations 1973-1982, mean residual 0".8.

Periodic Comet Sanguin
Epoch 1990 Apr. 19.0 ET = JDE 2448000.5
T 1990 Apr. 2.56198 ET

q 1.8136363	(1950.0)		P	Q
n 0.07886502	Peri.	162.83820	+0.96384140	+0.26628283
a 5.3853395	Node	181.81370	-0.26619667	+0.96038230
e 0.6632271	Incl.	18.72237	-0.01221004	+0.08221489

P 12.50
From 20 observations 1977 Sept. 13-1978 Jan. 31, mean residual 0".9.

Periodic Comet Tritton
Epoch 1990 July 8.0 ET = JDE 2448080.5
T 1990 July 8.57487 ET

q 1.4356950	(1950.0)		P	Q
n 0.15552993	Peri.	147.74159	+0.03672221	-0.99365690
a 3.4244703	Node	299.95363	+0.88879626	+0.08109697
e 0.5807541	Incl.	7.04652	+0.45682896	-0.07790533

P 6.34
From 7 observations 1978 Feb. 11-Mar. 14, mean residual 0".9.

Periodic Comet Wild 2
Epoch 1990 Dec. 15.0 ET = JDE 2448240.5
T 1990 Dec. 16.89679 ET

q 1.5780575	(1950.0)		P	Q
n 0.15462131	Peri.	41.57379	-0.99801529	-0.04890082
a 3.4378728	Node	135.57498	+0.03136917	-0.93238493
e 0.5409785	Incl.	3.24939	+0.05460270	-0.35814389

P 6.37
From 100 observations 1978-1986, mean residual 0".9.

(3656)* 1978 QX = 1984 HH
Discovered 1978 Aug. 31 by N. S. Chernykh at the Crimean Astrophysical Observatory.
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 323.26969	(1950.0)		P	Q
n 0.30117356	Peri.	299.89518	-0.27113776	+0.96248792
a 2.2042363	Node	314.36918	-0.87814220	-0.25163226
e 0.1399246	Incl.	0.80680	-0.39414538	-0.10148011

P 3.27 H 14.0 G 0.25
Residuals in seconds of arc

780728	414	1.2+	1.0+	840425	046	2.7+	1.8-	840506	809	0.8-	0.3+
780728	414	0.7+	1.9+	840425	046	0.5+	1.9-	840506	809	0.2-	0.7+
780802	414	0.2+	0.5+	840427	046	1.1+	0.8-	840507	809	0.2+	0.6+
780802	414	0.3-	0.9+	840427	046	1.6+	2.9-	840507	809	0.4+	0.9+
780822	414	1.0-	0.1+	840428	809	1.5+	0.8+	840507	809	0.0	0.7+
780822	414	1.4+	1.1+	840428	809	1.6+	0.9+	840518	095	1.0+	0.9-
780831	095	2.3-	0.4-	840430	809	1.2+	0.1+	840520	095	0.4+	0.7-
780905	095	0.5-	0.0	840430	809	1.0+	0.6+	870228	801	0.1+	0.2+
791220	675	0.8-	1.9-	840502	095	0.9+	3.7+	870303	688	0.5+	0.5+
791220	675	0.0	0.7-	840505	809	0.2-	0.7+	870303	688	0.4+	1.3+
840419	046	2.8+	1.7-	840505	809	0.5-	0.5+	870330	801	1.9+	0.2-
840419	046	2.9+	2.1-	840505	095	0.0	3.5+				

(3657)* 1978 ST6 = 1925 TE
Discovered 1978 Sept. 26 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5
M 207.66215 (1950.0) P Q
n 0.28017103 Peri. 101.48493 +0.92578972 +0.36846710
a 2.3130618 Node 236.94639 -0.37408825 +0.86067756
e 0.1315870 Incl. 5.78825 -0.05451030 +0.35137748
P 3.52 H 12.7 G 0.25
Residuals in seconds of arc

251006	024	0.2+	0.1+	781101	095	1.7-	0.3+	851107 688	0.4+	2.2-
780926	095	1.5+	1.0-	851012	688	3.2+	1.2-	870227 801	2.6+	1.8-
781002	095	0.3-	0.7-	851015	688	1.1+	0.8-	870330 801	0.5+	1.6-
781008	095	0.8-	3.1-	851015	688	3.2+	1.0-	870427 801	1.9+	1.0-

(3658)* 1982 TR = 1972 TU8

Discovered 1982 Oct. 13 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identification is by W. Landgraf (MPC 10040).

Epoch 1987 July 24.0 ET = JDE 2447000.5
M 140.01887 (1950.0) P Q
n 0.30482200 Peri. 106.60761 +0.39514688 -0.91751730
a 2.1866126 Node 320.02310 +0.81384718 +0.37235642
e 0.0641747 Incl. 4.01232 +0.42604191 +0.13968786
P 3.23 H 13.7 G 0.25
Residuals in seconds of arc

721004	095	2.2+	3.0+	821022	095	0.1+	2.9-	850815 688	0.1-	1.0-
821013	688	(0.4+ | 5.5-)	821022	095	(4.4+ | 4.8-)	850914 688	0.6-	1.4-
821013	688	1.5+	4.2-	821024	095	1.2-	3.0-	850914 688	1.1-	1.0-
821014	095	3.3-	1.2-	821108	095	(5.9-	10.0-)	850918 688	1.7-	1.2-
821015	095	0.3+	3.5-	821111	095	3.0+	3.9-	850918 688	0.2-	0.6-
821020	095	1.6-	3.9-	821112	095	0.5-	4.5-	870226 801	1.3-	0.9-
821021	095	0.2-	1.5-	850815	688	2.2-	1.2-	870501 801	1.3+	0.2+

1980 FH5 = 1986 QE3

The identification is by C. M. Bardwell.

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)
M 355.55960 (1950.0) P Q
n 0.23615848 Peri. 83.24998 +0.21595744 -0.97610537
a 2.5921963 Node 354.11102 +0.77705438 +0.18675795
e 0.1561227 Incl. 13.58371 +0.59122659 +0.11108454
P 4.17 H 13.5 G 0.25
Residuals in seconds of arc

800316	809	0.2-	0.4+	860829	809	0.9-	0.5+	860904 809	0.2+	0.3+
800316	809	0.2+	0.0	860831	809	0.6+	0.2+	860904 809	0.3+	0.4+
800316	809	0.8+	0.5-	860831	809	0.6+	0.1+	860907 809	0.8+	0.7-
800316	809	0.4-	0.7-	860831	809	0.7+	0.2+	860907 809	0.6+	0.6-
800317	809	0.2-	0.2+	860901	809	0.7-	0.0	860907 809	0.6+	0.6-
800317	809	0.8+	0.0	860901	809	0.6-	0.1-	860909 809	0.3-	0.3+
800317	809	0.3+	0.5+	860901	809	0.5-	0.3-	860909 809	0.4-	0.2+
800317	809	0.0	0.4-	860902	809	0.7+	0.5-	860909 809	0.4-	0.1+
800323	809	0.9-	0.2+	860902	809	1.0+	0.6-	860911 809	0.1-	0.9+
860829	809	1.3-	0.5+	860902	809	1.1+	0.7-	860911 809	0.3-	0.8+
860829	809	1.2-	0.4+	860904	809	0.2+	0.4+	860911 809	0.3-	0.7+

1981 GD1

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)
M 116.41033 (1950.0) P Q
n 0.18619489 Peri. 261.14948 -0.62667844 -0.77800391
a 3.0373283 Node 227.75352 +0.73651067 -0.57264232
e 0.0967126 Incl. 3.44967 +0.25460984 -0.25843895
P 5.29 H 14.0 G 0.25

Residuals in seconds of arc

810212	413	0.3-	0.1+	810404	474	0.4-	1.0+	810430	474	0.4-	0.9-
810212	413	0.0	0.0	810404	474	0.3-	0.3+	810501	413	0.2+	1.6-
810301	413	0.3+	0.5+	810405	474	0.0	2.1+	810503	474	2.0+	3.9-
810306	413	1.0-	0.2+	810405	474	1.9+	2.2+	810503	474	1.8+	1.4-
810306	413	0.2+	0.1+	810406	413	1.2-	0.9+	860307	474	0.5+	0.4+
810308	413	0.2-	0.5+	810406	413	1.4+	0.5-	860307	474	0.1-	0.1+
810308	413	0.2-	0.8+	810408	413	1.2-	0.3-	870502	474	1.1+	0.8+
810312	413	0.9-	1.0+	810408	413	1.0+	1.6-	870502	474	0.5+	1.0+
810312	413	1.3+	0.4-	810409	413	1.2-	0.3+	870605	474	0.6-	0.4+
810403	474	1.6-	0.2+	810409	413	0.9+	0.5-	870605	474	0.9-	0.0
810403	474	1.7-	0.0	810430	474	0.3-	1.1-				

1986 QM3 = 1975 EZ1 = 1977 TH6 = 1982 UJ1
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	155.14387		(1950.0)	P	Q
n	0.21109188	Peri.	107.08450	-0.46076937	+0.87947622
a	2.7935465	Node	134.85391	-0.86473620	-0.41463079
e	0.1033427	Incl.	9.68160	-0.19980712	-0.23367261
P	4.67	H	11.0	G 0.25	

Residuals in seconds of arc

750308	095	0.8+	2.0+	860901	809	0.9+	0.3+	860907	809	0.9+	0.5+
771008	095	0.6-	2.4+	860902	809	0.0	1.0+	860909	809	0.5-	1.0+
821021	688	0.5-	0.7-	860902	809	0.0	1.0+	860909	809	0.3-	1.0+
821021	688	0.7+	1.9-	860902	809	0.5+	0.8+	860909	809	0.3-	0.8+
860829	809	0.6-	0.1-	860904	809	0.6-	0.0	860910	809	0.3-	0.9+
860829	809	0.4-	0.1-	860904	809	0.4-	0.1+	860910	809	0.3-	0.7+
860829	809	0.3-	0.2-	860904	809	0.3-	0.0	860910	809	0.3-	0.5+
860831	809	0.1-	0.3+	860906	809	0.5+	0.4+	860911	809	0.1-	1.3+
860831	809	0.2+	0.1+	860906	809	0.9+	0.5+	860911	809	0.0	1.4+
860831	809	0.3+	0.1-	860906	809	0.7+	0.4+	860911	809	0.0	1.5+
860901	809	0.4+	0.6+	860907	809	0.2+	0.4+				
860901	809	0.7+	0.5+	860907	809	0.6+	0.6+				

1986 QN3 = 1979 MB1 = 1981 AV2
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	73.56852		(1950.0)	P	Q
n	0.29677081	Peri.	288.14356	+0.98129069	-0.18477877
a	2.2259879	Node	82.53147	+0.19073849	+0.89474544
e	0.1446798	Incl.	3.12702	+0.02621852	+0.40655554
P	3.32	H	14.5	G 0.25	

Residuals in seconds of arc

790622	805	1.6-	0.7+	860831	809	0.0	0.2+	860907	809	0.6+	0.5+
790622	805	1.3+	0.0	860901	809	0.1+	0.5+	860907	809	0.5+	0.2+
790625	805	0.3+	0.4-	860901	809	0.2+	0.5+	860907	809	0.6+	0.1+
810108	381	0.1+	0.3-	860901	809	0.2+	0.8+	860909	809	0.5-	0.0
810108	381	0.1-	0.2-	860902	809	0.5+	0.3-	860909	809	0.5-	0.0
860829	809	0.6-	0.5-	860902	809	0.2+	0.3-	860909	809	0.3-	0.2+
860829	809	0.4-	0.6-	860902	809	0.6+	0.4-	860910	809	0.7-	0.4+
860829	809	0.3-	0.5-	860904	809	0.5+	0.1-	860910	809	0.6-	0.4+
860829	809	0.3-	0.6-	860904	809	0.9+	0.1-	860910	809	0.6-	0.3+
860829	809	0.3-	0.6-	860904	809	1.1+	0.2-	860911	809	0.8-	0.7+
860829	809	0.0	0.4-	860907	809	0.7+	0.9+	860911	809	0.8-	0.5+
860831	809	0.1+	0.1-	860907	809	0.8+	0.4+	860911	809	0.9-	0.4+
860831	809	0.0	0.1+	860907	809	1.1+	0.3+				

ORBITAL ELEMENTS BY S. NAKANO, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by S. Nakano unless otherwise stated.

Periodic Comet Urata-Niijima (1986o)
Epoch 1986 Nov. 26.0 ET = JDE 2446760.5
T 1986 Nov. 22.94021 ET

q	1.4491978	(1950.0)	P	Q
n	0.14880428	Peri. 21.38485	+0.62313327	-0.75247240
a	3.5268943	Node 31.28372	+0.64467452	+0.33975991
e	0.5891009	Incl. 24.25094	+0.44283145	+0.56422379
P	6.62			

From 71 observations 1986 Oct. 4-1987 Mar. 27, mean residual 0".9.

Periodic Comet Clark
Epoch 1989 Nov. 10.0 ET = JDE 2447840.5
T 1989 Nov. 28.41038 ET

q	1.5558286	(1950.0)	P	Q
n	0.17885110	Peri. 208.92499	-0.04085457	+0.98909069
a	3.1199069	Node 59.05962	-0.88198747	+0.03085914
e	0.5013221	Incl. 9.49779	-0.46949867	-0.14403928
P	5.51			

From 78 observations 1973-1984, mean residual 1".4. Nongravitational parameters A1 = +1.41, A2 = +0.0152.

Periodic Comet Peters-Hartley
Epoch 1990 July 8.0 ET = JDE 2448080.5
T 1990 June 21.60047 ET

q	1.6257753	(1950.0)	P	Q
n	0.12129893	Peri. 338.31328	-0.48609947	+0.72430329
a	4.0417062	Node 259.39485	-0.71066976	-0.65325638
e	0.5977503	Incl. 29.83261	-0.50858215	+0.22054670
P	8.13			

From 19 observations 1982 July 11-Sept. 11, mean residual 1".0.

Periodic Comet Honda-Mrkos-Pajdusakova
Epoch 1990 Sept. 26.0 ET = JDE 2448160.5
T 1990 Sept. 12.77713 ET

q	0.5412532	(1950.0)	P	Q
n	0.18606184	Peri. 325.73539	+0.58064273	-0.81082078
a	3.0387701	Node 88.66115	+0.76247136	+0.50983469
e	0.8218841	Incl. 4.22456	+0.28546707	+0.28746868
P	5.30			

From 46 observations 1969-1980, mean residual 1".4. Nongravitational parameters A1 = +0.11, A2 = -0.0459.

(3659)* 1969 TE2 = 1973 UP5
Discovered 1969 Oct. 8 by L. I. Chernykh at the Crimean Astrophysical Observatory. The identification is by K. Hurukawa (JAM 1206).
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	99.82135	(1950.0)	P	Q
n	0.24485830	Peri. 258.02790	+0.04420598	-0.99897385
a	2.5304212	Node 189.45505	+0.93830359	+0.04490318
e	0.1195230	Incl. 3.43864	+0.34297551	+0.00591239
P	4.03	H 13.5	G 0.25	

Residuals in seconds of arc

691008	095	1.6+	2.8-		731028	033	0.3+	0.8+		860112	801	0.7-	0.9+
691016	095	3.0+	1.7+		731101	033	2.4-	0.5+		870225	801	0.9+	0.0
691111	095	0.3+	4.4-		731102	033	0.1-	1.5+		870402	801	0.3-	0.8-
731027	033	2.0-	0.5+		731103	033	1.4-	0.9+		870427	801	0.7-	1.3+
731027	033	0.3-	0.2+		851017	801	1.3+	0.5+					

(3660)* 1978 QX2 = 1979 WR2 = 1982 GF = 1985 XM

Discovered 1978 Aug. 31 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	316.14854	(1950.0)	P	Q	
n	0.17056892	Peri.	224.75699	-0.77340874	+0.63377516
a	3.2201006	Node	354.52570	-0.53685259	-0.66573009
e	0.0867240	Incl.	7.80787	-0.33708785	-0.39386862
P	5.78	H	11.5	G 0.25	

Residuals in seconds of arc

780831	095	0.9+	0.8+		820414	046	0.9-	0.3+		820420	704	1.0-	1.0+
780905	095	0.8+	1.5+		820415	046	1.6+	0.4-		851209	046	1.0+	0.3-
780927	095	1.9-	2.4-		820415	046	0.7-	1.0-		851209	046	0.5-	1.1-
791116	095	0.8+	1.7-		820419	046	1.1-	1.1-		870226	801	0.1-	1.7+
820414	046	1.9+	0.6-		820419	046	1.4-	1.2-		870428	801	1.0+	0.5+

(3661)* 1979 UY3 = 1979 SK10 = 1966 BN = 1969 TH1 = 1977 HZ = 1978 NX4 = 1982 HF2 = 1986 AU1

Discovered 1979 Oct. 16 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	65.16140	(1950.0)	P	Q	
n	0.19652031	Peri.	142.04313	-0.93735979	-0.34821072
a	2.9299785	Node	17.58740	+0.31068698	-0.84898186
e	0.0577485	Incl.	1.95191	+0.15757609	-0.39746585
P	5.02	H	11.9	G 0.25	

Residuals in seconds of arc

660120	330	0.2-	1.2+		780713	675	(12.3-	1.6-)Y		870225	801	2.9+	1.5+
691008	095	0.2+	1.4+		790928	095	0.4-	1.4-		870329	801	0.6+	1.3+
691104	095	0.7-	1.4+		791016	095	0.7-	1.5+		870424	046	0.8-	0.7+
691113	095	(4.8+	2.4-)		791111	095	1.8+	1.8-		870424	046	0.1-	0.3+
770424	675	0.0	0.5-		791116	095	1.2+	0.6-		870427	046	1.2-	1.6-
770425	675	0.2-	0.1-		820427	046	1.3+	0.2+		870427	046	1.0-	1.9-
780710	675	(10.5+ | 2.4-)Y		820427	046	(4.6+ | 1.4-)					
780711	675	1.6-	1.2+ Y		860112	688	0.6-	0.1-					

(3662)* 1980 RU2 = 1954 UH = 1967 RE1

Discovered 1980 Sept. 8 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	235.40114	(1950.0)	P	Q	
n	0.22812525	Peri.	336.61642	+0.84088463	+0.53984460
a	2.6526939	Node	350.42806	-0.45278383	+0.66275938
e	0.1726962	Incl.	13.38062	-0.29647907	+0.51895839
P	4.32	H	12.0	G 0.25	

Residuals in seconds of arc

541021	760	1.4+	1.7-		801012	095	2.7-	1.6+		870401	675	2.2+	0.1-
670912	095	1.2+	0.7+		870225	801	0.8-	0.4+		870401	675	(4.6+	0.9-)
671003	095	1.5-	0.7-		870303	688	0.6+	1.7-		870403	675	0.1-	0.3-
800908	095	3.3+	0.7-		870303	688	1.3-	0.3-		870403	675	0.7-	0.7-
801008	095	0.7-	0.7-		870330	054	0.6+	1.3+		870428	801	1.9-	0.4-

(3663)* 1985 GK1 = 1985 JP = 1957 LK = 1957 ND = 1979 FG3 = 1986 QX2

Discovered 1985 Apr. 15 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identifications 1985 GK1 = 1957 LK = 1957 ND = 1979 FG3 = 1986 QX2 were found independently by D. W. E. Green.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	109.23116	(1950.0)	P	Q	
n	0.17438047	Peri.	158.50692	-0.08162342	+0.99532583
a	3.1730055	Node	106.78187	-0.92205522	-0.05575218
e	0.1578583	Incl.	3.09038	-0.37835406	-0.07885553
P	5.65	H	12.3	G 0.25	

Residuals in seconds of arc (or two decimals in units of degrees)

