The MINOR PLANET CIRCULARS/MINOR PLANETS AND COMETS are published, on behalf of Commission 20 of the International Astronomical Union, usually in batches on the date of each full moon, by:

Minor Planet Center
Smithsonian Astrophysical Observatory
Cambridge, MA 02138, U.S.A.

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

EDITORIAL NOTICE.

The Minor Planet Center announces that a third edition of the tape of observations is now available. The new edition, which is intended to be complete through the 1984 Apr. 15 MPCs, contains a total of 322 203 observations: 236 220 of numbered minor planets, 69 416 of unnumbered minor planets and 16 567 of comets. As will be apparent from some of the recent MPCs, (particularly the April batch), an effort is underway to correct some of the more egregious errors in the observations of numbered minor planets. This effort, while still incomplete, has so far involved minor planets from (1301) onward. The resulting corrections and redesignations noted on the MPCs have been made on the tape, although the observations associated with the erroneous identifications listed on MPC 8592 appear with both the numbered and the unnumbered planets. The tape is basically available as 9-track, ASCII, unlabeled, 1600 bpi, 80-byte record size, 8000-byte (i.e., 100 observations) block size. The cost is $300.00, but customers who purchased one or both of the earlier editions of the tape can receive the new edition for only $100.00. Enquiries concerning the availability of the tape should be made to the Minor Planet Center at the address given above.

The next MPCs will be published on or about July 13. No MPCs will be issued in June.

* * * * *

CRITICAL LIST OF MINOR PLANETS.

The following list updates and is in the same form as that on MPC 8183:

1. Objects observed at only one opposition:
473 719 724 878 1026 1179

2. Objects observed at only two oppositions:
1538 1981 2059 2061 2063 2101 2135 2202 2608

3. Objects accurately observed at only three oppositions:
1009 1316 1916 1921 2062 2076 2100 2130 2143 2146 2148 2183
2198 2210 2212 2218 2223 2229 2257 2260 2272 2278 2285 2303
2327 2340 2368 2373 2420 2435 2444 2449 2462 2482 2495 2503
2537 2539 2551 2552 2593 2596 2619 2629 2643 2645 2663 2669
2671 2695 2703 2706 2710 2733 2745 2765 2791 2799 2800 2860
2868 2876 2895 2899 2904 2914 2915 2917 2920 2926 2930 2935
2937 2938 2940 2948 2959 2964 2966 2968 2974 2977 2986 2994
2999 3004 3005 3008 3010 3012 3013 3014 3017 3018 3022 3025

4. Objects observed at four or more oppositions, last during 1971-1973:
914 926 1006 1134 1226 1431 1543 1759 1836

5. Objects observed at four or more oppositions, last during 1974:
896 1373 1476 1612 1657 1750 1787 1818 1871 1872 1873 1876 1883

* * * * *

ERRATA.

MPC	Line	
8623	20	Add The 1984 observations were made on films exposed by S. J. Bus and E. H. Bus.
8684	- 6	Add The double designation 1951 ER = 1951 GO (NAZ 13, 3) is invalid.

* * * * *

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N Obs.
1666	1969 09	11.03878	00 38 19.73	+10 23 17.7	MPC 3456		020
1666	1969 09	11.04986	00 38 19.14	+10 23 18.0	MPC 3456		020
1770	1930 12	20.26042	05 26 10.16	+31 25 32.3	MPC 6687		1 690
1770	1930 12	24.18750	05 21 48.65	+31 24 04.3	MPC 6687		1 690
1770	1930 12	25.19896	05 20 32.89	+31 23 23.0	MPC 6687		1 690
1955 YJ *	1955 12	19.712	04 41.2	+19 24	MPC 8585	13.8	2 210
1958 XZ *	1958 12	03.86369	03 50 11.39	+17 15 51.6	MPC 8585	15.3	3 024
1965 QD *	1965 08	26.97187	23 25 47.47	-08 08 51.0	MPC 4356		4 095
1967 NC	1967 07	08.92596	18 22 25.09	-23 30 51.9	MPC 8588		5 020
1984 EL	1984 03	06.28958	11 08 37.42	+14 49 35.9	MPC 8640		688

Note 1: object originally given as (1446); see MPC 7517. 2: time originally given as 1955 12 19.719. 3: time originally given as 1958 12 03.86389. 4: object originally given as (802) on MPC 2834. 5: time originally given as 1967 07 08.82596.

* * * * *

DELETED OBSERVATIONS.

The following observations are to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	N Obs.
1362	1979 02	28.29340	11 33 23.78	+26 35 30.0	MPC 4730	688
1612	1968 08	16.89065	19 54 50.45	-27 28 33.1	MPC 3455	020
1612	1968 08	16.90450	19 54 48.63	-27 28 33.2	MPC 3455	020
1624	1966 12	17.04588	07 05 48.46	+20 54 40.9	MPC 3352	020
1624	1966 12	17.06043	07 05 47.21	+20 54 49.7	MPC 3352	020
1648	1966 12	15.03	06 21.7	+18 41	MPC 2704	020
1671	1967 08	15.03147	22 09 28.75	-07 50 18.4	MPC 3353	020
1671	1967 08	15.05294	22 09 28.91	-07 50 11.9	MPC 3353	020
1682	1968 02	27.93875	10 39 59.86	+06 52 54.9	MPC 3456	020
1682	1968 02	27.95329	10 39 58.50	+06 52 52.9	MPC 3456	020
1682	1968 02	29.95702	10 37 50.29	+06 58 14.2	MPC 3456	020
1682	1968 02	29.97157	10 37 49.25	+06 58 30.8	MPC 3456	020
1704	1968 08	16.99523	21 50 41.30	-11 23 44.6	MPC 3456	020
1704	1968 08	17.00285	21 50 40.72	-11 23 56.5	MPC 3456	020

1704			1968	08	19.09247	21	48	36.80	-11	37	05.4	MPC 3456 020
1704			1968	08	19.09662	21	48	35.84	-11	37	08.7	MPC 3456 020
1710			1968	03	27.92596	11	08	06.76	+06	25	59.8	MPC 3457 020
1710			1968	03	27.94466	11	08	05.26	+06	26	07.0	MPC 3457 020
1715			1967	02	01.83657	06	24	46.41	+38	45	52.6	MPC 3353 020
1715			1967	02	01.85458	06	24	43.12	+38	45	47.9	MPC 3353 020
1726			1968	01	18.75993	06	32	00.18	+19	04	56.5	MPC 3457 020
1726			1968	01	18.77378	06	31	58.55	+19	05	12.4	MPC 3457 020
1726			1968	01	23.77304	06	28	12.17	+19	07	38.3	MPC 3457 020
1726			1968	01	23.79451	06	28	11.23	+19	07	41.5	MPC 3457 020
1726			1968	01	25.75740	06	26	54.95	+19	05	31.4	MPC 3457 020
1726			1968	01	25.77887	06	26	54.05	+19	05	38.9	MPC 3457 020
1744			1969	05	12.89536	13	33	05.73	-11	29	27.1	MPC 3457 020
1744			1969	05	12.91336	13	32	57.83	-11	28	55.9	MPC 3457 020
1744			1969	05	12.91752	13	33	04.74	-11	29	30.6	MPC 3457 020
1744			1969	05	12.92859	13	32	57.18	-11	28	54.7	MPC 3457 020
1929	UO	*	1929	10	27.30903	02	49.3		+19	22		MPC 4805 690
1950	HF1	*	1950	04	21.88507	14	03.2		-07	57		MPC 783 1 094
1958	HM	*	1958	04	10.20486	11	58	37	+03	48.9		MPC 8585 2 690

Note 1: observation identical with that of 1950 HD1 = (1575). 2: redesignation from (1378); the date should have been given as 1958 04 18.20486.

* * * * *

IDENTIFICATION CHANGES.

Continuation to MPC 8582-8591.

Object			Date		UT	R. A. (1950)			Decl.			Old desig.		Mag.	N	Obs.
A914	VF	*	1914	11	09.86571	03	16.4		+26	15		A914	TD	13.5		024
1925	TF	*	1925	10	10.85875	00	00	19.17	-02	24	53.2	1925	SB			024
1936	FZ1	*	1936	03	21.0095	10	56	30.70	+06	31	26.2	1335				062
1936	GC	*	1936	04	09.89967	11	48	20.73	+04	27	00.6	1936	FE			012
1937	AA1	*	1937	01	06.80	07	27.6		+31	31		652				062
1938	DQ2	*	1938	02	19.89	10	29.7		+12	52		1029				062
1938	DR2	*	1938	02	19.89	10	31.3		+12	42		767				062
1938	TE	*	1938	10	01.90183	21	50	05.54	-13	04	02.1	1486				012
1938	TE		1938	10	14.79293	21	53	53.81	-12	43	58.8	1486				012
1954	AR	*	1954	01	11.94	06	44.2		+30	03		1396			1	210
1954	OL	*	1954	07	25.12260	17	55	13.97	-20	45	30.8	1635			2	760
1954	OL		1954	07	25.16079	17	55	12.97	-20	45	33.1	1635			2	760
1955	SZ2	*	1955	09	20.90207	22	46	22.43	-11	02	56.6	1955	QW1			012
1958	HN	*	1958	04	22.21667	11	55	37	+04	00.1		1958	HM		3	690
1961	CK	*	1961	02	12.90331	08	26	31.95	+18	13	24.2	1615				020
1967	AE	*	1967	01	03.87379	05	59	01.08	+19	10	08.9	1648				020
1967	AE		1967	01	03.89526	05	58	59.76	+19	10	19.1	1648				020
1967	AE		1967	01	04.90367	05	58	10.24	+19	10	40.1	1648				020
1967	AE		1967	01	04.92514	05	58	08.39	+19	10	34.3	1648				020
1967	CL	*	1967	02	07.93499	09	18	38.82	+09	43	26.0	1611				020
1967	CL		1967	02	07.94884	09	18	38.28	+09	43	40.2	1611				020
1967	CL		1967	02	18.92429	09	10	14.07	+10	21	06.5	1611				020
1967	CL		1967	02	18.93885	09	10	13.38	+10	21	18.6	1611				020
1968	AF	*	1968	01	02.98420	07	36	27.98	+15	56	55.5	1668				020
1968	AF		1968	01	02.99736	07	36	26.78	+15	57	02.9	1668				020
1968	BN	*	1968	01	27.97358	07	32	04.09	+23	16	02.1	1373				020
1968	BN		1968	01	27.99505	07	32	03.43	+23	16	08.1	1373				020
1968	BO	*	1968	01	29.89776	08	36	21.39	+25	48	46.2	1658				020
1968	BO		1968	01	29.91508	08	36	19.99	+25	48	40.0	1658				020
1968	FX	*	1968	03	23.87736	11	11	14.93	+06	18	21.8	1710				020

1968 FX		1968 03 23.89190	11 11 13.96	+06 18 27.4	1710			020
1968 FX		1968 03 25.92572	11 09 50.96	+06 21 32.6	1710			020
1968 FX		1968 03 25.94442	11 09 50.12	+06 21 42.4	1710			020
1968 QD2	*	1968 08 26.04753	23 22 24.14	-08 43 56.8	1618			020
1968 QD2		1968 08 26.05861	23 22 23.13	-08 44 00.5	1618			020
1968 QD2		1968 08 31.03704	23 19 02.83	-09 11 53.2	1618			020
1968 QD2		1968 08 31.05366	23 19 02.19	-09 11 52.5	1618			020
1968 SK	*	1968 09 16.92852	23 05 57.53	-10 43 01.8	1618			020
1968 SK		1968 09 16.94861	23 05 56.45	-10 43 01.5	1618			020
1968 US3	*	1968 10 17.95259	01 46 38.35	+07 51 09.0	1743			020
1968 US3		1968 10 17.97406	01 46 37.48	+07 51 06.4	1743			020
1968 US3		1968 10 22.90565	01 42 57.56	+07 23 44.3	1743			020
1968 US3		1968 10 22.91465	01 42 56.80	+07 23 48.5	1743			020
1968 UT3	*	1968 10 23.01369	02 28 22.86	+14 32 47.6	1638			020
1968 UT3		1968 10 23.02477	02 28 22.53	+14 32 51.1	1638			020
1968 WH	*	1968 11 19.84525	01 52 33.49	+12 03 38.2	1669			020
1968 WH		1968 11 19.85840	01 52 32.70	+12 03 47.3	1669			020
1968 WJ	*	1968 11 26.99977	03 00 40.41	+07 47 01.1	1606			020
1968 WJ		1968 11 27.02193	03 00 39.08	+07 47 08.5	1606			020
1969 DK	*	1969 02 18.00814	10 48 47.33	+04 59 28.5	1671			020
1969 DK		1969 02 18.02268	10 48 46.72	+04 59 35.4	1671			020
1969 DL	*	1969 02 18.00814	11 00 41.65	+07 14 56.5	1732			020
1969 DL		1969 02 18.02268	11 00 40.87	+07 14 57.9	1732			020
1969 JU	*	1969 05 13.06530	14 42 06.64	-10 12 42.3	1663			020
1969 JU		1969 05 13.07430	14 42 06.41	-10 12 41.4	1663			020
1969 MK	*	1969 06 20.01086	18 53 49.79	-17 03 45.2	1352			020
1969 MK		1969 06 20.02402	18 53 49.08	-17 03 44.5	1352			020
1969 ML	*	1969 06 20.01086	18 59 09.35	-21 08 57.0	1624			020
1969 ML		1969 06 20.02402	18 59 08.43	-21 09 02.8	1624			020
1969 MM	*	1969 06 20.01086	19 06 59.05	-18 08 08.6	1611			020
1969 MM		1969 06 20.02402	19 06 58.23	-18 08 08.7	1611			020
1969 VJ3	*	1969 11 15.85267	02 31 25.39	+07 46 37.3	1969	TT6	16.5	095
1969 XK	*	1969 12 09.05305	06 22 55.61	+29 25 27.6	1714			020
1969 XK		1969 12 09.06413	06 22 55.23	+29 25 27.7	1714			020
1973 CJ	*	1973 02 06.05739	09 20 41.92	+15 48 48.5	1624			020
1973 CJ		1973 02 06.07159	09 20 41.48	+15 48 53.3	1624			020
1977 GE1	*	1977 04 10.53416	09 37 00.57	+13 12 01.2	1394		17.5	381
1977 GE1		1977 04 10.55839	09 37 00.52	+13 12 02.3	1394		17.5	381
1978 CS	*	1978 02 03.00762	00 24 36.68	+04 11 20.1	2267			801
1978 JJ3	*	1978 05 05.87200	13 40 20.92	-07 32 19.8	1445		16.9	095
1979 EL	*	1979 03 04.35035	11 30 19.69	+27 05 04.6	1362		17.0	688
1981 LN	*	1981 06 04.26806	15 22 50.10	-16 39 26.6	1450			688
1981 LN		1981 06 04.31049	15 22 48.10	-16 39 21.7	1450			688
1982 GK	*	1982 04 01.70764	11 46 41.50	+10 20 19.9	2132		17	372
1982 GK		1982 04 01.71458	11 46 41.05	+10 20 19.8	2132			372
1982 HK3	*	1982 04 27.96354	12 27 56.73	+11 45 20.6	1361		16.5	033
1982 HK3		1982 04 27.98958	12 27 56.15	+11 45 35.7	1361			033
1982 VH11	*	1982 11 15.24792	02 10 46.17	+14 08 29.2	1982	TS	17.2	688

Note 1: this object is not (1393). 2: very similar positions were also given on MPC 1201. 3: the designation 1958 HM has been eliminated (see MPC 8693).

* * * * *

IDENTIFICATIONS WITH COMETS.

On Nakano Note Nos. 445-448 and 453 S. Nakano identified with known short-period comets several objects that have been given provisional minor-planet designations:

1940 RP = P/Whipple
1950 CR = P/Oterma
1954 PC = P/Faye
1960 VL = P/Comas Sola
1967 EU = P/Smirnova-Chernykh
1971 UN2 = P/Shajn-Schaldach
1973 AM3 = P/Reinmuth 1
1975 GM1 = P/Schwassmann-Wachmann 2
1976 UR3 = P/Schwassmann-Wachmann 1
1981 RF1 = P/Gehrels 2

* * * * *

IDENTIFICATIONS.

The following list of identifications with numbered minor planets continues that on MPC 8591.

	Note		Note		Note
1937 AA1 = (455)	1	1938 DQ2 = (767)	2	1938 DR2 = (1029)	2
1958 HN = (578)	3	1964 JA = (3005)	2	1981 LN = (2415)	4
1984 BA = (1365)	5				

Note 1: identification by L. Oterma. 2: by B. G. Marsden. 3: by C. M. Bardwell. 4: by E. Bowell. 5: by O. Kippes.

* * * * *

ERRONEOUS IDENTIFICATIONS.

The following identifications with numbered planets are incorrect.

	Note		Note
1931 DU = (1112)	1	1935 GN = (2282)	2

Note 1: reference MPC 6484. 2: reference MPC 6349.

* * * * *

OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

022 Pino Torinese. Observers W. Ferreri amd G. Massone. Reduced by G. De Sanctis. Communicated by V. Zappala.
046 Klet. Observers A. Mrkos and Z. Vavrova.
069 Baldone. Observer Alksnis.
071 Bulgarian National Observatory. Communicated by V. Shkodrov.
095 Crimean Astrophysical Observatory. Observer N. S. Chernykh (with assistance from L. I. Chernykh and V. P. Taraschuk).
102 Zvenigorod. Revised Long. and Parallax 36.59, -241, -351 (see MPC 7759).
115 Zelenchukskaya. Observers Risvanov and Tselischev.
119 Abastumani. Observer G. Majsuradze.
123 Byurakan. Observer Akhverdyan.
186 Kitab. Observer Rakhmatov.
190 Gissar. Observer S. I. Gerasimenko.
191 Dushanbe.
330 Purple Mountain Observatory. Observers J.-x. Yang, Y.-L. Ge, Q. Wang, T.-w. Liu and D.-c. Wang. Communicated by J.-x. Zhang.
491 Yebes. Observers M. de Pascual, J. Garcia, C. Cabanas and F. Sanchez.
657 Victoria. Observers D. Balam and J. B. Tatum.
675 Palomar. 1.2-m Schmidt. Observer J. Gibson. The observations of

P/Smirnova-Chernykh were made by E. M. Shoemaker and C. S. Shoemaker (assisted by D. W. E. Green) with the 0.46-m Schmidt.

688 Lowell Observatory, Anderson Mesa Station. Observer B. A. Skiff. Measured by E. L. G. Bowell.

695 Kitt Peak. Observers S. Djorgovski, H. Spinrad, G. Will, M. J. S. Belton and P. A. Wehinger.

707 Chamberlin Observatory, field station. 0.40-m f/5.5 reflector. Observer E. Everhart.

801 Oak Ridge Observatory. 1.5-m reflector. Observers R. E. McCrosky, G. Schwartz and C.-Y. Shao (assisted by C. M. Bardwell, D. W. E. Green and B. G. Marsden). The Apr. 28 observation of P/Hartley-IRAS was made by D. W. E. Green with the 0.4-m astrograph.

809 European Southern Observatory. 1.5-m Danish reflector. Observers R. M. West and H. Pedersen.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Periodic Comet Smirnova-Chernykh					
/1975 VII	1984	03 20.85877	11 35 57.56	+12 32 53.2	14.5T		046
/1975 VII	1984	03 20.87122	11 35 57.11	+12 32 55.1			046
/1975 VII	1984	03 21.85623	11 35 20.38	+12 36 06.3			046
/1975 VII	1984	03 21.87035	11 35 19.75	+12 36 10.3			046
/1975 VII	1984	03 22.85820	11 34 43.10	+12 39 16.3			046
/1975 VII	1984	03 22.87232	11 34 42.65	+12 39 18.5			046
/1975 VII	1984	03 24.84037	11 33 30.62	+12 45 12.6			046
/1975 VII	1984	03 24.85455	11 33 30.11	+12 45 13.6			046
/1975 VII	1984	03 28.18939	11 31 31.45	+12 54 20.0			801
/1975 VII	1984	03 28.26736	11 31 28.82	+12 54 29.6			675
/1975 VII	1984	03 30.23819	11 30 21.05	+12 59 13.2			675
/1975 VII	1984	04 03.16418	11 28 13.00	+13 07 13.9			801
/1975 VII	1984	04 03.23194	11 28 10.74	+13 07 17.4	15.0T		688
/1975 VII	1984	04 03.32083	11 28 07.86	+13 07 27.0			688
/1975 VII	1984	04 08.32986	11 25 40.15	+13 14 43.2	15.5T		688
/1975 VII	1984	04 08.36736	11 25 39.06	+13 14 46.0			688
		Comet Bowell (1982 I)					
/1982 I	1983	07 06.10646	22 22 55.51	-11 10 16.0		1	491
/1982 I	1983	07 07.02650	22 22 46.56	-11 11 21.7		2	491
		Periodic Comet Tempel 2					
/1982d	1983	09 08.09446	03 13 37.05	-03 40 18.0			491
/1982d	1983	09 09.05549	03 13 58.33	-03 48 13.6			491
/1982d	1983	09 14.02198	03 15 07.82	-04 30 01.7		3	491
/1982d	1983	10 05.15094	03 07 54.47	-07 24 46.4			491
/1982d	1983	10 06.14406	03 07 08.12	-07 31 52.2			491
		Periodic Comet Tempel 1					
/1982j	1983	06 06.88714	12 42 45.13	+03 39 22.5			491
/1982j	1983	06 07.95990	12 43 47.94	+03 15 24.8			491
/1982j	1983	06 10.91228	12 46 55.22	+02 08 33.3			491
/1982j	1983	07 05.89488	13 25 14.54	-07 50 22.1			491
/1982j	1983	07 06.89804	13 27 10.72	-08 14 45.1			491
/1982j	1983	08 02.87625	14 28 39.27	-18 37 33.0			491
		Periodic Comet Kopff					
/1982k	1983	06 06.98445	15 25 56.87	-09 23 28.8			491
/1982k	1983	06 08.03712	15 25 30.42	-09 26 25.7			491
/1982k	1983	06 10.94310	15 24 27.66	-09 36 08.1			491
/1982k	1983	07 06.93059	15 28 45.59	-12 35 44.1			491

/1982k	1983	07	08.92790	15	30	15.25	-12	55	14.2	491
/1982k	1983	08	02.90188	16	02	57.42	-17	31	50.8	491
/1982k	1983	08	03.90920	16	04	46.21	-17	43	22.1	491
			Comet IRAS-Araki-Alcock (1983d)							
/1983d	1983	05	09.94887	15	28	35.19	+73	33	18.0	491
			Comet Sugano-Saigusa-Fujikawa (1983e)							
/1983e	1983	06	07.10980	23	33	58.81	+37	44	24.0	3 491
/1983e	1983	06	08.08939	23	16	07.20	+36	21	54.9	1 491
			Periodic Comet IRAS							
/1983j	1983	09	13.92710	00	55	52.25	+21	36	55.6	491
/1983j	1983	09	13.98978	00	55	42.18	+21	39	51.8	491
/1983j	1983	10	04.99997	23	50	26.33	+35	06	36.9	491
/1983j	1983	10	06.01975	23	47	10.91	+35	33	27.6	491
/1983j	1983	10	27.85303	22	52	37.14	+40	59	30.3	022
/1983j	1983	10	27.86412	22	52	35.80	+40	59	34.7	022
			Comet IRAS (1983k)							
/1983k	1984	04	02.22220	11	32	02.04	-08	33	45.2	801
			Comet Cernis (1983l)							
/1983l	1983	09	13.96104	02	01	16.06	-06	34	30.3	491
/1983l	1983	09	14.04449	02	01	08.12	-06	36	47.3	491
/1983l	1983	10	05.09190	01	22	14.21	-16	18	31.1	491
/1983l	1983	10	06.09870	01	20	10.66	-16	44	54.4	491
			Periodic Comet Crommelin							
/1983n	1984	02	01.72265	23	28	19.25	+04	19	33.5	095
/1983n	1984	02	02.66264	23	32	34.70	+04	12	11.0	115
/1983n	1984	02	02.69066	23	32	42.38	+04	12	00.6	095
/1983n	1984	02	02.72604	23	32	51.63	+04	11	42.4	095
/1983n	1984	02	03.65943	23	37	08.58	+04	03	51.8	115
/1983n	1984	02	03.69824	23	37	19.13	+04	03	30.9	095
/1983n	1984	02	04.61700	23	41	34.81	+03	55	22.0	186
/1983n	1984	02	04.65460	23	41	45.62	+03	54	57.2	115
/1983n	1984	02	05.69878	23	46	39.72	+03	45	04.4	115
/1983n	1984	02	07.46777	23	55	06.74	+03	26	55.9	330
/1983n	1984	02	07.48548	23	55	11.89	+03	26	40.2	330
/1983n	1984	02	07.63038	23	55	53.80	+03	25	09.3	186
/1983n	1984	02	08.46986	23	59	57.98	+03	15	38.7	330
/1983n	1984	02	09.78744	00	06	27.50	+02	59	57.7	022
/1983n	1984	02	09.79160	00	06	28.48	+02	59	50.7	022
/1983n	1984	02	11.68131	00	15	56.51	+02	35	12.5	115
/1983n	1984	02	11.69433	00	16	00.59	+02	34	59.2	115
/1983n	1984	02	11.70711	00	16	04.48	+02	34	48.6	069
/1983n	1984	02	11.71406	00	16	06.66	+02	34	42.3	069
/1983n	1984	02	14.70924	00	31	29.70	+01	50	18.6	069
/1983n	1984	02	14.71370	00	31	31.19	+01	50	13.2	069
/1983n	1984	02	14.71909	00	31	33.03	+01	50	10.6	069
/1983n	1984	02	15.70816	00	36	43.71	+01	33	57.7	069
/1983n	1984	02	15.71319	00	36	44.82	+01	33	56.9	069
/1983n	1984	02	16.71615	00	42	03.50	+01	16	48.5	069
/1983n	1984	02	17.70303	00	47	19.30	+00	59	14.0	069
/1983n	1984	02	17.70809	00	47	21.34	+00	59	08.3	069
/1983n	1984	02	17.71201	00	47	22.27	+00	59	03.7	069
/1983n	1984	02	20.60541	01	03	04.25	+00	03	25.6	186
/1983n	1984	02	21.68819	01	09	02.3	-00	19	10	102

/1983n	1984	02	21.74567	01	09	21.40	-00	20	21.9	8.0T	046
/1983n	1984	02	21.74804	01	09	22.19	-00	20	25.0		046
/1983n	1984	02	23.60049	01	19	42.43	-01	00	46.5		191
/1983n	1984	02	23.69055	01	20	12.92	-01	02	45.8		123
/1983n	1984	02	23.69306	01	20	14.0	-01	02	54		102
/1983n	1984	02	23.71518	01	20	21.54	-01	03	22.7		069
/1983n	1984	02	23.72410	01	20	24.23	-01	03	36.6		069
/1983n	1984	02	24.67130	01	25	45.11	-01	25	11.2		123
/1983n	1984	02	24.68229	01	25	48.4	-01	25	22		102
/1983n	1984	02	24.68973	01	25	51.30	-01	25	37.2		115
/1983n	1984	02	24.69517	01	25	52.92	-01	25	43.1		123
/1983n	1984	02	24.69619	01	25	53.6	-01	25	49		102
/1983n	1984	02	24.70037	01	25	54.80	-01	25	51.2		115
/1983n	1984	02	24.72327	01	26	02.62	-01	26	22.2		123
/1983n	1984	02	25.70143	01	31	36.75	-01	49	24.1		095
/1983n	1984	02	25.71188	01	31	40.17	-01	49	38.7		095
/1983n	1984	02	26.71016	01	37	23.44	-02	13	42.5		095
/1983n	1984	02	26.71701	01	37	25.88	-02	13	52.3		095
/1983n	1984	02	27.67738	01	42	58.38	-02	37	33.6		115
/1983n	1984	02	27.69271	01	43	03.4	-02	38	03		102
/1983n	1984	02	27.70183	01	43	07.03	-02	38	09.4		102
/1983n	1984	02	27.70240	01	43	06.84	-02	38	11.8		115
/1983n	1984	02	27.71701	01	43	12.31	-02	38	36.0		069
/1983n	1984	02	28.68438	01	48	49.67	-03	03	01.4		115
/1983n	1984	02	28.69976	01	48	54.78	-03	03	21.1		115
/1983n	1984	02	29.47038	01	53	25.00	-03	23	08.1		330
/1983n	1984	02	29.48358	01	53	29.90	-03	23	25.1		330
/1983n	1984	03	02.46343	02	05	10.42	-04	15	34.3		330
/1983n	1984	03	02.47384	02	05	14.28	-04	15	50.1		330
/1983n	1984	03	02.48669	02	05	19.01	-04	16	14.4		330
/1983n	1984	03	02.69308	02	06	32.54	-04	21	42.6		115
/1983n	1984	03	04.46689	02	17	09.53	-05	09	51.1		330
/1983n	1984	03	04.80484	02	19	11.14	-05	19	06.3		022
/1983n	1984	03	04.80899	02	19	12.89	-05	19	18.3		022
/1983n	1984	03	05.61364	02	24	05.23	-05	41	28.8		190
/1983n	1984	03	05.79034	02	25	09.25	-05	46	23.5		022
/1983n	1984	03	05.79519	02	25	11.41	-05	46	32.2		022
/1983n	1984	03	06.68545	02	30	36.26	-06	11	19.5		115
/1983n	1984	03	11.60807	03	01	05.23	-08	29	55.3		190
/1983n	1984	03	11.61826	03	01	08.83	-08	30	11.9		190
/1983n	1984	03	11.78472	03	02	11.55	-08	34	53.9		022
/1983n	1984	03	11.79063	03	02	13.98	-08	35	00.5		022
/1983n	1984	03	20.62800	03	58	55.31	-12	33	24.1		190
/1983n	1984	03	23.11806	04	15	11.30	-13	34	03.1		688
/1983n	1984	03	23.12014	04	15	11.98	-13	34	06.1		688
/1983n	1984	03	23.12222	04	15	12.90	-13	34	10.6		688
/1983n	1984	03	23.12431	04	15	13.89	-13	34	13.4		688
/1983n	1984	03	25.76403	04	32	31.00	-14	33	48.7		071
/1983n	1984	03	28.00521	04	47	13.91	-15	20	29.6		801
/1983n	1984	03	28.70380	04	51	48.20	-15	34	12.4		115
/1983n	1984	03	28.75590	04	52	08.27	-15	35	09.2		071
/1983n	1984	03	29.71088	04	58	22.96	-15	53	16.0		119
/1983n	1984	03	29.73586	04	58	32.30	-15	53	48.8		095
/1983n	1984	03	29.73956	04	58	33.78	-15	53	52.3		095
/1983n	1984	03	30.72816	05	05	00.79	-16	11	42.7		115
/1983n	1984	03	30.73785	05	05	04.42	-16	11	51.3		095
/1983n	1984	03	30.74132	05	05	05.61	-16	11	54.7		095
/1983n	1984	04	08.15592	05	58	43.74	-18	09	43.1		675
/1983n	1984	04	21.16670	07	13	49.54	-19	25	14.2	4	675

Comet IRAS (1983o)

/1983o	1984	03	21.95333	13	43	21.87	+13	41	56.9	14.5T	046
/1983o	1984	03	21.96074	13	43	21.28	+13	42	12.9		046
/1983o	1984	03	23.01925	13	40	49.45	+14	29	07.0		046
/1983o	1984	03	23.02654	13	40	48.57	+14	29	19.5		046
/1983o	1984	04	02.35103	13	15	04.73	+21	37	32.3	5	657
/1983o	1984	04	04.29306	13	10	07.75	+22	50	07.3	6	688
/1983o	1984	04	04.31875	13	10	03.86	+22	51	07.6	6	688
/1983o	1984	04	05.99152	13	05	48.60	+23	51	07.0		046
/1983o	1984	04	05.99869	13	05	47.03	+23	51	30.0		046
/1983o	1984	04	26.26282	12	18	50.38	+32	40	21.3		657

Comet Shoemaker (1983p)

/1983p	1983	10	05.06957	22	57	01.13	+08	36	50.1		491
/1983p	1983	10	06.07481	22	55	10.94	+08	08	58.2		491
/1983p	1983	10	12.83581	22	43	33.60	+05	04	54.6		022
/1983p	1983	10	12.85243	22	43	31.91	+05	04	27.2		022
/1983p	1983	10	27.82568	22	22	51.16	-01	03	25.1		022
/1983p	1983	10	27.84300	22	22	50.01	-01	03	50.3		022

Periodic Comet Harrington-Abell

/1983r	1984	04	02.14225	10	16	55.26	+06	02	38.0	7	801

Periodic Comet Wild 2

/1983s	1984	02	26.74722	04	06	54.84	+18	16	51.6		095
/1983s	1984	02	26.76111	04	06	55.45	+18	16	52.7		095
/1983s	1984	03	05.75421	04	15	19.47	+18	52	17.5		095
/1983s	1984	03	05.76042	04	15	19.82	+18	52	16.9		095
/1983s	1984	03	21.77428	04	36	44.63	+20	05	39.4		095
/1983s	1984	03	21.78123	04	36	45.16	+20	05	41.6		095
/1983s	1984	03	04.21701	04	13	35.08	+18	45	13.8	8	657
/1983s	1984	04	02.02492	04	55	06.72	+20	54	42.8		801

Periodic Comet Taylor

/1983u	1984	03	27.06237	07	22	20.39	+34	44	59.7		801

Periodic Comet Hartley-IRAS

/1983v	1984	03	28.40227	20	23	26.84	+60	20	20.9	9	801
/1983v	1984	04	02.49845	20	10	00.13	+64	41	15.0		657
/1983v	1984	04	08.47363	19	44	10.15	+69	45	51.2		675
/1983v	1984	04	13.48941	19	07	40.96	+73	44	08.8		657
/1983v	1984	04	20.46010	17	36	38.39	+77	54	11.4		675
/1983v	1984	04	21.41461	17	19	39.32	+78	15	04.6		675
/1983v	1984	04	25.45414	15	59	59.11	+78	51	43.4		657
/1983v	1984	04	26.37355	15	41	29.54	+78	47	35.4		657
/1983v	1984	04	27.31076	15	23	01.84	+78	38	42.6		657
/1983v	1984	04	28.22462	15	05	44.32	+78	25	41.7	11.6T	801

Periodic Comet Russell 4

/1984d	1984	03	22.99437	13	25	25.61	+01	30	14.9	13.2T	046
/1984d	1984	03	23.00577	13	25	25.17	+01	30	19.3		046
/1984d	1984	03	27.28536	13	22	41.70	+01	42	23.0		801
/1984d	1984	03	29.33090	13	21	17.63	+01	47	50.5		657
/1984d	1984	03	31.35625	13	19	51.76	+01	52	57.5		657
/1984d	1984	04	02.33769	13	18	26.06	+01	57	43.3		657
/1984d	1984	04	04.15515	13	17	06.35	+02	01	49.7	A	801
/1984d	1984	04	05.20694	13	16	18.91	+02	03	51.2		707
/1984d	1984	04	05.96096	13	15	44.89	+02	05	15.5		046
/1984d	1984	04	05.97520	13	15	44.16	+02	05	18.9		046

/1984d	1984	04	08.32849	13	13	58.71	+02	09	30.9		675
/1984d	1984	04	19.21209	13	06	11.47	+02	18	29.7		657
/1984d	1984	04	21.33961	13	04	48.14	+02	18	09.5		675

Periodic Comet Giacobini-Zinner

/1984e	1984	01	28.33334	14	51	10.91	-06	23	27.0	25 N	809
/1984e	1984	03	29.29604	14	49	19.50	-01	34	22.7	24 N	695
/1984e	1984	04	03.40762	14	46	44.26	-00	58	26.6	24 N	695
/1984e	1984	04	03.41218	14	46	44.13	-00	58	25.4		695
/1984e	1984	04	03.41566	14	46	43.99	-00	58	23.6		695
/1984e	1984	04	03.41913	14	46	43.89	-00	58	22.3		695

Note 1: uncertain; image diffuse and difficult to measure. 2: inkdot measured. 3: very uncertain; image very diffuse and difficult to measure. 4: image trailed; star trails curved. 5: tail 1′.2 long in p.a. 163 . 6: position uncertain. 7: weak image. 8: replaces 1984 03 04.17535 position on MPC 8596. 9: position doubtful. A: only three reference stars.

* * * * *

OBSERVATIONS MADE AT PINO TORINESE BY W. FERRERI.
Reductions by G. De Sanctis. Contact: V. Zappala, Osservatorio Astronomico di Torino, I-10025 Pino Torinese, Italy.

Object	Date	UT	R. A. (1950)	Decl.	O - C	Obs.
1	1982 05	02.96616	15 23 02.44	-09 05 45.4	0.0 0	022
1	1982 05	02.97031	15 23 02.22	-09 05 44.7	0.0 0	022
2	1982 03	15.99438	13 25 54.99	+08 45 06.1	0.0 0	022
2	1982 03	31.94722	13 15 47.14	+14 24 15.9	0.0 0	022
2	1982 03	31.97008	13 15 46.08	+14 24 42.9	0.0 0	022
2	1982 04	20.94490	13 01 17.14	+19 47 31.7	0.0 0	022
2	1982 04	20.97122	13 01 16.02	+19 47 50.5	0.0 0	022
2	1982 04	29.95045	12 56 04.61	+21 19 14.8	0.0 0	022
2	1982 04	29.95807	12 56 04.36	+21 19 18.9	0.0 0	022
2	1982 05	02.93777	12 54 41.04	+21 42 07.1	0.0 0	022
2	1982 05	02.94331	12 54 40.91	+21 42 10.0	0.0 0	022
2	1982 05	11.96029	12 51 39.19	+22 30 04.4	0.0 0	022
2	1982 05	11.97795	12 51 38.92	+22 30 08.0	0.0 0	022
2	1982 05	14.91816	12 51 03.81	+22 39 23.8	0.0 0	022
2	1982 05	14.93132	12 51 03.58	+22 39 25.7	0.0 0	022
2	1982 05	26.91448	12 50 45.78	+22 49 21.1	0.0 0	022
2	1982 05	26.92071	12 50 45.87	+22 49 20.6	0.0 0	022
2	1982 05	27.96646	12 50 53.72	+22 48 19.7	0.0 0	022
2	1982 05	27.97546	12 50 53.77	+22 48 18.4	0.0 0	022
2	1983 06	02.95869	19 11 46.58	+21 45 34.9	0.0 0	022
2	1983 06	02.98432	19 11 45.77	+21 45 43.0	0.0 0	022
2	1983 06	05.95674	19 10 07.37	+22 00 35.8	0.0 0	022
2	1983 06	05.97890	19 10 06.58	+22 00 43.2	0.0 0	022
2	1983 06	08.98039	19 08 18.01	+22 13 45.6	0.0 0	022
2	1983 06	09.01780	19 08 16.57	+22 13 54.1	0.0 0	022
2	1983 06	12.96567	19 05 40.97	+22 27 46.8	0.0 0	022
2	1983 07	07.90087	18 45 57.15	+22 18 55.2	0.0 0	022
2	1983 07	07.92435	18 45 55.96	+22 18 49.7	0.0 0	022
4	1982 09	09.85567	21 04 02.06	-25 05 00.4	0.0 0	022
4	1982 09	10.83736	21 03 37.56	-25 06 41.6	0.0 0	022
4	1982 09	10.84774	21 03 37.29	-25 06 42.2	0.0 0	022
4	1982 09	16.86530	21 01 45.89	-25 12 45.7	0.0 0	022
4	1982 10	15.83251	21 08 26.50	-24 14 54.3	0.0 0	022
4	1982 10	15.85052	21 08 27.10	-24 14 50.1	0.0 0	022
4	1982 10	26.78309	21 16 48.06	-23 23 26.3	0.0 0	022

4	1982	10	26.80525	21	16	49.18	-23	23	18.7	0.0	0	022
5	1983	02	21.96560	10	51	14.91	+10	10	08.5	0.0	0	022
5	1983	02	21.98568	10	51	14.00	+10	10	18.1	0.0	0	022
5	1983	03	17.83063	10	33	27.73	+13	16	05.6	0.0	0	022
5	1983	03	17.86248	10	33	26.43	+13	16	16.7	0.0	0	022
6	1982	02	21.98277	12	23	28.87	+10	30	08.8	0.0	0	022
6	1982	02	22.00285	12	23	28.17	+10	30	21.5	0.0	0	022
6	1982	03	15.95248	12	07	35.09	+14	10	30.9	0.0	0	022
6	1982	03	15.98709	12	07	33.23	+14	10	49.8	0.0	0	022
6	1982	03	24.97395	11	59	49.34	+15	29	24.7	0.0	0	022
6	1982	03	24.99818	11	59	48.08	+15	29	36.3	0.0	0	022
6	1982	03	31.90291	11	54	01.23	+16	20	02.3	0.0	0	022
6	1982	03	31.93060	11	53	59.88	+16	20	13.9	0.0	0	022
6	1982	04	02.91891	11	52	24.54	+16	32	51.5	0.0	0	022
6	1982	04	02.92480	11	52	24.26	+16	32	53.6	0.0	0	022
6	1982	04	28.95388	11	37	36.39	+17	54	13.7	0.0	0	022
6	1982	04	28.95803	11	37	36.34	+17	54	13.2	0.0	0	022
6	1982	05	14.93755	11	35	44.21	+17	33	09.0	0.0	0	022
6	1982	05	14.94170	11	35	44.26	+17	33	08.9	0.0	0	022
6	1983	07	07.94450	17	21	13.08	-05	03	01.2	0.0	0	022
6	1983	07	07.94657	17	21	12.96	-05	03	02.3	0.0	0	022
6	1983	07	07.94796	17	21	12.86	-05	03	02.4	0.0	0	022
7	1982	04	12.92207	11	35	56.16	-06	06	22.9	0.0	0	022
7	1982	04	12.94909	11	35	55.06	-06	06	13.1	0.0	0	022
7	1982	05	02.94954	11	27	30.14	-04	17	35.2	0.0	0	022
7	1982	05	02.96063	11	27	30.03	-04	17	32.5	0.0	0	022
11	1981	10	23.82352	20	05	22.36	-22	09	50.3	0.0	0	022
11	1981	10	23.82767	20	05	22.69	-22	09	49.3	0.0	0	022
11	1981	11	01.81487	20	18	35.11	-21	37	04.6	0.0	0	022
11	1981	11	01.82388	20	18	35.96	-21	37	02.9	0.0	0	022
18	1981	10	28.84865	22	03	16.57	-19	21	48.8	0.0	0	022
18	1981	10	28.87497	22	03	18.21	-19	21	45.3	0.0	0	022
18	1981	11	01.83046	22	07	50.03	-19	10	22.7	0.0	0	022
18	1981	11	01.84777	22	07	51.25	-19	10	18.7	0.0	0	022
18	1983	02	18.00088	11	03	39.92	+08	26	07.3	0.0	0	022
18	1983	02	18.02858	11	03	38.43	+08	26	22.8	0.0	0	022
18	1983	03	02.93218	10	51	53.70	+10	28	42.4	0.0	0	022
18	1983	03	02.93565	10	51	53.49	+10	28	43.7	0.0	0	022
18	1983	03	03.96684	10	50	55.49	+10	38	20.0	0.0	0	022
18	1983	03	03.99039	10	50	54.13	+10	38	32.8	0.0	0	022
18	1983	03	17.83063	10	38	35.93	+12	36	50.7	0.0	0	022
18	1983	03	17.86248	10	38	34.28	+12	37	05.4	0.0	0	022
18	1983	04	13.84347	10	24	31.74	+14	53	15.8	0.0	0	022
18	1983	04	13.86771	10	24	31.34	+14	53	19.9	0.0	0	022
18	1983	05	01.83865	10	25	10.87	+15	07	38.4	0.0	0	022
18	1983	05	01.87119	10	25	11.31	+15	07	36.8	0.0	0	022
18	1983	05	03.84391	10	25	43.67	+15	05	56.2	0.0	0	022
18	1983	05	03.87369	10	25	44.17	+15	05	54.4	0.0	0	022
18	1983	05	04.86976	10	26	02.49	+15	04	50.5	0.0	0	022
18	1983	05	04.88292	10	26	02.77	+15	04	48.8	0.0	0	022
18	1983	05	08.83235	10	27	27.92	+14	59	10.9	0.0	0	022
18	1983	05	08.88775	10	27	29.20	+14	59	05.2	0.0	0	022
18	1983	06	05.87068	10	45	37.37	+13	24	18.7	0.0	0	022
18	1983	06	05.89285	10	45	38.51	+13	24	11.5	0.0	0	022
21	1983	02	03.91104	08	49	38.41	+21	32	09.2	0.0	0	022
21	1983	02	03.94013	08	49	36.55	+21	32	17.1	0.0	0	022
21	1983	02	17.92094	08	36	08.04	+22	25	23.5	0.0	0	022
21	1983	02	17.94726	08	36	06.61	+22	25	28.3	0.0	0	022
21	1983	03	02.84389	08	26	44.35	+22	54	32.3	0.0	0	022

21	1983	03	02.87021	08	26	43.41	+22	54	35.1	0.0	0	022
21	1983	03	03.80931	08	26	12.03	+22	55	55.3	0.0	0	022
21	1983	03	03.83631	08	26	11.11	+22	55	57.8	0.0	0	022
21	1983	03	06.87799	08	24	38.80	+22	59	33.5	0.0	0	022
21	1983	03	06.91262	08	24	37.78	+22	59	36.1	0.0	0	022
21	1983	03	07.86140	08	24	12.28	+23	00	30.0	0.0	0	022
21	1983	03	07.89118	08	24	11.45	+23	00	31.5	0.0	0	022
22	1981	11	22.88634	04	30	04.01	+21	44	33.1	0.0	0	022
22	1981	11	22.92513	04	30	01.60	+21	44	40.5	0.0	0	022
22	1981	11	25.90655	04	26	57.19	+21	54	50.6	0.0	0	022
22	1981	11	25.93633	04	26	55.33	+21	54	56.4	0.0	0	022
22	1981	11	26.94053	04	25	52.35	+21	58	17.7	0.0	0	022
22	1981	11	26.96477	04	25	50.75	+21	58	22.5	0.0	0	022
22	1981	11	29.87831	04	22	46.93	+22	07	54.2	0.0	0	022
22	1981	11	29.91155	04	22	44.75	+22	08	01.3	0.0	0	022
22	1981	11	30.89221	04	21	42.59	+22	11	10.0	0.0	0	022
22	1981	12	01.91233	04	20	38.01	+22	14	24.3	0.0	0	022
22	1981	12	03.88193	04	18	33.89	+22	20	35.2	0.0	0	022
22	1981	12	03.91310	04	18	31.96	+22	20	40.1	0.0	0	022
25	1981	11	03.04692	07	54	22.35	-02	03	05.9	0.0	0	022
25	1981	11	03.07185	07	54	22.79	-02	03	20.8	0.0	0	022
25	1982	01	20.90046	07	13	32.64	-08	53	32.0	0.0	0	022
25	1982	01	20.92885	07	13	31.07	-08	53	27.0	0.0	0	022
25	1982	01	24.91620	07	09	52.89	-08	39	09.1	0.0	0	022
25	1982	01	24.94598	07	09	51.38	-08	39	01.8	0.0	0	022
34	1983	06	13.94946	15	16	33.31	-10	51	59.3	0.0	0	022
34	1983	06	13.95984	15	16	33.06	-10	51	58.1	0.0	0	022
39	1982	08	01.91194	20	22	14.73	-10	34	36.5	0.0	0	022
39	1982	08	01.93411	20	22	13.61	-10	34	45.5	0.0	0	022
39	1982	09	09.82900	20	01	44.95	-15	01	57.9	0.0	0	022
39	1982	09	09.84839	20	01	44.81	-15	02	04.4	0.0	0	022
39	1982	09	10.81485	20	01	40.96	-15	07	33.1	0.0	0	022
39	1982	09	10.82801	20	01	40.89	-15	07	37.6	0.0	0	022
39	1982	09	16.82999	20	01	51.66	-15	39	27.4	0.0	0	022
39	1982	09	16.85561	20	01	51.80	-15	39	35.0	0.0	0	022
39	1982	10	15.79927	20	16	05.66	-17	13	18.6	0.0	0	022
39	1982	10	15.82420	20	16	06.87	-17	13	21.2	0.0	0	022
39	1982	10	26.77617	20	26	27.78	-17	21	49.9	0.0	0	022
40	1982	02	28.96919	10	28	07.05	+16	31	26.3	0.0	0	022
40	1982	02	28.99689	10	28	05.36	+16	31	37.0	0.0	0	022
40	1982	03	24.93758	10	08	13.77	+18	12	18.9	0.0	0	022
40	1982	03	24.96459	10	08	12.82	+18	12	21.7	0.0	0	022
40	1982	03	25.91962	10	07	41.60	+18	13	59.1	0.0	0	022
40	1982	03	31.88144	10	05	02.87	+18	19	50.9	0.0	0	022
40	1982	03	31.89806	10	05	02.46	+18	19	51.9	0.0	0	022
40	1982	04	20.87980	10	04	00.86	+17	50	50.9	0.0	0	022
40	1982	04	20.91235	10	04	01.18	+17	50	44.8	0.0	0	022
40	1982	05	11.87787	10	14	34.25	+16	15	42.5	0.0	0	022
40	1982	05	11.89034	10	14	34.73	+16	15	38.4	0.0	0	022
76	1983	01	10.01424	07	32	40.07	+18	27	21.2	0.0	0	022
76	1983	01	10.03223	07	32	39.17	+18	27	23.2	0.0	0	022
76	1983	01	10.96201	07	31	52.72	+18	29	01.8	0.0	0	022
76	1983	01	10.99111	07	31	51.19	+18	29	05.7	0.0	0	022
76	1983	01	11.96622	07	31	02.42	+18	30	50.2	0.0	0	022
76	1983	01	11.99253	07	31	01.11	+18	30	52.6	0.0	0	022
76	1983	01	13.99191	07	29	21.04	+18	34	29.8	0.0	0	022
76	1983	01	14.01270	07	29	19.99	+18	34	31.7	0.0	0	022
76	1983	01	16.99204	07	26	51.88	+18	40	00.4	0.0	0	022
76	1983	01	17.01142	07	26	50.92	+18	40	03.7	0.0	0	022

76	1983	01	17.94140	07	26	05.25	+18	41	47.3	0.0	0	022
76	1983	01	17.96565	07	26	03.99	+18	41	49.0	0.0	0	022
76	1983	01	18.90694	07	25	18.13	+18	43	34.6	0.0	0	022
76	1983	01	18.93049	07	25	16.89	+18	43	36.8	0.0	0	022
76	1983	01	20.93472	07	23	40.24	+18	47	21.6	0.0	0	022
76	1983	01	20.95550	07	23	39.21	+18	47	22.2	0.0	0	022
76	1983	02	02.95462	07	14	25.10	+19	10	50.9	0.0	0	022
76	1983	02	02.98094	07	14	24.09	+19	10	53.8	0.0	0	022
86	1982	01	31.95146	09	10	12.71	+21	36	40.6	0.0	0	022
86	1982	01	31.98193	09	10	11.10	+21	36	48.4	0.0	0	022
148	1983	01	09.97272	07	29	08.60	-01	30	05.9	0.0	0	022
148	1983	01	10.00457	07	29	06.76	-01	29	45.7	0.0	0	022
148	1983	01	10.95440	07	28	14.08	-01	19	47.1	0.0	0	022
148	1983	01	11.93471	07	27	19.67	-01	09	15.2	0.0	0	022
148	1983	01	11.95895	07	27	18.28	-01	08	59.7	0.0	0	022
148	1983	01	13.95660	07	25	27.64	-00	46	49.7	0.0	0	022
148	1983	01	13.98499	07	25	26.03	-00	46	30.7	0.0	0	022
148	1983	01	16.95707	07	22	43.17	-00	11	53.7	0.0	0	022
148	1983	01	16.98477	07	22	41.58	-00	11	34.3	0.0	0	022
148	1983	01	17.97164	07	21	48.26	+00	00	19.4	0.0	0	022
148	1983	01	18.00420	07	21	46.41	+00	00	43.2	0.0	0	022
148	1983	01	20.89005	07	19	13.74	+00	36	29.0	0.0	0	022
148	1983	01	20.92883	07	19	11.61	+00	36	59.0	0.0	0	022
148	1983	01	24.95773	07	15	48.15	+01	29	05.7	0.0	0	022
148	1983	01	24.97920	07	15	47.08	+01	29	22.4	0.0	0	022
148	1983	02	03.94913	07	08	35.73	+03	45	00.9	0.0	0	022
148	1983	02	03.95120	07	08	35.61	+03	45	03.1	0.0	0	022
148	1983	02	03.95397	07	08	35.47	+03	45	04.9	0.0	0	022
148	1983	03	17.90681	07	05	59.75	+12	24	44.8	0.0	0	022
148	1983	04	13.81080	07	26	26.39	+15	51	38.6	0.0	0	022
148	1983	04	13.83516	07	26	27.82	+15	51	47.4	0.0	0	022
148	1983	05	04.84361	07	50	11.88	+17	21	22.0	0.0	0	022
148	1983	05	04.85955	07	50	13.08	+17	21	24.5	0.0	0	022
181	1983	03	03.84738	09	08	39.51	+16	57	16.2	0.0	0	022
181	1983	03	03.87301	09	08	38.73	+16	57	31.2	0.0	0	022
181	1983	03	07.90156	09	06	54.48	+17	35	03.3	0.0	0	022
181	1983	03	07.92649	09	06	53.86	+17	35	16.6	0.0	0	022
190	1981	11	22.95456	06	30	37.40	+14	59	10.2	0.0	0	022
190	1981	11	22.99681	06	30	36.39	+14	59	06.9	0.0	0	022
190	1981	11	25.94429	06	29	24.36	+14	55	12.2	0.0	0	022
190	1981	11	25.98169	06	29	23.28	+14	55	08.9	0.0	0	022
190	1981	11	26.98000	06	28	56.64	+14	53	56.6	0.0	0	022
190	1981	11	27.00354	06	28	55.93	+14	53	53.8	0.0	0	022
190	1981	12	03.91968	06	25	22.16	+14	46	53.3	0.0	0	022
190	1981	12	03.94946	06	25	21.10	+14	46	52.8	0.0	0	022
190	1982	01	20.86376	05	53	37.94	+15	12	30.1	0.0	0	022
190	1982	01	20.89146	05	53	37.15	+15	12	32.9	0.0	0	022
190	1982	01	24.88551	05	51	52.81	+15	19	51.4	0.0	0	022
190	1982	01	24.90894	05	51	52.26	+15	19	53.6	0.0	0	022
190	1982	01	31.88896	05	49	35.65	+15	33	59.0	0.0	0	022
190	1982	01	31.91458	05	49	35.25	+15	34	02.1	0.0	0	022
190	1983	02	03.98029	11	18	24.07	+02	08	00.8	0.0	0	022
190	1983	02	04.00591	11	18	23.52	+02	08	05.3	0.0	0	022
190	1983	03	02.87920	11	04	18.40	+04	07	01.8	0.0	0	022
190	1983	03	02.90137	11	04	17.59	+04	07	08.1	0.0	0	022
190	1983	03	17.91442	10	55	13.38	+05	24	38.0	0.0	0	022
190	1983	03	17.93589	10	55	12.56	+05	24	44.5	0.0	0	022
190	1983	04	05.88193	10	46	15.07	+06	47	35.4	0.0	0	022
190	1983	04	05.90825	10	46	14.46	+06	47	41.9	0.0	0	022

204	1982	01	31.98920	10	14	21.69	-00	22	48.1	0.0	0	022
204	1982	02	01.01147	10	14	20.79	-00	22	43.8	0.0	0	022
209	1982	01	20.98288	08	56	50.42	+25	53	17.8	0.0	0	022
209	1982	01	24.95464	08	53	22.95	+26	04	17.8	0.0	0	022
209	1982	01	24.97957	08	53	21.61	+26	04	21.6	0.0	0	022
216	1982	02	18.94006	09	41	52.63	-05	18	42.8	0.0	0	022
216	1982	02	18.96637	09	41	51.33	-05	18	32.7	0.0	0	022
225	1982	05	24.97534	18	12	41.11	+05	50	47.7	0.0	0	022
225	1982	05	24.99611	18	12	40.58	+05	50	59.9	0.0	0	022
225	1982	06	27.95730	17	51	52.80	+09	25	51.9	0.0	0	022
225	1982	06	27.98361	17	51	51.63	+09	25	54.7	0.0	0	022
233	1982	01	31.98920	10	14	17.32	-00	40	00.3	0.0	0	022
233	1982	02	01.01135	10	14	16.37	-00	39	56.9	0.0	0	022
235	1981	11	22.88634	04	21	44.94	+21	16	35.3	0.4+	2+	022
235	1981	11	22.92513	04	21	42.66	+21	16	35.6	0.4+	2+	022
235	1981	11	25.90655	04	18	50.04	+21	17	25.1	0.4+	2+	022
235	1981	11	25.93633	04	18	48.29	+21	17	25.1	0.4+	2+	022
235	1981	11	26.94053	04	17	49.79	+21	17	38.9	0.4+	2+	022
235	1981	11	26.96613	04	17	48.25	+21	17	39.2	0.4+	2+	022
235	1981	11	29.87831	04	14	58.45	+21	18	10.0	0.4+	2+	022
235	1981	11	29.91155	04	14	56.44	+21	18	10.7	0.4+	2+	022
235	1981	11	30.89221	04	13	59.46	+21	18	18.5	0.4+	2+	022
235	1981	12	01.91233	04	13	00.09	+21	18	27.4	0.4+	2+	022
235	1981	12	03.88193	04	11	06.53	+21	18	38.5	0.4+	2+	022
235	1981	12	03.91310	04	11	04.76	+21	18	38.0	0.4+	2+	022
274	1983	02	03.91104	08	53	22.18	+21	05	45.6	0.0	0	022
274	1983	02	03.94013	08	53	20.65	+21	05	52.2	0.0	0	022
274	1983	03	02.84389	08	33	25.31	+22	31	15.6	0.0	0	022
274	1983	03	02.87021	08	33	24.46	+22	31	17.7	0.0	0	022
274	1983	03	06.87799	08	31	31.67	+22	37	34.2	0.0	0	022
274	1983	03	06.91262	08	31	30.73	+22	37	37.2	0.0	0	022
274	1983	03	07.86140	08	31	07.37	+22	38	50.9	0.0	0	022
274	1983	03	07.89118	08	31	06.60	+22	38	53.1	0.0	0	022
329	1982	05	24.94418	15	57	09.80	+03	42	50.7	0.1-	0	022
329	1982	05	24.96802	15	57	08.52	+03	42	58.0	0.1-	0	022
329	1982	05	25.92275	15	56	19.37	+03	47	48.5	0.1-	0	022
329	1982	05	25.94630	15	56	18.09	+03	47	55.4	0.1-	0	022
354	1982	02	21.87818	08	51	39.55	+17	02	54.2	0.0	0	022
354	1982	02	21.91558	08	51	38.02	+17	03	18.4	0.0	0	022
354	1982	02	25.83544	08	49	11.66	+17	46	12.4	0.0	0	022
354	1982	02	25.87215	08	49	10.31	+17	46	36.3	0.0	0	022
354	1982	02	28.93041	08	47	30.30	+18	18	21.4	0.0	0	022
354	1982	02	28.96226	08	47	29.26	+18	18	40.9	0.0	0	022
359	1983	02	17.95833	11	08	55.37	+10	14	13.6	0.0	0	022
359	1983	02	17.98189	11	08	54.21	+10	14	20.2	0.0	0	022
362	1982	10	15.88100	03	14	38.89	+21	04	52.5	0.0	0	022
362	1982	10	15.90714	03	14	37.71	+21	04	55.5	0.0	0	022
362	1982	10	27.96078	03	04	18.70	+21	15	13.3	0.0	0	022
362	1982	10	27.99047	03	04	16.91	+21	15	14.0	0.0	0	022
362	1982	11	09.86190	02	50	53.45	+21	09	29.8	0.0	0	022
362	1982	11	09.89298	02	50	51.41	+21	09	28.1	0.0	0	022
362	1982	11	11.87928	02	48	44.15	+21	07	18.3	0.0	0	022
362	1982	11	11.90352	02	48	42.59	+21	07	16.3	0.0	0	022
413	1982	11	09.98483	06	00	57.83	+05	55	46.5	0.0	0	022
413	1982	11	10.00976	06	00	57.09	+05	55	51.5	0.0	0	022
413	1983	01	09.82660	05	00	36.90	+14	32	44.4	0.0	0	022
413	1983	01	09.84944	05	00	35.97	+14	32	57.4	0.0	0	022
413	1983	01	10.82039	05	00	00.41	+14	42	59.4	0.0	0	022
413	1983	01	10.84602	04	59	59.49	+14	43	14.6	0.0	0	022

413	1983	01	11.82044	04	59	25.63	+14	53	16.6	0.0 0 022
413	1983	01	13.85566	04	58	21.28	+15	14	05.9	0.0 0 022
413	1983	01	13.88197	04	58	20.35	+15	14	21.5	0.0 0 022
413	1983	01	16.84833	04	57	01.95	+15	44	16.7	0.0 0 022
433	1981	09	06.95046	02	32	56.45	+35	36	42.3	022
433	1981	09	06.96917	02	32	57.71	+35	37	07.8	022
433	1981	09	29.92090	02	52	03.04	+44	14	48.3	022
433	1981	09	29.95484	02	52	03.72	+44	15	35.6	022
433	1981	09	30.93064	02	52	24.78	+44	37	36.6	022
433	1981	09	30.96181	02	52	25.25	+44	38	19.3	022
433	1981	10	07.95549	02	53	24.30	+47	13	25.1	022
433	1981	10	07.96728	02	53	24.26	+47	13	39.8	022
433	1981	10	23.87650	02	43	39.64	+52	23	03.5	022
433	1981	10	23.90697	02	43	37.19	+52	23	33.7	022
433	1981	10	28.88293	02	36	41.83	+53	35	33.1	022
433	1981	10	28.91340	02	36	38.66	+53	35	57.5	022
433	1981	11	01.85539	02	29	59.23	+54	19	55.4	022
433	1981	11	01.88378	02	29	55.89	+54	20	13.0	022
433	1981	11	02.87862	02	28	06.70	+54	29	14.0	022
433	1981	11	02.91671	02	28	02.09	+54	29	35.0	022
433	1981	11	22.84444	01	49	47.76	+54	04	25.8	022
433	1981	11	22.87769	01	49	44.28	+54	04	03.7	022
433	1981	11	25.87088	01	45	29.33	+53	25	44.1	022
433	1981	11	25.89858	01	45	26.83	+53	25	19.7	022
433	1981	11	26.90556	01	44	12.33	+53	10	36.1	022
433	1981	11	26.93256	01	44	10.02	+53	10	11.1	022
433	1981	11	29.83850	01	41	11.64	+52	23	01.2	022
433	1981	11	29.87344	01	41	09.35	+52	22	25.1	022
433	1981	11	30.85447	01	40	21.40	+52	04	59.0	022
433	1981	11	30.88216	01	40	19.69	+52	04	29.2	022
433	1981	12	01.87667	01	39	37.57	+51	46	09.2	022
433	1981	12	03.84939	01	38	34.17	+51	07	45.7	022
433	1981	12	03.87501	01	38	33.18	+51	07	14.1	022
433	1981	12	07.93993	01	37	45.82	+49	41	02.2	022
433	1981	12	07.94409	01	37	45.86	+49	40	55.5	022
433	1982	01	20.82977	03	05	43.50	+30	25	09.8	022
433	1982	01	20.85539	03	05	48.39	+30	24	27.8	022
433	1982	01	24.84938	03	19	19.62	+28	38	03.0	022
433	1982	01	24.87846	03	19	25.47	+28	37	16.8	022
433	1982	01	31.85294	03	44	00.06	+25	34	59.3	022
433	1982	01	31.88203	03	44	06.17	+25	34	12.7	022
433	1982	02	18.83721	04	49	56.63	+18	12	57.7	022
433	1982	02	18.85522	04	50	00.50	+18	12	32.1	022
433	1982	02	21.84910	05	01	02.98	+17	03	56.3	022
433	1982	02	21.87126	05	01	07.68	+17	03	25.8	022
433	1982	02	25.80981	05	15	37.88	+15	35	43.1	022
433	1982	02	25.82921	05	15	42.01	+15	35	17.9	022
433	1982	03	14.85443	06	17	09.02	+09	50	59.8	022
433	1982	03	14.87797	06	17	13.88	+09	50	32.5	022
433	1982	03	15.84323	06	20	38.47	+09	32	41.7	022
433	1982	03	15.86816	06	20	43.62	+09	32	14.3	022
433	1982	04	22.85565	08	27	49.13	-00	13	41.0	022
433	1982	04	22.86949	08	27	51.64	-00	13	52.4	022
433	1982	04	26.82949	08	40	21.80	-01	05	18.2	022
433	1982	04	26.84334	08	40	24.44	-01	05	28.5	022
433	1982	04	27.83125	08	43	30.63	-01	18	08.0	022
433	1982	04	27.85965	08	43	35.55	-01	18	29.4	022
485	1982	11	09.98483	05	50	42.03	+04	59	46.4	0.1+ 0 022
485	1982	11	10.00976	05	50	41.71	+04	59	31.8	0.1+ 0 022

517	1983	01	10.01424	07	41	38.35	+19	52	14.1	0.0	0	022
517	1983	01	10.03073	07	41	37.43	+19	52	14.8	0.0	0	022
517	1983	01	10.96201	07	40	46.36	+19	53	15.1	0.0	0	022
517	1983	01	10.99111	07	40	44.69	+19	53	16.6	0.0	0	022
517	1983	01	11.96622	07	39	50.93	+19	54	17.0	0.0	0	022
517	1983	01	11.99253	07	39	49.45	+19	54	18.4	0.0	0	022
517	1983	01	13.99191	07	37	58.99	+19	56	22.9	0.0	0	022
517	1983	01	14.01270	07	37	57.83	+19	56	23.4	0.0	0	022
517	1983	01	16.99204	07	35	14.38	+19	59	27.8	0.0	0	022
517	1983	01	17.01142	07	35	13.29	+19	59	29.5	0.0	0	022
517	1983	01	17.94140	07	34	22.91	+20	00	26.3	0.0	0	022
517	1983	01	17.96565	07	34	21.48	+20	00	28.0	0.0	0	022
517	1983	01	18.90694	07	33	30.77	+20	01	24.4	0.0	0	022
517	1983	01	18.93049	07	33	29.45	+20	01	26.0	0.0	0	022
517	1983	01	20.93472	07	31	42.69	+20	03	22.2	0.0	0	022
517	1983	01	20.95550	07	31	41.49	+20	03	24.3	0.0	0	022
517	1983	02	02.95462	07	21	25.51	+20	13	59.8	0.0	0	022
517	1983	02	02.98094	07	21	24.39	+20	14	00.3	0.0	0	022
532	1981	11	23.00616	09	00	47.96	+18	14	46.3	0.0	0	022
532	1981	11	23.01862	09	00	48.45	+18	14	49.6	0.0	0	022
532	1981	11	29.98392	09	04	57.57	+18	39	51.8	0.0	0	022
532	1981	11	30.01163	09	04	58.38	+18	39	58.8	0.0	0	022
532	1981	12	03.95604	09	06	49.53	+18	57	56.7	0.0	0	022
532	1981	12	03.98859	09	06	50.36	+18	58	06.3	0.0	0	022
532	1982	01	20.98288	08	55	33.00	+26	17	14.7	0.0	0	022
532	1982	01	21.00296	08	55	31.93	+26	17	29.2	0.0	0	022
532	1982	01	24.95464	08	52	05.35	+27	03	13.9	0.0	0	022
532	1982	01	31.91994	08	45	38.79	+28	20	36.4	0.0	0	022
532	1982	01	31.94487	08	45	37.33	+28	20	52.1	0.0	0	022
532	1982	02	18.90231	08	29	51.93	+31	01	40.1	0.0	0	022
532	1982	02	18.93278	08	29	50.51	+31	01	53.5	0.0	0	022
532	1982	02	21.92251	08	27	43.79	+31	21	34.4	0.0	0	022
532	1982	02	28.86530	08	23	45.11	+31	58	53.9	0.0	0	022
532	1982	02	28.88677	08	23	44.46	+31	58	59.0	0.0	0	022
532	1982	03	14.88733	08	20	22.65	+32	40	26.3	0.0	0	022
532	1982	03	14.91226	08	20	22.56	+32	40	27.9	0.0	0	022
532	1982	03	15.87491	08	20	23.39	+32	41	48.2	0.0	0	022
532	1982	03	15.90745	08	20	23.38	+32	41	50.5	0.0	0	022
532	1982	03	24.86279	08	22	00.74	+32	45	56.6	0.0	0	022
532	1982	03	24.88356	08	22	01.13	+32	45	56.8	0.0	0	022
532	1982	03	25.85660	08	22	21.42	+32	45	33.0	0.0	0	022
532	1982	03	25.87737	08	22	21.84	+32	45	32.1	0.0	0	022
532	1982	04	12.84831	08	33	43.44	+32	12	26.9	0.0	0	022
532	1982	04	12.86910	08	33	44.51	+32	12	23.1	0.0	0	022
532	1982	04	20.85694	08	41	30.40	+31	43	51.4	0.0	0	022
532	1982	04	20.88119	08	41	31.88	+31	43	44.9	0.0	0	022
532	1982	04	22.90966	08	43	43.77	+31	35	17.2	0.0	0	022
532	1982	04	22.92490	08	43	44.84	+31	35	13.3	0.0	0	022
532	1982	04	25.87655	08	47	05.86	+31	22	02.3	0.0	0	022
532	1982	04	25.87932	08	47	06.09	+31	22	01.2	0.0	0	022
532	1982	04	25.89836	08	47	07.41	+31	21	55.5	0.0	0	022
582	1982	01	31.98920	10	15	51.09	-00	50	43.6	0.0	0	022
582	1982	02	18.97330	10	03	18.89	+05	57	21.9	0.0	0	022
582	1982	02	21.94779	10	01	03.36	+07	09	32.4	0.0	0	022
582	1982	02	28.89266	09	56	00.84	+09	55	48.0	0.0	0	022
582	1982	02	28.92036	09	55	59.66	+09	56	26.5	0.0	0	022
582	1982	03	14.95104	09	48	15.48	+14	59	14.4	0.0	0	022
582	1982	03	14.96905	09	48	15.08	+14	59	36.1	0.0	0	022
582	1982	03	15.91611	09	47	53.91	+15	17	39.0	0.0	0	022

582		1982	03	15.94104	09	47	53.38	+15	18	07.9	0.0	0	022
582		1982	03	24.90123	09	45	46.85	+17	51	27.0	0.0	0	022
582		1982	03	24.92339	09	45	46.73	+17	51	46.8	0.0	0	022
582		1982	03	25.88326	09	45	41.74	+18	06	16.1	0.0	0	022
582		1982	03	25.91374	09	45	41.50	+18	06	43.2	0.0	0	022
582		1982	04	26.87935	09	57	54.09	+22	50	49.8	0.0	0	022
582		1982	04	27.86899	09	58	41.40	+22	54	20.8	0.0	0	022
631		1982	05	25.95461	16	55	14.61	-09	30	18.2	0.0	0	022
631		1982	05	25.98400	16	55	13.08	-09	30	04.8	0.0	0	022
635		1983	03	02.80926	08	27	29.17	+07	48	47.9	0.0	0	022
635		1983	03	02.83350	08	27	28.52	+07	48	56.5	0.0	0	022
635		1983	03	06.84197	08	25	58.82	+08	12	23.6	0.0	0	022
635		1983	03	06.86966	08	25	58.25	+08	12	34.3	0.0	0	022
635		1983	03	07.82399	08	25	39.99	+08	18	01.9	0.0	0	022
635		1983	03	07.85170	08	25	39.40	+08	18	12.0	0.0	0	022
639		1983	01	10.01424	07	28	19.44	+19	40	19.9	0.0	0	022
639		1983	01	10.03223	07	28	18.47	+19	40	18.6	0.0	0	022
639		1983	01	10.96201	07	27	26.57	+19	40	07.0	0.0	0	022
639		1983	01	10.99111	07	27	24.91	+19	40	06.5	0.0	0	022
639		1983	01	11.96622	07	26	30.58	+19	39	53.5	0.0	0	022
639		1983	01	11.99253	07	26	29.03	+19	39	54.1	0.0	0	022
639		1983	01	13.99191	07	24	37.90	+19	39	25.7	0.0	0	022
639		1983	01	14.01270	07	24	36.70	+19	39	26.0	0.0	0	022
639		1983	01	16.99204	07	21	52.63	+19	38	45.9	0.0	0	022
639		1983	01	17.01142	07	21	51.57	+19	38	45.1	0.0	0	022
639		1983	01	17.94140	07	21	01.09	+19	38	31.5	0.0	0	022
639		1983	01	17.96565	07	20	59.67	+19	38	30.4	0.0	0	022
639		1983	01	18.90694	07	20	09.01	+19	38	17.1	0.0	0	022
639		1983	01	18.93049	07	20	07.62	+19	38	17.2	0.0	0	022
639		1983	01	20.93472	07	18	20.96	+19	37	47.3	0.0	0	022
639		1983	01	20.95550	07	18	19.84	+19	37	46.4	0.0	0	022
639		1983	02	02.95462	07	08	01.79	+19	33	39.0	0.0	0	022
639		1983	02	02.98094	07	08	00.68	+19	33	37.6	0.0	0	022
692		1983	01	11.02189	08	24	02.41	+51	32	34.9	0.1-	0	022
692		1983	01	12.00255	08	23	00.75	+51	42	28.2	0.1-	0	022
692		1983	01	12.01985	08	22	59.65	+51	42	38.1	0.1-	0	022
692		1983	01	18.01523	08	16	19.98	+52	36	33.3	0.1-	0	022
692		1983	01	18.03878	08	16	18.30	+52	36	45.0	0.1-	0	022
692		1983	02	02.92830	07	57	55.49	+53	59	41.7	0.1-	0	022
692		1983	02	02.94770	07	57	54.22	+53	59	44.9	0.1-	0	022
704		1982	02	18.94006	09	40	16.75	-05	43	39.4	0.0	0	022
704		1982	02	18.96637	09	40	15.40	-05	43	36.1	0.0	0	022
720		1982	01	31.95146	09	10	26.30	+20	03	04.5	0.0	0	022
720		1982	01	31.98193	09	10	24.58	+20	03	11.4	0.0	0	022
720		1982	02	18.86214	08	54	46.60	+21	02	21.1	0.0	0	022
720		1982	02	18.89331	08	54	45.04	+21	02	25.6	0.0	0	022
748		1981	11	01.91668	04	39	22.83	+23	23	14.2	0.0	0	022
748		1981	11	01.95338	04	39	21.70	+23	23	11.3	0.0	0	022
748		1981	11	02.92502	04	38	54.18	+23	22	00.1	0.0	0	022
748		1981	11	03.00260	04	38	51.82	+23	21	55.3	0.0	0	022
748		1981	11	22.88634	04	26	14.80	+22	47	23.9	0.0	0	022
748		1981	11	22.92513	04	26	13.09	+22	47	18.4	0.0	0	022
748		1981	11	25.90655	04	23	58.56	+22	40	38.8	0.0	0	022
748		1981	11	25.93633	04	23	57.18	+22	40	35.1	0.0	0	022
748		1981	11	26.94053	04	23	11.50	+22	38	16.1	0.0	0	022
748		1981	11	26.96477	04	23	10.34	+22	38	13.1	0.0	0	022
748		1981	11	29.87831	04	20	56.95	+22	31	21.4	0.0	0	022
748		1981	11	29.91155	04	20	55.42	+22	31	16.5	0.0	0	022
748		1981	11	30.89221	04	20	10.58	+22	28	55.1	0.0	0	022

748		1981	12	03.88193	04	17	54.11	+22	21	38.4	0.0	0		022
748		1981	12	03.91310	04	17	52.72	+22	21	33.3	0.0	0		022
757		1983	02	17.95833	11	25	24.56	+14	01	28.7	0.0	0		022
757		1983	02	17.98189	11	25	23.21	+14	01	34.9	0.0	0		022
760		1982	12	09.93304	07	01	49.73	+38	34	35.9	0.0	0		022
760		1982	12	09.96075	07	01	48.41	+38	34	39.7	0.0	0		022
760		1983	01	09.85775	06	30	19.69	+38	24	11.7	0.0	0		022
760		1983	01	09.89030	06	30	17.54	+38	24	04.8	0.0	0		022
760		1983	01	11.85438	06	28	14.06	+38	17	40.3	0.0	0		022
760		1983	01	11.88000	06	28	12.48	+38	17	34.6	0.0	0		022
760		1983	01	13.88821	06	26	09.59	+38	10	21.0	0.0	0		022
760		1983	01	13.91660	06	26	07.78	+38	10	14.6	0.0	0		022
760		1983	01	16.91137	06	23	12.34	+37	58	13.3	0.0	0		022
760		1983	01	17.88145	06	22	17.90	+37	54	00.2	0.0	0		022
760		1983	01	17.90222	06	22	16.66	+37	53	55.5	0.0	0		022
760		1983	01	18.83509	06	21	25.50	+37	49	45.2	0.0	0		022
760		1983	01	18.86148	06	21	24.02	+37	49	36.9	0.0	0		022
760		1983	02	01.87322	06	11	19.73	+36	34	44.9	0.0	0		022
760		1983	02	01.89122	06	11	19.08	+36	34	38.0	0.0	0		022
760		1983	02	02.81022	06	10	51.83	+36	29	07.1	0.0	0		022
760		1983	02	02.83862	06	10	50.90	+36	28	55.4	0.0	0		022
760		1983	02	03.83243	06	10	23.17	+36	22	54.2	0.0	0		022
760		1983	02	03.85668	06	10	22.47	+36	22	45.5	0.0	0		022
778		1982	01	31.95146	09	18	12.17	+19	41	42.0	0.0	0		022
778		1982	01	31.98193	09	18	10.21	+19	41	38.9	0.0	0		022
778		1982	02	18.86214	09	00	37.66	+19	07	24.6	0.0	0		022
778		1982	02	18.89331	09	00	35.93	+19	07	19.3	0.0	0		022
778		1982	02	21.87818	08	58	04.00	+18	59	35.2	0.0	0		022
778		1982	02	21.91858	08	58	01.91	+18	59	27.2	0.0	0		022
778		1982	02	25.83544	08	54	59.86	+18	48	19.5	0.0	0		022
778		1982	02	25.87015	08	54	58.29	+18	48	13.7	0.0	0		022
778		1982	02	28.93041	08	52	51.48	+18	38	51.0	0.0	0		022
778		1982	02	28.96526	08	52	50.03	+18	38	43.7	0.0	0		022
951		1982	10	15.88100	03	18	44.48	+23	19	25.3	0.0	0		022
951		1982	10	15.91014	03	18	43.61	+23	19	19.4	0.0	0		022
951		1982	10	27.96078	03	10	41.53	+22	23	32.6	0.0	0		022
951		1982	10	27.98847	03	10	40.01	+22	23	22.4	0.0	0		022
951		1982	11	09.86190	02	58	43.68	+20	53	42.9	0.0	0		022
951		1982	11	09.89098	02	58	41.89	+20	53	29.2	0.0	0		022
951		1982	11	11.87928	02	56	47.02	+20	37	53.9	0.0	0		022
951		1982	11	11.90352	02	56	45.54	+20	37	42.3	0.0	0		022
951		1982	12	05.81444	02	39	40.91	+17	40	46.4	0.0	0		022
951		1982	12	05.84977	02	39	39.98	+17	40	34.7	0.0	0		022
951		1982	12	12.84659	02	38	07.06	+17	04	20.8	0.0	0		022
951		1982	12	12.87152	02	38	06.91	+17	04	14.6	0.0	0		022
1069		1983	02	17.95833	11	30	10.51	+10	43	40.7	0.0	0		022
1069		1983	02	17.98189	11	30	09.71	+10	43	54.1	0.0	0		022
1266		1983	03	03.87301	09	06	53.45	+16	10	22.3	0.0	0		022
1266		1983	03	07.90156	09	04	13.99	+16	05	54.3	0.0	0		022
1266		1983	03	07.92649	09	04	13.05	+16	05	52.9	0.0	0		022
1268		1983	02	03.91104	08	51	26.00	+21	50	08.0	0.0	0		022
1268		1983	02	03.94013	08	51	24.67	+21	50	11.9	0.0	0		022
1268		1983	02	17.92094	08	41	33.02	+22	12	36.5	0.0	0		022
1268		1983	02	17.94726	08	41	32.00	+22	12	37.9	0.0	0		022
1268		1983	03	02.84389	08	34	26.17	+22	20	40.1	0.0	0		022
1268		1983	03	02.87021	08	34	25.40	+22	20	40.4	0.0	0		022
1268		1983	03	03.80931	08	34	00.83	+22	20	44.3	0.0	0		022
1268		1983	03	03.83631	08	34	00.19	+22	20	44.7	0.0	0		022

1268		1983	03	06.87799	08	32	47.09	+22	20	30.4	0.0	0		022
1268		1983	03	06.91262	08	32	46.22	+22	20	29.1	0.0	0		022
1268		1983	03	07.86140	08	32	25.57	+22	20	16.5	0.0	0		022
1268		1983	03	07.89118	08	32	24.97	+22	20	16.3	0.0	0		022
1620		1983	03	02.90760	10	33	58.42	-00	53	00.3				022
1620		1983	03	02.91661	10	33	55.07	-00	53	52.1				022
1620		1983	03	06.91988	10	06	31.65	-08	16	30.1				022
1620		1983	03	06.94135	10	06	20.85	-08	19	12.5				022
1620		1983	03	07.93516	09	58	05.39	-10	28	55.7				022
1620		1983	03	07.95524	09	57	54.54	-10	31	36.5				022
1620		1983	03	11.93324	09	17	44.05	-20	19	50.2				022
1620		1983	03	11.94087	09	17	38.59	-20	21	02.5				022
1620		1983	03	11.94779	09	17	33.29	-20	22	04.1				022
1620		1983	03	11.95471	09	17	28.70	-20	23	07.9				022
1620		1983	03	11.96164	09	17	23.15	-20	24	22.2				022
1620		1983	03	11.96857	09	17	18.22	-20	25	24.6				022
1620		1983	03	11.97549	09	17	12.80	-20	26	28.0				022
2233		1982	11	09.89098	02	54	22.55	+18	59	27.0	0.0	0		022
2233		1982	11	11.87928	02	52	22.20	+18	46	13.1	0.0	0		022

OBSERVATIONS MADE AT TAUTENBURG BY F. BORNGEN AND K.-H. MAU.
Plates taken with the 1.34-m Schmidt. Reductions by F. Borngen and K. Kirsch, using the SAO Catalogue. Contact: S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg, Democratic Republic of Germany.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1277		1983	12 28.74722	02 37 27.17	+16 55 20.6		033
1277		1983	12 29.86042	02 37 25.24	+16 52 40.7	17.0	033
1277		1983	12 29.90729	02 37 25.14	+16 52 33.5		033
1319		1983	12 28.74722	02 43 05.44	+17 04 10.6		033
1319		1983	12 29.86042	02 42 52.09	+17 02 17.4	17.2	033
1319		1983	12 29.90729	02 42 51.55	+17 02 12.6		033
2057		1983	12 28.74722	02 41 05.75	+17 14 57.3		033
2057		1983	12 29.86042	02 41 18.82	+17 15 48.8	17.6	033
2057		1983	12 29.90729	02 41 19.36	+17 15 50.2		033
2234		1983	12 29.83750	04 48 20.44	+57 05 36.2		033
2234		1983	12 29.88403	04 48 16.60	+57 05 23.9	19.0	033
1983 YQ		1983	12 28.74722	02 35 53.06	+17 54 58.5		033
1983 YQ	*	1983	12 29.86042	02 36 05.44	+17 56 56.5	19.6	033
1983 YQ		1983	12 29.90729	02 36 06.03	+17 57 01.6		033
1983 YR		1983	12 28.74722	02 37 35.48	+16 10 28.7		033
1983 YR	*	1983	12 29.86042	02 37 25.65	+16 12 29.2	19.2	033
1983 YR		1983	12 29.90729	02 37 25.24	+16 12 34.4		033
1983 YS		1983	12 28.74722	02 42 36.14	+15 54 06.3		033
1983 YS	*	1983	12 29.86042	02 42 31.16	+15 57 44.6	18.9	033
1983 YS		1983	12 29.90729	02 42 30.94	+15 57 53.7		033
1983 YT		1983	12 28.74722	02 43 46.19	+16 15 52.3		033
1983 YT	*	1983	12 29.86042	02 43 54.32	+16 17 36.6	18.4	033
1983 YT		1983	12 29.90729	02 43 54.58	+16 17 40.2		033
1983 YU		1983	12 28.74722	02 45 53.45	+17 54 54.4		033
1983 YU	*	1983	12 29.86042	02 45 50.89	+17 52 48.4	18.6	033
1983 YU		1983	12 29.90729	02 45 50.81	+17 52 42.5		033
1983 YV		1983	12 28.74722	02 46 06.37	+16 08 30.6		033
1983 YV	*	1983	12 29.86042	02 45 56.69	+16 10 51.2	18.2	033
1983 YV		1983	12 29.90729	02 45 56.32	+16 10 57.1		033
1983 YW		1983	12 28.74722	02 46 13.71	+16 33 23.0		033
1983 YW	*	1983	12 29.86042	02 46 02.80	+16 32 47.7	19.5	033
1983 YW		1983	12 29.90729	02 46 02.00	+16 32 45.2		033

OBSERVATIONS MADE AT KLET BY A. MRKOS, Z. VAVROVA AND M. MAHROVA.
Plates with the 0.6-m Maksutov reflector. Verification and assistance with identifications from D. W. E. Green and B. G. Marsden. Contact: A. Mrkos, Department of Astronomy and Astrophysics, Charles University, Svedska 8, C-15000 Prague 5, Czechoslovakia.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
11	1984 03	22.92504	12 18 42.43	+04 48 17.4		046
11	1984 03	22.93933	12 18 41.64	+04 48 23.4		046
105	1984 03	31.85177	11 31 58.80	-01 42 52.2		046
105	1984 03	31.86601	11 31 58.22	-01 42 35.5		046
127	1984 03	20.85877	11 32 26.15	+11 49 27.6		046
127	1984 03	20.87122	11 32 25.40	+11 49 29.6		046
127	1984 03	21.85623	11 31 32.68	+11 51 36.1		046
127	1984 03	21.87035	11 31 31.96	+11 51 37.7		046
127	1984 03	22.85820	11 30 39.41	+11 53 34.0		046
127	1984 03	22.87232	11 30 38.64	+11 53 35.4		046
127	1984 03	24.84037	11 28 55.82	+11 57 03.7		046
127	1984 03	24.85455	11 28 55.08	+11 57 05.1		046
245	1984 03	22.92504	12 23 02.61	+04 06 47.2		046
245	1984 03	22.93933	12 23 01.96	+04 06 50.9		046
261	1984 03	26.82087	10 32 55.10	+15 40 08.4		046
261	1984 03	26.83499	10 32 54.61	+15 40 11.0		046
261	1984 03	27.80877	10 32 23.66	+15 42 00.8		046
261	1984 03	27.82275	10 32 23.17	+15 42 01.3		046
286	1984 03	20.85877	11 43 07.74	+13 42 53.7		046
286	1984 03	20.87122	11 43 07.23	+13 42 59.5		046
286	1984 03	21.85623	11 42 27.96	+13 50 40.7		046
286	1984 03	21.87035	11 42 27.36	+13 50 46.4		046
349	1984 03	26.82087	10 37 54.63	+17 57 12.5		046
349	1984 03	26.83499	10 37 54.10	+17 57 12.0		046
349	1984 03	27.80877	10 37 17.46	+17 57 32.8		046
349	1984 03	27.82275	10 37 16.95	+17 57 32.1		046
373	1984 03	26.82087	10 38 27.58	+16 26 29.2		046
373	1984 03	26.83499	10 38 27.02	+16 26 29.4		046
373	1984 03	27.80877	10 37 48.67	+16 26 06.8		046
373	1984 03	27.82275	10 37 48.12	+16 26 05.5		046
383	1984 04	06.05170	14 13 05.08	-09 57 05.1		046
383	1984 04	06.06582	14 13 04.48	-09 57 02.8		046
463	1984 03	21.92232	12 44 02.00	+06 53 26.8		046
463	1984 03	21.93655	12 44 01.18	+06 53 29.3		046
475	1984 04	06.05170	14 08 09.01	-08 57 24.9		046
475	1984 04	06.06582	14 08 08.30	-08 57 25.3		046
479	1984 03	31.95449	12 51 38.84	+05 37 54.9		046
479	1984 03	31.96867	12 51 38.08	+05 37 59.9		046
599	1984 04	05.92711	12 48 13.94	+09 34 37.6		046
599	1984 04	05.94128	12 48 13.15	+09 34 39.3		046
617	1984 04	06.01681	14 04 14.36	-04 36 11.0		046
617	1984 04	06.03116	14 04 13.87	-04 36 10.9		046
697	1984 03	21.88939	12 27 38.66	+01 37 57.7		046
697	1984 03	21.90351	12 27 37.94	+01 37 59.3		046
799	1984 03	31.91988	12 03 30.05	+02 44 27.1		046
799	1984 03	31.93412	12 03 29.36	+02 44 33.7		046
799	1984 04	05.89319	11 59 39.71	+03 18 11.6		046
799	1984 04	05.90731	11 59 39.09	+03 18 16.9		046
857	1984 04	05.96096	13 17 59.29	+01 01 03.5		046
857	1984 04	05.97520	13 17 58.49	+01 01 08.5		046
866	1984 03	21.92232	12 52 20.96	+07 41 01.1		046
866	1984 03	21.93655	12 52 20.37	+07 41 05.1		046
866	1984 03	22.96074	12 51 36.81	+07 46 18.8		046

866		1984	03	22.97521	12	51	36.15	+07	46	18.1	046
866		1984	03	31.95449	12	45	01.47	+08	28	34.2	046
866		1984	03	31.96867	12	45	00.92	+08	28	37.0	046
866		1984	04	05.92711	12	41	19.66	+08	48	41.1	046
866		1984	04	05.94128	12	41	18.96	+08	48	44.2	046
877		1984	03	22.92504	12	18	31.12	+04	34	49.5	046
877		1984	03	22.93933	12	18	30.31	+04	34	55.5	046
970		1984	02	21.85603	09	55	10.77	+09	58	17.5	046
970		1984	02	22.97735	09	54	03.22	+10	02	16.6	046
975		1984	03	21.88939	12	17	50.74	+00	34	42.7	046
975		1984	03	21.90351	12	17	50.08	+00	34	46.3	046
975		1984	03	31.91988	12	09	37.64	+01	19	55.9	046
975		1984	03	31.93412	12	09	36.99	+01	19	58.9	046
975		1984	04	05.89319	12	05	44.17	+01	40	23.1	046
975		1984	04	05.90731	12	05	43.50	+01	40	27.1	046
1043		1984	02	21.85603	09	55	25.53	+10	09	43.0	046
1111		1984	03	24.87365	11	38	08.11	+06	31	41.3	046
1111		1984	03	24.88782	11	38	07.50	+06	31	45.3	046
1111		1984	03	26.85490	11	36	43.06	+06	41	34.6	046
1111		1984	03	26.87046	11	36	42.44	+06	41	38.9	046
1153		1984	01	05.79931	03	55	08.88	+22	20	22.7	046
1153		1984	01	05.82083	03	55	08.46	+22	20	16.6	046
1267		1984	03	21.88939	12	14	45.02	+01	41	27.7	046
1267		1984	03	21.90351	12	14	44.23	+01	41	31.5	046
1267		1984	03	31.91988	12	04	56.44	+02	25	04.7	046
1267		1984	03	31.93412	12	04	55.65	+02	25	07.7	046
1267		1984	04	05.89319	12	00	14.76	+02	44	17.1	046
1267		1984	04	05.90731	12	00	13.91	+02	44	20.3	046
1271		1984	04	05.96096	13	18	05.72	+01	09	46.9	046
1271		1984	04	05.97520	13	18	05.25	+01	09	51.5	046
1343		1984	02	21.81888	09	29	15.97	+24	25	28.9	046
1451		1984	04	06.05170	14	16	17.27	-08	13	13.9	046
1451		1984	04	06.06582	14	16	16.69	-08	13	05.8	046
1480		1984	04	06.01681	13	59	18.24	-05	56	43.2	16.0 046
1480		1984	04	06.03116	13	59	17.35	-05	56	41.4	046
1737		1984	02	21.85603	10	01	13.02	+11	33	31.9	046
1860		1984	03	20.85877	11	42	00.08	+13	13	38.1	046
1860		1984	03	20.87122	11	41	59.44	+13	13	44.8	046
1860		1984	03	21.85623	11	41	08.89	+13	21	16.4	046
1860		1984	03	21.87035	11	41	08.16	+13	21	23.7	046
1860		1984	03	22.85820	11	40	17.79	+13	28	49.4	046
1860		1984	03	22.87232	11	40	17.17	+13	28	55.2	046
1860		1984	03	24.84037	11	38	37.21	+13	43	15.0	046
1860		1984	03	24.85455	11	38	36.49	+13	43	21.9	046
1999		1984	03	26.82087	10	43	00.06	+14	35	11.4	046
1999		1984	03	26.83499	10	42	59.63	+14	35	18.2	046
2160		1984	04	05.89319	12	03	59.67	+03	02	50.5	17.2 046
2160		1984	04	05.90731	12	03	58.77	+03	02	55.6	046
2341		1984	03	26.82087	10	34	43.28	+15	52	11.3	046
2341		1984	03	26.83499	10	34	42.72	+15	52	15.3	046
2465		1984	03	20.82457	10	23	00.54	+05	25	22.8	046
2465		1984	03	20.83892	10	22	59.61	+05	25	25.6	046
2818		1984	03	26.82087	10	32	02.45	+14	44	51.6	046
2818		1984	03	26.83499	10	32	01.89	+14	44	50.2	046
1983	TP	1983	10	13.95553	01	25	21.38	+07	20	32.7	046
1983	TP	1983	10	13.97012	01	25	20.46	+07	20	22.1	046
1983	TP	1983	10	14.92926	01	24	35.71	+07	12	13.2	046
1983	TP	1983	10	14.94344	01	24	34.77	+07	12	09.4	046
1983	VH1	1983	11	09.88630	02	27	49.98	+03	04	23.0	046

1983	WA1		1983	12	08.84844	04	38	19.72	+22	16	19.0		046
1983	WA1		1983	12	08.86262	04	38	18.96	+22	16	21.9		046
1983	XT		1983	12	08.84844	04	33	30.15	+21	17	32.2	1	046
1983	XT		1983	12	08.86262	04	33	29.47	+21	17	31.6		046
1984	AN1	*	1984	01	05.84653	06	44	01.50	+20	59	41.3		046
1984	AN1		1984	01	05.86146	06	44	00.71	+20	59	51.0		046
1984	DE		1984	02	21.85603	09	56	55.68	+09	39	38.1		046
1984	DF		1984	02	21.85603	10	03	27.39	+08	32	17.0		046
1984	FR	*	1984	03	20.82457	10	20	01.63	+05	07	20.2	17.0	046
1984	FR		1984	03	20.83892	10	20	00.84	+05	07	22.9		046
1984	FS	*	1984	03	20.85877	11	36	14.75	+15	02	21.7	16.0	046
1984	FS		1984	03	20.87122	11	36	14.10	+15	02	29.0		046
1984	FS		1984	03	21.85623	11	35	31.22	+15	12	03.8		046
1984	FS		1984	03	21.87035	11	35	30.48	+15	12	10.0		046
1984	FS		1984	03	22.85820	11	34	47.36	+15	21	26.1		046
1984	FS		1984	03	22.87232	11	34	46.74	+15	21	33.6		046
1984	FS		1984	03	24.84037	11	33	23.13	+15	39	22.8		046
1984	FS		1984	03	24.85455	11	33	22.71	+15	39	29.7		046
1984	FT	*	1984	03	21.92232	12	51	33.81	+06	47	25.3	16.2	046
1984	FT		1984	03	21.93655	12	51	33.21	+06	47	31.0		046
1984	FT		1984	03	22.96074	12	50	52.20	+06	55	48.0		046
1984	FT		1984	03	22.97521	12	50	51.40	+06	55	55.2		046
1984	FT		1984	03	31.95449	12	44	36.29	+08	05	12.4		046
1984	FT		1984	03	31.96867	12	44	35.78	+08	05	20.2		046
1984	FT		1984	04	05.92711	12	41	04.52	+08	39	49.3		046
1984	FT		1984	04	05.94128	12	41	04.00	+08	39	54.5		046
1984	FU	*	1984	03	22.92504	12	16	59.02	+02	40	41.1	16.4	046
1984	FU		1984	03	22.93933	12	16	57.94	+02	40	41.9		046
1984	FU		1984	03	31.91988	12	07	37.48	+02	58	33.0		046
1984	FU		1984	03	31.93412	12	07	36.97	+02	58	36.6		046
1984	FU		1984	04	05.89319	12	02	46.12	+03	04	41.5		046
1984	FU		1984	04	05.90731	12	02	45.27	+03	04	41.3		046
1984	FV	*	1984	03	22.96074	12	54	10.76	+05	34	56.7	17.0	046
1984	FV		1984	03	22.97521	12	54	10.13	+05	35	05.7		046
1984	FW	*	1984	03	26.82087	10	33	04.56	+16	33	36.4	17.2	046
1984	FW		1984	03	26.83499	10	33	03.49	+16	33	48.9		046
1984	FX	*	1984	03	26.82087	10	34	30.50	+18	08	49.9	17.0	046
1984	FX		1984	03	26.83499	10	34	29.70	+18	08	54.7		046
1984	FY	*	1984	03	26.82087	10	39	13.73	+17	36	45.3	16.8	046
1984	FY		1984	03	26.83499	10	39	13.10	+17	36	42.2		046
1984	FZ	*	1984	03	26.82087	10	40	34.39	+15	43	46.3	17.0	046
1984	FZ		1984	03	26.83499	10	40	33.64	+15	43	55.4		046
1984	FA1	*	1984	03	26.85490	11	39	12.31	+05	17	59.3	17.0	046
1984	FA1		1984	03	26.87046	11	39	11.57	+05	18	05.4		046
1984	FB1	*	1984	03	31.85177	11	30	08.10	+00	24	11.8	17.2	046
1984	FB1		1984	03	31.86601	11	30	07.36	+00	24	11.7		046
1984	FC1	*	1984	03	31.91988	12	09	35.24	+03	16	48.2	17.0	046
1984	FC1		1984	03	31.93412	12	09	34.57	+03	16	53.2		046
1984	FC1		1984	04	05.89319	12	05	42.04	+03	36	27.7		046
1984	FC1		1984	04	05.90731	12	05	41.27	+03	36	32.8		046
1984	FD1	*	1984	03	31.91988	12	13	26.74	+03	23	22.1	17.0	046
1984	FD1		1984	03	31.93412	12	13	26.20	+03	23	24.9		046
1984	GD	*	1984	04	05.89319	12	10	30.16	+02	31	46.5	17.0	046
1984	GD		1984	04	05.90731	12	10	29.62	+02	31	50.6		046
1984	GE	*	1984	04	05.92711	12	36	51.03	+09	29	25.5	16.8	046
1984	GE		1984	04	05.94128	12	36	50.16	+09	29	26.9		046
1984	GF	*	1984	04	05.96096	13	14	57.27	+01	05	22.1	16.0	046
1984	GF		1984	04	05.97520	13	14	56.23	+01	05	32.4		046
1984	GG	*	1984	04	06.01681	14	04	31.66	-06	08	08.8	16.6	046

1984 GG		1984 04 06.03116	14 04 30.55	-06 08 11.1			046
1984 GH	*	1984 04 06.05170	14 10 43.82	-08 27 50.2		17.2	046
1984 GH		1984 04 06.06582	14 10 43.03	-08 27 47.5			046

Note 1: at edge of plate.

OBSERVATIONS MADE AT BRORFELDE BY K. AUGUSTESEN, P. JENSEN AND H. J. FOGH OLSEN.

Contact: H. J. Fogh Olson, Copenhagen University Observatory, Brorfelde, DK-4340 Tollose, Denmark.

Object	Date	UT	R. A. (1950)	Decl.		Obs.
1984 EJ	1984 03 21.90625	10 45 35.26	+08 21 39.2			054
1984 EJ	1984 03 30.87697	10 39 43.61	+09 23 14.6			054
1984 EJ	1984 04 01.87211	10 38 43.39	+09 34 44.3			054

OBSERVATIONS MADE AT TURKU.

Plates taken with the 0.50-m anastigmatic reflector, which until late 1937 was temporarily located a few meters from the subsequent Iso-Heikkila site (Vaisala 1950, Turku Informo No. 6). Measured by L. Oterma. Contact: L. Oterma, Sirkkalank 31, SF-20700 Turku, Finland.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1936 FZ1	1936 03 20.93940	10 56 33.68	+06 30 49.0				062
1936 FZ1	1936 03 20.99215	10 56 31.43	+06 31 15.7		15.7	1	062
1936 FZ1	1936 03 21.02688	10 56 29.86	+06 31 32.4			1	062
1936 FZ1	1936 03 27.86017	10 51 42.23	+07 26 45.6				062
1937 AB1	* 1937 01 06.78514	07 20 21.08	+30 36 21.9		15.5		062
1937 AB1	1937 01 06.81292	07 20 19.06	+30 36 28.3				062
1937 AB1	1937 01 09.13975	07 17 25.65	+30 44 28.6			2	062

Note 1: remeasurement of mean position (MPC 8693 and RI 1349) from double-point plate. 2: close to edge of plate, transferred.

OBSERVATIONS MADE AT BUCHAREST.

Plates (ORWO, 0.24-m x 0.24-m, field 2 by 2) taken with the 0.38-m f/16 astrograph. Measured with a Zeiss ASCORECORD engine. Five reference stars from the SAO Catalogue, solutions by both plate constants and dependences. Computations with an IBM 370 at Bucharest and IBM 3700 at Nice. Contact: V. Ionescu, Observatoire Astronomique, 5 Rue Cutitul Argint, R-75212 Bucharest, Roumania.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1	1982 05 24.88787	15 03 09.22	-09 07 11.7		073
1	1982 05 24.89549	15 03 08.86	-09 07 12.7		073
1	1982 05 28.86760	14 59 55.25	-09 12 05.1		073
1	1982 05 28.87453	14 59 54.90	-09 12 05.8		073
2	1982 05 24.86813	12 50 34.61	+22 50 31.5		073
2	1982 05 24.87921	12 50 34.66	+22 50 31.7		073
2	1982 05 28.84509	12 51 01.62	+22 47 15.6		073
2	1982 05 28.85894	12 51 01.73	+22 47 14.3		073
2	1982 06 24.79388	13 02 37.76	+21 02 28.9		073
2	1982 06 24.80219	13 02 38.10	+21 02 25.8		073
3	1982 05 24.90553	18 30 05.63	-05 31 26.4		073
3	1982 05 24.91592	18 30 05.33	-05 31 24.5		073
3	1982 05 28.88457	18 27 50.87	-05 19 55.4		073
3	1982 05 28.89565	18 27 50.51	-05 19 54.0		073
3	1982 06 24.85759	18 06 49.19	-04 49 21.7		073
3	1982 06 24.86798	18 06 48.53	-04 49 22.0		073
3	1982 08 27.78500	17 36 37.36	-08 56 08.7		073
3	1982 08 27.80024	17 36 37.48	-08 56 16.9		073
3	1982 09 06.73761	17 39 30.21	-09 50 35.5		073
3	1982 09 06.74973	17 39 30.48	-09 50 39.4		073
3	1982 09 08.75535	17 40 20.47	-10 01 28.2		073

3	1982 09 08.76678	17 40 20.76	-10 01 31.5				073
4	1982 08 27.87815	21 11 55.74	-24 23 39.5				073
4	1982 08 27.88473	21 11 55.43	-24 23 39.5				073
4	1982 09 06.78851	21 05 29.53	-24 58 27.4				073
4	1982 09 06.79613	21 05 29.31	-24 58 28.5				073
4	1982 10 21.71758	21 12 36.01	-23 48 57.2				073
4	1982 10 21.72728	21 12 36.43	-23 48 54.8				073
6	1982 05 24.84320	11 37 23.36	+16 59 11.7				073
6	1982 05 24.85567	11 37 23.54	+16 59 04.8				073
6	1982 05 28.82155	11 38 36.93	+16 41 44.3				073
6	1982 05 28.83470	11 38 37.15	+16 41 41.0				073
6	1982 05 31.78980	11 39 43.58	+16 27 29.4				073
6	1982 05 31.80850	11 39 43.95	+16 27 25.0				073
10	1982 02 12.74846	07 54 50.19	+18 49 23.5				073
10	1982 02 12.75746	07 54 49.86	+18 49 24.8				073
10	1982 03 27.75122	07 44 51.69	+19 04 30.7				073
10	1982 03 27.76438	07 44 51.79	+19 04 30.4				073
15	1982 03 01.71209	05 12 02.16	+25 23 51.2				073
15	1982 03 01.72040	05 12 02.67	+25 23 49.2				073
32	1982 08 27.83521	19 41 28.70	-13 06 04.2				073
32	1982 08 27.84595	19 41 28.47	-13 06 06.1				073
39	1982 08 27.85634	20 05 03.05	-13 40 05.0				073
39	1982 08 27.86742	20 05 02.77	-13 40 10.1				073
39	1982 09 06.76219	20 02 07.70	-14 43 57.0				073
39	1982 09 06.77743	20 02 07.59	-14 44 02.5				073
39	1982 09 08.77786	20 01 50.87	-14 55 54.1				073
39	1982 09 08.79656	20 01 50.77	-14 56 00.6				073
39	1982 10 21.69473	20 21 22.42	-17 19 44.4				073
39	1982 10 21.70581	20 21 23.03	-17 19 44.6				073
40	1982 03 27.80108	10 06 44.71	+18 16 38.5				073
40	1982 03 27.81216	10 06 44.36	+18 16 38.9				073
40	1982 05 24.79403	10 25 35.63	+14 52 24.2				073
40	1982 05 24.80580	10 25 36.19	+14 52 20.1				073
471	1982 03 01.73598	05 11 34.73	+28 41 10.1				073
471	1982 03 01.74637	05 11 35.34	+28 41 11.8				073
532	1982 02 12.70518	08 34 51.37	+30 13 58.2				073
532	1982 02 12.71210	08 34 51.01	+30 14 01.9				073
532	1982 03 27.77788	08 23 06.78	+32 44 18.5				073
532	1982 03 27.78758	08 23 07.01	+32 44 17.6				073
532	1982 04 02.73862	08 26 11.37	+32 36 47.3				073
532	1982 04 02.74693	08 26 11.62	+32 36 46.2				073
704	1982 04 02.75664	09 15 58.44	-03 15 14.4				073
704	1982 04 02.77326	09 15 58.25	-03 15 10.8				073

OBSERVATIONS MADE AT THE CRIMEAN ASTROPHYSICAL OBSERVATORY BY N. S. CHERNYKH, L. I. CHERNYKH, T. M. SMIRNOVA, L. V. ZHURAVLEVA AND L. G. KARACHKINA.

Plates taken with the 0.40-m f/5 astrograph. This is the 54th report in the series carried out in association with the Institute for Theoretical Astronomy. Contact: Yu. V. Batrakov, Institute for Theoretical Astronomy, Naberezhnaya Kutuzova 10, 192187 Leningrad, U.S.S.R.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
572		1982 05 13.82444		14 22 13.92	-06 08 42.6		1	095
1601		1982 05 13.82444		14 22 52.99	-09 03 57.2		1	095
1975		1982 05 13.82444		14 23 38.36	-06 33 52.9		1	095
2249		1982 05 13.82444		14 25 58.43	-08 10 03.3			095
51		1982 05 13.82444		14 32 06.64	-01 08 14.2		1	095
1982	JK3 *	1982 05 13.82444		14 36 15.75	-06 24 54.8	16.5		095
1096		1982 05 13.82444		14 39 38.58	-05 57 30.2			095
1982	JL3 *	1982 05 13.82444		14 39 55.12	-04 32 21.8	17.0		095

1085		1982	05	13.82444	14	43	46.64	-05	32	45.6			095
2400		1982	05	13.82444	14	44	54.60	-02	56	04.8			095
670		1982	05	13.82444	14	46	02.09	-07	12	08.3			095
1982	JM3 *	1982	05	13.82444	14	54	31.30	-04	40	38.5	16.5		095
1982	JN3 *	1982	05	13.89006	15	30	21.11	+02	13	44.5	17.0	1	095
1982	KN1	1982	05	13.89006	15	39	50.64	-00	27	10.0	17.0		095
892		1982	05	13.89006	15	47	30.36	+06	14	06.7			095
511		1982	05	13.89006	15	48	02.94	-01	50	43.5		1	095
1982	JO3 *	1982	05	13.89006	15	49	19.88	+04	10	55.6	17.0		095
1982	JP3 *	1982	05	13.89006	15	55	43.72	-01	41	54.7	17.0	1	095
1982	JQ3 *	1982	05	13.89006	16	00	12.92	+02	16	33.9	17.0		095
1982	JR3 *	1982	05	13.89006	16	02	50.10	+00	10	22.8	17.0		095
893		1982	05	13.89006	16	06	02.78	+03	43	25.5		1	095
329		1982	05	13.89006	16	06	35.22	+02	29	30.5		1	095
1982	JS3 *	1982	05	13.89006	16	07	49.42	+01	08	57.1	17.0	1	095
295		1982	05	15.82671	14	22	46.06	-17	26	47.7		1	095
1982	JT3 *	1982	05	15.82671	14	26	17.38	-19	12	13.1	17.0	1	095
793		1982	05	15.82671	14	31	11.60	-19	26	04.1		1	095
180		1982	05	15.82671	14	35	05.03	-16	37	58.0			095
1982	JU3 *	1982	05	15.82671	14	36	19.34	-11	20	12.7	17.0		095
248		1982	05	15.82671	14	43	15.07	-18	09	23.2			095
1982	JV3 *	1982	05	15.82671	14	46	57.50	-11	38	01.0	17.0		095
1982	JW3 *	1982	05	15.82671	14	50	40.38	-12	39	29.2	17.0		095
2393		1982	05	15.82671	14	51	47.93	-15	58	33.1			095
279		1982	05	15.82671	14	54	27.67	-15	16	46.0		1	095
1044		1982	05	15.82671	14	54	36.38	-15	16	34.6		1	095
90		1982	05	15.82671	14	58	22.14	-15	39	02.0		1	095
1982	JX3 *	1982	05	15.89059	15	00	23.77	-02	19	14.9	18.0	1	095
1982	JY3 *	1982	05	15.89059	15	01	27.97	-02	13	50.4	17.0	1	095
1075		1982	05	15.89059	15	05	53.20	-03	30	01.1		1	095
1982	JZ3 *	1982	05	15.89059	15	08	36.82	-01	35	09.0	18.0		095
1982	JA4 *	1982	05	15.89059	15	11	24.93	-03	46	12.6	18.0	1	095
542		1982	05	15.89059	15	15	50.10	-00	27	21.4			095
1982	JB4 *	1982	05	15.89059	15	18	56.44	+04	12	03.6	17.0		095
1982	JC4 *	1982	05	15.89059	15	19	19.22	+01	34	24.4	16.5		095
1982	JD4 *	1982	05	15.89059	15	24	16.71	-03	52	53.8	18.0	1	095
2189		1982	05	15.89059	15	26	07.38	+04	25	12.4			095
1982	JE4 *	1982	05	15.89059	15	26	33.28	+00	06	09.7	16.5		095
1982	JF4 *	1982	05	15.89059	15	28	51.30	+03	05	57.9	17.5		095
1934		1982	05	15.89059	15	31	27.09	+02	12	18.4			095
1982	JG4 *	1982	05	15.89059	15	33	39.96	+04	09	53.3	17.5		095
1982	JH4 *	1982	05	15.89059	15	34	18.32	+01	28	33.2	18.0	1	095
1982	JJ4 *	1982	05	15.89059	15	35	04.06	+01	29	33.5	17.5	1	095
1982	KN1	1982	05	15.89059	15	37	55.90	-00	30	12.0	16.5	1	095
1982	JK4 *	1982	05	15.94823	15	50	18.44	-08	50	57.7	16.5	1	095
159		1982	05	15.94823	15	50	58.92	-11	18	33.9		1	095
593		1982	05	15.94823	15	52	32.49	-11	38	05.5		1	095
1982	JL4 *	1982	05	15.94823	15	52	39.29	-11	16	49.0	17.0	1	095
1982	JM4 *	1982	05	15.94823	15	52	55.30	-09	03	14.5	16.5	3	095
1982	JN4 *	1982	05	15.94823	15	55	48.16	-07	58	56.7	16.5		095
1982	JO4 *	1982	05	15.94823	16	00	08.80	-10	51	33.1	17.0		095
1982	JP4 *	1982	05	15.94823	16	00	25.46	-03	57	18.8	16.0	1	095
2120		1982	05	15.94823	16	02	01.50	-12	45	29.7		1	095
1556		1982	05	15.94823	16	02	14.75	-08	21	40.6			095
1982	JQ4 *	1982	05	15.94823	16	02	29.78	-07	54	33.8	16.5		095
1982	JR4 *	1982	05	15.94823	16	06	05.28	-10	13	26.2	17.0	2	095
1982	JS4 *	1982	05	15.94823	16	06	13.32	-06	20	29.6	16.5		095
2784		1982	05	15.94823	16	06	33.11	-10	09	59.0	16.0		095
1982	JT4 *	1982	05	15.94823	16	06	40.00	-06	34	04.9	16.5		095

1982	JU4	*	1982	05	15.94823	16	08	26.32	-08	16	22.5		17.0	095
1982	JV4	*	1982	05	15.94823	16	10	08.31	-11	27	06.5		17.0	2 095
1607			1982	05	15.94823	16	11	14.56	-08	42	44.8			095
1982	JW4	*	1982	05	15.94823	16	12	54.38	-06	24	45.5		17.0	095
1982	JX4	*	1982	05	15.94823	16	14	45.78	-04	17	26.3		16.5	1 095
1982	JY4	*	1982	05	15.94823	16	16	48.59	-04	16	29.2		16.5	095
1800			1982	05	15.94823	16	19	36.50	-12	20	12.6			1 095
1982	JZ4	*	1982	05	15.94823	16	22	28.18	-06	28	17.6		16.5	1 095
1982	JA5	*	1982	05	15.94823	16	26	26.69	-06	00	38.7		16.5	3 095
1982	JB5	*	1982	05	15.94823	16	28	47.07	-03	45	07.8		16.5	3 095
542			1982	05	23.82601	15	09	46.14	-00	04	52.6			1 095
1982	KT2	*	1982	05	23.82601	15	10	02.87	+03	04	53.0		17.5	2 095
1982	KU2	*	1982	05	23.82601	15	11	16.74	-02	32	00.5		17.5	1 095
1982	JB4		1982	05	23.82601	15	11	59.09	+04	19	50.0		17.0	1 095
1982	KV2	*	1982	05	23.82601	15	14	34.39	-03	57	21.6		17.5	1 095
1982	KW2	*	1982	05	23.82601	15	17	39.43	-00	57	37.1		17.5	2 095
2189			1982	05	23.82601	15	18	22.53	+04	38	36.4			095
1982	JE4		1982	05	23.82601	15	21	00.64	+00	59	12.5		17.0	2 095
1982	KX2	*	1982	05	23.82601	15	22	29.88	+03	05	18.1		17.5	095
1982	KY2	*	1982	05	23.82601	15	24	00.27	+03	16	01.4		17.5	095
1386			1982	05	23.82601	15	26	13.76	+03	40	58.8			095
1982	KZ2	*	1982	05	23.82601	15	27	22.22	+03	25	07.2		17.5	2 095
1982	KA3	*	1982	05	23.82601	15	28	00.54	+02	04	56.5		17.5	095
1982	KN1		1982	05	23.82601	15	30	24.81	-00	50	30.8		17.0	095
1982	KB3	*	1982	05	23.82601	15	31	26.42	-00	39	13.5		17.5	095
1982	KC3	*	1982	05	23.82601	15	32	13.37	-03	33	13.9		17.0	095
1982	KD3	*	1982	05	23.88468	15	51	10.08	-06	22	00.9		17.5	1 095
1982	JP4		1982	05	23.88468	15	52	41.95	-03	31	41.7		16.5	1 095
1982	KE3	*	1982	05	23.88468	15	53	57.20	-03	58	07.4		17.5	1 095
2120			1982	05	23.88468	15	55	51.71	-11	37	36.8			095
1556			1982	05	23.88468	15	56	08.59	-08	22	25.8			1 095
1982	KF3	*	1982	05	23.88468	15	57	20.08	-05	02	42.8		17.5	095
2784			1982	05	23.88468	15	58	41.04	-10	08	23.3		16.0	095
1982	KG3	*	1982	05	23.88468	16	01	17.84	-03	51	46.1		17.5	095
1982	KH3	*	1982	05	23.88468	16	02	00.92	-09	31	01.7		17.5	095
1982	KJ3	*	1982	05	23.88468	16	03	08.20	-02	42	22.6		17.5	1 095
1607			1982	05	23.88468	16	03	31.77	-08	24	02.7			095
1982	KV1		1982	05	23.88468	16	08	33.53	-02	13	18.0		17.5	1 095
1982	KK3	*	1982	05	23.88468	16	09	27.15	-04	39	24.0		17.5	095
1982	KL3	*	1982	05	23.88468	16	15	29.72	-10	02	18.2		17.5	095
1982	JZ4		1982	05	23.88468	16	15	37.98	-05	33	04.2		17.0	095
1982	KM3	*	1982	05	23.88468	16	17	19.71	-05	29	20.5		17.5	2 095
2375			1982	05	23.88468	16	20	36.44	-02	44	48.6			1 095
1982	JB5		1982	05	23.88468	16	21	46.15	-03	46	12.7		17.0	2 095
1982	KN3	*	1982	05	23.88468	16	22	11.85	-07	35	39.3		17.5	2 095
890			1982	05	23.88468	16	29	42.56	-04	59	21.5			1 095
1982	KO3	*	1982	05	23.88468	16	31	33.57	-07	36	55.2		17.0	1 095
737			1982	05	23.96209	17	14	58.66	-02	51	33.1			095
2741			1982	05	23.96209	17	16	10.77	-04	14	33.3		16.0	095
1982	KP3	*	1982	05	23.96209	17	23	35.20	+00	32	29.2		16.5	095
1982	KQ3	*	1982	05	23.96209	17	26	32.10	-00	41	53.5		16.5	095
1982	KR3	*	1982	05	23.96209	17	32	26.35	-01	31	15.1		17.0	095
1583			1982	05	23.96209	17	33	24.40	-00	47	46.1			095
1982	KS3	*	1982	05	26.85765	15	16	21.45	-02	06	54.3		17.0	095
1982	KT3	*	1982	05	26.85765	15	17	21.71	+06	00	55.7		16.5	1 095
1982	JE4		1982	05	26.85765	15	18	59.02	+01	16	26.1		17.0	2 095
1386			1982	05	26.85765	15	23	26.32	+03	55	00.6			095
1982	KN1		1982	05	26.85765	15	27	38.72	-01	01	42.1		16.5	095
511			1982	05	26.85765	15	38	07.24	-01	45	30.1			095

1982	KU3	*	1982	05	26.85765	15	48	37.82	-00	57	04.9	17.0	1 095
1982	KV3	*	1982	05	26.91735	15	53	18.97	-06	39	51.4	17.5	1 095
2120			1982	05	26.91735	15	53	29.67	-11	12	46.3		3 095
1982	KW3	*	1982	05	26.91735	15	53	37.79	-04	55	52.9	17.5	095
1556			1982	05	26.91735	15	53	47.52	-08	23	55.5		095
2784			1982	05	26.91735	15	55	34.88	-10	10	14.4	16.0	095
1982	KX3	*	1982	05	26.91735	15	57	18.60	-09	07	24.8	17.5	095
1607			1982	05	26.91735	16	00	29.35	-08	18	28.3		095
1982	KY3	*	1982	05	26.91735	16	04	48.81	-01	38	01.1	17.5	1 095
1982	KV1		1982	05	26.91735	16	06	06.70	-02	11	27.2	17.5	1 095
1982	KZ3	*	1982	05	26.91735	16	12	56.66	-04	33	29.7	17.5	095
1982	KA4	*	1982	05	26.91735	16	17	04.27	-04	41	21.6	17.5	095
1982	KB4	*	1982	05	26.91735	16	17	09.97	-04	20	54.5	17.5	095
2375			1982	05	26.91735	16	18	03.68	-02	52	45.2		095
1982	KC4	*	1982	05	26.91735	16	18	33.35	-06	10	01.0	17.5	2 095
1982	JB5		1982	05	26.91735	16	18	56.75	-03	49	32.0	17.0	095
890			1982	05	26.91735	16	27	20.66	-04	51	10.7		1 095
1982	KD4	*	1982	05	26.97777	16	58	19.74	-06	38	24.4	16.5	095
1982	KE4	*	1982	05	26.97777	17	09	49.04	-05	38	44.8	16.5	095
737			1982	05	26.97777	17	12	48.46	-02	29	02.7		095
2741			1982	05	26.97777	17	13	59.40	-04	07	27.4	16.0	095
323			1982	05	26.97777	17	19	05.98	-07	41	31.2		095
1982	KQ3		1982	05	26.97777	17	24	26.14	-00	25	55.1	16.5	095
737			1982	06	12.88824	16	58	41.62	-00	57	14.5		095
2741			1982	06	12.88824	17	00	08.90	-04	06	06.0	16.0	095
1982	KQ3		1982	06	12.88824	17	08	54.17	+00	14	05.5	16.5	095
1982	LB	*	1982	06	12.88824	17	09	05.12	+00	00	58.2	16.5	2 095
1982	LC	*	1982	06	12.88824	17	11	21.34	-03	14	08.8	16.5	095
593			1982	06	13.83014	15	26	08.56	-12	34	38.6		095
966			1982	06	13.83014	15	30	41.55	-16	14	20.6		095
995			1982	06	13.83014	15	41	53.42	-10	51	34.2		3 095
755			1982	06	13.90113	17	51	19.45	-18	20	51.4		095
593			1982	06	16.83956	15	24	03.45	-12	43	31.7		095
159			1982	06	16.83956	15	28	29.26	-10	37	46.1		3 095
966			1982	06	16.83956	15	28	34.34	-16	30	34.1		095
1905			1982	06	16.90170	17	31	10.30	-18	09	29.5		095
1255			1982	06	16.90170	17	32	50.29	-17	46	03.9		095
415			1982	06	16.96662	19	07	31.06	-17	16	33.7		095
405			1982	06	16.96662	19	07	36.91	-14	33	27.7		095
1341			1982	06	16.96662	19	24	49.41	-19	22	49.0		2 095
808			1982	06	16.96662	19	29	06.43	-15	09	45.7		2 095
586			1982	06	16.96662	19	31	39.44	-19	53	47.8		2 095
44			1982	06	16.96662	19	38	09.47	-18	52	44.0		1 095
966			1982	06	19.81581	15	26	42.08	-16	47	09.3		095
1905			1982	06	19.88108	17	28	22.58	-18	04	41.3		095
723			1982	06	19.88108	17	35	51.26	-16	07	49.3		095
755			1982	06	19.88108	17	46	22.42	-18	19	10.4		1 095
405			1982	06	19.95369	19	04	48.63	-14	16	56.2		1 095
415			1982	06	19.95369	19	05	14.22	-17	22	36.9		095
277			1982	06	19.95369	19	08	58.75	-21	10	28.8		2 095
1130			1982	06	19.95369	19	16	15.13	-18	19	14.6		095
808			1982	06	19.95369	19	27	02.34	-15	11	38.8		095
586			1982	06	19.95369	19	29	41.69	-19	56	32.8		095
863			1982	06	19.95369	19	35	53.94	-13	55	30.7		1 095
44			1982	06	19.95369	19	35	55.34	-18	59	33.2		1 095
593			1982	06	21.83575	15	21	00.28	-12	59	28.5		1 095
238			1982	06	21.83575	15	21	51.34	-03	38	16.5		1 095
159			1982	06	21.83575	15	26	05.69	-10	39	29.8		095
995			1982	06	21.83575	15	36	58.84	-10	12	58.0		095

2120		1982	06	21.83575	15	36	59.78	-08	25	05.4		2	095
1982	MK	* 1982	06	21.83575	15	37	46.61	-09	57	50.7	16.0	2	095
1982	ML	* 1982	06	21.83575	15	41	17.44	-08	06	50.5	16.5		095
472		1982	06	21.96316	19	28	11.80	-11	54	31.7		1	095
533		1982	06	21.96316	19	31	23.47	-12	15	38.3			095
863		1982	06	21.96316	19	34	34.97	-14	09	27.1	16.0	2	095
1982	MM	* 1982	06	21.96316	19	42	05.56	-11	38	23.1	16.0		095
729		1982	06	21.96316	20	03	54.66	-12	50	58.6		1	095
19		1982	09	17.98264	01	31	21.78	+10	37	09.4		1	095
1982	SX3	* 1982	09	17.98264	01	31	23.68	+13	07	11.0	17.0	1	095
1982	UH	1982	09	17.98264	01	31	33.72	+13	49	09.2	17.0		095
632		1982	09	17.98264	01	32	03.66	+10	42	23.9		1	095
160		1982	09	17.98264	01	35	22.80	+10	34	34.8			095
1982	SY3	* 1982	09	17.98264	01	35	54.58	+08	01	44.0	16.0		095
1020		1982	09	17.98264	01	38	16.98	+08	35	25.0	16.5		095
2252		1982	09	17.98264	01	42	15.46	+12	41	10.4			095
1982	SZ3	* 1982	09	17.98264	01	42	37.95	+07	20	47.1	16.5		095
1982	SV1	1982	09	17.98264	01	45	56.14	+13	51	27.0	16.0		095
2139		1982	09	17.98264	01	46	13.19	+14	34	36.6			095
1066		1982	09	17.98264	01	48	01.58	+15	40	56.6		1	095
2811		1982	09	17.98264	01	48	17.82	+12	18	42.4			095
1982	SA4	* 1982	09	17.98264	01	52	55.12	+07	45	06.5	16.5		095
1114		1982	09	17.98264	01	53	36.44	+10	50	07.6			095
316		1982	09	17.98264	01	54	52.62	+08	18	43.9			095
2338		1982	09	17.98264	01	55	02.74	+06	45	41.6		1	095
1982	SB4	* 1982	09	17.98264	01	55	40.74	+08	47	15.8	16.8		095
1624		1982	09	17.98264	01	55	48.92	+09	14	19.1			095
1982	SC4	* 1982	09	17.98264	01	58	33.68	+11	37	01.2	16.0		095
1982	SD4	* 1982	09	17.98264	02	00	23.07	+10	05	19.3	17.0		095
2268		1982	09	17.98264	02	01	57.69	+07	25	18.2			095
1982	SE4	* 1982	09	17.98264	02	02	05.63	+11	47	51.6	16.0		095
1982	SF4	* 1982	09	17.98264	02	03	07.62	+09	29	08.1	17.0		095
822		1982	09	17.98264	02	03	15.87	+12	49	56.0			095
453		1982	09	17.98264	02	05	27.98	+13	50	27.6		1	095
1421		1982	09	17.98264	02	07	17.97	+07	46	34.2		1	095
1982	SG4	* 1982	09	20.99652	01	28	58.12	+11	57	06.4	16.9	1	095
19		1982	09	20.99652	01	29	58.56	+10	26	45.4			095
632		1982	09	20.99652	01	30	01.70	+10	33	08.2		1	095
2348		1982	09	20.99652	01	30	11.24	+08	26	07.4		1	095
1982	UH	1982	09	20.99652	01	30	21.13	+13	44	01.2	17.0	1	095
2817		1982	09	20.99652	01	31	50.96	+13	46	12.6		1	095
392		1982	09	20.99652	01	33	33.24	+15	45	54.4		1	095
160		1982	09	20.99652	01	33	37.65	+10	29	47.4			095
1982	SY3	1982	09	20.99652	01	34	19.26	+07	54	52.0	16.5		095
1975	VD	1982	09	20.99652	01	36	34.76	+11	43	07.0	17.0		095
1020		1982	09	20.99652	01	36	39.96	+08	21	18.0	16.5		095
948		1982	09	20.99652	01	40	17.10	+15	15	36.3		1	095
2252		1982	09	20.99652	01	40	34.43	+12	39	12.2			095
1982	UP	1982	09	20.99652	01	40	55.48	+12	00	20.4	16.9		095
2526		1982	09	20.99652	01	43	01.17	+10	43	05.7			095
2139		1982	09	20.99652	01	44	39.92	+14	26	50.4			095
1982	SV1	1982	09	20.99652	01	44	58.86	+13	25	59.0	16.5		095
2792		1982	09	20.99652	01	45	53.78	+10	18	37.2			095
1066		1982	09	20.99652	01	46	45.04	+15	49	36.8		1	095
2811		1982	09	20.99652	01	46	48.58	+12	12	00.3			095
1982	SH4	* 1982	09	20.99652	01	48	35.79	+11	30	18.7	17.0		095
1982	SJ4	* 1982	09	20.99652	01	49	49.66	+08	27	25.7	16.8		095
1982	SK4	* 1982	09	20.99652	01	50	41.95	+08	38	19.6	16.8		095
1982	SA4	1982	09	20.99652	01	51	17.20	+07	44	51.9	16.5		095