570605	081(0.07+	0.02+)X	860902	809	0.7-	0.5-	860905	809	0.7-	0.5-
570704	839	0.4-	2.9-	860902	809	0.7-	0.5-	860906	809	1.0-	0.1+
790331	095	0.2+	0.2+	860902	809	0.1-	0.1+	860906	809	0.5-	0.0
850415	688	0.4-	2.1+	860902	809	0.0	0.3+	860906	809	0.2-	0.0
850415	688	0.7+	0.9+	860902	809	0.1+	0.2+	860908	809	0.2+	0.6-
850513	675	0.1-	2.2-	860903	809	1.0-	0.6-	860908	809	0.1+	0.1-
850515	675	1.3+	1.1-	860903	809	1.0-	0.6-	860908	809	0.3+	0.1-
850524	675	0.2-	1.6+	860903	809	1.0-	0.5-	860908	809	0.2-	0.5+
850524	675	0.6-	1.4+	860903	809	0.6-	0.1+	860908	809	0.2-	0.4+
860828	809	2.4+	0.9+	860903	809	0.7-	0.0	860908	809	0.1-	0.5+
860828	809	2.4+	1.0+	860903	809	0.6-	0.1-	860911	809	0.1-	0.1+
860828	809	2.2+	0.8+	860904	809	0.6-	0.2+	860911	809	0.1-	0.2+
860831	809	0.4+	0.3+	860904	809	0.6-	0.2+	860911	809	0.2+	0.1+
860831	809	0.3+	0.2+	860904	809	0.6-	0.2+	860911	809	0.4+	0.2+
860831	809	0.4+	0.2+	860904	809	0.6-	0.0	860911	809	0.5+	0.1+
860901	809	0.1+	0.2+	860904	809	0.5-	0.0	860911	809	0.5+	0.1+
860901	809	0.2+	0.1+	860904	809	0.6-	0.0	860911	809	0.8+	0.2+
860901	809	0.4+	0.1+	860905	809	0.9-	0.2+	860911	809	0.9+	0.2+
860901	809	0.0	0.0	860905	809	1.0-	0.0	860911	809	0.7+	0.1+
860901	809	0.0	0.0	860905	809	1.0-	0.2+	860912	809	1.3+	0.1-
860901	809	0.0	0.1+	860905	809	0.7-	0.5-	860912	809	1.1+	0.1-
860902	809	0.6-	0.6-	860905	809	0.7-	0.4-	860912	809	1.2+	0.0

(3664)* 4260 P-L = 1974 RK1 = 1983 NX = 1984 YF4 = 1986 GL

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels. The identification 4260 P-L = 1974 RK1 is by C. M. Bardwell, E. Bowell and H. Oishi, who found it independently (MPC 7020). The identification 4260 P-L = 1983 NX is by K. Hurukawa (JAM 1657).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	235.98446	(1950.0)	P	Q	
n	0.21101839	Peri.	145.23740	+0.69921627	-0.71223210
a	2.7941895	Node	260.30969	+0.64083572	+0.66275258
e	0.1334399	Incl.	3.59581	+0.31690092	+0.23126706
P	4.67	H	12.3	G 0.25	

Residuals in seconds of arc

600924	675	0.8+	0.4-	780709	675	0.9+	0.7+	860307	809	1.3-	0.2+
600925	675	0.2-	0.5-	791122	675	0.1+	0.1-	860311	809	1.0-	0.1-
600926	675	0.3+	0.1+	791124	675	0.2+	0.8+	860311	809	1.1-	0.4-
600928	675	0.5+	1.0+	791125	675	1.2+	2.7+	860317	809	0.8+	0.8+
740912	095	0.5-	1.4-	830713	688	1.1+	0.3-	860317	809	0.2+	0.5+
740920	095	2.0-	1.6-	830713	688	0.6+	1.5-	860409	688	0.5+	1.3-
740922	095	1.9-	1.3-	841227	095	0.8+	1.4-	860409	688	2.5+	0.5+
780707	675	0.1-	1.4+	860306	809	1.6-	0.1-				
780708	675	0.8+	1.1+	860307	809	1.6-	0.9-				

1978 SP6 = 1978 TX2 = 1986 ES5

The double designation 1978 SP6 = 1978 TX2 is by S. Nakano (MPC 10610).

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	167.20230		(1950.0)	P	Q
n	0.17376942	Peri.	18.61299	+0.40326011	-0.91484536
a	3.1804459	Node	47.61081	+0.83588842	+0.35894269
e	0.1707678	Incl.	1.62607	+0.37238668	+0.18498139
P	5.67	H	12.5	G 0.25	

Residuals in seconds of arc

780927	095	0.5-	0.5+	860309	809	0.0	0.1-	860315	809	0.1-	0.3+
781003	095	0.6+	0.2+	860314	809	0.1-	0.5-	860318	809	1.2+	1.3-
781007	095	0.1-	0.7-	860314	809	0.2+	1.3+	860318	809	0.4-	0.4-
860309	809	0.8-	0.2+	860315	809	0.0	0.5+				

1978 XQ = 1986 EG2

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	103.91229		(1950.0)	P	Q
n	0.17324462	Peri.	328.97585	-0.90086635	-0.43409400
a	3.1868655	Node	185.29715	+0.40149724	-0.83190225
e	0.1357187	Incl.	0.92606	+0.16504483	-0.34568924
P	5.69	H	12.0	G 0.25	

Residuals in seconds of arc

781203	675	0.7-	0.3-	860306	688	0.3+	2.1-	860309	809	0.6-	1.4+
781203	675	1.0-	0.1-	860306	688	1.2+	2.0-	860315	809	0.8+	0.4+
781205	675	1.6+	1.2+	860308	809	0.8-	0.5+	860315	809	0.4+	0.8+
781206	675	0.4+	0.4-	860308	809	0.9-	0.5+				
781206	675	0.3-	0.3-	860309	809	0.5-	0.6+				

1979 MK1 = 1976 SK9 = 1986 PH4

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	149.35415		(1950.0)	P	Q
n	0.28844206	Peri.	112.76022	-0.10393890	+0.99420433
a	2.2686345	Node	151.23207	-0.93212973	-0.08774281
e	0.1103742	Incl.	3.27186	-0.34688741	-0.06212051
P	3.42	H	14.5	G 0.25	

Residuals in seconds of arc

760929	095	0.6+	1.7-	860826	809	0.3-	1.2-	860902	809	0.0	0.4+
790623	413	0.5+	0.7-	860826	809	0.0	1.2-	860907	809	0.7-	1.3+
790624	413	1.2+	0.5-	860826	809	0.1+	1.5-	860907	809	0.9-	1.0+
790625	413	2.5-	0.6-	860828	809	0.5+	0.8-	860907	809	1.0-	0.7+
790721	095	1.4-	0.0	860828	809	0.4+	0.8-	860908	809	0.1+	0.0
790724	675	0.0	0.1-	860828	809	0.5+	0.8-	860908	809	0.5+	0.1+
790724	413	2.3+	0.3+	860830	809	0.2-	0.2+	860908	809	0.5+	0.1+
790725	675	1.0-	0.1+	860830	809	0.1-	0.1+	860910	809	0.6+	0.9+
790823	675	1.1+	0.8+	860830	809	0.1+	0.1+	860910	809	0.7+	0.9+
860807	033	0.8-	0.2+	860902	809	0.0	0.3+	860910	809	0.7+	1.0+
860808	033	0.7-	0.5+	860902	809	0.1-	0.3+				

1982 FZ1 = 1983 RR

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	180.48462		(1950.0)	P	Q
n	0.29320850	Peri.	29.16462	-0.83013516	+0.55753202
a	2.2439812	Node	184.73299	-0.52419705	-0.78396288
e	0.0790068	Incl.	4.03278	-0.18998177	-0.27305724
P	3.36	H	13.5	G 0.25	

Residuals in seconds of arc

820323 675	0.9+	0.6-	820331 675	0.7-	1.1+	830907 046	2.4+	0.5-
820323 675	0.7+	1.1-	830905 046	0.6-	4.0-	830908 046	0.7-	0.2+
820324 675	0.7-	0.2-	830905 046	2.8-	0.3+	830908 046	0.3-	0.5+
820331 675	0.2-	0.6+	830907 046	2.1+	3.4+			

1982 SU1 = 1982 SY4 = 1970 EF3 = 1975 EE5 = 1977 SH2 = 1980 GY

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	314.22416		(1950.0)	P	Q
n	0.20521487	Peri.	180.16428	+0.34917808	-0.93691007
a	2.8466300	Node	249.39869	+0.85971033	+0.32733631
e	0.0410327	Incl.	1.01359	+0.37279057	+0.12268029
P	4.80	H	12.5	G 0.25	

Residuals in seconds of arc

700310 805	1.4+	0.1-	770919 095	0.2+	0.5-	820915 010	1.2-	0.1+
700310 805	0.1-	1.0+	800414 805	0.9-	1.8+	820916 010	(1.9-	10.1+)
700310 805	0.8-	0.3+	800415 805	1.0+	0.4+	820918 010	0.5+	1.4-
750315 095	0.9-	2.1-	800416 805	1.1+	0.8+	820926 095	0.3-	3.8+

1986 EN4 = 1982 ON = 1983 YW

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	353.97624		(1950.0)	P	Q
n	0.16930523	Peri.	231.37092	+0.09147949	+0.99559058
a	3.2361104	Node	43.89177	-0.90403163	+0.09177143
e	0.1069888	Incl.	1.71574	-0.41756235	+0.01942666
P	5.82	H	12.5	G 0.25	

Residuals in seconds of arc

820725 801	0.3+	0.7-	860306 809	0.1-	0.2+	860312 809	0.8+	0.1+
831228 033	1.6+	0.2+	860307 809	0.8-	0.4-	860316 809	0.6-	0.3+
831229 033	1.7+	0.3+	860307 809	0.0	0.0	860316 809	0.3+	0.3+
831229 033	3.2-	0.8-	860311 809	0.2-	0.4-			
860306 809	0.4-	0.6-	860311 809	0.5+	0.2-			

1986 PJ4 = 1986 RK4 = 1975 GJ = 1978 EH1 = 1979 OY13

The double designation 1986 PJ4 = 1986 RK4 is by C. M. Bardwell.

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	126.78239		(1950.0)	P	Q
n	0.28550616	Peri.	146.03496	+0.25619752	+0.96527683
a	2.2841604	Node	138.74413	-0.90312995	+0.25785076
e	0.1648995	Incl.	4.43782	-0.34455642	+0.04187641
P	3.45	H	13.5	G 0.25	

Residuals in seconds of arc

750415 805	0.5+	0.5-	860906 809	0.3+	0.5-	860910 809	0.2+	0.3-
750418 805	0.6-	0.7-	860906 809	0.6+	0.8-	860910 809	0.3+	0.4-
780305 095	0.4-	0.2-	860906 071	(0.8-	5.2-)	860910 809	0.5+	0.1-
790719 095	0.2-	0.3+	860906 071	(2.8-	5.9-)	860912 809	0.1+	0.4+
860807 033	1.1-	0.7+	860908 809	0.0	0.4-	860912 809	0.1+	0.4+
860808 033	1.7-	1.1+	860908 809	0.3+	0.4-	860912 809	0.2+	0.3+
860906 809	0.2+	0.6-	860908 809	0.5+	0.7-			

1986 QL = 1982 TZ1 = 1982 UH11

The identification and double designation are by C. M. Bardwell.

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	102.45419		(1950.0)	P	Q
n	0.20315814	Peri.	35.35060	+0.26020740	+0.96536592
a	2.8658103	Node	249.73837	-0.89042940	+0.23230866
e	0.0167527	Incl.	1.16011	-0.37340004	+0.11874902
P	4.85	H	12.0	G 0.25	

Residuals in seconds of arc

821014	095	1.5-	0.6+		860829	809	0.4+	0.4-		860907	809	0.0	0.2+
821024	095	1.4+	0.5-		860831	809	1.1-	0.1-		860907	809	0.8-	0.2-
860825	809	0.6+	0.5+		860831	809	0.1-	0.1-		860907	809	0.9-	0.7-
860825	809	1.0+	0.5+		860831	809	0.4+	0.1+		860908	809	0.2+	0.6-
860825	809	1.2+	0.6+		860901	809	0.1-	0.0		860908	809	0.1-	0.9-
860826	809	0.6-	0.0		860901	809	0.2-	0.0		860908	809	0.5-	0.9-
860826	809	0.6-	0.1-		860901	809	0.1-	0.2-		860909	809	0.2-	0.3+
860826	809	0.7-	0.1-		860902	809	0.1-	0.5-		860909	809	0.2-	0.0
860826	809	0.2-	0.0		860902	809	0.2-	0.3-		860909	809	0.5-	0.3-
860826	809	0.2-	0.1+		860902	809	0.1+	0.4-		860910	809	0.0	0.3+
860826	809	0.1-	0.0		860903	809	0.7+	0.6-		860910	809	0.3+	0.5+
860827	809	0.7-	0.7+		860903	809	0.7+	0.3-		860910	809	0.4+	0.5+
860827	809	0.2-	0.6+		860903	809	0.6+	0.3-		860911	809	0.5+	0.2-
860827	809	0.2+	0.7+		860905	809	0.2-	0.2+		860911	809	0.9+	0.2-
860828	809	0.1-	0.2-		860905	809	0.2-	0.3+		860911	809	1.0+	0.2-
860828	809	0.1+	0.4+		860905	809	0.0	0.3+		860912	809	0.3-	0.2+
860828	809	0.4+	0.7+		860906	809	0.3-	0.2+		860912	809	0.0	0.2+
860829	809	0.6-	0.5-		860906	809	0.2-	0.1+		860912	809	0.2+	0.2+
860829	809	0.0	0.2-		860906	809	0.1+	0.1+					

1986 QB1 = 1972 TW6 = 1975 HC = 1982 VM = 1984 DE2

The identifications 1986 QB1 = 1972 TW6 = 1975 HC = 1982 VM are by D. W. E. Green.

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	130.30946		(1950.0)	P	Q
n	0.20349602	Peri.	214.70691	+0.03870624	+0.99807208
a	2.8626372	Node	57.55692	-0.90323327	+0.05571328
e	0.0067237	Incl.	3.29577	-0.42740085	-0.02735249
P	4.84	H	12.5	G 0.25	

Residuals in seconds of arc

721006	095	2.3+	2.6-		860829	809	0.2-	0.6+		860906	809	0.2+	0.1+
750420	805	0.5-	0.5+		860901	809	1.0+	0.0		860906	809	0.3+	0.0
821111	046	0.9-	0.6-		860901	809	0.8+	0.1-		860906	809	1.1+	0.0
821111	046	0.6+	0.3-		860901	809	0.6+	0.5-		860906	809	1.1+	0.1-
821112	095	0.4+	0.4-		860902	809	1.3+	0.2+		860906	809	0.8+	0.1-
821114	381	0.7+	0.1+		860902	809	1.4+	0.2+		860907	809	0.7-	0.5-
821114	381	0.9-	0.5+		860902	809	1.7+	0.5+		860907	809	0.8-	0.2-
821114	046	0.8-	0.7-		860903	809	0.6+	0.2-		860907	809	0.4-	0.5-
821114	046	0.8+	1.1+		860903	809	0.5+	0.2-		860907	809	0.1-	0.0
821116	046	1.5-	0.1-		860903	809	1.2+	0.0		860907	809	0.1+	0.0
821116	046	1.3-	1.7+		860904	809	1.5+	0.2-		860907	809	0.0	0.1-
840226	095	2.0+	3.7+		860904	809	1.4+	0.4-		860909	809	0.4-	0.4-
860826	809	2.0-	0.3+		860904	809	1.7+	0.3-		860909	809	0.6-	0.5-
860826	809	1.8-	0.3+		860905	809	0.5+	0.6-		860909	809	0.5-	0.6-
860826	809	1.7-	0.1+		860905	809	0.5+	0.4-		860911	809	1.6-	1.0+
860827	809	1.1-	1.0+		860905	809	0.5+	0.6-		860911	809	1.4-	0.9+
860827	809	1.0-	0.8+		860905	809	0.7+	0.2-		860911	809	1.4-	1.1+
860827	809	0.9-	0.7+		860905	809	0.6+	0.4-		860914	809	1.8-	1.6+
860829	809	0.1+	0.8+		860905	809	0.4+	0.5-		860914	809	1.8-	1.6+
860829	809	0.0	0.7+		860906	809	0.0	0.0		860914	809	1.9-	1.5+

1986 QL1 = 1984 BZ

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	328.52045		(1950.0)	P	Q
n	0.24531159	Peri.	93.82096	-0.22503892	-0.97423371
a	2.5273082	Node	9.22568	+0.85253087	-0.20435289
e	0.1580373	Incl.	5.38248	+0.47175058	-0.09543889
P	4.02	H	13.0	G 0.25	

Residuals in seconds of arc

840129 704	0.9-	0.5+	860901 809	0.1-	0.5+	860907 809	0.7-	0.1+
840129 704	0.3+	1.1+	860901 809	0.0	0.3+	860907 809	0.9-	0.5+
840130 704	0.6+	1.1-	860902 809	0.4-	0.3-	860909 809	0.1-	0.4+
840201 704	(0.2+	3.8+)	860902 809	0.2-	0.4-	860909 809	0.0	0.3+
840203 704	0.0	0.5-	860902 809	0.1-	0.5-	860909 809	0.1+	0.4+
860827 809	0.9+	0.4-	860904 809	1.5-	0.1-	860911 809	0.6+	0.3+
860827 809	0.9+	0.4-	860904 809	1.4-	0.3-	860911 809	0.7+	0.4+
860827 809	1.1+	0.4-	860904 809	1.3-	0.3-	860911 809	0.9+	0.3+
860828 809	0.3+	0.2+	860905 809	0.5-	0.1+	860913 809	0.9+	0.6-
860828 809	0.4+	0.2+	860905 809	0.6-	0.4+	860913 809	0.9+	0.9-
860828 809	0.6+	0.1+	860905 809	0.6-	0.1+	860913 809	0.8+	1.0-
860901 809	0.1+	0.6+	860907 809	0.7-	0.0			

1986 QP1 = 1975 GF1 = 1977 VC2 = 1982 UJ10
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	359.30646	(1950.0)		P	Q
n	0.20658628	Peri.	356.90638	+0.61870199	-0.78464203
a	2.8340180	Node	54.86849	+0.72179011	+0.54796440
e	0.0656383	Incl.	2.75456	+0.31020459	+0.28995156
P	4.77	H	13.0	G 0.25	

Residuals in seconds of arc

750415 805	1.1-	0.9+	860902 809	0.6-	0.8-	860908 809	0.6-	0.7-
750420 805	0.9+	1.3-	860902 809	0.5-	0.6-	860908 809	0.6-	0.6-
771114 805	0.1-	0.3+	860902 809	0.8-	0.7-	860909 809	0.5-	0.7+
821023 095	0.1+	0.7-	860904 809	0.8-	0.8-	860909 809	0.5-	0.5+
860827 809	1.9+	0.3+	860904 809	0.8-	0.8-	860909 809	0.2-	0.4+
860827 809	1.9+	0.8+	860904 809	0.9-	1.1-	860911 809	0.1-	0.4+
860827 809	1.9+	0.9+	860905 809	1.0-	0.4+	860911 809	0.2+	0.2+
860828 809	0.8+	0.5+	860905 809	0.8-	0.3+	860911 809	0.3+	0.2+
860828 809	1.2+	0.4+	860905 809	0.7-	0.2+	860911 809	0.9+	0.4-
860828 809	1.1+	0.4+	860907 809	0.8-	0.1-	860911 809	1.0+	0.5-
860901 809	0.0	0.4+	860907 809	0.9-	0.1+	860911 809	1.1+	0.6-
860901 809	0.1+	0.3+	860907 809	0.8-	0.1+			
860901 809	0.1+	0.2+	860908 809	0.5-	0.3-			

1986 QZ2 = 1982 SA3 = 1982 UE4 = 1985 FW1
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	143.93496	(1950.0)		P	Q
n	0.23891580	Peri.	247.66363	-0.20761994	+0.97773187
a	2.5722134	Node	10.49339	-0.82430244	-0.15804337
e	0.1628207	Incl.	9.66217	-0.52670622	-0.13806766
P	4.13	H	13.5	G 0.25	

Residuals in seconds of arc

820924 033	0.1-	0.4-	860828 809	0.5+	0.0	860903 809	0.1-	0.7+
820924 033	0.3+	0.1+	860828 809	0.6+	0.1+	860903 809	0.1-	0.7+
821019 033	0.1-	0.4+	860828 809	0.8+	0.1+	860903 809	0.1+	0.7+
821019 033	0.3-	0.2+	860901 809	0.5-	0.3-	860907 809	0.3-	0.3-
850322 688	0.5-	1.0+	860901 809	0.5-	0.4-	860907 809	0.3-	0.4-
850322 688	0.8+	0.6-	860901 809	0.1-	0.2-	860907 809	0.3-	0.5-

1986 QA3 = 1973 UW5
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	133.98778	(1950.0)		P	Q
n	0.29695161	Peri.	191.65185	+0.31202342	+0.94969358
a	2.2250842	Node	96.53380	-0.86944337	+0.29684188
e	0.1325019	Incl.	1.55139	-0.38302691	+0.09983486
P	3.32	H	13.5	G 0.25	

Residuals in seconds of arc

731028	033	0.3+	0.3+	860904	809	0.7-	0.6+	860909	809	0.0	0.7-
731102	033	0.6-	0.5+	860904	809	0.4-	0.6+	860909	809	0.2+	0.9-
860829	809	1.1-	1.9+	860905	809	0.1-	0.5-	860909	809	0.1-	0.6-
860829	809	0.8-	1.9+	860905	809	0.0	0.7-	860909	809	0.2-	0.6-
860829	809	0.5-	1.9+	860905	809	0.0	0.7-	860909	809	0.0	0.8-
860901	809	0.1+	1.2+	860906	809	0.3-	0.6-	860911	809	0.1+	0.3-
860901	809	0.2+	1.1+	860906	809	0.0	0.7-	860911	809	0.4+	0.5-
860901	809	0.3+	1.1+	860906	809	0.3+	0.8-	860911	809	0.8+	0.3-
860902	809	0.6+	0.1-	860907	809	0.2-	0.6-	860911	809	0.3+	0.1-
860902	809	0.5+	0.1-	860907	809	0.1-	0.6-	860911	809	0.4+	0.2-
860902	809	0.7+	0.1+	860907	809	0.2-	0.7-	860911	809	0.6+	0.4-
860904	809	0.7-	0.9+	860909	809	0.1-	0.6-				

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ORBITAL ELEMENTS BY B. G. MARSDEN, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by B. G. Marsden unless otherwise stated.

Periodic Comet Lovas 1
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
T 1989 Oct. 10.72858 ET

			(1950.0)	P	Q
q	1.6796555				
n	0.10847880	Peri.	73.61869	+0.56197512	-0.82449390
a	4.3541774	Node	341.71679	+0.65506287	+0.49255423
e	0.6142428	Incl.	12.19811	+0.50505108	+0.27856800
P	9.09				

From 14 observations 1980 Dec. 5-1981 Apr. 3, mean residual 1".3.

Periodic Comet du Toit-Neujmin-Delporte
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
T 1989 Oct. 18.44151 ET

			(1950.0)	P	Q
q	1.7154112				
n	0.15432209	Peri.	115.33433	+0.55417168	+0.83237118
a	3.4423153	Node	188.33051	-0.78045347	+0.51655590
e	0.5016694	Incl.	2.85181	-0.28945833	+0.20081885
P	6.39				

From 86 observations 1941-1983, mean residual 1".9. Nongravitational parameters A1 = +0.08, A2 = -0.0088.

Periodic Comet Tuttle-Giacobini-Kresak
Epoch 1990 Jan. 29.0 ET = JDE 2447920.5
T 1990 Feb. 8.22290 ET

			(1950.0)	P	Q
q	1.0680211				
n	0.18036652	Peri.	61.58493	-0.91699975	+0.38583271
a	3.1024069	Node	140.86930	-0.39843303	-0.87386334
e	0.6557443	Incl.	9.22905	-0.01904172	-0.29579719
P	5.46				

From 37 observations 1973-1979, mean residual 1".9.

Periodic Comet Russell 3
Epoch 1990 May 29.0 ET = JDE 2448040.5
T 1990 May 18.14346 ET

q	2.5171001	(1950.0)	P	Q
n	0.13132711	Peri. 353.21545	-0.47795909	+0.84888731
a	3.8332440	Node 248.01723	-0.79398710	-0.52743275
e	0.3433499	Incl. 14.08775	-0.37568550	+0.03471360
P	7.50			

From 34 observations 1983 June 14-Oct. 31, mean residual 1".1.

Periodic Comet Russell 4
Epoch 1990 July 8.0 ET = JDE 2448080.5
T 1990 July 7.52013 ET

q	2.2225447	(1950.0)	P	Q
n	0.15004149	Peri. 92.99887	-0.95278125	-0.28615870
a	3.5074795	Node 70.39020	+0.21762353	-0.87681163
e	0.3663413	Incl. 6.19127	+0.21177321	-0.38641242
P	6.57			

From 39 observations 1984 Mar. 2-1984 May 7, mean residual 1".2.

Periodic Comet Taylor
Epoch 1990 Dec. 15.0 ET = JDE 2448240.5
T 1990 Dec. 28.92960 ET

q	1.9503637	(1950.0)	P	Q
n	0.14137495	Peri. 355.57785	-0.24253862	-0.91099879
a	3.6493967	Node 108.18334	+0.90046802	-0.33933932
e	0.4655654	Incl. 20.55357	+0.36101574	+0.23437154
P	6.97			

From 42 observations 1976-1984, mean residual 1".6.

(3665)* 1979 FE = 1941 BL = 1986 AW1

Discovered 1979 Mar. 19 by A. Mrkos at Klet. The key identification 1979 FE = 1986 AW1 is by E. Bowell (MPC 10527).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	213.35465	(1950.0)	P	Q
n	0.26205013	Peri. 279.88244	+0.79054259	-0.56531149
a	2.4185021	Node 114.91320	+0.61226235	+0.73793532
e	0.0883645	Incl. 15.05073	-0.01331268	+0.36861142
P	3.76	H 12.6	G 0.25	

Residuals in seconds of arc

410130 062	2.3+	2.3-	790319 046	0.9-	1.3-	870329 801	1.9-	1.8+
410130 062	2.3-	3.5+	790319 046	2.5+	1.4-	870424 046	3.2+	0.2-
790226 046	1.5+	0.8-	790324 046	2.3-	1.6-	870424 046	1.2-	1.2+
790227 046	0.0	0.4-	790324 046	0.6-	1.8-	870426 801	1.1-	1.4+
790302 046	1.1-	2.3+	860112 688	2.9+	1.8+	870428 046	0.3+	0.7+
790302 046	1.5-	2.2+	860112 688	0.1+	0.5+	870428 046	2.4+	1.5-
790304 046	1.5+	2.3-	860117 688	0.2+	2.7-	870530 801	0.9-	0.7+
790304 046	0.3-	0.3-	860117 688	3.5-	0.9+			

(3666)* 1979 HP = 1938 WQ = 1982 VH1 = 1984 CB1

Discovered 1979 Apr. 19 by J. C. Muzzio at Cerro Tololo. The key identification 1979 HP = 1984 CB1 is by E. Bowell (MPC 8675).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	215.28883	(1950.0)	P	Q
n	0.17707765	Peri. 48.51321	-0.98025279	-0.19453093
a	3.1407031	Node 120.24119	+0.16694962	-0.91040268
e	0.1127621	Incl. 2.35689	+0.10598255	-0.36513651
P	5.57	H 11.9	G 0.25	

Residuals in seconds of arc

381128	024	0.2-	1.1+	850622	801	0.8+	0.7-	860904	809	0.7-	0.1+
790419	807	0.7-	0.0	860828	809	0.3-	0.8-	860904	809	0.1-	0.1+
790424	095	0.4-	0.3-	860828	809	0.1-	0.7-	860904	809	0.0	0.1+
790426	807	0.1+	1.0-	860828	809	0.0	0.8-	860905	809	0.4+	0.0
790426	807	0.6+	0.1-	860830	809	0.9-	1.2-	860905	809	0.5+	0.3-
821115	688	0.9+	2.1-	860830	809	0.8-	1.1-	860905	809	0.5+	0.5-
821115	688	0.7+	2.6-	860830	809	0.7-	1.1-	860907	809	0.5+	0.2-
840206	688	1.3+	1.6-	860901	809	0.4-	0.6-	860907	809	0.4+	0.2-
840208	688	0.2-	3.1-	860901	809	0.0	0.5-	860907	809	0.4+	0.2-
840208	688	0.5-	2.8-	860901	809	0.0	0.4-	860909	809	0.6+	0.2-
840301	688	0.8-	0.1-	860902	809	0.0	0.2-	860909	809	0.7+	0.2-
840301	688	1.8-	0.1-	860902	809	0.1+	0.2-	860909	809	0.7+	0.1-
840306	688	1.2-	0.9-	860902	809	0.1+	0.2-	860911	809	1.2+	0.1-
840306	688	0.7-	0.6-	860903	809	0.8-	0.5-	860911	809	1.2+	0.2-
840331	688	0.5-	0.1+	860903	809	0.7-	0.6-	860911	809	1.4+	0.2-
840331	688	0.2+	0.4-	860903	809	0.6-	0.6-				

(3667)* 1981 EF = 1979 SC7 = 1985 YO

Discovered 1981 Mar. 9 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The key identification 1981 EF = 1985 YO is by E. Bowell (MPC 10528).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	115.01405	(1950.0)		P	Q
n	0.18146336	Peri.	75.15691	+0.26108457	-0.96531480
a	3.0898928	Node	359.69657	+0.74280200	+0.20188090
e	0.2259745	Incl.	16.22329	+0.61650631	+0.16556402
P	5.43	H	11.9	G 0.25	

Residuals in seconds of arc

790923	095	0.3+	0.1-	810330	688	1.8-	0.9-	870327	688	0.7+	0.5+
810309	688	0.1+	0.8+	810330	688	0.0	1.9-	870329	801	2.0+	0.6+
810309	688	0.0	0.1+	851217	688	0.2-	0.9+	870427	801	1.2+	0.3+
810325	688	0.7-	1.2-	851217	688	0.4+	1.5+				
810325	688	0.0	0.5-	870327	688	1.6-	1.6+				

(3668)* 1982 UM7 = 1982 XY3 = 1974 EU = 1985 VW1

Discovered 1982 Oct. 21 by L. G. Karachkina at the Crimean Astrophysical Observatory. The double designation 1982 UM7 = 1982 XY3 and the key identification 1982 UM7 = 1985 VW1 are by W. Landgraf (MPC 8892) and by E. Bowell (MPC 10529), respectively.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	356.36270	(1950.0)		P	Q
n	0.30450735	Peri.	31.13980	-0.71029775	+0.70378797
a	2.1881186	Node	193.61533	-0.65632499	-0.66866850
e	0.1035264	Incl.	3.07629	-0.25439065	-0.23992691
P	3.24	H	13.3	G 0.25	

Residuals in seconds of arc

740315	095	0.4-	2.0-	840522	095	0.4-	0.5-	870301	881	1.6-	3.4+
821021	095	0.1+	0.6+	840525	095	1.4-	1.1+	870304	688	1.7+	0.9+
821023	095	2.9-	0.9-	840528	095	0.4-	1.4+	870304	688	1.6+	1.5+
821112	095	1.8+	0.4+	840531	095	3.5+	1.8+	870320	657	0.3+	4.8-
821213	381	0.8-	0.4-	851107	688	0.4+	2.0+	870320	657	0.1+	3.4-
821214	381	0.1+	0.3-	860206	801	0.2-	0.2-	870330	657	0.3-	1.2+
821214	381	0.4+	0.5+	870226	801	1.3+	2.8+				
840520	095	1.1-	1.8-	870301	881	2.1-	0.8+				

(3669)* 1982 UO7 = 1972 TE2 = 1972 XD = 1980 BG3 = 1984 KJ

Discovered 1982 Oct. 21 by L. G. Karachkina at the Crimean Astrophysical Observatory. The key identification 1982 UO7 = 1984 KJ is by A. Lowe (MPC 10762).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	91.00831	(1950.0)		P	Q
n	0.29912713	Peri.	35.01650	-0.57923954	-0.81080288
a	2.2142782	Node	90.52374	+0.72733069	-0.56067875
e	0.0707659	Incl.	4.82701	+0.36806470	-0.16804172
P	3.29	H	13.3	G 0.25	

Residuals in seconds of arc

721008	095	1.0+	1.4-	821023	095	0.7+	0.7-	840526	046	0.8+	4.2+
721202	095	2.1+	1.9-	821112	095	1.0-	1.8+	870224	801	0.3+	1.8-
721206	095	0.8-	0.0	840522	046	1.0+	0.6-	870327	801	0.4-	0.7+
800117	330	1.1-	0.4-	840522	046	1.7+	2.6-	870417	054	1.6+	0.7-
821021	095	0.3-	0.1-	840526	046	5.3-	2.9-	870423	054	0.3-	0.6+

(3670)* 1983 BN = 1970 JE

Discovered 1983 Jan. 22 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	251.92838	(1950.0)		P	Q
n	0.21712868	Peri.	140.25614	-0.38644392	+0.91602282
a	2.7415190	Node	106.76965	-0.87216571	-0.32501960
e	0.0183138	Incl.	6.44843	-0.29998012	-0.23508392
P	4.54	H	12.1	G 0.25	

Residuals in seconds of arc

700508	095	0.7+	3.3+	830219	688	1.2+	1.1-	850822	688	1.4+	1.9-
830122	688	0.6+	2.6-	830219	688	1.2-	1.1-	850912	688	1.0+	0.4+
830122	688	0.4-	0.2-	840601	688	0.3+	1.9-	870129	801	1.1-	1.1+
830211	688	0.0	2.5-	840601	688	1.8-	0.5-	870226	801	2.8-	2.7+
830211	688	0.3+	1.1-	850822	688	0.5+	2.2-				

(3671)* 1984 KD

Discovered 1984 May 27 by C. Shoemaker and E. Shoemaker at Palomar.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	337.04433	(1950.0)		P	Q
n	0.30252663	Peri.	203.60137	+0.25481183	+0.93851754
a	2.1976590	Node	81.82150	-0.84544523	+0.33314086
e	0.5404753	Incl.	13.61060	-0.46935412	-0.09056483
P	3.26	H	16.5	G 0.25	

Residuals in seconds of arc

840527	675	1.7-	0.8-	840615	688	0.8+	0.7-	840618	474	1.3-	2.7+
840527	675	1.1-	1.1-	840615	688	(1.5-	5.6-)	840618	474	0.2+	1.2-
840527	675	1.2-	0.2+	840615	474	1.2-	0.3-	840618	474	0.1+	1.4-
840527	675	0.3-	1.0-	840615	474	0.5-	1.7-	840619	474	0.4-	0.2-
840530	675	0.4-	1.3-	840615	474	0.2+	0.6-	840619	474	1.3-	0.3-
840613	801	2.0+	3.2+	840615	474	0.0	0.4-	840619	474	0.7-	0.1-
840613	801	2.0+	1.3+	840615	474	1.9+	0.2-	840619	474	1.1-	0.6-
840613	688	(0.2-	4.4-)	840615	474	1.7+	0.3-	840620	413	0.2-	2.2-
840613	688	1.2+	0.0	840616	801	(4.6+	7.4+)	840620	413	1.3+	0.2-
840614	657	0.5+	2.2-	840616	474	0.3-	0.1-	840622	474	0.6+	0.0
840614	323	0.1-	0.1+	840616	474	0.3-	0.2-	840622	474	0.3+	0.0
840614	051	1.4-	0.7-	840616	474	0.2+	1.1+	840622	474	0.1-	0.2+
840614	051	0.8-	0.4-	840616	474	0.1-	1.1+	840622	474	0.1-	0.1-
840615	801	1.4+	0.9+	840616	330	0.6-	1.8-	840623	474	1.9+	0.6-
840615	688	1.4+	0.6-	840618	474	1.2-	2.6+	840623	474	2.0+	0.8-

840623 474 0.9- 1.4+ 841022 568 1.5+ 1.2- 870327 691 1.2+ 1.3-
840623 474 1.2- 1.6+ 841025 801 0.7- 1.8- 870327 691 2.2+ 1.0-
840725 474 1.1- 0.2+ 841027 474 1.2- 0.3- 870327 691 0.8+ 1.3-
840725 474 0.6- 0.0 841027 474 3.2- 1.9+ 870501 691 0.2+ 0.3-
840823 474 1.2+ 0.3+ 870219 675 0.9- 0.3- 870501 691 0.6+ 0.3+
840823 474 0.7+ 0.5+ 870219 675 0.5- 0.6- 870501 691 0.1+ 0.0
840904 568 1.4- 0.8- 870228 691 0.8- 2.3+ 870502 691 0.2- 1.0-
840920 474 1.9+ 2.5+ 870228 691 0.9- 1.9+ 870502 691 0.7- 0.6+
840920 474 1.4+ 2.8+ 870228 691 0.8- 2.1+ 870502 691 0.2- 0.5+
840922 675 0.4- 0.3- 870302 691 0.9+ 0.0 870502 691 0.0 0.0
840922 675 (3.8+ 6.9+) 870302 691 0.6+ 0.7+ 870508 675 0.3+ 0.6-
841021 568 0.2+ 2.3- 870302 691 1.5+ 0.4+ 870508 675 0.2- 0.2-
841021 568 1.1+ 1.2- 870308 688 0.8- 0.8+ 870509 675 0.3+ 0.5-
841022 568 1.7+ 1.4- 870308 688 0.8- 0.5+ 870509 675 0.0 0.2-

(3672)* 1985 QQ = 1964 CA = 1972 TC11 = 1982 VQ1

Discovered 1985 Aug. 22 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identifications 1985 QQ = 1964 CA = 1982 VQ1 were found independently by T. Furuta (JAM 1971).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	168.76600	(1950.0)		P	Q
n	0.30542004	Peri.	31.71430	+0.70148632	-0.71220243
a	2.1837573	Node	13.80013	+0.62875463	+0.60117401
e	0.1389418	Incl.	6.29760	+0.33553622	+0.36243276
P	3.23	H	13.4	G 0.25	

Residuals in seconds of arc

640215 760 1.2+ 0.6- 850914 688 0.6+ 0.5+ 870226 801 0.6- 0.7-
721004 095 1.2- 1.3- 850914 688 0.1+ 0.2+ 870327 688 1.0- 1.1+
821113 704 0.4- 0.9- 850918 688 0.9+ 0.0 870327 688 0.6+ 0.4+
821115 704 1.3- 1.0+ 850918 688 0.2- 0.1+ 870329 801 0.3+ 0.5-
850822 688 0.8- 0.6+ 851012 688 0.3+ 0.8-
850822 688 0.6- 0.6+ 851012 688 1.8+ 0.0

(3673)* 1985 QS = 1969 ER = 1978 SW5 = 1978 WN

Discovered 1985 Aug. 22 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	142.56008	(1950.0)		P	Q
n	0.27426748	Peri.	44.46859	+0.53919874	-0.84172053
a	2.3461359	Node	12.98437	+0.73410046	+0.45358549
e	0.1834517	Incl.	7.10007	+0.41274839	+0.29285961
P	3.59	H	13.0	G 0.25	

Residuals in seconds of arc

690312 095 0.9- 1.6- 850822 688 0.1+ 0.2- 851012 688 0.2+ 0.8-
780928 095 0.8- 0.2+ 850914 688 1.1+ 0.2+ 851018 054 0.1- 0.4-
781008 095 0.1- 0.4+ 850914 688 0.1+ 1.1- 870224 801 0.6+ 1.2+
781124 033 0.5+ 0.1+ 850918 688 1.3+ 0.2+ 870327 688 0.3- 0.7-
781124 033 0.2+ 0.4- 850918 688 0.2- 0.6+ 870327 688 0.7- 0.5-
850822 688 0.5- 0.1+ 851012 688 0.9- 0.5- 870329 801 0.4+ 0.0

1959 LM = 1986 VT7 = 1987 MB

The key identification 1959 LM = 1987 MB is by C. M. Bardwell.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	51.87088	(1950.0)		P	Q
n	0.35370379	Peri.	235.14152	-0.98085621	-0.16299778
a	1.9802024	Node	295.26840	+0.19354926	-0.87626253
e	0.6373704	Incl.	6.76649	-0.02144246	-0.45342663
P	2.79	H	14.5	G 0.25	

Residuals in seconds of arc

590605	074	5.9-	0.6+	590611	074	7.8+	1.9-	870703	688	0.2+	0.7-
590605	074	12.1+	0.3+	861109	675	4.3-	1.4+	870703	688	2.5-	0.5+
590609	074	4.9-	3.5-	861109	675	4.5+	1.0+	870706	474	0.7+	0.3-
590609	074	12.4+	1.0+	870624	675	1.5+	0.8+	870706	474	1.2+	0.3-
590610	074	11.3-	0.6+	870624	675	0.5+	0.7+	870707	688	3.3-	0.5-
590610	074	4.9+	1.6-	870702	688	1.0+	1.6-				
590611	074	15.6-	7.9+	870702	688	1.3+	2.0-				

1986 EM2 = 1975 EF5 = 1982 AK
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	187.03611		(1950.0)	P	Q
n	0.26773619	Peri.	176.10526	-0.24743419	-0.96836399
a	2.3841424	Node	288.21825	+0.88798560	-0.21327892
e	0.1561531	Incl.	1.95263	+0.38763114	-0.12955034
P	3.68	H	14.0	G 0.25	

Residuals in seconds of arc

750315	095	0.8+	1.8+	820118	046	3.0-	0.7+	860312	809	0.6+	0.1-
820115	046	0.2+	0.3+	860308	809	0.4-	0.4-	860314	071	0.7+	1.6-
820115	046	0.5+	0.8-	860308	809	0.0	0.3+	860314	071	0.9+	1.0-
820116	046	1.5+	0.1-	860309	809	0.5-	0.3-	860315	809	0.6-	0.1+
820116	046	1.4+	0.1-	860309	809	0.5+	0.3-	860315	809	1.0-	0.5+
820118	046	0.5-	0.3-	860312	809	1.2-	1.1+				

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ORBITAL ELEMENTS BY C. M. BARDWELL, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by C. M. Bardwell unless otherwise stated.