1982	SL4	*	1982	09	20.99652	01	51	52.22	+11	55	52.4		17.0	2 095
1114			1982	09	20.99652	01	52	30.41	+10	32	23.8			095
2338			1982	09	20.99652	01	53	37.32	+06	34	02.0			1 095
316			1982	09	20.99652	01	53	40.66	+08	09	02.9			095
1624			1982	09	20.99652	01	54	28.88	+09	04	50.4			095
1982	SB4		1982	09	20.99652	01	54	36.06	+08	41	03.1		16.8	095
1982	SC4		1982	09	20.99652	01	56	50.36	+11	50	10.4		16.0	095
1982	SM4	*	1982	09	20.99652	01	57	14.04	+11	43	25.8		17.3	095
1982	SN4	*	1982	09	20.99652	01	57	17.40	+11	08	01.9		17.0	095
2268			1982	09	20.99652	02	00	48.80	+07	16	32.2			095
1982	SO4	*	1982	09	20.99652	02	01	37.50	+12	28	03.6		16.0	095
822			1982	09	20.99652	02	02	17.88	+12	43	51.3			095
453			1982	09	20.99652	02	03	40.30	+13	49	31.8			095
2179			1982	09	20.99652	02	05	08.69	+14	36	00.5			1 095
1421			1982	09	20.99652	02	05	51.66	+07	42	10.8			1 095
1982	SP4	*	1982	09	22.02764	01	28	25.98	+11	51	14.8		17.0	1 095
632			1982	09	22.02764	01	29	17.62	+10	29	44.0			1 095
19			1982	09	22.02764	01	29	26.68	+10	22	48.2			1 095
2348			1982	09	22.02764	01	29	33.94	+08	20	11.0			1 095
1982	UH		1982	09	22.02764	01	29	52.66	+13	41	41.0		16.5	1 095
2817			1982	09	22.02764	01	31	17.30	+13	43	07.6			1 095
160			1982	09	22.02764	01	32	58.98	+10	27	52.8			095
392			1982	09	22.02764	01	33	06.37	+15	37	52.8			1 095
1982	SY3		1982	09	22.02764	01	33	44.06	+07	52	21.0		16.5	095
1982	SQ4	*	1982	09	22.02764	01	34	25.98	+08	40	10.9		16.8	095
1975	VD		1982	09	22.02764	01	35	57.38	+11	45	50.3		16.0	095
1982	SR4	*	1982	09	22.02764	01	37	35.50	+12	43	00.6		16.0	095
2252			1982	09	22.02764	01	39	56.64	+12	38	13.6			095
1982	UP		1982	09	22.02764	01	40	27.42	+11	56	16.4		17.0	095
2526			1982	09	22.02764	01	42	29.42	+10	41	22.6			095
2139			1982	09	22.02764	01	44	04.31	+14	23	44.4			095
1982	SV1		1982	09	22.02764	01	44	35.97	+13	16	50.2		16.5	095
2792			1982	09	22.02764	01	45	11.42	+10	20	28.6			095
1066			1982	09	22.02764	01	46	14.32	+15	52	04.3			095
2811			1982	09	22.02764	01	46	15.38	+12	09	26.6			095
1982	SJ4		1982	09	22.02764	01	49	13.54	+08	21	46.8		16.5	095
1982	SA4		1982	09	22.02764	01	50	39.05	+07	44	32.7		16.5	095
1114			1982	09	22.02764	01	52	05.12	+10	26	02.8			095
2338			1982	09	22.02764	01	53	05.17	+06	29	54.9			1 095
316			1982	09	22.02764	01	53	13.26	+08	05	32.0			095
1624			1982	09	22.02764	01	53	59.15	+09	01	25.4			095
1982	SC4		1982	09	22.02764	01	56	11.46	+11	54	31.7		16.0	095
2268			1982	09	22.02764	02	00	22.10	+07	13	22.2			1 095
1982	SO4		1982	09	22.02764	02	01	20.93	+12	33	56.0		16.0	095
822			1982	09	22.02764	02	01	53.76	+12	41	22.1			095
453			1982	09	22.02764	02	02	59.50	+13	48	53.8			095
2179			1982	09	22.02764	02	04	37.28	+14	37	31.6			1 095
1982	SS4	*	1982	09	22.02764	02	05	19.56	+13	52	50.8		17.0	095
1421			1982	09	22.02764	02	05	19.63	+07	40	33.4			1 095
138			1982	09	22.02764	02	09	18.26	+09	40	43.5			1 095
1982	ST4	*	1982	09	26.99325	01	23	49.92	+06	45	16.8		16.0	1 095
1982	SP4		1982	09	26.99325	01	25	10.37	+10	33	50.0		17.0	3 095
632			1982	09	26.99325	01	25	32.13	+10	11	47.6			095
1982	SG4		1982	09	26.99325	01	25	35.40	+11	21	12.1		17.0	095
19			1982	09	26.99325	01	26	29.74	+10	01	09.8			095
1982	SU4	*	1982	09	26.99325	01	26	40.05	+10	10	25.8		17.0	095
1982	UH		1982	09	26.99325	01	27	09.76	+13	27	37.5		16.5	095
1982	SV4	*	1982	09	26.99325	01	27	46.70	+07	45	22.2			095
1982	SW4	*	1982	09	26.99325	01	27	51.76	+06	08	15.5		16.5	095

2817		1982	09	26.99325	01	28	11.15	+13	25	17.4			095
160		1982	09	26.99325	01	29	34.52	+10	16	57.7			095
392		1982	09	26.99325	01	30	38.91	+14	56	20.4		1	095
1982	SY3	1982	09	26.99325	01	30	39.89	+07	38	52.2	16.5		095
1975	VD	1982	09	26.99325	01	32	28.53	+11	56	40.4	16.8		095
1982	SX4 *	1982	09	26.99325	01	33	21.31	+13	31	46.4	17.0		095
1982	SY4 *	1982	09	26.99325	01	34	34.02	+11	10	09.4	17.0		095
1982	SZ4 *	1982	09	26.99325	01	35	31.04	+08	48	52.4	16.8		095
2252		1982	09	26.99325	01	36	34.94	+12	31	26.8			095
1982	UP	1982	09	26.99325	01	37	44.95	+11	33	30.7	17.0		095
2526		1982	09	26.99325	01	39	39.89	+10	31	35.0			095
2139		1982	09	26.99325	01	40	50.26	+14	06	03.0		1	095
2792		1982	09	26.99325	01	41	20.92	+10	27	44.8			095
1982	SV1	1982	09	26.99325	01	42	25.28	+12	29	40.6	16.5		095
1982	SA5 *	1982	09	26.99325	01	43	14.58	+08	00	38.6	16.5		095
2811		1982	09	26.99325	01	43	18.67	+11	55	20.6			095
1982	SH4	1982	09	26.99325	01	45	09.50	+11	08	16.0	16.5		095
1982	SA4	1982	09	26.99325	01	47	08.04	+07	41	12.2	16.5		095
1114		1982	09	26.99325	01	49	47.47	+09	53	32.8			095
1982	SL4	1982	09	26.99325	01	50	05.60	+11	08	54.6	16.5		095
2338		1982	09	26.99325	01	50	13.55	+06	08	35.2		1	095
316		1982	09	26.99325	01	50	45.10	+07	47	12.6			095
1624		1982	09	26.99325	01	51	22.56	+08	43	44.7			095
1982	SB4	1982	09	26.99325	01	51	46.48	+08	25	37.3	16.5		095
1982	SC4	1982	09	26.99325	01	52	42.14	+12	13	58.2	16.0		095
1982	SB5 *	1982	09	26.99325	01	53	40.70	+09	00	40.1	16.5		095
1982	SM4	1982	09	26.99325	01	53	57.41	+11	30	17.6	17.0		095
1982	SC5 *	1982	09	26.99325	01	54	07.60	+07	25	59.0	17.0		095
1982	SD5 *	1982	09	26.99325	01	57	47.22	+12	49	47.8	16.0	1	095
2268		1982	09	26.99325	01	57	54.66	+06	56	35.9		1	095
453		1982	09	26.99325	01	59	19.04	+13	43	43.7		1	095
822		1982	09	26.99325	01	59	30.84	+12	26	48.4		1	095
1982	TA1 *	1982	10	14.89730	02	02	08.56	+20	31	47.2		1	095
1908		1982	10	14.89730	02	02	11.52	+14	23	13.9		1	095
1982	TB1 *	1982	10	14.89730	02	02	13.94	+20	55	08.0	17.0	1	095
1175		1982	10	14.89730	02	03	17.81	+23	30	37.9		1	095
1982	TC1 *	1982	10	14.89730	02	04	20.76	+18	23	55.2	17.5	3	095
1982	TD1 *	1982	10	14.89730	02	05	08.04	+19	03	05.6	17.0	1	095
1982	TE1 *	1982	10	14.89730	02	07	24.38	+20	40	20.8	17.0		095
1982	TF1 *	1982	10	14.89730	02	10	57.78	+19	06	50.2	17.0		095
1982	TG1 *	1982	10	14.89730	02	12	28.53	+16	00	46.6	17.0	1	095
1982	TH1 *	1982	10	14.89730	02	13	35.82	+18	08	59.6	17.5		095
1982	TJ1 *	1982	10	14.89730	02	14	16.25	+17	01	58.5	17.0		095
1982	TK1 *	1982	10	14.89730	02	14	20.28	+21	55	03.6	16.5		095
1982	TL1 *	1982	10	14.89730	02	14	55.56	+17	57	20.4	17.0		095
1982	TM1 *	1982	10	14.89730	02	15	21.02	+20	42	22.9	17.0		095
1982	TN1 *	1982	10	14.89730	02	15	22.44	+20	33	53.7	17.0		095
1982	TO1 *	1982	10	14.89730	02	15	27.62	+16	14	29.5	17.0	1	095
1688		1982	10	14.89730	02	16	09.31	+24	19	30.7		1	095
1982	TP1 *	1982	10	14.89730	02	16	32.59	+16	43	35.6	17.0		095
1982	TP	1982	10	14.89730	02	18	57.86	+22	49	10.1	16.5		095
1228		1982	10	14.89730	02	19	02.90	+19	09	28.3			095
1982	TR1 *	1982	10	14.89730	02	19	08.08	+19	09	15.6	17.5		095
1982	TS1 *	1982	10	14.89730	02	20	45.42	+21	50	07.9	17.0		095
1982	TQ	1982	10	14.89730	02	20	50.84	+16	34	01.0	17.0		095
610		1982	10	14.89730	02	21	55.43	+18	45	11.2			095
2809		1982	10	14.89730	02	22	35.12	+16	51	46.6			095
1982	TR	1982	10	14.89730	02	23	14.20	+21	45	25.6	17.0		095
1982	TV1 *	1982	10	14.89730	02	24	48.13	+20	56	15.0	17.5		095

1980	DA		1982	10	14.89730	02	28	42.50	+20	49	07.6		095
55			1982	10	14.89730	02	28	46.11	+19	35	19.0		095
1978	QB3		1982	10	14.89730	02	29	04.74	+20	54	07.0	16.5	095
1982	TW1	*	1982	10	14.89730	02	29	08.70	+22	10	00.2	17.5	095
395			1982	10	14.89730	02	30	01.66	+18	31	44.3		095
257			1982	10	14.89730	02	30	34.65	+14	41	41.8	1	095
1982	TX1	*	1982	10	14.89730	02	31	31.24	+17	17	33.4	17.0	095
1982	TY1	*	1982	10	14.89730	02	32	35.64	+21	49	29.0	17.0	095
35			1982	10	14.89730	02	33	36.57	+22	54	03.8		095
2520			1982	10	14.89730	02	35	13.60	+19	51	44.2		095
2801			1982	10	14.89730	02	35	28.93	+14	54	57.1	1	095
1982	TZ1	*	1982	10	14.89730	02	35	32.82	+16	17	33.6	17.0	095
932			1982	10	14.89730	02	35	59.50	+19	59	08.7		095
1181			1982	10	14.89730	02	36	10.59	+22	57	03.7		095
1982	TS		1982	10	14.89730	02	41	01.81	+16	56	28.0	17.0 1	095
1982	TB2	*	1982	10	14.89730	02	42	10.27	+22	22	17.0	16.0 1	095
1016			1982	10	14.89730	02	42	28.75	+20	49	57.6	1	095
620			1982	10	14.97369	02	56	12.80	+25	03	32.5	1	095
64			1982	10	14.97369	02	56	48.24	+18	56	32.2	1	095
1982	TC2	*	1982	10	14.97369	02	57	02.98	+20	05	22.9	16.5 1	095
2418			1982	10	14.97369	03	00	56.28	+17	21	24.6	1	095
1982	TD2	*	1982	10	14.97369	03	01	59.44	+22	28	34.6	16.0 1	095
1913			1982	10	14.97369	03	02	24.20	+18	49	54.9	1	095
1982	TE2	*	1982	10	14.97369	03	03	28.31	+23	33	16.0	16.0	095
1982	TF2	*	1982	10	14.97369	03	04	51.78	+20	16	18.6	17.0	095
1982	UF2		1982	10	14.97369	03	11	57.51	+19	25	55.2	17.5	095
1982	UG2		1982	10	14.97369	03	12	18.36	+17	57	48.0	17.0	095
1982	UH2		1982	10	14.97369	03	12	56.46	+19	45	23.3	17.5	095
1982	TH2	*	1982	10	14.97369	03	14	55.48	+22	09	45.3	17.0	095
362			1982	10	14.97369	03	15	16.76	+21	03	27.1		095
2323			1982	10	14.97369	03	15	39.67	+22	12	41.3		095
2242			1982	10	14.97369	03	16	14.47	+22	03	18.5		095
2233			1982	10	14.97369	03	16	43.02	+21	13	00.6		095
1982	TJ2	*	1982	10	14.97369	03	18	18.72	+24	29	03.0	17.5	095
1982	TK2	*	1982	10	14.97369	03	18	27.40	+21	39	31.6	17.5	095
951			1982	10	14.97369	03	19	08.42	+23	22	19.8		095
1982	TL2	*	1982	10	14.97369	03	19	40.04	+24	25	34.2	17.5	095
2300			1982	10	14.97369	03	20	34.22	+19	01	20.5		095
1982	TM2	*	1982	10	14.97369	03	22	06.24	+24	57	35.6	16.5 1	095
552			1982	10	14.97369	03	23	35.27	+25	47	03.0	1	095
1440			1982	10	14.97369	03	23	54.62	+18	15	37.4		095
1982	TN2	*	1982	10	14.97369	03	24	24.36	+20	30	05.6	17.0	095
1982	TO2	*	1982	10	14.97369	03	24	35.58	+21	23	07.4	17.5	095
771			1982	10	14.97369	03	29	16.50	+18	13	46.0		095
1343			1982	10	14.97369	03	35	40.60	+19	49	16.4	1	095
88			1982	10	14.97369	03	36	43.32	+25	30	46.9	1	095
774			1982	10	14.97369	03	40	16.71	+22	31	23.6	1	095
1982	TP		1982	10	15.95425	02	18	01.18	+22	44	43.1	17.0 3	095
1982	TR		1982	10	15.95425	02	22	14.68	+21	43	09.9	17.0 1	095
1982	TP2	*	1982	10	15.95425	02	22	28.94	+29	08	26.6	17.0 3	095
1982	TQ2	*	1982	10	15.95425	02	27	16.77	+24	13	57.4	16.5	095
1978	QB3		1982	10	15.95425	02	28	09.20	+20	53	58.6	16.5 1	095
35			1982	10	15.95425	02	32	48.48	+22	52	31.8		095
1181			1982	10	15.95425	02	35	29.04	+22	53	01.6		095
2358			1982	10	15.95425	02	35	59.94	+27	39	35.6		095
1530			1982	10	15.95425	02	40	28.27	+24	54	59.2		095
1982	TB2		1982	10	15.95425	02	41	22.90	+22	18	21.2	17.0	095
1016			1982	10	15.95425	02	41	34.36	+20	51	59.5	1	095
1982	TT		1982	10	15.95425	02	43	08.30	+25	40	10.0	16.0	095

976		1982	10	15.95425	02	48	16.21	+20	59	43.9		1	095
1712		1982	10	15.95425	02	51	01.11	+24	44	40.0			095
1982	TS2 *	1982	10	15.95425	02	51	19.87	+27	17	48.7	17.0	2	095
620		1982	10	15.95425	02	55	21.52	+25	05	10.4		1	095
1735		1982	10	15.95425	02	58	09.70	+29	18	29.6		1	095
1982	TT2 *	1982	10	15.95425	02	58	19.94	+26	31	34.2	17.0	3	095
1806		1982	10	20.81287	00	01	15.57	+07	17	19.0		1	095
1982	UM5 *	1982	10	20.81287	23	25	45.63	+11	33	46.9	16.5	1	095
1272		1982	10	20.81287	23	30	38.63	+07	29	31.1			095
441		1982	10	20.81287	23	32	55.47	+09	06	25.4			095
1349		1982	10	20.81287	23	34	38.22	+10	28	02.6			095
1982	UN5 *	1982	10	20.81287	23	37	43.93	+12	27	03.7	16.5		095
1982	UO5 *	1982	10	20.81287	23	47	32.91	+10	39	10.2	16.5		095
2108		1982	10	20.81287	23	48	29.72	+12	19	04.6			095
12		1982	10	20.81287	23	58	47.19	+10	52	59.8		1	095
2168		1982	10	20.89098	01	48	49.62	+20	01	17.6		1	095
1457		1982	10	20.89098	01	49	06.96	+20	47	38.6		1	095
1982	UP5 *	1982	10	20.89098	01	53	28.28	+18	06	34.6	17.5		095
1989		1982	10	20.89098	01	55	06.80	+12	53	28.1		1	095
1982	UQ5 *	1982	10	20.89098	01	55	14.60	+15	09	49.8	17.0		095
1908		1982	10	20.89098	01	57	05.27	+14	05	17.7		1	095
1982	UR5 *	1982	10	20.89098	01	58	15.26	+15	05	32.8	17.0		095
1175		1982	10	20.89098	01	58	57.97	+22	47	22.1		1	095
1982	US5 *	1982	10	20.89098	01	59	42.82	+17	46	52.6	17.5		095
1982	TD1	1982	10	20.89098	01	59	54.92	+18	54	36.2	17.0		095
1982	UT5 *	1982	10	20.89098	02	01	17.59	+13	59	53.6	17.0	1	095
1979	YE9	1982	10	20.89098	02	01	30.74	+15	19	35.5	17.5		095
1982	TE1	1982	10	20.89098	02	01	38.90	+20	34	45.5	17.0		095
1982	UU5 *	1982	10	20.89098	02	02	25.81	+18	30	28.4	17.5		095
570		1982	10	20.89098	02	04	15.31	+13	16	57.9		1	095
1982	TF1	1982	10	20.89098	02	05	34.89	+18	52	57.0	17.0		095
1982	UV5 *	1982	10	20.89098	02	06	29.43	+13	12	12.9	17.0	1	095
1982	UW5 *	1982	10	20.89098	02	06	34.36	+14	35	19.3	17.5		095
1982	UX5 *	1982	10	20.89098	02	07	18.18	+19	00	23.5	17.5		095
1982	TJ1	1982	10	20.89098	02	07	57.14	+17	25	53.3	17.0		095
1982	TG1	1982	10	20.89098	02	08	15.91	+14	52	53.5	16.5		095
1982	TL1	1982	10	20.89098	02	09	51.44	+17	48	35.1	17.5		095
1982	TK1	1982	10	20.89098	02	09	52.38	+21	18	52.7	17.0		095
1982	UY5 *	1982	10	20.89098	02	09	56.14	+14	28	19.8	17.5		095
1982	TP1	1982	10	20.89098	02	11	17.70	+16	11	17.1	17.0		095
1982	TP	1982	10	20.89098	02	13	26.62	+22	21	45.9	17.0	1	095
1228		1982	10	20.89098	02	14	01.96	+18	48	31.0			095
1982	TQ	1982	10	20.89098	02	16	08.24	+15	49	48.9	16.5		095
610		1982	10	20.89098	02	16	13.36	+19	06	49.3			095
1982	TS1	1982	10	20.89098	02	16	19.84	+21	16	58.0	17.5		095
1982	UZ5 *	1982	10	20.89098	02	16	31.61	+13	22	33.6	17.0	1	095
2809		1982	10	20.89098	02	16	56.94	+16	34	12.1			095
1982	TR	1982	10	20.89098	02	17	18.70	+21	29	38.4	17.0	1	095
1982	UA6 *	1982	10	20.89098	02	18	58.21	+20	44	51.4	17.5	2	095
1253		1982	10	20.89098	02	19	44.53	+13	40	28.4		1	095
55		1982	10	20.89098	02	23	23.57	+19	34	44.8		1	095
1978	QB3	1982	10	20.89098	02	23	33.54	+20	50	29.2	17.0		095
1980	DA	1982	10	20.89098	02	23	35.77	+20	23	21.2		1	095
395		1982	10	20.89098	02	25	11.91	+18	06	26.8		1	095
257		1982	10	20.89098	02	26	02.45	+14	28	03.8		1	095
1790		1982	10	20.89098	02	26	08.62	+19	34	17.0		1	095
1162		1982	10	20.96388	02	51	57.13	+16	32	40.8		1	095
64		1982	10	20.96388	02	52	23.00	+18	40	10.7		1	095
1982	UP2	1982	10	20.96388	02	53	06.50	+18	20	56.4	17.5	1	095

1982	TC2		1982	10	20.96388	02	53	14.10	+19	29	12.2	16.5	1 095
1982	UC6	*	1982	10	20.96388	02	54	07.78	+22	24	35.2	17.5	1 095
1982	UD6	*	1982	10	20.96388	02	56	00.39	+23	25	44.5	17.5	1 095
1898			1982	10	20.96388	02	57	06.10	+15	26	21.2		1 095
2418			1982	10	20.96388	02	57	08.14	+17	09	07.4		1 095
1982	TD2		1982	10	20.96388	02	57	28.72	+22	08	18.7	16.0	095
1982	UE6	*	1982	10	20.96388	02	57	53.02	+17	59	08.0	17.5	1 095
1913			1982	10	20.96388	02	58	13.60	+18	37	10.9		095
1982	UF6	*	1982	10	20.96388	02	58	38.05	+16	06	40.2	17.5	1 095
1982	TE2		1982	10	20.96388	02	58	54.63	+23	39	28.5	16.0	095
1982	TF2		1982	10	20.96388	03	00	13.45	+19	59	05.2	17.0	095
1982	UG6	*	1982	10	20.96388	03	00	58.67	+16	16	20.1	16.5	1 095
1982	UH6	*	1982	10	20.96388	03	02	15.74	+17	50	30.4	17.5	2 095
1982	UJ6	*	1982	10	20.96388	03	02	39.12	+18	19	00.9	17.5	095
1982	UK6	*	1982	10	20.96388	03	04	15.16	+17	47	19.2	17.5	095
1982	UG2		1982	10	20.96388	03	07	48.34	+17	31	47.7	17.0	095
1982	UL6	*	1982	10	20.96388	03	08	11.17	+19	30	17.4	17.5	095
1982	UF2		1982	10	20.96388	03	08	14.61	+18	48	27.0	17.0	095
1982	UH2		1982	10	20.96388	03	08	53.06	+19	32	52.8	17.0	095
362			1982	10	20.96388	03	10	41.36	+21	11	10.3		095
1982	TH2		1982	10	20.96388	03	10	45.80	+22	15	05.4	17.0	095
2323			1982	10	20.96388	03	11	57.83	+22	11	59.4		095
2242			1982	10	20.96388	03	12	15.73	+22	01	54.4		095
1982	UM6	*	1982	10	20.96388	03	12	48.08	+20	54	33.1	17.5	095
2233			1982	10	20.96388	03	12	48.68	+20	50	57.0		095
1982	UJ2		1982	10	20.96388	03	13	33.94	+19	43	38.4	17.0	095
1982	TJ2		1982	10	20.96388	03	13	48.80	+24	30	16.8	17.5	1 095
1982	UK2		1982	10	20.96388	03	15	19.20	+18	28	22.6	17.5	095
951			1982	10	20.96388	03	15	54.50	+22	59	52.2		095
1982	TL2		1982	10	20.96388	03	16	23.42	+24	07	04.7	17.5	095
2300			1982	10	20.96388	03	16	44.85	+18	53	16.0	16.0	095
1982	UO6	*	1982	10	20.96388	03	16	52.98	+21	38	31.0	17.5	095
1982	UP6	*	1982	10	20.96388	03	17	14.59	+17	12	32.4	17.5	095
1982	TM2		1982	10	20.96388	03	18	09.55	+24	50	13.7	16.0	1 095
1982	UQ6	*	1982	10	20.96388	03	18	36.56	+18	04	37.6	17.5	095
1982	UR6	*	1982	10	20.96388	03	19	55.37	+17	38	46.2	16.5	095
552			1982	10	20.96388	03	19	58.26	+25	33	52.4		1 095
1982	TN2		1982	10	20.96388	03	20	07.30	+20	08	18.7	17.0	095
1982	US6	*	1982	10	20.96388	03	20	35.37	+17	01	36.1	17.5	095
1440			1982	10	20.96388	03	20	40.59	+18	09	31.8		095
1982	UT6	*	1982	10	20.96388	03	21	25.65	+20	21	21.0	17.5	095
1982	UU6	*	1982	10	20.96388	03	21	48.96	+18	18	41.9	17.5	095
2438			1982	10	20.96388	03	26	52.50	+17	35	15.1		095
1982	UV6	*	1982	10	20.96388	03	27	08.23	+19	16	15.2	17.0	095
771			1982	10	20.96388	03	27	18.84	+17	05	49.2		095
1982	VT		1982	10	20.96388	03	29	10.91	+18	54	01.2	17.5	1 095
1343			1982	10	20.96388	03	31	28.64	+19	47	48.4		1 095
1982	UX6	*	1982	10	20.96388	03	32	23.92	+22	52	47.8	17.5	1 095
1982	UY6	*	1982	10	20.96388	03	34	12.32	+21	20	41.2	17.5	1 095
46			1982	10	21.04303	03	58	15.64	+17	38	03.2		1 095
2961			1982	10	21.04303	04	00	16.14	+19	57	29.3	16.5	1 095
1982	UZ6	*	1982	10	21.04303	04	00	35.88	+18	44	49.0	17.0	1 095
877			1982	10	21.04303	04	01	33.82	+13	29	25.3		1 095
2840			1982	10	21.04303	04	03	07.03	+18	10	25.6		1 095
1982	UA7	*	1982	10	21.04303	04	03	29.82	+11	38	46.6	16.0	1 095
1982	UB7	*	1982	10	21.04303	04	03	32.90	+20	13	40.0	17.0	1 095
1180			1982	10	21.04303	04	03	44.27	+15	34	50.7		1 095
1093			1982	10	21.04303	04	03	51.22	+18	29	54.6		1 095
1451			1982	10	21.04303	04	04	07.83	+14	15	19.0		1 095

1475		1982	10	21.04303	04	05	46.13	+17	11	47.9			095
363		1982	10	21.04303	04	06	09.04	+18	35	06.7			095
566		1982	10	21.04303	04	06	35.00	+17	39	06.3			095
268		1982	10	21.04303	04	06	49.70	+17	47	55.0			095
3019		1982	10	21.04303	04	07	07.09	+17	02	04.7	16.5		095
1982	UC7 *	1982	10	21.04303	04	07	10.06	+17	54	30.6	17.0		095
1982	VN	1982	10	21.04303	04	07	34.11	+20	17	58.6	17.5	1	095
1982	UD7 *	1982	10	21.04303	04	08	00.84	+16	10	24.5	17.0		095
1248		1982	10	21.04303	04	10	21.86	+14	25	08.7			095
1982	UE7 *	1982	10	21.04303	04	11	51.71	+19	23	11.6	18.0		095
1982	UF7 *	1982	10	21.04303	04	11	57.24	+18	17	59.9	17.0		095
1982	WE	1982	10	21.04303	04	12	23.80	+18	33	57.6	17.5		095
2664		1982	10	21.04303	04	12	42.58	+16	02	50.4	17.0		095
1982	UG7 *	1982	10	21.04303	04	13	54.64	+19	41	03.1	17.0	1	095
1982	UH7 *	1982	10	21.04303	04	13	58.74	+17	58	09.9	17.0		095
818		1982	10	21.04303	04	16	19.42	+14	13	19.4			095
1982	UJ7 *	1982	10	21.04303	04	16	34.83	+18	02	11.8	17.0		095
2850		1982	10	21.04303	04	16	43.18	+10	46	21.6		1	095
1982	UK7 *	1982	10	21.04303	04	17	06.05	+15	05	13.6	16.5		095
1982	UL7 *	1982	10	21.04303	04	18	08.61	+18	02	33.4	16.5		095
1982	UM7 *	1982	10	21.04303	04	18	16.82	+18	27	55.9	17.0		095
1982	UN7 *	1982	10	21.04303	04	18	21.44	+17	11	08.9	17.5		095
1137		1982	10	21.04303	04	20	00.57	+18	09	01.0			095
2122		1982	10	21.04303	04	21	11.26	+11	13	26.8		1	095
1938		1982	10	21.04303	04	22	30.84	+17	10	17.6			095
1982	UO7 *	1982	10	21.04303	04	22	34.42	+16	12	42.1	17.0		095
14		1982	10	21.04303	04	23	46.97	+14	23	00.2			095
1982	UP7 *	1982	10	21.04303	04	24	32.34	+15	08	25.8	17.5		095
490		1982	10	21.04303	04	27	09.20	+10	48	14.0		1	095
2912		1982	10	21.04303	04	28	11.46	+12	17	06.4	17.0		095
1320		1982	10	21.04303	04	28	37.50	+14	41	28.7			095
2841		1982	10	21.04303	04	28	45.73	+16	53	35.4			095
1982	UQ7 *	1982	10	21.04303	04	28	56.03	+15	47	27.0	17.5		095
1982	UR7 *	1982	10	21.04303	04	31	04.91	+10	54	55.6	17.0	1	095
2844		1982	10	21.04303	04	31	18.58	+17	32	02.9			095
237		1982	10	21.04303	04	31	29.38	+15	10	54.4			095
1982	US7 *	1982	10	21.87648	01	20	31.21	+22	17	50.6	17.0	1	095
1982	UT7 *	1982	10	21.87648	01	22	33.38	+23	21	53.2	17.5	1	095
1982	UU7 *	1982	10	21.87648	01	26	30.56	+17	31	24.2	17.5	1	095
1982	UV7 *	1982	10	21.87648	01	30	06.82	+21	42	29.3	17.5		095
1982	UW7 *	1982	10	21.87648	01	32	55.49	+21	28	11.0	17.5		095
1982	UX7 *	1982	10	21.87648	01	33	44.50	+15	49	57.0	17.5	1	095
1982	UY7 *	1982	10	21.87648	01	34	31.09	+20	44	37.4	17.0		095
1982	UZ7 *	1982	10	21.87648	01	35	03.93	+17	22	38.5	17.0		095
1982	UA8 *	1982	10	21.87648	01	36	05.95	+16	41	24.7	17.0		095
1982	UB8 *	1982	10	21.87648	01	37	12.62	+18	19	50.8	17.0		095
1982	UC8 *	1982	10	21.87648	01	37	43.32	+22	56	13.0	17.5		095
1982	UD8 *	1982	10	21.87648	01	38	25.58	+17	56	52.5	17.0		095
1982	UE8 *	1982	10	21.87648	01	39	33.48	+16	52	31.2	17.0		095
1982	UF8 *	1982	10	21.87648	01	39	44.00	+16	55	55.5	17.0		095
1197		1982	10	21.87648	01	40	53.70	+24	39	04.0		1	095
1982	UG8 *	1982	10	21.87648	01	40	54.65	+20	30	02.5	17.5		095
1982	UH8 *	1982	10	21.87648	01	41	02.30	+20	03	57.9	17.0		095
1982	UJ8 *	1982	10	21.87648	01	41	35.54	+17	53	38.4	16.5		095
1666		1982	10	21.87648	01	42	20.44	+15	37	37.1		1	095
1982	UK8 *	1982	10	21.87648	01	42	54.10	+21	25	13.3	17.5		095
1982	UL8 *	1982	10	21.87648	01	45	06.96	+23	50	14.4	17.5		095
1982	UM8 *	1982	10	21.87648	01	47	01.45	+22	56	22.4	17.5		095
1982	UN8 *	1982	10	21.87648	01	47	02.83	+20	45	25.0	17.5		095

2168		1982	10	21.87648	01	47	49.95	+19	56	38.1			095
1457		1982	10	21.87648	01	48	13.78	+20	43	01.3			095
1982	UP5	1982	10	21.87648	01	52	33.00	+18	00	58.3		17.0	095
1982	UQ5	1982	10	21.87648	01	54	12.76	+15	05	09.1		17.0	1 095
1982	UO8 *	1982	10	21.87648	01	55	35.33	+19	20	06.2		17.0	095
1982	UR5	1982	10	21.87648	01	57	27.33	+14	58	49.8		17.0	1 095
1175		1982	10	21.87648	01	58	14.26	+22	39	47.8			1 095
1982	US5	1982	10	21.87648	01	58	50.93	+17	42	16.8		17.5	3 095
1982	UP8 *	1982	10	21.87648	01	58	59.76	+14	55	17.7		17.0	3 095
1982	TD1	1982	10	21.87648	01	59	02.34	+18	52	53.3		17.5	1 095
1982	UQ8 *	1982	10	21.87648	02	00	22.69	+15	26	06.8		17.5	1 095
1979	YE9	1982	10	21.87648	02	00	30.16	+15	15	29.9		17.5	1 095
1982	TE1	1982	10	21.87648	02	00	39.44	+20	33	06.7		17.5	1 095
1982	UU5	1982	10	21.87648	02	01	31.09	+18	25	02.3		17.5	1 095
1498		1982	10	21.94176	02	11	15.69	+30	22	37.0			1 095
1982	TP	1982	10	21.94176	02	12	26.67	+22	16	25.8		17.0	1 095
1982	TS1	1982	10	21.94176	02	15	31.26	+21	10	39.6		17.5	1 095
1982	TR	1982	10	21.94176	02	16	12.66	+21	26	09.8		17.0	1 095
1982	UR8 *	1982	10	21.94176	02	16	31.12	+29	11	12.0		16.5	1 095
1982	US8 *	1982	10	21.94176	02	17	00.20	+27	15	34.5		17.0	1 095
1982	TP2	1982	10	21.94176	02	17	06.11	+28	41	22.0		17.0	1 095
1982	UT8 *	1982	10	21.94176	02	17	27.18	+29	31	02.4		17.0	1 095
1982	UU8 *	1982	10	21.94176	02	18	59.10	+22	45	34.7		17.5	3 095
1982	UV8 *	1982	10	21.94176	02	19	25.20	+25	04	01.6		17.0	095
1982	UW8 *	1982	10	21.94176	02	20	04.27	+28	40	37.2		17.0	095
1982	TQ2	1982	10	21.94176	02	21	03.44	+23	59	18.0		17.0	095
1982	UX8 *	1982	10	21.94176	02	21	55.56	+26	07	00.6		17.5	095
1982	UY8 *	1982	10	21.94176	02	25	06.06	+24	33	28.0		17.0	095
1982	UZ8 *	1982	10	21.94176	02	27	24.85	+30	12	29.6		17.0	1 095
35		1982	10	21.94176	02	28	03.52	+22	41	49.2			095
1982	UA9 *	1982	10	21.94176	02	29	12.20	+24	21	53.4		17.0	095
1982	UB9 *	1982	10	21.94176	02	29	26.66	+24	56	44.6		17.5	095
2358		1982	10	21.94176	02	30	53.13	+27	41	08.2			095
1982	UC9 *	1982	10	21.94176	02	30	58.19	+23	52	36.6		17.5	095
1181		1982	10	21.94176	02	31	08.98	+22	25	55.4			1 095
1982	UD9 *	1982	10	21.94176	02	35	08.62	+30	13	09.8		17.0	1 095
1530		1982	10	21.94176	02	35	36.30	+24	34	50.0			095
1982	TB2	1982	10	21.94176	02	36	24.26	+21	51	22.2		16.5	1 095
1982	UE9 *	1982	10	21.94176	02	36	29.64	+27	00	58.3		17.5	095
1982	UF9 *	1982	10	21.94176	02	37	52.62	+21	58	34.6		17.5	1 095
1982	UG9 *	1982	10	21.94176	02	38	33.89	+21	44	33.1		17.5	1 095
1982	UH9 *	1982	10	21.94176	02	38	37.78	+23	23	41.8		17.0	095
1982	TT	1982	10	21.94176	02	38	56.04	+25	08	43.1		16.0	095
1885		1982	10	21.94176	02	39	05.80	+26	50	00.7			095
1982	UJ9 *	1982	10	21.94176	02	40	22.94	+29	47	40.6		17.0	1 095
1982	UK9 *	1982	10	21.94176	02	42	42.14	+29	31	08.1		16.5	095
1982	UL9 *	1982	10	21.94176	02	42	57.50	+29	05	31.2		17.5	095
1982	UM9 *	1982	10	21.94176	02	46	27.94	+24	03	27.9		17.0	095
1982	UN9 *	1982	10	21.94176	02	46	40.30	+21	45	11.6		16.5	1 095
1712		1982	10	21.94176	02	46	54.64	+24	10	52.8			095
1982	UO9 *	1982	10	21.94176	02	48	54.64	+26	49	15.4		17.0	1 095
620		1982	10	21.94176	02	49	37.96	+25	10	58.3			1 095
1982	TT2	1982	10	21.94176	02	52	30.16	+26	53	17.7		16.5	1 095
1735		1982	10	21.94176	02	53	08.68	+29	28	11.4			1 095
1982	UP9 *	1982	10	21.94176	02	55	11.85	+26	15	57.8		17.0	1 095
85		1982	10	22.01330	03	52	44.59	+12	20	36.8			1 095
2550		1982	10	22.01330	03	53	07.66	+05	06	45.4			1 095
877		1982	10	22.01330	04	01	08.37	+13	27	04.7			095
1982	UA7	1982	10	22.01330	04	02	54.22	+11	42	16.4		17.0	095

1451		1982	10	22.01330	04	03	23.44	+14	11	29.8			095
1982	UQ9	* 1982	10	22.01330	04	09	20.28	+09	38	55.4		17.5	095
1248		1982	10	22.01330	04	09	51.75	+14	24	55.7			095
2891		1982	10	22.01330	04	13	59.78	+09	38	24.0			095
818		1982	10	22.01330	04	15	49.95	+14	14	51.6			095
2850		1982	10	22.01330	04	16	17.79	+10	44	11.6			095
1982	UR9	* 1982	10	22.01330	04	20	25.08	+08	13	31.8		17.0	095
2122		1982	10	22.01330	04	20	44.57	+11	11	24.2			095
1980	GD	1982	10	22.01330	04	22	08.27	+08	04	51.7			095
14		1982	10	22.01330	04	23	19.76	+14	22	13.6			1 095
490		1982	10	22.01330	04	26	49.74	+10	43	23.1			095
1982	US9	* 1982	10	22.01330	04	27	30.09	+11	10	37.1		17.5	095
2912		1982	10	22.01330	04	27	47.23	+12	14	57.7		17.5	095
1320		1982	10	22.01330	04	28	05.38	+14	42	23.6			1 095
1304		1982	10	22.01330	04	29	26.29	+08	45	46.7			1 095
1982	UR7	1982	10	22.01330	04	30	40.92	+10	53	24.2		17.5	1 095
2168		1982	10	22.88892	01	46	48.92	+19	51	43.2			1 095
1457		1982	10	22.88892	01	47	19.26	+20	38	08.7			1 095
1982	UP5	1982	10	22.88892	01	51	35.75	+17	55	10.2		17.5	095
1175		1982	10	22.88892	01	57	29.38	+22	31	54.3			095
1982	UT9	* 1982	10	22.88892	01	57	50.66	+22	46	59.1		17.0	095
1982	TD1	1982	10	22.88892	01	58	08.01	+18	51	01.8		17.0	095
1982	TE1	1982	10	22.88892	01	59	37.39	+20	31	20.3		17.0	095
1982	UU5	1982	10	22.88892	02	00	34.72	+18	19	20.6		17.0	095
1982	TF1	1982	10	22.88892	02	03	42.56	+18	46	53.1		17.0	095
1982	UX5	1982	10	22.88892	02	05	34.04	+18	50	28.4		17.5	095
1982	TL1	1982	10	22.88892	02	08	06.26	+17	44	56.2		17.5	095
1982	TK1	1982	10	22.88892	02	08	19.30	+21	05	42.0		16.5	095
1688		1982	10	22.88892	02	08	51.35	+23	19	24.2			095
1982	TP1	1982	10	22.88892	02	09	27.65	+15	59	37.5		17.5	1 095
1982	TP	1982	10	22.88892	02	11	32.33	+22	11	25.6		16.5	095
1982	UU9	* 1982	10	22.88892	02	12	24.17	+23	04	38.0		17.5	095
610		1982	10	22.88892	02	14	13.36	+19	13	01.4			095
1982	TQ	1982	10	22.88892	02	14	28.16	+15	34	08.3		17.0	1 095
1982	TS1	1982	10	22.88892	02	14	47.06	+21	04	46.9		17.0	095
2809		1982	10	22.88892	02	14	58.65	+16	27	25.2			1 095
1982	TR	1982	10	22.88892	02	15	12.64	+21	22	47.3		16.5	095
1982	UA6	1982	10	22.88892	02	17	17.42	+20	42	30.7		17.5	095
55		1982	10	22.88892	02	21	29.90	+19	33	31.9			1 095
1978	QB3	1982	10	22.88892	02	21	35.36	+20	47	50.3		16.5	1 095
1980	DA	1982	10	22.88892	02	21	45.86	+20	13	19.9			095
395		1982	10	22.88892	02	23	31.01	+17	57	15.7			1 095
1790		1982	10	22.88892	02	24	00.26	+19	29	51.6			1 095
1982	TX1	1982	10	22.88892	02	25	27.94	+17	04	12.8		17.0	1 095
610		1982	10	22.96323	02	14	08.86	+19	13	14.1			1 095
1982	TS1	1982	10	22.96323	02	14	43.76	+21	04	16.1		17.0	1 095
2809		1982	10	22.96323	02	14	54.29	+16	27	10.9			1 095
1982	TR	1982	10	22.96323	02	15	08.01	+21	22	29.1		17.0	1 095
1982	UA6	1982	10	22.96323	02	17	13.47	+20	42	21.1		17.5	1 095
1982	UU8	1982	10	22.96323	02	18	04.72	+22	35	29.4		17.5	1 095
1982	TQ2	1982	10	22.96323	02	19	56.57	+23	55	50.4		17.5	095
55		1982	10	22.96323	02	21	25.62	+19	33	27.2			095
1978	QB3	1982	10	22.96323	02	21	30.86	+20	47	41.9		16.5	095
1980	DA	1982	10	22.96323	02	21	41.64	+20	12	54.4			1 095
1982	UV9	* 1982	10	22.96323	02	22	56.43	+24	21	54.2		17.5	1 095
395		1982	10	22.96323	02	23	27.15	+17	56	53.9			095
1790		1982	10	22.96323	02	23	55.44	+19	29	39.6			095
1982	UW9	* 1982	10	22.96323	02	24	54.33	+17	46	15.5		17.5	095
1982	TX1	1982	10	22.96323	02	25	24.04	+17	04	02.6		17.0	095

1982	UX9 *	1982	10	22.96323	02	25	59.07	+23	57	04.8		17.5	1 095
1982	UY9 *	1982	10	22.96323	02	26	46.06	+18	45	34.4		17.5	095
35		1982	10	22.96323	02	27	13.11	+22	39	39.5			095
1982	UZ9 *	1982	10	22.96323	02	27	18.90	+19	34	13.8		17.0	095
932		1982	10	22.96323	02	28	02.75	+20	06	09.1			095
2520		1982	10	22.96323	02	28	44.43	+19	39	23.5			095
1982	VF	1982	10	22.96323	02	28	45.02	+20	53	30.2		17.0	095
1982	UC9	1982	10	22.96323	02	30	05.08	+23	51	25.4		17.5	1 095
1982	UA10*	1982	10	22.96323	02	30	12.17	+15	39	23.6		17.5	1 095
1181		1982	10	22.96323	02	30	20.90	+22	20	36.0			095
1982	UB10*	1982	10	22.96323	02	30	43.27	+20	39	11.5		17.5	095
1530		1982	10	22.96323	02	34	41.78	+24	30	25.5			1 095
1982	UC10*	1982	10	22.96323	02	34	41.92	+17	04	28.6		17.0	095
1982	TS	1982	10	22.96323	02	34	48.09	+16	20	17.3		17.0	1 095
1016		1982	10	22.96323	02	34	48.15	+21	00	41.3			095
1982	TB2	1982	10	22.96323	02	35	28.99	+21	46	02.3		17.0	095
1982	UF9	1982	10	22.96323	02	37	06.31	+21	52	23.4		17.5	095
1982	UD10*	1982	10	22.96323	02	37	06.42	+20	58	00.0		17.0	095
1982	UH9	1982	10	22.96323	02	37	34.38	+23	26	46.9		17.0	095
1982	UG9	1982	10	22.96323	02	37	37.26	+21	39	05.6		17.5	095
1982	TT	1982	10	22.96323	02	38	10.03	+25	02	41.6		17.0	1 095
1292		1982	10	22.96323	02	38	35.93	+18	24	44.0			095
1982	UC2	1982	10	22.96323	02	41	24.74	+16	28	45.4		17.0	1 095
1982	UE10*	1982	10	22.96323	02	43	23.58	+17	39	45.6		17.5	095
976		1982	10	22.96323	02	43	29.54	+20	32	10.2			095
1982	UN9	1982	10	22.96323	02	45	37.59	+21	49	28.1		17.0	095
1982	UM9	1982	10	22.96323	02	45	39.19	+23	55	35.6		17.0	1 095
1712		1982	10	22.96323	02	46	10.35	+24	04	40.1			1 095
1982	UF10*	1982	10	22.96323	02	46	21.72	+18	53	15.6		17.5	095
1982	UG10*	1982	10	22.96323	02	47	10.32	+22	14	50.3		17.5	095
1982	UD2	1982	10	22.96323	02	47	50.44	+15	51	29.3		17.0	1 095
620		1982	10	22.96323	02	48	34.52	+25	11	16.1			1 095
1162		1982	10	22.96323	02	50	44.63	+16	27	55.9			1 095
64		1982	10	22.96323	02	50	45.65	+18	33	50.7			1 095
1982	TC2	1982	10	22.96323	02	51	48.23	+19	15	48.9		16.5	1 095
1982	UC6	1982	10	22.96323	02	52	30.54	+22	19	29.5		17.5	1 095
1982	UD6	1982	10	22.96323	02	54	19.83	+23	21	35.8		17.5	1 095
2418		1982	10	22.96323	02	55	43.29	+17	04	19.8			1 095
1982	TD2	1982	10	22.96323	02	55	45.42	+21	59	53.7		17.0	1 095
1913		1982	10	22.96323	02	56	41.34	+18	32	09.3			3 095
1982	TE2	1982	10	22.96323	02	57	08.60	+23	39	59.9		17.0	1 095
46		1982	10	23.03336	03	57	10.13	+17	31	30.6			1 095
1982	UZ6	1982	10	23.03336	03	58	16.42	+18	47	59.8		17.0	2 095
2961		1982	10	23.03336	03	59	31.44	+19	48	02.8		16.5	1 095
877		1982	10	23.03336	04	00	39.62	+13	24	33.8			1 095
2840		1982	10	23.03336	04	01	46.80	+18	13	02.7			1 095
1982	UA7	1982	10	23.03336	04	02	14.74	+11	46	06.4		17.0	1 095
1982	UH10*	1982	10	23.03336	04	02	15.18	+20	59	05.5		17.0	1 095
1093		1982	10	23.03336	04	02	20.66	+18	37	08.2			1 095
1982	UB7	1982	10	23.03336	04	02	36.48	+20	02	53.4		17.0	1 095
1180		1982	10	23.03336	04	02	47.92	+15	32	26.5			1 095
1981	JD2	1982	10	23.03336	04	04	02.62	+20	55	08.1		17.5	1 095
363		1982	10	23.03336	04	05	03.18	+18	35	22.4			095
1475		1982	10	23.03336	04	05	07.47	+17	01	23.6			095
566		1982	10	23.03336	04	05	37.74	+17	37	30.1			095
268		1982	10	23.03336	04	05	50.31	+17	44	20.7			095
3019		1982	10	23.03336	04	06	09.16	+16	58	52.4		17.0	095
1982	UC7	1982	10	23.03336	04	06	13.20	+17	50	49.9		17.5	095
1982	UD7	1982	10	23.03336	04	06	59.38	+15	58	28.3		17.0	095

1982	VN	1982	10	23.03336	04	06	59.62	+20	20	30.0		17.0	1 095
1248		1982	10	23.03336	04	09	18.02	+14	24	38.5			095
1982	UE7	1982	10	23.03336	04	11	05.93	+19	19	42.9		17.5	095
1982	UF7	1982	10	23.03336	04	11	06.32	+18	07	37.1		17.0	095
1982	WE	1982	10	23.03336	04	11	25.48	+18	44	31.8		17.0	095
2664		1982	10	23.03336	04	11	57.32	+15	55	16.8		17.0	095
1982	UG7	1982	10	23.03336	04	12	50.71	+19	33	57.0		17.5	095
1982	UH7	1982	10	23.03336	04	13	04.78	+17	53	40.2		17.0	095
1045		1982	10	23.03336	04	13	31.11	+21	29	46.2			1 095
1982	UJ10*	1982	10	23.03336	04	14	34.28	+21	03	29.7		17.5	1 095
818		1982	10	23.03336	04	15	17.12	+14	16	23.3			095
1982	UJ7	1982	10	23.03336	04	15	51.85	+17	59	38.7		17.5	095
1982	UK7	1982	10	23.03336	04	16	22.88	+15	04	49.8		17.0	095
1982	UN7	1982	10	23.03336	04	17	12.74	+17	10	40.4		18.0	095
1982	UM7	1982	10	23.03336	04	17	12.78	+18	21	29.3		17.0	095
1982	UL7	1982	10	23.03336	04	17	14.29	+17	54	22.2		16.5	095
1137		1982	10	23.03336	04	19	04.06	+18	08	37.0			095
1938		1982	10	23.03336	04	21	25.48	+17	04	05.2			095
1305		1982	10	23.03336	04	21	35.35	+21	08	23.9			1 095
1982	UO7	1982	10	23.03336	04	21	46.85	+16	11	07.6		17.5	095
1982	UK10*	1982	10	23.03336	04	22	44.67	+18	46	36.0		18.0	095
14		1982	10	23.03336	04	22	49.64	+14	21	26.9			095
1982	UL10*	1982	10	23.03336	04	26	40.04	+20	01	15.2		16.0	095
1320		1982	10	23.03336	04	27	30.67	+14	43	21.1			095
2841		1982	10	23.03336	04	27	54.80	+16	51	50.0			095
237		1982	10	23.03336	04	30	34.62	+15	10	28.9			095
1820		1982	10	23.03336	04	32	05.11	+13	32	47.5			095
1364		1982	10	23.03336	04	33	48.00	+20	15	43.0			1 095
1908		1982	10	24.93066	01	53	34.84	+13	52	14.9			1 095
1175		1982	10	24.93066	01	55	58.95	+22	15	33.7			1 095
1982	TD1	1982	10	24.93066	01	56	18.43	+18	47	07.0		17.5	1 095
1979	YE9	1982	10	24.93066	01	57	21.94	+15	01	44.1		17.0	1 095
1982	UT5	1982	10	24.93066	01	57	25.94	+13	29	31.1		16.5	1 095
570		1982	10	24.93066	02	01	18.87	+12	59	15.0			1 095
1982	TF1	1982	10	24.93066	02	01	46.76	+18	40	05.1		17.0	095
1982	TJ1	1982	10	24.93066	02	03	24.64	+17	39	19.8		17.0	095
1982	UX5	1982	10	24.93066	02	03	46.65	+18	39	54.5		17.5	095
1982	TG1	1982	10	24.93066	02	05	15.76	+14	04	51.5		16.5	095
1982	TL1	1982	10	24.93066	02	06	17.58	+17	40	55.5		17.5	095
1982	TK1	1982	10	24.93066	02	06	42.94	+20	51	41.2		16.5	095
1982	TP1	1982	10	24.93066	02	07	33.53	+15	47	20.1		17.0	095
1982	TP	1982	10	24.93066	02	09	34.33	+22	00	10.9		17.0	1 095
1228		1982	10	24.93066	02	10	29.15	+18	32	14.4			095
610		1982	10	24.93066	02	12	08.58	+19	18	53.2			095
1982	UZ5	1982	10	24.93066	02	12	16.55	+13	10	12.3		16.5	095
1982	TQ	1982	10	24.93066	02	12	44.39	+15	17	43.8		17.0	095
2809		1982	10	24.93066	02	12	56.16	+16	20	07.0			095
1982	TR	1982	10	24.93066	02	13	00.95	+21	14	59.6		17.0	095
1982	TS1	1982	10	24.93066	02	13	10.90	+20	51	47.7		17.0	095
1982	UM10*	1982	10	24.93066	02	13	11.69	+13	17	38.1		17.5	095
1982	UA6	1982	10	24.93066	02	15	32.01	+20	39	18.2		17.0	095
1982	UN10*	1982	10	24.93066	02	16	14.25	+19	34	22.2		17.0	095
1253		1982	10	24.93066	02	16	35.38	+13	27	17.5			1 095
55		1982	10	24.93066	02	19	31.54	+19	31	48.1			095
1978	QB3	1982	10	24.93066	02	19	32.36	+20	44	25.0		17.0	095
1980	DA	1982	10	24.93066	02	19	50.72	+20	02	22.7			095
1790		1982	10	24.93066	02	21	46.34	+19	24	45.4			095
395		1982	10	24.93066	02	21	46.36	+17	47	31.2			095
257		1982	10	24.93066	02	22	46.08	+14	17	43.8			1 095

1982	TX1	1982	10	24.93066	02	23	48.32	+16	59	53.6		17.0	095
35		1982	10	24.93066	02	25	35.01	+22	35	10.3			1 095
1982	UZ9	1982	10	24.93066	02	25	52.06	+19	07	25.7		17.0	095
932		1982	10	24.93066	02	25	56.95	+20	06	29.1			1 095
1982	UO10*	1982	10	24.93066	02	26	54.74	+15	09	11.6		17.5	1 095
2520		1982	10	24.93066	02	27	04.20	+19	35	27.0			1 095
1982	UA10	1982	10	24.93066	02	27	38.01	+15	37	40.0		17.5	1 095
1982	UP10*	1982	10	24.93066	02	28	00.38	+15	41	40.8		17.0	2 095
1181		1982	10	24.93066	02	28	46.20	+22	09	43.8			1 095
1982	UQ10*	1982	10	25.00080	02	48	02.84	+17	45	02.2		17.0	1 095
64		1982	10	25.00080	02	49	02.88	+18	26	57.6			1 095
1162		1982	10	25.00080	02	49	29.21	+16	22	57.4			1 095
1982	UP2	1982	10	25.00080	02	49	54.08	+18	08	33.6		17.5	1 095
1982	TC2	1982	10	25.00080	02	50	16.40	+19	01	35.8		16.5	1 095
1982	UR10*	1982	10	25.00080	02	50	53.08	+17	30	26.9		17.5	1 095
2003		1982	10	25.00080	02	51	04.04	+15	12	36.6			1 095
1982	UD6	1982	10	25.00080	02	52	31.52	+23	16	33.2		17.5	1 095
1982	TD2	1982	10	25.00080	02	53	55.22	+21	50	32.6		16.0	095
2418		1982	10	25.00080	02	54	12.94	+16	59	06.6			1 095
1898		1982	10	25.00080	02	54	14.54	+15	12	11.2			1 095
1982	US10*	1982	10	25.00080	02	54	22.01	+17	12	25.8		17.5	1 095
1982	UF6	1982	10	25.00080	02	54	30.14	+16	03	34.3		17.5	1 095
1982	UE6	1982	10	25.00080	02	54	31.49	+17	51	52.4		17.0	1 095
1913		1982	10	25.00080	02	55	03.78	+18	26	39.8			095
1982	TE2	1982	10	25.00080	02	55	14.60	+23	39	47.8		16.0	1 095
1982	TF2	1982	10	25.00080	02	56	36.78	+19	44	21.0		17.0	095
1982	UG6	1982	10	25.00080	02	58	06.39	+16	08	21.6		16.5	095
1982	UT10*	1982	10	25.00080	02	58	22.56	+23	35	23.7		17.5	1 095
1982	UU10*	1982	10	25.00080	02	58	56.36	+21	29	00.1		18.0	2 095
1982	UJ6	1982	10	25.00080	02	58	56.52	+18	10	57.8		17.5	095
1982	UV10*	1982	10	25.00080	03	00	45.96	+17	15	32.4		17.5	095
1982	UK6	1982	10	25.00080	03	01	21.17	+17	36	39.8		17.5	095
1982	UG2	1982	10	25.00080	03	04	15.42	+17	11	48.9		16.5	095
1982	UW10*	1982	10	25.00080	03	04	45.16	+21	17	48.5		17.5	095
1982	UL6	1982	10	25.00080	03	05	08.08	+19	15	11.8		17.5	095
1982	UF2	1982	10	25.00080	03	05	11.40	+18	19	53.8		17.0	095
1982	UH2	1982	10	25.00080	03	05	47.72	+19	22	34.3		17.0	095
1982	UX10*	1982	10	25.00080	03	06	00.24	+21	44	44.5		17.5	095
362		1982	10	25.00080	03	07	07.22	+21	14	09.7			095
1982	TH2	1982	10	25.00080	03	07	22.07	+22	15	31.8		16.5	095
1982	UY10*	1982	10	25.00080	03	08	21.30	+17	31	51.4		17.0	095
2242		1982	10	25.00080	03	08	56.20	+21	57	33.6			095
1982	UM6	1982	10	25.00080	03	09	02.23	+20	45	57.5		17.5	095
2323		1982	10	25.00080	03	09	03.95	+22	09	21.0			095
2233		1982	10	25.00080	03	09	36.78	+20	32	39.6			095
1982	UJ2	1982	10	25.00080	03	10	07.66	+19	42	19.8		17.0	095
1982	TJ2	1982	10	25.00080	03	10	22.84	+24	28	33.1		17.0	1 095
1982	UZ10*	1982	10	25.00080	03	10	54.12	+21	27	49.0		17.5	095
1982	UK2	1982	10	25.00080	03	12	10.38	+18	03	03.0		17.0	095
1982	UA11*	1982	10	25.00080	03	12	48.85	+17	44	02.0		17.5	095
951		1982	10	25.00080	03	13	03.48	+22	40	11.0			095
1982	TL2	1982	10	25.00080	03	13	34.92	+23	50	23.6		17.0	1 095
2300		1982	10	25.00080	03	13	44.91	+18	46	00.2			095
1982	UP6	1982	10	25.00080	03	13	48.02	+16	24	30.0		17.0	095
1982	UO6	1982	10	25.00080	03	14	04.98	+21	17	44.1		17.5	095
1982	TM2	1982	10	25.00080	03	15	04.42	+24	42	30.5		16.5	1 095
1982	UQ6	1982	10	25.00080	03	15	47.31	+17	51	40.8		17.5	095
1982	UR6	1982	10	25.00080	03	16	37.90	+17	35	46.0		16.5	095
1982	TN2	1982	10	25.00080	03	16	40.24	+19	50	39.4		17.0	095

1982	US6		1982	10	25.00080	03	17	08.29	+17	07	40.0	17.0	095
1982	UB11	*	1982	10	25.00080	03	17	25.08	+17	09	45.8	17.5	095
1440			1982	10	25.00080	03	18	02.96	+18	03	48.4		095
1982	UT6		1982	10	25.00080	03	18	26.28	+20	13	18.2	17.0	095
1982	UC11	*	1982	10	25.00080	03	18	46.30	+20	44	26.0	17.5	095
1982	UU6		1982	10	25.00080	03	19	02.90	+18	08	36.9	17.5	095
1982	UD11	*	1982	10	25.00080	03	19	34.82	+15	20	35.0	17.0 1	095
1982	UE11	*	1982	10	25.00080	03	21	52.93	+20	17	26.8	17.5	095
2438			1982	10	25.00080	03	23	17.11	+17	29	11.6		095
1982	UF11	*	1982	10	25.00080	03	25	02.54	+23	40	59.6	17.5 1	095
1982	VT		1982	10	25.00080	03	25	19.59	+19	07	16.0	17.5 1	095
771			1982	10	25.00080	03	25	24.96	+16	15	46.1	1	095
1982	UV6		1982	10	25.00080	03	25	30.46	+18	45	45.4	17.0 1	095
1343			1982	10	25.00080	03	28	11.65	+19	45	07.6	1	095
85			1982	10	25.07094	03	50	48.93	+11	55	14.3	1	095
877			1982	10	25.07094	03	59	36.16	+13	19	25.3		095
1982	UA7		1982	10	25.07094	04	00	49.48	+11	53	43.6	16.0	095
1248			1982	10	25.07094	04	08	06.69	+14	24	05.7	1	095
2891			1982	10	25.07094	04	12	32.86	+09	31	05.4		095
818			1982	10	25.07094	04	14	07.93	+14	19	33.9	1	095
2850			1982	10	25.07094	04	14	45.90	+10	37	21.5		095
1982	UK7		1982	10	25.07094	04	15	29.45	+15	04	21.7	16.5 1	095
2122			1982	10	25.07094	04	19	08.89	+11	04	57.0		095
1980	GD		1982	10	25.07094	04	20	43.24	+08	09	13.5		095
14			1982	10	25.07094	04	21	44.68	+14	19	45.4	1	095
490			1982	10	25.07094	04	25	39.98	+10	27	58.5		095
1320			1982	10	25.07094	04	26	17.46	+14	45	18.4	1	095
2912			1982	10	25.07094	04	26	19.06	+12	08	05.2	17.0	095
1982	US9		1982	10	25.07094	04	26	30.11	+10	56	26.6	17.0	095
1304			1982	10	25.07094	04	27	56.54	+08	43	52.7	1	095
1982	UR7		1982	10	25.07094	04	29	16.63	+10	48	49.6	17.0 3	095
1982	VS5	*	1982	11	07.78664	01	57	35.65	+12	25	12.4	17.0 1	095
1982	VT5	*	1982	11	07.78664	01	59	34.90	+08	19	06.9	17.0 1	095
1982	VU5	*	1982	11	07.78664	01	59	54.75	+07	41	16.5	17.0 1	095
1982	TQ		1982	11	07.78664	02	01	19.72	+13	24	27.3	17.0 3	095
116			1982	11	07.78664	02	02	45.22	+09	49	53.0		095
1323			1982	11	07.78664	02	04	09.25	+07	19	47.9		095
1616			1982	11	07.78664	02	04	58.24	+09	56	30.8		095
1253			1982	11	07.78664	02	05	39.09	+12	40	15.7		095
906			1982	11	07.78664	02	08	56.98	+12	18	38.2		095
257			1982	11	07.78664	02	11	12.40	+13	39	05.7		095
1982	VV5	*	1982	11	07.78664	02	11	13.24	+10	53	36.8	17.0	095
1982	VW5	*	1982	11	07.78664	02	11	35.80	+09	29	05.5	17.0	095
1982	VX5	*	1982	11	07.78664	02	13	25.06	+08	19	19.9	17.0	095
2282			1982	11	07.78664	02	13	39.21	+11	18	35.7		095
525			1982	11	07.78664	02	14	05.82	+10	10	42.5		095
168			1982	11	07.78664	02	22	59.70	+12	40	06.0		095
1289			1982	11	07.78664	02	25	19.95	+13	12	30.8		095
2196			1982	11	07.78664	02	26	49.02	+12	28	17.8		095
555			1982	11	07.78664	02	26	50.51	+10	21	47.2		095
1982	UB1		1982	11	07.78664	02	30	23.17	+10	16	54.5	16.5 2	095
2821			1982	11	07.78664	02	32	36.20	+10	53	48.0	1	095
1977	DX8		1982	11	07.78664	02	32	48.40	+11	26	26.3	16.0 1	095
1982	VS5		1982	11	08.76285	01	56	37.11	+12	22	08.6	17.0 1	095
1982	VY5	*	1982	11	08.76285	01	57	40.72	+11	47	59.2	17.0 1	095
1982	VT5		1982	11	08.76285	01	58	52.12	+08	15	40.4	17.0 1	095
1982	VU5		1982	11	08.76285	01	59	04.46	+07	40	14.0	17.0 1	095
1950			1982	11	08.76285	01	59	53.97	+07	50	54.7	1	095
1982	TQ		1982	11	08.76285	02	00	36.51	+13	16	45.9	17.0 1	095