(3674)* 1963 RH = 1970 OD = 1986 AA
Discovered 1963 Sept. 13 by C. Hoffmeister at Sonneberg.
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	197.59479		(1950.0)	P	Q
n	0.27165619	Peri.	97.44901	+0.76827739	-0.55432680
a	2.3611467	Node	296.74665	+0.34698755	+0.78088139
e	0.3750277	Incl.	21.00601	+0.53791217	+0.28800358
P	3.63	H	12.0	G 0.25	

Residuals in seconds of arc

630913	031	(3.6+	2.5+)	630917	031	(0.8+	6.5-)	860110	675	1.6-	0.4+
630913	031	(1.6+	3.9+)	630917	031	(0.9+	7.2-)	860110	675	0.1+	0.1+
630914	031	0.2+	0.2-	630917	031	(0.4-	9.7-)	860111	688	0.3+	0.9-
630914	031	(2.5-	5.3-)	630917	031	(1.4+	9.5-)	860111	688	1.4+	0.4-
630915	031	(1.4-	5.0-)	630917	031	(3.4+	1.6-)	860116	675	1.2-	1.3+
630915	031	1.0-	3.0-	630918	031	(3.7+	0.8-)	860209	801	0.5-	0.9-
630915	031	(0.2+	6.3-)	630918	031	0.4+	2.2-	860413	801	0.1-	0.9-
630915	031	(10.8-	5.2-)	630918	031	(0.5-	24.0-)	860414	691	0.5+	1.0-
630915	031	(3.3-	3.5+)	630918	031	2.1+	0.6+	860414	691	0.2+	0.7-
630916	031	(3.0-	2.4+)	630918	031	2.2+	0.2-	860414	691	0.2+	0.6-
630916	031	2.3-	0.4+	630919	031	(5.0+	9.3+)	870223	474	0.4-	1.0+
630916	031	(5.9-	3.8+)	630923	031	(1.1+	10.2+)	870223	474	1.1-	0.4+
630916	031	(2.6-	2.0+)	630927	031	(1.5+	16.2+)	870403	474	0.1-	2.0-
630916	031	(2.3-	5.1-)	700729	095	1.1-	0.1+	870403	474	0.5-	1.0-
630916	031	(0.1+	5.3-)	860109	675	1.1+	0.9+	870504	474	0.9-	2.4-
630916	031	(2.0+	5.8-)	860109	675	(11.7+	3.1+)				

(3675)* 1982 YP1 = A913 QA = 1953 CK = 1953 EB1 = 1984 HM2 = 1986 PX1
Discovered 1982 Dec. 23 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	224.33453	(1950.0)		P	Q
n	0.16005466	Peri.	172.21217	-0.89100230	-0.44960815
a	3.3596227	Node	340.68397	+0.40557543	-0.72592369
e	0.1114500	Incl.	10.97740	+0.20401834	-0.52046835
P	6.16	H	11.1	G 0.25	

Residuals in seconds of arc

130826	024	(51.2+	36.2-)Y	860828	809	0.1+	0.1-	860905	809	0.2-	0.2-
130827	024	(37.5+	12.9-)Y	860828	809	0.2-	0.0	860906	809	0.4-	0.2+
130907	024	(40.1+	9.5-)Y	860830	809	0.6-	1.1+	860906	809	0.4-	0.1-
530214	760	1.1-	1.9+	860830	809	0.4-	0.8+	860906	809	0.5-	0.1-
530214	760	3.8+	0.9-	860830	809	0.3-	0.7+	860906	809	0.2-	0.0
530310	760	1.0-	1.0+	860830	809	0.4+	0.0	860906	809	0.3-	0.2-
530310	760	0.4+	1.9+	860830	809	0.4+	0.2+	860906	809	0.2-	0.4-
821223	095	1.7+	0.4-	860830	809	0.4+	0.4+	860906	071	(3.3+	3.2+)
821224	095	4.9+	0.5-	860901	809	0.1+	0.3-	860906	071	0.6-	1.1+
830106	095	4.2-	0.9-	860901	809	0.1-	0.2-	860908	809	0.5+	0.4+
830109	095	0.5-	0.4-	860901	809	0.0	0.2-	860908	809	0.5+	0.6+
830114	095	2.1-	0.0	860901	809	0.2-	0.5-	860908	809	0.6+	0.6+
840427	095	1.2-	1.6-	860901	809	0.3-	0.6-	860908	809	0.3+	0.5-
860801	675	(13.7+	6.0+)	860901	809	0.0	0.7-	860908	809	0.2+	0.5-
860801	675	(17.2+	6.6+)	860902	809	0.1-	0.8+	860908	809	0.1+	0.5-
860802	675	(15.2+	2.4+)	860902	809	0.2+	0.5+	860910	809	0.9+	0.6-
860802	675	(17.4+	4.0+)	860902	809	0.2-	0.6+	860910	809	1.0+	0.7-
860804	675	(16.2+	1.1+)	860903	809	0.5-	0.1-	860910	809	1.1+	0.9-
860826	809	0.6+	0.8+	860903	809	0.5-	0.2-	860910	809	0.0	0.5-
860826	809	0.6+	0.6+	860903	809	0.6-	0.5-	860910	809	0.0	0.4-
860826	809	0.6+	0.1+	860904	809	0.3-	0.5+	860910	809	0.0	0.4-
860828	809	0.6-	1.1+	860904	809	0.4-	0.4+	860912	809	0.3+	0.9-
860828	809	0.7-	0.9+	860904	809	0.1+	0.4+	860912	809	0.2+	1.2-
860828	809	0.8-	0.8+	860905	809	0.4-	0.2+	860912	809	0.2+	1.3-
860828	809	0.2-	0.1-	860905	809	0.3-	0.1+				

(3676)* 1984 GA = 1950 TN4 = 1981 JQ2 = 1982 UW9

Discovered 1984 Apr. 3 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identifications are by M. Kretlow (MPC 9019). The identifications 1984 GA = 1950 TN4 = 1981 JQ2 were found independently by L. D. Schmadel (MPC 9019).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	342.30663	(1950.0)		P	Q
n	0.31174927	Peri.	233.02696	-0.62021126	+0.78443379
a	2.1540994	Node	358.63948	-0.70155583	-0.55540838
e	0.0543558	Incl.	3.07292	-0.35093790	-0.27601659
P	3.16	H	14.0	G 0.25	

Residuals in seconds of arc

501010	672	0.9-	1.6+	840404	071	1.2+	0.1-	870226	801	1.1+	1.3+
501010	672	0.3-	0.9+	840423	809	0.9+	1.1-	870303	688	0.1-	0.7+
810506	675	0.8-	1.2+	840423	809	0.7-	0.1+	870303	688	0.0	1.7+
821022	095	0.5+	0.4-	840424	809	0.7-	0.4+	870329	801	1.3+	0.9+
840330	675	(6.3+	0.3-)	840424	809	1.2-	0.3+	870330	054	1.2+	0.1+
840331	688	1.1+	1.8-	840428	809	0.6+	0.0	870401	675	2.9-	0.2-
840331	688	1.8+	2.5-	840429	809	0.6-	0.7+	870401	675	0.5-	0.9-
840331	675	0.3-	1.8+	840429	809	0.5+	0.7+	870403	675	(7.2-	0.5+)
840403	688	(4.9-	1.0-)	840429	809	0.1+	1.3+	870403	675	(4.4-	0.6-)
840403	688	1.2+	2.3-	840504	688	1.6+	1.0-				
840404	071	3.3-	0.7+	840504	688	0.7-	0.2+				

(3677)* 1984 QJ1 = 1974 VO

Discovered 1984 Aug. 31 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	315.27645	(1950.0)		P	Q
n	0.28890698	Peri.	124.78306	+0.86813328	+0.49527889
a	2.2661954	Node	205.57433	-0.47630122	+0.81303051
e	0.2003177	Incl.	4.29138	-0.13957708	+0.30607223
P	3.41	H	14.1	G 0.25	

Residuals in seconds of arc

741112	095	0.7+	0.0	840928	688	0.7-	0.3-	841026	688	0.1+	0.1-
741115	095	1.0-	1.1+	840928	688	0.3-	0.5-	870502	801	0.1-	0.1-
741117	095	(2.4-	6.7-)	840928	688	0.3+	0.0	870531	801	1.0+	1.1+
840831	688	0.7+	0.0	840928	688	0.1+	0.6-	870624	801	0.7-	0.1+
840831	688	0.6-	0.1+	841026	688	0.4+	1.3+				

1928 UF = 1928 WC = 1975 VH1 = 1981 WY6 = 1986 QK1

The double designation 1928 UF = 1928 WC is by A. Kahrstedt (AN 240, 414), and for many years this object was numbered (1125); see MPC 4307. The identification 1928 UF = 1986 QK1 was found independently by S. Nakano.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	7.32786	(1950.0)		P	Q
n	0.16672441	Peri.	315.82952	+0.73635729	-0.67488897
a	3.2694140	Node	86.68031	+0.63329683	+0.66253693
e	0.1974121	Incl.	2.75518	+0.23814504	+0.32491492
P	5.91	H	12.5	G 0.25	

Residuals in seconds of arc

281025	754	(9.0+	0.2-)	860828	809	0.6-	0.6-	860907	809	0.2+	0.3+
281105	754	1.0-	1.2+	860901	809	1.7-	0.6-	860908	809	1.0+	0.2+
281106	754	2.8+	1.7-	860901	809	1.8-	0.8-	860908	809	1.0+	0.2+
281113	754	1.9-	4.8+	860901	809	1.8-	0.9-	860908	809	1.1+	0.3+
281123	754	4.4-	4.7-	860902	809	1.1-	0.0	860909	809	0.5+	0.4+
281205	754	0.8+	0.6+	860902	809	1.3-	0.3-	860909	809	0.8+	0.4+
281206	754	3.2+	1.6+	860902	809	1.2-	0.2-	860909	809	0.8+	0.5+
281210	754	0.4+	2.8-	860904	809	1.7-	0.7-	860911	809	2.1+	0.7+
751102	095	0.4-	2.4+	860904	809	1.6-	0.6-	860911	809	2.3+	0.7+
811124	095	0.0	1.3-	860904	809	1.4-	0.7-	860911	809	2.6+	0.8+
860827	809	0.9-	0.1-	860905	809	0.5-	0.6+	860911	809	2.4+	0.1+
860827	809	0.8-	0.0	860905	809	0.6-	0.6+	860911	809	2.5+	0.1+
860827	809	0.6-	0.1-	860905	809	0.4-	0.5+	860911	809	2.3+	0.2-
860828	809	0.8-	0.3-	860907	809	0.1+	0.1+				
860828	809	0.7-	0.3-	860907	809	0.1+	0.1+				

1971 RA = 1971 SO2 = 1971 TL2 = 1981 WR3 = 1981 WH6 = 1987 MU

The triple designation 1971 RA = 1971 SO2 = 1971 TL2 is by H. Oishi (JAM 852). The double designation 1981 WR3 = 1981 WH6 is by T. Furuta (JAM 1946).

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	333.71078	(1950.0)		P	Q
n	0.30154232	Peri.	233.03214	+0.75482227	+0.65050259
a	2.2024433	Node	86.22671	-0.57176141	+0.71543068
e	0.1956797	Incl.	4.84057	-0.32145332	+0.25496140
P	3.27	H	14.5	G 0.25	

Residuals in seconds of arc

710915	805	1.6-	2.6+	711014	095	1.4+	2.6-	870626	675	0.1+	0.9+
710915	805	0.2+	0.3+	811124	095	1.4-	0.6+	870630	675	(31.6+	2.2+)
710926	095	0.9+	0.2-	811124	033	0.7+	0.7+				
711013	095	0.4-	1.5-	811124	033	0.0	0.9+				

1976 GQ6 = 1976 KN1 = 1985 BB2 = 1987 MZ

The double designation 1976 GQ6 = 1976 KN1 is by B. G. Marsden (MPC 9064).

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	349.56846	(1950.0)		P	Q
n	0.18826824	Peri.	129.30412	+0.33604400	+0.93963476
a	3.0149876	Node	160.04264	-0.91179070	+0.34172023
e	0.0871805	Incl.	10.89373	-0.23603422	+0.01771477
P	5.24	H	12.0	G 0.25	

Residuals in seconds of arc

760403	095	1.7-	0.1+	760530	095	0.6+	0.9-	870626	675	2.2-	0.3+
760407	095	1.2+	0.2+	850130	511	0.6-	0.6+	870628	675	2.6+	1.0-

1977 QH4 = 1977 TR = 1986 EG5

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	289.68839	(1950.0)		P	Q
n	0.29389234	Peri.	43.15711	+0.88740895	-0.46014480
a	2.2404989	Node	344.17255	+0.39033579	+0.78211162
e	0.1055055	Incl.	5.84745	+0.24524135	+0.42020017
P	3.35	H	13.5	G 0.25	

Residuals in seconds of arc

770818	095	1.3-	0.4+	770913	808	1.7+	0.2+	860310	809	(4.3+	1.7-)
770905	808	0.5+	0.4+	770917	808	0.7-	0.0	860310	809	1.6+	0.2-
770905	808	0.2+	0.6-	771009	809	0.0	0.0	860314	809	(10.6-	0.7+)
770911	808	2.2+	1.3+	860305	809	1.7-	0.2-	860314	809	0.3-	2.7+
770911	808	0.4-	0.5+	860305	809	0.2-	2.3-				

1979 SJ = 1986 RF5

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	87.70880	(1950.0)		P	Q
n	0.27769824	Peri.	338.89867	+0.93047702	+0.36634969
a	2.3267774	Node	359.60888	-0.32097283	+0.81436743
e	0.2154679	Incl.	5.46926	-0.17660397	+0.45010398
P	3.55	H	15.0	G 0.25	

Residuals in seconds of arc

790919	046	0.1-	1.4+	860905	809	0.0	0.8-	860908	809	0.6-	1.1-
790919	046	2.9+	0.3-	860905	809	0.0	0.9-	860908	809	0.0	0.5-
790924	095	0.7-	1.3-	860905	809	0.1+	1.0-	860908	809	0.0	0.6-
790925	046	1.2-	0.5-	860906	809	0.2-	0.6-	860908	809	0.0	0.6-
790925	046	0.4-	0.5+	860906	809	0.2-	0.8-	860910	809	0.2+	1.0-
790926	046	1.4-	0.3-	860906	809	0.2-	1.0-	860910	809	0.3+	1.1-
790926	046	0.1-	1.1-	860907	809	0.6-	0.9-	860910	809	0.1+	1.2-
790927	046	0.0	0.1-	860907	809	0.4-	0.8-	860912	809	1.1-	0.1+
790927	046	4.7+	0.1+	860907	809	0.2-	0.9-	860912	809	1.0-	0.0
791018	046	0.6-	1.4+	860908	809	0.2-	0.7-	860912	809	1.1-	0.2-
791018	046	2.2-	0.7-	860908	809	0.1-	0.9-	860913	809	1.7-	0.4+
860904	809	0.7-	0.9-	860908	809	0.2-	0.6-	860913	809	1.4-	0.3+
860904	809	0.3-	1.0-	860908	809	1.1-	0.8-	860913	809	1.2-	0.3+
860904	809	0.1+	1.1-	860908	809	0.9-	1.0-				

1981 EC13

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	51.52002	(1950.0)		P	Q
n	0.19778960	Peri.	280.89265	-0.62582768	+0.77502156
a	2.9174298	Node	310.00061	-0.66340113	-0.58802317
e	0.0262786	Incl.	6.56964	-0.41016905	-0.23145265
P	4.98	H	15.0	G 0.25	

Residuals in seconds of arc

810209	413	1.2+	1.5-	810312	413	0.5-	0.7+	841231	675	0.1-	1.0-
810301	413	0.4+	0.4+	810312	413	0.9+	0.3-	870617	675	0.2-	0.4+
810301	413	0.9+	0.1-	810409	413	1.2+	0.5-	870617	675	0.1-	0.1+
810306	413	1.7-	1.0+	810409	413	2.0-	0.4+	870623	675	0.0	0.3+
810306	413	1.0+	0.3+	810501	413	0.7+	2.1-	870623	675	0.1+	0.0
810308	413	1.7-	1.0+	810501	413	0.9+	1.1+				
810308	413	0.1-	0.5+	810503	413	1.3-	0.6-				

1985 FZ1 = 1942 FJ

The identification is by W. Landgraf (MPC 9966).

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	233.65300		(1950.0)	P	Q
n	0.22865845	Peri.	354.48326	-0.72864049	-0.67050129
a	2.6485738	Node	142.15984	+0.63673777	-0.73829316
e	0.1051815	Incl.	13.16141	+0.25228563	-0.07315219
P	4.31	H	12.5	G 0.25	

Residuals in seconds of arc

420317	062	1.9-	0.0	850322	688	1.3+	1.0+	850423	688	1.4-	0.5-
420317	062	0.7-	2.2-	850414	688	0.3+	0.2+	860708	801	0.0	0.3+
420318	062	1.4+	0.9-	850414	688	0.9-	0.6+				
850322	688	1.4+	1.7+	850423	688	(6.9-	0.1-)				

6092 P-L = 1980 GH1 = 1985 QJ2 = 1985 QX3

The key identification 6092 P-L = 1980 GH1 is by K. Hurukawa (MPC 9301). The double designation 1985 QJ2 = 1985 QX3 is by H. Oishi (JAM 2074).

Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	244.94945		(1950.0)	P	Q
n	0.23350389	Peri.	28.01494	-0.72246043	+0.68946588
a	2.6118055	Node	195.91917	-0.66440035	-0.71303493
e	0.1880662	Incl.	10.89534	-0.19137167	-0.12734988
P	4.22	H	13.0	G 0.25	

Residuals in seconds of arc

600924	675	0.6-	0.8+	601026	675	0.9+	0.6-	850816	675	0.8-	1.6+
600925	675	0.1+	0.8+	800414	805	0.0	1.3+	850817	675	0.1+	1.3-
600926	675	1.3-	0.2+	800415	805	0.5-	0.2-	850817	675	1.6+	1.1+
601017	675	0.2+	0.7+	800416	805	0.6+	0.0	850823	675	1.1-	2.1-
601022	675	0.1+	0.1-	850813	801	2.4+	1.2+	850823	675	0.2+	1.3-
601024	675	0.5-	0.7+	850816	675	2.8-	0.0	850917	801	0.6+	0.6-

* * * * *

EPHEMERIDES.

Periodic Comet West-Kohoutek-Ikemura Elements MPC 10520

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1987	09 02	08 33.46	+26 40.6	2.329	1.613	35.2	21.1	18.9
1987	09 12	09 04.71	+26 56.6					
1987	09 22	09 35.43	+26 57.6	2.275	1.670	42.0	23.7	19.0
1987	10 02	10 05.35	+26 46.8					
1987	10 12	10 34.26	+26 27.7	2.221	1.746	49.5	25.8	19.2
1987	10 22	11 02.02	+26 04.1					
1987	11 01	11 28.47	+25 40.1	2.164	1.837	57.7	27.2	19.3
1987	11 11	11 53.48	+25 19.7					
1987	11 21	12 16.97	+25 06.4	2.102	1.939	66.8	27.9	19.5
1987	12 01	12 38.79	+25 03.9					
1987	12 11	12 58.82	+25 15.0	2.031	2.049	77.1	27.9	19.7
1987	12 21	13 16.89	+25 42.1					

1987 12 31	13 32.77	+26 26.9	1.955	2.165	88.5	27.0	19.8
1988 01 10	13 46.22	+27 30.1					
1988 01 20	13 56.95	+28 51.4	1.882	2.283	100.9	25.0	20.0
1988 01 30	14 04.59	+30 28.4					
1988 02 09	14 08.85	+32 16.9	1.826	2.403	114.0	22.0	20.1
1988 02 19	14 09.45	+34 10.3					
1988 02 29	14 06.28	+35 59.5	1.810	2.523	126.1	18.5	20.3

Periodic Comet Comas Sola (1986j) Elements MPC 10521

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	m2
1987 09 02	08 51.97 +25 01.5	2.629	1.835	30.7	16.3	17.2
1987 09 12	09 19.72 +23 43.6					
1987 09 22	09 46.53 +22 14.3	2.555	1.860	37.4	19.1	17.2
1987 10 02	10 12.26 +20 36.7					
1987 10 12	10 36.85 +18 54.1	2.478	1.902	44.7	21.7	17.3
1987 10 22	11 00.24 +17 09.5					
1987 11 01	11 22.38 +15 26.2	2.392	1.962	53.0	23.8	17.3
1987 11 11	11 43.22 +13 46.8					
1987 11 21	12 02.71 +12 14.0	2.293	2.035	62.5	25.5	17.4
1987 12 01	12 20.74 +10 50.2					
1987 12 11	12 37.22 +09 37.3	2.177	2.121	73.6	26.5	17.5
1987 12 21	12 52.00 +08 37.0					
1987 12 31	13 04.86 +07 51.0	2.046	2.215	86.5	26.3	17.5
1988 01 10	13 15.59 +07 20.1					
1988 01 20	13 23.93 +07 05.0	1.910	2.317	101.6	24.6	17.6
1988 01 30	13 29.61 +07 05.6					
1988 02 09	13 32.40 +07 20.6	1.787	2.425	119.1	20.8	17.6
1988 02 19	13 32.17 +07 47.8					
1988 02 29	13 28.96 +08 23.2	1.704	2.536	138.9	14.9	17.7
1988 03 10	13 23.10 +09 01.2					
1988 03 20	13 15.23 +09 35.5	1.698	2.649	158.4	8.0	17.9
1988 03 30	13 06.24 +09 59.8					
1988 04 09	12 57.21 +10 09.3	1.793	2.764	162.2	6.4	18.2
1988 04 19	12 49.06 +10 02.0					
1988 04 29	12 42.54 +09 37.7	1.994	2.880	145.3	11.5	18.6
1988 05 09	12 38.06 +08 58.4					
1988 05 19	12 35.74 +08 06.7	2.281	2.995	126.5	15.8	19.1
1988 05 29	12 35.52 +07 05.1					
1988 06 08	12 37.21 +05 56.2	2.627	3.110	109.0	18.0	19.5
1988 06 18	12 40.59 +04 41.9					
1988 06 28	12 45.42 +03 23.8	3.006	3.224	93.1	18.4	20.0
1988 07 08	12 51.47 +02 03.1					
1988 07 18	12 58.54 +00 40.8	3.393	3.337	78.2	17.3	20.4

Periodic Comet Schwassmann-Wachmann 2 (1986h) Elements MPC 10521

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	m2
1987 09 22	09 56.45 +12 53.2	2.871	2.078	31.2	14.5	19.5
1987 10 02	10 17.96 +11 07.5					
1987 10 12	10 38.84 +09 18.9	2.762	2.096	39.8	17.8	19.4
1987 10 22	10 59.08 +07 29.4					
1987 11 01	11 18.63 +05 40.8	2.634	2.124	49.2	20.7	19.4
1987 11 11	11 37.42 +03 55.2					
1987 11 21	11 55.40 +02 14.2	2.487	2.161	59.6	23.2	19.3
1987 12 01	12 12.46 +00 39.7					
1987 12 11	12 28.46 -00 46.4	2.321	2.207	71.0	25.0	19.3
1987 12 21	12 43.26 -02 02.7					
1987 12 31	12 56.64 -03 07.4	2.141	2.261	84.0	25.6	19.2
1988 01 10	13 08.38 -03 59.1					
1988 01 20	13 18.19 -04 36.4	1.957	2.321	98.8	24.8	19.1

1988 01 30	13 25.76	-04 58.0						
1988 02 09	13 30.84	-05 03.2	1.784	2.387	116.0	21.8	19.0	
1988 02 19	13 33.17	-04 51.7						
1988 02 29	13 32.64	-04 24.2	1.647	2.457	135.8	16.3	19.0	
1988 03 10	13 29.41	-03 43.0						
1988 03 20	13 23.85	-02 52.0	1.579	2.530	158.0	8.5	19.0	
1988 03 30	13 16.72	-01 57.0						
1988 04 09	13 08.98	-01 04.5	1.609	2.606	173.7	2.4	19.2	
1988 04 19	13 01.63	-00 20.8						
1988 04 29	12 55.55	+00 09.3	1.744	2.685	153.8	9.5	19.5	
1988 05 09	12 51.32	+00 23.7						
1988 05 19	12 49.23	+00 22.1	1.971	2.764	133.2	15.5	19.9	
1988 05 29	12 49.32	+00 05.3						
1988 06 08	12 51.46	-00 24.5	2.262	2.844	115.0	18.9	20.3	

Periodic Comet Gunn — Elements MPC 11502

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1987 09 22	09 31.17	+22 53.0	4.898	4.190	40.8	9.0	19.7
1987 10 02	09 41.14	+22 21.2					
1987 10 12	09 50.58	+21 52.5	4.628	4.147	55.6	11.5	19.5
1987 10 22	09 59.38	+21 27.9					
1987 11 01	10 07.43	+21 08.6	4.311	4.103	71.4	13.3	19.3
1987 11 11	10 14.57	+20 55.8					
1987 11 21	10 20.66	+20 50.7	3.966	4.058	88.2	14.1	19.1
1987 12 01	10 25.51	+20 54.6					
1987 12 11	10 28.96	+21 08.1	3.619	4.010	106.4	13.6	18.8
1987 12 21	10 30.81	+21 32.1					
1987 12 31	10 30.91	+22 06.2	3.302	3.962	126.1	11.6	18.6
1988 01 10	10 29.18	+22 49.4					
1988 01 20	10 25.60	+23 39.5	3.051	3.912	146.9	7.9	18.3
1988 01 30	10 20.32	+24 33.1					
1988 02 09	10 13.69	+25 25.8	2.901	3.861	164.7	3.9	18.2
1988 02 19	10 06.21	+26 12.8					
1988 02 29	09 58.54	+26 50.0	2.869	3.809	158.6	5.4	18.1
1988 03 10	09 51.38	+27 14.5					
1988 03 20	09 45.33	+27 25.0	2.951	3.755	138.5	10.1	18.1
1988 03 30	09 40.90	+27 21.6					
1988 04 09	09 38.34	+27 05.6	3.118	3.700	118.4	13.8	18.2
1988 04 19	09 37.76	+26 38.6					
1988 04 29	09 39.13	+26 02.1	3.334	3.645	99.9	15.8	18.2
1988 05 09	09 42.32	+25 17.7					
1988 05 19	09 47.14	+24 26.6	3.565	3.588	83.2	16.3	18.3
1988 05 29	09 53.40	+23 29.5					
1988 06 08	10 00.91	+22 27.2	3.784	3.530	67.9	15.5	18.4
1988 06 18	10 09.49	+21 20.3					
1988 06 28	10 18.97	+20 09.0	3.974	3.472	53.8	13.7	18.4
1988 07 08	10 29.22	+18 53.9					
1988 07 18	10 40.11	+17 35.2	4.119	3.413	40.6	11.2	18.4

Comet Wilson (1986l) — Elements MPC 11429

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1987 09 22	09 44.73	+01 17.5	3.308	2.513	31.9	12.2	14.6
1987 10 02	09 46.78	+01 29.0					
1987 10 12	09 47.60	+01 42.9	3.267	2.734	50.0	16.2	14.9
1987 10 22	09 46.93	+02 01.4					
1987 11 01	09 44.47	+02 27.0	3.136	2.953	70.3	18.5	15.2
1987 11 11	09 39.91	+03 02.2					
1987 11 21	09 32.95	+03 49.6	2.957	3.170	93.3	18.1	15.4
1987 12 01	09 23.31	+04 51.4					

1987 12 11	09 10.89	+06 08.7	2.794	3.384	119.1	14.7	15.5
1987 12 21	08 55.81	+07 40.8					
1987 12 31	08 38.55	+09 24.5	2.726	3.595	147.6	8.4	15.7
1988 01 10	08 19.98	+11 14.1					
1988 01 20	08 01.23	+13 02.7	2.825	3.803	172.6	1.9	16.1
1988 01 30	07 43.49	+14 44.1					
1988 02 09	07 27.74	+16 14.0	3.112	4.008	151.7	6.7	16.5
1988 02 19	07 14.56	+17 30.9					
1988 02 29	07 04.21	+18 35.2	3.551	4.210	126.0	11.0	17.0
1988 03 10	06 56.63	+19 28.5					
1988 03 20	06 51.56	+20 12.5	4.077	4.410	103.0	12.7	17.5
1988 03 30	06 48.71	+20 48.9					
1988 04 09	06 47.72	+21 19.0	4.632	4.606	82.3	12.4	18.0
1988 04 19	06 48.28	+21 44.0					
1988 04 29	06 50.11	+22 04.7	5.168	4.800	63.2	10.8	18.4
1988 05 09	06 52.95	+22 21.8					
1988 05 19	06 56.57	+22 35.8	5.650	4.991	45.3	8.3	18.7

Periodic Comet Longmore — Elements MPC 11519

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	m2
1987 10 12	09 56.55 +34 52.2	3.595	3.230	60.9	15.7	20.4
1987 10 22	10 10.44 +34 16.2					
1987 11 01	10 23.50 +33 45.8	3.293	3.165	73.9	17.5	20.1
1987 11 11	10 35.59 +33 22.4					
1987 11 21	10 46.53 +33 07.7	2.976	3.100	87.8	18.6	19.8
1987 12 01	10 56.09 +33 03.3					
1987 12 11	11 04.01 +33 10.2	2.659	3.035	102.9	18.4	19.4
1987 12 21	11 09.99 +33 29.2					
1987 12 31	11 13.65 +34 00.1	2.365	2.971	119.2	16.8	19.1
1988 01 10	11 14.68 +34 41.1					
1988 01 20	11 12.76 +35 28.5	2.120	2.909	135.9	13.6	18.8
1988 01 30	11 07.75 +36 16.3					
1988 02 09	10 59.84 +36 56.0	1.952	2.848	149.8	10.0	18.5
1988 02 19	10 49.59 +37 18.9					
1988 02 29	10 38.07 +37 16.5	1.882	2.789	150.9	10.0	18.3
1988 03 10	10 26.62 +36 44.5					
1988 03 20	10 16.52 +35 42.7	1.912	2.732	137.7	14.2	18.3
1988 03 30	10 08.82 +34 14.8					
1988 04 09	10 04.04 +32 26.6	2.027	2.679	120.6	18.8	18.3
1988 04 19	10 02.29 +30 23.9					
1988 04 29	10 03.42 +28 11.4	2.196	2.628	104.0	21.8	18.4
1988 05 09	10 07.10 +25 52.5					
1988 05 19	10 12.95 +23 29.5	2.393	2.582	89.0	23.1	18.5
1988 05 29	10 20.63 +21 03.6					
1988 06 08	10 29.81 +18 35.4	2.596	2.540	75.5	22.8	18.6
1988 06 18	10 40.24 +16 05.3					
1988 06 28	10 51.69 +13 33.3	2.791	2.503	63.2	21.3	18.7
1988 07 08	11 03.98 +10 59.7					
1988 07 18	11 17.00 +08 24.5	2.967	2.472	51.9	18.9	18.8
1988 07 28	11 30.63 +05 47.8					
1988 08 07	11 44.81 +03 09.9	3.118	2.446	41.1	15.8	18.9
1988 08 17	11 59.49 +00 30.9					
1988 08 27	12 14.63 -02 08.7	3.239	2.427	30.8	12.3	18.9

Periodic Comet Halley (1982i) — Elements MPC 10634

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	m2
1987 10 12	10 29.58 -07 33.9	7.759	7.006	38.5	5.1	21.4
1987 10 22	10 31.84 -08 04.8					
1987 11 01	10 33.49 -08 34.9	7.671	7.161	55.8	6.6	21.5

1987 11 11	10 34.43	-09 03.2						
1987 11 21	10 34.57	-09 29.0	7.518	7.314	74.4	7.5	21.5	
1987 12 01	10 33.85	-09 51.3						
1987 12 11	10 32.22	-10 09.0	7.333	7.466	94.0	7.6	21.6	
1987 12 21	10 29.66	-10 21.3						
1987 12 31	10 26.18	-10 27.2	7.157	7.616	114.4	6.8	21.6	
1988 01 10	10 21.84	-10 26.0						
1988 01 20	10 16.77	-10 17.3	7.037	7.764	135.0	5.1	21.6	
1988 01 30	10 11.13	-10 00.9						
1988 02 09	10 05.13	-09 37.3	7.016	7.910	153.3	3.2	21.7	
1988 02 19	09 59.01	-09 07.3						
1988 02 29	09 53.03	-08 32.1	7.121	8.055	159.2	2.5	21.8	
1988 03 10	09 47.41	-07 53.4						
1988 03 20	09 42.35	-07 12.9	7.356	8.198	145.7	3.9	22.0	
1988 03 30	09 38.02	-06 32.3						
1988 04 09	09 34.50	-05 53.1	7.703	8.339	126.6	5.5	22.1	
1988 04 19	09 31.84	-05 16.7						
1988 04 29	09 30.05	-04 44.0	8.128	8.480	107.2	6.5	22.3	
1988 05 09	09 29.11	-04 15.7						
1988 05 19	09 28.95	-03 52.2	8.589	8.618	88.3	6.7	22.5	
1988 05 29	09 29.50	-03 33.8						
1988 06 08	09 30.68	-03 20.4	9.047	8.756	70.2	6.3	22.7	
1988 06 18	09 32.41	-03 12.0						
1988 06 28	09 34.60	-03 08.4	9.467	8.892	53.0	5.2	22.9	
1988 07 08	09 37.15	-03 09.2						
1988 07 18	09 39.99	-03 14.2	9.821	9.026	36.7	3.9	23.0	

1959 LM a,e,i = 1.98, 0.64, 7 Elements MPC 12139

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 07 24	19 56.46	-19 53.0	0.929	1.944	177.0	1.5	16.0	
1987 07 29	19 47.45	-19 58.4						
1987 08 03	19 39.57	-20 01.6	1.028	2.022	163.6	8.1	16.6	
1987 08 08	19 32.89	-20 02.9						
1987 08 13	19 27.44	-20 02.7	1.151	2.097	151.2	13.5	17.1	
1987 08 18	19 23.19	-20 01.3						
1987 08 23	19 20.10	-19 58.9	1.295	2.169	139.9	17.5	17.5	
1987 08 28	19 18.10	-19 55.7						
1987 09 02	19 17.10	-19 51.7	1.455	2.238	129.6	20.3	18.0	
1987 09 07	19 17.01	-19 47.0						
1987 09 12	19 17.74	-19 41.7	1.628	2.304	120.1	22.2	18.3	
1987 09 17	19 19.20	-19 35.7						
1987 09 22	19 21.32	-19 28.9	1.811	2.367	111.2	23.3	18.6	
1987 09 27	19 24.04	-19 21.3						
1987 10 02	19 27.28	-19 12.7	2.001	2.428	102.8	23.7	18.9	
1987 10 07	19 30.99	-19 03.2						
1987 10 12	19 35.10	-18 52.7	2.194	2.486	94.8	23.6	19.2	
1987 10 17	19 39.58	-18 41.1						
1987 10 22	19 44.38	-18 28.3	2.388	2.542	87.2	23.0	19.4	
1987 10 27	19 49.46	-18 14.4						
1987 11 01	19 54.80	-17 59.2	2.581	2.595	79.7	22.1	19.6	
1987 11 06	20 00.36	-17 42.8						
1987 11 11	20 06.10	-17 25.1	2.770	2.645	72.5	20.9	19.7	
1987 11 16	20 12.00	-17 06.1						
1987 11 21	20 18.06	-16 45.8	2.952	2.694	65.3	19.5	19.9	
1987 11 26	20 24.23	-16 24.2						
1987 12 01	20 30.51	-16 01.3	3.126	2.740	58.3	17.8	20.0	
1987 12 06	20 36.87	-15 37.1						
1987 12 11	20 43.30	-15 11.7	3.290	2.784	51.4	16.0	20.1	
1987 12 16	20 49.79	-14 45.1						

1987 12 21	20 56.32	-14 17.3	3.442	2.825	44.5	14.1	20.1
1987 12 26	21 02.88	-13 48.3					
1987 12 31	21 09.46	-13 18.3	3.580	2.865	37.7	12.1	20.2

1986 EM2 a,e,i = 2.38, 0.16, 2 Elements MPC 12140

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 07 24	18 58.52	-22 41.8	1.765	2.754	163.4	6.0	17.8
1987 08 03	18 49.90	-22 46.9					
1987 08 13	18 43.54	-22 48.5	1.889	2.750	140.8	13.5	18.3
1987 08 23	18 39.86	-22 47.3					
1987 09 02	18 39.03	-22 43.8	2.089	2.743	120.5	18.5	18.6
1987 09 12	18 40.94	-22 38.3					
1987 09 22	18 45.38	-22 30.6	2.334	2.734	102.5	21.0	18.9
1987 10 02	18 52.08	-22 20.0					
1987 10 12	19 00.74	-22 05.9	2.595	2.722	86.4	21.5	19.2
1987 10 22	19 11.07	-21 47.4					
1987 11 01	19 22.82	-21 23.8	2.851	2.708	71.7	20.4	19.3
1987 11 11	19 35.75	-20 54.4					
1987 11 21	19 49.64	-20 18.5	3.083	2.692	58.0	18.1	19.4

1977 QH4 a,e,i = 2.24, 0.11, 6 Elements MPC 12143

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 07 24	20 57.37	-24 19.8	1.180	2.184	168.1	5.5	15.9
1987 08 03	20 46.24	-24 38.1					
1987 08 13	20 35.01	-24 44.4	1.167	2.160	164.5	7.2	16.0
1987 08 23	20 25.26	-24 36.2					
1987 09 02	20 18.30	-24 13.7	1.246	2.137	142.6	16.7	16.4
1987 09 12	20 14.87	-23 39.1					
1987 09 22	20 15.12	-22 54.9	1.394	2.115	122.9	23.5	16.8
1987 10 02	20 18.88	-22 02.8					
1987 10 12	20 25.75	-21 03.4	1.585	2.093	106.1	27.3	17.2
1987 10 22	20 35.26	-19 57.1					
1987 11 01	20 46.98	-18 43.5	1.794	2.074	91.6	28.6	17.5
1987 11 11	21 00.48	-17 22.2					
1987 11 21	21 15.41	-15 53.2	2.006	2.056	78.8	28.1	17.7
1987 12 01	21 31.48	-14 16.0					
1987 12 11	21 48.45	-12 31.0	2.209	2.041	67.2	26.4	17.8
1987 12 21	22 06.13	-10 38.4					
1987 12 31	22 24.37	-08 38.7	2.398	2.028	56.5	23.8	17.9

1985 FZ1 a,e,i = 2.65, 0.11, 13 Elements MPC 12144

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 07 24	01 33.83	-00 17.1	2.499	2.831	98.4	20.8	17.6
1987 08 03	01 40.15	-00 40.0					
1987 08 13	01 44.68	-01 18.2	2.234	2.815	114.9	19.1	17.3
1987 08 23	01 47.15	-02 12.1					
1987 09 02	01 47.36	-03 20.9	2.007	2.797	133.3	15.2	17.0
1987 09 12	01 45.20	-04 41.8					
1987 09 22	01 40.77	-06 10.4	1.850	2.779	152.5	9.6	16.6
1987 10 02	01 34.41	-07 39.9					
1987 10 12	01 26.77	-09 02.2	1.790	2.760	163.2	6.0	16.4
1987 10 22	01 18.69	-10 09.5					
1987 11 01	01 11.14	-10 55.5	1.837	2.740	149.7	10.5	16.6
1987 11 11	01 04.98	-11 17.3					
1987 11 21	01 00.80	-11 14.7	1.978	2.719	129.9	16.2	16.9
1987 12 01	00 58.96	-10 49.7					
1987 12 11	00 59.53	-10 05.7	2.184	2.698	111.0	19.9	17.2
1987 12 21	01 02.41	-09 06.1					
1987 12 31	01 07.43	-07 54.1	2.421	2.677	94.1	21.5	17.5