116		1982	11	08.76285	02	01	55.76	+09	46	40.5				095
1323		1982	11	08.76285	02	03	20.80	+07	18	32.3				095
1616		1982	11	08.76285	02	04	08.30	+09	55	09.0				095
1253		1982	11	08.76285	02	04	55.49	+12	37	07.4				095
906		1982	11	08.76285	02	08	03.25	+12	18	19.0				095
2411		1982	11	08.76285	02	09	20.53	+10	08	06.9				095
257		1982	11	08.76285	02	10	25.15	+13	36	25.0				095
1982	VV5	1982	11	08.76285	02	10	29.83	+10	49	52.6		17.0		095
1982	VW5	1982	11	08.76285	02	10	52.26	+09	26	02.2		17.0		095
2801		1982	11	08.76285	02	11	13.05	+14	54	31.9			1	095
1982	VX5	1982	11	08.76285	02	12	35.42	+08	13	13.2		17.0		095
2282		1982	11	08.76285	02	12	45.20	+11	10	44.6				095
525		1982	11	08.76285	02	13	12.13	+10	02	38.1				095
168		1982	11	08.76285	02	22	18.11	+12	35	31.8				095
1289		1982	11	08.76285	02	24	31.35	+13	08	06.2				095
555		1982	11	08.76285	02	26	04.04	+10	18	04.8				095
2196		1982	11	08.76285	02	26	08.93	+12	22	56.4				095
1982	UB1	1982	11	08.76285	02	29	35.59	+10	14	03.8		17.0	1	095
2821		1982	11	08.76285	02	31	36.79	+10	54	53.0			1	095
1977	DX8	1982	11	08.76285	02	31	52.11	+11	23	21.2		17.0	1	095
2168		1982	11	08.84721	01	31	21.86	+18	17	20.0			1	095
1457		1982	11	08.84721	01	32	59.00	+19	06	14.8			1	095
1989		1982	11	08.84721	01	35	05.06	+12	19	22.8			1	095
1982	VZ5 *	1982	11	08.84721	01	36	02.75	+17	36	50.0		17.5	1	095
1982	VA6 *	1982	11	08.84721	01	36	14.00	+13	33	39.1		17.5	1	095
1982	UP5	1982	11	08.84721	01	36	32.08	+16	08	04.0		17.5	3	095
1982	VB6 *	1982	11	08.84721	01	38	56.85	+14	25	49.8		17.5	3	095
1979	YE9	1982	11	08.84721	01	42	31.58	+13	50	16.2		17.5		095
1982	VC6 *	1982	11	08.84721	01	43	45.87	+12	54	45.5		17.5		095
1982	US5	1982	11	08.84721	01	43	46.24	+16	02	00.9		17.5		095
1982	UT5	1982	11	08.84721	01	43	55.05	+11	36	18.9		17.5	1	095
1175		1982	11	08.84721	01	45	31.54	+20	07	19.4			1	095
1982	VD6 *	1982	11	08.84721	01	45	38.00	+16	36	19.5		17.5		095
1982	TF1	1982	11	08.84721	01	48	50.60	+17	39	36.6		17.0		095
1982	UV5	1982	11	08.84721	01	49	22.86	+11	24	08.3		16.5	1	095
570		1982	11	08.84721	01	50	49.67	+11	53	54.4			1	095
1982	VE6 *	1982	11	08.84721	01	51	43.31	+12	10	16.8		17.5		095
1982	TL1	1982	11	08.84721	01	53	18.12	+17	05	04.9		17.0		095
1982	VF6 *	1982	11	08.84721	01	53	38.58	+18	34	12.2		17.5		095
1982	TP1	1982	11	08.84721	01	53	50.54	+14	12	03.0		17.0		095
1982	VG6 *	1982	11	08.84721	01	54	51.41	+13	05	34.9		17.5		095
1982	TK1	1982	11	08.84721	01	55	17.70	+18	58	43.4		17.0	2	095
1982	VH6 *	1982	11	08.84721	01	55	42.24	+14	04	22.4		17.5		095
1982	VJ6 *	1982	11	08.84721	01	56	03.82	+10	57	04.8		17.5	3	095
1982	VS5	1982	11	08.84721	01	56	31.73	+12	21	52.6		17.0		095
1982	VK6 *	1982	11	08.84721	01	56	42.97	+10	58	58.5		18.0	1	095
1982	TR	1982	11	08.84721	01	57	06.95	+20	00	03.2		16.5	1	095
610		1982	11	08.84721	01	57	10.13	+19	48	53.6			1	095
1228		1982	11	08.84721	01	57	28.41	+17	22	52.3				095
1982	VY5	1982	11	08.84721	01	57	36.84	+11	47	35.5		17.0	1	095
2809		1982	11	08.84721	01	58	35.75	+15	21	13.6				095
1982	VL6 *	1982	11	08.84721	01	59	54.16	+11	35	57.8		17.5	1	095
1982	VM6 *	1982	11	08.84721	02	00	07.52	+19	18	59.7		17.5	1	095
1982	TQ	1982	11	08.84721	02	00	32.68	+13	16	08.8		16.5		095
1982	TS1	1982	11	08.84721	02	01	36.55	+19	06	33.7		17.0	1	095
1982	VN6 *	1982	11	08.84721	02	02	06.28	+15	04	17.2		17.5		095
1982	VO6 *	1982	11	08.84721	02	02	27.85	+14	24	37.5		17.5		095
1253		1982	11	08.84721	02	04	51.73	+12	36	51.6				095
55		1982	11	08.84721	02	05	04.88	+19	07	33.3			1	095

1980	DA		1982	11	08.84721	02	05	39.96	+18	28	11.4		095
906			1982	11	08.84721	02	07	58.62	+12	18	16.2	1	095
395			1982	11	08.84721	02	09	00.60	+16	30	11.4	1	095
257			1982	11	08.84721	02	10	20.99	+13	36	10.8	1	095
1982	VV5		1982	11	08.84721	02	10	25.88	+10	49	36.1	17.0	1 095
2801			1982	11	08.84721	02	11	08.00	+14	54	32.2	17.0	1 095
675			1982	11	09.86054	01	06	36.76	+21	01	42.4	1	095
1066			1982	11	09.86054	01	06	45.39	+14	39	09.3	1	095
1982	SC4		1982	11	09.86054	01	11	35.60	+13	50	23.1	17.0	1 095
1982	VP6	*	1982	11	09.86054	01	17	53.18	+21	29	26.1	17.5	095
1982	VQ6	*	1982	11	09.86054	01	19	15.16	+19	04	44.5	17.5	095
1982	SO4		1982	11	09.86054	01	19	31.63	+15	19	34.6	17.0	095
1982	VR6	*	1982	11	09.86054	01	20	57.08	+16	00	16.0	17.5	095
1982	VS6	*	1982	11	09.86054	01	23	28.19	+17	54	02.3	17.0	095
1982	VT6	*	1982	11	09.86054	01	24	32.48	+17	15	05.5	17.5	095
2179			1982	11	09.86054	01	24	47.74	+14	08	45.0	1	095
1982	UK8		1982	11	09.86054	01	24	50.51	+19	53	01.1	17.5	095
1982	UJ8		1982	11	09.86054	01	24	57.30	+15	25	05.6	17.0	095
1982	UH8		1982	11	09.86054	01	25	05.16	+18	00	13.4	17.0	095
1982	VU6	*	1982	11	09.86054	01	25	55.66	+15	31	30.7	17.5	095
1197			1982	11	09.86054	01	25	56.62	+22	24	49.8	1	095
1666			1982	11	09.86054	01	27	00.79	+13	22	53.2	1	095
1982	VV6	*	1982	11	09.86054	01	28	09.74	+22	50	56.5	17.5	1 095
2168			1982	11	09.86054	01	30	36.25	+18	11	32.0		095
1457			1982	11	09.86054	01	32	13.34	+19	00	28.0		095
1982	UQ5		1982	11	09.86054	01	35	20.88	+13	28	38.4	17.5	1 095
1982	UP5		1982	11	09.86054	01	35	45.46	+16	01	27.7	17.5	095
1982	VW6	*	1982	11	09.86054	01	35	54.57	+17	30	14.2	17.5	095
1982	VX6	*	1982	11	09.86054	01	36	50.62	+18	31	43.6	17.5	095
1982	VY6	*	1982	11	09.86054	01	37	02.39	+19	13	28.3	17.5	095
1979	YE9		1982	11	09.86054	01	41	36.74	+13	45	31.0	17.5	1 095
1982	TE1		1982	11	09.86054	01	41	53.56	+19	35	47.9	17.0	1 095
1982	TD1		1982	11	09.86054	01	42	36.50	+18	08	28.4	17.0	1 095
1982	US5		1982	11	09.86054	01	43	03.52	+15	56	08.7	17.5	1 095
1982	UU5		1982	11	09.86054	01	44	50.94	+16	30	08.1	17.5	1 095
1175			1982	11	09.86054	01	44	53.02	+19	58	25.0		1 095
1982	TF1		1982	11	09.86054	01	48	06.58	+17	35	17.0	17.0	1 095
1982	VZ6	*	1982	11	09.93068	02	31	32.13	+20	19	51.8	18.0	1 095
1982	UD2		1982	11	09.93068	02	32	17.40	+15	00	26.8	17.0	1 095
1712			1982	11	09.93068	02	32	35.02	+22	00	14.0		1 095
1982	UQ10		1982	11	09.93068	02	33	30.41	+17	20	14.0	17.5	1 095
64			1982	11	09.93068	02	34	26.40	+17	22	05.8		1 095
1982	UP2		1982	11	09.93068	02	36	07.18	+17	09	20.2	17.5	1 095
1982	UC6		1982	11	09.93068	02	36	11.88	+21	10	12.5	18.0	1 095
1982	UF6		1982	11	09.93068	02	36	31.59	+15	41	40.5	17.0	1 095
1982	UD6		1982	11	09.93068	02	36	41.50	+22	10	42.8	17.5	1 095
1982	TC2		1982	11	09.93068	02	36	57.40	+16	55	10.4	16.5	1 095
1982	VA7	*	1982	11	09.93068	02	37	21.10	+14	57	34.4	18.0	1 095
1982	VB7	*	1982	11	09.93068	02	37	27.79	+14	01	46.2	18.0	1 095
2003			1982	11	09.93068	02	37	56.98	+14	20	47.6		1 095
1982	UR10		1982	11	09.93068	02	37	56.98	+16	44	47.6	17.5	1 095
1982	TE2		1982	11	09.93068	02	38	06.18	+23	12	12.9	16.0	1 095
1982	TD2		1982	11	09.93068	02	38	06.30	+20	16	04.8	16.0	1 095
1982	VC7	*	1982	11	09.93068	02	38	19.93	+17	30	07.6	17.5	1 095
1982	VD7	*	1982	11	09.93068	02	38	52.66	+15	57	02.6	17.5	095
1982	UE6		1982	11	09.93068	02	38	55.26	+17	08	39.1	17.0	1 095
1162			1982	11	09.93068	02	39	09.80	+15	40	46.1		095
1982	US10		1982	11	09.93068	02	39	17.35	+15	08	42.2	17.5	095
1982	VE7	*	1982	11	09.93068	02	39	30.03	+15	18	25.9	17.5	095

1982	VF7	*	1982	11	09.93068	02	39	30.72	+13	47	03.8	17.0	1 095
1982	VG7	*	1982	11	09.93068	02	40	01.78	+18	24	45.3	17.5	095
1982	VH7	*	1982	11	09.93068	02	40	28.38	+17	45	55.0	18.0	095
1982	VJ7	*	1982	11	09.93068	02	40	35.52	+13	22	15.7	18.0	1 095
1982	VK7	*	1982	11	09.93068	02	40	37.38	+14	18	52.6	18.0	1 095
1982	TF2		1982	11	09.93068	02	40	41.42	+18	28	46.4	17.0	095
1913			1982	11	09.93068	02	41	11.90	+17	34	05.6		095
2418			1982	11	09.93068	02	41	12.34	+16	10	52.2		095
1982	VL7	*	1982	11	09.93068	02	41	25.22	+16	32	07.0	17.5	2 095
1982	VM7	*	1982	11	09.93068	02	41	35.56	+23	01	29.6	17.5	1 095
1898			1982	11	09.93068	02	41	36.12	+14	10	47.4		1 095
1982	UJ6		1982	11	09.93068	02	41	59.37	+17	24	41.9	17.0	095
1982	VN7	*	1982	11	09.93068	02	42	27.76	+20	36	39.7	17.5	095
1982	VO7	*	1982	11	09.93068	02	43	30.48	+17	44	36.4	17.5	095
1982	UG6		1982	11	09.93068	02	44	20.49	+15	27	00.3	16.5	095
1982	VP7	*	1982	11	09.93068	02	44	30.90	+18	39	34.9	17.5	095
1982	VQ7	*	1982	11	09.93068	02	44	31.62	+13	13	05.8	18.0	3 095
1982	VR7	*	1982	11	09.93068	02	45	45.94	+23	01	29.6	18.0	1 095
1982	VS7	*	1982	11	09.93068	02	45	56.80	+22	01	31.5	17.5	1 095
1982	VT7	*	1982	11	09.93068	02	46	09.90	+18	48	54.2	17.5	095
1982	UV10		1982	11	09.93068	02	47	58.62	+16	25	16.4	17.5	095
1982	UG2		1982	11	09.93068	02	48	26.05	+15	42	48.7	16.5	095
1982	UK6		1982	11	09.93068	02	48	49.91	+16	47	37.4	17.5	095
1982	VF11	*	1982	11	09.93068	02	49	58.08	+19	53	28.9	17.5	095
1982	VU7	*	1982	11	09.93068	02	50	35.22	+18	54	38.2	18.0	2 095
1982	UF2		1982	11	09.93068	02	50	47.38	+16	10	38.0	17.0	095
362			1982	11	09.93068	02	50	48.64	+21	09	27.3		095
1982	VV7	*	1982	11	09.93068	02	50	50.82	+18	35	56.5	18.0	095
1487			1982	11	09.93068	02	50	55.63	+13	31	18.7		1 095
1982	TH2		1982	11	09.93068	02	51	07.80	+21	54	17.4	16.5	1 095
1982	VW7	*	1982	11	09.93068	02	51	25.61	+15	48	43.2	18.0	095
1982	UL6		1982	11	09.93068	02	51	34.72	+18	03	53.4	17.5	095
1982	UX10		1982	11	09.93068	02	51	41.21	+19	22	17.9	17.0	095
1982	VX7	*	1982	11	09.93068	02	51	53.80	+19	37	14.0	18.0	095
1982	UH2		1982	11	09.93068	02	52	00.13	+18	30	13.6	17.0	095
1982	UM6		1982	11	09.93068	02	52	09.07	+19	53	23.7	17.5	095
1982	VY7	*	1982	11	09.93068	02	52	11.88	+14	00	03.6	17.5	1 095
2242			1982	11	09.93068	02	52	36.28	+21	15	33.4		095
1119			1982	11	09.93068	02	52	53.81	+13	58	51.0		1 095
1982	VZ7	*	1982	11	09.93068	02	53	06.76	+14	14	49.0	17.5	1 095
1982	UJ2		1982	11	09.93068	02	53	15.44	+19	19	41.0	17.0	095
1982	VA8	*	1982	11	09.93068	02	53	25.14	+15	31	22.9	17.5	095
1982	VB8	*	1982	11	09.93068	02	53	27.77	+16	39	51.3	17.5	095
1982	VC8	*	1982	11	09.93068	02	53	36.25	+16	27	51.0	18.0	095
1982	UY10		1982	11	09.93068	02	53	48.00	+16	06	50.9	17.0	095
2233			1982	11	09.93068	02	54	19.90	+18	59	10.6		095
1982	VD8	*	1982	11	09.93068	02	54	36.85	+16	57	44.4	17.5	095
1982	VE8	*	1982	11	09.93068	02	54	40.89	+18	07	08.1	17.5	095
1982	UZ10		1982	11	09.93068	02	55	00.72	+20	39	58.8	17.5	095
2323			1982	11	09.93068	02	55	35.40	+21	43	18.0		1 095
1982	VF8	*	1982	11	09.93068	02	55	38.20	+17	35	53.4	17.5	095
1982	VG8	*	1982	11	09.93068	02	56	33.69	+17	14	08.7	17.5	095
1982	VH8	*	1982	11	09.93068	02	56	41.53	+20	12	59.8	17.5	095
1982	VJ8	*	1982	11	09.93068	02	57	05.70	+18	47	11.9	17.5	095
1982	VK8	*	1982	11	09.93068	02	57	10.98	+20	09	01.6	18.0	095
1982	VL8	*	1982	11	09.93068	02	57	25.28	+16	12	34.6	18.0	095
1982	VM8	*	1982	11	09.93068	02	57	28.76	+15	26	36.4	17.5	095
1982	UK2		1982	11	09.93068	02	57	34.84	+16	10	05.4	17.0	095
1982	VN8	*	1982	11	09.93068	02	58	07.92	+14	02	48.3	18.0	1 095

1982	UP6		1982	11	09.93068	02	58	31.76	+13	05	05.5	17.0	1 095
951			1982	11	09.93068	02	58	39.31	+20	53	12.4		095
1982	TL2		1982	11	09.93068	02	59	22.16	+22	14	19.5	17.0	1 095
1982	VO8	*	1982	11	09.93068	02	59	29.61	+14	52	18.6	18.0	095
1982	UA11		1982	11	09.93068	02	59	44.74	+16	21	40.2	17.0	095
1982	VP8	*	1982	11	09.93068	02	59	49.11	+17	25	42.8	17.5	095
2300			1982	11	09.93068	02	59	51.17	+18	06	05.2		095
1982	TN2		1982	11	09.93068	03	00	34.60	+18	24	01.4	17.0	095
1982	US6		1982	11	09.93068	03	00	47.23	+17	22	08.4	17.0	095
1982	UR6		1982	11	09.93068	03	00	49.49	+17	11	52.5	16.5	095
1982	UO6		1982	11	09.93068	03	01	21.30	+19	40	56.2	17.5	095
2289			1982	11	09.93068	03	01	37.68	+15	07	48.1		095
1982	VQ8	*	1982	11	09.93068	03	01	57.14	+16	00	42.0	18.0	095
1982	VR8	*	1982	11	09.93068	03	02	01.44	+18	07	45.9	18.0	095
1982	UQ6		1982	11	09.93068	03	02	39.03	+16	50	44.0	17.5	095
1982	VS8	*	1982	11	09.93068	03	03	50.82	+19	12	55.6	17.5	095
1982	UT6		1982	11	09.93068	03	04	34.08	+19	28	26.6	17.5	095
1982	VT8	*	1982	11	09.93068	03	05	00.60	+13	18	55.7	18.0	1 095
1982	UC11		1982	11	09.93068	03	05	13.80	+19	15	18.6	17.5	095
1440			1982	11	09.93068	03	05	23.18	+17	31	19.4		095
2438			1982	11	09.93068	03	06	25.06	+16	54	54.1		095
1982	VU8	*	1982	11	09.93068	03	06	27.44	+14	00	28.6	18.0	1 095
1982	VV8	*	1982	11	09.93068	03	06	34.32	+17	21	06.4	17.5	095
1982	VW8	*	1982	11	09.93068	03	06	37.44	+14	49	18.2	18.0	095
1982	VX8	*	1982	11	09.93068	03	07	05.12	+19	59	37.5	18.0	095
1982	VY8	*	1982	11	09.93068	03	07	08.38	+16	54	56.7	18.0	095
1982	VT		1982	11	09.93068	03	07	29.30	+19	47	40.0	17.5	095
1982	VZ8	*	1982	11	09.93068	03	09	02.80	+15	41	37.6	18.0	1 095
1982	VA9	*	1982	11	09.93068	03	09	04.12	+15	59	32.3	18.0	1 095
1982	VB9	*	1982	11	09.93068	03	12	12.18	+18	01	28.0	18.0	1 095
1982	VC9	*	1982	11	09.93068	03	12	31.12	+19	12	53.4	17.5	1 095
1343			1982	11	09.93068	03	12	50.62	+19	22	55.4		1 095
1982	VD9	*	1982	11	09.93068	03	13	33.32	+17	45	11.3	18.0	1 095
1982	VE9	*	1982	11	09.93068	03	14	09.32	+21	20	43.8	17.5	1 095
316			1982	11	10.83751	01	19	37.51	+04	40	20.2		1 095
1624			1982	11	10.83751	01	20	38.63	+05	38	50.3		1 095
1114			1982	11	10.83751	01	21	12.52	+04	21	06.6		1 095
1982	VF9	*	1982	11	10.83751	01	21	45.82	+01	18	04.8	17.0	095
1048			1982	11	10.83751	01	24	01.50	-01	27	12.7		095
2268			1982	11	10.83751	01	24	55.85	+04	14	01.5		095
528			1982	11	10.83751	01	26	25.66	+02	05	20.1		095
138			1982	11	10.83751	01	26	51.78	+06	58	57.0		1 095
1421			1982	11	10.83751	01	28	29.48	+05	58	57.5		095
1982	VG9	*	1982	11	10.83751	01	32	37.65	+06	07	05.8	16.5	095
1982	VH9	*	1982	11	10.83751	01	33	57.37	+02	52	25.4	17.0	095
1632			1982	11	10.83751	01	34	43.65	+07	28	31.7		1 095
41			1982	11	10.83751	01	35	45.13	-02	01	04.9		1 095
1982	VJ9	*	1982	11	10.83751	01	38	41.83	+03	50	24.9	16.5	095
1902			1982	11	10.83751	01	40	43.41	+01	33	48.4		095
1982	VK9	*	1982	11	10.83751	01	40	56.86	-01	38	37.9	16.5	1 095
1982	VL9	*	1982	11	10.83751	01	47	07.22	-01	30	52.4	16.5	1 095
1623			1982	11	10.83751	01	49	02.23	+07	09	00.3		1 095
942			1982	11	10.83751	01	52	11.82	+00	50	33.4		1 095
633			1982	11	10.90903	02	47	08.10	-00	33	41.2		1 095
1982	VM9	*	1982	11	10.90903	02	51	33.79	+01	48	43.2	17.0	095
1278			1982	11	10.90903	02	54	31.77	+01	26	49.9		095
1982	VN9	*	1982	11	10.90903	02	55	13.88	+02	16	54.6	17.0	095
1679			1982	11	10.90903	02	55	30.83	-02	13	23.1		1 095
619			1982	11	10.90903	02	58	53.63	+01	48	14.6		095

256		1982	11	10.90903	02	59	59.92	+03	28	08.0			095
484		1982	11	10.90903	03	00	38.18	-03	21	14.8		3	095
202		1982	11	10.90903	03	04	59.06	+03	43	55.2			095
1982	VO9 *	1982	11	10.90903	03	09	35.05	+01	23	44.9	17.0		095
669		1982	11	10.90903	03	12	41.78	+04	11	41.5			095
2303		1982	11	10.90903	03	16	27.81	+02	27	53.7		2	095
527		1982	11	10.90903	03	20	00.94	+03	09	54.5		1	095
675		1982	11	11.82316	01	05	44.75	+20	42	53.4		1	095
1982	SC4	1982	11	11.82316	01	10	11.20	+13	53	29.8	16.5	1	095
1982	SO4	1982	11	11.82316	01	18	02.60	+15	23	49.4	16.5		095
1982	VR6	1982	11	11.82316	01	19	22.64	+15	54	55.5	17.0		095
1982	VS6	1982	11	11.82316	01	22	50.86	+17	36	47.8	17.0		095
2179		1982	11	11.82316	01	23	21.48	+14	06	01.5		1	095
1982	UJ8	1982	11	11.82316	01	23	34.13	+15	10	07.0	16.5		095
1982	UH8	1982	11	11.82316	01	23	48.15	+17	47	17.0	17.0		095
1197		1982	11	11.82316	01	24	36.58	+22	09	46.4		1	095
1666		1982	11	11.82316	01	25	56.06	+13	10	42.6		1	095
2168		1982	11	11.82316	01	29	12.58	+18	00	23.1			095
1457		1982	11	11.82316	01	30	48.16	+18	49	19.6			095
1982	VZ5	1982	11	11.82316	01	34	15.16	+17	32	16.8	17.0		095
1982	UP5	1982	11	11.82316	01	34	18.75	+15	49	04.6	17.0		095
1908		1982	11	11.82316	01	39	01.29	+12	53	05.5		1	095
1982	TD1	1982	11	11.82316	01	41	04.87	+18	03	14.9	17.0	1	095
1175		1982	11	11.82316	01	43	41.40	+19	41	03.6		1	095
1982	TR	1982	11	11.89389	01	54	12.65	+19	42	37.2	17.0	1	095
610		1982	11	11.89389	01	54	24.70	+19	52	53.8		1	095
1498		1982	11	11.89389	01	55	27.12	+27	19	14.8		1	095
1982	VP9 *	1982	11	11.89389	01	57	43.98	+27	55	25.8	17.0		095
1982	TP2	1982	11	11.89389	01	58	04.39	+26	20	13.9	17.0		095
1982	VQ9 *	1982	11	11.89389	01	58	50.03	+22	13	03.2	17.0		095
1978	QB3	1982	11	11.89389	02	02	03.96	+19	52	33.9	16.5	1	095
1982	VR9 *	1982	11	11.89389	02	03	56.86	+24	38	31.6	17.0		095
1982	VS9 *	1982	11	11.89389	02	05	39.84	+23	55	39.6	17.0		095
932		1982	11	11.89389	02	06	20.29	+19	49	48.6		1	095
1982	VF	1982	11	11.89389	02	09	06.08	+20	16	52.4	17.0	1	095
35		1982	11	11.89389	02	10	27.80	+21	40	30.2			095
2358		1982	11	11.89389	02	11	21.54	+26	59	38.6			095
1982	VT9 *	1982	11	11.89389	02	12	14.97	+26	36	23.8	17.0		095
1016		1982	11	11.89389	02	12	33.00	+20	44	04.8		1	095
1982	VU9 *	1982	11	11.89389	02	12	44.44	+25	56	05.4	17.5		095
1181		1982	11	11.89389	02	13	50.90	+20	05	55.8		1	095
1885		1982	11	11.89389	02	15	31.92	+25	16	21.0			095
1530		1982	11	11.89389	02	16	12.86	+22	22	15.3			095
1982	VV9 *	1982	11	11.89389	02	16	31.47	+28	54	06.8	17.0	3	095
1982	UH9	1982	11	11.89389	02	16	37.11	+23	43	55.6	17.0		095
1982	VW9 *	1982	11	11.89389	02	18	13.68	+20	12	18.5	16.5	1	095
1982	VX9 *	1982	11	11.89389	02	20	28.72	+20	11	37.2	17.0	1	095
1982	VY9 *	1982	11	11.89389	02	21	52.50	+27	16	24.2	16.5		095
1982	UN9	1982	11	11.89389	02	22	19.55	+22	42	07.0	16.5		095
1982	TT	1982	11	11.89389	02	22	25.15	+22	37	08.6	16.5		095
1982	VZ9 *	1982	11	11.89389	02	24	00.67	+28	24	37.2	16.5		095
620		1982	11	11.89389	02	26	31.48	+24	40	44.8			095
1982	TT2	1982	11	11.89389	02	28	58.71	+27	14	39.6	16.5		095
1712		1982	11	11.89389	02	31	07.04	+21	45	23.7		1	095
1735		1982	11	11.89389	02	33	14.30	+29	21	59.7		1	095
1982	UA7	1982	11	11.96681	03	43	39.48	+13	09	23.2	16.0		095
877		1982	11	11.96681	03	45	37.99	+12	34	44.3			095
1982	VA10*	1982	11	11.96681	03	45	40.51	+13	30	32.8	17.5		095
1475		1982	11	11.96681	03	51	53.74	+15	00	51.3		1	095

1248		1982	11	11.96681	03	53	49.10	+14	18	46.6		1	095
1982	VB10*	1982	11	11.96681	03	56	56.13	+13	15	50.2	17.0		095
2664		1982	11	11.96681	03	57	38.62	+14	31	23.4	17.0	1	095
818		1982	11	11.96681	04	00	29.63	+14	48	47.9		1	095
2850		1982	11	11.96681	04	00	53.14	+10	02	47.4			095
2891		1982	11	11.96681	04	00	57.63	+08	53	34.4			095
1982	UK7	1982	11	11.96681	04	01	52.34	+14	59	49.4	17.0	1	095
1982	VC10*	1982	11	11.96681	04	02	38.81	+05	54	25.3	17.0	1	095
2122		1982	11	11.96681	04	04	53.95	+10	31	49.6			095
1982	VD10*	1982	11	11.96681	04	05	48.30	+09	12	00.9	17.0		095
1982	VE10*	1982	11	11.96681	04	06	45.32	+08	46	37.8	17.0		095
1980	GD	1982	11	11.96681	04	06	51.58	+08	52	16.8			095
14		1982	11	11.96681	04	08	06.60	+14	04	49.5			095
490		1982	11	11.96681	04	15	10.63	+08	59	37.8		1	095
1820		1982	11	11.96681	04	15	11.80	+12	15	40.6			095
1304		1982	11	11.96681	04	16	05.49	+08	39	16.2		1	095
1982	UR7	1982	11	11.96681	04	17	26.58	+10	26	18.4	17.0	1	095
1457		1982	11	12.90525	01	30	02.96	+18	43	12.0		1	095
1982	TE1	1982	11	12.90525	01	39	23.38	+19	23	57.2	17.0		095
1982	TD1	1982	11	12.90525	01	40	16.12	+18	00	19.2	17.5		095
1175		1982	11	12.90525	01	43	03.43	+19	31	29.3			095
1982	TF1	1982	11	12.90525	01	46	05.72	+17	22	28.6	17.0		095
1982	TL1	1982	11	12.90525	01	50	04.91	+16	54	26.4	17.0		095
1688		1982	11	12.90525	01	50	40.77	+20	10	04.1			095
1982	TP	1982	11	12.90525	01	52	24.23	+19	58	28.4	17.0		095
1982	TK1	1982	11	12.90525	01	52	32.07	+18	26	49.4	17.0		095
1982	TR	1982	11	12.90525	01	53	17.08	+19	36	45.1	16.5		095
610		1982	11	12.90525	01	53	32.13	+19	54	07.1			095
1228		1982	11	12.90525	01	54	14.70	+17	03	05.6			095
2809		1982	11	12.90525	01	55	14.54	+15	05	32.3		1	095
1982	TS1	1982	11	12.90525	01	58	45.63	+18	36	23.5	17.0		095
1982	VF10*	1982	11	12.90525	01	59	25.48	+14	40	31.0	17.0	1	095
1790		1982	11	12.90525	02	00	47.01	+18	18	05.4			095
1982	VG10*	1982	11	12.90525	02	00	50.38	+18	49	51.7	17.0		095
1978	QB3	1982	11	12.90525	02	01	13.56	+19	48	59.3	17.0		095
55		1982	11	12.90525	02	01	29.87	+18	58	49.0			095
1980	DA	1982	11	12.90525	02	02	09.55	+18	00	32.1			095
932		1982	11	12.90525	02	05	19.15	+19	48	08.0			095
395		1982	11	12.90525	02	05	47.33	+16	08	40.6			095
2801		1982	11	12.90525	02	07	24.23	+14	53	15.1	16.5	1	095
1982	VF	1982	11	12.90525	02	08	10.66	+20	14	18.8	17.5	1	095
1982	VH10*	1982	11	12.90525	02	08	22.18	+16	11	00.4	17.5	1	095
35		1982	11	12.90525	02	09	39.20	+21	36	54.5		1	095
2520		1982	11	12.90525	02	10	55.30	+18	45	06.5		1	095
1016		1982	11	12.90525	02	11	29.38	+20	42	06.0		1	095
1982	VR4	1982	11	12.98162	03	33	08.86	+15	39	30.5	17.0	1	095
1982	VM	1982	11	12.98162	03	36	09.90	+19	00	56.4	17.5	1	095
1982	VZ4	1982	11	12.98162	03	36	18.40	+17	31	46.0	17.5	1	095
1982	VK10*	1982	11	12.98162	03	37	13.98	+12	37	11.5	18.0	1	095
1982	VD5	1982	11	12.98162	03	37	58.28	+18	46	32.3	17.5		095
1982	VB5	1982	11	12.98162	03	38	08.85	+18	34	27.7	17.5		095
1982	VM10*	1982	11	12.98162	03	38	19.40	+20	10	25.2	17.5	1	095
1982	VF5	1982	11	12.98162	03	38	27.87	+15	09	00.8	18.0		095
46		1982	11	12.98162	03	39	56.54	+16	08	50.8			095
2840		1982	11	12.98162	03	41	48.40	+18	29	38.7			095
1093		1982	11	12.98162	03	42	25.96	+19	44	58.9		1	095
1982	UA7	1982	11	12.98162	03	42	30.22	+13	14	09.3	15.5		095
1981	JD2	1982	11	12.98162	03	44	04.28	+20	56	33.6	17.0	1	095
2975		1982	11	12.98162	03	44	12.83	+20	04	39.2	17.5	1	095

1451		1982	11	12.98162	03	44	18.27	+12	18	19.6		1	095
2961		1982	11	12.98162	03	44	20.31	+17	40	03.7	16.0		095
877		1982	11	12.98162	03	44	39.60	+12	32	29.5			095
1982	VN10*	1982	11	12.98162	03	45	45.68	+20	00	34.5	17.5	1	095
1982	VO10*	1982	11	12.98162	03	45	56.70	+15	40	05.7	18.0		095
363		1982	11	12.98162	03	48	15.94	+18	27	30.2			095
1982	UB7	1982	11	12.98162	03	48	42.72	+17	50	47.7	17.0		095
1982	VP10*	1982	11	12.98162	03	48	49.94	+11	43	04.9	18.0	1	095
1180		1982	11	12.98162	03	50	17.47	+15	04	13.9			095
1982	UD7	1982	11	12.98162	03	50	27.59	+13	42	43.8	17.5		095
1475		1982	11	12.98162	03	50	58.52	+14	54	24.4			095
3019		1982	11	12.98162	03	50	59.54	+16	16	55.5	17.0		095
1982	VQ10*	1982	11	12.98162	03	51	24.37	+12	11	32.2	18.0	1	095
268		1982	11	12.98162	03	51	30.22	+16	57	56.8			095
566		1982	11	12.98162	03	51	34.16	+17	13	24.0			095
1982	UC7	1982	11	12.98162	03	52	17.37	+17	03	11.7	17.5		095
1248		1982	11	12.98162	03	52	51.12	+14	18	34.1			095
1982	VN	1982	11	12.98162	03	52	55.92	+20	29	58.8	17.0	1	095
1982	UG7	1982	11	12.98162	03	53	55.81	+17	58	02.2	17.5		095
1982	VR10*	1982	11	12.98162	03	54	46.81	+18	29	47.0	17.5		095
1982	VS10*	1982	11	12.98162	03	55	23.29	+15	14	39.5	17.0		095
1982	VT10*	1982	11	12.98162	03	56	01.05	+13	06	59.7	16.5		095
2664		1982	11	12.98162	03	56	40.32	+14	27	04.7	17.0		095
1982	UF7	1982	11	12.98162	03	56	54.93	+16	04	16.6	17.0		095
1982	UE7	1982	11	12.98162	03	57	35.80	+18	29	22.9	17.5		095
1982	UH7	1982	11	12.98162	03	58	29.02	+16	56	03.4	17.0		095
1982	VU10*	1982	11	12.98162	03	59	09.57	+16	34	07.4	18.0	2	095
1982	UM7	1982	11	12.98162	03	59	29.91	+16	57	56.3	17.0		095
818		1982	11	12.98162	03	59	34.66	+14	50	34.8			095
1045		1982	11	12.98162	03	59	45.47	+20	51	04.4		1	095
1982	VG11*	1982	11	12.98162	04	00	06.05	+19	25	53.0	17.5		095
1982	VV10*	1982	11	12.98162	04	00	29.05	+16	27	52.0	17.5		095
1982	VW10*	1982	11	12.98162	04	00	49.95	+16	00	35.3	17.5		095
1982	UK7	1982	11	12.98162	04	00	52.01	+14	59	42.3	16.0		095
1137		1982	11	12.98162	04	02	19.77	+17	54	34.5			095
1982	UJ7	1982	11	12.98162	04	02	49.68	+17	23	28.7	17.5		095
1982	UL7	1982	11	12.98162	04	03	27.59	+16	18	07.7	17.0		095
1938		1982	11	12.98162	04	03	57.48	+15	47	43.8			095
1982	VX10*	1982	11	12.98162	04	05	23.02	+15	58	44.4	18.0		095
1982	UO7	1982	11	12.98162	04	05	38.68	+15	48	59.2	17.5		095
14		1982	11	12.98162	04	07	09.17	+14	04	06.6		1	095
1320		1982	11	12.98162	04	11	36.28	+15	03	58.1		1	095
2841		1982	11	12.98162	04	11	45.54	+16	26	35.0		1	095
849		1982	11	14.81958	00	58	46.39	+16	15	46.6		1	095
948		1982	11	14.81958	00	59	22.77	+12	53	53.3		1	095
1982	VY10*	1982	11	14.81958	01	02	19.80	+15	39	56.1	16.5	1	095
675		1982	11	14.81958	01	04	38.54	+20	14	28.2		1	095
1066		1982	11	14.81958	01	04	41.26	+14	26	51.0			095
1982	SC4	1982	11	14.81958	01	08	13.50	+13	58	29.3	16.5		095
453		1982	11	14.81958	01	11	14.97	+11	05	15.4		1	095
1982	SO4	1982	11	14.81958	01	16	02.61	+15	30	36.0	16.5		095
2179		1982	11	14.81958	01	21	18.76	+14	02	09.2			095
1982	UJ8	1982	11	14.81958	01	21	37.67	+14	47	53.6	17.0		095
1982	UH8	1982	11	14.81958	01	22	01.52	+17	28	02.0	17.0		095
1982	VZ10*	1982	11	14.81958	01	23	14.03	+15	10	18.2	17.0		095
1666		1982	11	14.81958	01	24	32.14	+12	53	14.0			095
2168		1982	11	14.81958	01	27	16.65	+17	43	42.6			095
1457		1982	11	14.81958	01	28	45.77	+18	32	26.7			095
1989		1982	11	14.81958	01	29	52.53	+12	10	53.9			095

1975	XP3	1982	11	14.81958	01	30	26.03	+12	31	30.6		17.0	095
1982	UQ5	1982	11	14.81958	01	31	22.75	+13	05	15.0		17.0	095
1982	UP5	1982	11	14.81958	01	32	16.52	+15	30	31.1		17.0	095
1908		1982	11	14.81958	01	36	57.16	+12	44	09.9			1 095
1982	VA11*	1982	11	14.89528	02	21	56.56	+15	35	43.9		17.5	1 095
1982	VB11*	1982	11	14.89528	02	22	06.59	+18	40	13.4		17.0	1 095
1982	UC2	1982	11	14.89528	02	23	17.09	+15	03	28.4		17.0	1 095
1982	UE2	1982	11	14.89528	02	25	51.55	+15	54	51.8		17.0	1 095
976		1982	11	14.89528	02	26	13.56	+18	38	02.6			1 095
1982	UD2	1982	11	14.89528	02	28	06.83	+14	46	05.0		17.0	095
1982	UQ10	1982	11	14.89528	02	28	54.34	+17	10	01.2		17.0	095
1712		1982	11	14.89528	02	28	56.14	+21	22	29.7			1 095
64		1982	11	14.89528	02	29	54.08	+16	59	44.0			095
1982	UF6	1982	11	14.89528	02	31	09.08	+15	33	57.3		17.0	095
1982	UD6	1982	11	14.89528	02	31	52.09	+21	43	25.8		17.5	1 095
1982	UP2	1982	11	14.89528	02	31	55.08	+16	49	27.6		17.5	095
1982	TC2	1982	11	14.89528	02	32	47.36	+16	13	00.4		16.5	095
1982	TD2	1982	11	14.89528	02	33	21.66	+19	42	15.4		16.0	095
2003		1982	11	14.89528	02	33	51.00	+14	04	27.0			095
1982	UE6	1982	11	14.89528	02	33	58.28	+16	52	39.6		17.0	095
1982	UR10	1982	11	14.89528	02	33	59.14	+16	29	22.6		17.5	095
1982	VC7	1982	11	14.89528	02	34	11.64	+17	05	15.4		17.5	095
1982	US10	1982	11	14.89528	02	34	48.10	+14	30	43.3		17.5	095
1982	VG7	1982	11	14.89528	02	35	32.46	+18	05	08.2		17.5	095
1982	VE7	1982	11	14.89528	02	35	37.76	+14	59	25.6		17.5	095
1982	TF2	1982	11	14.89528	02	35	53.78	+18	02	36.1		16.5	095
1162		1982	11	14.89528	02	35	58.81	+15	27	15.7			095
1982	UJ6	1982	11	14.89528	02	36	35.89	+17	07	31.6		17.0	095
1913		1982	11	14.89528	02	36	53.50	+17	15	53.2			095
2418		1982	11	14.89528	02	37	07.70	+15	54	43.8			095
1898		1982	11	14.89528	02	37	40.85	+13	51	57.1			1 095
1982	VN7	1982	11	14.89528	02	37	43.34	+20	17	51.5		17.5	095
1982	VO7	1982	11	14.89528	02	39	15.85	+16	56	29.9		17.5	095
1982	VQ7	1982	11	14.89528	02	39	54.56	+12	58	50.4		17.5	1 095
1982	UG6	1982	11	14.89528	02	39	54.64	+15	13	13.6		16.5	095
1982	UG2	1982	11	14.89528	02	43	38.62	+15	15	12.8		16.5	095
1982	UV10	1982	11	14.89528	02	43	59.42	+16	08	46.0		17.5	095
1982	UK6	1982	11	14.89528	02	44	53.96	+16	31	17.4		17.5	095
1982	VF11	1982	11	14.89528	02	45	15.39	+19	28	05.8		17.5	095
362		1982	11	14.89528	02	45	33.08	+21	03	30.0			095
1982	TH2	1982	11	14.89528	02	45	50.36	+21	41	30.6		16.5	1 095
1982	UF2	1982	11	14.89528	02	46	13.94	+15	29	03.1		17.0	095
1982	VW7	1982	11	14.89528	02	46	42.10	+15	13	27.2		18.0	095
1982	UM6	1982	11	14.89528	02	46	55.04	+19	33	14.5		17.5	095
1487		1982	11	14.89528	02	47	01.04	+13	15	55.0			1 095
2242		1982	11	14.89528	02	47	11.68	+20	56	06.0			095
1982	UX10	1982	11	14.89528	02	47	13.07	+18	35	00.4		17.0	095
1982	UL6	1982	11	14.89528	02	47	15.70	+17	39	31.0		17.5	095
1982	UJ2	1982	11	14.89528	02	47	34.10	+19	08	11.0		17.0	095
1982	UH2	1982	11	14.89528	02	47	35.88	+18	11	35.4		17.0	095
1119		1982	11	14.89528	02	47	57.30	+13	51	05.8			1 095
1982	VA8	1982	11	14.89528	02	49	07.22	+15	05	40.2		17.5	095
1982	UY10	1982	11	14.89528	02	49	11.72	+15	39	31.5		17.0	095
1982	VC11*	1982	11	14.89528	02	49	18.35	+12	36	13.6		17.5	1 095
2233		1982	11	14.89528	02	49	22.14	+18	25	55.4			095
1982	UZ10	1982	11	14.89528	02	49	58.00	+20	20	14.9		17.5	095
2323		1982	11	14.89528	02	51	09.00	+21	30	58.8			1 095
1982	VD11*	1982	11	14.89528	02	51	28.48	+15	27	32.2		17.5	095
1982	UK2	1982	11	14.89528	02	52	55.64	+15	33	56.8		17.0	095

951		1982	11	14.89528	02	53	55.76	+20	13	50.6			095
1982	VE11*	1982	11	14.89528	02	54	22.88	+17	20	38.8		18.0	095
2300		1982	11	14.89528	02	55	18.59	+17	51	22.4			095
1982	UA11	1982	11	14.89528	02	55	19.78	+15	54	03.5		17.5	095
1982	TN2	1982	11	14.89528	02	55	27.40	+17	54	24.8		17.5	095
1982	UR6	1982	11	14.89528	02	55	42.62	+17	02	24.1		17.0	095
1982	UO6	1982	11	14.89528	02	57	15.14	+19	07	56.4		17.5	1 095
1982	UQ6	1982	11	14.89528	02	58	19.42	+16	30	07.6		17.5	1 095
1982	VS8	1982	11	14.89528	02	59	22.39	+18	55	55.0		17.5	1 095
1982	VT8	1982	11	14.89528	02	59	30.74	+13	09	54.6		17.5	1 095
1982	UT6	1982	11	14.89528	03	00	00.86	+19	11	31.4		17.5	1 095
1982	UC11	1982	11	14.89528	03	00	43.12	+18	43	48.2		17.5	1 095
2438		1982	11	14.89528	03	00	48.13	+16	42	09.2			1 095
1440		1982	11	14.89528	03	01	08.98	+17	19	21.0			1 095
1982	YD1 *	1982	12	23.06172	05	53	26.63	+44	15	33.9		16.5	1 095
2486		1982	12	23.06172	06	00	29.34	+39	11	35.5			095
2537		1982	12	23.06172	06	02	50.49	+41	59	09.4			095
2231		1982	12	23.06172	06	04	04.24	+36	19	29.9			095
1982	YE1 *	1982	12	23.06172	06	08	52.21	+39	33	57.1		16.5	095
1982	YF1 *	1982	12	23.06172	06	17	30.73	+39	43	39.8		17.0	095
1927		1982	12	23.06172	06	21	19.32	+44	25	52.1			1 095
1982	YG1 *	1982	12	23.06172	06	21	27.66	+42	29	38.7		16.5	095
1887		1982	12	23.06172	06	23	40.80	+37	27	12.9			095
1982	YH1 *	1982	12	23.06172	06	25	20.94	+37	56	25.6		17.5	095
1982	YJ1 *	1982	12	23.06172	06	26	17.67	+34	46	19.6		16.5	1 095
1157		1982	12	23.06172	06	32	53.42	+34	43	27.3			1 095
1982	YK1 *	1982	12	23.06172	06	35	33.66	+38	50	51.2		17.0	1 095
2737		1982	12	23.06172	06	35	38.25	+37	31	28.2			1 095
766		1982	12	23.06172	06	37	06.16	+38	47	23.5			1 095
845		1982	12	23.06172	06	39	25.37	+37	58	43.1			1 095
718		1982	12	23.12456	06	18	32.80	+31	24	33.0			1 095
1982	YL1 *	1982	12	23.12456	06	18	41.17	+32	58	08.3		17.0	1 095
1887		1982	12	23.12456	06	23	36.67	+37	27	12.6			095
1982	YH1	1982	12	23.12456	06	25	16.33	+37	56	32.2		17.5	095
1454		1982	12	23.12456	06	25	56.27	+32	48	18.3			095
1982	YJ1	1982	12	23.12456	06	26	12.74	+34	46	30.5		16.5	095
2471		1982	12	23.12456	06	30	55.73	+37	41	10.7			095
1157		1982	12	23.12456	06	32	50.24	+34	43	20.5			095
2737		1982	12	23.12456	06	35	34.02	+37	31	25.3			095
766		1982	12	23.12456	06	37	02.30	+38	47	29.4			095
845		1982	12	23.12456	06	39	21.55	+37	58	56.8			095
1982	YM1 *	1982	12	23.12456	06	41	56.66	+31	18	41.9		16.5	3 095
2243		1982	12	23.12456	06	43	03.08	+33	54	38.6			095
1982	YN1 *	1982	12	23.12456	06	43	52.72	+38	25	51.4		17.0	2 095
1982	YO1 *	1982	12	23.12456	06	44	40.32	+37	20	53.7		17.0	095
1982	YP1 *	1982	12	23.12456	06	49	14.90	+37	29	20.3		16.5	095
760		1982	12	23.12456	06	49	38.64	+38	49	46.6			095
1982	YQ1 *	1982	12	23.12456	06	54	56.41	+32	18	12.0		16.5	095
1982	YL1	1982	12	24.98363	06	16	42.61	+33	01	39.5		16.5	1 095
718		1982	12	24.98363	06	16	42.89	+31	27	19.6			1 095
1982	YR1 *	1982	12	24.98363	06	20	44.53	+34	57	50.1		16.5	1 095
1887		1982	12	24.98363	06	21	35.70	+37	27	00.1			1 095
1982	YH1	1982	12	24.98363	06	23	22.36	+38	02	12.8		17.0	095
1454		1982	12	24.98363	06	23	43.89	+32	49	22.3			095
1982	YJ1	1982	12	24.98363	06	23	48.86	+34	51	34.7		16.5	095
1982	YS1 *	1982	12	24.98363	06	27	06.28	+40	17	58.3		17.0	095
2471		1982	12	24.98363	06	28	59.39	+37	44	03.2			095
1157		1982	12	24.98363	06	31	03.98	+34	43	30.1			095
2737		1982	12	24.98363	06	33	29.10	+37	29	59.7			095

766		1982	12	24.98363	06	35	02.65	+38	50	31.3			095
845		1982	12	24.98363	06	37	22.09	+38	05	36.4			095
1982	YM1	1982	12	24.98363	06	40	05.63	+31	37	44.6		16.5	095
2243		1982	12	24.98363	06	40	37.19	+33	59	04.0			095
1982	YT1 *	1982	12	24.98363	06	42	30.20	+37	27	21.8		17.0	095
1982	YU1 *	1982	12	24.98363	06	43	37.62	+31	01	49.6		16.5	095
1982	YP1	1982	12	24.98363	06	47	26.34	+37	30	22.2		16.5	095
760		1982	12	24.98363	06	47	41.20	+38	49	49.0			095
1982	YV1 *	1982	12	24.98363	06	47	53.53	+36	28	07.6		17.0	095
1982	YQ1	1982	12	24.98363	06	53	13.48	+32	23	09.2		17.0	095
1982	YW1 *	1982	12	24.98363	06	55	32.39	+35	42	05.4		17.0	095
2231		1983	01	06.72289	05	47	40.75	+35	39	04.9			1 095
1983	AA3 *	1983	01	06.72289	05	57	32.03	+38	45	43.3		16.5	095
1983	AB3 *	1983	01	06.72289	06	01	29.65	+41	45	47.8		17.0	095
1982	YL1	1983	01	06.72289	06	03	44.41	+33	11	55.9		16.5	1 095
1982	YR1	1983	01	06.72289	06	06	24.18	+34	46	20.3		17.0	095
1982	YJ1	1983	01	06.72289	06	07	20.30	+35	05	43.6		16.5	095
1887		1983	01	06.72289	06	08	06.16	+37	10	19.0			095
1454		1983	01	06.72289	06	08	41.17	+32	39	32.4			1 095
1982	YH1	1983	01	06.72289	06	10	20.20	+38	27	50.0		17.0	095
1983	AC3 *	1983	01	06.72289	06	12	38.78	+35	20	38.3		17.0	095
1983	AD3 *	1983	01	06.72289	06	15	00.28	+36	14	27.1		17.0	095
2471		1983	01	06.72289	06	15	40.75	+37	50	03.0			095
1983	AE3 *	1983	01	06.72289	06	16	43.12	+40	04	19.1		17.0	095
1157		1983	01	06.72289	06	18	56.32	+34	34	45.5			095
2737		1983	01	06.72289	06	19	14.93	+36	58	58.8			095
766		1983	01	06.72289	06	21	16.22	+38	53	40.3			095
845		1983	01	06.72289	06	23	30.35	+38	35	52.8			095
2243		1983	01	06.72289	06	23	50.51	+34	13	22.9			095
1982	YM1	1983	01	06.72289	06	26	31.58	+33	35	15.3		17.0	1 095
760		1983	01	06.72289	06	33	42.32	+38	32	53.6			1 095
1982	YP1	1983	01	06.72289	06	34	35.66	+37	23	32.2		16.5	1 095
1983	AA3	1983	01	09.84944	05	54	18.71	+38	42	29.6		16.5	1 095
1982	YL1	1983	01	09.84944	06	00	55.43	+33	10	54.9		16.5	095
718		1983	01	09.84944	06	01	23.06	+31	39	13.5			1 095
1983	AF3 *	1983	01	09.84944	06	02	27.37	+33	09	34.8		17.0	095
1982	YR1	1983	01	09.84944	06	03	22.05	+34	38	37.9		16.5	095
1982	YJ1	1983	01	09.84944	06	03	36.66	+35	03	48.9		16.0	095
1887		1983	01	09.84944	06	05	04.24	+37	02	29.4			095
1454		1983	01	09.84944	06	05	19.12	+32	32	46.7			095
1982	YH1	1983	01	09.84944	06	07	18.00	+38	30	35.0		17.0	095
1983	AG3 *	1983	01	09.84944	06	11	11.45	+36	09	56.1		17.0	095
2471		1983	01	09.84944	06	12	35.01	+37	47	57.6			095
1983	AE3	1983	01	09.84944	06	13	33.38	+40	02	48.7		17.0	095
2737		1983	01	09.84944	06	16	03.11	+36	46	10.0			095
1157		1983	01	09.84944	06	16	06.31	+34	30	03.9			095
1983	AH3 *	1983	01	09.84944	06	16	21.72	+34	09	25.4		17.0	095
766		1983	01	09.84944	06	18	04.67	+38	49	51.5			095
2243		1983	01	09.84944	06	19	58.18	+34	12	29.1			095
845		1983	01	09.84944	06	20	14.57	+38	39	07.1			095
1983	AJ3 *	1983	01	09.84944	06	21	07.09	+34	16	04.6		17.0	095
1982	YM1	1983	01	09.84944	06	23	15.75	+33	59	16.2		16.5	2 095
1983	AK3 *	1983	01	09.84944	06	23	39.27	+37	54	02.7		17.0	095
1983	AL3 *	1983	01	09.84944	06	27	42.24	+32	39	24.3		16.5	095
760		1983	01	09.84944	06	30	20.40	+38	24	10.9			095
1982	YP1	1983	01	09.84944	06	31	30.91	+37	18	07.6		16.5	095
1983	AM3 *	1983	01	09.84944	06	35	45.89	+32	29	48.6		17.0	1 095
1983	AN3 *	1983	01	14.73123	05	38	18.11	+35	30	54.4		17.0	1 095
1983	AO3 *	1983	01	14.73123	05	39	54.07	+35	42	55.0		16.5	1 095

2231		1983	01	14.73123	05	40	44.15	+35	05	06.2		1	095
1983	AA3	1983	01	14.73123	05	49	48.50	+38	33	40.2	17.0		095
1983	AP3 *	1983	01	14.73123	05	54	58.76	+39	05	00.8	17.0		095
1983	AQ3 *	1983	01	14.73123	05	55	43.78	+38	21	42.3	17.0		095
1982	YL1	1983	01	14.73123	05	56	59.64	+33	07	03.6	16.5	1	095
1982	YJ1	1983	01	14.73123	05	58	19.50	+34	57	00.2	16.5		095
1982	YR1	1983	01	14.73123	05	59	15.91	+34	23	26.5	16.5	1	095
1983	AR3 *	1983	01	14.73123	05	59	51.20	+33	44	41.1	17.0	1	095
1887		1983	01	14.73123	06	00	43.51	+36	47	43.0			095
1983	AS3 *	1983	01	14.73123	06	01	34.17	+38	20	18.1	17.0		095
1982	YH1	1983	01	14.73123	06	02	50.00	+38	32	08.6	17.0		095
2471		1983	01	14.73123	06	08	02.56	+37	42	02.8			095
1983	AE3	1983	01	14.73123	06	09	00.65	+39	56	41.0	17.0		095
2737		1983	01	14.73123	06	11	32.44	+36	22	38.4			095
1157		1983	01	14.73123	06	11	54.88	+34	20	53.7			095
766		1983	01	14.73123	06	13	25.98	+38	40	30.9			095
2243		1983	01	14.73123	06	14	20.14	+34	07	58.4			095
845		1983	01	14.73123	06	15	25.38	+38	40	58.6			095
1983	AT3 *	1983	01	14.73123	06	18	03.93	+34	59	11.4	17.5		095
1982	YM1	1983	01	14.73123	06	18	30.92	+34	32	33.6	16.5		095
760		1983	01	14.73123	06	25	19.07	+38	07	05.6		1	095
1982	YP1	1983	01	14.73123	06	26	55.17	+37	06	48.6	16.5	1	095
1983	PW *	1983	08	04.90564	21	12	33.15	-06	38	10.2	15.5	1	095
1983	PV *	1983	08	04.90564	21	21	50.78	-07	05	20.7	16.8		095
1983	PW	1983	08	06.87039	21	11	02.12	-06	44	34.2	15.5	1	095
1983	PV	1983	08	06.87039	21	20	51.00	-07	07	41.0	16.8		095
1983	PV	1983	08	12.86395	21	17	47.06	-07	15	33.3	16.8		095
1983	RE3	1983	08	17.03193	23	14	31.63	+17	54	17.5	16.0		095
1983	RX3 *	1983	09	01.79895	20	54	33.38	-05	36	13.7	16.5		095
1983	PW	1983	09	01.79895	20	54	36.00	-08	51	38.9	15.5		095
1983	PV	1983	09	01.79895	21	08	06.75	-07	47	19.9	16.8		095
1983	RE3	1983	09	03.89595	23	02	35.10	+17	17	01.3			095
1983	PW	1983	09	05.82698	20	53	34.72	-09	12	27.1	15.5		095
1983	RX3	1983	09	05.82698	20	54	07.75	-06	34	09.2	16.5		095
1983	PV	1983	09	05.82698	21	06	24.31	-07	54	04.8	16.8		095
1983	PW	1983	09	08.77630	20	53	12.54	-09	26	53.8	15.5		095
1983	PV	1983	09	08.77630	21	05	13.97	-07	59	00.4	16.8	2	095
1983	PW	1983	09	08.85788	20	53	12.35	-09	27	18.6	15.5		095
1983	PV	1983	09	08.85788	21	05	12.13	-07	59	05.0	16.8	2	095
1983	RE3	1983	09	10.89477	22	57	15.88	+16	37	27.4			095
1983	PW	1983	09	11.80338	20	53	10.29	-09	40	50.5	15.5		095
1983	RX3	1983	09	11.80338	20	54	21.12	-07	55	45.6	16.5	2	095
1983	PV	1983	09	11.80338	21	04	06.81	-08	03	49.7	16.8		095
1983	RE3	1983	09	13.91567	22	55	00.41	+16	16	40.6			095

Note 1: at edge of plate. 2: poor image. 3 = 1 + 2.

OBSERVATIONS MADE AT THE PURPLE MOUNTAIN OBSERVATORY BY J.-X. YANG, S.-L. WEI, Q. WANG, Y.-L. GE AND C.-L. YUAN.

Plates taken with the 0.40-m f/7.5 double astrograph. Comparison stars from the SAO Catalogue. Copied from Publ. Purple Mountain Obs. 2, 95, 1983. Assistance with identifications from B. G. Marsden and C. M. Bardwell.