1981 EF28 a,e,i = 2.65, 0.16, 10 Elements MPC 10290

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1987	08 13	02 49.26	+18 36.5	2.066	2.360	-0.91	-7.9	17.5
1987	08 23	02 56.99	+19 56.3					
1987	09 02	03 02.41	+21 09.8	1.855	2.387	-1.03	-8.2	17.2
1987	09 12	03 05.16	+22 16.4					
1987	09 22	03 04.89	+23 14.8	1.670	2.416	-1.20	-8.8	16.9
1987	10 02	03 01.39	+24 02.6					
1987	10 12	02 54.81	+24 37.3	1.540	2.446	-1.36	-10.0	16.5
1987	10 22	02 45.64	+24 56.3					
1987	11 01	02 34.92	+24 58.4	1.497	2.478	-1.44	-11.2	16.2
1987	11 11	02 24.02	+24 45.6					
1987	11 21	02 14.28	+24 22.7	1.561	2.510	-1.37	-11.7	16.5
1987	12 01	02 06.84	+23 56.4					
1987	12 11	02 02.32	+23 33.2	1.727	2.543	-1.20	-11.0	16.9
1987	12 21	02 00.90	+23 17.7					
1987	12 31	02 02.49	+23 12.8	1.966	2.576	-1.02	-9.5	17.4
1988	01 10	02 06.80	+23 18.9					
1988	01 20	02 13.50	+23 35.5	2.246	2.609	-0.88	-8.0	17.8

1982 SU1 a,e,i = 2.85, 0.04, 1 Elements MPC 12132

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	08 13	02 53.74	+17 25.2	2.515	2.762	93.1	21.5	17.6
1987	08 23	03 00.92	+17 56.4					
1987	09 02	03 06.20	+18 18.7	2.253	2.756	109.2	20.2	17.4
1987	09 12	03 09.30	+18 31.5					
1987	09 22	03 09.95	+18 34.3	2.019	2.751	127.8	16.8	17.0
1987	10 02	03 08.00	+18 26.2					
1987	10 12	03 03.54	+18 07.2	1.842	2.746	149.0	10.8	16.6
1987	10 22	02 56.88	+17 37.7					
1987	11 01	02 48.71	+16 59.7	1.755	2.742	172.6	2.7	16.2
1987	11 11	02 40.00	+16 16.9					
1987	11 21	02 31.79	+15 34.3	1.778	2.738	162.9	6.1	16.4
1987	12 01	02 25.03	+14 57.0					
1987	12 11	02 20.43	+14 29.4	1.909	2.735	139.8	13.4	16.8
1987	12 21	02 18.32	+14 14.2					
1987	12 31	02 18.82	+14 12.3	2.118	2.733	118.9	18.4	17.1
1988	01 10	02 21.81	+14 23.2					
1988	01 20	02 27.07	+14 45.4	2.373	2.731	100.6	20.7	17.5

(3663) 1985 GK1 a,e,i = 3.17, 0.16, 3 Elements MPC 12130

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	08 13	03 15.87	+14 55.5	3.298	3.427	88.7	17.2	18.4
1987	08 23	03 20.99	+15 08.3					
1987	09 02	03 24.43	+15 13.9	3.037	3.451	105.8	16.3	18.2
1987	09 12	03 26.02	+15 12.4					
1987	09 22	03 25.62	+15 03.8	2.800	3.474	125.0	13.7	17.9
1987	10 02	03 23.17	+14 48.3					
1987	10 12	03 18.78	+14 26.5	2.621	3.496	146.3	9.1	17.6
1987	10 22	03 12.71	+13 59.6					
1987	11 01	03 05.44	+13 29.5	2.536	3.516	169.1	3.1	17.3
1987	11 11	02 57.61	+12 58.9					
1987	11 21	02 49.95	+12 30.5	2.570	3.536	165.8	3.9	17.4
1987	12 01	02 43.13	+12 07.4					
1987	12 11	02 37.72	+11 52.0	2.719	3.554	142.8	9.6	17.8
1987	12 21	02 34.07	+11 45.7					
1987	12 31	02 32.37	+11 49.1	2.961	3.571	121.2	13.6	18.1
1988	01 10	02 32.62	+12 01.9					
1988	01 20	02 34.74	+12 23.2	3.257	3.587	101.6	15.6	18.4

1986 QL a,e,i = 2.87, 0.02, 1 Elements MPC 12132

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 02	03 40.43	+20 18.6	2.516	2.883	100.9	20.1	17.2
1987	09 12	03 45.04	+20 33.3					
1987	09 22	03 47.40	+20 40.4	2.267	2.886	118.7	17.8	16.9
1987	10 02	03 47.28	+20 39.3					
1987	10 12	03 44.60	+20 29.7	2.061	2.889	139.1	13.1	16.5
1987	10 22	03 39.48	+20 11.3					
1987	11 01	03 32.30	+19 44.6	1.932	2.892	161.9	6.1	16.2
1987	11 11	03 23.80	+19 11.2					
1987	11 21	03 14.89	+18 33.9	1.911	2.895	173.7	2.2	15.9
1987	12 01	03 06.61	+17 57.1					
1987	12 11	02 59.85	+17 24.8	2.005	2.898	149.7	9.9	16.4
1987	12 21	02 55.22	+17 00.8					
1987	12 31	02 53.04	+16 47.3	2.194	2.900	127.6	15.6	16.8
1988	01 10	02 53.38	+16 44.9					
1988	01 20	02 56.12	+16 53.2	2.444	2.902	107.9	18.8	17.1
1988	01 30	03 01.08	+17 11.0					
1988	02 09	03 07.98	+17 36.5	2.723	2.904	90.5	19.9	17.4

1986 QM3 a,e,i = 2.79, 0.10, 10 Elements MPC 12127

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 02	04 31.65	+11 30.6	2.894	3.073	90.5	19.2	16.6
1987	09 12	04 37.73	+11 14.3					
1987	09 22	04 41.97	+10 51.9	2.628	3.077	107.1	18.2	16.4
1987	10 02	04 44.11	+10 24.2					
1987	10 12	04 43.98	+09 52.7	2.388	3.080	125.8	15.2	16.1
1987	10 22	04 41.49	+09 19.0					
1987	11 01	04 36.69	+08 45.5	2.207	3.082	146.3	10.3	15.7
1987	11 11	04 29.92	+08 14.9					
1987	11 21	04 21.72	+07 50.2	2.118	3.082	164.7	4.9	15.4
1987	12 01	04 12.87	+07 34.3					
1987	12 11	04 04.29	+07 29.4	2.144	3.081	158.4	6.8	15.5
1987	12 21	03 56.80	+07 36.5					
1987	12 31	03 51.07	+07 55.6	2.280	3.079	137.7	12.4	15.9
1988	01 10	03 47.51	+08 25.6					
1988	01 20	03 46.27	+09 04.8	2.498	3.076	117.3	16.5	16.2
1988	01 30	03 47.35	+09 51.2					
1988	02 09	03 50.60	+10 42.6	2.762	3.071	98.8	18.5	16.5

1982 FZ1 a,e,i = 2.24, 0.08, 4 Elements MPC 12131

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	04 48.43	+18 53.8	1.953	2.414	104.8	23.7	17.8
1987	10 02	04 53.70	+18 39.1					
1987	10 12	04 56.17	+18 17.8	1.718	2.408	122.7	20.4	17.5
1987	10 22	04 55.52	+17 50.5					
1987	11 01	04 51.58	+17 18.1	1.529	2.401	143.6	14.2	17.0
1987	11 11	04 44.58	+16 41.9					
1987	11 21	04 35.10	+16 04.0	1.420	2.392	166.7	5.4	16.5
1987	12 01	04 24.24	+15 27.4					
1987	12 11	04 13.43	+14 56.2	1.417	2.382	165.0	6.1	16.6
1987	12 21	04 04.03	+14 34.0					
1987	12 31	03 57.12	+14 23.8	1.521	2.371	141.5	14.9	17.0
1988	01 10	03 53.30	+14 26.6					
1988	01 20	03 52.74	+14 41.6	1.702	2.358	120.4	21.1	17.4
1988	01 30	03 55.33	+15 07.2					
1988	02 09	04 00.78	+15 40.7	1.927	2.345	102.3	24.3	17.8
1988	02 19	04 08.76	+16 19.6					
1988	02 29	04 18.94	+17 01.3	2.166	2.330	86.8	25.1	18.0

1986 QB1 a,e,i = 2.86, 0.01, 3 Elements MPC 12133

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	04 55.53	+22 27.8	2.484	2.878	102.8	19.9	17.6
1987	10 02	04 59.72	+22 42.1					
1987	10 12	05 01.49	+22 53.6	2.234	2.879	121.1	17.3	17.3
1987	10 22	05 00.62	+23 02.2					
1987	11 01	04 57.04	+23 07.7	2.032	2.879	141.9	12.3	17.0
1987	11 11	04 50.93	+23 09.3					
1987	11 21	04 42.76	+23 06.5	1.914	2.880	165.3	5.0	16.6
1987	12 01	04 33.37	+22 59.3					
1987	12 11	04 23.82	+22 48.6	1.906	2.881	170.0	3.4	16.5
1987	12 21	04 15.18	+22 36.7					
1987	12 31	04 08.38	+22 26.4	2.012	2.881	146.1	11.0	16.9
1988	01 10	04 04.01	+22 20.1					
1988	01 20	04 02.31	+22 19.4	2.209	2.881	124.3	16.4	17.3
1988	01 30	04 03.32	+22 25.2					
1988	02 09	04 06.86	+22 36.8	2.462	2.882	105.1	19.3	17.6
1988	02 19	04 12.69	+22 53.5					
1988	02 29	04 20.54	+23 13.8	2.738	2.882	88.2	20.1	17.9

1986 QZ2 a,e,i = 2.57, 0.16, 10 Elements MPC 12134

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 21.13	+31 32.1	2.687	2.969	96.2	19.6	18.9
1987	10 02	05 26.11	+32 15.8					
1987	10 12	05 28.64	+32 59.7	2.430	2.977	113.9	17.8	18.6
1987	10 22	05 28.41	+33 43.0					
1987	11 01	05 25.19	+34 23.9	2.210	2.984	133.7	13.9	18.3
1987	11 11	05 18.98	+34 59.2					
1987	11 21	05 10.10	+35 25.1	2.064	2.988	154.9	8.1	17.9
1987	12 01	04 59.27	+35 37.6					
1987	12 11	04 47.64	+35 34.7	2.024	2.991	166.6	4.4	17.7
1987	12 21	04 36.46	+35 17.0					
1987	12 31	04 26.96	+34 48.3	2.100	2.991	149.7	9.6	18.0
1988	01 10	04 19.97	+34 13.6					
1988	01 20	04 15.93	+33 38.1	2.276	2.989	128.4	15.0	18.4
1988	01 30	04 14.95	+33 05.8					
1988	02 09	04 16.85	+32 39.0	2.517	2.985	108.8	18.2	18.7
1988	02 19	04 21.36	+32 18.4					
1988	02 29	04 28.17	+32 03.6	2.787	2.978	91.3	19.4	19.0

4113 P-L a,e,i = 2.43, 0.14, 2 Elements MPC 8145

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 02.33	+21 41.5	1.896	2.313	101.3	25.2	18.7
1987	10 02	05 10.87	+21 41.6					
1987	10 12	05 16.91	+21 36.3	1.642	2.283	117.6	22.8	18.3
1987	10 22	05 20.01	+21 26.3					
1987	11 01	05 19.79	+21 12.1	1.425	2.254	136.8	17.5	17.8
1987	11 11	05 16.14	+20 54.2					
1987	11 21	05 09.24	+20 32.9	1.275	2.227	159.4	9.0	17.3
1987	12 01	04 59.85	+20 08.8					
1987	12 11	04 49.29	+19 43.7	1.218	2.201	174.8	2.3	16.9
1987	12 21	04 39.12	+19 20.6					
1987	12 31	04 30.91	+19 03.3	1.266	2.177	150.6	12.8	17.4
1988	01 10	04 25.72	+18 54.5					
1988	01 20	04 24.06	+18 55.8	1.399	2.156	128.7	20.9	17.8
1988	01 30	04 26.04	+19 06.7					
1988	02 09	04 31.41	+19 25.6	1.585	2.137	110.2	25.7	18.2
1988	02 19	04 39.80	+19 49.8					
1988	02 29	04 50.83	+20 16.7	1.796	2.121	94.7	27.7	18.5

(3653) 1979 HF5 a,e,i = 2.24, 0.10, 5 Elements MPC 12008

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 21.75	+18 27.9	2.108	2.443	97.0	24.1	18.1
1987	10 02	05 28.76	+18 07.4					
1987	10 12	05 33.22	+17 42.1	1.869	2.450	113.9	21.9	17.7
1987	10 22	05 34.80	+17 13.2					
1987	11 01	05 33.22	+16 41.8	1.663	2.455	133.6	17.0	17.3
1987	11 11	05 28.43	+16 09.5					
1987	11 21	05 20.68	+15 37.8	1.522	2.458	156.0	9.4	16.9
1987	12 01	05 10.69	+15 08.9					
1987	12 11	04 59.62	+14 45.0	1.480	2.458	171.7	3.3	16.6
1987	12 21	04 48.81	+14 28.7					
1987	12 31	04 39.58	+14 21.9	1.550	2.457	151.2	11.1	17.0
1988	01 10	04 32.92	+14 25.7					
1988	01 20	04 29.30	+14 39.7	1.713	2.454	129.0	18.2	17.4
1988	01 30	04 28.88	+15 02.8					
1988	02 09	04 31.48	+15 32.7	1.936	2.450	109.5	22.3	17.8
1988	02 19	04 36.83	+16 07.4					
1988	02 29	04 44.60	+16 44.4	2.185	2.443	92.8	23.9	18.1

1981 EB17 a,e,i = 2.49, 0.05, 3 Elements MPC 7768

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 22.37	+26 52.8	2.294	2.604	96.3	22.5	19.5
1987	10 02	05 29.63	+27 13.2					
1987	10 12	05 34.45	+27 31.9	2.038	2.599	113.2	20.7	19.2
1987	10 22	05 36.46	+27 49.0					
1987	11 01	05 35.35	+28 04.1	1.814	2.593	132.8	16.3	18.8
1987	11 11	05 31.01	+28 15.7					
1987	11 21	05 23.63	+28 21.4	1.656	2.586	155.1	9.2	18.4
1987	12 01	05 13.84	+28 18.9					
1987	12 11	05 02.79	+28 06.8	1.596	2.579	174.7	2.0	18.0
1987	12 21	04 51.84	+27 45.6					
1987	12 31	04 42.39	+27 18.8	1.650	2.570	154.1	9.6	18.4
1988	01 10	04 35.50	+26 50.6					
1988	01 20	04 31.70	+26 25.2	1.801	2.562	131.5	16.7	18.8
1988	01 30	04 31.20	+26 05.3					
1988	02 09	04 33.82	+25 52.0	2.018	2.553	111.7	21.0	19.2
1988	02 19	04 39.28	+25 44.7					
1988	02 29	04 47.23	+25 42.3	2.265	2.543	94.5	22.9	19.5

1985 FA a,e,i = 2.29, 0.22, 24 Elements MPC 9766

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 13.48	+15 16.1	1.579	2.002	99.2	29.7	17.1
1987	10 02	05 24.11	+16 50.0					
1987	10 12	05 32.54	+18 38.3	1.325	1.957	114.0	27.8	16.7
1987	10 22	05 38.13	+20 46.2					
1987	11 01	05 40.13	+23 18.9	1.103	1.915	132.1	22.6	16.1
1987	11 11	05 37.82	+26 18.7					
1987	11 21	05 30.57	+29 42.3	0.942	1.878	153.3	13.7	15.4
1987	12 01	05 18.34	+33 17.4					
1987	12 11	05 02.25	+36 43.6	0.876	1.847	166.1	7.4	15.0
1987	12 21	04 44.65	+39 40.0					
1987	12 31	04 28.78	+41 55.3	0.913	1.821	147.6	16.8	15.4
1988	01 10	04 17.46	+43 32.3					
1988	01 20	04 12.24	+44 41.0	1.031	1.803	127.0	25.8	15.9
1988	01 30	04 13.53	+45 32.2					
1988	02 09	04 20.89	+46 12.8	1.191	1.792	110.4	31.0	16.3
1988	02 19	04 33.58	+46 45.3					
1988	02 29	04 50.86	+47 09.7	1.369	1.790	97.4	33.3	16.7

1968 QE a,e,i = 2.39, 0.22, 2 Elements MPC 11145

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 25.55	+24 12.7	1.844	2.187	95.8	27.2	18.1
1987	10 02	05 34.33	+24 17.3					
1987	10 12	05 40.17	+24 18.5	1.660	2.236	112.1	24.4	17.8
1987	10 22	05 42.68	+24 17.0					
1987	11 01	05 41.56	+24 13.1	1.501	2.285	131.7	18.9	17.5
1987	11 11	05 36.77	+24 06.3					
1987	11 21	05 28.67	+23 55.6	1.403	2.335	154.8	10.4	17.2
1987	12 01	05 18.12	+23 39.9					
1987	12 11	05 06.51	+23 19.5	1.399	2.383	179.5	0.2	16.7
1987	12 21	04 55.37	+22 56.3					
1987	12 31	04 46.14	+22 33.6	1.506	2.431	154.8	9.9	17.4
1988	01 10	04 39.73	+22 14.8					
1988	01 20	04 36.56	+22 02.4	1.708	2.478	132.1	17.1	17.9
1988	01 30	04 36.64	+21 57.2					
1988	02 09	04 39.71	+21 58.6	1.975	2.523	112.5	21.2	18.4
1988	02 19	04 45.39	+22 05.2					
1988	02 29	04 53.34	+22 15.3	2.274	2.567	95.5	22.6	18.8

1985 FC1 a,e,i = 2.36, 0.12, 4 Elements MPC 9827

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 09.73	+27 31.4	1.742	2.143	99.1	27.5	17.2
1987	10 02	05 20.72	+28 08.5					
1987	10 12	05 29.18	+28 43.0	1.511	2.126	114.3	25.3	16.9
1987	10 22	05 34.57	+29 15.6					
1987	11 01	05 36.33	+29 46.2	1.310	2.110	132.3	20.3	16.4
1987	11 11	05 34.16	+30 13.0					
1987	11 21	05 28.03	+30 32.7	1.166	2.098	153.6	12.1	15.9
1987	12 01	05 18.57	+30 40.9					
1987	12 11	05 07.20	+30 34.2	1.108	2.088	172.3	3.6	15.4
1987	12 21	04 55.78	+30 12.5					
1987	12 31	04 46.26	+29 39.9	1.149	2.081	154.7	11.7	15.8
1988	01 10	04 40.06	+29 03.2					
1988	01 20	04 37.84	+28 28.6	1.278	2.078	133.0	20.3	16.3
1988	01 30	04 39.70	+27 59.8					
1988	02 09	04 45.30	+27 38.0	1.465	2.077	114.4	25.6	16.7
1988	02 19	04 54.17	+27 22.3					
1988	02 29	05 05.82	+27 10.6	1.683	2.080	98.8	28.1	17.1

1979 TA a,e,i = 2.44, 0.22, 2 Elements MPC 8402

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 22.24	+25 50.6	1.721	2.087	96.4	28.6	17.9
1987	10 02	05 32.37	+26 04.9					
1987	10 12	05 39.49	+26 15.3	1.543	2.131	112.2	25.7	17.6
1987	10 22	05 43.15	+26 22.7					
1987	11 01	05 42.99	+26 27.3	1.391	2.177	131.2	20.0	17.3
1987	11 11	05 38.94	+26 28.0					
1987	11 21	05 31.28	+26 23.1	1.295	2.225	153.9	11.3	16.9
1987	12 01	05 20.91	+26 10.6					
1987	12 11	05 09.32	+25 49.9	1.290	2.274	177.0	1.3	16.5
1987	12 21	04 58.15	+25 23.0					
1987	12 31	04 48.98	+24 53.9	1.392	2.324	155.6	10.1	17.1
1988	01 10	04 42.80	+24 27.1					
1988	01 20	04 40.02	+24 06.0	1.589	2.373	133.2	17.6	17.7
1988	01 30	04 40.65	+23 52.0					
1988	02 09	04 44.37	+23 45.0	1.849	2.422	113.8	21.9	18.2
1988	02 19	04 50.78	+23 43.5					
1988	02 29	04 59.49	+23 45.8	2.144	2.470	97.1	23.5	18.6

(3499) Hoppe a,e,i = 3.10, 0.18, 2 Elements MPC 11236

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 31.63	+20 51.0	2.689	2.944	94.6	19.9	17.8
1987	10 02	05 37.24	+20 47.5					
1987	10 12	05 40.63	+20 42.0	2.457	2.980	112.1	18.1	17.5
1987	10 22	05 41.59	+20 35.2					
1987	11 01	05 39.97	+20 27.8	2.258	3.016	132.1	14.1	17.3
1987	11 11	05 35.85	+20 19.9					
1987	11 21	05 29.48	+20 11.7	2.129	3.051	154.6	8.0	17.0
1987	12 01	05 21.41	+20 03.3					
1987	12 11	05 12.49	+19 55.1	2.103	3.087	176.8	1.0	16.6
1987	12 21	05 03.63	+19 47.7					
1987	12 31	04 55.79	+19 42.5	2.196	3.122	156.5	7.2	17.0
1988	01 10	04 49.69	+19 40.7					
1988	01 20	04 45.79	+19 43.0	2.394	3.157	133.9	13.0	17.5
1988	01 30	04 44.29	+19 50.0					
1988	02 09	04 45.16	+20 01.1	2.666	3.191	113.5	16.5	17.8
1988	02 19	04 48.25	+20 15.8					
1988	02 29	04 53.35	+20 32.9	2.978	3.224	95.3	17.8	18.1

1938 GG a,e,i = 3.18, 0.06, 27 Elements MPC 11999

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 42.69	+38 19.1	3.119	3.299	91.4	17.7	16.4
1987	10 02	05 48.80	+39 46.5					
1987	10 12	05 52.78	+41 19.2	2.842	3.291	108.1	16.8	16.1
1987	10 22	05 54.24	+42 56.3					
1987	11 01	05 52.78	+44 35.9	2.602	3.283	125.8	14.2	15.9
1987	11 11	05 48.12	+46 14.0					
1987	11 21	05 40.21	+47 44.7	2.431	3.274	143.0	10.5	15.6
1987	12 01	05 29.41	+49 01.1					
1987	12 11	05 16.61	+49 56.7	2.358	3.265	152.9	7.9	15.4
1987	12 21	05 03.14	+50 27.5					
1987	12 31	04 50.57	+50 33.7	2.395	3.256	145.8	9.8	15.5
1988	01 10	04 40.28	+50 19.5					
1988	01 20	04 33.14	+49 51.3	2.531	3.246	129.4	13.5	15.8
1988	01 30	04 29.58	+49 15.8					
1988	02 09	04 29.56	+48 38.5	2.736	3.236	111.9	16.4	16.0
1988	02 19	04 32.82	+48 03.0					
1988	02 29	04 39.00	+47 31.2	2.978	3.226	95.4	17.8	16.2

1980 TL15 a,e,i = 2.25, 0.09, 5 Elements MPC 10757

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 18.31	+17 08.3	1.745	2.129	97.9	27.8	17.4
1987	10 02	05 28.92	+16 52.6					
1987	10 12	05 37.12	+16 31.4	1.512	2.112	113.0	25.8	17.1
1987	10 22	05 42.43	+16 06.5					
1987	11 01	05 44.39	+15 40.2	1.308	2.096	130.8	21.0	16.6
1987	11 11	05 42.75	+15 15.2					
1987	11 21	05 37.46	+14 54.0	1.158	2.082	151.9	12.9	16.1
1987	12 01	05 29.02	+14 39.2					
1987	12 11	05 18.56	+14 33.2	1.091	2.070	171.2	4.2	15.6
1987	12 21	05 07.65	+14 37.6					
1987	12 31	04 58.06	+14 53.4	1.124	2.060	155.5	11.4	15.9
1988	01 10	04 51.20	+15 20.1					
1988	01 20	04 47.86	+15 56.4	1.246	2.052	133.6	20.3	16.4
1988	01 30	04 48.34	+16 40.0					
1988	02 09	04 52.47	+17 28.2	1.427	2.047	114.8	25.9	16.9
1988	02 19	04 59.90	+18 18.0					
1988	02 29	05 10.22	+19 06.8	1.638	2.044	99.1	28.6	17.2

(3502) 1964 TR1 a,e,i = 3.13, 0.18, 3 Elements MPC 11239

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 38.50	+21 30.1	2.997	3.209	92.9	18.2	17.6
1987	10 02	05 43.43	+21 31.4					
1987	10 12	05 46.29	+21 31.6	2.751	3.242	110.8	16.7	17.4
1987	10 22	05 46.90	+21 31.3					
1987	11 01	05 45.13	+21 30.8	2.538	3.275	130.9	13.2	17.2
1987	11 11	05 41.03	+21 30.2					
1987	11 21	05 34.82	+21 29.1	2.394	3.307	153.4	7.7	16.9
1987	12 01	05 26.99	+21 27.2					
1987	12 11	05 18.25	+21 24.4	2.354	3.338	177.1	0.9	16.5
1987	12 21	05 09.45	+21 21.1					
1987	12 31	05 01.46	+21 18.1	2.435	3.368	158.1	6.3	16.9
1988	01 10	04 54.99	+21 16.5					
1988	01 20	04 50.50	+21 17.6	2.627	3.397	135.2	11.8	17.3
1988	01 30	04 48.26	+21 22.0					
1988	02 09	04 48.28	+21 29.8	2.897	3.425	114.4	15.2	17.6
1988	02 19	04 50.45	+21 40.8					
1988	02 29	04 54.61	+21 54.2	3.208	3.451	95.8	16.6	17.9

(3357) 1984 FT a,e,i = 3.02, 0.06, 11 Elements MPC 10307

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 35.26	+11 19.8	2.926	3.160	94.0	18.5	17.1
1987	10 02	05 40.44	+10 51.4					
1987	10 12	05 43.69	+10 20.4	2.653	3.154	111.1	17.2	16.8
1987	10 22	05 44.81	+09 48.3					
1987	11 01	05 43.65	+09 17.1	2.414	3.147	130.1	14.0	16.5
1987	11 11	05 40.22	+08 49.0					
1987	11 21	05 34.68	+08 26.5	2.242	3.140	150.4	8.9	16.2
1987	12 01	05 27.45	+08 12.0					
1987	12 11	05 19.19	+08 07.4	2.170	3.132	165.0	4.7	15.9
1987	12 21	05 10.71	+08 14.0					
1987	12 31	05 02.90	+08 32.1	2.213	3.123	153.3	8.1	16.1
1988	01 10	04 56.50	+09 00.7					
1988	01 20	04 52.06	+09 38.1	2.361	3.115	132.8	13.4	16.4
1988	01 30	04 49.88	+10 22.4					
1988	02 09	04 50.04	+11 11.4	2.583	3.105	113.1	17.0	16.7
1988	02 19	04 52.46	+12 02.9					
1988	02 29	04 57.01	+12 55.1	2.844	3.096	95.3	18.6	17.0

(3621) 1981 SQ1 a,e,i = 3.09, 0.20, 3 Elements MPC 11859

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 35.55	+20 33.9	2.558	2.807	93.7	20.9	17.5
1987	10 02	05 41.99	+20 25.9					
1987	10 12	05 46.17	+20 15.6	2.333	2.845	110.8	19.1	17.3
1987	10 22	05 47.84	+20 04.0					
1987	11 01	05 46.84	+19 51.9	2.139	2.885	130.5	15.2	17.0
1987	11 11	05 43.20	+19 39.7					
1987	11 21	05 37.15	+19 27.7	2.011	2.924	152.7	8.9	16.7
1987	12 01	05 29.23	+19 16.4					
1987	12 11	05 20.29	+19 06.2	1.982	2.964	175.1	1.6	16.3
1987	12 21	05 11.30	+18 57.8					
1987	12 31	05 03.26	+18 52.4	2.069	3.004	158.0	7.0	16.7
1988	01 10	04 56.96	+18 51.0					
1988	01 20	04 52.90	+18 54.2	2.263	3.043	135.4	13.1	17.2
1988	01 30	04 51.30	+19 02.3					
1988	02 09	04 52.15	+19 14.7	2.533	3.083	115.0	16.9	17.6
1988	02 19	04 55.29	+19 30.5					
1988	02 29	05 00.49	+19 48.5	2.844	3.122	96.9	18.4	17.9

1981 EF25 a,e,i = 2.42, 0.16, 0 Elements MPC 10823

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 09 22	05 13.53	+22 49.9	1.724	2.121	98.6	27.9	19.4
1987 10 02	05 25.11	+23 01.8					
1987 10 12	05 34.33	+23 09.4	1.488	2.096	113.5	25.9	19.0
1987 10 22	05 40.70	+23 14.0					
1987 11 01	05 43.69	+23 16.6	1.281	2.075	131.2	21.1	18.5
1987 11 11	05 42.99	+23 18.0					
1987 11 21	05 38.49	+23 18.0	1.129	2.056	152.5	12.8	18.0
1987 12 01	05 30.66	+23 15.5					
1987 12 11	05 20.63	+23 09.8	1.058	2.042	176.9	1.5	17.3
1987 12 21	05 10.06	+23 01.0					
1987 12 31	05 00.81	+22 51.2	1.087	2.033	158.2	10.4	17.8
1988 01 10	04 54.40	+22 43.7					
1988 01 20	04 51.66	+22 41.0	1.203	2.027	135.7	19.8	18.3
1988 01 30	04 52.88	+22 44.2					
1988 02 09	04 57.85	+22 52.9	1.381	2.027	116.8	25.7	18.8
1988 02 19	05 06.16	+23 05.1					
1988 02 29	05 17.36	+23 18.5	1.592	2.031	101.1	28.6	19.2

1977 PE1 a,e,i = 2.78, 0.18, 5 Elements MPC 9476

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 09 22	05 32.58	+22 27.8	2.183	2.469	94.3	23.9	18.1
1987 10 02	05 40.77	+22 14.4					
1987 10 12	05 46.45	+21 57.0	1.969	2.504	110.7	21.9	17.9
1987 10 22	05 49.29	+21 36.6					
1987 11 01	05 49.07	+21 13.9	1.784	2.539	130.0	17.4	17.6
1987 11 11	05 45.76	+20 49.6					
1987 11 21	05 39.57	+20 23.9	1.660	2.576	152.2	10.3	17.2
1987 12 01	05 31.13	+19 57.7					
1987 12 11	05 21.44	+19 31.7	1.630	2.613	175.3	1.8	16.8
1987 12 21	05 11.70	+19 07.7					
1987 12 31	05 03.13	+18 47.9	1.714	2.651	157.9	8.0	17.3
1988 01 10	04 56.66	+18 34.1					
1988 01 20	04 52.81	+18 27.2	1.899	2.689	135.3	14.9	17.8
1988 01 30	04 51.81	+18 27.5					
1988 02 09	04 53.54	+18 34.0	2.156	2.727	115.3	19.1	18.2
1988 02 19	04 57.78	+18 45.2					
1988 02 29	05 04.24	+18 59.4	2.452	2.765	97.7	20.8	18.6

(3564) 1985 TC1 a,e,i = 5.26, 0.04, 15 Elements MPC 11628

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 09 22	05 41.50	+35 57.8	5.284	5.408	91.7	10.7	16.9
1987 10 02	05 44.12	+36 29.6					
1987 10 12	05 45.29	+37 01.8	4.981	5.404	110.0	10.0	16.7
1987 10 22	05 44.91	+37 33.6					
1987 11 01	05 42.93	+38 03.9	4.716	5.400	129.4	8.2	16.5
1987 11 11	05 39.41	+38 31.3					
1987 11 21	05 34.51	+38 54.1	4.526	5.396	148.9	5.4	16.3
1987 12 01	05 28.52	+39 10.6					
1987 12 11	05 21.86	+39 19.6	4.442	5.392	163.3	3.0	16.2
1987 12 21	05 15.02	+39 20.6					
1987 12 31	05 08.54	+39 14.0	4.477	5.388	155.5	4.3	16.3
1988 01 10	05 02.90	+39 00.9					
1988 01 20	04 58.48	+38 43.3	4.627	5.383	136.5	7.2	16.4
1988 01 30	04 55.55	+38 22.9					
1988 02 09	04 54.23	+38 01.8	4.864	5.379	116.6	9.4	16.6
1988 02 19	04 54.56	+37 41.4					
1988 02 29	04 56.47	+37 22.7	5.152	5.374	97.7	10.5	16.8

(3443) 1979 SB1 a,e,i = 2.39, 0.31, 13 Elements MPC 10765

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 46.78	+11 25.7	2.467	2.683	91.2	22.0	18.5
1987	10 02	05 52.42	+10 31.8					
1987	10 12	05 55.72	+09 33.8	2.258	2.738	108.1	20.3	18.3
1987	10 22	05 56.45	+08 33.3					
1987	11 01	05 54.44	+07 33.1	2.075	2.790	127.2	16.5	18.1
1987	11 11	05 49.72	+06 36.1					
1987	11 21	05 42.55	+05 45.9	1.955	2.838	147.4	10.8	17.8
1987	12 01	05 33.46	+05 06.4					
1987	12 11	05 23.33	+04 40.8	1.932	2.882	161.4	6.3	17.7
1987	12 21	05 13.16	+04 31.0					
1987	12 31	05 03.96	+04 37.4	2.024	2.923	151.1	9.4	17.9
1988	01 10	04 56.54	+04 58.5					
1988	01 20	04 51.41	+05 31.7	2.218	2.961	131.2	14.5	18.3
1988	01 30	04 48.80	+06 13.9					
1988	02 09	04 48.68	+07 01.9	2.483	2.994	111.9	17.8	18.7
1988	02 19	04 50.88	+07 52.9					
1988	02 29	04 55.20	+08 44.7	2.784	3.024	94.3	19.1	19.0

1983 CO3 a,e,i = 3.10, 0.16, 14 Elements MPC 11242

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 35.10	+32 52.8	2.724	2.955	93.2	19.8	17.9
1987	10 02	05 42.62	+33 00.3					
1987	10 12	05 47.95	+33 04.7	2.430	2.924	109.9	18.7	17.6
1987	10 22	05 50.76	+33 05.8					
1987	11 01	05 50.78	+33 02.5	2.166	2.894	128.8	15.5	17.2
1987	11 11	05 47.86	+32 52.9					
1987	11 21	05 42.11	+32 34.7	1.964	2.864	150.1	9.9	16.8
1987	12 01	05 33.97	+32 05.3					
1987	12 11	05 24.30	+31 23.2	1.858	2.834	170.7	3.2	16.4
1987	12 21	05 14.25	+30 29.2					
1987	12 31	05 05.05	+29 26.5	1.867	2.806	158.8	7.3	16.6
1988	01 10	04 57.78	+28 20.2					
1988	01 20	04 53.09	+27 15.5	1.983	2.779	136.3	14.2	16.9
1988	01 30	04 51.34	+26 16.5					
1988	02 09	04 52.50	+25 25.3	2.176	2.753	115.8	18.8	17.2
1988	02 19	04 56.39	+24 42.3					
1988	02 29	05 02.74	+24 06.7	2.411	2.729	97.9	21.1	17.5

1986 TT6 a,e,i = 5.24, 0.10, 35 Elements MPC 11722

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1987	09 22	05 42.03	+14 23.7	4.740	4.884	-0.42	+3.0	16.5
1987	10 02	05 44.36	+13 32.5					
1987	10 12	05 45.31	+12 37.8	4.428	4.873	-0.44	+3.2	16.3
1987	10 22	05 44.83	+11 40.4					
1987	11 01	05 42.90	+10 41.2	4.158	4.863	-0.45	+3.4	16.1
1987	11 11	05 39.60	+09 41.7					
1987	11 21	05 35.09	+08 43.4	3.969	4.852	-0.46	+3.5	15.8
1987	12 01	05 29.65	+07 48.2					
1987	12 11	05 23.66	+06 58.1	3.890	4.843	-0.46	+3.5	15.7
1987	12 21	05 17.54	+06 14.8					
1987	12 31	05 11.74	+05 39.7	3.935	4.833	-0.44	+3.5	15.8
1988	01 10	05 06.68	+05 13.2					
1988	01 20	05 02.68	+04 55.3	4.093	4.824	-0.42	+3.3	16.0
1988	01 30	04 59.98	+04 45.5					
1988	02 09	04 58.70	+04 42.6	4.333	4.815	-0.39	+3.1	16.2
1988	02 19	04 58.85	+04 45.1					
1988	02 29	05 00.43	+04 51.6	4.617	4.807	-0.37	+3.0	16.4

1986 RL a,e,i = 3.03, 0.11, 10 Elements MPC 11348

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 43.06	+25 13.5	2.934	3.130	91.8	18.7	17.7
1987	10 02	05 48.80	+25 01.6					
1987	10 12	05 52.43	+24 47.1	2.675	3.150	109.3	17.4	17.4
1987	10 22	05 53.73	+24 30.3					
1987	11 01	05 52.55	+24 11.0	2.446	3.168	129.2	14.1	17.1
1987	11 11	05 48.89	+23 49.2					
1987	11 21	05 42.93	+23 24.3	2.283	3.186	151.5	8.5	16.8
1987	12 01	05 35.15	+22 56.4					
1987	12 11	05 26.28	+22 25.8	2.221	3.204	175.6	1.4	16.4
1987	12 21	05 17.20	+21 53.7					
1987	12 31	05 08.87	+21 22.1	2.279	3.220	159.8	6.0	16.7
1988	01 10	05 02.06	+20 53.2					
1988	01 20	04 57.31	+20 28.9	2.449	3.236	136.7	12.0	17.1
1988	01 30	04 54.89	+20 10.5					
1988	02 09	04 54.84	+19 57.9	2.698	3.251	115.8	15.9	17.5
1988	02 19	04 57.05	+19 50.9					
1988	02 29	05 01.33	+19 48.2	2.991	3.265	97.1	17.5	17.8

1986 RQ2 a,e,i = 3.20, 0.09, 17 Elements MPC 11348

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 39.06	+05 18.8	2.782	3.011	93.3	19.4	17.0
1987	10 02	05 44.86	+04 33.0					
1987	10 12	05 48.68	+03 44.3	2.544	3.025	109.4	18.1	16.8
1987	10 22	05 50.32	+02 55.0					
1987	11 01	05 49.65	+02 08.0	2.336	3.039	127.0	15.1	16.5
1987	11 11	05 46.68	+01 27.1					
1987	11 21	05 41.58	+00 55.9	2.191	3.055	145.1	10.7	16.2
1987	12 01	05 34.77	+00 38.3					
1987	12 11	05 26.91	+00 37.1	2.139	3.070	157.2	7.1	16.0
1987	12 21	05 18.80	+00 53.6					
1987	12 31	05 11.30	+01 27.5	2.195	3.086	150.1	9.1	16.2
1988	01 10	05 05.15	+02 16.2					
1988	01 20	05 00.88	+03 16.6	2.352	3.103	132.5	13.5	16.5
1988	01 30	04 58.79	+04 24.9					
1988	02 09	04 58.96	+05 37.5	2.585	3.120	114.0	16.8	16.8
1988	02 19	05 01.32	+06 51.5					
1988	02 29	05 05.72	+08 04.5	2.862	3.137	96.8	18.3	17.1

1974 SD3 a,e,i = 3.36, 0.10, 10 Elements MPC 11423

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 42.42	+22 44.9	2.892	3.094	92.0	18.9	17.1
1987	10 02	05 48.71	+22 23.3					
1987	10 12	05 52.96	+21 58.3	2.633	3.108	109.2	17.7	16.9
1987	10 22	05 54.95	+21 30.4					
1987	11 01	05 54.53	+21 00.1	2.403	3.122	128.7	14.4	16.6
1987	11 11	05 51.68	+20 28.0					
1987	11 21	05 46.59	+19 54.4	2.239	3.137	150.6	8.9	16.3
1987	12 01	05 39.66	+19 20.2					
1987	12 11	05 31.59	+18 46.4	2.174	3.153	173.0	2.2	15.9
1987	12 21	05 23.22	+18 14.5					
1987	12 31	05 15.46	+17 46.4	2.226	3.170	160.4	6.0	16.2
1988	01 10	05 09.09	+17 23.6					
1988	01 20	05 04.66	+17 07.2	2.389	3.187	137.8	12.0	16.5
1988	01 30	05 02.47	+16 57.6					
1988	02 09	05 02.59	+16 54.2	2.632	3.205	117.1	15.9	16.9
1988	02 19	05 04.93	+16 56.0					
1988	02 29	05 09.32	+17 01.6	2.921	3.223	98.7	17.7	17.2