Contact: J.-x. Zhang, Purple Mountain Observatory, Academia Sinica, Nanking, People’s Republic of China.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
9	1981 06	06.62007	16 37 07.38	-22 43 28.1	330
19	1981 05	30.58189	15 56 27.78	-19 02 51.2	330
22	1981 12	03.55413	04 18 54.54	+22 19 36.2	330
22	1981 12	20.55825	04 02 41.30	+23 08 41.2	330
22	1981 12	23.49645	04 00 25.55	+23 16 39.6	330

27	1981	05	30.58189	15	42	01.04	-18	16	00.8	330
34	1981	12	20.69645	07	08	27.39	+13	39	15.0	330
34	1981	12	23.63811	07	05	58.64	+13	40	08.0	330
34	1981	12	29.62630	07	00	32.67	+13	44	39.6	330
35	1981	09	19.56868	23	03	53.54	-07	22	53.3	330
35	1981	09	20.56936	23	03	08.22	-07	25	41.3	330
35	1981	09	25.58534	22	59	27.78	-07	39	01.2	330
38	1981	09	19.51799	22	55	05.84	+02	27	22.2	330
46	1981	05	30.63536	16	26	58.00	-18	08	32.2	330
52	1981	10	24.58527	01	26	48.28	-02	20	23.6	330
59	1981	10	25.66652	03	34	48.80	+07	18	20.1	330
60	1981	05	30.58189	15	39	45.65	-15	05	40.6	330
61	1981	02	03.58181	08	21	07.86	+32	48	06.0	330
63	1981	10	24.53666	01	07	49.33	+14	50	23.0	330
63	1981	10	29.51026	01	03	17.41	+14	26	23.4	330
65	1981	02	03.67625	10	02	24.23	+11	03	28.1	330
68	1981	03	07.68104	11	47	18.39	+11	18	20.0	330
87	1981	02	03.58181	08	21	12.85	+31	13	41.6	330
95	1981	01	03.58881	04	20	20.67	+16	19	30.9	330
102	1981	10	25.56513	02	20	28.74	+13	18	47.9	330
102	1981	10	29.60539	02	17	13.00	+12	46	35.1	330
102	1981	11	17.59026	02	03	59.84	+10	31	58.5	330
102	1981	11	27.57841	02	00	08.28	+09	44	41.5	330
106	1981	10	23.51375	00	38	27.64	-01	32	30.7	330
106	1981	10	28.59081	00	35	21.24	-01	39	30.9	330
121	1981	05	28.64763	15	47	53.10	-17	31	18.7	330
121	1981	05	30.58189	15	46	25.30	-17	29	42.9	330
125	1981	09	20.56936	23	23	55.11	-04	25	38.5	330
125	1981	09	26.53811	23	19	33.02	-05	04	26.5	330
131	1981	12	22.67214	07	37	44.74	+26	32	17.6	330
132	1981	12	20.60409	04	37	52.78	+21	20	37.1	330
132	1981	12	23.54506	04	34	30.86	+20	21	30.3	330
139	1981	10	23.65611	01	57	14.74	+20	58	36.4	330
139	1981	10	28.74081	01	52	18.86	+20	46	41.8	330
144	1981	01	12.64153	06	07	40.69	+26	29	36.3	330
149	1981	10	29.55817	01	09	33.55	+05	57	40.2	330
151	1981	02	03.58181	08	28	08.63	+29	52	49.4	330
159	1981	02	09.64152	10	32	31.24	+11	58	13.9	330
171	1981	12	20.60409	04	16	10.17	+19	34	47.0	330
171	1981	12	23.54506	04	14	04.48	+19	32	11.1	330
178	1981	10	29.55817	01	11	36.37	+06	09	18.8	330
183	1981	03	07.62132	11	33	48.73	+21	05	37.3	330
188	1981	12	23.73534	07	52	30.73	+08	15	14.3	330
200	1981	02	03.62903	09	10	53.79	+18	16	24.6	330
200	1981	02	09.59568	09	04	56.25	+18	25	46.5	330
200	1981	02	26.61023	08	50	11.77	+18	39	02.3	330
201	1981	12	22.71797	08	07	36.58	+14	13	02.2	330
201	1981	12	25.73723	08	05	27.50	+14	19	41.1	330
206	1981	02	03.67625	09	52	17.56	+12	33	30.3	330
214	1981	02	03.62903	09	10	10.07	+19	03	38.9	330
214	1981	02	09.59568	09	04	13.58	+19	20	37.8	330
222	1981	01	12.64153	06	07	48.97	+24	18	17.2	330
234	1981	02	07.60193	09	22	21.06	+13	00	24.3	330
234	1981	02	26.61023	09	05	25.77	+15	40	23.0	330
235	1981	12	03.55413	04	11	25.36	+21	18	37.5	330
235	1981	12	20.55825	03	56	42.19	+21	20	03.3	330
235	1981	12	23.49645	03	54	38.14	+21	20	41.0	330
235	1981	12	29.47213	03	51	00.66	+21	22	50.3	330
241	1981	12	20.74228	07	16	35.66	+20	43	57.0	330

241	1981	12	23.68464	07	14	09.64	+20	43	45.7	330
242	1981	10	24.73110	02	57	52.86	+12	42	01.2	330
261	1981	06	06.62007	16	47	38.88	-19	56	28.5	330
263	1981	02	01.59778	07	47	12.78	+19	12	04.4	330
267	1981	11	18.64787	04	05	12.45	+18	46	43.7	330
267	1981	12	01.70622	03	52	45.78	+18	32	49.0	330
267	1981	12	19.53743	03	38	15.84	+18	19	14.4	330
267	1981	12	22.47706	03	36	25.72	+18	18	29.3	330
269	1981	12	19.58743	04	59	32.51	+14	58	09.1	330
269	1981	12	22.52422	04	56	53.30	+14	57	10.2	330
270	1981	06	06.62007	16	54	11.51	-22	30	15.2	330
271	1981	10	23.70264	02	36	58.01	+20	32	31.0	330
271	1981	10	28.79151	02	32	39.04	+20	17	53.9	330
271	1981	11	27.51800	02	09	39.32	+18	27	08.3	330
271	1981	12	01.56108	02	07	38.76	+18	13	36.1	330
289	1981	12	20.69645	07	13	23.21	+12	16	35.6	330
289	1981	12	23.63811	07	10	52.83	+12	18	55.4	330
289	1981	12	29.62630	07	05	29.37	+12	26	23.4	330
291	1981	12	02.58815	04	54	34.54	+19	05	41.7	330
291	1981	12	20.60409	04	34	44.80	+18	34	24.7	330
291	1981	12	23.54506	04	31	57.93	+18	30	57.4	330
294	1981	12	22.71797	08	03	34.53	+17	00	54.3	330
294	1981	12	25.73723	08	01	38.48	+17	08	06.5	330
295	1981	02	07.60193	09	10	51.48	+13	18	30.4	330
295	1981	02	26.61023	08	55	19.42	+14	17	57.0	330
297	1981	10	23.60681	01	36	24.94	+20	32	21.8	330
297	1981	11	18.50273	01	18	24.19	+18	47	28.7	330
306	1981	01	10.59709	07	25	54.34	+15	58	05.3	330
306	1981	02	01.55403	07	04	37.68	+17	37	43.2	330
306	1981	02	07.53735	07	00	19.10	+18	03	38.0	330
314	1981	10	25.76443	03	57	32.51	+03	47	33.1	330
317	1981	09	19.56868	23	00	52.12	-07	28	13.4	330
317	1981	09	25.58534	22	56	16.54	-08	02	23.4	330
325	1981	10	24.53666	01	12	34.60	+17	24	11.3	330
325	1981	10	29.51026	01	08	32.88	+17	10	04.0	330
339	1981	10	24.58527	01	19	17.20	+00	13	36.8	330
342	1981	05	30.63536	16	11	03.04	-18	23	08.9	330
345	1981	12	21.67284	07	09	07.50	+06	32	23.5	330
346	1981	12	01.75274	04	59	51.47	+18	09	35.1	330
346	1981	12	19.58743	04	42	26.93	+18	44	34.0	330
346	1981	12	22.52422	04	39	52.52	+18	51	06.6	330
346	1981	12	25.49782	04	37	25.48	+18	57	57.4	330
346	1981	12	29.51657	04	34	24.86	+19	07	43.1	330
347	1981	12	20.64992	06	22	02.92	+25	43	45.2	330
347	1981	12	24.53394	06	17	46.83	+26	06	31.8	330
360	1981	02	01.67278	08	50	56.12	+17	08	39.4	330
360	1981	02	07.58388	08	46	04.66	+17	53	26.8	330
368	1981	12	19.73674	06	16	08.06	+15	40	56.3	330
368	1981	12	23.59089	06	12	46.94	+15	37	12.5	330
374	1981	09	20.61867	23	51	22.55	+08	35	58.2	330
374	1981	09	26.58950	23	46	51.34	+07	51	12.3	330
377	1981	09	19.51799	22	47	01.10	+00	04	52.1	330
378	1981	12	01.75274	05	18	12.81	+18	32	34.2	330
378	1981	12	19.58743	05	01	23.98	+17	24	04.3	330
378	1981	12	22.52422	04	58	50.34	+17	14	28.5	330
379	1981	10	23.56097	01	46	56.29	+09	18	00.9	330
379	1981	10	28.64237	01	43	04.34	+08	53	39.4	330
379	1981	11	17.54303	01	30	56.80	+07	38	56.1	330
382	1981	12	22.67214	07	41	47.35	+26	07	50.1	330

389	1981	12	20.64992	06	14	56.23	+25	48	44.6	330
389	1981	12	24.53394	06	10	42.48	+25	38	14.7	330
394	1981	10	23.51375	00	45	18.09	-04	05	14.0	330
394	1981	10	28.59081	00	42	01.96	-04	01	26.3	330
408	1981	01	10.55057	06	56	30.76	+26	01	14.8	330
416	1981	10	24.58527	01	16	53.18	-04	21	15.4	330
419	1981	12	20.74228	07	15	45.77	+17	49	38.6	330
419	1981	12	23.68464	07	13	09.76	+17	51	16.0	330
420	1981	02	01.59778	07	32	57.19	+14	00	25.2	330
431	1981	01	03.58881	04	06	04.62	+19	10	09.7	330
432	1981	12	03.74024	06	10	57.29	+22	15	02.5	330
432	1981	12	19.68812	05	53	36.94	+23	18	30.7	330
432	1981	12	21.57700	05	51	24.87	+23	25	44.2	330
432	1981	12	22.61797	05	50	11.97	+23	29	42.6	330
449	1981	12	02.58815	04	43	54.22	+20	56	33.1	330
449	1981	12	20.60409	04	25	31.28	+20	50	03.1	330
449	1981	12	23.54506	04	22	57.91	+20	49	34.3	330
451	1981	02	03.58181	08	32	10.29	+33	06	02.5	330
465	1981	12	03.60135	05	23	56.29	+27	24	29.1	330
465	1981	12	19.63465	05	09	31.64	+27	00	04.4	330
465	1981	12	22.57145	05	06	56.76	+26	54	16.7	330
465	1981	12	25.54575	05	04	23.88	+26	48	04.8	330
470	1981	11	27.62980	04	32	31.59	+10	37	10.1	330
471	1981	12	03.69441	05	34	05.05	+20	48	24.6	330
476	1981	02	01.59778	07	33	11.98	+17	59	24.7	330
483	1981	10	23.51375	00	39	25.33	-05	18	35.1	330
492	1981	01	10.55057	06	46	58.36	+24	56	26.3	330
497	1981	02	09.64152	10	28	16.84	+13	59	00.7	330
511	1981	03	07.62132	11	29	53.45	+24	52	59.6	330
515	1981	12	03.69441	05	50	19.92	+21	22	08.9	330
520	1981	10	23.56097	01	32	59.73	+07	00	45.6	330
520	1981	10	28.64237	01	28	25.33	+06	57	26.5	330
520	1981	11	17.54303	01	13	53.29	+07	02	44.1	330
524	1981	02	09.70124	10	38	15.77	+07	21	47.2	330
526	1981	02	09.70124	10	50	12.26	+08	24	21.9	330
530	1981	10	24.77763	03	06	07.93	+03	53	18.8	330
537	1981	12	21.62422	06	49	08.69	+17	54	44.5	330
537	1981	12	24.62699	06	46	39.38	+18	01	41.8	330
540	1981	12	03.64788	05	45	39.33	+15	05	07.2	330
541	1981	12	20.64992	06	29	32.47	+22	16	35.1	330
541	1981	12	24.53394	06	25	46.96	+22	12	03.6	330
544	1981	01	12.64153	06	12	51.55	+27	26	16.5	330
552	1981	09	20.52006	22	08	54.27	-00	14	26.2	330
552	1981	09	25.57492	22	06	19.93	-00	35	59.7	330
556	1981	11	27.51800	02	23	44.87	+21	53	25.1	330
556	1981	12	01.56108	02	21	09.07	+21	27	01.8	330
560	1981	12	01.75274	04	58	53.31	+14	52	28.9	330
560	1981	12	19.58743	04	41	38.02	+15	33	38.6	330
560	1981	12	22.52422	04	39	03.45	+15	42	44.6	330
560	1981	12	25.49782	04	36	36.66	+15	52	40.6	330
572	1981	02	03.53111	07	35	20.08	+04	52	52.3	330
581	1981	01	10.50334	05	52	33.35	+19	05	20.2	330
589	1981	10	24.68388	02	37	18.68	+04	47	33.7	330
589	1981	10	29.65123	02	33	42.98	+04	14	42.6	330
589	1981	11	17.63678	02	20	17.53	+02	32	20.5	330
589	1981	12	01.50483	02	12	59.41	+01	51	58.6	330
599	1981	10	25.82207	03	54	42.25	+22	45	20.1	330
599	1981	10	29.69706	03	50	47.12	+23	08	20.7	330
600	1981	10	24.77763	03	06	03.59	+01	23	57.9	330

622	1981	10	24.77763	03	08	29.35	-00	56	17.9	330
627	1981	02	01.67278	08	54	02.80	+15	37	49.0	330
627	1981	02	07.58388	08	49	05.41	+16	08	48.9	330
635	1981	10	24.68388	02	45	20.27	+06	03	21.6	330
635	1981	10	29.65123	02	41	47.71	+05	28	02.0	330
635	1981	11	17.63678	02	28	13.16	+03	34	07.2	330
635	1981	12	01.50483	02	20	38.68	+02	45	13.8	330
640	1981	10	23.70264	02	45	59.50	+20	58	49.0	330
640	1981	10	28.79151	02	42	12.11	+20	27	13.3	330
640	1981	11	27.51800	02	21	15.56	+17	05	14.5	330
640	1981	12	01.56108	02	19	11.81	+16	39	58.2	330
655	1981	01	10.59709	07	14	15.45	+18	38	29.1	330
660	1981	02	09.70124	10	35	50.21	+06	24	30.3	330
673	1981	01	10.59709	07	35	25.14	+17	34	00.9	330
673	1981	02	01.55403	07	16	06.67	+18	13	26.8	330
673	1981	02	07.53735	07	12	04.61	+18	23	40.4	330
676	1981	09	26.63811	00	41	15.55	-08	22	06.4	330
700	1981	10	24.68388	02	48	18.05	+05	59	16.8	330
700	1981	10	29.65123	02	43	11.11	+05	39	29.4	330
700	1981	11	17.63678	02	23	27.07	+04	47	04.8	330
700	1981	12	01.50483	02	12	17.72	+04	43	57.0	330
701	1981	01	10.50334	05	45	26.95	+18	16	20.3	330
708	1981	02	09.64152	10	27	56.79	+12	21	52.9	330
709	1981	02	09.70124	10	36	51.49	+04	44	20.7	330
710	1981	12	03.69441	05	42	17.77	+21	20	36.0	330
713	1981	05	28.64763	15	49	42.00	-14	31	58.5	330
713	1981	05	30.58189	15	48	18.24	-14	23	46.0	330
714	1981	09	25.63464	23	29	22.62	+17	08	43.0	330
718	1981	10	25.56513	02	17	34.94	+13	11	13.4	330
718	1981	10	29.60539	02	14	20.32	+13	00	00.6	330
718	1981	11	17.59026	01	59	55.83	+12	09	43.3	330
718	1981	11	27.57841	01	53	51.65	+11	49	37.7	330
726	1981	12	01.75274	05	03	22.10	+17	27	56.8	330
731	1981	10	23.51375	00	42	26.54	-04	39	50.2	330
731	1981	10	28.59081	00	38	50.79	-04	33	35.7	330
736	1981	12	22.71797	07	49	26.29	+17	28	04.2	330
736	1981	12	25.70824	07	46	36.57	+17	38	27.4	330
740	1981	12	22.71797	07	56	09.18	+18	38	48.4	330
740	1981	12	25.73723	07	54	13.45	+18	53	38.2	330
743	1981	10	25.61652	03	05	09.34	+18	18	26.1	330
744	1981	02	09.64152	10	14	23.45	+12	02	24.7	330
748	1981	12	03.55413	04	18	09.05	+22	22	27.5	330
748	1981	12	20.55825	04	06	26.22	+21	40	57.3	330
748	1981	12	23.49645	04	04	47.44	+21	34	21.8	330
755	1981	02	09.70124	10	38	06.62	+06	29	24.9	330
764	1981	09	25.63464	23	22	33.31	+12	15	59.2	330
767	1981	01	12.64153	06	10	46.27	+24	30	05.7	330
776	1981	05	30.63536	16	27	58.48	-16	15	02.4	330
783	1981	01	12.58736	05	29	14.41	+12	48	39.6	330
789	1981	10	23.65611	02	09	53.82	+18	41	06.8	330
789	1981	10	28.74081	02	05	30.34	+18	01	00.2	330
792	1981	09	25.63464	23	36	54.61	+12	00	19.7	330
798	1981	09	19.51799	22	53	09.04	+03	25	58.5	330
800	1981	10	23.70264	02	25	37.26	+22	33	39.7	330
803	1981	10	24.53666	01	12	12.72	+17	30	06.5	330
803	1981	10	29.51026	01	08	51.16	+16	56	55.1	330
806	1981	10	24.63596	02	06	07.17	+07	41	06.3	330
810	1981	02	01.59778	07	40	23.65	+19	10	15.6	330
811	1981	01	03.55756	04	06	35.91	+17	15	49.9	330

824	1981	02	03.67625	09	56	56.93	+12	47	39.6	330
828	1981	01	10.55057	06	41	42.96	+24	41	54.0	330
834	1981	02	01.59778	07	37	52.43	+16	41	06.2	330
836	1981	10	24.73110	03	03	19.78	+13	44	34.1	330
838	1981	12	20.69645	07	16	53.32	+11	53	18.4	330
838	1981	12	23.63811	07	14	25.80	+11	47	43.4	330
845	1981	09	26.63811	00	40	08.71	-09	10	16.5	330
847	1981	12	20.64992	06	33	32.73	+23	00	13.2	330
847	1981	12	24.53394	06	29	42.02	+22	59	13.2	330
850	1981	11	27.77494	04	40	57.84	+04	31	00.7	330
850	1981	12	21.53013	04	21	42.22	+05	01	21.0	330
851	1981	12	21.62422	06	54	48.79	+19	43	29.4	330
851	1981	12	24.58046	06	51	41.85	+19	49	35.7	330
851	1981	12	24.62699	06	51	38.66	+19	49	40.4	330
851	1981	12	29.60894	06	46	08.02	+20	00	39.8	330
857	1981	05	23.57426	15	24	13.00	-14	10	46.1	330
866	1981	10	24.68388	02	36	22.56	+03	59	19.4	330
866	1981	10	29.65123	02	32	21.40	+03	46	14.8	330
866	1981	11	17.63678	02	17	25.93	+03	18	51.0	330
866	1981	12	01.50483	02	09	14.15	+03	28	03.1	330
868	1981	09	26.63811	00	43	20.14	-05	40	45.7	330
874	1981	10	25.71582	03	50	01.49	+10	06	36.4	330
874	1981	11	18.60065	03	33	14.53	+08	03	32.9	330
876	1981	10	25.76443	03	49	17.28	+03	01	02.9	330
883	1981	12	03.60135	05	12	13.67	+27	03	50.1	330
883	1981	12	22.57145	04	49	29.71	+25	47	55.4	330
883	1981	12	25.54575	04	46	28.96	+25	34	44.5	330
896	1981	11	27.64925	03	39	14.74	+22	37	31.3	330
896	1981	12	19.46243	03	20	19.45	+20	20	47.8	330
897	1981	01	10.50334	05	33	24.72	+17	38	41.2	330
900	1981	11	27.77494	04	54	01.91	+05	40	53.8	330
900	1981	12	21.53013	04	31	42.51	+04	54	35.7	330
922	1981	10	25.56513	02	15	13.12	+11	31	51.6	330
922	1981	10	29.60539	02	11	48.88	+10	59	05.0	330
922	1981	11	17.59026	01	57	56.53	+08	44	28.8	330
922	1981	11	27.57841	01	53	26.26	+07	56	20.2	330
927	1981	10	23.60681	01	32	48.55	+17	25	58.8	330
927	1981	10	28.69255	01	28	27.52	+17	16	43.1	330
927	1981	11	18.50273	01	13	27.97	+16	34	14.9	330
928	1981	02	01.59778	07	30	30.04	+16	40	06.7	330
939	1981	12	19.63465	05	08	12.52	+26	58	33.5	330
939	1981	12	22.57145	05	04	49.34	+26	51	01.5	330
939	1981	12	25.54575	05	01	34.22	+26	42	58.3	330
943	1981	11	27.77494	04	42	41.14	+08	15	52.1	330
945	1981	02	07.60193	09	26	10.11	+13	47	50.2	330
953	1981	03	07.68104	11	35	49.71	+13	02	29.5	330
956	1981	12	20.69645	06	56	40.97	+13	23	33.6	330
961	1981	03	07.68104	11	52	37.76	+11	24	58.0	330
962	1981	12	19.73674	06	25	44.05	+20	10	55.7	330
962	1981	12	23.59089	06	22	07.29	+20	14	36.1	330
967	1981	12	20.64992	06	30	49.96	+25	02	51.9	330
972	1981	01	10.59709	07	35	02.83	+19	41	37.5	330
972	1981	02	01.55403	07	15	46.41	+19	35	56.7	330
972	1981	02	07.53735	07	11	48.13	+19	33	26.7	330
975	1981	09	19.56868	22	52	24.82	-10	32	32.5	330
975	1981	09	25.58534	22	48	05.94	-10	52	27.0	330
976	1981	09	25.57492	22	24	00.24	+00	53	59.6	330
978	1981	11	27.77494	04	50	35.67	+03	55	05.6	330
980	1981	12	22.71797	08	07	52.56	+18	12	08.3	330

980	1981	12	25.70824	08	05	17.52	+18	04	39.4	330
983	1981	01	03.58881	04	23	31.20	+19	21	55.3	330
996	1981	12	03.74024	06	11	30.24	+24	24	32.1	330
996	1981	12	19.68812	05	57	45.82	+24	27	03.2	330
996	1981	12	21.57700	05	56	00.16	+24	26	50.6	330
996	1981	12	22.61797	05	55	01.47	+24	26	44.9	330
1001	1981	12	19.73674	06	19	49.12	+20	12	18.9	330
1001	1981	12	23.59089	06	16	18.46	+20	01	43.1	330
1001	1981	12	29.56241	06	10	52.07	+19	45	46.6	330
1007	1981	10	23.65611	02	13	36.99	+18	00	02.6	330
1007	1981	10	28.74081	02	09	02.14	+17	37	34.1	330
1017	1981	12	01.61038	03	34	06.26	+08	18	03.0	330
1023	1981	09	19.51799	22	37	19.24	-00	52	49.2	330
1043	1981	09	20.56936	23	12	10.59	-07	48	16.0	330
1043	1981	09	26.53811	23	08	23.98	-08	27	23.9	330
1047	1981	10	24.63596	02	18	19.46	+04	21	19.0	330
1058	1981	12	02.58815	04	41	54.51	+19	02	25.7	330
1058	1981	12	20.60409	04	22	18.22	+18	01	38.8	330
1058	1981	12	23.54506	04	19	43.78	+17	53	54.9	330
1063	1981	10	23.51375	00	56	08.97	-04	28	47.2	330
1063	1981	10	28.59081	00	51	56.22	-04	41	17.3	330
1068	1981	10	23.65611	02	11	15.27	+21	27	38.7	330
1068	1981	10	28.74081	02	06	51.39	+21	08	17.5	330
1076	1981	12	20.74228	07	25	17.00	+17	53	14.0	330
1076	1981	12	23.68464	07	22	52.28	+18	00	28.8	330
1079	1981	02	09.70124	10	38	21.60	+08	31	37.6	330
1082	1981	05	28.64763	16	05	47.54	-18	04	20.5	330
1084	1981	10	23.56097	01	28	45.89	+07	08	17.2	330
1084	1981	10	28.64237	01	24	42.43	+06	37	49.4	330
1084	1981	11	17.54303	01	12	43.32	+05	07	57.8	330
1085	1981	02	03.67625	09	49	01.13	+13	31	36.9	330
1095	1981	10	25.66652	03	38	44.47	+08	19	26.0	330
1101	1981	10	25.66652	03	40	26.37	+05	45	38.0	330
1107	1981	05	30.63536	16	30	56.49	-15	05	28.2	330
1121	1981	10	23.65611	01	57	50.41	+18	54	42.2	330
1121	1981	10	28.74081	01	52	41.89	+18	45	29.3	330
1124	1981	03	07.68104	11	36	26.51	+09	29	10.1	330
1125	1981	01	12.64153	06	19	27.52	+23	44	11.3	330
1128	1981	06	06.57701	16	54	18.92	-23	02	44.9	330
1133	1981	12	01.70622	04	11	18.65	+22	52	37.2	330
1133	1981	12	03.55413	04	09	06.42	+22	54	28.6	330
1133	1981	12	19.53743	03	53	19.89	+23	05	56.0	330
1133	1981	12	20.55825	03	52	36.32	+23	06	37.2	330
1133	1981	12	22.47706	03	51	20.90	+23	08	03.8	330
1133	1981	12	23.49645	03	50	44.08	+23	08	49.3	330
1135	1981	09	19.56868	22	46	51.52	-08	18	29.8	330
1135	1981	09	25.58534	22	42	24.34	-08	29	46.0	330
1142	1981	02	09.64152	10	31	38.84	+09	56	21.9	330
1147	1981	10	25.61652	03	15	17.69	+22	20	31.2	330
1147	1981	11	18.55065	02	49	20.85	+20	05	45.5	330
1150	1981	10	23.56097	01	32	52.74	+09	34	24.8	330
1150	1981	10	28.64237	01	28	42.51	+08	57	37.1	330
1157	1981	10	23.60681	01	38	18.81	+22	22	11.3	330
1157	1981	10	28.69255	01	34	03.58	+22	04	31.9	330
1165	1981	09	20.61867	23	48	21.85	+07	56	51.8	330
1165	1981	09	26.58950	23	44	26.70	+07	00	09.5	330
1167	1981	09	20.61867	00	05	13.66	+06	40	43.2	330
1167	1981	09	26.58950	00	01	14.68	+06	08	42.1	330
1169	1981	01	10.50334	05	45	10.42	+20	24	15.2	330

1171	1981	12	21.62422	06	42	10.99	+20	55	00.2	330
1171	1981	12	24.58046	06	39	32.51	+21	00	35.5	330
1171	1981	12	29.58116	06	34	58.92	+21	10	09.1	330
1183	1981	01	10.55057	06	51	24.42	+27	33	24.5	330
1189	1981	12	03.74024	05	55	04.79	+26	44	07.6	330
1189	1981	12	19.68812	05	39	31.20	+25	49	06.2	330
1189	1981	12	22.61797	05	36	37.80	+25	37	36.0	330
1196	1981	01	10.50334	05	39	38.53	+20	12	55.3	330
1209	1981	12	03.74024	06	10	04.08	+22	57	13.9	330
1209	1981	12	19.68812	05	56	54.62	+23	19	25.3	330
1209	1981	12	21.57700	05	55	16.05	+23	21	49.4	330
1209	1981	12	22.61797	05	54	21.38	+23	23	10.8	330
1213	1981	12	03.60135	05	16	44.12	+28	08	53.9	330
1213	1981	12	19.63465	05	01	35.01	+26	41	47.7	330
1213	1981	12	22.57145	04	59	01.05	+26	24	38.9	330
1213	1981	12	25.54575	04	56	33.00	+26	07	12.9	330
1214	1981	01	12.64153	06	12	36.75	+25	06	59.2	330
1245	1981	05	23.57426	15	21	12.96	-14	00	44.5	330
1247	1981	05	23.57426	15	10	39.02	-15	07	59.6	330
1251	1981	12	03.64788	05	32	45.07	+14	46	11.0	330
1254	1981	02	01.67278	08	53	16.99	+13	03	46.0	330
1254	1981	02	07.58388	08	48	13.83	+13	13	43.0	330
1254	1981	02	26.53523	08	34	14.09	+13	44	27.9	330
1257	1981	01	03.55756	04	25	42.58	+17	25	18.1	330
1261	1981	11	18.64787	04	04	53.46	+20	24	41.4	330
1261	1981	11	27.72564	03	57	02.51	+20	07	54.0	330
1261	1981	12	01.70622	03	53	36.70	+20	00	12.2	330
1261	1981	12	22.44575	03	38	18.53	+19	24	32.7	330
1286	1981	10	25.71582	03	55	37.36	+13	11	46.5	330
1286	1981	11	18.60065	03	37	51.87	+11	04	00.5	330
1286	1981	12	01.61038	03	27	39.95	+10	06	29.6	330
1287	1981	12	03.64788	05	26	17.65	+10	57	49.0	330
1291	1981	12	01.72496	04	58	52.93	+14	26	26.8	330
1297	1981	01	10.55057	06	36	21.21	+26	30	17.7	330
1305	1981	09	20.56936	23	16	24.57	-08	11	56.8	330
1305	1981	09	26.51034	23	12	10.05	-08	35	11.2	330
1307	1981	12	19.73674	06	18	27.03	+18	44	55.5	330
1307	1981	12	23.59089	06	14	09.17	+18	37	21.4	330
1307	1981	12	29.56241	06	07	27.99	+18	27	01.8	330
1336	1981	05	23.57426	15	13	42.28	-14	28	46.1	330
1340	1981	02	09.70124	10	47	06.26	+07	51	59.8	330
1341	1981	03	07.62132	11	28	37.99	+22	21	13.8	330
1350	1981	06	06.57701	16	44	34.49	-18	12	57.6	330
1352	1981	01	10.59709	07	24	22.66	+16	16	19.8	330
1352	1981	02	01.55403	07	05	42.81	+17	12	41.2	330
1352	1981	02	07.53735	07	02	04.12	+17	28	07.9	330
1354	1981	10	29.55817	01	12	59.40	+07	05	51.4	330
1375	1981	10	25.82207	03	52	38.32	+19	32	12.3	330
1375	1981	10	29.69706	03	49	38.39	+19	34	09.7	330
1375	1981	11	27.67703	03	19	57.54	+19	23	32.5	330
1375	1981	12	01.65969	03	16	01.13	+19	20	35.4	330
1376	1981	05	30.63536	16	25	47.08	-14	23	24.8	330
1382	1981	01	12.64153	06	05	31.44	+25	53	45.2	330
1389	1981	02	03.67625	09	52	32.89	+11	08	31.5	330
1398	1981	09	25.63464	23	20	00.91	+13	15	48.4	330
1427	1981	02	03.55403	08	26	23.78	+29	12	47.3	330
1443	1981	09	20.56936	23	12	00.19	-04	55	19.2	330
1443	1981	09	26.51034	23	07	52.47	-05	25	54.9	330
1447	1981	12	03.60135	05	03	27.10	+27	55	36.6	330

1461	1981	12	20.74228	07	30	03.12	+21	26	27.9	330
1461	1981	12	23.68464	07	27	51.56	+21	44	00.5	330
1462	1981	12	02.58815	04	33	21.30	+22	56	01.9	330
1462	1981	12	20.60409	04	18	32.64	+22	24	35.3	330
1462	1981	12	23.54506	04	16	26.67	+22	19	32.6	330
1464	1981	12	20.64992	06	13	03.68	+24	50	55.8	330
1464	1981	12	24.53394	06	09	17.60	+25	06	06.9	330
1476	1981	10	23.65611	01	56	57.91	+23	20	03.3	330
1482	1981	01	12.64153	06	01	53.43	+25	22	56.7	330
1483	1981	12	01.63191	03	27	44.88	+17	17	08.6	330
1484	1981	10	25.68804	03	57	56.56	+11	11	39.9	330
1484	1981	11	18.60065	03	36	27.10	+11	13	58.8	330
1484	1981	12	01.61038	03	23	42.58	+11	26	11.3	330
1484	1981	12	20.51172	03	08	47.82	+12	05	56.1	330
1484	1981	12	24.48671	03	06	33.44	+12	17	58.5	330
1486	1981	12	03.71246	05	53	06.95	+23	33	48.7	330
1492	1981	11	18.57287	03	37	56.49	+09	01	01.2	330
1502	1981	05	23.57426	15	11	49.52	-14	36	19.8	330
1505	1981	01	03.58881	04	11	03.02	+18	09	54.4	330
1506	1981	10	23.70264	02	26	30.05	+20	49	40.7	330
1511	1981	12	20.64992	06	21	52.56	+24	39	45.0	330
1511	1981	12	24.50650	06	17	25.40	+24	50	08.8	330
1517	1981	12	22.67214	07	45	11.94	+26	35	26.7	330
1523	1981	10	23.60681	01	46	59.21	+19	34	48.3	330
1523	1981	10	28.69255	01	41	26.05	+19	10	07.5	330
1523	1981	11	18.50273	01	22	37.04	+17	16	33.8	330
1539	1981	02	03.62903	09	06	27.00	+16	11	54.0	330
1539	1981	02	09.59568	09	01	35.54	+16	35	28.5	330
1540	1981	10	24.63596	02	15	30.24	+07	07	04.8	330
1558	1981	12	19.73674	06	13	01.47	+18	14	54.5	330
1558	1981	12	23.59089	06	09	40.26	+18	26	07.0	330
1559	1981	11	27.51800	02	14	00.36	+18	37	07.1	330
1559	1981	12	01.56108	02	11	12.21	+18	19	04.2	330
1564	1981	11	27.77494	04	41	49.83	+05	07	39.5	330
1564	1981	12	21.53013	04	24	01.12	+04	31	16.4	330
1577	1981	10	24.58527	01	29	03.93	-00	33	04.5	330
1578	1981	10	24.73110	02	46	59.29	+15	25	14.8	330
1581	1981	12	20.64992	06	22	10.11	+22	37	30.7	330
1581	1981	12	24.53394	06	18	44.89	+22	41	29.0	330
1603	1981	10	25.76443	04	00	45.98	+07	02	21.5	330
1609	1981	12	19.73674	06	29	16.46	+17	17	54.3	330
1609	1981	12	23.59089	06	25	04.53	+17	42	25.7	330
1609	1981	12	29.56241	06	18	29.99	+18	21	06.9	330
1615	1981	10	29.55817	01	05	30.81	+04	40	48.2	330
1632	1981	05	28.64763	16	04	24.59	-14	04	56.0	330
1650	1981	02	01.67278	08	51	45.05	+13	24	03.2	330
1650	1981	02	07.58388	08	45	46.85	+13	50	56.9	330
1650	1981	02	26.53523	08	29	14.49	+15	12	53.5	330
1652	1981	12	20.64992	06	17	25.99	+21	35	18.5	330
1652	1981	12	24.53394	06	12	53.24	+21	32	26.4	330
1653	1981	02	09.70124	10	33	41.60	+06	02	23.7	330
1654	1981	03	07.68104	11	49	09.23	+10	20	32.8	330
1665	1981	10	25.76443	04	01	01.87	+06	22	14.4	330
1665	1981	12	20.51172	03	12	03.90	+09	38	44.0	330
1665	1981	12	24.48671	03	10	37.41	+10	13	04.3	330
1668	1981	12	20.69645	07	01	23.26	+16	26	25.4	330
1672	1981	02	03.62903	09	16	34.51	+14	38	45.4	330
1672	1981	02	07.60193	09	13	15.31	+14	55	02.9	330
1672	1981	02	09.59568	09	11	36.10	+15	03	12.1	330

1672	1981	02	26.58245	08	59	13.35	+16	04	23.6	330
1673	1981	12	01.75274	05	17	23.63	+18	50	45.4	330
1673	1981	12	19.58743	05	01	50.62	+18	14	33.3	330
1673	1981	12	22.52422	04	59	27.70	+18	09	52.1	330
1674	1981	10	25.56513	02	24	02.60	+10	31	08.1	330
1674	1981	10	29.60539	02	20	49.73	+10	16	26.1	330
1674	1981	11	17.59026	02	06	25.34	+09	16	33.1	330
1674	1981	11	27.57841	02	00	38.16	+08	57	37.0	330
1680	1981	12	22.67214	07	41	39.30	+23	48	55.5	330
1691	1981	02	07.60193	09	24	43.13	+14	17	14.9	330
1699	1981	12	21.57700	05	59	38.18	+23	39	49.4	330
1706	1981	11	18.64787	04	12	55.61	+23	10	19.9	330
1706	1981	11	27.72564	04	01	58.92	+22	35	29.6	330
1706	1981	12	01.67844	03	57	16.55	+22	18	56.2	330
1723	1981	10	25.76443	03	58	43.53	+04	50	19.1	330
1726	1981	12	20.74228	07	15	23.59	+18	18	37.0	330
1726	1981	12	23.68464	07	12	53.28	+18	19	41.3	330
1728	1981	12	03.69441	05	39	07.44	+19	35	51.5	330
1759	1981	10	24.68388	02	43	20.55	+07	24	07.0	330
1759	1981	10	29.65123	02	39	34.67	+06	54	31.7	330
1759	1981	11	17.63678	02	25	58.32	+05	38	27.6	330
1760	1981	11	18.64787	03	58	22.93	+19	01	04.5	330
1771	1981	05	30.63536	16	11	29.44	-15	24	08.3	330
1782	1981	10	29.57762	02	12	27.01	+11	21	39.9	330
1782	1981	11	17.56248	01	58	50.08	+10	09	12.1	330
1783	1981	11	27.77494	04	49	28.65	+06	10	08.8	330
1783	1981	12	21.53013	04	28	26.45	+04	53	26.0	330
1784	1981	12	20.64992	06	15	47.16	+23	16	11.7	330
1784	1981	12	24.53394	06	11	28.54	+23	19	29.4	330
1791	1981	10	29.53039	01	01	53.37	+05	56	18.5	330
1793	1981	02	01.67278	08	36	58.60	+15	39	07.7	330
1793	1981	02	07.58388	08	30	39.16	+16	02	58.2	330
1793	1981	02	26.53523	08	15	14.62	+17	06	58.1	330
1796	1981	10	24.77763	03	02	18.81	-00	55	00.5	330
1801	1981	03	07.62132	11	27	37.24	+21	23	55.6	330
1807	1981	09	20.61867	23	48	51.98	+05	50	30.5	330
1807	1981	09	26.58950	23	44	02.92	+05	06	30.1	330
1814	1981	10	25.82207	03	54	24.55	+24	07	49.7	330
1814	1981	10	29.69706	03	51	37.73	+24	15	25.7	330
1815	1981	12	21.57700	05	42	41.40	+21	37	15.8	330
1825	1981	12	20.64992	06	23	06.97	+25	15	35.7	330
1825	1981	12	24.53394	06	19	03.67	+25	10	18.0	330
1836	1981	10	23.70264	02	27	46.57	+23	43	09.6	330
1840	1981	10	24.73110	02	43	47.70	+15	46	28.1	330
1842	1981	12	23.56311	06	22	14.46	+16	04	08.8	330
1857	1981	09	20.52006	22	06	39.87	-03	24	37.0	330
1867	1981	01	10.55057	06	39	39.31	+24	21	22.3	330
1887	1981	09	19.56868	22	53	38.69	-07	30	05.7	330
1887	1981	09	25.58534	22	48	56.18	-07	34	44.8	330
1894	1981	10	25.82207	03	59	02.84	+21	10	08.5	330
1894	1981	10	29.69706	03	56	30.12	+21	02	06.6	330
1894	1981	11	27.67703	03	31	38.41	+19	34	06.6	330
1894	1981	12	01.65969	03	28	16.59	+19	20	45.7	330
1907	1981	12	20.71450	07	29	01.77	+18	01	04.0	330
1907	1981	12	23.68464	07	26	32.96	+18	06	48.3	330
1911	1981	10	25.54707	02	52	55.95	+18	38	03.4	330
1911	1981	11	18.52287	02	36	42.36	+17	21	35.3	330
1915	1981	03	07.56299	11	24	36.46	+21	39	50.9	330
1929	1981	10	24.70332	03	00	59.61	+11	11	24.4	330

1952	1981	10	24.77763	02	54	11.31	+00	58	28.0	330
1952	1981	11	17.63678	02	33	07.34	+01	19	51.5	330
1952	1981	12	01.50483	02	23	11.86	+02	12	48.7	330
1965	1981	12	02.58815	04	47	55.20	+21	19	27.5	330
1965	1981	12	20.60409	04	30	10.94	+21	07	46.0	330
1965	1981	12	23.54506	04	27	45.72	+21	06	22.6	330
1991	1981	10	24.53666	00	58	02.99	+16	39	27.6	330
1991	1981	10	29.51026	00	53	46.06	+16	13	18.0	330
1998	1981	10	24.53666	01	10	25.53	+14	57	16.5	330
1998	1981	10	29.48248	01	05	44.06	+14	38	04.9	330
2002	1981	10	24.68388	02	52	46.81	+07	18	52.2	330
2002	1981	10	29.65123	02	48	22.94	+06	42	31.5	330
2009	1981	02	09.64152	10	13	21.85	+14	02	16.1	330
2011	1981	09	20.61867	23	53	23.33	+03	52	55.2	330
2011	1981	09	26.58950	23	47	30.67	+03	41	06.5	330
2014	1981	10	23.56097	01	44	24.67	+07	47	02.6	330
2014	1981	10	28.64237	01	40	00.74	+06	30	34.8	330
2032	1981	09	19.56868	22	56	06.15	-08	34	22.9	330
2032	1981	09	25.58534	22	52	07.05	-08	54	15.3	330
2051	1981	10	25.82207	03	59	32.31	+19	59	49.5	330
2051	1981	10	29.69706	03	57	02.21	+19	50	09.3	330
2051	1981	11	27.67703	03	32	14.32	+18	14	33.3	330
2051	1981	12	01.65969	03	28	52.33	+18	01	03.3	330
2052	1981	12	21.64506	07	15	21.21	+08	58	33.6	330
2056	1981	05	30.60758	16	27	35.76	-19	00	40.1	330
2069	1981	11	18.64787	04	01	17.30	+23	46	37.3	330
2069	1981	11	27.72564	03	52	32.51	+23	53	52.2	330
2070	1981	10	25.61652	03	04	49.93	+20	57	24.6	330
2070	1981	11	18.55065	02	39	19.66	+19	42	04.4	330
2072	1981	10	25.82207	04	01	58.32	+24	03	00.3	330
2072	1981	10	29.69706	03	59	32.33	+24	11	54.3	330
2073	1981	10	24.63596	01	59	25.66	+07	56	24.6	330
2080	1981	12	03.60135	05	15	02.57	+28	54	10.5	330
2080	1981	12	19.63465	04	55	16.00	+28	52	12.4	330
2086	1981	02	03.62903	09	18	36.49	+15	54	43.0	330
2086	1981	02	09.59568	09	12	52.36	+16	42	37.8	330
2104	1981	12	19.58743	04	52	13.75	+19	52	45.6	330
2104	1981	12	22.52422	04	49	50.28	+19	36	25.1	330
2104	1981	12	25.49782	04	47	31.18	+19	20	12.7	330
2104	1981	12	29.48880	04	44	36.51	+18	59	09.2	330
2111	1981	11	27.77494	04	44	32.05	+06	12	03.2	330
2111	1981	12	21.53013	04	25	35.54	+05	49	53.3	330
2114	1981	02	03.67625	09	58	12.09	+12	56	31.0	330
2115	1981	12	20.69645	07	12	32.08	+13	55	37.3	330
2115	1981	12	23.63811	07	10	11.24	+13	51	17.5	330
2119	1981	10	23.65611	02	01	49.98	+18	18	53.1	330
2130	1981	10	23.70264	02	39	12.88	+23	39	21.6	330
2130	1981	10	28.76373	02	33	18.17	+23	27	30.0	330
2136	1981	10	24.58527	01	19	01.69	-04	45	02.2	330
2138	1981	03	07.68104	11	47	59.36	+10	31	09.5	330
2140	1981	10	23.60681	01	36	09.05	+20	32	03.4	330
2140	1981	10	28.69255	01	32	04.93	+20	01	56.0	330
2140	1981	11	18.50273	01	18	54.41	+17	51	26.9	330
2142	1981	12	21.54922	05	42	26.16	+22	30	29.7	330
2151	1981	10	23.51375	00	42	42.43	-00	26	19.4	330
2151	1981	10	28.59081	00	38	03.46	-00	18	27.1	330
2161	1981	09	26.63811	00	53	26.80	-06	26	37.7	330
2162	1981	10	23.51375	00	57	02.51	-00	06	23.4	330
2162	1981	10	28.59081	00	53	06.24	-00	28	11.7	330

2167		1981	10	29.69706	04	01	54.43	+23	47	55.0	330
2167		1981	11	27.67703	03	34	43.09	+21	29	09.4	330
2167		1981	12	01.65969	03	30	49.75	+21	05	56.9	330
2336		1981	12	22.67214	07	29	07.12	+23	03	32.8	330
2361		1981	02	03.62903	09	17	02.19	+18	28	52.0	330
2361		1981	02	09.59568	09	12	00.44	+18	50	48.0	330
2389		1981	10	23.60681	01	35	26.70	+22	29	43.6	330
2450		1981	02	03.62903	09	11	03.73	+17	27	13.3	330
2450		1981	02	09.59568	09	06	05.90	+17	53	18.9	330
2535		1981	11	18.60065	03	27	02.38	+13	04	18.7	330
2622		1981	02	03.62903	09	10	41.16	+16	20	28.1	330
2633		1981	12	03.71246	05	55	36.21	+25	13	09.6	330
2700		1981	12	21.59645	06	45	41.20	+19	28	47.2	330
2700		1981	12	24.55268	06	43	01.03	+19	31	35.4	330
2700		1981	12	24.62699	06	42	58.40	+19	31	37.0	330
2813		1981	10	25.82207	03	51	29.87	+20	50	58.4	330
2813		1981	12	20.51172	03	13	09.77	+14	09	50.5	330
2813		1981	12	24.45200	03	11	53.59	+13	49	49.8	330
2887		1981	11	18.57287	03	24	56.80	+11	56	53.5	330
2904		1981	10	25.76443	04	08	16.80	+07	09	55.4	330
1975	SF	1981	01	10.59709	07	23	28.18	+20	44	08.2	330
1977	QC5	1981	10	29.60539	02	10	38.46	+08	51	46.0	330
1981	CH	1981	02	03.62903	09	13	40.96	+16	56	23.5	330
1981	CH	1981	02	09.59568	09	03	38.84	+15	29	06.7	330
1981	CK	1981	02	03.62903	09	08	05.26	+16	44	39.4	330
1981	CK	1981	02	09.59568	09	02	58.38	+17	05	42.2	330
1981	CF1 *	1981	02	01.67278	08	39	13.09	+13	46	50.2	330
1981	CF1	1981	02	07.58388	08	34	37.47	+14	29	16.7	330
1981	CG1 *	1981	02	03.58181	08	30	00.02	+29	41	52.2	330
1981	CH1 *	1981	02	03.58181	08	36	05.00	+29	56	55.8	330
1981	CJ1 *	1981	02	03.67625	09	49	57.08	+14	31	28.8	330
1981	CK1 *	1981	02	03.67625	09	57	25.01	+14	00	46.5	330
1981	QC1	1981	09	19.56868	22	59	49.00	-06	51	58.3	330
1981	QC1	1981	09	25.55756	22	56	43.24	-08	00	47.0	330
1981	UN	1981	10	25.61652	02	56	25.90	+18	20	30.9	330
1981	UV	1981	10	23.56097	01	28	56.28	+09	15	53.5	330
1981	UV	1981	10	28.64237	01	26	09.18	+08	17	20.1	330
1981	UX	1981	10	28.64237	01	44	29.99	+09	23	00.9	330
1981	UE10*	1981	10	23.56097	01	37	16.05	+07	01	51.7	330
1981	UE10	1981	10	28.64237	01	33	29.41	+06	39	20.6	330
1981	UF10*	1981	10	23.56097	01	42	58.89	+10	20	51.5	330
1981	UG10*	1981	10	23.65611	02	02	10.43	+18	16	41.3	330
1981	UH10*	1981	10	23.70264	02	41	04.60	+21	30	06.0	330
1981	UH10	1981	10	28.79151	02	37	14.38	+20	44	16.0	330
1981	UJ10*	1981	10	24.53666	00	53	08.54	+17	17	26.6	330
1981	UK10*	1981	10	24.63596	01	58	31.57	+02	55	07.1	330
1981	UL10*	1981	10	24.68388	02	41	10.86	+05	50	50.5	330
1981	UL10	1981	10	29.65123	02	36	34.68	+05	42	14.3	330
1981	UM10*	1981	10	25.68804	03	45	22.07	+13	03	32.4	330
1981	UN10*	1981	10	28.79151	02	41	39.59	+19	20	51.9	330
1981	UO10*	1981	10	29.55817	01	01	29.50	+03	54	18.8	330
1981	UP10*	1981	10	29.60539	02	27	03.44	+09	06	26.4	330
1981	VE	1981	10	25.53735	02	28	42.30	+13	22	11.4	330
1981	VE	1981	10	29.60539	02	24	39.78	+13	28	21.0	330
1981	VS	1981	10	25.56513	02	18	46.57	+11	25	49.4	330
1981	VS	1981	10	29.60539	02	16	09.66	+10	40	45.5	330
1981	VW1	1981	10	23.56097	01	40	37.12	+07	11	03.9	330
1981	VW1	1981	10	28.64237	01	36	46.35	+06	47	49.7	330
1981	VP2	1981	10	23.56097	01	48	37.47	+06	02	19.1	330

1981	VP2		1981	10	28.64237	01	44	54.88	+05 47 25.3	330
1981	WU		1981	11	18.60065	03	25	10.81	+11 58 09.8	330
1981	WB1		1981	11	18.60065	03	37	32.52	+11 52 01.9	330
1981	WB1		1981	12	01.61038	03	25	42.04	+10 35 47.7	330
1981	WE1		1981	10	25.68804	03	46	10.69	+11 41 43.2	330
1981	WD4		1981	12	20.55825	03	49	06.75	+18 33 25.9	330
1981	WD4		1981	12	23.49645	03	47	23.70	+18 33 40.0	330
1981	WH4	*	1981	11	17.59026	01	58	44.00	+08 56 23.8	330
1981	WJ4	*	1981	11	18.55065	02	41	45.98	+18 55 13.5	330
1981	WK4	*	1981	11	18.64787	03	56	58.10	+21 35 50.8	330
1981	WL4	*	1981	11	18.64787	04	15	59.63	+21 06 52.0	330
1981	WL4		1981	11	27.72564	04	06	26.32	+21 09 16.2	330
1981	WL4		1981	12	01.70622	04	02	13.69	+21 09 32.1	330
1981	WM4	*	1981	11	27.48605	02	18	56.10	+21 17 21.7	330
1981	WM4		1981	12	01.56108	02	17	24.00	+20 39 26.3	330
1981	WN4	*	1981	11	27.51800	02	12	24.11	+19 42 02.4	330
1981	WN4		1981	12	01.56108	02	09	45.97	+19 44 01.4	330
1981	XC		1981	11	27.51800	02	18	37.79	+19 33 00.2	330
1981	XC		1981	12	01.56108	02	16	08.72	+19 20 56.0	330
1981	XD		1981	10	25.68804	03	45	22.07	+13 03 32.4	330
1981	XD		1981	11	27.51800	02	20	18.16	+19 49 40.5	330
1981	XD		1981	12	01.56108	02	17	44.46	+19 38 18.3	330
1981	XM2	*	1981	12	03.71246	05	54	13.04	+22 22 24.5	330
1981	YC		1981	11	27.67703	03	39	24.70	+22 34 29.7	330
1981	YC		1981	12	01.65969	03	34	32.93	+21 15 27.5	330
1981	YO		1981	12	29.48880	04	48	54.16	+19 20 11.2	330
1981	YS1		1981	12	20.69645	06	59	41.79	+13 31 07.9	330
1981	YT1	*	1981	12	19.55965	04	47	55.31	+18 00 24.4	330
1981	YT1		1981	12	22.49645	04	45	41.25	+17 47 46.6	330
1981	YU1	*	1981	12	19.63465	05	08	59.71	+25 29 21.9	330
1981	YU1		1981	12	22.57145	05	05	53.01	+25 30 02.0	330
1981	YU1		1981	12	25.54575	05	02	54.24	+25 30 18.7	330
1981	YV1	*	1981	12	19.73674	06	30	26.88	+18 27 34.0	330
1981	YW1	*	1981	12	20.51172	03	02	01.59	+11 36 17.8	330
1981	YW1		1981	12	24.45200	03	00	58.03	+11 37 24.5	330
1981	YX1	*	1981	12	20.60409	04	18	03.58	+17 57 36.9	330
1981	YX1		1981	12	23.54506	04	15	41.33	+17 47 20.3	330
1981	YY1	*	1981	12	20.69645	06	59	53.46	+13 31 23.4	330
1981	YY1		1981	12	23.63811	06	57	23.33	+13 43 30.2	330
1981	YZ1	*	1981	12	20.71450	07	28	47.22	+20 16 09.8	330
1981	YA2	*	1981	12	20.74228	07	18	02.93	+20 10 10.6	330
1981	YA2		1981	12	23.68464	07	15	37.79	+20 33 33.4	330
1981	YB2	*	1981	12	21.57700	05	40	06.84	+21 08 05.0	330
1981	YC2	*	1981	12	22.64436	07	39	24.62	+22 58 12.7	330
1981	YD2	*	1981	12	22.67214	07	49	02.88	+25 23 24.5	330

OBSERVATIONS MADE AT MOUNT JOHN UNIVERSITY OBSERVATORY BY A. C. GILMORE AND P. M. KILMARTIN.

Plates taken with the 0.6-m f/14 reflector by A. C. Gilmore, measured by P. M. Kilmartin. Computational support from R. McIntosh and W. M. Kissling. Contact: A. C. Gilmore, P.O. Box 57, Lake Tekapo, New Zealand.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1982 SA	1984	04 01.55828	13 52 50.60	-36 21 23.6		474
1982 SA	1984	04 01.59792	13 52 46.94	-36 21 47.3		474
1982 SA	1984	04 23.49236	13 15 39.34	-38 15 56.4	17.0	474
1982 SA	1984	04 23.51447	13 15 36.99	-38 15 56.7		474
1982 SA	1984	05 03.43392	12 59 15.33	-38 01 24.7	17.0	474
1982 SA	1984	05 03.44897	12 59 13.92	-38 01 22.0		474

OBSERVATIONS MADE AT PALOMAR BY C. SHOEMAKER AND E. SHOEMAKER.

Four-minute exposures with the 0.46-m Schmidt telescope. Film pairs scanned by C. Shoemaker with a stereomicroscope; measured by her with a Mann comparator at the U.S. Geological Survey in Flagstaff. Reference stars from the SAO Catalogue. D. W. E. Green assisted at the telescope. B. G. Marsden assisted with the identifications. Contact: C. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1949 GK		1984 03	30.32083	13 07 56.18	-05 07 03.7		675
1949 GK		1984 03	31.37361	13 07 07.54	-04 59 32.4	16.5	675
1982 QQ		1984 03	29.32013	13 03 26.37	-03 01 21.3	16	675
1982 QQ		1984 03	31.37361	13 01 38.09	-02 08 06.0		675
1984 FC		1984 03	30.32083	12 52 46.37	-03 05 17.8		675
1984 FC		1984 03	31.37361	12 51 44.84	-03 01 36.0	17	675
1984 FD		1984 03	30.32083	12 55 01.76	-06 10 52.2		675
1984 FD		1984 03	31.37361	12 54 00.23	-06 06 44.6	17	675
1984 FG		1984 03	30.32083	13 02 34.51	-02 42 28.2		675
1984 FG		1984 03	31.37361	13 01 43.70	-02 39 30.9	16	675
1984 FL	*	1984 03	29.32569	12 44 33.68	-09 20 54.2	17	675
1984 FL		1984 03	29.34652	12 44 31.62	-09 21 08.5		675
1984 FL		1984 03	30.29722	12 42 58.42	-09 30 09.5		675
1984 FL		1984 03	30.31875	12 42 56.32	-09 30 21.3		675
1984 FM	*	1984 03	29.41319	13 36 12.86	+08 30 41.2	15.5	675
1984 FM		1984 03	29.43194	13 36 10.98	+08 30 28.2		675
1984 FM		1984 03	31.40277	13 33 04.59	+08 06 57.6		675
1984 FM		1984 03	31.42014	13 33 02.78	+08 06 45.2		675
1984 FN	*	1984 03	29.46180	14 16 54.45	+13 58 58.0	17	675
1984 FN		1984 03	29.48750	14 16 52.05	+13 58 48.4		675
1984 FN		1984 03	31.44375	14 13 59.60	+13 45 15.0		675
1984 FN		1984 03	31.46597	14 13 57.45	+13 45 06.2		675
1984 FO	*	1984 03	28.47083	14 43 37.30	+04 28 00.6	16.5	675
1984 FO		1984 03	29.45625	14 43 32.95	+04 48 45.5		675
1984 FO		1984 03	31.46111	14 43 18.75	+05 31 24.4		675
1984 FO		1984 03	31.50486	14 43 18.27	+05 32 21.6		675
1984 FE1	*	1984 03	30.32083	12 42 17.56	-05 56 05.2		675
1984 FE1		1984 03	31.37361	12 41 24.70	-05 48 53.4	16.5	675
1984 GA		1984 03	30.32083	12 56 08.14	-07 34 00.2		675
1984 GA		1984 03	31.37361	12 55 02.17	-07 29 40.8	17	675
1984 HA	*	1984 04	29.31875	13 51 58.01	-06 06 56.4	17.5	675
1984 HA		1984 04	29.33819	13 52 00.46	-06 07 12.8		675

OBSERVATIONS MADE AT PALOMAR BY E. HELIN AND R. S. DUNBAR.

Plates taken with the 1.2-m Schmidt, measured by S. Swanson. Contact: E. Helin, Jet Propulsion Laboratory, MS 183-501, Pasadena, CA 91109, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1983 PA	1984 01	29.17500	01 34 36.81	+26 05 19.2	675
1983 PA	1984 01	29.19583	01 34 40.40	+26 05 20.0	675

OBSERVATIONS MADE AT PALOMAR BY J. GIBSON.

Plates taken with the 1.2-m Schmidt. Coordination with J. G. Williams and with the Minor Planet Center. Reference stars from AGK3 north of declination -2 , otherwise from SAO Catalogue. Contact: J. Gibson, Jet Propulsion Laboratory, MS 264-781, Pasadena, CA 91109, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1980 KO	1984 04	21.27364	09 07 42.69	+20 03 34.7		675
1981 QA	1984 04	08.40696	15 03 01.84	-06 47 49.0		675
1981 QM	1984 03	10.33011	12 00 36.37	-01 35 32.3		675
1981 QM	1984 03	11.36483	11 59 41.29	-01 28 48.4		675
1983 XF	1984 04	21.20003	07 58 35.15	+25 55 40.6		675

1984	BC		1984	04	21.25489	11	00	13.43	+43	52	12.7		675
1984	EM1	*	1984	03	10.33011	12	02	49.07	-01	12	20.9	17.5	675
1984	EM1		1984	03	11.36483	12	02	04.77	-01	02	21.4		675
6550	P-L		1984	04	21.39170	12	34	39.94	-05	32	00.7		675

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY'S ANDERSON MESA STATION.
Plates taken with the 0.33-m photographic telescope. Observers E. L. G. Bowell, B. A. Skiff and N. G. Thomas. Measured by Bowell using a PDS scanning microdensitometer. SAO reference stars, global solutions.
Contact: E. L. G. Bowell, Lowell Observatory, P.O. Box 1269, Flagstaff, AZ 86002, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
19	1984	04 03.20972	11 01 58.51	+04 40 33.8			688
19	1984	04 03.29861	11 01 54.98	+04 40 58.4			688
27	1984	04 03.18750	10 56 57.13	+09 34 43.7			688
27	1984	04 03.27639	10 56 54.13	+09 34 56.0			688
46	1984	02 06.36944	11 06 47.85	+04 12 03.0			688
46	1984	03 29.23611	10 26 14.30	+08 51 43.6			688
46	1984	03 31.17083	10 25 11.57	+08 59 25.9			688
46	1984	03 31.26181	10 25 08.60	+08 59 47.5			688
55	1984	03 29.19444	09 37 02.80	+20 11 11.9			688
55	1984	03 30.17986	09 36 44.74	+20 09 32.5			688
58	1984	03 30.17986	09 56 08.22	+12 42 10.1			688
58	1984	03 31.12639	09 55 53.72	+12 45 16.7			688
58	1984	03 31.21736	09 55 52.23	+12 45 34.7			688
62	1984	04 03.18750	10 54 36.76	+09 15 48.1			688
62	1984	04 03.27639	10 54 33.99	+09 16 03.1			688
73	1984	04 03.33611	13 13 01.15	-08 29 27.3			688
73	1984	04 03.37708	13 12 59.13	-08 29 17.6			688
108	1984	02 06.36944	11 13 38.14	+06 31 40.5			688
108	1984	03 29.23611	10 37 35.13	+09 04 22.0			688
108	1984	03 31.17083	10 36 35.48	+09 07 33.1			688
108	1984	03 31.26181	10 36 32.63	+09 07 41.6			688
113	1984	01 05.15833	06 14 36.92	+19 45 10.3			688
113	1984	01 05.20417	06 14 33.77	+19 45 19.0			688
116	1984	03 29.19444	09 51 58.45	+18 40 09.3			688
116	1984	03 30.17986	09 51 47.11	+18 39 06.0			688
116	1984	03 31.12639	09 51 37.97	+18 37 54.6			688
116	1984	03 31.21736	09 51 36.97	+18 37 47.8			688
119	1984	03 31.31806	13 36 47.17	-10 32 36.0			688
119	1984	03 31.36389	13 36 45.01	-10 32 18.9			688
125	1984	04 03.20972	11 12 19.73	+06 03 36.9			688
125	1984	04 03.29861	11 12 16.36	+06 04 04.3			688
130	1984	03 31.33333	13 41 49.51	+15 24 49.8			688
130	1984	03 31.37917	13 41 47.67	+15 25 10.6			688
133	1984	04 03.20972	11 05 10.09	-01 11 08.2			688
133	1984	04 03.29861	11 05 06.55	-01 10 51.7			688
166	1984	03 29.21667	10 28 30.80	+19 53 45.0			688
166	1984	03 31.14861	10 27 35.22	+19 59 19.3			688
166	1984	03 31.23958	10 27 32.56	+19 59 34.0			688
173	1984	02 06.36944	11 13 50.51	+08 25 42.4			688
173	1984	03 31.19306	10 36 28.00	+15 10 50.0			688
173	1984	03 31.28403	10 36 25.16	+15 11 15.9			688
189	1984	03 31.30278	12 54 35.08	-07 26 07.8			688
189	1984	03 31.34861	12 54 32.63	-07 25 46.8			688
189	1984	04 03.33611	12 51 58.01	-07 03 06.1			688
189	1984	04 03.37708	12 51 55.96	-07 02 48.9			688
191	1984	03 29.19444	09 47 06.88	+12 55 38.5			688
191	1984	03 30.17986	09 46 51.64	+13 00 06.2			688

191	1984	03	31.12639	09	46	38.43	+13	04	13.8	688
191	1984	03	31.21736	09	46	37.08	+13	04	37.6	688
252	1984	04	03.35833	14	14	21.52	-11	42	48.3	688
252	1984	04	03.39583	14	14	20.04	-11	42	35.1	688
261	1984	03	29.21667	10	31	41.65	+15	44	17.9	688
261	1984	03	31.14861	10	30	50.00	+15	46	38.0	688
261	1984	03	31.23958	10	30	47.52	+15	46	43.1	688
270	1984	04	03.35833	14	24	10.87	-17	16	55.8	688
270	1984	04	03.39583	14	24	09.24	-17	16	47.0	688
285	1984	01	05.34236	08	01	27.30	+28	19	15.2	688
286	1984	04	03.23194	11	34	43.25	+15	14	59.1	688
286	1984	04	03.32083	11	34	40.06	+15	15	30.5	688
286	1984	04	08.32986	11	31	58.21	+15	42	15.7	688
286	1984	04	08.36736	11	31	57.08	+15	42	26.5	688
297	1984	02	06.36944	11	15	23.92	+03	12	34.6	688
297	1984	03	29.23611	10	39	18.28	+05	37	33.3	688
297	1984	03	31.17083	10	38	12.76	+05	42	10.3	688
297	1984	03	31.26181	10	38	09.63	+05	42	23.1	688
305	1984	03	31.31806	13	34	53.46	-10	53	47.1	688
305	1984	03	31.36389	13	34	51.44	-10	53	32.7	688
311	1984	03	31.30278	13	02	06.00	-01	41	45.7	688
311	1984	03	31.34861	13	02	03.75	-01	41	32.4	688
325	1984	03	31.31806	13	23	20.03	-16	16	04.6	688
325	1984	03	31.36389	13	23	17.91	-16	15	57.8	688
330	1984	03	31.19306	10	58	27.40	+12	41	45.0	688
330	1984	03	31.28403	10	58	23.89	+12	42	10.6	688
330	1984	04	03.18750	10	56	37.54	+12	53	51.1	688
330	1984	04	03.27639	10	56	34.14	+12	54	09.9	688
340	1983	10	05.18889	00	06	50.38	-02	24	36.6	688
340	1983	10	12.15347	00	01	08.22	-02	45	31.7	688
340	1983	10	12.20069	00	01	06.01	-02	45	40.0	688
343	1984	04	03.35833	14	15	15.24	-12	39	53.0	688
343	1984	04	03.39583	14	15	13.35	-12	39	45.8	688
362	1984	04	03.18750	11	09	26.90	+12	41	04.8	688
362	1984	04	03.27639	11	09	22.94	+12	41	04.8	688
363	1984	03	29.21667	10	10	52.62	+20	03	47.4	688
363	1984	03	31.14861	10	10	01.83	+20	03	38.4	688
363	1984	03	31.23958	10	09	59.40	+20	03	36.3	688
368	1984	03	31.31806	13	38	59.57	-15	12	19.8	688
368	1984	03	31.36389	13	38	57.67	-15	12	06.9	688
373	1984	03	31.19306	10	35	41.78	+16	23	51.2	688
373	1984	03	31.28403	10	35	38.42	+16	23	46.2	688
383	1984	04	03.35833	14	14	49.47	-10	06	33.5	688
383	1984	04	03.39583	14	14	48.04	-10	06	25.5	688
405	1983	09	06.32778	00	42	59.41	+21	06	12.1	688
405	1983	09	06.35833	00	42	58.17	+21	06	08.0	688
405	1983	10	09.22014	00	16	44.85	+18	31	24.2	688
405	1983	10	09.25139	00	16	43.27	+18	31	12.1	688
434	1984	04	03.18750	11	14	51.01	+08	37	51.3	688
434	1984	04	03.27639	11	14	47.47	+08	39	33.1	688
447	1984	03	29.21667	10	15	06.94	+17	55	15.4	688
447	1984	03	31.14861	10	14	17.78	+17	56	32.3	688
447	1984	03	31.23958	10	14	15.43	+17	56	34.8	688
453	1984	03	31.19306	10	36	39.75	+12	19	54.8	688
453	1984	03	31.28403	10	36	35.90	+12	19	50.0	688
530	1984	03	31.19306	10	43	29.29	+15	10	31.6	688
530	1984	03	31.28403	10	43	26.43	+15	10	47.9	688
555	1984	03	29.19444	09	52	18.83	+14	53	12.4	688
555	1984	03	30.17986	09	52	07.83	+14	54	27.5	688