1976 GR2 a,e,i = 2.16, 0.10, 3 Elements MPC 11341

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 42.04	+19 44.4	2.124	2.383	92.2	24.9	18.5
1987	10 02	05 51.02	+19 34.8					
1987	10 12	05 57.71	+19 22.3	1.871	2.379	108.1	23.5	18.2
1987	10 22	06 01.70	+19 08.3					
1987	11 01	06 02.60	+18 54.3	1.641	2.372	126.8	19.6	17.8
1987	11 11	06 00.16	+18 41.5					
1987	11 21	05 54.31	+18 30.8	1.464	2.364	148.6	12.6	17.3
1987	12 01	05 45.41	+18 22.6					
1987	12 11	05 34.35	+18 17.0	1.374	2.353	172.2	3.3	16.8
1987	12 21	05 22.45	+18 14.5					
1987	12 31	05 11.29	+18 16.0	1.394	2.341	159.7	8.4	17.1
1988	01 10	05 02.27	+18 22.4					
1988	01 20	04 56.30	+18 34.8	1.515	2.326	136.1	17.0	17.5
1988	01 30	04 53.82	+18 53.3					
1988	02 09	04 54.82	+19 16.8	1.705	2.310	115.7	22.6	17.9
1988	02 19	04 59.04	+19 44.1					
1988	02 29	05 06.16	+20 13.3	1.930	2.293	98.3	25.3	18.3

1985 DX a,e,i = 2.25, 0.11, 7 Elements MPC 11505

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 34.91	+23 58.7	2.027	2.319	93.7	25.6	17.4
1987	10 02	05 45.11	+23 42.3					
1987	10 12	05 53.03	+23 19.9	1.765	2.295	109.2	24.2	17.0
1987	10 22	05 58.23	+22 52.2					
1987	11 01	06 00.26	+22 20.0	1.527	2.271	127.4	20.3	16.6
1987	11 11	05 58.82	+21 43.6					
1987	11 21	05 53.80	+21 03.3	1.341	2.247	149.0	13.1	16.1
1987	12 01	05 45.53	+20 19.6					
1987	12 11	05 34.94	+19 33.6	1.241	2.222	172.7	3.2	15.5
1987	12 21	05 23.40	+18 47.9					
1987	12 31	05 12.63	+18 06.4	1.247	2.197	159.9	8.8	15.7
1988	01 10	05 04.11	+17 32.8					
1988	01 20	04 58.82	+17 10.0	1.350	2.172	136.4	18.2	16.2
1988	01 30	04 57.20	+16 58.6					
1988	02 09	04 59.22	+16 57.4	1.520	2.148	116.3	24.3	16.6
1988	02 19	05 04.58	+17 04.1					
1988	02 29	05 12.92	+17 15.7	1.722	2.125	99.6	27.4	16.9

1978 SZ6 a,e,i = 2.61, 0.03, 3 Elements MPC 11836

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 39.52	+26 35.0	2.283	2.534	92.5	23.3	17.8
1987	10 02	05 48.63	+26 46.2					
1987	10 12	05 55.48	+26 55.6	2.031	2.533	108.6	21.9	17.5
1987	10 22	05 59.66	+27 03.9					
1987	11 01	06 00.83	+27 11.4	1.805	2.532	127.2	18.2	17.1
1987	11 11	05 58.79	+27 17.5					
1987	11 21	05 53.51	+27 20.8	1.634	2.532	148.8	11.7	16.7
1987	12 01	05 45.42	+27 19.1					
1987	12 11	05 35.39	+27 10.4	1.553	2.532	172.3	3.0	16.2
1987	12 21	05 24.67	+26 54.1					
1987	12 31	05 14.71	+26 31.7	1.582	2.533	161.3	7.1	16.5
1988	01 10	05 06.76	+26 06.5					
1988	01 20	05 01.63	+25 42.0	1.715	2.535	138.2	15.0	16.9
1988	01 30	04 59.71	+25 21.1					
1988	02 09	05 00.99	+25 05.1	1.923	2.536	117.7	20.1	17.3
1988	02 19	05 05.22	+24 54.2					
1988	02 29	05 12.09	+24 47.2	2.171	2.539	100.0	22.6	17.7

4063 P-L a,e,i = 2.44, 0.17, 4 Elements MPC 8909

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 20.89	+28 15.3	1.666	2.040	96.5	29.3	19.8
1987	10 02	05 34.49	+28 47.8					
1987	10 12	05 45.72	+29 16.4	1.447	2.027	110.6	27.4	19.4
1987	10 22	05 54.02	+29 42.5					
1987	11 01	05 58.82	+30 06.7	1.254	2.018	127.5	23.0	19.0
1987	11 11	05 59.66	+30 28.4					
1987	11 21	05 56.31	+30 45.4	1.109	2.015	147.7	15.2	18.5
1987	12 01	05 49.07	+30 53.5					
1987	12 11	05 39.05	+30 48.5	1.040	2.016	169.4	5.2	18.0
1987	12 21	05 27.96	+30 28.3					
1987	12 31	05 17.87	+29 55.0	1.066	2.022	161.3	8.9	18.2
1988	01 10	05 10.53	+29 14.3					
1988	01 20	05 06.93	+28 32.5	1.183	2.033	139.4	18.4	18.7
1988	01 30	05 07.43	+27 54.5					
1988	02 09	05 11.79	+27 22.4	1.366	2.049	120.3	24.6	19.2
1988	02 19	05 19.54	+26 55.8					
1988	02 29	05 30.19	+26 33.1	1.590	2.069	104.2	27.6	19.7

4657 P-L a,e,i = 3.02, 0.09, 1 Elements MPC 9301

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 44.03	+22 33.6	2.555	2.771	91.6	21.2	18.8
1987	10 02	05 51.86	+22 34.7					
1987	10 12	05 57.56	+22 34.2	2.304	2.782	108.2	19.9	18.5
1987	10 22	06 00.85	+22 33.2					
1987	11 01	06 01.46	+22 32.3	2.080	2.794	127.2	16.4	18.2
1987	11 11	05 59.31	+22 31.8					
1987	11 21	05 54.45	+22 31.5	1.915	2.807	148.9	10.5	17.8
1987	12 01	05 47.28	+22 30.8					
1987	12 11	05 38.54	+22 28.9	1.842	2.821	172.8	2.5	17.4
1987	12 21	05 29.23	+22 25.7					
1987	12 31	05 20.47	+22 21.7	1.883	2.836	162.6	5.9	17.6
1988	01 10	05 13.27	+22 18.2					
1988	01 20	05 08.32	+22 16.5	2.032	2.852	139.4	13.0	18.1
1988	01 30	05 06.02	+22 17.9					
1988	02 09	05 06.43	+22 22.5	2.261	2.868	118.7	17.6	18.5
1988	02 19	05 09.42	+22 30.0					
1988	02 29	05 14.77	+22 39.7	2.536	2.885	100.5	19.7	18.8

1979 QE10 a,e,i = 2.39, 0.21, 3 Elements MPC 11739

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 54.57	+20 49.5	2.438	2.623	89.2	22.5	19.0
1987	10 02	06 01.94	+20 36.2					
1987	10 12	06 06.99	+20 21.1	2.207	2.661	105.9	21.1	18.8
1987	10 22	06 09.43	+20 05.2					
1987	11 01	06 08.99	+19 49.5	1.997	2.695	125.3	17.5	18.5
1987	11 11	06 05.58	+19 34.6					
1987	11 21	05 59.27	+19 20.9	1.842	2.727	147.5	11.2	18.1
1987	12 01	05 50.50	+19 08.4					
1987	12 11	05 40.10	+18 57.2	1.779	2.757	171.4	3.1	17.7
1987	12 21	05 29.16	+18 47.6					
1987	12 31	05 18.92	+18 40.6	1.834	2.784	161.5	6.4	18.0
1988	01 10	05 10.41	+18 37.3					
1988	01 20	05 04.35	+18 38.7	1.998	2.808	138.0	13.6	18.4
1988	01 30	05 01.09	+18 45.1					
1988	02 09	05 00.66	+18 56.2	2.241	2.829	117.0	18.1	18.8
1988	02 19	05 02.88	+19 11.0					
1988	02 29	05 07.50	+19 28.4	2.527	2.847	98.5	20.1	19.2

1986 JH a,e,i = 2.37, 0.26, 23 Elements MPC 11054

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	06 01.32	+31 38.0	2.128	2.316	87.7	25.7	17.5
1987	10 02	06 11.16	+33 16.6					
1987	10 12	06 18.51	+35 02.8	1.934	2.374	103.4	24.1	17.3
1987	10 22	06 22.85	+36 57.7					
1987	11 01	06 23.56	+39 00.8	1.760	2.430	121.4	20.4	17.0
1987	11 11	06 20.15	+41 08.4					
1987	11 21	06 12.30	+43 13.3	1.641	2.485	140.6	14.6	16.8
1987	12 01	06 00.22	+45 04.9					
1987	12 11	05 44.94	+46 31.7	1.610	2.537	155.2	9.4	16.6
1987	12 21	05 28.30	+47 25.4					
1987	12 31	05 12.59	+47 44.5	1.687	2.587	150.4	10.8	16.8
1988	01 10	04 59.82	+47 35.1					
1988	01 20	04 51.16	+47 06.6	1.863	2.635	133.1	15.8	17.2
1988	01 30	04 47.00	+46 28.7					
1988	02 09	04 47.09	+45 48.5	2.110	2.680	115.0	19.5	17.6
1988	02 19	04 50.92	+45 10.3					
1988	02 29	04 57.95	+44 35.8	2.395	2.722	98.4	21.1	18.0

(3508) Pasternak a,e,i = 2.76, 0.11, 7 Elements MPC 11339

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 53.92	+29 46.0	2.750	2.915	89.3	20.1	17.9
1987	10 02	06 01.32	+30 12.6					
1987	10 12	06 06.56	+30 40.1	2.497	2.934	106.1	19.1	17.7
1987	10 22	06 09.32	+31 09.0					
1987	11 01	06 09.31	+31 38.7	2.267	2.952	125.1	16.0	17.4
1987	11 11	06 06.38	+32 08.0					
1987	11 21	06 00.56	+32 34.2	2.095	2.968	146.4	10.6	17.1
1987	12 01	05 52.22	+32 54.0					
1987	12 11	05 42.13	+33 04.0	2.015	2.984	167.2	4.2	16.7
1987	12 21	05 31.33	+33 02.3					
1987	12 31	05 21.08	+32 49.2	2.051	2.998	160.9	6.1	16.9
1988	01 10	05 12.46	+32 27.4					
1988	01 20	05 06.25	+32 00.6	2.198	3.011	139.0	12.4	17.3
1988	01 30	05 02.87	+31 32.8					
1988	02 09	05 02.37	+31 06.7	2.427	3.023	118.3	16.7	17.6
1988	02 19	05 04.60	+30 43.8					
1988	02 29	05 09.30	+30 24.7	2.703	3.033	99.8	18.8	17.9

1986 TL2 a,e,i = 3.18, 0.11, 12 Elements MPC 11427

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 56.28	+28 30.0	3.416	3.540	88.8	16.5	17.2
1987	10 02	06 01.72	+29 01.3					
1987	10 12	06 05.33	+29 34.6	3.126	3.539	106.3	15.7	17.0
1987	10 22	06 06.86	+30 10.1					
1987	11 01	06 06.11	+30 47.4	2.862	3.536	125.8	13.2	16.7
1987	11 11	06 02.98	+31 25.3					
1987	11 21	05 57.52	+32 01.7	2.662	3.532	147.1	8.7	16.4
1987	12 01	05 50.02	+32 33.9					
1987	12 11	05 41.07	+32 59.2	2.560	3.528	167.4	3.5	16.1
1987	12 21	05 31.45	+33 15.6					
1987	12 31	05 22.11	+33 22.4	2.578	3.522	160.9	5.2	16.2
1988	01 10	05 13.96	+33 20.8					
1988	01 20	05 07.66	+33 13.3	2.711	3.515	139.2	10.5	16.5
1988	01 30	05 03.68	+33 02.5					
1988	02 09	05 02.18	+32 51.2	2.931	3.508	118.3	14.3	16.8
1988	02 19	05 03.12	+32 40.8					
1988	02 29	05 06.36	+32 32.4	3.199	3.499	99.3	16.2	17.0

(3655) 1978 SA3 a,e,i = 3.99, 0.21, 4 Elements MPC 12009

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 52.87	+27 26.9	3.221	3.366	89.5	17.4	17.0
1987	10 02	05 59.15	+27 38.0					
1987	10 12	06 03.52	+27 48.8	2.970	3.395	106.8	16.3	16.8
1987	10 22	06 05.76	+27 59.5					
1987	11 01	06 05.72	+28 10.2	2.746	3.426	126.1	13.5	16.6
1987	11 11	06 03.37	+28 20.0					
1987	11 21	05 58.83	+28 27.8	2.583	3.457	147.5	8.8	16.3
1987	12 01	05 52.45	+28 32.1					
1987	12 11	05 44.82	+28 31.6	2.516	3.490	169.8	2.9	16.0
1987	12 21	05 36.71	+28 25.6					
1987	12 31	05 28.95	+28 14.6	2.567	3.523	164.1	4.4	16.1
1988	01 10	05 22.34	+28 00.0					
1988	01 20	05 17.43	+27 43.6	2.733	3.558	141.7	9.9	16.5
1988	01 30	05 14.59	+27 27.4					
1988	02 09	05 13.95	+27 12.8	2.987	3.593	120.7	13.7	16.8
1988	02 19	05 15.45	+27 00.5					
1988	02 29	05 18.97	+26 50.6	3.295	3.628	101.7	15.5	17.1

(3343) Nedzel a,e,i = 2.35, 0.31, 25 Elements MPC 10301

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	06 13.58	+36 53.7	2.933	3.021	85.3	19.3	18.9
1987	10 02	06 20.89	+38 09.8					
1987	10 12	06 26.07	+39 32.5	2.674	3.041	101.9	18.7	18.7
1987	10 22	06 28.68	+41 02.4					
1987	11 01	06 28.24	+42 38.3	2.436	3.056	120.0	16.3	18.4
1987	11 11	06 24.35	+44 17.1					
1987	11 21	06 16.75	+45 53.4	2.255	3.068	138.7	12.3	18.1
1987	12 01	06 05.55	+47 19.3					
1987	12 11	05 51.45	+48 26.3	2.166	3.076	153.0	8.4	17.9
1987	12 21	05 35.76	+49 07.5					
1987	12 31	05 20.25	+49 20.4	2.189	3.079	149.9	9.2	18.0
1988	01 10	05 06.67	+49 07.8					
1988	01 20	04 56.28	+48 36.5	2.319	3.079	133.4	13.4	18.3
1988	01 30	04 49.72	+47 54.6					
1988	02 09	04 47.05	+47 09.1	2.527	3.076	114.9	16.9	18.5
1988	02 19	04 48.01	+46 24.8					
1988	02 29	04 52.19	+45 44.5	2.777	3.068	97.5	18.7	18.8

1986 QP1 a,e,i = 2.83, 0.07, 3 Elements MPC 12134

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 48.44	+23 57.1	2.445	2.652	90.6	22.2	18.0
1987	10 02	05 57.28	+24 08.0					
1987	10 12	06 04.02	+24 18.3	2.191	2.656	106.7	21.1	17.7
1987	10 22	06 08.31	+24 29.1					
1987	11 01	06 09.83	+24 41.1	1.961	2.661	125.3	17.7	17.4
1987	11 11	06 08.39	+24 54.4					
1987	11 21	06 03.98	+25 08.3	1.785	2.666	146.7	11.7	17.0
1987	12 01	05 56.87	+25 21.3					
1987	12 11	05 47.81	+25 31.2	1.697	2.673	170.4	3.5	16.6
1987	12 21	05 37.82	+25 36.7					
1987	12 31	05 28.20	+25 37.5	1.720	2.681	164.4	5.7	16.7
1988	01 10	05 20.14	+25 34.9					
1988	01 20	05 14.48	+25 30.9	1.852	2.689	141.1	13.3	17.2
1988	01 30	05 11.71	+25 27.7					
1988	02 09	05 11.94	+25 26.4	2.064	2.698	120.2	18.4	17.6
1988	02 19	05 15.02	+25 27.4					
1988	02 29	05 20.71	+25 30.2	2.323	2.708	102.0	21.0	17.9

(3522) 1941 SW a,e,i = 3.17, 0.29, 8 Elements MPC 11432

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 55.79	+17 00.8	2.507	2.684	89.0	22.0	17.4
1987	10 02	06 03.42	+16 24.4					
1987	10 12	06 08.80	+15 44.8	2.303	2.742	105.3	20.6	17.2
1987	10 22	06 11.70	+15 03.5					
1987	11 01	06 11.95	+14 22.3	2.121	2.801	124.1	17.1	17.0
1987	11 11	06 09.52	+13 43.0					
1987	11 21	06 04.56	+13 07.4	1.993	2.860	145.1	11.4	16.7
1987	12 01	05 57.48	+12 37.5					
1987	12 11	05 49.01	+12 15.0	1.956	2.920	165.4	4.9	16.4
1987	12 21	05 40.04	+12 01.2					
1987	12 31	05 31.58	+11 56.8	2.032	2.979	161.0	6.2	16.6
1988	01 10	05 24.49	+12 01.6					
1988	01 20	05 19.37	+12 14.6	2.217	3.038	140.0	12.0	17.1
1988	01 30	05 16.56	+12 34.4					
1988	02 09	05 16.13	+12 59.2	2.487	3.096	119.7	16.1	17.5
1988	02 19	05 17.98	+13 27.0					
1988	02 29	05 21.92	+13 56.0	2.805	3.154	101.4	17.9	17.9

1981 DE a,e,i = 2.39, 0.08, 5 Elements MPC 11147

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 40.81	+23 56.9	1.926	2.208	92.3	27.0	18.2
1987	10 02	05 52.53	+23 41.1					
1987	10 12	06 01.93	+23 19.5	1.693	2.204	107.2	25.6	17.9
1987	10 22	06 08.57	+22 53.3					
1987	11 01	06 12.01	+22 23.6	1.480	2.202	124.7	21.7	17.5
1987	11 11	06 11.94	+21 51.6					
1987	11 21	06 08.23	+21 17.8	1.315	2.202	145.6	14.7	17.0
1987	12 01	06 01.15	+20 42.7					
1987	12 11	05 51.54	+20 07.0	1.229	2.204	169.3	4.7	16.5
1987	12 21	05 40.73	+19 32.2					
1987	12 31	05 30.38	+19 00.8	1.245	2.208	164.2	7.0	16.6
1988	01 10	05 21.98	+18 35.6					
1988	01 20	05 16.57	+18 18.7	1.361	2.213	140.8	16.3	17.2
1988	01 30	05 14.65	+18 10.7					
1988	02 09	05 16.21	+18 10.7	1.550	2.220	120.5	22.5	17.6
1988	02 19	05 21.00	+18 16.6					
1988	02 29	05 28.65	+18 26.0	1.781	2.229	103.4	25.6	18.0

1986 RG1 a,e,i = 2.84, 0.08, 2 Elements MPC 11348

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	09 22	05 56.97	+21 28.8	2.658	2.819	88.6	20.9	17.3
1987	10 02	06 04.78	+21 20.3					
1987	10 12	06 10.54	+21 10.4	2.405	2.835	105.1	19.9	17.0
1987	10 22	06 13.97	+21 00.1					
1987	11 01	06 14.82	+20 50.2	2.174	2.850	124.0	16.8	16.7
1987	11 11	06 12.96	+20 41.6					
1987	11 21	06 08.42	+20 34.3	1.996	2.866	145.5	11.3	16.4
1987	12 01	06 01.49	+20 28.3					
1987	12 11	05 52.82	+20 23.3	1.908	2.881	169.1	3.7	16.0
1987	12 21	05 43.33	+20 19.0					
1987	12 31	05 34.09	+20 15.8	1.934	2.896	165.4	4.9	16.1
1988	01 10	05 26.13	+20 14.3					
1988	01 20	05 20.22	+20 15.4	2.072	2.910	142.0	12.0	16.5
1988	01 30	05 16.83	+20 19.8					
1988	02 09	05 16.09	+20 27.4	2.295	2.925	120.8	16.8	16.9
1988	02 19	05 17.94	+20 37.9					
1988	02 29	05 22.19	+20 50.2	2.567	2.938	102.1	19.2	17.2