555	1984	03	31.12639	09	51	58.78	+14	55	30.5	688
555	1984	03	31.21736	09	51	57.84	+14	55	36.6	688
586	1983	09	12.35486	00	08	24.34	+02	53	42.9	688
586	1983	10	05.18889	23	51	49.61	+00	58	59.2	688
586	1983	10	12.15347	23	47	11.85	+00	25	07.3	688
586	1983	10	12.20069	23	47	10.01	+00	24	54.3	688
589	1984	03	31.30278	13	15	46.67	-02	43	15.3	688
589	1984	03	31.34861	13	15	44.77	-02	42	55.6	688
597	1984	04	03.23194	11	26	25.40	+17	03	32.8	688
597	1984	04	03.32083	11	26	21.03	+17	03	32.6	688
597	1984	04	08.32986	11	22	35.92	+17	01	21.5	688
597	1984	04	08.36736	11	22	34.40	+17	01	20.4	688
620	1984	03	29.19444	10	00	08.33	+16	07	21.9	688
620	1984	03	30.17986	09	59	38.65	+16	06	39.2	688
620	1984	03	31.12639	09	59	11.54	+16	05	49.8	688
620	1984	03	31.21736	09	59	08.90	+16	05	45.1	688
632	1984	01	05.15833	05	51	38.56	+26	38	25.9	688
632	1984	01	05.20417	05	51	35.76	+26	38	24.0	688
645	1984	04	03.33611	12	52	09.75	-08	17	37.4	688
645	1984	04	03.37708	12	52	07.85	-08	17	31.0	688
676	1984	02	06.36944	11	06	44.12	+07	57	31.0	688
676	1984	03	31.19306	10	32	40.03	+13	47	29.7	688
682	1983	09	12.35486	00	13	53.38	+06	04	40.0	688
682	1983	10	05.18889	23	57	27.29	+02	02	37.7	688
682	1983	10	12.15347	23	53	07.69	+00	52	07.1	688
682	1983	10	12.20069	23	53	05.99	+00	51	39.0	688
689	1983	09	12.35486	23	59	13.13	-01	27	02.7	688
733	1984	02	06.36944	11	18	46.22	+06	00	32.8	688
733	1984	03	29.23611	10	35	19.80	+05	22	52.6	688
733	1984	03	31.17083	10	34	03.49	+05	20	29.1	688
733	1984	03	31.26181	10	33	59.85	+05	20	22.1	688
748	1984	03	31.31806	13	33	32.46	-12	35	51.4	688
748	1984	03	31.36389	13	33	30.81	-12	35	42.7	688
753	1984	04	08.34861	13	25	15.45	+05	43	03.0	688
753	1984	04	08.38611	13	25	12.94	+05	43	07.4	688
765	1984	02	06.36944	11	22	14.44	+02	09	26.4	688
769	1984	01	05.34236	08	13	38.77	+29	47	11.9	688
770	1984	03	29.19444	09	56	11.45	+19	07	39.3	688
770	1984	03	30.17986	09	55	54.80	+19	05	37.9	688
770	1984	03	31.12639	09	55	40.77	+19	03	29.8	688
770	1984	03	31.21736	09	55	39.32	+19	03	17.7	688
805	1984	04	03.18750	11	09	51.48	+08	15	13.9	688
805	1984	04	03.27639	11	09	48.51	+08	15	47.1	688
845	1984	04	08.32986	11	45	34.05	+15	09	24.4	688
845	1984	04	08.36736	11	45	32.45	+15	09	23.5	688
848	1984	03	29.23611	10	27	30.38	+08	38	29.4	688
848	1984	03	31.17083	10	26	33.54	+08	44	38.4	688
848	1984	03	31.26181	10	26	30.59	+08	44	57.2	688
857	1984	04	04.30625	13	19	39.61	+00	51	55.6	688
857	1984	04	04.33125	13	19	38.08	+00	52	03.5	688
922	1984	04	03.33611	13	07	22.02	-08	49	32.2	688
922	1984	04	03.37708	13	07	20.18	-08	49	15.8	688
927	1984	04	03.33611	12	52	02.36	-08	12	40.2	688
927	1984	04	03.37708	12	52	00.30	-08	12	38.2	688
1016	1984	04	03.35833	14	15	40.01	-17	03	20.8	688
1016	1984	04	03.39583	14	15	38.00	-17	03	17.0	688
1030	1984	04	03.20972	11	16	11.47	+00	25	35.7	688
1030	1984	04	03.29861	11	16	08.76	+00	26	24.3	688
1033	1984	04	03.20972	11	05	45.53	+01	46	45.2	688

1033		1984	04	03.29861	11	05	42.75	+01	47	19.1		688
1056		1984	03	29.19444	09	49	40.96	+20	00	20.3		688
1056		1984	03	30.17986	09	49	16.29	+20	01	24.4		688
1056		1984	03	31.21736	09	48	52.38	+20	02	16.7		688
1081		1984	02	06.36944	11	20	24.87	+09	14	08.8		688
1081		1984	03	31.19306	10	42	34.34	+12	28	16.7		688
1081		1984	03	31.28403	10	42	31.28	+12	28	25.5		688
1084		1984	03	31.30278	13	03	39.79	-05	53	12.4		688
1084		1984	03	31.34861	13	03	37.51	-05	52	54.5		688
1084		1984	04	03.33611	13	01	12.66	-05	33	16.3		688
1084		1984	04	03.37708	13	01	10.73	-05	33	01.6		688
1127		1984	04	08.34861	13	22	20.41	+12	56	55.3		688
1127		1984	04	08.38611	13	22	18.49	+12	57	08.6		688
1137		1984	04	03.23194	11	36	20.20	+09	45	43.0		688
1137		1984	04	03.32083	11	36	15.85	+09	46	01.9		688
1137		1984	04	08.32986	11	32	29.43	+10	01	44.8		688
1137		1984	04	08.36736	11	32	27.79	+10	01	50.8		688
1154		1984	04	03.23194	11	33	24.38	+09	43	23.4		688
1154		1984	04	03.32083	11	33	20.99	+09	43	39.0		688
1154		1984	04	08.32986	11	30	27.44	+09	56	45.3		688
1154		1984	04	08.36736	11	30	26.26	+09	56	50.8		688
1188		1984	03	31.30278	12	58	43.49	-07	36	16.2		688
1188		1984	03	31.34861	12	58	40.50	-07	36	03.3		688
1188		1984	04	03.33611	12	55	31.36	-07	22	22.4		688
1188		1984	04	03.37708	12	55	28.90	-07	22	11.2		688
1211		1984	04	08.34861	13	34	43.40	+08	33	25.5		688
1211		1984	04	08.38611	13	34	41.74	+08	33	38.2		688
1224		1983	09	06.32778	00	24	14.72	+19	21	11.3		688
1224		1983	09	06.35833	00	24	13.76	+19	21	13.6		688
1224		1983	10	09.22014	00	00	46.60	+16	55	30.2		688
1224		1983	10	09.25139	00	00	45.24	+16	55	13.3		688
1239		1984	01	05.34236	08	03	47.67	+22	25	18.0		688
1268		1984	03	31.30278	12	50	46.91	-07	51	45.7		688
1268		1984	03	31.34861	12	50	45.13	-07	51	36.4		688
1268		1984	04	03.33611	12	48	47.59	-07	42	08.3		688
1268		1984	04	03.37708	12	48	46.07	-07	42	01.3		688
1271		1984	04	04.30625	13	19	15.76	+01	01	28.6		688
1271		1984	04	04.33125	13	19	14.73	+01	01	36.5		688
1286		1984	04	03.33611	13	09	12.09	-08	16	19.8		688
1286		1984	04	03.37708	13	09	10.46	-08	16	04.0		688
1295		1984	01	05.15833	05	56	12.94	+19	15	02.7		688
1295		1984	01	05.20417	05	56	10.74	+19	15	01.7		688
1361		1981	02	05.18681	08	26	12.24	+01	18	22.0	5	688
1362		1979	02	28.26563	11	34	02.12	+26	35	56.9		688
1362		1979	02	28.29340	11	34	01.15	+26	36	08.1		688
1362		1979	03	04.32465	11	31	06.72	+27	06	23.5	17.5	688
1362		1979	03	04.35035	11	31	05.30	+27	06	34.9		688
1362		1979	03	23.20660	11	17	18.00	+28	53	10.7	6	688
1376		1984	03	31.30278	13	08	34.61	-03	53	52.4		688
1376		1984	03	31.34861	13	08	31.94	-03	53	32.6		688
1376		1984	04	03.33611	13	05	40.10	-03	30	33.2		688
1376		1984	04	03.37708	13	05	37.75	-03	30	15.4		688
1379		1984	04	03.16528	10	05	39.38	+10	31	00.6		688
1379		1984	04	03.25417	10	05	38.38	+10	31	52.7		688
1385		1984	04	03.23194	11	40	40.09	+11	55	11.8		688
1385		1984	04	03.32083	11	40	36.14	+11	55	33.9		688
1385		1984	04	08.32986	11	37	14.81	+12	13	21.0		688
1385		1984	04	08.36736	11	37	13.31	+12	13	28.7		688
1389		1979	12	07.12083	02	50	01.71	+13	38	57.3	7	688

1409		1983	10	05.18889	00	09	11.54	-00	41	21.6		688
1409		1983	10	12.15347	00	04	15.99	-01	33	15.3		688
1409		1983	10	12.20069	00	04	14.01	-01	33	36.4		688
1443		1984	02	06.36944	11	17	04.17	+03	49	32.8		688
1443		1984	03	29.23611	10	41	15.74	+07	57	38.4		688
1443		1984	03	31.17083	10	40	13.38	+08	05	01.2		688
1443		1984	03	31.26181	10	40	10.37	+08	05	21.2		688
1450		1981	06	04.26806	15	23	19.95	-16	39	15.9		688
1450		1981	06	04.31049	15	23	17.78	-16	39	11.7		688
1489		1984	02	06.36944	11	06	55.42	+05	42	34.2		688
1489		1984	03	29.23611	10	33	46.96	+09	53	17.0		688
1489		1984	03	31.17083	10	32	58.67	+09	59	25.6		688
1489		1984	03	31.19306	10	32	58.19	+09	59	31.3	16.5	688
1489		1984	03	31.26181	10	32	56.39	+09	59	42.2		688
1489		1984	03	31.28403	10	32	55.93	+09	59	47.0		688
1495		1984	03	31.30278	12	52	24.20	-05	34	04.3		688
1495		1984	03	31.34861	12	52	21.25	-05	34	02.1		688
1495		1984	04	03.33611	12	49	14.72	-05	31	24.1		688
1495		1984	04	03.37708	12	49	12.35	-05	31	22.3		688
1570		1984	04	03.20972	10	58	22.77	+05	49	41.0	3	688
1570		1984	04	03.29861	10	58	19.61	+05	50	00.5		688
1606		1984	04	03.20972	11	05	36.18	+02	36	17.6		688
1606		1984	04	03.29861	11	05	32.78	+02	36	47.9		688
1658		1984	01	05.15833	06	16	40.10	+23	47	43.1		688
1658		1984	01	05.20417	06	16	37.37	+23	47	51.0		688
1686		1984	03	31.30278	13	01	25.22	-06	41	45.8		688
1686		1984	03	31.34861	13	01	23.05	-06	41	33.4		688
1686		1984	04	03.33611	12	59	09.43	-06	28	17.2		688
1686		1984	04	03.37708	12	59	07.76	-06	28	07.6		688
1716		1984	03	31.31806	13	45	23.22	-17	26	34.8		688
1716		1984	03	31.36389	13	45	21.34	-17	26	21.4		688
1729		1983	10	05.18889	00	08	02.89	+00	38	44.9		688
1729		1983	10	12.15347	00	01	41.78	+00	07	49.0		688
1729		1983	10	12.20069	00	01	39.06	+00	07	36.8		688
1748		1984	01	05.15833	06	11	49.41	+21	15	55.0		688
1748		1984	01	05.20417	06	11	47.18	+21	15	58.2	1	688
1774		1984	01	05.15833	05	58	53.01	+20	36	13.7		688
1774		1984	01	05.20417	05	58	50.69	+20	36	16.2		688
1794		1983	09	06.32778	00	44	27.24	+16	30	02.9		688
1794		1983	09	06.35833	00	44	26.31	+16	29	55.5		688
1822		1984	01	05.15833	06	12	23.95	+22	06	06.8	17.0	688
1822		1984	01	05.20417	06	12	20.56	+22	06	07.7		688
1830		1984	03	29.21667	10	23	34.33	+12	48	08.0		688
1830		1984	03	31.14861	10	22	49.15	+12	55	10.8		688
1830		1984	03	31.23958	10	22	47.00	+12	55	28.3		688
1847		1984	04	08.34861	13	15	34.42	+11	30	58.4		688
1847		1984	04	08.38611	13	15	32.49	+11	31	09.2		688
1848		1984	01	05.15833	06	12	19.40	+25	11	30.8		688
1848		1984	01	05.20417	06	12	16.82	+25	11	29.8		688
1860		1984	04	03.23194	11	31	07.61	+14	42	17.2		688
1860		1984	04	03.32083	11	31	03.60	+14	42	47.5		688
1860		1984	04	08.32986	11	27	33.24	+15	06	55.6		688
1860		1984	04	08.36736	11	27	31.79	+15	07	05.3		688
1878		1984	02	06.36944	11	23	03.36	+02	39	18.7		688
1880		1984	03	29.21667	10	13	20.48	+16	18	47.4		688
1880		1984	03	31.14861	10	12	29.41	+16	22	57.8		688
1880		1984	03	31.23958	10	12	27.01	+16	23	08.0		688
1887		1984	04	03.20972	11	10	37.86	+03	42	58.6		688
1887		1984	04	03.29861	11	10	34.26	+03	43	09.0		688

1906		1983	09	12.35486	00	08	21.57	+01	12	03.7		688
1906		1983	10	05.18889	23	46	00.75	+00	40	50.7		688
1906		1983	10	12.15347	23	40	12.23	+00	33	45.8		688
1906		1983	10	12.20069	23	40	09.96	+00	33	43.2		688
1908		1984	01	05.34236	08	12	12.20	+27	09	00.8		688
1955		1984	01	05.15833	06	13	40.25	+22	54	43.7		688
1955		1984	01	05.20417	06	13	37.42	+22	54	42.2	1	688
1999		1984	02	06.36944	11	13	05.09	+07	46	39.1		688
1999		1984	03	31.19306	10	41	05.24	+14	58	55.8		688
1999		1984	03	31.28403	10	41	02.98	+14	59	23.3		688
2014		1984	03	31.31806	13	38	51.13	-13	25	36.9		688
2014		1984	03	31.36389	13	38	49.23	-13	24	52.5		688
2036		1983	09	12.35486	00	15	15.81	+03	14	59.5		688
2036		1983	10	05.18889	23	52	16.73	+01	51	22.4		688
2036		1983	10	12.15347	23	46	28.67	+01	28	06.3		688
2036		1983	10	12.20069	23	46	26.41	+01	27	55.4		688
2056		1984	04	03.35833	14	14	36.28	-15	34	22.5		688
2056		1984	04	03.39583	14	14	34.80	-15	34	10.4		688
2067		1984	04	03.35833	14	14	15.63	-09	51	48.0		688
2067		1984	04	03.39583	14	14	14.32	-09	51	39.8		688
2222		1984	01	05.15833	06	13	46.99	+23	35	00.8		688
2222		1984	01	05.20417	06	13	44.52	+23	35	04.6		688
2243		1984	03	31.30278	13	03	57.18	-05	03	46.3		688
2243		1984	03	31.34861	13	03	54.24	-05	03	35.4		688
2243		1984	04	03.33611	13	00	42.74	-04	52	27.8		688
2243		1984	04	03.37708	13	00	40.22	-04	52	18.9		688
2247		1983	09	12.35486	00	15	14.34	-00	24	38.4		688
2247		1983	10	05.18889	23	53	29.25	-01	20	48.7		688
2247		1983	10	12.15347	23	47	29.04	-01	32	59.7		688
2258		1983	09	12.35486	23	57	51.45	+01	38	32.7		688
2261		1984	01	05.34236	08	03	19.53	+27	10	01.5	17.0	688
2282		1984	04	03.35833	14	27	44.06	-14	28	24.5		688
2300		1984	03	29.19444	09	43	02.02	+16	27	27.5		688
2300		1984	03	30.17986	09	42	45.11	+16	27	45.9		688
2300		1984	03	31.12639	09	42	30.65	+16	27	53.0	17.2	688
2300		1984	03	31.21736	09	42	28.94	+16	27	55.7		688
2323		1984	02	06.36944	11	23	08.22	+07	30	27.2		688
2323		1984	03	31.19306	10	44	27.87	+10	08	03.8		688
2323		1984	03	31.28403	10	44	24.97	+10	08	09.8		688
2341		1984	03	31.19306	10	32	03.28	+15	56	05.9		688
2341		1984	03	31.28403	10	32	00.23	+15	56	07.7		688
2357		1984	04	03.35833	14	25	53.13	-12	29	09.9		688
2357		1984	04	03.39583	14	25	52.18	-12	29	03.6		688
2377		1983	09	12.35486	00	03	44.38	+02	05	25.0		688
2377		1983	10	05.18889	23	46	13.94	+00	10	19.1		688
2377		1983	10	12.15347	23	41	30.02	-00	22	23.3		688
2377		1983	10	12.20069	23	41	28.25	-00	22	35.6		688
2388		1984	01	05.20417	06	07	34.78	+26	03	00.9		688
2391		1984	02	06.36944	11	17	32.84	+03	51	18.2		688
2391		1984	03	29.23611	10	37	35.92	+09	18	17.9		688
2391		1984	03	31.17083	10	36	39.38	+09	26	23.7		688
2391		1984	03	31.26181	10	36	36.73	+09	26	45.4		688
2394		1979	12	07.12083	02	50	11.03	+13	52	25.6		688
2407		1984	03	31.31806	13	42	23.13	-13	02	33.8		688
2407		1984	03	31.36389	13	42	21.07	-13	02	26.3		688
2411		1984	02	06.36944	11	30	37.16	+04	27	10.6		688
2411		1984	03	31.19306	10	46	20.82	+09	48	43.8		688
2411		1984	03	31.28403	10	46	17.12	+09	49	05.8		688
2438		1984	03	31.30278	13	02	20.66	+00	01	07.8		688

2438	1984	03	31.34861	13	02	17.80	+00	01	18.1			688
2471	1984	04	03.18750	11	02	23.21	+12	43	24.4			688
2471	1984	04	03.27639	11	02	19.80	+12	43	24.0			688
2505	1984	03	29.21667	10	16	27.88	+13	40	10.4			688
2505	1984	03	31.14861	10	15	34.23	+13	43	46.6			688
2505	1984	03	31.23958	10	15	31.68	+13	43	55.5			688
2510	1984	01	05.20417	06	13	02.57	+22	35	51.5			688
2519	1984	04	03.18750	11	09	44.57	+08	56	32.6			688
2519	1984	04	03.27639	11	09	41.37	+08	56	47.7			688
2531	1984	04	08.34861	13	30	06.80	+08	29	59.8			688
2531	1984	04	08.38611	13	30	05.05	+08	30	10.1			688
2534	1984	04	03.20972	11	14	48.60	+04	59	28.6	16.2		688
2534	1984	04	03.29861	11	14	45.39	+04	59	48.7			688
2550	1984	03	29.19444	09	48	46.45	+12	54	58.7			688
2550	1984	03	30.17986	09	48	31.14	+12	58	43.4			688
2550	1984	03	31.12639	09	48	17.71	+13	02	14.0			688
2550	1984	03	31.21736	09	48	16.33	+13	02	32.4			688
2582	1984	04	08.34861	13	10	53.27	+11	51	19.1			688
2582	1984	04	08.38611	13	10	51.38	+11	51	21.8			688
2587	1984	04	03.18750	11	17	38.46	+08	34	56.7			688
2587	1984	04	03.27639	11	17	35.18	+08	35	14.6			688
2674	1984	04	03.39583	14	05	37.43	-11	30	14.0			688
2707	1984	03	31.19306	10	55	54.29	+10	52	07.9			688
2707	1984	03	31.28403	10	55	51.11	+10	52	23.3			688
2707	1984	04	03.18750	10	54	20.53	+10	59	22.9			688
2707	1984	04	03.27639	10	54	17.61	+10	59	33.6			688
2730	1984	03	31.19306	10	52	36.90	+09	36	55.5			688
2730	1984	03	31.28403	10	52	32.92	+09	37	03.5			688
2749	1984	01	05.15833	06	13	18.01	+23	55	01.5			688
2749	1984	01	05.20417	06	13	15.49	+23	55	01.1			688
2750	1984	03	29.21667	10	22	26.80	+18	17	52.0			688
2750	1984	03	31.14861	10	21	35.51	+18	13	44.0	16.5		688
2750	1984	03	31.23958	10	21	32.90	+18	13	30.4			688
2768	1984	04	08.32986	11	46	09.31	+09	49	42.6			688
2768	1984	04	08.36736	11	46	07.22	+09	49	48.4			688
2769	1979	12	07.12083	02	52	06.53	+13	43	35.3			688
2785	1983	09	12.35486	00	16	10.84	+02	45	03.3			688
2785	1983	10	05.18889	23	58	22.52	+01	00	31.7			688
2785	1983	10	12.15347	23	53	19.43	+00	29	50.7			688
2785	1983	10	12.20069	23	53	17.45	+00	29	38.5			688
2792	1984	03	31.31806	13	49	17.03	-12	51	32.2			688
2792	1984	03	31.36389	13	49	14.49	-12	51	29.9			688
2795	1984	04	03.29861	11	00	21.03	-00	06	26.6			688
2818	1984	03	29.21667	10	30	55.65	+14	45	29.2			688
2818	1984	03	31.14861	10	30	09.75	+14	45	05.1	17.2		688
2818	1984	03	31.23958	10	30	07.34	+14	45	00.3			688
2820	1984	04	03.20972	11	10	09.01	+02	10	08.2		3	688
2820	1984	04	03.29861	11	10	05.54	+02	10	35.4		1	688
2822	1984	03	31.33333	13	48	31.82	+14	04	28.6			688
2822	1984	03	31.37917	13	48	29.61	+14	04	42.2			688
2824	1984	03	29.23611	10	37	15.11	+05	23	39.9		1	688
2835	1984	03	29.19444	09	53	43.30	+13	39	27.6			688
2835	1984	03	30.17986	09	53	21.61	+13	40	49.6			688
2835	1984	03	31.12639	09	53	01.94	+13	41	58.7			688
2835	1984	03	31.21736	09	53	00.22	+13	42	06.3			688
2837	1984	04	03.35833	14	11	06.46	-10	41	55.6			688
2837	1984	04	03.39583	14	11	04.95	-10	41	47.5			688
2844	1984	04	03.18750	11	04	24.95	+10	03	21.4			688
2844	1984	04	03.27639	11	04	20.83	+10	03	45.4			688

2961		1984	04	03.35833	14	22	52.97	-15	46	54.8			688
2961		1984	04	03.39583	14	22	51.44	-15	46	43.7			688
2983		1984	03	29.23611	10	23	01.74	+03	40	20.4			688
2983		1984	03	31.17083	10	22	05.83	+03	48	44.2	16.5		688
2983		1984	03	31.26181	10	22	03.12	+03	49	08.6			688
3019		1984	03	29.21667	10	27	25.34	+14	00	49.8			688
3019		1984	03	31.14861	10	26	31.45	+14	04	57.0	17.2		688
3019		1984	03	31.23958	10	26	28.93	+14	05	07.3			688
3020		1984	03	31.14861	10	21	33.09	+13	54	12.6	17.2		688
3020		1984	03	31.23958	10	21	30.53	+13	54	30.9			688
3021		1984	03	29.21667	10	27	39.37	+12	58	51.7			688
3021		1984	03	31.14861	10	26	32.68	+12	52	14.5	17.0		688
3021		1984	03	31.23958	10	26	29.29	+12	51	52.8			688
3023		1984	04	03.20972	11	09	38.08	-00	46	47.2	17.0		688
3023		1984	04	03.29861	11	09	34.47	-00	46	09.2			688
3024		1984	04	03.23194	11	47	08.00	+12	26	42.6	17.2		688
3024		1984	04	03.32083	11	47	04.02	+12	26	45.9			688
3031		1984	02	06.36944	11	15	34.96	+02	23	32.4			688
3031		1984	03	29.23611	10	29	45.38	+04	38	26.0			688
3031		1984	03	31.17083	10	28	39.00	+04	42	46.1	16.5		688
3031		1984	03	31.26181	10	28	35.88	+04	42	57.3			688
3032		1984	02	06.36944	11	19	41.92	+08	56	31.2			688
3032		1984	03	31.19306	10	41	35.98	+13	02	24.3	17.0		688
3032		1984	03	31.28403	10	41	33.12	+13	02	39.0			688
1944	BA	1984	03	31.33333	13	55	03.30	+18	59	38.6	16.5		688
1944	BA	1984	03	31.37917	13	55	01.01	+18	59	57.1			688
1949	GK	1984	03	31.30278	13	07	11.17	-05	00	03.0	16.5		688
1949	GK	1984	03	31.34861	13	07	08.83	-04	59	45.0			688
1949	GK	1984	04	03.33611	13	04	48.19	-04	38	08.8	16.2		688
1949	GK	1984	04	03.37708	13	04	46.26	-04	37	52.7			688
1968	FH	1984	03	29.19444	09	55	23.87	+15	48	15.5			688
1968	FH	1984	03	30.17986	09	55	02.12	+15	49	41.7			688
1968	FH	1984	03	31.12639	09	54	42.53	+15	50	59.5	17.5		688
1968	FH	1984	03	31.21736	09	54	40.53	+15	51	09.1			688
1972	YX	1984	02	06.36944	11	30	55.31	+08	42	05.4			688
1973	ST4	1984	04	03.20972	10	59	16.87	-00	10	09.8	17.5		688
1973	ST4	1984	04	03.29861	10	59	12.83	-00	09	43.1		3	688
1974	MH	1984	03	31.31806	13	29	06.94	-16	34	01.0	17.0		688
1974	MH	1984	03	31.36389	13	29	04.18	-16	34	01.2			688
1978	RS1	1984	03	31.30278	13	16	27.64	-00	38	34.8	17.0		688
1978	RS1	1984	03	31.34861	13	16	25.06	-00	38	12.2			688
1979	EL	1979	02	28.26563	11	33	59.80	+26	34	33.0	17.0		688
1979	EL	1979	02	28.29340	11	33	58.44	+26	34	44.7			688
1979	EL	1979	03	04.32465	11	30	21.19	+27	04	54.1	17.0		688
1979	EL	1979	03	04.35035	11	30	19.71	+27	05	04.6		8	688
1979	EL	1979	03	23.16007	11	13	19.69	+28	32	13.6	17.2		688
1979	EL	1979	03	23.18403	11	13	18.47	+28	32	13.4			688
1979	EL	1979	03	23.20660	11	13	17.51	+28	32	19.4			688
1979	HP	1984	02	06.36944	11	21	54.09	+06	23	30.2			688
1979	HP	1984	03	31.19306	10	47	04.09	+10	36	48.6	17.0		688
1979	HP	1984	03	31.28403	10	47	01.36	+10	37	03.8			688
1979	SY9	1983	10	05.18889	00	06	03.01	+00	15	25.9			688
1979	SY9	1983	10	12.15347	00	00	34.62	-00	16	23.8	17.0		688
1979	SY9	1983	10	12.20069	00	00	32.63	-00	16	38.7			688
1979	SW11	1984	03	29.23611	10	40	59.07	+03	29	25.4			688
1979	SW11	1984	03	31.17083	10	39	58.42	+03	42	50.0	17.2		688
1979	SW11	1984	03	31.26181	10	39	55.52	+03	43	28.7			688
1979	XK	1984	03	29.19444	09	42	34.93	+15	03	38.3			688
1979	YE9	1984	03	31.31806	13	33	05.08	-12	06	25.2	17.0		688

1979	YE9	1984	03	31.36389	13	33	02.43	-12	06	15.7			688
1980	GD	1984	03	31.33333	13	41	19.31	+11	57	32.4		17.2	688
1980	GD	1984	03	31.37917	13	41	16.81	+11	57	45.1			688
1980	GD	1984	04	08.34861	13	33	57.82	+12	29	29.1		17.0	688
1980	GD	1984	04	08.38611	13	33	55.84	+12	29	36.7			688
1981	EM4	1983	09	06.32778	00	24	14.45	+14	31	21.0		17.2	688
1981	EM4	1983	09	06.35833	00	24	12.89	+14	31	22.3			688
1982	QQ	1984	03	31.30278	13	01	42.04	-02	09	58.3		15.8	688
1982	QQ	1984	03	31.34861	13	01	39.54	-02	08	48.3			688
1982	SK	1984	02	06.36944	11	23	01.07	+02	19	17.0			688
1982	SK	1984	03	29.23611	10	38	11.88	+06	27	53.5			688
1982	SK	1984	03	31.17083	10	37	01.96	+06	35	07.6		16.8	688
1982	SK	1984	03	31.26181	10	36	58.49	+06	35	27.5			688
1983	QD	1983	10	09.22014	23	54	55.58	+17	46	16.9		17.5	688
1983	QD	1983	10	09.25139	23	54	54.14	+17	46	10.2			688
1983	TD2	1983	09	12.35486	00	03	18.36	+02	17	27.0			688
1983	TD2	1983	09	14.35278	00	01	53.62	+01	58	59.4		16.2	688
1983	TD2	1983	10	05.18889	23	45	59.89	-01	29	55.7			688
1983	TD2	1983	10	12.15347	23	41	25.60	-02	35	17.3		16.5	688
1983	TD2	1983	10	12.20069	23	41	23.65	-02	35	44.3			688
1983	TE2	1983	10	05.18889	00	07	34.61	+00	49	21.5			688
1983	TE2	1983	10	12.15347	00	02	53.75	+00	16	33.2		17.0	688
1983	TE2	1983	10	12.20069	00	02	51.92	+00	16	21.9			688
1984	BB1	1984	03	29.19444	09	45	14.37	+14	01	50.0			688
1984	BB1	1984	03	30.17986	09	45	08.92	+14	03	48.4			688
1984	BB1	1984	03	31.12639	09	45	05.55	+14	05	29.4		17.2	688
1984	BB1	1984	03	31.21736	09	45	05.09	+14	05	38.5			688
1984	CQ	1984	03	29.19444	09	58	03.27	+19	20	42.8			688
1984	CQ	1984	03	30.17986	09	57	53.69	+19	22	14.7			688
1984	CQ	1984	03	31.12639	09	57	46.64	+19	23	29.3		16.8	688
1984	CQ	1984	03	31.21736	09	57	45.74	+19	23	35.3			688
1984	CV	1984	02	06.36944	11	09	08.13	+01	30	58.8			688
1984	CV	1984	03	29.23611	10	29	13.85	+04	18	42.5			688
1984	CV	1984	03	31.26181	10	28	12.38	+04	24	41.5		16.5	688
1984	CW	1984	02	06.36944	11	14	29.79	+01	57	38.7			688
1984	CW	1984	03	29.23611	10	27	06.60	+04	23	56.6			688
1984	CW	1984	03	31.17083	10	25	50.88	+04	28	56.6		17.0	688
1984	CW	1984	03	31.26181	10	25	47.19	+04	29	09.9			688
1984	CZ	1984	02	06.36944	11	18	31.13	+07	12	38.9			688
1984	CZ	1984	03	31.19306	10	42	56.20	+14	54	49.0		16.8	688
1984	CZ	1984	03	31.28403	10	42	53.61	+14	55	18.3			688
1984	CC1	1984	02	06.36944	11	25	15.71	+05	39	51.0			688
1984	CC1	1984	03	31.19306	10	42	01.80	+12	08	37.1		17.2	688
1984	CC1	1984	03	31.28403	10	41	58.64	+12	08	57.9			688
1984	CD1	1984	02	06.36944	11	27	15.82	+08	57	45.2			688
1984	CD1	1984	03	31.19306	10	43	52.67	+12	55	10.7		17.2	688
1984	CD1	1984	03	31.28403	10	43	48.84	+12	55	18.5			688
1984	CM1	1984	04	03.18750	11	16	09.44	+09	57	18.3		16.8	688
1984	CM1	1984	04	03.27639	11	16	07.05	+09	57	59.1			688
1984	CN1	1984	04	03.20972	11	13	12.56	-00	18	00.5		16.8	688
1984	CN1	1984	04	03.29861	11	13	09.64	-00	17	23.7			688
1984	CO1	1984	04	03.20972	11	15	43.52	+01	26	55.3		17.2	688
1984	CO1	1984	04	03.29861	11	15	39.72	+01	27	06.6			688
1984	EA	1984	04	03.16528	10	04	25.66	+08	47	22.1		17.2	3 688
1984	EA	1984	04	03.25417	10	04	22.59	+08	46	03.9			3 688
1984	EB	1984	03	29.21667	10	17	48.55	+16	52	49.6			688
1984	EB	1984	03	31.14861	10	17	10.57	+17	02	01.2		16.8	688
1984	EB	1984	03	31.23958	10	17	08.70	+17	02	24.3			688
1984	EC	1984	03	31.14861	10	14	32.38	+13	18	23.4		17.5	688

1984	EC		1984	03	31.23958	10	14	29.52	+13	18	06.8		1 688
1984	ED		1984	03	31.14861	10	23	25.47	+18	57	05.1	17.5	688
1984	ED		1984	03	31.23958	10	23	23.38	+18	57	22.5		688
1984	EG		1984	03	29.21667	10	25	32.36	+17	18	05.8		688
1984	EG		1984	03	31.14861	10	24	44.60	+17	23	57.5	17.2	688
1984	EG		1984	03	31.23958	10	24	42.27	+17	24	14.3		688
1984	EJ		1984	02	06.36944	11	20	39.35	+02	33	05.4		688
1984	EJ		1984	03	29.23611	10	40	38.82	+09	13	05.8		688
1984	EJ		1984	03	31.17083	10	39	34.78	+09	24	56.8	16.0	688
1984	EJ		1984	03	31.26181	10	39	31.71	+09	25	29.1		688
1984	EL		1984	03	31.19306	10	51	07.49	+15	52	59.4	17.2	688
1984	EL		1984	03	31.28403	10	51	04.62	+15	53	05.6		1 688
1984	EM		1984	02	06.36944	11	07	26.37	+04	25	57.1		688
1984	EM		1984	03	29.23611	10	24	30.08	+09	58	40.3		688
1984	EM		1984	03	31.17083	10	23	29.14	+10	07	22.8	17.2	688
1984	EM		1984	03	31.26181	10	23	26.46	+10	07	46.6		688
1984	EN		1984	03	29.23611	10	25	10.75	+07	25	28.3		688
1984	EN		1984	03	31.17083	10	24	13.80	+07	28	36.6	16.8	688
1984	EN		1984	03	31.26181	10	24	11.10	+07	28	45.3		688
1984	EO		1984	03	29.23611	10	39	19.42	+05	46	04.2		688
1984	EO		1984	03	31.17083	10	38	18.14	+06	02	38.5	16.2	688
1984	EO		1984	03	31.26181	10	38	15.09	+06	03	24.6		688
1984	EQ		1984	03	29.23611	10	23	10.44	+10	30	52.1		688
1984	EQ		1984	03	31.17083	10	22	07.87	+10	28	00.2	17.2	688
1984	EQ		1984	03	31.26181	10	22	05.10	+10	27	50.8		688
1984	ET		1984	04	03.18750	11	02	47.16	+12	13	36.4	17.2	688
1984	ET		1984	04	03.27639	11	02	43.82	+12	13	55.8		688
1984	EU		1984	04	03.18750	11	05	47.13	+12	59	36.9	17.0	688
1984	EU		1984	04	03.27639	11	05	43.22	+12	59	53.5		688
1984	EV		1984	04	03.20972	11	06	29.67	+04	19	44.4	17.5	688
1984	EV		1984	04	03.29861	11	06	25.26	+04	19	49.7		688
1984	EX		1984	04	03.20972	11	10	41.79	+03	36	58.3	17.0	688
1984	EX		1984	04	03.29861	11	10	38.22	+03	37	07.7		688
1984	EY		1984	04	03.23194	11	29	56.27	+10	16	16.6	17.0	688
1984	EY		1984	04	03.32083	11	29	51.30	+10	16	19.0		688
1984	EY		1984	04	08.32986	11	25	53.75	+10	16	10.3	17.2	688
1984	EY		1984	04	08.36736	11	25	52.01	+10	16	08.8		688
1984	EZ		1984	04	03.23194	11	39	07.33	+12	09	51.4	16.2	688
1984	EZ		1984	04	03.32083	11	39	03.84	+12	10	35.5		688
1984	EZ		1984	04	08.32986	11	36	07.51	+12	48	37.2	16.5	688
1984	EZ		1984	04	08.36736	11	36	06.34	+12	48	51.7		688
1984	EA1		1984	04	03.23194	11	43	00.23	+13	46	01.0	17.2	688
1984	EA1		1984	04	03.32083	11	42	56.83	+13	46	28.9		688
1984	EA1		1984	04	08.32986	11	40	02.46	+14	10	06.7	17.5	688
1984	EA1		1984	04	08.36736	11	40	00.97	+14	10	18.1		688
1984	EC1		1984	04	03.23194	11	45	47.53	+15	46	44.4	17.2	688
1984	EC1		1984	04	03.32083	11	45	44.17	+15	47	10.4		688
1984	ED1		1984	03	01.23889	10	31	54.55	+13	40	53.6	17.0	688
1984	ED1		1984	03	01.27778	10	31	52.51	+13	41	18.0		688
1984	ED1		1984	03	06.19792	10	28	21.03	+14	31	14.9		688
1984	ED1		1984	03	06.22847	10	28	19.61	+14	31	32.8		688
1984	FC	*	1984	03	31.30278	12	51	48.96	-03	01	52.3	16.8	4 688
1984	FC		1984	03	31.34861	12	51	46.46	-03	01	42.2		688
1984	FC		1984	04	03.33611	12	48	51.90	-02	51	19.8	16.8	688
1984	FC		1984	04	03.37708	12	48	49.65	-02	51	15.5		688
1984	FD	*	1984	03	31.30278	12	54	04.66	-06	07	02.5	17.0	4 688
1984	FD		1984	03	31.34861	12	54	01.96	-06	06	53.3		688
1984	FD		1984	04	03.33611	12	51	06.89	-05	55	05.1	16.8	688
1984	FD		1984	04	03.37708	12	51	04.60	-05	54	57.3		688

1984 FE	*	1984	03	31.30278	12	55	10.38	-02	21	39.0	17.2	4 688
1984 FE		1984	03	31.34861	12	55	08.04	-02	21	16.3		3 688
1984 FE		1984	04	03.33611	12	52	22.25	-01	56	30.6	17.2	688
1984 FE		1984	04	03.37708	12	52	20.38	-01	56	14.4		688
1984 FF	*	1984	03	31.30278	12	56	44.74	-04	56	48.4	16.0	4 688
1984 FF		1984	03	31.34861	12	56	42.41	-04	56	30.1		688
1984 FF		1984	04	03.33611	12	54	18.42	-04	36	50.6	16.2	688
1984 FF		1984	04	03.37708	12	54	16.46	-04	36	36.4		688
1984 FG	*	1984	03	31.30278	13	01	47.21	-02	39	46.3	16.2	4 688
1984 FG		1984	03	31.34861	13	01	44.96	-02	39	38.5		688
1984 FG		1984	04	03.33611	12	59	20.59	-02	31	17.7	16.2	688
1984 FG		1984	04	03.37708	12	59	18.80	-02	31	11.7		688
1984 FH	*	1984	03	31.30278	13	01	47.54	-05	06	37.8	16.8	4 688
1984 FH		1984	03	31.34861	13	01	45.47	-05	06	17.0		688
1984 FH		1984	04	03.33611	12	59	39.78	-04	43	26.4	16.8	688
1984 FH		1984	04	03.37708	12	59	38.16	-04	43	08.4		688
1984 FJ	*	1984	03	31.30278	13	05	04.30	-06	35	34.3	17.0	4 688
1984 FJ		1984	03	31.34861	13	05	02.01	-06	35	18.2		688
1984 FK	*	1984	03	31.30278	13	14	39.75	-03	23	07.0	16.5	4 688
1984 FK		1984	03	31.34861	13	14	37.50	-03	22	43.2		3 688
1984 FK		1984	04	03.33611	13	12	05.05	-02	57	06.2	16.5	688
1984 FK		1984	04	03.37708	13	12	02.94	-02	56	48.7		688
1984 FM		1984	04	08.34861	13	19	56.65	+06	21	45.2	15.5	688
1984 FM		1984	04	08.38611	13	19	52.83	+06	21	13.5		688
1984 FP	*	1984	03	31.31806	13	37	58.57	-12	39	50.3	17.2	4 688
1984 FP		1984	03	31.36389	13	37	56.11	-12	39	34.8		688
1984 FQ	*	1984	03	31.31806	13	36	46.52	-15	56	02.6	16.8	4 688
1984 FQ		1984	03	31.36389	13	36	44.22	-15	55	41.5		688
1984 GA		1984	03	31.30278	12	55	06.84	-07	30	02.0	16.8	688
1984 GA		1984	03	31.34861	12	55	03.90	-07	29	51.4		688
1984 GA	*	1984	04	03.33611	12	51	55.76	-07	17	15.5	16.8	4 688
1984 GA		1984	04	03.37708	12	51	53.47	-07	17	06.2		688
1984 GB	*	1984	04	03.33611	12	54	53.63	-06	38	59.6	17.0	4 688
1984 GB		1984	04	03.37708	12	54	51.34	-06	38	52.5		688
1984 GC	*	1984	04	03.33611	13	11	34.10	-08	09	16.5	17.0	4 688
1984 GC		1984	04	03.37708	13	11	32.46	-08	09	03.0		688
1984 GJ	*	1984	04	08.34861	13	34	30.13	+07	20	12.8	16.5	4 688
1984 GJ		1984	04	08.38611	13	34	27.64	+07	20	08.4		688
2578 P-L		1984	04	03.20972	11	07	52.50	+04	54	46.7	17.0	688
2578 P-L		1984	04	03.29861	11	07	49.98	+04	55	15.9		688

Note 1: right ascension uncertain. 2: declination uncertain. 3 = 1 + 2. 4: discoverer Bowell. 5: correction to MPC 5957. 6: remeasurement of position on MPC 4730. 7: correction to and remeasurement of position on MPC 5172. 8: remeasurement of position on MPC 4730 and 8694; this object was discovered by N. G. Thomas.

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY.

Plates obtained with the 0.33-m photographic telescope. Observers C. W. Tombaugh in 1929-1931, H. L. Giclas and R. Burnham in 1958. Measured by E. L. G. Bowell using a PDS scanning microdensitometer. SAO reference stars, global solutions. Contact: E. L. G. Bowell, Lowell Observatory, P.O. Box 1269, Flagstaff, AZ 86002, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	N Obs.
113	1931	10 06.28472	01 04 07.47	-01 31 24.1	690
113	1931	10 07.27431	01 03 13.09	-01 37 47.4	690
113	1931	10 09.26528	01 01 23.50	-01 50 22.1	690
335	1931	10 06.28472	00 50 32.88	-01 12 24.7	690
335	1931	10 07.27431	00 49 41.02	-01 19 29.4	690
335	1931	10 09.26528	00 47 56.73	-01 33 22.4	690

384		1931	10	06.28472	00	52	13.18	-00	28	53.0	690
384		1931	10	07.27431	00	51	18.68	-00	32	24.4	690
384		1931	10	09.26528	00	49	29.02	-00	39	21.9	690
420		1931	02	18.40625	10	21	03.77	+00	12	38.2	690
420		1931	02	21.35764	10	18	58.23	+00	23	38.5	690
420		1931	02	23.26319	10	17	36.94	+00	31	06.9	690
578		1958	04	18.20486	11	58	15.70	+03	54	36.8	4 690
578		1958	04	22.21667	11	55	37.97	+04	00	27.6	6 690
758		1931	10	06.28472	01	00	56.69	-02	37	37.6	690
758		1931	10	07.27431	01	00	13.02	-02	42	22.9	690
758		1931	10	09.26528	00	58	45.26	-02	51	41.8	690
1071		1931	10	06.28472	00	53	27.72	-00	26	33.3	690
1071		1931	10	07.27431	00	52	36.48	-00	30	13.7	690
1071		1931	10	09.26528	00	50	53.15	-00	37	30.0	690
1112		1931	02	18.40625	10	29	07.69	+02	13	44.6	690
1112		1931	02	21.35764	10	26	40.66	+02	21	08.6	690
1112		1931	02	23.26319	10	25	05.43	+02	26	14.5	690
1378		1958	04	18.20486	11	53	21.94	+04	28	11.2	4 690
1378		1958	04	22.21667	11	51	00.93	+04	31	28.5	4 690
1383		1929	10	27.30903	03	01	25.92	+17	08	43.2	690
1383		1929	11	03.27986	02	55	41.30	+16	44	37.0	690
1577		1931	10	06.28472	01	07	07.28	-02	20	08.7	690
1577		1931	10	07.27431	01	06	17.26	-02	27	05.4	690
1577		1931	10	09.26528	01	04	35.28	-02	40	32.7	690
2188		1931	10	07.27431	01	00	17.62	+02	46	47.8	690
2188		1931	10	09.26528	00	58	43.05	+02	35	48.3	690
2854		1931	02	18.40625	10	28	14.23	+01	44	38.0	690
2854		1931	02	21.35764	10	25	06.72	+01	50	40.7	690
2854		1931	02	23.26319	10	23	03.52	+01	55	12.9	690
1929	UN	1929	10	27.30903	02	46	50.08	+21	12	36.5	690
1929	UP	1929	10	27.30903	03	00	52.10	+16	43	25.2	690
1929	UP	1929	11	03.27986	02	54	59.21	+16	14	28.3	1 690
1929	VE	1929	10	27.30903	03	05	43.76	+14	03	44.7	690
1929	VE	1929	11	03.27986	03	00	07.92	+13	42	49.0	690
1931	DT	1931	02	18.40625	10	26	02.35	-02	39	35.0	690
1931	DT	1931	02	21.35764	10	24	28.01	-02	34	30.5	690
1931	DT	1931	02	23.26319	10	23	26.86	-02	30	55.3	690
1931	DU	1931	02	18.40625	10	29	07.32	+01	56	25.7	690
1931	DU	1931	02	21.35764	10	26	49.33	+02	22	06.6	2 690
1931	DU	1931	02	23.26319	10	25	19.69	+02	39	12.0	690
1931	TF1	1931	10	06.28472	00	46	48.64	+03	17	56.1	690
1931	TF1	1931	10	07.27431	00	45	55.08	+03	09	55.0	690
1931	TF1	1931	10	09.26528	00	44	07.19	+02	53	49.2	690
1931	TJ1	1931	10	06.28472	00	50	07.43	+01	25	27.3	3 690
1931	TJ1	1931	10	07.27431	00	49	12.99	+01	18	29.5	3 690
1931	TJ1	1931	10	09.26528	00	47	23.64	+01	04	37.1	3 690
1931	TC4	1931	10	06.28472	00	41	06.99	-01	27	19.5	690
1931	TC4	1931	10	07.27431	00	40	11.77	-01	27	27.0	690
1931	TC4	1931	10	09.26528	00	38	21.68	-01	27	25.9	690
1931	TD4	1931	10	06.28472	00	46	30.27	-00	41	30.0	690
1931	TD4	1931	10	07.27431	00	45	45.84	-00	42	52.2	690
1931	TD4	1931	10	09.26528	00	44	20.48	-00	45	30.4	690
1931	TE4	1931	10	06.28472	00	48	03.14	-02	50	51.4	690
1931	TE4	1931	10	07.27431	00	47	18.99	-02	55	14.4	690
1931	TE4	1931	10	09.26528	00	45	50.44	-03	03	32.8	690
1931	TH4	1931	10	06.28472	01	05	55.04	-00	13	20.9	690
1931	TH4	1931	10	07.27431	01	04	55.44	-00	12	04.9	690
1931	TH4	1931	10	09.26528	01	02	55.24	-00	09	25.3	690
1931	TJ4	1931	10	06.28472	01	07	41.15	-00	46	50.6	690

1931 TJ4	1931 10 07.27431	01 07 01.09	-00 59 45.0			690
1931 TJ4	1931 10 09.26528	01 05 39.78	-01 25 34.1			690

Note 1: right ascension uncertain. 2: declination uncertain. 3: remeasurement of positions on MPC 4655. 4: asymmetric images at edge of plate. 6 = 2 + 4.

OBSERVATIONS MADE AT THE GOETHE LINK OBSERVATORY.

Plates measured and reduced at Indiana University under the direction of D. Owings in response to requests from the Minor Planet Center. Contact: F. K. Edmondson, Swain Hall West 319A, Indiana University, Bloomington, IN 47401, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
2924	1955 11	10.17362	02 03 18.88	+07 42 15.2		760
2924	1955 11	10.20972	02 03 17.04	+07 42 07.8		760
2949	1957 09	18.07005	22 27 34.43	-09 59 17.5		760
2972	1955 12	12.12465	04 21 46.79	+19 59 10.3		760
2972	1955 12	12.16421	04 21 44.44	+19 59 02.8		760
2972	1964 08	12.21389	20 36 46.50	-16 13 21.4		760
2972	1964 08	12.25764	20 36 44.12	-16 13 31.2		760
2976	1965 12	01.24853	04 16 51.14	+12 31 40.7		760
2976	1965 12	01.29853	04 16 48.70	+12 31 29.2		760
2996	1954 09	05.28747	00 19 25.52	+04 28 37.5		760
2996	1954 09	05.32706	00 19 23.76	+04 28 30.5		760
3002	1959 06	03.17743	14 59 29.41	-06 29 18.7		760
3002	1959 06	03.22287	14 59 27.51	-06 29 26.8		760
3005	1964 05	10.25764	15 49 38.07	-15 55 46.0		760
3005	1964 05	10.30069	15 49 36.03	-15 55 36.1		760
1950 NO	1950 07	10.23852	19 07 23.83	-22 27 00.3		760
1952 BJ2	1952 01	30.34442	08 45 36.76	+22 22 40.8		760
1955 FO	1955 03	20.18751	10 31 34.33	+23 11 07.5		760
1955 FO	1955 03	20.22988	10 31 32.17	+23 11 02.2		760
1955 QX	1955 08	24.32149	23 23 52.63	+16 47 35.2		760
1955 QX	1955 08	24.35413	23 23 50.89	+16 47 42.4		760
1955 RJ	1955 09	13.29368	23 03 53.93	-13 31 43.3	1	760
1955 RB1	1955 09	21.23223	00 14 34.13	+13 19 18.3		760
1955 RB1	1955 09	21.27182	00 14 32.07	+13 19 10.0		760
1955 SD	1955 09	16.08084	23 10 16.68	+20 18 48.3		760
1955 SD	1955 09	16.11626	23 10 14.58	+20 18 47.2		760
1957 JC	1957 05	02.15660	12 49 03.64	+03 53 28.8		760
1957 JC	1957 05	02.19825	12 49 02.27	+03 53 40.1		760

Note 1: the approximate position on MPC 1313 is inferior.

OBSERVATIONS MADE AT OAK RIDGE OBSERVATORY BY R. E. McCROSKY, C.-Y. SHAO AND G. SCHWARTZ.

Plates with the 1.5-m reflector, reduced using the Astrographic Catalogue. Coordination and verification by, and assistance with identifications from, C. M. Bardwell. Contact: R. E. McCrosky, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
741	1984 03	02.99637	04 01 13.83	+18 04 42.0	17		801
1685	1984 03	28.05616	07 11 42.83	+07 13 18.4			801
2795	1984 04	01.23055	11 01 33.26	-00 22 55.7			801
3024	1984 04	01.28098	11 48 30.37	+12 24 51.1			801
1935 TE	1984 03	27.21904	12 32 47.09	+12 00 29.3			801
1944 BA	1984 02	08.44289	14 06 54.98	+11 48 11.0			801
1944 BA	1984 03	08.41805	14 08 31.65	+15 49 15.9			801
1944 BA	1984 03	28.25804	13 57 27.35	+18 38 03.4			801
1949 GK	1984 02	02.43708	13 05 50.36	-06 57 32.3			801
1971 UP	1984 03	02.12386	07 48 12.16	+28 27 27.2			801

1971	UP		1984	04	02.07873	07	50	07.42	+27	15	48.7	801
1972	KE		1984	04	01.34468	14	38	27.80	+01	03	32.9	801
1972	QM		1984	03	27.20118	11	19	29.28	+05	44	17.6	801
1972	QM		1984	03	28.16628	11	18	40.51	+05	50	31.1	801
1972	YX		1984	04	04.09566	10	52	09.98	+13	29	49.2	801
1973	ST4		1984	04	01.23055	11	00	38.25	-00	19	27.5	801
1975	XP3		1984	03	27.26503	13	01	28.64	-07	13	22.3	801
1978	QB3		1984	04	02.17628	10	28	00.71	+10	09	32.9	801
1978	RS1		1984	04	04.14020	13	13	00.94	-00	04	21.9	801
1979	BA		1984	03	28.23036	10	00	17.26	+47	37	31.5	801
1979	SW11		1984	03	28.12594	10	41	36.89	+03	21	26.9	801
1980	DA		1984	03	02.36967	12	58	13.10	-12	35	41.4	801
1980	DA		1984	04	03.20277	12	32	20.54	-10	17	11.3	801
1980	GD		1984	03	28.29617	13	43	56.75	+11	42	42.6	801
1981	EF10		1984	03	27.08923	08	22	39.37	+12	45	29.9	801
1981	JD2		1984	03	01.36030	12	04	07.85	+05	22	18.9	801
1981	JD2		1984	03	28.20933	11	38	19.20	+07	46	55.5	17.5 1 801
1981	UX9		1984	03	27.38480	15	04	57.54	-07	23	59.9	801
1981	VB		1984	04	02.31886	14	45	22.45	-08	53	05.8	801
1982	BB		1984	03	27.35206	15	15	21.34	+20	25	03.6	801
1982	QQ		1984	03	28.27506	13	04	19.99	-03	28	17.5	801
1982	SM1		1984	03	08.32520	11	47	36.19	-02	45	40.6	801
1982	SM1		1984	04	01.25826	11	25	41.25	-00	27	07.9	801
1982	VX3		1984	03	03.08712	07	52	23.63	+19	55	13.7	801
1983	VA		1984	03	28.31630	14	20	10.02	+22	57	29.1	801
1983	WP		1984	04	04.02092	05	09	54.95	+27	35	47.7	801
1983	XF		1984	04	03.04668	06	59	19.98	+28	11	32.1	801
1984	AB		1984	04	02.05327	06	48	39.93	+37	09	38.8	801
1984	AP		1984	04	03.06964	06	58	19.40	+18	50	58.1	801
1984	AQ		1984	03	28.11088	06	56	44.35	+25	55	24.3	801
1984	BC		1984	04	02.19789	10	30	08.80	+44	54	42.8	801
1984	DA		1984	04	04.04411	08	38	55.03	+17	54	35.6	801
1984	DB		1984	03	27.11104	08	40	40.20	+17	56	18.9	801
1984	DC		1984	03	28.10085	09	39	16.78	+23	40	40.9	801
1984	FF1	*	1984	03	27.26503	13	01	40.90	-07	10	15.1	18 801
1984	FG1	*	1984	03	28.20933	11	37	50.74	+07	41	50.7	18 801
1984	FH1	*	1984	03	28.20933	11	38	57.80	+07	48	18.0	17.5 801
1984	FJ1	*	1984	03	28.20933	11	39	21.83	+07	46	21.2	17.5 801
1984	GB		1984	03	27.26503	13	01	26.32	-07	00	12.0	17 801
1984	GK	*	1984	04	01.28098	11	48	32.19	+12	15	06.1	17.5 801
1984	GL	*	1984	04	01.28098	11	48	58.39	+12	17	16.4	18.5 801
1984	GM	*	1984	04	02.22220	11	33	03.20	-08	27	57.2	17 801
1984	GN	*	1984	04	02.31886	14	46	43.62	-08	59	45.7	17.5 801
4120	P-L		1984	04	03.02287	06	33	10.43	+05	24	00.8	801
6081	P-L		1984	04	04.07056	09	12	06.73	+13	16	58.8	801
6091	P-L		1984	03	27.17952	11	03	19.61	+04	28	56.8	801
6550	P-L		1984	03	27.24114	12	51	57.73	-06	33	13.1	801
6627	P-L		1984	04	02.11115	09	21	06.77	+14	01	25.5	801

Note 1: measured in one direction only.

OBSERVATIONS MADE AT THE ESTACION DE ALTURA OF THE FELIX AGUILAR OBSERVATORY, EL LEONCITO, BY J. F. C. CALDEIRA.

Observations made with the 0.50-m f/7.5 astrograph. Contact: L. E. da Silva Machado, Observatorio do Valongo, 20080 Rio de Janeiro, Brazil.

Object	Date	UT	R. A. (1950)	Decl.	O - C	Obs.
25	1983 07	09.99785	13 00 21.66	-02 05 44.4	0.2+ 2-	808
25	1983 07	10.00685	13 00 22.30	-02 05 44.9	0.2+ 2-	808
25	1983 07	10.01585	13 00 22.88	-02 05 45.0	0.2+ 2-	808
25	1983 07	11.02697	13 01 32.64	-02 06 11.7	0.2+ 2-	808

25	1983 07 12.01039	13 02 41.40	-02 06 47.1	0.2+	2-			808
25	1983 07 12.01870	13 02 41.99	-02 06 47.4	0.2+	2-			808
25	1983 07 12.02701	13 02 42.58	-02 06 47.6	0.2+	2-			808
65	1983 07 11.34347	20 26 32.65	-16 03 25.1	0.1-	1-			808
65	1983 07 11.35178	20 26 32.32	-16 03 26.5	0.1-	1-			808
65	1983 07 11.36009	20 26 31.93	-16 03 27.8	0.1-	1-			808
66	1983 07 10.33927	20 24 50.38	-23 54 11.1	0.2-	0			808
66	1983 07 10.34834	20 24 49.93	-23 54 12.8	0.2-	0			808
66	1983 07 10.35728	20 24 49.46	-23 54 14.4	0.2-	0			808
66	1983 07 11.30746	20 24 00.96	-23 57 12.2	0.2-	0			808
66	1983 07 11.31577	20 24 00.54	-23 57 13.8	0.2-	0			808
66	1983 07 11.32408	20 24 00.13	-23 57 15.8	0.2-	0			808
200	1983 07 10.33927	20 28 06.24	-24 00 25.7	0.2-	0			808
200	1983 07 10.34834	20 28 05.78	-24 00 26.2	0.2-	0			808
200	1983 07 10.35728	20 28 05.33	-24 00 27.0	0.2-	0			808
200	1983 07 11.30746	20 27 16.68	-24 01 53.7	0.2-	0			808
200	1983 07 11.31577	20 27 16.23	-24 01 54.6	0.2-	0			808
200	1983 07 11.32408	20 27 15.81	-24 01 55.5	0.2-	0			808
354	1983 07 10.11697	16 33 38.13	+00 52 21.6	0.3+	2-			808
354	1983 07 10.12597	16 33 37.92	+00 52 17.8	0.3+	2-			808
354	1983 07 10.13497	16 33 37.72	+00 52 13.4	0.3+	2-			808
354	1983 07 12.11012	16 32 50.69	+00 37 32.1	0.3+	1-			808
354	1983 07 12.11843	16 32 50.49	+00 37 28.6	0.3+	1-			808
354	1983 07 12.12674	16 32 50.26	+00 37 25.1	0.3+	1-			808
389	1983 07 10.07126	13 54 56.66	-19 30 02.3	0.3+	2-			808
389	1983 07 10.08026	13 54 57.04	-19 30 01.9	0.3+	2-			808
389	1983 07 10.08926	13 54 57.43	-19 30 01.5	0.3+	2-			808
389	1983 07 12.07688	13 56 28.63	-19 28 37.6	0.3+	2-			808
389	1983 07 12.08519	13 56 28.98	-19 28 37.1	0.3+	2-			808
389	1983 07 12.09350	13 56 29.34	-19 28 36.8	0.3+	2-			808
704	1983 07 12.04294	13 09 48.47	-24 40 26.9	0.1+	1-			808
704	1983 07 12.05125	13 09 48.78	-24 40 25.4	0.1+	1-			808
704	1983 07 12.05956	13 09 49.09	-24 40 23.9	0.1+	1-			808

OBSERVATIONS MADE AT THE EUROPEAN SOUTHERN OBSERVATORY.

Observations made with the 0.40-m f/10 GPO astrograph by H. Debehogne and R. R. de Freitas Mourao. Contact: L. E. da Silva Machado, Observatorio do Valongo, 20080 Rio de Janeiro, Brazil.

Object	Date	UT	R. A. (1950)	Decl.	O - C		Mag.	Obs.
202	1981 08 31.32806	22 14 48.49	-14 30 44.4	0.0	1+			809
202	1981 08 31.33326	22 14 48.28	-14 30 46.2	0.0	1+			809
202	1981 08 31.33862	22 14 48.05	-14 30 47.7	0.0	0			809
202	1981 09 02.28165	22 13 25.09	-14 42 05.0	0.0	0			809
202	1981 09 02.28684	22 13 24.87	-14 42 06.8	0.0	0			809
202	1981 09 02.29204	22 13 24.65	-14 42 08.8	0.0	0			809
202	1981 09 03.22490	22 12 45.17	-14 47 28.0	0.0	0			809
202	1981 09 03.23113	22 12 44.89	-14 47 30.4	0.0	0			809
202	1981 09 03.23737	22 12 44.64	-14 47 32.8	0.0	0			809
202	1981 09 06.18416	22 10 41.72	-15 03 58.3	0.1+	1+			809
202	1981 09 06.18970	22 10 41.47	-15 03 59.8	0.1+	1+			809
202	1981 09 06.19524	22 10 41.24	-15 04 01.6	0.1+	1+			809
202	1981 09 06.20078	22 10 41.01	-15 04 03.2	0.1+	1+			809
555	1981 08 25.18368	22 13 14.21	-12 23 42.1	0.0	0			809
555	1981 08 25.18991	22 13 13.94	-12 23 43.8	0.0	0			809
555	1981 08 25.19615	22 13 13.66	-12 23 45.5	0.0	0			809
555	1981 08 26.11308	22 12 34.02	-12 27 54.5	0.0	0			809
555	1981 08 26.11931	22 12 33.74	-12 27 56.3	0.0	0			809
555	1981 08 26.12555	22 12 33.49	-12 27 58.1	0.0	0			809
555	1981 09 02.11059	22 07 33.18	-12 58 47.1	0.0	0			809

555		1981	09	02.11648	22	07	32.90	-12	58	48.9	0.0	0		809
555		1981	09	02.21170	22	07	28.83	-12	59	13.9	0.0	0		809
555		1981	09	02.22018	22	07	28.43	-12	59	16.0	0.0	0		809
1225		1981	09	02.12963	22	09	55.17	-14	54	40.2	0.1+	0		809
1225		1981	09	02.13552	22	09	54.86	-14	54	41.6	0.1+	0		809
1225		1981	09	02.28684	22	09	45.04	-14	55	09.8	0.1+	0		809
1225		1981	09	02.29204	22	09	44.72	-14	55	11.6	0.1+	0		809
1225		1981	09	03.17850	22	08	51.61	-14	58	38.1	0.1+	0		809
1225		1981	09	03.18441	22	08	51.28	-14	58	39.1	0.1+	0		809
1225		1981	09	03.19125	22	08	50.89	-14	58	40.2	0.1+	0		809
1225		1981	09	03.22490	22	08	48.74	-14	58	48.0	0.1+	0		809
1225		1981	09	03.23113	22	08	48.37	-14	58	49.5	0.1+	0		809
1225		1981	09	03.23737	22	08	48.00	-14	58	50.9	0.1+	0		809
1225		1981	09	06.18416	22	05	54.52	-15	09	37.0	0.2+	1+		809
1225		1981	09	06.18970	22	05	54.21	-15	09	38.1	0.2+	1+		809
1225		1981	09	06.19524	22	05	53.86	-15	09	39.4	0.2+	1+		809
1225		1981	09	06.20078	22	05	53.54	-15	09	40.7	0.2+	1+		809
1381		1981	08	31.32806	22	16	15.01	-13	36	56.0	0.0	1+		809
1381		1981	08	31.33326	22	16	14.70	-13	36	56.7	0.0	1+		809
1381		1981	08	31.33862	22	16	14.41	-13	36	57.4	0.0	1+		809
1381		1981	09	01.12059	22	15	29.80	-13	38	35.0	0.0	1+		809
1381		1981	09	01.12648	22	15	29.48	-13	38	35.7	0.0	1+		809
1381		1981	09	01.13236	22	15	29.14	-13	38	36.7	0.0	1+		809
1381		1981	09	01.21374	22	15	24.29	-13	38	46.8	0.0	1+		809
1381		1981	09	01.21997	22	15	23.93	-13	38	47.4	0.0	1+		809
1381		1981	09	02.11059	22	14	33.05	-13	40	34.4	0.0	1+		809
1381		1981	09	02.11648	22	14	32.71	-13	40	35.3	0.0	1+		809
1381		1981	09	02.12236	22	14	32.35	-13	40	36.2	0.0	1+		809
1381		1981	09	02.21170	22	14	26.96	-13	40	47.5	0.0	1+		809
1381		1981	09	02.22018	22	14	26.47	-13	40	48.5	0.0	1+		809
1381		1981	09	02.22901	22	14	25.99	-13	40	49.6	0.0	1+		809
1381		1981	09	02.26087	22	14	24.07	-13	40	52.8	0.0	1+		809
1381		1981	09	02.26687	22	14	23.69	-13	40	53.5	0.0	1+		809
1381		1981	09	02.27265	22	14	23.34	-13	40	54.2	0.0	1+		809
1381		1981	09	03.22490	22	13	29.24	-13	42	44.9	0.0	0		809
1381		1981	09	03.23113	22	13	28.89	-13	42	45.3	0.0	0		809
2003		1981	09	03.17850	22	06	06.43	-14	30	52.0	0.0	0		809
2003		1981	09	03.18441	22	06	06.15	-14	30	53.3	0.0	0		809
2707		1981	09	02.28684	22	14	59.34	-14	54	29.5			16.5	809
2707		1981	09	02.29204	22	14	59.11	-14	54	31.2				809
2707		1981	09	03.22490	22	14	17.44	-14	58	20.2				809
2707		1981	09	03.23113	22	14	17.13	-14	58	22.1				809
2707		1981	09	03.23737	22	14	16.84	-14	58	23.7				809
2707		1981	09	06.18416	22	12	06.89	-15	10	07.0				809
2707		1981	09	06.18970	22	12	06.61	-15	10	08.0				809
2707		1981	09	06.19524	22	12	06.34	-15	10	09.1				809
2707		1981	09	06.20078	22	12	06.08	-15	10	10.4				809
1981	QN2	1981	09	01.12059	22	15	38.41	-12	47	42.7			17.0	809
1981	QN2	1981	09	01.12648	22	15	38.18	-12	47	44.8				809
1981	QN2	1981	09	01.13236	22	15	37.96	-12	47	46.9				809
1981	QN2	1981	09	01.20751	22	15	34.75	-12	48	16.0				809
1981	QN2	1981	09	01.21374	22	15	34.50	-12	48	18.3				809
1981	QN2	1981	09	01.21997	22	15	34.22	-12	48	20.5				809
1981	QN2	1981	09	02.11059	22	14	58.38	-12	53	57.3				809
1981	QN2	1981	09	02.11648	22	14	58.14	-12	53	59.8				809
1981	QN2	1981	09	02.12236	22	14	57.89	-12	54	01.7				809
1981	QN2	1981	09	02.21170	22	14	54.03	-12	54	35.1				809
1981	QN2	1981	09	02.22018	22	14	53.67	-12	54	38.3				809
1981	QN2	1981	09	02.22901	22	14	53.33	-12	54	41.3				809

1981	QN2	1981	09	02.26087	22	14	51.92	-12	54	54.3	809
1981	QN2	1981	09	02.26687	22	14	51.67	-12	54	56.7	809
1981	QN2	1981	09	02.27265	22	14	51.43	-12	54	58.9	809
1981	QO2	1981	09	01.12059	22	15	09.05	-12	29	58.2	17.6 809
1981	QO2	1981	09	01.12648	22	15	08.78	-12	29	59.9	809
1981	QO2	1981	09	01.13236	22	15	08.52	-12	30	01.5	809
1981	QO2	1981	09	01.20751	22	15	05.10	-12	30	20.1	809
1981	QO2	1981	09	01.21374	22	15	04.82	-12	30	21.1	809
1981	QO2	1981	09	01.21997	22	15	04.54	-12	30	22.6	809
1981	QO2	1981	09	02.26087	22	14	17.99	-12	34	19.4	809
1981	QO2	1981	09	02.26687	22	14	17.73	-12	34	20.8	809
1981	QO2	1981	09	02.27265	22	14	17.48	-12	34	22.1	809
1981	QQ2	1981	09	02.28165	22	14	17.18	-13	59	16.0	17.9 809
1981	QQ2	1981	09	02.28684	22	14	16.90	-13	59	18.7	809
1981	QQ2	1981	09	02.29204	22	14	16.60	-13	59	21.8	809
1981	QQ2	1981	09	06.19524	22	11	11.75	-14	30	49.7	809
1981	QQ2	1981	09	06.20078	22	11	11.47	-14	30	51.8	809
1981	QR2	1981	09	01.12059	22	15	23.06	-12	30	30.3	17.3 809
1981	QR2	1981	09	01.12648	22	15	22.76	-12	30	30.5	809
1981	QR2	1981	09	01.13236	22	15	22.45	-12	30	30.5	809
1981	QR2	1981	09	01.20751	22	15	18.29	-12	30	34.1	809
1981	QR2	1981	09	01.21374	22	15	17.96	-12	30	34.3	809
1981	QR2	1981	09	01.21997	22	15	17.62	-12	30	34.1	809
1981	QR2	1981	09	02.11648	22	14	32.13	-12	31	01.4	809
1981	QR2	1981	09	02.12236	22	14	31.83	-12	31	01.9	809
1981	QR2	1981	09	02.21170	22	14	26.84	-12	31	04.6	809
1981	QR2	1981	09	02.22018	22	14	26.43	-12	31	04.8	809
1981	QR2	1981	09	02.22901	22	14	26.00	-12	31	05.1	809
1981	QR2	1981	09	02.26087	22	14	24.14	-12	31	05.7	809
1981	QR2	1981	09	02.26687	22	14	23.82	-12	31	06.0	809
1981	QR2	1981	09	02.27265	22	14	23.50	-12	31	06.1	809
1981	QS2	1981	09	01.12059	22	15	45.90	-13	07	52.8	17.8 809
1981	QS2	1981	09	01.12648	22	15	45.58	-13	07	55.0	809
1981	QS2	1981	09	01.13236	22	15	45.29	-13	07	57.3	809
1981	QS2	1981	09	02.26087	22	14	44.49	-13	15	27.8	809
1981	QS2	1981	09	02.26687	22	14	44.20	-13	15	29.9	809
1981	QS2	1981	09	02.27265	22	14	43.90	-13	15	32.1	809
1981	QY2	1981	08	25.18368	22	19	09.15	-11	58	52.8	18.2 809
1981	QY2	1981	08	25.18991	22	19	08.83	-11	58	54.6	809
1981	QY2	1981	08	25.19615	22	19	08.53	-11	58	56.2	809
1981	QY2	1981	08	26.11308	22	18	25.33	-12	03	50.0	809
1981	QY2	1981	08	26.11931	22	18	25.04	-12	03	52.0	809
1981	QY2	1981	08	26.12555	22	18	24.75	-12	03	53.8	809
1981	QY2	1981	09	01.12059	22	13	43.46	-12	35	31.7	809
1981	QY2	1981	09	01.12648	22	13	43.23	-12	35	33.6	809
1981	QY2	1981	09	01.13236	22	13	42.99	-12	35	35.1	809
1981	QY2	1981	09	01.21374	22	13	39.05	-12	36	00.9	809
1981	QY2	1981	09	01.21997	22	13	38.74	-12	36	03.1	809
1981	QZ2	1981	08	26.11308	22	18	39.90	-11	42	21.0	17.7 809
1981	QZ2	1981	08	26.11931	22	18	39.59	-11	42	22.9	809
1981	QZ2	1981	08	26.12555	22	18	39.33	-11	42	24.6	809
1981	QZ2	1981	09	01.12059	22	14	16.51	-12	10	56.4	809
1981	QZ2	1981	09	01.12648	22	14	16.26	-12	10	58.3	809
1981	QZ2	1981	09	01.13236	22	14	16.00	-12	11	00.1	809
1981	QZ2	1981	09	01.20751	22	14	12.61	-12	11	21.0	809
1981	QZ2	1981	09	01.21374	22	14	12.34	-12	11	22.9	809
1981	QZ2	1981	09	01.21997	22	14	12.07	-12	11	24.9	809
1981	QZ2	1981	09	02.21170	22	13	29.58	-12	15	58.5	809
1981	QZ2	1981	09	02.22018	22	13	29.21	-12	16	00.8	809

1981	QZ2	1981	09	02.22901	22	13	28.81	-12	16	02.9	809
1981	QZ2	1981	09	02.26087	22	13	27.32	-12	16	11.7	809
1981	QZ2	1981	09	02.26687	22	13	27.08	-12	16	13.3	809
1981	QZ2	1981	09	02.27265	22	13	26.83	-12	16	14.8	809
1981	QB3	1981	08	25.18368	22	13	05.82	-12	32	03.4	17.6 809
1981	QB3	1981	08	25.18991	22	13	05.58	-12	32	05.7	809
1981	QB3	1981	08	25.19615	22	13	05.34	-12	32	08.1	809
1981	QB3	1981	08	26.11308	22	12	27.90	-12	37	46.2	809
1981	QB3	1981	08	26.11931	22	12	27.62	-12	37	48.3	809
1981	QB3	1981	08	26.12555	22	12	27.33	-12	37	50.6	809
1981	QB3	1981	09	02.21170	22	07	40.98	-13	20	04.5	809
1981	QB3	1981	09	02.22901	22	07	40.43	-13	20	09.8	809
1981	QC3	1981	08	25.18368	22	17	13.61	-12	39	42.6	17.8 809
1981	QC3	1981	08	25.18991	22	17	13.43	-12	39	46.8	809
1981	QC3	1981	08	25.19615	22	17	13.23	-12	39	50.8	809
1981	QC3	1981	09	03.22490	22	12	57.48	-14	15	05.7	809
1981	QC3	1981	09	03.23113	22	12	57.32	-14	15	09.1	809
1981	QC3	1981	09	03.23737	22	12	57.14	-14	15	13.2	809
1981	QC3	1981	09	06.18416	22	11	43.04	-14	44	07.3	809
1981	QC3	1981	09	06.18970	22	11	42.93	-14	44	10.2	809
1981	QC3	1981	09	06.19524	22	11	42.79	-14	44	13.5	809
1981	QC3	1981	09	06.20078	22	11	42.65	-14	44	16.9	809
1981	QG3	1981	08	26.11308	22	14	09.64	-11	12	12.7	17.6 809
1981	QG3	1981	08	26.11931	22	14	09.35	-11	12	18.9	809
1981	QG3	1981	08	26.12555	22	14	09.07	-11	12	25.0	809
1981	QG3	1981	09	02.21170	22	09	09.98	-13	00	37.8	809
1981	QG3	1981	09	02.22018	22	09	09.61	-13	00	45.9	809

OBSERVATIONS MADE AT SAN FERNANDO.

Contact: L. Quijano, Instituto y Observatorio de Marina, San Fernando, Cadiz, Spain.

Object	Date	UT	R. A. (1950)			Decl.			Obs.
1	1977	03 18.06042	12	46	04.30	+13	14	58.3	983
1	1977	03 18.06250	12	46	04.24	+13	14	58.9	983
1	1977	03 18.06458	12	46	04.12	+13	14	59.7	983
1	1977	03 24.04097	12	41	07.32	+13	45	43.1	983
1	1977	03 24.04306	12	41	07.21	+13	45	43.4	983
1	1977	03 24.04514	12	41	07.08	+13	45	44.2	983
1	1977	04 14.96806	12	22	52.97	+14	40	17.0	983
1	1977	04 14.97014	12	22	52.85	+14	40	17.2	983
1	1977	04 14.97222	12	22	52.76	+14	40	17.2	983
1	1977	04 15.96458	12	22	09.75	+14	40	12.2	983
1	1977	04 15.96667	12	22	09.67	+14	40	12.3	983
1	1977	04 15.96875	12	22	09.56	+14	40	12.3	983
1	1977	04 23.98889	12	17	01.74	+14	30	58.6	983
1	1977	04 23.99097	12	17	01.66	+14	30	58.4	983
1	1977	04 23.99306	12	17	01.58	+14	30	58.0	983
1	1977	05 10.91389	12	10	55.81	+13	26	20.7	983
1	1977	05 10.91597	12	10	55.78	+13	26	19.9	983
1	1977	05 10.91806	12	10	55.77	+13	26	19.2	983
1	1977	05 11.91737	12	10	47.21	+13	20	50.1	983
1	1977	05 13.88819	12	10	34.69	+13	09	31.7	983
1	1977	05 13.89028	12	10	34.67	+13	09	31.0	983
1	1977	05 13.89236	12	10	34.66	+13	09	30.4	983
1	1977	05 14.94167	12	10	30.19	+13	03	14.0	983
1	1977	05 14.94375	12	10	30.18	+13	03	13.3	983
1	1977	05 14.94653	12	10	30.18	+13	03	12.3	983
1	1977	05 17.95903	12	10	26.67	+12	44	15.2	983
1	1977	05 17.96111	12	10	26.68	+12	44	14.5	983

1		1977	05	17.96319	12	10	26.67	+12 44 13.7	983
1		1977	05	19.91319	12	10	31.52	+12 31 15.6	983
1		1977	05	19.91528	12	10	31.51	+12 31 14.4	983
1		1977	05	19.91736	12	10	31.52	+12 31 13.5	983
1		1977	05	20.90694	12	10	36.04	+12 24 26.3	983
1		1977	05	20.91181	12	10	36.06	+12 24 24.3	983
1		1977	05	20.91667	12	10	36.08	+12 24 22.2	983
1		1977	05	24.03194	12	10	59.24	+12 02 09.1	983
1		1977	05	24.04236	12	10	59.34	+12 02 04.6	983
1		1977	05	24.04514	12	10	59.35	+12 02 03.1	983
1		1977	05	25.00972	12	11	09.36	+11 54 55.7	983
1		1977	05	25.01458	12	11	09.40	+11 54 53.5	983
1		1977	05	25.01932	12	11	09.47	+11 54 51.4	983
1		1977	05	26.05278	12	11	21.57	+11 47 05.8	983
1		1977	05	26.05556	12	11	21.60	+11 47 04.5	983
1		1977	05	26.05833	12	11	21.66	+11 47 03.2	983
1		1977	06	10.92778	12	17	18.10	+09 33 58.5	983
1		1977	06	10.93264	12	17	18.26	+09 33 55.8	983
1		1977	06	10.93750	12	17	18.41	+09 33 53.2	983
1		1977	06	13.92431	12	18	58.35	+09 06 23.1	983
1		1977	06	13.92917	12	18	58.52	+09 06 20.3	983
1		1977	06	13.93403	12	18	58.67	+09 06 17.6	983
1		1977	06	14.90069	12	19	33.16	+08 57 15.4	983
1		1977	06	14.90556	12	19	33.32	+08 57 12.7	983
1		1977	06	14.91042	12	19	33.49	+08 57 09.9	983
1		1977	06	20.94724	12	23	29.81	+07 59 19.2	983
1		1977	06	20.95209	12	23	30.02	+07 59 16.4	983
1		1977	06	20.95694	12	23	30.23	+07 59 13.5	983
1		1977	07	04.93750	12	34	45.10	+05 37 50.1	983
1		1977	07	04.94236	12	34	45.33	+05 37 47.0	983
1		1977	07	04.94722	12	34	45.59	+05 37 44.1	983
2		1977	03	17.88819	08	38	01.46	-04 18 17.1	983
2		1977	03	17.89375	08	38	01.52	-04 18 08.7	983
2		1977	03	17.89583	08	38	01.56	-04 18 05.8	983
2		1977	03	23.91875	08	39	48.10	-01 51 21.8	983
2		1977	03	23.92083	08	39	48.15	-01 51 18.8	983
2		1977	03	23.92292	08	39	48.20	-01 51 15.9	983
2		1977	04	14.86528	08	54	47.39	+05 26 13.9	983
2		1977	04	14.86736	08	54	47.49	+05 26 15.8	983
2		1977	04	14.86944	08	54	47.60	+05 26 18.1	983
3		1977	05	18.00694	15	30	41.55	-02 01 36.9	983
3		1977	05	18.01042	15	30	41.38	-02 01 36.1	983
3		1977	05	18.01389	15	30	41.19	-02 01 35.4	983
3		1977	05	19.98889	15	29	04.41	-01 54 08.0	983
3		1977	05	19.99306	15	29	04.18	-01 54 07.0	983
3		1977	05	19.99722	15	29	03.98	-01 54 06.1	983
3		1977	05	20.99583	15	28	15.28	-01 50 32.4	983
3		1977	05	21.00000	15	28	15.07	-01 50 31.5	983
3		1977	05	21.00625	15	28	14.78	-01 50 30.2	983
3		1977	05	25.03542	15	25	01.07	-01 37 29.6	983
3		1977	05	25.05069	15	25	00.32	-01 37 26.8	983
3		1977	05	26.07431	15	24	12.07	-01 34 30.2	983
3		1977	05	26.08056	15	24	11.75	-01 34 29.0	983
3		1977	05	26.08681	15	24	11.47	-01 34 27.9	983
3		1977	06	10.94653	15	13	07.08	-01 08 26.5	983
3		1977	06	10.95278	15	13	06.84	-01 08 26.5	983
3		1977	06	10.95694	15	13	06.72	-01 08 26.1	983
3		1977	06	13.94139	15	11	24.29	-01 07 41.9	983
3		1977	06	13.94514	15	11	24.52	-01 07 41.9	983

3	1977	06	13.94764	15	11	24.07	-01	07	41.9	983
3	1977	06	14.92083	15	10	53.07	-01	07	44.3	983
3	1977	06	14.92708	15	10	52.86	-01	07	44.3	983
3	1977	06	14.93333	15	10	52.64	-01	07	44.2	983
3	1977	06	15.93472	15	10	21.38	-01	07	55.8	983
3	1977	06	15.94115	15	10	21.17	-01	07	55.6	983
3	1977	06	15.94661	15	10	21.00	-01	07	56.0	983
3	1977	06	20.96528	15	08	00.31	-01	11	01.1	983
3	1977	06	20.97153	15	08	00.13	-01	11	01.3	983
3	1977	06	20.97778	15	07	59.96	-01	11	01.8	983
3	1977	07	06.92778	15	03	42.75	-01	42	24.7	983
3	1977	07	06.93403	15	03	42.70	-01	42	25.7	983
3	1977	07	06.94028	15	03	42.65	-01	42	26.9	983
3	1977	08	09.88819	15	10	29.33	-04	06	43.2	983
3	1977	08	09.89444	15	10	29.51	-04	06	45.0	983
3	1977	08	09.90069	15	10	29.68	-04	06	47.0	983
3	1977	08	18.88194	15	15	28.92	-04	55	00.5	983
3	1977	08	18.88611	15	15	29.06	-04	55	01.7	983
3	1977	08	18.89028	15	15	29.21	-04	55	03.4	983
3	1977	08	18.89549	15	15	29.52	-04	55	05.3	983
3	1977	08	18.89896	15	15	29.59	-04	55	06.3	983
3	1977	08	18.90243	15	15	29.77	-04	55	07.3	983
4	1977	03	17.87431	06	51	58.02	+26	03	34.0	983
4	1977	03	17.87639	06	51	58.07	+26	03	34.0	983
4	1977	03	17.87847	06	51	58.15	+26	03	34.2	983
4	1977	03	18.86319	06	52	33.80	+26	03	44.6	983
4	1977	03	18.86528	06	52	33.87	+26	03	45.0	983
4	1977	03	18.86806	06	52	33.95	+26	03	44.9	983
6	1977	11	15.21076	10	36	40.79	+08	04	37.6	983
6	1977	11	15.21632	10	36	41.17	+08	04	36.8	983
6	1977	11	15.22187	10	36	41.53	+08	04	35.8	983
7	1977	11	15.18924	09	57	01.61	+08	20	20.1	983
7	1977	11	15.19479	09	57	02.00	+08	20	17.0	983
7	1977	11	15.20035	09	57	02.35	+08	20	14.0	983
11	1977	05	21.12378	18	21	43.70	-18	00	27.4	983
11	1977	05	21.12986	18	21	43.54	-18	00	27.2	983
11	1977	05	21.13611	18	21	43.39	-18	00	26.9	983
11	1977	05	26.16111	18	19	24.06	-18	01	59.2	983
11	1977	05	26.16736	18	19	23.83	-18	01	59.2	983
11	1977	05	26.17361	18	19	23.63	-18	01	59.4	983
11	1977	06	15.02292	18	04	02.46	-18	23	21.8	983
11	1977	06	15.02917	18	04	02.10	-18	23	22.8	983
11	1977	06	15.03611	18	04	01.69	-18	23	23.5	983
11	1977	06	21.03403	17	58	09.86	-18	34	07.7	983
11	1977	06	21.04028	17	58	09.46	-18	34	08.3	983
11	1977	06	21.04653	17	58	09.08	-18	34	09.0	983
11	1977	07	07.00278	17	42	59.48	-19	09	50.6	983
11	1977	07	07.00625	17	42	59.29	-19	09	51.1	983
11	1977	07	07.00972	17	42	59.10	-19	09	51.7	983
11	1977	08	08.91667	17	29	42.44	-20	44	30.3	983
11	1977	08	08.92292	17	29	42.47	-20	44	31.2	983
11	1977	08	08.92917	17	29	42.52	-20	44	32.4	983
11	1977	08	11.91285	17	30	12.90	-20	53	51.9	983
11	1977	08	11.91840	17	30	12.95	-20	53	52.7	983
11	1977	08	11.92604	17	30	13.02	-20	53	53.7	983
18	1977	05	18.05486	16	39	51.07	-05	37	35.7	983
18	1977	05	18.05833	16	39	50.88	-05	37	34.8	983
18	1977	05	18.06181	16	39	50.67	-05	37	34.1	983
18	1977	05	21.02240	16	37	04.67	-05	26	16.9	983

18	1977	05	21.02847	16	37	04.30	-05	26	15.6	983
18	1977	05	21.03472	16	37	03.94	-05	26	14.0	983
18	1977	05	26.10417	16	32	05.36	-05	09	32.4	983
18	1977	05	26.11042	16	32	04.96	-05	09	31.2	983
18	1977	05	26.11667	16	32	04.58	-05	09	30.1	983
18	1977	06	13.97292	16	13	13.16	-04	43	21.7	983
18	1977	06	13.97917	16	13	12.81	-04	43	22.1	983
18	1977	06	13.98542	16	13	12.47	-04	43	22.0	983
18	1977	06	14.94653	16	12	19.18	-04	43	43.3	983
18	1977	06	14.95278	16	12	18.82	-04	43	43.6	983
18	1977	06	14.95903	16	12	18.46	-04	43	43.5	983
18	1977	06	20.99167	16	07	04.29	-04	49	51.8	983
18	1977	06	20.99792	16	07	03.99	-04	49	52.6	983
18	1977	06	21.00417	16	07	03.66	-04	49	53.0	983
18	1977	07	06.95278	15	57	06.31	-05	36	19.9	983
18	1977	07	06.95903	15	57	06.15	-05	36	21.6	983
18	1977	07	06.96528	15	57	06.01	-05	36	23.0	983
18	1977	08	09.91042	15	59	07.76	-08	58	31.3	983
18	1977	08	09.91667	15	59	07.97	-08	58	33.4	983
18	1977	08	09.92292	15	59	08.13	-08	58	36.6	983
25	1977	09	22.16771	06	21	38.48	+08	52	14.6	983
25	1977	09	22.17465	06	21	38.72	+08	52	11.3	983
25	1977	09	22.18160	06	21	39.17	+08	52	07.9	983
25	1977	11	08.15590	06	36	48.14	+01	17	36.6	983
25	1977	11	08.16285	06	36	48.04	+01	17	32.2	983
25	1977	11	08.17049	06	36	47.89	+01	17	27.9	983
25	1977	11	15.13507	06	34	18.03	+00	09	50.9	983
25	1977	11	15.14201	06	34	17.82	+00	09	42.9	983
25	1977	11	15.14896	06	34	17.63	+00	09	42.8	983
39	1977	05	21.09861	17	56	03.39	-08	23	06.7	983
39	1977	05	21.10486	17	56	03.18	-08	23	06.0	983
39	1977	05	21.11111	17	56	02.96	-08	23	05.0	983
39	1977	05	26.13056	17	53	00.36	-08	10	44.6	983
39	1977	05	26.13681	17	53	00.15	-08	10	43.7	983
39	1977	05	26.14306	17	52	59.88	-08	10	42.8	983
39	1977	06	14.00764	17	38	13.76	-07	48	52.2	983
39	1977	06	14.01389	17	38	13.42	-07	48	52.2	983
39	1977	06	14.02014	17	38	13.10	-07	48	52.2	983
39	1977	07	06.98125	17	19	22.58	-08	23	53.2	983
39	1977	07	06.98472	17	19	22.44	-08	23	53.8	983
39	1977	07	06.98819	17	19	22.30	-08	23	54.6	983
39	1977	08	08.89097	17	08	11.28	-10	49	33.3	983
39	1977	08	08.89722	17	08	11.28	-10	49	35.5	983
39	1977	08	08.90347	17	08	11.31	-10	49	37.2	983
39	1977	08	11.88958	17	08	29.37	-11	05	57.1	983
39	1977	08	11.89583	17	08	29.42	-11	05	58.9	983
39	1977	08	11.90208	17	08	29.47	-11	06	01.0	983
39	1977	09	16.85000	17	28	25.70	-14	24	04.0	983
39	1977	09	16.85417	17	28	25.93	-14	24	05.5	983
39	1977	09	16.85833	17	28	26.17	-14	24	06.5	983
40	1977	09	22.11840	04	59	00.91	+18	53	16.8	983
40	1977	09	22.12396	04	59	01.18	+18	53	17.1	983
40	1977	09	22.13021	04	59	01.51	+18	53	17.6	983
40	1977	09	23.12535	04	59	52.37	+18	54	18.2	983
40	1977	09	23.13090	04	59	52.65	+18	54	18.4	983
40	1977	09	23.13646	04	59	52.91	+18	54	18.8	983
40	1977	11	08.09410	05	05	25.50	+19	10	56.6	983
40	1977	11	08.09965	05	05	25.27	+19	10	56.5	983
40	1977	11	08.10521	05	05	25.02	+19	10	56.8	983

40	1977	11	15.07465	04	59	55.58	+19	11	11.1	983
40	1977	11	15.08021	04	59	55.25	+19	11	11.2	983
40	1977	11	15.08576	04	59	54.95	+19	11	11.2	983
40	1977	11	16.07118	04	59	01.53	+19	11	11.7	983
40	1977	11	16.07743	04	59	01.17	+19	11	11.6	983
40	1977	11	16.08299	04	59	00.85	+19	11	11.8	983
148	1977	09	22.14028	04	13	51.47	-13	01	55.3	983
148	1977	09	22.14653	04	13	51.65	-13	02	00.2	983
148	1977	09	22.15278	04	13	51.88	-13	02	05.3	983
148	1977	09	23.14722	04	14	26.30	-13	15	24.2	983
148	1977	09	23.15347	04	14	26.49	-13	15	29.2	983
148	1977	09	23.15972	04	14	26.69	-13	15	34.2	983
148	1977	11	08.05347	04	08	31.86	-22	09	02.3	983
148	1977	11	08.05972	04	08	31.56	-22	09	04.6	983
148	1977	11	08.06597	04	08	31.27	-22	09	07.0	983
148	1977	11	15.04375	04	02	58.31	-22	40	55.9	983
148	1977	11	15.05000	04	02	57.98	-22	40	56.9	983
148	1977	11	15.05625	04	02	57.62	-22	40	58.1	983
148	1977	11	16.04097	04	02	08.07	-22	43	44.9	983
148	1977	11	16.04722	04	02	07.78	-22	43	46.1	983
148	1977	11	16.05347	04	02	07.40	-22	43	47.0	983
389	1977	11	15.16354	08	19	01.04	+19	44	13.9	983
389	1977	11	15.17049	08	19	01.21	+19	44	12.4	983
389	1977	11	15.17743	08	19	01.37	+19	44	10.8	983
704	1977	03	17.97743	10	49	06.55	-17	14	49.6	983
704	1977	03	17.98160	10	49	06.36	-17	14	48.6	983
704	1977	03	17.98588	10	49	06.15	-17	14	47.3	983
704	1977	03	23.95799	10	44	46.15	-16	45	27.5	983
704	1977	03	23.96215	10	44	46.00	-16	45	26.3	983
704	1977	03	23.96632	10	44	45.80	-16	45	25.1	983
704	1977	04	15.88993	10	33	02.48	-14	33	25.8	983
704	1977	04	15.89826	10	33	02.35	-14	33	22.8	983
704	1977	05	10.93229	10	31	39.40	-12	27	41.9	983
704	1977	05	10.93646	10	31	39.42	-12	27	40.9	983
704	1977	05	10.94071	10	31	39.44	-12	27	39.5	983
704	1977	05	11.89549	10	31	50.62	-12	23	57.7	983
704	1977	05	11.89965	10	31	50.67	-12	23	56.8	983
704	1977	05	11.90382	10	31	50.71	-12	23	56.1	983
704	1977	05	13.90590	10	32	17.14	-12	16	29.8	983
704	1977	05	13.91007	10	32	17.19	-12	16	29.3	983
704	1977	05	13.91424	10	32	17.24	-12	16	28.5	983

* * * * *

ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

The orbit computers are B = C. M. Bardwell, E = E. L. G. Bowell, G = D. W. E. Green, K = G. R. Kastel', M = B. G. Marsden. See also MPC 7828.

Planet	B(1,0)	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1931 DU	15.0	310228	32.27	284.15	183.92	7.86	0.2142	2.6638	5	3		M
1931 TF1	12.5	311006	270.81	286.71	180.20	4.33	0.0490	2.2993	11	6		M
1931 TJ1	13.5	311006	293.72	304.10	147.27	2.88	0.1172	2.3465	11	5		M
1931 TC4	14.0	311006	18.50	309.00	30.97	8.39	0.2347	2.8059	3	3		M
1931 TE4	15.5	311006	356.69	274.59	102.26	3.06	0.2486	2.2685	3	3		M

1931	TJ4	12.5	311006	317.52	247.29	181.97	20.80	0.1351	2.9009	3	3		M
1979	EL	13.3	790308	95.13	320.05	90.73	14.80	0.1606	2.6336	23	7		E
1981	CK	13.5	810205	353.89	164.47	338.19	0.41	0.1258	3.0384	8	6	1	M
1981	VE	13.5	811112	311.54	64.26	38.95	19.35	0.1519	3.1764	11	6		M
1981	VS	13.5	811112	354.92	204.07	206.56	8.92	0.2903	2.7753	54	0		M
1981	VW1	13.0	811112	43.09	182.98	148.74	2.27	0.1826	3.1232	11	4		M
1981	VP2	14.0	811112	10.64	278.13	95.59	2.89	0.3130	3.2085	11	4	1	M
1981	WE1	14.5	811112	12.76	186.81	201.50	10.66	0.2831	2.7833	54	7		M
1981	WL4		811202	2.03	0.78	62.27	3.69	0.1703	2.3869	13	3		M
1981	YC	14.5	811201	136.62	34.33	245.09	21.81	0.0844	1.8629	49	8		M
1981	YU1		811222	56.57	285.85	62.77	4.61	0.3283	2.6683	6	3		M
1982	JB5	14.2	820521	308.85	195.80	111.90	13.78	0.1489	2.6833	11	3		K
1982	KN1	13.5	820531	27.89	100.70	100.79	14.28	0.1163	2.6365	13	8		B
1982	KV1	16.0	820531	350.74	121.32	138.25	9.05	0.2406	2.5005	4	0		B
1982	KQ3	15.0	820531	315.90	187.21	144.69	11.46	0.3281	2.2323	20	3		M
1982	SV1	14.0	820928	22.78	129.99	201.98	11.15	0.3280	3.0034	12	7		B
1982	SA4	15.1	820918	25.56	301.39	33.38	5.05	0.1815	2.2661	9	4		K
1982	SB4	13.5	820928	336.50	346.92	66.29	2.34	0.1903	2.8691	9	3		B
1982	SO4	15.0	821018	337.09	54.14	14.05	7.49	0.2919	2.3787	55	5		B
1982	TP	13.5	821018	81.86	16.71	279.79	5.69	0.1292	2.5462	31	9		M
1982	TQ	15.0	821018	14.99	144.00	224.84	4.66	0.1842	2.4187	33	0		M
1982	TR	15.0	821018	331.06	105.08	320.01	4.00	0.0654	2.1845	31	0		M
1982	TS	12.5	821018	186.88	345.26	227.19	4.75	0.2171	2.7447	10	4	1	M
1982	TT	13.0	821018	4.42	140.14	251.42	10.75	0.1253	3.0408	30	6		M
1982	TE1	15.5	821018	334.04	86.25	341.38	5.08	0.1846	2.3682	29	6		K
1982	TF1	16.0	821018	16.76	29.32	332.38	3.13	0.2429	2.3667	29	7		K
1982	TG1	14.0	821018	335.57	209.24	215.52	14.41	0.1688	2.7474	10	3		K
1982	TJ1	15.9	821018	355.95	17.76	18.36	9.04	0.2044	2.3413	10	3		K
1982	TK1	13.1	821018	337.79	175.39	243.99	9.75	0.0943	3.0068	29	6		K
1982	TL1	13.7	821018	309.20	76.97	11.07	7.81	0.0494	3.0250	29	6		K
1982	TP1	14.1	821018	274.50	249.66	241.76	3.43	0.1250	2.4874	25	5		K
1982	TS1	13.5	821018	349.01	160.51	246.25	8.78	0.0892	3.0226	29	8		K
1982	TX1	14.1	821018	9.42	7.90	10.15	3.55	0.2416	3.2166	10	4		K
1982	TB2	14.0	821018	343.67	150.44	264.17	4.37	0.1042	2.2675	8	4		B
1982	TC2	13.8	821018	311.72	236.72	229.80	8.75	0.2035	2.7494	31	6		K
1982	TD2	14.5	821018	24.70	92.15	270.99	3.21	0.1497	2.2561	31	6		K
1982	TE2	14.4	821018	323.20	94.71	350.33	4.53	0.1385	2.2484	26	5		K
1982	TF2	15.3	821018	33.66	59.28	290.61	1.56	0.1747	2.3519	31	5		K
1982	TH2	14.5	821107	354.00	47.89	5.67	4.17	0.1212	2.3567	31	5		B
1982	TJ2	13.9	821018	128.16	264.03	5.21	6.75	0.0694	2.6927	10	3		K
1982	TL2	15.2	821018	329.58	183.56	256.77	5.38	0.1488	2.3740	26	4		K
1982	TN2	15.0	821018	44.52	91.47	244.27	2.28	0.2012	2.3255	31	5		K
1982	TP2	13.3	821018	126.73	346.09	272.57	11.28	0.1210	2.6570	27	3		K
1982	TQ2	16.1	821018	33.50	22.25	319.86	4.50	0.2074	2.1429	7	3		K
1982	TT2	14.0	821018	37.48	330.27	11.77	12.30	0.2247	2.7380	27	3		K
1982	UP	15.5	821018	7.09	161.88	211.66	2.13	0.1389	2.1780	55	9		B
1982	UC2	13.5	821107	348.14	97.55	321.18	0.49	0.1798	3.1536	29	8		B
1982	UD2	13.5	821107	23.24	329.73	42.45	2.64	0.1275	2.9258	29	9		B
1982	UE2	16.0	821107	21.82	324.10	39.07	4.31	0.2849	2.1908	29	7		B
1982	UF2	15.5	821107	18.40	155.80	224.82	5.42	0.1355	2.2869	31	0		B
1982	UG2	14.5	821107	41.27	123.27	217.20	1.68	0.2404	2.3523	31	0		B
1982	UJ2	14.5	821107	305.32	91.70	26.77	4.08	0.1721	2.2730	29	7		B
1982	UP2	13.5	821018	22.76	41.92	329.48	1.17	0.0865	2.8878	25	6		M
1982	UQ5	15.1	821107	262.12	161.28	337.25	2.24	0.0534	2.2503	25	4		K
1982	US5	16.7	821018	347.91	120.64	287.01	2.57	0.2059	2.3697	20	4		K
1982	UT5	14.8	821018	328.94	202.36	223.67	3.38	0.0916	2.2252	19	3		K
1982	UU5	13.8	821018	84.65	19.71	270.14	4.17	0.1449	2.6067	20	4		K
1982	UX5	14.5	821018	15.90	98.95	274.56	4.02	0.0679	2.7447	4	3		K

1982	UA6	16.1	821018	8.43	35.66	339.78	3.80	0.2890	2.5648	4	4	K
1982	UC6	15.0	821018	17.39	66.41	307.94	3.25	0.1500	2.6965	20	3	K
1982	UD6	16.2	821018	2.56	83.86	308.85	3.20	0.1484	2.2561	25	5	K
1982	UE6	15.4	821107	331.36	60.99	22.75	2.18	0.1715	2.3933	25	4	K
1982	UG6	15.1	821018	341.50	13.52	53.11	1.59	0.2355	2.5975	25	4	K
1982	UL6	13.5	821107	192.79	329.89	243.85	3.36	0.0408	2.8053	25	4	B
1982	UM6	15.5	821018	47.09	335.72	355.01	2.26	0.2138	2.3927	25	4	K
1982	UO6	13.5	821107	54.04	103.39	237.92	9.03	0.1172	3.0084	25	4	B
1982	UP6	13.9	821018	117.86	48.24	220.64	22.10	0.1624	2.3395	20	3	K
1982	UQ6	14.2	821107	350.37	200.63	217.10	1.31	0.0584	2.8863	25	4	K
1982	UR6	15.0	821018	24.67	313.62	46.42	3.06	0.2187	2.4029	25	4	K
1982	US6	14.9	821018	23.14	320.77	46.28	7.80	0.1710	2.5345	20	3	K
1982	UT6	14.0	821107	50.28	351.78	357.75	1.66	0.0832	2.8365	25	4	B
1982	UA7	13.7	821018	11.76	322.04	66.71	14.95	0.1474	2.5689	23	6	K
1982	UB7	12.7	821018	275.08	282.35	230.96	16.05	0.1450	3.1683	23	3	K
1982	UC7	12.9	821018	259.87	33.17	134.06	2.22	0.1345	3.2051	23	3	K
1982	UD7	14.5	821018	48.62	136.94	204.12	7.06	0.1787	2.5192	23	3	K
1982	UE7	14.3	821018	350.44	250.13	173.11	1.35	0.1481	3.0350	23	3	K
1982	UF7	13.9	821018	32.65	145.81	217.75	8.23	0.1808	2.9349	23	3	K
1982	UG7	15.9	821018	49.49	130.30	207.37	2.48	0.1828	2.1439	23	3	K
1982	UH7	13.5	821018	36.92	205.57	161.91	2.32	0.0882	2.8937	23	3	K
1982	UJ7	14.1	821018	345.65	319.06	111.79	2.53	0.1555	3.1051	23	3	K
1982	UK7	15.1	821018	19.47	282.01	91.34	4.70	0.2339	2.4301	23	5	K
1982	UL7	12.3	821018	77.23	101.75	218.65	8.91	0.1410	3.1296	23	3	K
1982	UM7	14.0	821018	168.13	46.25	193.74	3.08	0.0915	2.2038	23	3	K
1982	UO7	15.4	821018	336.16	342.47	91.82	4.63	0.0484	2.2275	23	3	K
1982	UR7	12.9	821018	81.34	219.73	102.19	10.81	0.0960	3.0683	22	4	K
1982	UH8	14.2	821107	59.79	36.27	285.48	5.42	0.1148	2.5481	24	4	K
1982	UJ8	14.0	821107	170.22	331.61	249.70	6.35	0.0694	2.3486	24	4	K
1982	UH9	15.9	821018	20.23	343.04	8.80	7.89	0.3450	2.6212	21	3	K
1982	UQ10	15.9	821107	337.18	59.93	23.96	3.18	0.2819	2.6591	21	3	K
1982	UR10	14.6	821107	6.93	15.49	16.82	1.66	0.2158	3.1653	21	3	K
1982	US10	14.0	821107	86.87	66.79	222.47	9.22	0.2421	2.5304	21	3	1 B
1982	UV10	13.0	821107	100.94	250.64	37.71	1.23	0.1437	3.1516	21	3	1 B
1982	UX10	13.9	821107	91.97	67.57	233.53	13.77	0.1103	2.5746	21	3	K
1982	UY10	15.3	821107	28.60	144.55	219.22	2.03	0.1879	2.4417	21	3	K
1982	UA11	15.9	821107	358.05	191.10	217.65	1.89	0.2038	2.3603	21	3	K
1982	UC11	15.9	821107	19.71	132.91	243.70	3.37	0.2092	2.5101	21	3	K
1982	VF	13.5	821107	65.29	311.47	11.52	8.61	0.1114	2.7419	21	9	B
1982	VN	15.5	821107	347.58	19.06	52.69	2.99	0.2026	2.4305	31	0	B
1982	VT	13.5	821107	65.86	280.15	43.79	14.86	0.1631	2.5900	25	5	M
1982	VZ4	14.5	821127	205.25	355.72	218.17	4.10	0.0479	2.4586	32	0	M
1982	VD5	15.5	821127	348.15	207.33	227.41	3.22	0.1495	2.2818	32	6	B
1982	VF5	15.0	821127	38.54	161.01	205.18	5.20	0.1525	2.6875	32	6	B
1982	WE	14.5	821127	340.67	32.30	55.26	13.80	0.1675	2.6231	89	0	B
1982	YH1	12.4	830106	186.27	223.25	48.24	14.44	0.0847	3.1182	23	6	K
1982	YJ1	14.6	830106	313.95	131.92	21.23	6.43	0.1022	2.2277	23	6	K
1982	YL1	13.7	830106	35.38	7.33	32.98	6.64	0.2430	2.9709	23	5	K
1982	YM1	14.5	830106	345.89	51.44	73.93	11.69	0.2631	2.6613	23	5	B
1982	YP1	12.5	830106	318.93	168.96	340.89	11.03	0.1143	3.3286	23	5	K
1982	YR1	15.3	830106	29.21	45.56	6.91	5.93	0.2232	2.4570	21	4	K
1983	AA3	13.9	830106	343.00	95.83	22.95	9.46	0.1389	2.6834	8	3	K
1983	AE3	13.8	830106	21.92	43.75	24.25	11.02	0.1558	3.0509	8	3	K
1983	PW	14.9	830824	4.33	94.82	221.87	3.80	0.2102	2.1925	38	7	K
1983	RX3	14.5	830903	10.34	134.57	170.93	13.87	0.3162	2.8510	10	3	M
1983	TP	14.5	831013	346.83	204.95	193.37	6.19	0.1352	2.6039	8	8	M
1983	TD2	14.5	830923	316.37	238.15	183.07	7.50	0.1969	2.4610	27	5	M
1983	WA1	15.5	831212	42.29	301.55	72.56	4.22	0.1984	2.1739	10	0	1 M

1983 XT	13.0	831212	14.63	327.14	85.71	1.78	0.1496	3.1725	4	6	1	M
1984 AP	13.0	840121	8.87	164.27	292.70	13.06	0.1189	2.7187	89	9		B
1984 AQ	13.5	840121	291.88	84.54	113.66	10.56	0.1762	2.5377	110	9		B
1984 CQ	14.0	840301	27.94	353.79	128.22	6.70	0.0806	2.2506	63	0		M
1984 CM1	14.0	840301	4.04	359.08	161.81	9.78	0.2063	2.7375	57	8		M
1984 DA	15.5	840301	348.05	358.44	158.69	23.45	0.0581	1.9212	40	7		B
1984 DB	15.0	840301	27.01	309.81	154.21	20.74	0.1890	2.2787	32	7		B
1984 DC	15.0	840301	40.12	293.43	145.82	20.63	0.3234	2.3750	34	7		B
1984 EA	16.0	840301	16.52	141.41	347.87	23.95	0.2522	2.3801	33	8		M
1984 EB	13.0	840321	2.10	12.83	146.10	14.28	0.0738	3.1081	30	9		M
1984 EC	14.0	840321	311.59	230.71	352.35	12.39	0.1245	2.6750	30	8		M
1984 ED	13.5	840321	17.88	10.32	131.62	10.93	0.0568	3.0164	30	8		M
1984 EG	15.0	840321	320.34	87.07	127.66	5.92	0.1108	2.2207	30	9		M
1984 EL	13.1	840301	7.90	95.01	57.61	5.86	0.0974	3.1870	30	6		E
1984 EM	14.5	840321	290.37	82.04	168.76	2.53	0.1300	2.2630	54	8		M
1984 EN	14.0	840321	45.45	146.03	327.97	3.82	0.0832	2.3963	30	7		M
1984 EQ	13.5	840321	58.67	97.37	346.30	13.57	0.1928	3.0567	25	7		M
1984 ET	14.7	840301	310.60	103.98	126.58	4.24	0.1590	2.4055	28	6		E
1984 EV	15.2	840301	337.81	202.54	351.23	5.73	0.0849	2.3146	28	6		E
1984 EY	14.5	840321	313.04	197.54	31.43	7.03	0.0740	2.3659	30	6		M
1984 EZ	13.5	840321	317.62	75.05	154.57	12.91	0.1229	2.6649	38	0		M
1984 EA1	13.0	840321	130.92	261.57	141.55	12.90	0.0235	3.1108	30	6		M
1984 ED1	16.5	840301	338.10	66.37	136.13	4.58	0.3371	2.3577	8	6		M
1984 FC	14.0	840321	47.65	106.73	27.24	5.03	0.0809	2.4585	4	6		M
1984 FG	14.0	840321	357.40	152.87	41.19	4.36	0.2286	2.9848	4	6	1	M
1984 FM	14.0	840321	9.49	141.31	31.06	25.09	0.2314	2.3912	10	4		M
1984 FO	14.0	840321	321.50	87.90	177.18	23.72	0.2591	2.5375	3	4		M
1984 FS	13.0	840321	54.13	305.08	147.52	15.76	0.2500	2.7598	8	4	1	G
1984 FU	15.0	840321	355.06	164.97	22.88	5.97	0.1121	2.2659	14	6		G
1984 GA	14.0	840321	40.92	142.02	358.64	3.02	0.0948	2.1623	4	6	1	M

Note 1: e assumed.

* * * * *

ORBITAL ELEMENTS BY W. LANDGRAF, MAX-PLANCK-INSTITUT FUR AERONOMIE, LINDAU.

Periodic Comet Crommelin
Epoch 1984 Mar. 1.0 ET = JDE 2445760.5
T 1984 Feb. 20.17074 ET

			(1950.0)	P	Q
q	0.7345219				
n	0.03596250	Peri.	195.85421	+0.10141215	-0.88335625
a	9.0901173	Node	250.19141	+0.95739766	+0.21166921
e	0.9191956	Incl.	29.10283	+0.27037989	-0.41818402
P	27.41				

From 110 observations and normals 1873-1984, mean residual 1".7. Nongravitational parameters A1 = -0.01, A2 = -0.0003.

(2101) Adonis
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

			(1950.0)	P	Q
M	23.95242				
n	0.38390747	Peri.	41.58480	+0.84562626	-0.53376155
a	1.8749298	Node	350.67284	+0.48321501	+0.76857231
e	0.7637567	Incl.	1.36186	+0.22675864	+0.35269705
P	2.57	B(1,0)	19.5		

From 40 observations at 2 oppositions, 1936 and 1977, mean residual 1".3.

ORBITAL ELEMENTS BY L. K. KRISTENSEN, INSTITUTE OF PHYSICS, AARHUS.

(3033)* 1984 EJ = 1934 FK = 1964 GB = 1974 ED = 1978 NH3 = 1978 PS = 1979 XL1

Discovered 1984 Mar. 5 by K. Augustesen, P. Jensen and H. J. Fogh Olsen at Brorfelde. The identifications are by L. K. Kristensen. The identifications 1974 ED = 1972 VC and 1974 ED = 1977 FV2 (NOC 1053) are invalid.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	10.06538		(1950.0)	P	Q
n	0.29486287	Peri.	67.03666	-0.59360984	+0.80452180
a	2.2355754	Node	166.49741	-0.76526866	-0.55690751
e	0.0952442	Incl.	4.73852	-0.24898039	-0.20639452
P	3.34	B(1,0)	14.0		

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

340319	078	(8.2-	26.4-)X	791218	095	0.0	0.1+	840306	688	1.3+	1.9-
340322	078	(0.15-	0.01-)X	840206	688	(2.0+	1.7-)	840308	054	1.1-	0.9+
640411	760	3.1-	2.0+	840301	688	2.6+	2.1-	840321	054	0.5+	0.2+
640411	760	3.6-	0.7-	840301	688	1.6+	2.2-	840329	688	(1.7+	2.5-)
740313	095	4.6+	3.0-	840302	675	1.8+	1.3-	840330	054	4.3-	2.2+
740315	095	0.3+	1.7-	840302	675	1.2+	0.4-	840331	688	(1.2+	2.6-)
740319	095	0.3+	0.6-	840304	675	0.8+	0.3-	840331	688	(1.4+	2.7-)
780710	095	0.0	0.7-	840304	675	1.5+	1.3-	840401	054	2.6-	0.8+
780808	095	0.1+	0.5-	840305	054	1.2+	0.2-				
791214	095	3.1-	2.2+	840306	688	0.3+	2.0-				

* * * * *

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

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

Periodic Comet Russell 4 (1984d)

T 1984 Jan. 5.98329 ET

q	2.1243883		(1950.0)	P	Q
n	0.15416513	Peri.	91.24213	-0.95133098	-0.29030360
a	3.4446514	Node	71.88906	+0.22125194	-0.87698610
e	0.3832792	Incl.	6.24604	+0.21451561	-0.38290886
P	6.39				

From 26 observations 1984 Mar. 2-Apr. 21.

(3034)* A917 SE = 1949 UE1 = 1952 KZ = 1970 OC = 1974 VN2 = 1974 XE = 1979 BD1 = 1981 XD

Discovered 1917 Sept. 24 by M. Wolf at Heidelberg.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	359.60885		(1950.0)	P	Q
n	0.27813668	Peri.	313.06213	+0.80227444	+0.59675692
a	2.3243269	Node	10.33214	-0.51969320	+0.71089265
e	0.2102531	Incl.	4.92296	-0.29372553	+0.37217311
P	3.54	B(1,0)	13.5		

Residuals in seconds of arc

170924	024	1.9-	0.7-	491029	062	0.3+	2.2+	811201	330	1.5-	2.4+
170925	024	0.2-	2.7+	520525	711	(5.1-	12.0-)Y	811202	688	0.8+	2.5-
171016	024	1.7+	0.6+	700730	076	0.3-	2.0-	811202	688	2.5+	1.9-
171018	045	2.4-	0.1-	700730	076	1.0+	0.6-	811218	688	0.6+	1.2+
171018	045	1.2+	1.9-	741115	095	1.2-	1.0+	811218	688	0.4-	0.5+
171020	045	1.1-	1.1-	741214	095	3.1-	3.2-	811230	688	1.3+	0.9-
171021	024	4.0+	0.8+	790124	095	1.0+	0.7-	811230	688	1.4+	1.7-
491029	062	2.0-	0.2+	811025	330	0.4+	0.1-				
491029	062	1.5-	0.5+	811127	330	1.2+	1.4+				

(3035)* A924 EJ = 1954 EK = 1967 GN = 1973 UO1 = 1977 RT6 = 1984 FF

Discovered 1924 Mar. 7 by K. Reinmuth at Heidelberg. The identifications A924 EJ = 1954 EK and A924 EJ = 1984 FF are by K. Yoshihiro (MPC 1857) and by E. Bowell, respectively; the remark on MPC 2278 concerning the invalidity of the former identification is incorrect.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	36.01881	(1950.0)	P	Q	
n	0.23031380	Peri.	29.16721	-0.87499833	+0.48412591
a	2.6358624	Node	179.78780	-0.45243438	-0.81759700
e	0.1288479	Incl.	2.58226	-0.17228192	-0.31170055
P	4.28	B(1,0)	13.5		

Residuals in seconds of arc

240308	024	1.8+	3.1+	540306	760	1.0-	0.6-	840331	688	0.6+	1.4-
240309	024	2.6+	0.0	540402	760	0.2+	0.0	840331	688	0.1+	1.1-
240313	024	2.5-	1.9+	540402	760	0.3-	1.4-	840403	688	2.5-	0.3-
240327	024	1.6-	2.1-	670413	095	0.4+	2.8+	840403	688	0.8-	2.3-
240407	024	2.0+	1.4+	731026	095	0.5-	2.0-				
540306	760	2.8+	1.2+	770911	095	0.9+	1.1+				

(3036)* 1937 TO = 1931 TH4 = 1952 HY1 = 1958 HB = 1966 VK = 1977 RQ = 1977 TY6

Discovered 1937 Oct. 11 by G. Neujmin at Simeis. The key identification 1937 TO = 1931 TH4 is by E. Bowell.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	100.19853	(1950.0)	P	Q	
n	0.17067518	Peri.	310.04884	+0.87483511	+0.45811204
a	3.2187640	Node	23.99411	-0.23355377	+0.68367023
e	0.0906916	Incl.	22.78317	-0.42440095	+0.56809186
P	5.77	B(1,0)	11.0		

Residuals in seconds of arc

311006	690	1.0-	0.2-	371107	094	5.3+	2.4+	770913	323	2.8+	3.2-
311007	690	0.6-	0.3+	520422	711	0.4+	3.0+ Y	771009	095	1.2-	2.6+
311009	690	0.2+	0.5-	580424	024	0.1+	1.2-	771018	095	1.3-	0.2+
371011	094	2.8+	2.7-	661112	095	3.5-	4.6+				
371103	094	3.0-	1.7-	770904	323	3.0-	1.7+				

(3037)* 1944 BA = 1979 BH

Discovered 1944 Jan. 17 by Y. Vaisala at Turku. The identification is by L. Oterma (MPC 7661).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	145.66440	(1950.0)	P	Q	
n	0.22555278	Peri.	329.74449	+0.19349238	-0.93066802
a	2.6728254	Node	107.56500	+0.95271255	+0.10264997
e	0.1890108	Incl.	19.00785	+0.23430638	+0.35116950
P	4.37	B(1,0)	13.0		

Residuals in seconds of arc

440117	062	1.1+	0.6-	440130	062	0.6-	0.8-	840308	801	1.7+	3.1+
440117	062	0.2-	0.5+	790118	330	1.5+	1.9-	840328	801	0.9+	1.0+
440118	062	0.1+	1.7+	790125	330	0.7-	1.0+	840331	688	1.0-	2.9-
440118	062	0.1-	1.1-	790220	330	0.8-	0.4-	840331	688	1.1-	2.9-
440130	062	0.4-	0.3-	840208	801	0.2-	2.1+				

(3038)* 1978 QB3 = 1955 RG = 1959 TG

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

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	211.71403	(1950.0)		P	Q
n	0.25886862	Peri.	10.66168	+0.99931948	-0.03474276
a	2.4382774	Node	351.30070	+0.02482201	+0.88187290
e	0.2035668	Incl.	4.69878	+0.02728437	+0.47020541
P	3.81	B(1,0)	14.5		

Residuals in seconds of arc

550913	760	2.2+	1.1-	821014	095	0.9+	1.1+	821111	046	2.9+	1.8-
591001	024	1.1-	0.8-	821015	095	0.2+	0.9+	821111	046	1.2+	3.0-
780831	095	2.2-	0.6+	821020	095	1.4+	0.1-	821111	095	1.8-	2.7+
780926	095	0.5-	0.2+	821022	095	1.7-	1.1+	821112	046	1.8-	0.7-
781002	095	0.3-	0.8+	821022	095	0.3+	0.5-	821112	046	0.8-	0.6+
781005	095	0.7-	1.8+	821024	095	0.3-	1.3+	821112	095	1.1+	1.2+
781008	095	0.6-	1.5+	821107	046	1.6+	1.2-	840209	801	1.4+	1.4+
821013	688	1.0+	1.5-	821107	046	0.5+	1.6-	840302	801	0.4+	0.6+
821013	688	0.7+	1.5-	821109	801	2.7-	1.5+	840402	801	0.6-	1.6+

(3039)* 1978 SP2 = 1981 EP17

Discovered 1978 Sept. 26 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	252.77149	(1950.0)		P	Q
n	0.24064854	Peri.	71.42094	-0.15168868	+0.98732757
a	2.5598464	Node	190.19764	-0.97675551	-0.15695991
e	0.1406657	Incl.	15.27238	-0.15145693	+0.02340626
P	4.10	B(1,0)	13.5		

Residuals in seconds of arc

780926	095	0.8-	0.7-	810308	413	1.0+	0.8-	810407	413	1.0-	1.4+
781002	095	0.9-	2.7+	810312	413	0.0	0.7+	810407	413	0.3+	0.5-
781008	095	1.9+	2.5-	810405	413	1.0-	1.0+	810410	413	0.6+	1.6-
810301	413	0.0	0.2-	810405	413	1.5+	1.7-	840208	801	0.6+	0.5-
810306	413	0.5-	0.2+	810406	413	1.2-	1.3+	840302	801	0.3-	0.7+
810308	413	0.9+	0.4-	810406	413	0.5-	0.3+	840308	801	0.4-	0.1-

(3040)* 1979 BA

Discovered 1979 Jan. 23 by W. Liller at Cerro Tololo.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	157.33295	(1950.0)		P	Q
n	0.39468773	Peri.	290.23026	+0.11224727	-0.89188538
a	1.8406320	Node	142.94439	+0.93428339	+0.24487501
e	0.2010235	Incl.	46.63934	-0.33840079	+0.38023242
P	2.50	B(1,0)	17.0		

Residuals in seconds of arc

790123	807	0.5+	2.2-	790523	801	0.9-	0.9+	840129	675	0.0	0.8+
790124	807	1.2+	0.5+	800609	801	3.9-	0.0	840129	675	0.2-	0.8+
790131	807	0.6-	1.4-	800708	801	0.6+	1.2+	840130	675	(7.9-	5.1+)
790228	688	0.5+	4.3-	800713	801	0.4-	0.0	840130	675	(5.2-	3.0-)
790301	801	0.2-	1.3+	800818	805	0.0	1.5-	840202	801	0.9+	0.2-
790304	688	1.1+	1.7-	800818	805	1.2+	0.4-	840301	801	1.1+	1.5+
790327	801	0.3+	0.2-	840128	675	2.2-	3.3+	840302	801	0.6-	1.1+
790502	801	1.7+	1.9+	840128	675	1.7-	1.7-	840328	801	0.1-	0.4+

(3041)* 1980 GD

Discovered 1980 Apr. 15 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	156.21329		(1950.0)		P		Q				
n	0.23717795		Peri.	350.98365	+0.28344196		-0.92573511				
a	2.5847578		Node	82.24936	+0.89481641		+0.16141182				
e	0.1478583		Incl.	14.63487	+0.34491193		+0.34199522				
P	4.16		B(1,0)	13.5							

Residuals in seconds of arc

800314	688	1.7-	1.0-	821025	095	0.4-	0.4-	830118	801	1.0-	3.2+
800415	688	0.4+	0.6-	821111	095	1.9-	1.5+	840328	801	2.5+	1.4+
800416	688	4.7-	2.4-	821212	688	0.9+	2.2-	840331	688	0.4-	1.0+
800419	688	0.5-	0.2-	821212	688	1.3+	1.8-	840331	688	0.3-	0.9+
800508	688	2.1+	0.5+	830105	801	1.2+	1.8+	840408	688	1.4-	0.2-
800510	688	2.3+	0.1+	830107	688	0.0	1.8-	840408	688	1.6+	0.2+
821022	095	0.2+	1.3+	830107	688	0.1-	1.4-				

(3042)* 1981 EF10 = 1975 TY1 = 1975 VL = 1982 TO1

Discovered 1981 Mar. 1 by S. J. Bus at Siding Spring in the course of the U.K.-Caltech Asteroid Survey. The key identification and double designation 1981 EF10 = 1975 TY1 = 1975 VL are by K. Hurukawa (JAM 1328) and L. D. Schmadel, who found them independently.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	283.07464		(1950.0)		P		Q				
n	0.28688934		Peri.	69.64760	+0.43038818		+0.90046450				
a	2.2768082		Node	226.00756	-0.85722505		+0.38599290				
e	0.2104087		Incl.	4.99879	-0.28272112		+0.20043246				
P	3.44		B(1,0)	14.5							

Residuals in seconds of arc

751003	095	0.8+	2.4-	810405	413	0.8-	1.0+	810412	413	1.1-	0.7+
751101	095	(2.3+	10.3-)	810405	413	1.2-	0.3+	810412	413	0.6+	0.5-
810301	413	1.3-	1.5+	810406	413	0.6-	0.4-	821014	095	0.3-	1.2+
810301	413	0.4+	0.1-	810406	413	0.5+	0.6-	840208	801	1.2+	0.5-
810307	413	0.5+	0.9+	810407	413	1.0-	0.5-	840301	801	1.7-	0.8-
810311	413	0.5-	1.4+	810407	413	0.9+	1.8-	840327	801	0.2+	0.2+
810311	413	1.7+	0.5-	810410	413	0.0	1.0-				
810315	413	0.1-	0.1+	810410	413	1.4+	1.4-				

(3043)* 1982 SA = 1974 SQ2

Discovered 1982 Sept. 20 by E. Helin at Palomar.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	264.93275		(1950.0)		P		Q				
n	0.36852018		Peri.	31.27722	+0.92193752		-0.38256540				
a	1.9267640		Node	350.59857	+0.23161471		+0.66993605				
e	0.1063233		Incl.	21.78413	+0.31046068		+0.63626205				
P	2.67		B(1,0)	14.5							

Residuals in seconds of arc

740920	095	0.1-	1.4+	820924	704	0.7-	1.7+	821011	675	(2.9+	0.8-)
740922	095	2.3+	3.7-	820924	675	0.4+	0.1-	821013	675	0.1-	1.0+
820920	675	1.6-	0.8-	820924	704	(3.7-	1.0+)	821013	675	1.2+	0.8-
820920	675	(3.3+	4.1+)	820924	675	(2.6+	0.4-)	821015	704	0.3-	0.1+
820922	704	1.2+	0.0	820925	704	1.4-	0.0	821204	675	0.2+	0.2-
820922	704	(2.2-	2.3+)	820925	704	1.7-	0.1+	821205	675	0.3-	0.4+
820923	704	(3.7+	5.7+)	820925	704	1.4-	2.1+	840310	675	1.0+	0.9+
820923	704	(2.8+	1.4-)	820925	704	(1.5-	4.0+)	840311	675	0.0	0.6-
820923	704	(0.5-	4.4-)	820926	688	0.4+	1.2-	840401	474	1.0+	0.0
820923	704	0.1+	1.8-	820926	688	0.6+	0.6-	840401	474	0.2-	0.6-
820924	704	(1.8-	2.2-)	820928	675	0.2-	0.7+	840423	474	0.9-	0.2-
820924	704	(2.4-	3.2-)	820928	675	1.1+	0.6-	840423	474	0.5-	0.1+
820924	704	1.3-	1.3+	820929	675	0.9+	0.8+	840503	474	0.2-	0.2+
820924	704	(0.7-	3.0+)	821011	675	0.7+	0.0	840503	474	0.2-	0.1+

(3044)* 1983 RE3 = 1978 NS3 = 1978 QG = 1979 XP1

Discovered 1983 Sept. 2 by N. V. Metlova and N. E. Kurochkin at the Sternberg Crimean Station. The key identification 1983 RE3 = 1978 QG was found by T. M. Smirnova and V. A. Shor.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 112.93851	(1950.0)	P	Q	
n 0.20459204	Peri. 68.42937	+0.63018841	+0.74816938	
a 2.8523987	Node 242.34905	-0.77041799	+0.56928487	
e 0.1566165	Incl. 13.55548	-0.09653335	+0.34081857	
P 4.82	B(1,0) 13.0			

Residuals in seconds of arc

780712 095	0.1-	0.9+	830902 095	0.6-	0.8+	830910 095	0.2+	0.6+
780831 095	0.2-	0.8-	830903 095	0.8+	1.3+	830912 095	1.4+	1.2+
780903 095	0.3+	0.1-	830904 095	0.7-	0.2+	830913 095	0.9+	1.9+
791214 095	0.6-	0.3+	830904 095	0.2+	1.3-	830913 095	0.7-	1.5-
791218 095	0.6+	0.1-	830905 095	0.5-	0.4-	830915 095	0.5-	2.7-
830817 095	0.4-	0.2-	830905 095	0.0	0.3+			

(3045)* 1984 AW = 1954 QD = 1965 QD = 1971 SB3 = 1982 SY3

Discovered 1984 Jan. 8 by J. Wagner at the Anderson Mesa Station of the Lowell Observatory. The identifications 1984 AW = 1954 QD = 1965 QD = 1971 SB3 were found independently by W. Landgraf.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 137.52853	(1950.0)	P	Q	
n 0.17786498	Peri. 337.65461	+0.97137032	-0.23507734	
a 3.1314279	Node 35.99628	+0.22583675	+0.86885552	
e 0.1128600	Incl. 3.34831	+0.07373912	+0.43569338	
P 5.54	B(1,0) 12.5			

Residuals in seconds of arc

540831 760	3.6+	2.4-	650904 095	3.1-	4.5-	840105 688	0.4+	2.3+
540831 760	1.5+	0.2-	710927 095	3.9+	4.5-	840105 688	0.7-	2.0+
540927 760	0.8-	3.1+	711012 095	0.7+	1.9+	840108 688	1.1+	2.8+
540927 760	1.4-	1.9+	820917 095	1.7-	0.2+	840108 688	2.0-	3.0+
650826 095	1.2-	5.3+	820920 095	0.5+	0.0	840126 688	1.9+	1.4+
650829 760	4.9+	0.2+	820922 095	1.2-	1.6+	840126 688	2.0+	0.0
650829 760	0.6+	1.4-	820926 095	1.1-	3.2+			

(3046)* 4120 P-L = 1982 RC1

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 56.30279	(1950.0)	P	Q	
n 0.17815051	Peri. 265.37694	-0.05785118	-0.99727269	
a 3.1280811	Node 188.36347	+0.99435784	-0.05347188	
e 0.1589927	Incl. 18.36615	+0.08891412	-0.05087174	
P 5.53	B(1,0) 13.5			

Residuals in seconds of arc

600924 675	1.6-	0.4+	601025 675	0.5-	0.7-	821012 801	2.2+	1.9-
600925 675	1.1-	0.2+	601026 675	1.2-	0.1+	821020 801	0.8-	0.4-
600926 675	0.6-	0.7+	601026 675	0.5-	0.6+	821116 801	1.7-	1.0-
600927 675	1.2+	0.8+	820913 801	1.9-	0.7+	840208 801	0.3-	0.0
600928 675	0.0	0.1-	820915 801	0.1-	1.2+	840305 801	0.1-	0.4+
600928 675	0.9+	0.4+	820917 801	0.9+	1.3+	840403 801	0.3+	0.3-
601017 675	1.2-	0.1-	820918 801	0.4+	1.4+			
601022 675	2.2-	0.2-	820920 801	0.9+	2.8-			

(3047)* 6091 P-L = 1969 UG = 1976 JU6 = 1982 VO

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels. The key identification 6091 P-L = 1982 VO is by O. Kippes (MPC 7777).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	181.13167	(1950.0)	P		Q
n	0.22952432	Peri.	81.14172	+0.78247307	-0.62239178
a	2.6419032	Node	317.34626	+0.55962736	+0.71634617
e	0.0280102	Incl.	1.61433	+0.27304415	+0.31539915
P	4.29	B(1,0)	14.5		

Residuals in seconds of arc

600924	675	0.3+	0.3+	691016	095	1.3-	1.1-	821116	046	0.5-	1.4+
600925	675	1.3+	0.6+	760503	809	1.4-	1.5-	821120	046	1.2-	2.3+
600926	675	0.6+	1.1-	821111	046	(6.8+	2.6+)	821120	046	1.4-	0.5+
601017	675	0.3-	0.1+	821111	046	(7.0+	0.3-)	840302	801	0.5+	0.7+
601022	675	0.3-	0.6+	821115	046	3.1+	2.4-	840306	688	0.5+	2.8-
601024	675	0.0	0.2-	821115	046	2.0+	2.3-	840306	688	1.7-	0.9+
601026	675	0.5-	0.1-	821116	046	1.5-	0.5-	840327	801	1.5+	0.5+

1971 OV = 1971 QM = 1982 SL4

The identification 1971 OV = 1982 SL4 is by C. M. Bardwell. The double designation 1971 OV = 1971 QM is by T. Urata (NOC 1029).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	225.65123	(1950.0)	P		Q
n	0.27234990	Peri.	143.33916	+0.91583316	+0.40115674
a	2.3571403	Node	193.04626	-0.38472618	+0.86374339
e	0.3317839	Incl.	4.56570	-0.11504518	+0.30499282
P	3.62	B(1,0)	16.0		

Residuals in seconds of arc

710726	095	1.1+	1.6+	710824	095	1.2-	1.0+	820926	095	0.6+	2.0-
710801	095	1.0-	1.5-	710830	095	1.3+	1.7-				
710818	095	0.1+	0.2+	820920	095	0.7-	2.5+				

1971 SN1 = 1982 SC4

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	145.42396	(1950.0)	P		Q
n	0.18084390	Peri.	349.31629	+0.98883900	-0.12208498
a	3.0969510	Node	18.36566	+0.14867133	+0.77120796
e	0.2055593	Incl.	15.72576	+0.00970902	+0.62476678
P	5.45	B(1,0)	13.0		

Residuals in seconds of arc

710916	095	2.7+	0.9-	711021	095	0.2-	1.5-	821109	095	2.8+	1.2+
710923	095	0.6-	1.3+	820917	095	0.1-	2.0-	821111	095	1.2+	0.3+
711011	095	3.5-	0.5-	820920	095	1.1+	0.1-	821114	095	2.6-	1.4-
711020	805	0.3+	1.4+	820922	095	0.4-	2.6+				
711020	805	1.8+	0.1+	820926	095	1.8-	1.4+				

1972 RU3 = 1982 UF6

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	262.69469	(1950.0)	P		Q
n	0.30111339	Peri.	301.76318	+0.95780040	+0.28198462
a	2.2045343	Node	41.93124	-0.22735965	+0.86182531
e	0.1455928	Incl.	4.78180	-0.17585785	+0.42159435
P	3.27	B(1,0)	15.5		

Residuals in seconds of arc

720906	095	0.9+	2.0-	821020	095	1.5-	0.3+	821114	095	0.0	0.6-
720909	095	0.6+	0.9+	821025	095	0.4-	0.7+				
721007	095	1.5-	1.3+	821109	095	2.1+	0.3-				

1977 EQ1 = 1975 TJ2 = 1975 WV1 = 1982 UJ6
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 142.06698		(1950.0)	P	Q
n 0.29013402	Peri.	93.75329	-0.50758119	-0.86131843
a 2.2598059	Node	26.78580	+0.76964289	-0.46482689
e 0.0869169	Incl.	2.82090	+0.38731272	-0.20510123
P 3.40	B(1,0)	15.5		

Residuals in seconds of arc

751003 095	1.1-	1.5+	770315 381	0.1-	0.2+	821020 095	0.6-	0.7+
751126 381	1.6+	0.2-	770322 095	0.4+	0.2-	821025 095	0.2-	0.6-
751126 381	0.4-	1.2-	770325 095	1.5+	0.6+	821109 095	0.6+	1.1+
770313 095	0.6+	0.6+	770410 381	2.3-	0.5-	821114 095	0.0	0.9-
770315 381	0.0	0.1-	770410 381	0.2+	0.0			

1977 PE1 = 1982 UR5
The identification is by C. M. Bardwell.
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 177.93471		(1950.0)	P	Q
n 0.21268794	Peri.	128.78302	+0.99799492	+0.01102584
a 2.7795532	Node	230.67549	-0.03218627	+0.93629183
e 0.1814926	Incl.	4.62132	+0.05449939	+0.35104990
P 4.63	B(1,0)	14.5		

Residuals in seconds of arc

770814 095	0.3+	0.0	770909 095	0.1+	0.1+	821021 095	0.0	0.6-
770821 095	0.3-	0.1-	821020 095	0.0	0.6+			

2037 P-L = 1981 EC37
The identification is by O. Kippes.
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 164.55060		(1950.0)	P	Q
n 0.17074904	Peri.	251.29326	-0.28936762	+0.95715596
a 3.2178421	Node	1.98633	-0.71605141	-0.20889096
e 0.1525255	Incl.	18.33117	-0.63524543	-0.20054183
P 5.77	B(1,0)	14.5		

Residuals in seconds of arc

600924 675	0.3-	0.3+	601025 675	0.4+	0.4+	810329 413	0.1-	0.7+
600926 675	0.7-	0.5+	601026 675	0.1+	0.3-	810407 413	0.8-	0.3-
600928 675	0.4-	0.6-	810311 413	0.2-	0.4-	810408 413	0.8+	0.0
600929 675	0.5+	0.4-	810311 413	2.2+	0.8-	810411 413	0.9-	0.0
601017 675	0.2+	0.2+	810316 413	0.6-	0.3-	810411 413	1.2+	0.7+
601022 675	0.0	0.2+	810329 413	1.3-	0.5+			

* * * * *

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

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

(3048)* 1964 TH1 = 1951 EP = 1973 AE2 = 1979 UV4
Discovered 1964 Oct. 8 at the Purple Mountain Observatory.
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 59.54060		(1950.0)	P	Q
n 0.26538737	Peri.	264.70352	-0.48317641	-0.87531672
a 2.3981843	Node	214.21048	+0.81603534	-0.44237593
e 0.1466291	Incl.	1.93711	+0.31721738	-0.19525412
P 3.71	B(1,0)	14.0		

Residuals in seconds of arc

510305	760	0.9+	0.8+		730101	095	1.4+	3.1-		831206	688	0.1+	1.4+
510305	760	0.5+	0.1-		791017	095	0.8+	0.1-		831209	801	1.6-	2.2+
641008	330	0.5+	0.7-		791117	095	0.6+	1.6+		840305	801	0.6-	0.9+
641030	330	(7.9+	3.1+)		831130	801	0.2-	2.3+					
641109	330	1.7-	0.0		831206	688	0.5+	0.7+					

(3049)* 1968 FH = 1952 MH = 1973 GC = 1979 HJ2 = 1981 VY1

Discovered 1968 Mar. 28 by T. M. Smirnova at the Crimean Astrophysical Observatory. The key identification 1968 FH = 1973 GC is by T. Urata (NOC 1067).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

			(1950.0)	P	Q
M	302.81858				
n	0.17848316	Peri.	172.32818	-0.04974567	+0.99781613
a	3.1241932	Node	94.81317	-0.91860188	-0.02863136
e	0.1293017	Incl.	2.49940	-0.39204075	-0.05952497
P	5.52	B(1,0)	12.5		

Residuals in seconds of arc

520619	760	0.8+	0.2+		790424	095	0.0	1.2+		840226	688	0.3-	0.3-
680328	095	4.4-	5.2-		811103	033	0.2+	0.8-		840226	688	0.1-	0.2-
680329	095	1.0+	0.9+		811103	033	0.1-	0.5-		840302	801	2.8+	3.4+
680424	095	1.6+	0.2-		840128	688	2.1+	0.8-		840306	688	1.8-	1.4-
680430	095	1.5-	1.4+		840128	688	1.2+	3.2-		840306	688	0.7+	2.0-
730403	029	0.2+	1.2+		840201	801	0.7-	1.3+		840308	801	0.7-	2.7+
730403	029	0.6-	0.3+		840205	688	0.5+	0.1-		840331	688	0.1-	0.7-
790424	095	1.7+	0.3-		840205	688	2.0-	0.8-		840331	688	0.9-	1.8+

(3050)* 1972 NW = 1972 QK = 1979 VH2 = 1982 SB

Discovered 1972 July 13 by C. Torres at the Cerro El Roble Station of the University of Chile. The double designation 1972 NW = 1972 QK is by T. Urata (NOC 978).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

			(1950.0)	P	Q
M	248.47989				
n	0.29708010	Peri.	84.50934	+0.81072106	+0.58510179
a	2.2244382	Node	239.67896	-0.54572291	+0.74313394
e	0.1888375	Incl.	1.30631	-0.21193836	+0.32466573
P	3.32	B(1,0)	15.0		

Residuals in seconds of arc

720713	805	0.6-	0.9+		791114	095	0.0	1.5+		820916	046	0.7+	1.9-
720713	805	0.5-	1.1+		820914	046	2.0+	0.3+		820922	688	0.6-	0.8-
720713	805	0.1-	0.4-		820914	046	2.5+	0.6-		820922	688	1.4+	1.4+
720818	095	0.1+	0.4-		820915	046	1.1-	1.0-		821117	801	2.8-	1.2+
720904	095	1.9-	2.1+		820915	046	0.8-	1.6-		840202	801	0.2+	0.1-
720908	095	0.5+	2.7+		820916	046	0.1-	2.5-		840305	801	0.3-	0.2+

(3051)* 1974 YP = 1954 BE = 1961 TA2 = 1982 WH

Discovered 1974 Dec. 19 at the Purple Mountain Observatory. The identification 1974 YP = 1982 WH was found independently by P. Wild (MPC 7606).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

			(1950.0)	P	Q
M	190.13025				
n	0.23615763	Peri.	92.04244	+0.95047539	-0.21209113
a	2.5921973	Node	280.25804	+0.09923491	+0.89980731
e	0.2585688	Incl.	13.34873	+0.29453178	+0.38126650
P	4.17	B(1,0)	14.0		

Residuals in seconds of arc

540123	024	1.3-	2.1+		750110	330	0.4+	0.1+		821124	026	0.8-	1.2-
611014	690	0.7+	0.8-		750116	330	1.4+	0.2+		821214	026	0.3-	3.4+
611014	690	0.7+	0.9-		821122	026	0.2-	0.8-		840210	801	0.0	1.5-
741219	330	0.1+	4.0-		821123	026	0.4-	0.8+		840308	801	1.5-	0.8+

(3052)* 1976 YJ3 = 1952 HH3 = 1972 TE4

Discovered 1976 Dec. 16 by L. I. Chernykh at the Crimean Astrophysical Observatory. The key identification 1976 YJ3 = 1972 TE4 is by T. Urata (NOC 1053) and L. D. Schmadel (MPC 7606), who found it independently.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	3.53235		(1950.0)	P	Q
n	0.26930002	Peri.	277.76326	-0.91323867	-0.40328165
a	2.3748989	Node	238.46994	+0.39544707	-0.84313665
e	0.1813828	Incl.	3.89888	+0.09806497	-0.35564660
P	3.66	B(1,0)	14.5		

Residuals in seconds of arc

520427	711	0.3+	0.9+	Y	770113	095	1.4+	0.1+	831110	033	0.2+ 1.1-
721005	095	0.8-	3.4+		770120	095	0.2-	0.5-	831208	801	0.5+ 0.0
761216	095	0.4-	0.9+		831108	801	0.3-	0.3-			
761220	095	0.8-	0.2+		831109	033	0.4+	1.1-			

(3053)* 1977 QS = 1951 LR = 1955 QV1 = 1955 SZ2 = 1966 QL = 1981 XC

Discovered 1977 Aug. 18 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	350.21397		(1950.0)	P	Q
n	0.26841625	Peri.	315.84165	+0.79192845	+0.61054499
a	2.3801090	Node	6.54861	-0.53554092	+0.70170203
e	0.2055755	Incl.	4.61356	-0.29333471	+0.36721802
P	3.67	B(1,0)	14.5		

Residuals in seconds of arc

510607	711	0.5+	6.4+	Y	770819	095	0.1+	0.2-	811218	688	1.8- 1.6+
550825	839	0.4-	0.5-		770908	095	4.4-	3.6+	811218	688	1.8- 0.5+
550920	012	1.3+	2.4-		811127	330	0.6-	2.5+	811230	688	0.6+ 0.3+
660820	095	3.0+	3.5-		811201	330	1.4-	4.7+	811230	688	0.6- 0.8+
660822	095	1.1+	1.2-		811202	688	0.0	2.0-			
770818	095	1.4+	1.8+		811202	688	1.2+	1.0-			

(3054)* 1977 RE7 = 1928 UC = 1959 JQ = 1960 OE = 1961 VG

Discovered 1977 Sept. 11 by N. S. Chernykh at the Crimean Astrophysical Observatory. The key identification 1977 RE7 = 1959 JQ is by L. D. Schmadel (MPC 7607).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	130.04276		(1950.0)	P	Q
n	0.17976690	Peri.	188.24853	+0.90102940	+0.43329046
a	3.1093019	Node	146.05206	-0.39585922	+0.84039292
e	0.1974691	Incl.	2.06624	-0.17731751	+0.32557505
P	5.48	B(1,0)	12.5		

Residuals in seconds of arc

281016	024	1.0+	2.5-		831201	688	0.0	1.8-	831206	688	0.8+ 0.3+
590502	760	1.1-	0.2+		831201	688	0.9+	2.5-	831206	801	0.5- 0.8+
590502	760	0.9+	0.7-		831202	801	2.0-	3.4+	831208	046	2.5+ 0.9-
600721	760	0.1-	0.3-		831204	801	0.5-	3.0+	831208	046	2.5+ 1.8-
600721	760	0.3+	0.8-		831204	046	0.3-	3.7+	831209	688	0.2+ 1.6-
611104	760(42.3-	5.5+)X			831204	046	0.9-	3.4+	831209	688	0.7- 1.3-
770911	095	0.6-	0.7+		831205	688	0.1+	1.4-	831229	688	0.4- 0.0
770918	095	0.7+	0.5+		831205	688	0.9-	2.4-	831229	688	0.5- 1.2-
770921	095	0.7-	0.9+		831205	046	0.1-	1.0+	840102	688	0.2- 0.2-
771009	095	0.2-	0.2+		831205	046	1.0+	1.0+	840104	688	0.8+ 1.1-
831103	801	0.3+	0.8+		831205	567	1.7-	1.2+	840104	688	3.5+ 1.5-
831128	688	0.1+	1.6-		831205	567	1.4-	2.9+			

(3055)* 1978 TR3 = 1978 RL5 = 1976 GW = 1982 UU3

Discovered 1978 Oct. 4 by T. M. Smirnova at the Crimean Astrophysical Observatory. The key identification 1978 TR3 = 1976 GW is by K. Hurukawa (JAM 1372) and L. D. Schmadel (MPC 7779), who found it independently. The double designation 1978 TR3 = 1978 RL5 is by Schmadel (MPC 7589).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 127.55769		(1950.0)	P	Q
n 0.24062969	Peri.	63.69942	+0.39787667	-0.91734190
a 2.5599800	Node	2.95342	+0.72194276	+0.30408695
e 0.1087712	Incl.	15.00702	+0.56612083	+0.25693378
P 4.10	B(1,0)	13.5		

Residuals in seconds of arc

760401	095	4.2+	0.1-	781004	095	0.8-	0.1+	821019	033	0.5+	0.6-
760402	095	6.0-	0.0	781008	095	1.5+	0.3+	831208	801	1.3-	0.4+
760404	095	0.7+	1.3-	781101	095	1.3-	1.8+	840202	801	0.6+	0.4-
780906	095	0.4+	2.2-	821019	033	0.7+	0.8-	840301	801	0.1+	0.1+

(3056)* 1978 VD1 = A914 TD = 1925 SB = 1929 UN = 1955 QU = 1980 DW4 = 1984 FD

Discovered 1978 Nov. 1 by K. Tomita at Caussols. The key identification 1978 VD1 = 1984 FD is by E. Bowell. The identification 1980 TB5 = 1955 QU (MPC 7941) is invalid.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 255.05556		(1950.0)	P	Q
n 0.26191077	Peri.	345.82329	+0.99843200	+0.05262150
a 2.4193599	Node	11.21260	-0.03680811	+0.87411627
e 0.1161330	Incl.	5.63481	-0.04217477	+0.48285786
P 3.76	B(1,0)	14.0		

Residuals in seconds of arc

141012	024	(4.3+	23.2+)X	780908	010	0.5+	0.0	781102	010	0.9-	0.0
141015	024	(80.3-	10.2-)X	780909	010	0.0	0.2+	800221	095	2.6-	0.9-
250916	024	4.5+	0.5+	781030	010	1.1+	0.3+	840331	688	0.8+	1.1-
291027	690	0.8-	6.6-	781101	010	0.4+	0.1+	840331	688	1.5+	2.6-
550823	760	1.6-	1.9-	781101	010	0.7+	0.6+	840403	688	4.1-	2.2-
550823	760	1.0+	3.7-	781102	010	0.3+	0.4-	840403	688	1.3-	4.2-

(3057)* 1981 EG = 1976 YH4

Discovered 1981 Mar. 9 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 349.94977		(1950.0)	P	Q
n 0.29004937	Peri.	121.70187	-0.95120181	+0.28323996
a 2.2602411	Node	74.99656	-0.30814956	-0.85123941
e 0.0736101	Incl.	7.28216	-0.01609255	-0.44177663
P 3.40	B(1,0)	14.5		

Residuals in seconds of arc

761218	095	3.2-	1.2+	810325	688	0.3-	0.8-	840105	688	1.4-	2.0-
761220	095	2.1+	1.7+	810325	688	0.8-	0.6+	840105	688	3.7+	0.9-
810206	688	0.1+	0.2-	810330	688	0.3-	1.5+	840201	801	0.8+	1.9+
810206	688	0.2-	1.0+	810330	688	0.6+	0.6-	840209	801	1.0-	0.2+
810309	688	0.7+	0.5-	831130	801	1.1+	0.7-				
810309	688	0.4+	0.5-	831206	688	3.0-	1.3-				

(3058)* 1981 EO17 = A905 UO = 1969 TL = 1979 SH3

Discovered 1981 Mar. 1 by S. J. Bus at Siding Spring in the course of the U.K.-Caltech Asteroid Survey.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	132.00295		(1950.0)	P	Q
n	0.29233315	Peri.	210.03154	+0.53741462	-0.84283365
a	2.2484540	Node	207.49076	+0.78549886	+0.51261465
e	0.1577106	Incl.	3.55003	+0.30688283	+0.16388307
P	3.37	B(1,0)	15.5		

Residuals in seconds of arc

051026 024	0.1-	0.2+	810312 413	1.1+	0.7+	810410 413	1.8-	0.4+
691007 095	1.0+	1.6-	810405 413	1.2-	0.1+	810410 413	0.9+	2.5-
790924 095	0.4-	0.1+	810405 413	2.3+	2.2-	840109 801	0.6-	0.1-
810301 413	1.2-	1.6+	810406 413	1.8-	0.5+	840202 801	0.0	0.6+
810301 413	0.8+	0.6+	810406 413	0.1+	1.0-	840209 801	0.6+	0.0
810308 413	0.5-	0.9+	810407 413	2.1-	0.7+	840210 801	0.2-	0.9-
810308 413	0.4-	1.0+	810407 413	3.5+	1.9-			

(3059)* 1981 EF23 = 1950 AE = 1979 SN3

Discovered 1981 Mar. 3 by S. J. Bus at Siding Spring in the course of the U.K.-Caltech Asteroid Survey.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	119.33800		(1950.0)	P	Q
n	0.28862792	Peri.	241.07147	+0.46750516	-0.88399002
a	2.2676559	Node	181.05695	+0.82467668	+0.43644610
e	0.1299919	Incl.	2.36107	+0.31835088	+0.16756030
P	3.41	B(1,0)	15.0		

Residuals in seconds of arc

500115 760	1.3-	0.3+	810316 413	1.2-	0.7+	831209 688	0.6+	1.3-
500116 760	1.8+	1.1+	810316 413	2.1+	0.7-	840105 688	1.6+	0.4-
500116 760	(10.4+	1.5+)	810329 413	0.2-	0.3-	840105 688	1.1-	0.9-
790924 095	0.5+	1.2-	810407 413	0.6-	1.0+	840106 552	2.3-	0.9+
810303 413	1.3-	0.1-	810407 413	0.7+	0.4-	840106 552	1.5-	1.1+
810303 413	0.4+	0.7-	810408 413	0.6-	1.1+	840108 688	0.2+	1.0-
810307 413	0.5-	0.5+	810408 413	0.8+	1.1-	840108 688	2.0+	1.9-
810307 413	0.6+	0.4-	810411 413	1.3-	0.5+	840109 801	0.4-	0.6+
810311 413	0.8-	0.3+	810411 413	0.8+	1.4-			
810311 413	0.5+	1.0-	831208 801	0.7+	1.3+			

(3060)* 1982 RD1 = 1958 RH = 1979 VM1 = 1979 YU

Discovered 1982 Sept. 12 by P. Wild at Zimmerwald.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	226.84560		(1950.0)	P	Q
n	0.28677810	Peri.	4.31755	+0.87114016	+0.48600712
a	2.2773969	Node	326.31293	-0.45419352	+0.74328943
e	0.1770835	Incl.	7.25914	-0.18660939	+0.45969326
P	3.44	B(1,0)	14.5		

Residuals in seconds of arc

580914 760	0.4+	0.5+	820916 026	1.3-	0.3-	820925 026	0.5+	1.7+
580914 760	0.7-	0.2+	820916 026	0.5-	0.0	821117 801	0.0	1.2-
791114 095	0.4+	1.9-	820919 026	1.4+	0.6+	840109 801	1.0-	1.7-
791217 095	1.0-	4.0+	820919 026	0.8+	2.0-	840202 801	1.5-	0.8-
820912 026	0.3-	1.0+	820923 026	1.5+	0.5-	840302 801	1.0+	1.1-
820912 026	0.7+	0.3+	820923 026	1.3-	1.2-			
820915 026	2.3-	1.5-	820925 026	2.9+	0.3+			

(3061)* 1982 UB1 = 1933 UH = 1955 XM = 1971 UJ2 = 1973 AL1

Discovered 1982 Oct. 21 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 170.06169		(1950.0)		P	Q
n 0.18130166	Peri.	246.29888	+0.95981141		+0.27493842
a 3.0917298	Node	97.70442	-0.23230893		+0.89091978
e 0.1929413	Incl.	3.25753	-0.15746308		+0.36148418
P 5.44	B(1,0)	13.0			

Residuals in seconds of arc

331020	012	0.9+	0.2-	821021	046	1.0+	1.0-	830115	801	0.4+	1.6+
551212	760	2.1-	2.6+	821021	046	1.6+	0.6-	830120	801	0.5-	6.9+
551212	760	0.1+	3.1+	821022	046	0.7+	1.3-	840109	801	0.6+	0.7+
711021	095	3.0-	1.7+	821022	046	0.3-	2.2-	840126	046	1.2-	2.8-
730101	095	0.1+	2.3+	821111	046	0.8-	0.2-	840126	046	1.2-	2.8+
730102	095	(26.1+	83.8-)	821111	046	0.6-	0.7-	840127	046	1.1-	1.7-
821020	046	0.0	1.7-	821114	046	1.4-	0.4-	840127	046	0.8-	1.6-
821020	046	2.1+	0.8-	821114	046	2.3-	1.5-	840129	046	0.6+	2.6-
821021	688	1.1+	0.7-	821116	046	0.8+	0.4-	840129	046	0.5+	1.8-
821021	688	1.7+	0.7-	821116	046	1.0+	0.6+	840201	801	0.6+	0.0

(3062)* 1982 XC = 1942 EF1 = 1950 TQ2 = 1953 GG1 = 1959 LJ = 1981 NP1

Discovered 1982 Dec. 14 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 176.80894		(1950.0)		P	Q
n 0.18827707	Peri.	269.89973	+0.92024665		-0.34520972
a 3.0148874	Node	110.29292	+0.38866717		+0.86117483
e 0.1180141	Incl.	11.33380	-0.04565002		+0.37310610
P 5.23	B(1,0)	12.0			

Residuals in seconds of arc

420314	062	0.7-	0.8+	810703	688	0.0	1.7+	840206	688	2.5+	2.6-
420314	062	0.0	1.6-	810703	688	0.6+	1.5-	840206	688	1.9+	3.3-
420317	062	1.5+	0.0	821214	688	1.2+	2.3+	840210	567	0.3-	2.0+
501010	760	1.3-	0.9+	821214	688	0.3+	0.3+	840210	567	1.8-	2.2+
501010	760	0.6-	0.4+	830104	688	1.0+	1.9-	840210	567	3.4-	2.4+
530414	760	1.1-	3.2-	830104	688	0.7+	2.2-	840302	801	1.6+	2.3+
530414	760	0.5+	2.2-	830107	688	0.2+	1.6-	840306	567	1.0-	2.0+
590604	760	0.8-	1.7-	830107	688	0.6-	1.9-	840306	567	0.5-	1.7+
590604	760	0.0	0.5+	840201	801	0.9+	0.5+	840306	567	0.1-	1.2+

(3063)* 1983 PV = 1931 DT = 1964 YL = 1971 OE = 1971 QK1 = 1975 VT6

Discovered 1983 Aug. 4 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M 228.55340		(1950.0)		P	Q
n 0.08429002	Peri.	202.79724	-0.63408533		-0.74645319
a 5.1517166	Node	287.17689	+0.73800494		-0.50626657
e 0.0598401	Incl.	12.19698	+0.23083436		-0.43185852
P 11.69	B(1,0)	10.0			

Residuals in seconds of arc

310218	690	0.1+	0.9-	710719	095	1.0+	0.6-	830901	095	1.6+	0.1-
310221	690	0.7-	1.3-	710820	095	0.1+	0.0	830905	095	1.2+	0.3-
310223	690	0.7-	0.4-	751106	095	1.3+	0.8-	830908	095	1.5-	3.2-
641231	330	1.3-	1.4+	830804	095	1.2-	0.5-	830908	095	0.2-	0.2+
650108	330	1.2-	0.9+	830806	095	1.1-	1.5-	830911	095	1.7+	1.9+
650112	330	1.1+	2.5-	830812	095	0.1+	0.7+				

(3064)* 1984 BB1 = 1984 DJ = 1957 BK = 1965 JH = 1972 AE = 1978 RK2 = 1978 SW1 = 1978 TO = 1980 DW5

Discovered 1984 Jan. 28 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identifications were all independently found by W. Landgraf. The triple designation 1978 RK2 = 1978 SW1 = 1978 TO was also found independently by F. Bowman and B. G. Marsden. The double designation 1984 BB1 = 1984 DJ was also found by Bowman.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	55.79955	(1950.0)		P	Q
n	0.25603484	Peri.	3.79717	-0.94315091	-0.33175320
a	2.4562355	Node	156.79634	+0.30356009	-0.88451889
e	0.1150855	Incl.	2.93204	+0.13534263	-0.32797277
P	3.85	B(1,0)	14.5		

Residuals in seconds of arc

570130	024	(2.5-	19.1-)	840128	688	2.1-	0.0	840306	688	0.6-	1.4-
650502	095	0.8+	2.6+	840128	688	0.4-	1.5-	840306	688	0.3+	1.4-
720104	095	2.4-	1.7+	840205	688	0.2-	0.6-	840329	688	0.9+	1.1-
720105	095	3.2+	1.1+	840205	688	2.8+	0.3-	840330	688	1.0+	0.2+
780912	095	0.1+	1.3+	840222	046	2.2-	2.0+	840331	688	1.1+	0.9-
780928	095	2.5+	1.1-	840222	046	3.0-	0.9+	840331	688	1.0+	1.1-
781009	095	2.6-	1.1-	840226	688	2.0+	0.3+				
800220	095	1.7-	0.2+	840226	688	0.1+	1.0+				

(3065)* 1984 CV = 1951 YW1 = 1955 US1 = 1975 EK2 = 1980 JV = 1982 TM2

Discovered 1984 Feb. 8 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	62.32373	(1950.0)		P	Q
n	0.22000004	Peri.	208.21412	-0.87510504	-0.47980991
a	2.7176125	Node	302.97632	+0.45691486	-0.77629285
e	0.0642965	Incl.	4.30941	+0.15943646	-0.40884208
P	4.48	B(1,0)	13.5		

Residuals in seconds of arc

511227	711	1.8+	2.9+ Y	821020	095	1.1-	1.7-	840301	688	0.1+	0.7-
551025	760	0.2-	0.7-	821025	095	0.1+	0.7-	840306	688	0.3-	1.5-
551025	760	0.0	0.2-	840206	688	2.7+	0.5+	840306	688	0.3+	1.5-
750308	095	5.5-	0.7-	840208	688	1.1+	0.7+	840329	688	0.3+	0.2-
800510	095	0.7+	0.2+	840208	688	0.2-	1.2+	840331	688	1.2-	0.8+
821014	095	1.1+	0.3-	840301	688	0.4+	0.3-				

(3066)* 1984 EO = 1933 MA = 1936 FE = 1941 MA = 1952 FW = 1968 FQ = 1976 GC = 1980 EG2

Discovered 1984 Mar. 1 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5

M	214.75768	(1950.0)		P	Q
n	0.24567020	Peri.	186.89252	+0.99896141	-0.03968411
a	2.5248431	Node	175.20785	+0.04240739	+0.98948003
e	0.1343459	Incl.	15.54519	-0.01666449	+0.13912023
P	4.01	B(1,0)	12.5		

Residuals in seconds of arc

330621	094	(0.3+	15.4-)X	680325	095	5.8-	3.7+	840306	688	0.2+	0.5+
360321	012	0.9+	0.7-	760401	095	3.0-	0.9-	840306	688	0.7+	0.7+
360323	012	2.3-	2.7+	760404	095	4.0-	0.3+	840329	688	1.2+	1.5-
360328	012	2.0+	2.8+	800315	808	0.1+	1.5-	840331	688	2.4+	1.2-
410616	024	0.1+	1.0-	800315	808	0.5-	0.1-	840331	688	0.4+	1.1-
520323	711	0.3-	0.6- Y	840301	688	1.1+	0.6- Y				
520323	711	4.7+	2.0- Y	840301	688	1.8+	0.8-				

1964 UO = 1981 YT1
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 219.67932		(1950.0)	P	Q
n 0.17698688	Peri.	142.43003	+0.91056123	-0.38859359
a 3.1417831	Node	241.00180	+0.32926943	+0.88800043
e 0.2350966	Incl.	9.27532	+0.24991976	+0.24586633
P 5.57	B(1,0)	14.0		

Residuals in seconds of arc

641030 330	0.8+	0.0	641127 330	0.2-	2.4-	811222 330	0.6+	1.2-
641111 330	0.7+	0.4+	811219 330	0.5+	0.3+			

1976 YU3 = 1979 OU12
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 300.24707		(1950.0)	P	Q
n 0.23210090	Peri.	241.65594	-0.12851306	-0.99104606
a 2.6223200	Node	215.78484	+0.93014593	-0.10778629
e 0.1945588	Incl.	3.55155	+0.34396648	-0.07880239
P 4.25	B(1,0)	14.5		

Residuals in seconds of arc

761216 095	0.8-	0.8+	770120 095	0.9+	0.2-	820325 801	1.9+	0.2+
761220 095	2.1-	1.9+	790726 675	1.1-	1.6+	820422 801	1.4-	1.2+
770113 095	2.3+	0.3-	790727 675	0.5+	0.8+			

1980 CT = 1964 VC2 = 1964 WJ = 1982 UN9
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 170.75081		(1950.0)	P	Q
n 0.27423940	Peri.	62.05464	+0.13673907	-0.98888432
a 2.3463008	Node	20.33855	+0.83950455	+0.08438585
e 0.1905801	Incl.	9.67255	+0.52586551	+0.12242068
P 3.59	B(1,0)	15.0		

Residuals in seconds of arc

641111 330	1.6+	3.2-	800221 046	0.3+	0.1+	821021 095	0.3+	0.3-
641127 330	0.0	0.6+	800222 046	0.2+	1.0-	821022 095	2.1-	0.5+
800215 046	1.3-	1.9+	800222 046	1.1-	0.4-	821111 095	0.2+	2.1+
800215 046	0.3-	1.2-	800223 046	0.2+	0.7-			
800221 046	0.2+	0.2+	800223 046	1.4+	1.1+			

1981 ED25 = 1975 NO1 = 1982 SD5
The identification 1981 ED25 = 1975 NO1 is by W. Landgraf.
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 253.79824		(1950.0)	P	Q
n 0.29167964	Peri.	124.48929	+0.83275065	+0.55302084
a 2.2518157	Node	201.97237	-0.52823328	+0.77936910
e 0.2341736	Incl.	4.03833	-0.16581906	+0.29453650
P 3.38	B(1,0)	16.0		

Residuals in seconds of arc

750712 095	0.9+	0.3-	810306 413	1.9+	0.9-	810406 413	1.3-	1.8+
810302 413	3.1-	0.6+	810311 413	1.1-	0.2+	810406 413	3.2+	1.5-
810302 413	3.5+	1.4-	810315 413	0.1+	0.3+	810410 413	0.3-	1.0-
810306 413	1.8-	0.5+	810405 413	1.5-	1.1+	820926 095	1.4+	0.9+

1981 QO2 = 1982 UK6
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 266.27103		(1950.0)	P	Q
n 0.17564715	Peri.	229.93682	-0.20436862	+0.97883786
a 3.1577386	Node	28.27584	-0.89119999	-0.18161905
e 0.1029380	Incl.	1.26810	-0.40496424	-0.09429189
P 5.61	B(1,0)	13.0		

Residuals in seconds of arc

810823	809	(4.4-	3.4-)	810827	809	0.3-	1.5+	810903	809	0.7+	0.9+
810823	809	(3.9-	4.1-)	810827	809	0.2-	1.6+	810903	809	1.9+	0.9+
810823	809	(3.6-	4.9-)	810827	809	0.5-	1.7+	810903	809	2.2+	1.6+
810824	809	0.8+	0.5+	810828	809	1.0+	0.7+	810905	809	1.3-	0.2+
810824	809	0.9+	0.0	810828	809	1.2+	0.5+	810905	809	0.4-	0.1+
810824	809	0.7+	0.6+	810828	809	1.4+	0.3+	810905	809	0.7-	0.1+
810825	809	0.2-	0.7+	810828	809	0.0	1.1-	810906	809	1.0+	0.0
810825	809	0.7-	0.4+	810828	809	0.1+	0.7-	810906	809	0.0	0.2+
810825	809	0.1-	0.4+	810828	809	0.5-	0.5-	810906	809	0.6-	0.2+
810826	809	0.6+	0.2-	810828	809	0.1-	0.3-	821020	095	0.6-	0.3-
810826	809	0.8+	0.1+	810828	809	0.2+	0.2-	821025	095	0.4-	0.2-
810826	809	0.4+	0.2-	810828	809	0.6+	0.2-	821109	095	1.5-	0.4-
810827	809	0.3+	1.3+	810901	809	2.5+	2.0+	821114	095	0.5+	1.1-
810827	809	0.5+	0.1+	810901	809	2.1+	1.8+				
810827	809	0.5+	0.7-	810901	809	0.7+	1.2+				

1982 TD1 = 1974 DD

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	327.70903		(1950.0)	P	Q
n	0.18782620	Peri.	195.93810	-0.91530827	+0.40198173
a	3.0197163	Node	7.90124	-0.34685235	-0.75529338
e	0.0430985	Incl.	10.44833	-0.20470522	-0.51763172
P	5.25	B(1,0)	13.0		

Residuals in seconds of arc

740219	029	0.1+	0.4+	821020	095	0.6+	1.0+	821109	095	1.2+	1.2+
740220	029	0.1+	1.5+	821021	095	0.7+	0.5+	821111	095	3.2-	1.7+
740223	029	0.8-	0.4+	821022	095	0.7-	0.7-	821112	095	1.1+	0.9-
821014	095	0.2-	1.6+	821024	095	1.1+	1.7+				

1982 UH2 = 1977 SN1 = 1977 TQ4 = 1979 BV1

The double designation 1977 SN1 = 1977 TQ4 is by H. Oishi (MPC 5677).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	337.38058		(1950.0)	P	Q
n	0.20547918	Peri.	234.59998	-0.80511612	+0.59306762
a	2.8441885	Node	341.77114	-0.53588585	-0.73291011
e	0.0064269	Incl.	1.40509	-0.25419362	-0.33333701
P	4.80	B(1,0)	13.0		

Residuals in seconds of arc

770919	095	0.0	2.8+	821014	095	0.5-	0.1-	821025	095	1.0-	1.0-
770922	095	0.3+	0.2-	821016	046	0.1-	0.9-	821109	095	0.1+	1.1-
771007	095	2.5-	0.4-	821017	046	0.3-	1.3-	821114	095	2.4+	0.9-
790124	095	0.4+	0.8+	821020	095	1.0-	1.4-				

1983 NU = 1982 DB5

The identification is by T. Furuta (JAM 1580).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	131.51336		(1950.0)	P	Q
n	0.25833384	Peri.	339.09323	+0.41377144	+0.91011120
a	2.4416461	Node	315.34090	-0.83067814	+0.36747704
e	0.1645922	Incl.	1.80617	-0.37251444	+0.19146337
P	3.82	B(1,0)	14.0		

Residuals in seconds of arc

820222	010	0.5-	0.2-	830711	688	2.7-	0.1-	830813	688	0.2-	0.4-
820227	010	0.5+	0.2+	830713	688	2.6+	0.5+	830813	688	0.1+	0.5-
830711	688	0.3+	0.2-	830713	688	1.7+	0.0				

1984 BT = 1939 HE = 1953 VV1 = 1965 WN = 1982 XA2

The key identification 1984 BT = 1982 XA2 is by T. Furuta (JAM 1580) and W. Landgraf, who found it independently. Landgraf also independently found all the other identifications.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	47.79928	(1950.0)		P	Q
n	0.17124448	Peri.	51.61619	-0.63650901	-0.75349595
a	3.2116326	Node	78.73092	+0.64486546	-0.63701348
e	0.0389293	Incl.	9.66327	+0.42308961	-0.16265814
P	5.76	B(1,0)	12.5		

Residuals in seconds of arc

390420	024	0.1-	0.4-	821213	381	0.7-	0.7+	840201	046	1.9-	0.8-
531110	760	3.0+	2.3-	821214	381	0.1+	0.4+	840201	046	1.6+	1.4-
531110	760	0.2-	2.8-	821214	381	0.3+	0.8+	840204	046	1.9+	2.0-
651120	760	0.7+	1.0+	840127	046	3.2-	0.7+	840204	046	2.9+	2.0-
651120	760	1.6-	0.3+	840128	046	0.9-	1.0+	840221	046	1.9+	1.8-
821213	381	0.4-	0.9+	840129	046	1.6-	2.9+	840221	046	0.5-	1.5-

1984 CZ = 1972 NK = 1977 RQ3

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	20.53121	(1950.0)		P	Q
n	0.22969665	Peri.	56.05809	-0.91620353	+0.38899721
a	2.6405870	Node	146.54071	-0.40039812	-0.87919857
e	0.0842806	Incl.	10.04736	-0.01588817	-0.27512004
P	4.29	B(1,0)	13.5		

Residuals in seconds of arc

720713	095	0.0	0.5-	840208	688	0.5-	0.4+	840306	688	1.5-	0.8-
770907	414	0.1+	1.0-	840208	688	1.5-	0.7-	840306	688	1.5-	0.9+
770907	414	0.5+	1.1-	840301	688	4.3+	0.2+	840331	688	0.8-	0.2-
840206	688	0.9-	1.2-	840301	688	1.3+	0.8-	840331	688	0.5+	0.0

1984 CC1 = 1945 BA = 1979 SM10 = 1981 GD

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	148.69363	(1950.0)		P	Q
n	0.30493163	Peri.	299.03123	+0.18110756	-0.98242654
a	2.1860928	Node	140.45285	+0.92513803	+0.15461364
e	0.0667387	Incl.	4.06595	+0.33364601	+0.10455966
P	3.23	B(1,0)	14.5		

Residuals in seconds of arc

450115	062	0.6-	0.6-	840208	688	2.8-	0.1-	840304	675	0.9-	1.1+
450116	062	0.1-	2.7-	840208	688	0.6+	1.6-	840304	675	0.5-	2.1+
790928	095	0.1-	0.5+	840301	688	0.3-	0.4+	840306	688	0.8-	1.2-
810405	688	0.2+	2.1-	840301	688	3.1-	0.9+	840306	688	0.3+	0.1-
810405	688	1.8-	1.1-	840302	675	1.6-	2.3+	840331	688	4.6+	0.9-
840206	688	2.0+	0.8+	840302	675	2.2+	3.1+	840331	688	3.5+	1.8-

1984 CO1 = 1956 XE = 1966 VL = 1981 QO1 = 1983 AO3

The identifications 1984 CO1 = 1956 XE = 1966 VL = 1981 QO1 were independently found by W. Landgraf.

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	176.93811	(1950.0)		P	Q
n	0.19007718	Peri.	49.11894	+0.84563104	-0.53172708
a	2.9958284	Node	342.83924	+0.42972661	+0.73001902
e	0.1000178	Incl.	9.09332	+0.31661205	+0.42934664
P	5.19	B(1,0)	12.5		

Residuals in seconds of arc

561204 760(21.4-	9.9-)X	810901 704	0.5+	2.8-	840301 688	0.9-	0.4-
661112 095	0.3-	1.1+	810902 704	2.2+	2.0+	840306 688	1.7-	0.3+
810829 704	0.0	2.1-	830114 095	0.2-	1.3-	840306 688	0.2+	0.4+
810829 704	1.8-	0.2+	840206 688	0.4-	0.0	840403 688	2.5+	1.5-
810830 704	1.0+	1.3-	840206 688	0.4-	0.6+	840403 688	0.6+	3.3-
810831 704	0.9+	1.1-	840301 688	1.9-	0.5-			

1984 EU = 1932 EV = 1936 PJ = 1969 TT6 = 1972 TR = 1979 YQ4
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 346.75232		(1950.0)	P	Q	
n 0.30354219	Peri.	157.34053	-0.08200595	+0.99431044	
a 2.1927589	Node	107.90174	-0.92494922	-0.05052820	
e 0.1138481	Incl.	4.09685	-0.37113874	-0.09377450	
P 3.25	B(1,0)	14.5			

Residuals in seconds of arc

320314 024	4.5-	1.1+	721007 095	0.1-	0.1+	840309 688	0.1+	0.9+
320315 024	3.8+	2.8-	791218 095	0.4-	1.5+	840309 688	0.3+	1.4+
360809 078(30.2+	14.5-)X	840306 688	0.2-	1.2+	840403 688	0.1+	0.2+	
691015 095	0.9+	1.1-	840306 688	1.4-	1.0+	840403 688	0.6+	1.5-

1984 FT = 1952 DP3 = 1968 FD = 1973 EM
Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 21.01772		(1950.0)	P	Q	
n 0.18757933	Peri.	63.94602	-0.86385179	+0.49125644	
a 3.0223651	Node	145.16038	-0.50301815	-0.82932453	
e 0.0513901	Incl.	11.25264	-0.02707050	-0.26624786	
P 5.25	B(1,0)	12.5			

Residuals in seconds of arc

520228 760	0.3-	0.7+	730309 029	1.3+	0.5-	840331 046	1.0-	1.9-
520228 760	0.4+	2.7-	840321 046	2.8+	1.1+	840331 046	0.7+	0.3-
680327 095	0.4+	1.0-	840321 046	2.5+	0.2-	840405 046	2.7-	1.1+
730307 029	0.5+	0.5+	840322 046	0.9+	0.3-	840405 046	1.2-	0.7+
730307 029	0.9-	1.1+	840322 046	2.1-	0.2-			

* * * * *

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

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

1976 GQ3 = 1971 MF = 1982 JE4

The identification 1976 GQ3 = 1971 MF was independently suggested by T. Urata (NOC 1067).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M 197.78442		(1950.0)	P	Q	
n 0.17270131	Peri.	349.66630	-0.98898635	+0.09937963	
a 3.1935459	Node	197.23107	-0.09492120	-0.99445986	
e 0.0349684	Incl.	21.73151	-0.11356043	-0.03425293	
P 5.71	B(1,0)	13.0			

Residuals in seconds of arc

710628 095	0.1+	0.5-	760405 095	0.7-	1.8+	760525 095	0.8-	0.3-
760401 095	1.5-	1.2+	760423 095	0.6+	0.9-	820515 095	2.3+	1.5+
760402 095	1.2+	0.5-	760503 095	1.0+	0.8+	820523 095	0.2+	1.8+
760404 095	0.5-	2.0-	760523 095	0.6+	0.9-	820526 095	2.5-	1.9-

1978 PX2 = 1978 SF4 = 1982 UZ10

The double designation 1978 PX2 = 1978 SF4 is by B. G. Marsden (MPC 7139).

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	224.81180	(1950.0)		P	Q
n	0.26608287	Peri.	13.63572	+0.99887195	+0.04625820
a	2.3940082	Node	343.70150	-0.04635774	+0.90104561
e	0.1980552	Incl.	2.18998	-0.01028540	+0.43125049
P	3.70	B(1,0)	15.5		

Residuals in seconds of arc

780808	095	1.3-	0.9+	780902	809	0.4+	0.7-	780910	809	0.3+	0.2+
780902	809	0.2+	0.8-	780906	809	0.4+	0.5-	780928	095	2.3-	1.5+
780902	809	0.4+	1.1-	780910	809	0.5-	1.9+	821025	095	0.8+	0.0
780902	809	1.0+	0.6-	780910	809	0.4-	1.2-	821109	095	0.4-	0.2+
780902	809	0.0	0.5-	780910	809	1.5+	1.2+	821114	095	0.3-	0.4-

1978 SY6 = 1982 UK2

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	231.17827	(1950.0)		P	Q
n	0.25844937	Peri.	124.43720	+0.97249786	+0.22369554
a	2.4409184	Node	222.73990	-0.23243619	+0.91431894
e	0.1466322	Incl.	5.48499	-0.01487695	+0.33761099
P	3.81	B(1,0)	15.0		

Residuals in seconds of arc

780926	095	1.2+	0.9-	781101	095	0.4+	0.2-	821109	095	0.5+	0.0
781002	095	0.1+	0.9+	821020	095	0.1+	1.5-	821114	095	0.3-	0.1+
781008	095	1.7-	0.7+	821025	095	0.0	2.0+				

1978 TM6 = 1980 FG9 = 1982 UP5

Epoch 1984 Oct. 27.0 ET = JDE 2446000.5 (J-P)

M	146.90322	(1950.0)		P	Q
n	0.25294080	Peri.	159.44871	+0.27802406	-0.95814654
a	2.4762300	Node	274.36001	+0.87143022	+0.28147615
e	0.0532301	Incl.	3.92476	+0.40411877	+0.05221476
P	3.90	B(1,0)	15.0		

Residuals in seconds of arc

781002	095	1.0-	2.5+	821020	095	2.0-	0.5-	821109	095	0.9+	2.6-
781008	095	1.2-	1.3-	821021	095	0.9+	3.2-	821111	095	0.4-	1.2+
781101	095	1.5+	0.3+	821022	095	0.2+	1.7-	821114	095	0.9+	0.1-
800316	095	0.4+	0.3+	821108	095	0.4+	3.9+				

* * * * *

NEW NAMES OF MINOR PLANETS.

(2110) Moore-Sitterly = 1962 RD

Discovered 1962 Sept. 7 at the Goethe Link Observatory, Indiana University.

Named to honor Charlotte E. Moore (Mrs. Bancroft W. Sitterly), whose long-time collaboration with Henry Norris Russell included analyses of many atomic spectra and the important work on dynamical parallaxes that led to their landmark treatise, "The Masses of the Stars", in 1940. She joined the staff of the U.S. National Bureau of Standards in 1945 and continued her work on atomic spectra of astrophysical interest. She served as president of IAU Commission 14 during 1961-1967. Her formal retirement in 1968 did not stop her activities, and she continues to be an international resource in this field. Name proposed by F. K. Edmondson.

(2160) Spitzer = 1956 RL

Discovered 1956 Sept. 7 at the Goethe Link Observatory, Indiana University.

Named in honor of Lyman Spitzer, Jr., director of the Princeton University Observatory from 1947 to 1979 and one of the most influential pioneers in recognizing and promoting the importance of making astronomical observations from space vehicles. In addition to performing outstanding astronomical research, he was involved in the Princeton project for the controlled release of thermonuclear energy as director of Project Matterhorn (1953-1961) and chairman of the executive committee of the Plasma Physics Laboratory (1961-1966). A member of the AURA board of directors during 1959-1969, he became chairman of the new AURA Space Telescope Institute Council in 1981. Name proposed by F. K. Edmondson.

(2165) Young = 1956 RJ

Discovered 1956 Sept. 7 at the Goethe Link Observatory, Indiana University.

Named in memory of Charles Augustus Young (1834-1908), known affectionately as "Twinkle" Young by the Princeton students. He accepted the Professorship of astronomy at Princeton in 1877, the year that his most famous student, Henry Norris Russell, was born. Earlier he was a professor at Dartmouth, as his father and grandfather had been. He discovered the green line (5304) in the solar corona in 1869, and the following year he was the first both to observe the "flash spectrum" and to photograph a prominence. In 1876 he made the first use of the grating spectroscope in astronomy for the determination of the sun’s rotation period. The last of his three successful textbooks, "Manual of Astronomy", was updated by Russell, Dugan and Stewart in 1926. Name proposed by F. K. Edmondson.

(2168) Swope = 1955 RF1

Discovered 1955 Sept. 14 at the Goethe Link Observatory, Indiana University.

Named in memory of Henrietta Hill Swope (1902-1980), best known for her work in establishing distance ratios for nearby galaxies. One of her most significant contributions was the calibration of the distance of the Andromeda galaxy. She worked as an assistant at the Harvard College Observatory during 1928-1942 and was on the staff of the Mount Wilson and Palomar Observatories during 1952-1968. She received the Annie J. Cannon prize of the American Astronomical Society in 1968 and an honorary Ph.D. from the University of Basel in 1975. The 1-m Swope telescope at the Las Campanas Observatory was named in her honor by the Carnegie Institution of Washington. Name proposed by F. K. Edmondson.

(2179) Platzeck = 1965 MA

Discovered 1965 June 28 by C. U. Cesco and A. R. Klemola at the Yale-Columbia Southern Station, El Leoncito.

Named in honor of Ricardo Pablo Platzeck, director of the Cordoba Observatory; the Cordoba Institute of Mathematics, Physics and Astronomy; and the Balseiro Institute of Atomic Physics at Cuyo University. An authority on the construction, testing and treatment of telescope mirrors, he played an important role in the completion of the 1.5-m reflector at Bosque Alegre in 1941.

(2182) Semirot = 1953 FH1

Discovered 1953 Mar. 21 at the Goethe Link Observatory, Indiana University.

Named in memory of Pierre Semirot (1907-1972), who joined the staff of the Bordeaux Observatory in 1931, spent the war years at the Paris Observa-

tory, and served as director of the Bordeaux Observatory from 1947 to 1970. His work in positional astronomy included collaboration with Paul Herget to improve the plate constants of the Bordeaux zone of the Carte du Ciel. He was president of IAU Commission 23 during 1961-1967. Name proposed by F. K. Edmondson.

(2196) Ellicott = 1965 BC

Discovered 1965 Jan. 29 at the Goethe Link Observatory, Indiana University.

Named in memory of Andrew Ellicott Douglass (1867-1962), American astronomer and founder in 1901 of the science of dendrochronology. As Percival Lowell's principal assistant from 1894 to 1901, Douglass had investigated observing sites in Arizona and Mexico, and upon joining the faculty of the University of Arizona in Tucson in 1906 he mounted a campaign to bring a major observatory to southern Arizona. Through a gift from Lavinia Steward this effort met success with the completion in 1921 of a 0.9-m telescope, and Douglass served as director of the Steward Observatory until 1937. Having already made a mark in the use of dendrochronology for the dating of archaeological ruins, he then founded and directed until his 91st year the University's Laboratory for Tree Ring Research. Name proposed by F. K. Edmondson. Citation prepared by E. Roemer.

(2331) Parvulesco = 1936 EA

Discovered 1936 Mar. 12 by E. Delporte at Uccle.

Named in memory of the Roumanian professor Constantin Parvulesco (1890-1945), who worked with the discoverer at the Uccle Observatory in the early 1930s. The planet also honors his daughter, Carina Parvulesco, who was born at Uccle, and who, as a professor of astronomy at San Mateo College, California, has made contributions in stellar and galactic dynamics; she has more recently served as vice-president of two corporations and as president of the U.N. Association of San Mateo County. The planet also honors her brother, Antares Parvulescu, mathematical physicist and acoustician, formerly at Columbia University, now at the University of Hawaii.

(2381) Landi = 1976 AF

Discovered 1976 Jan. 3 at the El Leoncito Station of the Felix Aguilar Observatory.

Named in honor of Jorge Landi Dessy, formerly director of the Cordoba Observatory and professor at the Cordoba Institute of Mathematics, Physics and Astronomy, also vice-president of the Argentine Association of Astronomy. His principal fields of study involved astronomical optics, stellar spectroscopy and photometry, and the structure of the Magellanic Clouds.

(2399) Terradas = 1971 MA

Discovered 1971 June 17 by C. U. Cesco at the Yale-Columbia Southern Station, El Leoncito.

Named in memory of Esteban Terradas e Illa (1883-1950), outstanding Spanish mathematician, professor at the universities of Zaragoza, Barcelona and Madrid, and later at the Astronomical School of La Plata University. He made important contributions to geodesy and was involved with the fundamental precision marigraph in Puerto Madryn.

(2471) Ultrajectum = 6545 P-L

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Named in honor of the University Observatory at Utrecht, best known for its work on solar physics. Ultrajectum was the Roman name for Utrecht.

(2490) Bussolini = 1976 AG

Discovered 1976 Jan. 3 at the El Leoncito Station of the Felix Aguilar Observatory.

Named in memory of Juan A. Bussolini, S.J. (1905-1966), solar physicist, director of the Observatorio de Fisica Cosmica de San Miguel and a member of the commission of the International Year of the Quiet Sun. He was also an important benefactor to the Felix Aguilar Observatory.

(2495) Noviomagum = 7071 P-L

Discovered 1960 Oct. 17 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Named after the Astronomical Institute of the Nijmegen University, where many of the positions for the Palomar-Leiden Trojan survey are being measured. Noviomagum was the Roman name for Nijmegen.

(2534) Houzeau = 1931 VD

Discovered 1931 Nov. 2 by E. Delporte at Uccle.

Named in memory of Jean-Charles Houzeau (1820-1888), second director of the Observatoire Royal de Bruxelles and one of the greatest Belgian astronomers. He is best known internationally as co-author, with A.-B. Lancaster, of the "Bibliographie generale de l'astronomie jusqu'a 1880"; he also wrote the "Vade-mecum de l'astronomie".

(2545) Verbiest = 1933 BB

Discovered 1933 Jan. 26 by E. Delporte at Uccle.

Named in memory of Father Ferdinand Verbiest, Belgian missionary in China and astronomer at the court of Emperor Kang-Hi.

(2549) Baker = 1976 UB

Discovered 1976 Oct. 23 at the Harvard College Observatory's Agassiz Station.

Named in honor of James G. Baker, astrophysicist, innovator, advisor. To many he us best known for his legendary designs of very demanding optical cameras and spectrographs. By some he is appreciated for his unselfish contributions to the success of difficult endeavors, both on behalf of his fellow scientists and his country.

(2644) Victor Jara = 1973 SO2

Discovered 1978 Sept. 22 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Named in memory of the internationally-known Chilean singer and composer Victor Jara (1938-1973).

(2744) Birgitta = 1975 RB

Discovered 1975 Sept. 4 by C.-I. Lagerkvist at Kvistaberg.

Named in honor of Anna Birgitta Angelica Lagerkvist, daughter of the discoverer.

(2787) Tovarishch = 1978 RC6

Discovered 1978 Sept. 13 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Named for the Soviet training ship that has participated in many international sailing regattas and has twice been awarded first prize.

(2796) Kron = 1980 EC

Discovered 1980 Mar. 13 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Gerald E. Kron, member of the staff of the Lick Observatory during 1938-1965 and director of the U.S. Naval Observatory's

Flagstaff station during 1965-1973. A pioneer in the application of the photomultiplier tube to astronomical photometry, he has published a large quantity of high-precision photometric measurements of stars, clusters and galaxies. In addition, he developed an improved data-retrieval system for the Lallemand electronic camera, which he then applied to a study of globular clusters.

(2810) Lev Tolstoj = 1978 RU5

Discovered 1978 Sept. 13 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Named for the great Russian writer Lev Nikolaevich Tolstoj (1828-1910).

(2830) Greenwich = 1980 GA

Discovered 1980 Apr. 14 by E. Bowell at the Anderson Mesa station of the Lowell Observatory.

Named for the Royal Greenwich Observatory on the occasion of the centennial of its adoption as the prime meridian for longitude and time. Founded by King Charles II in 1675 for the determination of longitude at sea, the Royal Observatory was soon established as one of the world's leading astronomical research institutions. The prime meridian was agreed upon, after some dispute, at an international conference in Washington, D.C., on 1884 October 13. Citation material provided by S. R. Malin.

(2879) Shimizu = 1932 CB1

Discovered 1932 Feb. 14 by K. Reinmuth at Heidelberg.

Named in honor of Shin-ichi Shimizu (1889-), a pioneer in astrophotography among amateur astronomers in Japan, who in 1937, with only an 80-mm astrocamera, recovered periodic comet Daniel, which had been lost since its discovery apparition of 1909-1910. He also observed many comets and minor planets in response to requests from the Tokyo Observatory. Name proposed by T. Urata, who found the identifications involving this planet, and who lives in the city of Shimizu, Shizuoka prefecture.

(2888) Hodgson = 1982 TO

Discovered 1982 Oct. 13 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Richard G. Hodgson, professor of physics at Dordt College, Sioux Center, Iowa. Founder in 1973 of the Minor Planets Section of the Association of Lunar and Planetary Observers, and Section Recorder for more than nine years, Hodgson has inspired many amateur astronomers around the world to make scientifically-valuable observations of minor planets. He continues, as a full-time teacher, to direct students toward minor-planet studies and other astronomical fields. Citation written by R. P. Binzel.

(2908) Shimoyama = 1981 WA

Discovered 1981 Nov. 18 by T. Furuta at Tokai.

Named for the village where the Tokai station is located.

(2917) Sawyer Hogg = 1980 RR

Discovered 1980 Sept. 2 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Helen Sawyer Hogg, professor emerita of astronomy at the University of Toronto, known for her research on globular clusters and for her inspiring course in introductory astronomy, which she taught for more than 35 years. She has served as president of the Royal Astronomical Society of Canada, the Canadian Astronomical Society, and the American Association of Variable Star Observers. For nearly 30 years she wrote a weekly astronomical column for the Toronto "Star", and she conducted a

series of television programs for the Ontario Educational Television Authority. She is a Companion of the Order of Canada, a recent recipient of the Klumpke-Roberts award from the Astronomical Society of the Pacific, and the first Canadian and second woman to receive the Rittenhouse silver medal. Name proposed by C. E. Spratt.

(2919) Dali = 1981 EX18

Discovered 1981 Mar. 2 by S. J. Bus at Siding Spring in the course of the U.K.-Caltech Asteroid Survey.

Named in honor of the great Spanish painter Salvador Dali (1904-), who in a career spanning over six decades has produced countless works dealing in imageries of the subconscious mind. His art has been influenced by surrealist contemporaries, as well as by his love for his wife Gala, but his own hallucinatory style and mastery of multiple illusions have made him a genius of our time.

(2959) Scholl = 1983 RE2

Discovered 1983 Sept. 4 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Hans Scholl, astronomer at the Astronomisches Rechen-Institut, Heidelberg. Well known for his theoretical work on the orbits of minor planets, Scholl has investigated resonant motion in the outer belt and has studied a variety of particularly interesting orbits, including those of Aten and Chiron. His broad range of minor-planet research has also embraced problems from mass determination to asteroid missions and from libration to depletion. Citation written by J. Schubart.

(2961) Katsurahama = 1982 XA

Discovered 1982 Dec. 7 by T. Seki at Geisei.

Named for the beautiful seashore in the discoverer’s home city of Kochi and one of the most famous tourist resorts in Japan.

(2981) Chagall = 1981 EE20

Discovered 1981 Mar. 2 by S. J. Bus at Siding Spring in the course of the U.K.-Caltech Asteroid Survey.

Named in honor of the Russian-born painter Marc Chagall (1887-), whose dreamlike, often whimsical, representations of people and animals have made him one of the most popular and innovative artists of the twentieth century. Chagall’s paintings reflect his strong religious background and an inner, almost childish, joy and love for life and the world. His major works include hundreds of paintings and book illustrations, as well as stage and costume design for theater and ballet.

* * * * *

EPHEMERIDES.

Comet IRAS (1983k) Elements MPC 8671

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1984	04 30	11 04.16	-01 54.1	3.759	4.452	128.2	10.2	16.9
1984	05 10	10 58.18	-00 05.0					
1984	05 20	10 54.18	+01 24.9	4.233	4.608	105.5	12.2	17.3
1984	05 30	10 51.93	+02 37.2					
1984	06 09	10 51.19	+03 34.0	4.746	4.765	84.9	12.3	17.7
1984	06 19	10 51.72	+04 17.4					
1984	06 29	10 53.31	+04 49.6	5.249	4.921	65.8	10.9	18.0
1984	07 09	10 55.75	+05 12.6					
1984	07 19	10 58.88	+05 28.0	5.703	5.077	47.8	8.5	18.3

1983 TB a,e,i = 1.27, 0.89, 22 Elements MPC 8678

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	05 06.10	+32 24.2	2.635	2.253	-0.49	+1.5	20.4
1984	08 18	05 20.14	+32 49.0					
1984	08 28	05 33.67	+33 12.0	2.287	2.166	-0.64	+2.2	20.1
1984	09 07	05 46.50	+33 34.0					
1984	09 17	05 58.43	+33 56.2	1.898	2.057	-0.89	+3.2	19.6
1984	09 27	06 09.11	+34 20.0					
1984	10 07	06 18.05	+34 47.7	1.487	1.923	-1.30	+4.5	19.0
1984	10 17	06 24.57	+35 21.9					
1984	10 27	06 27.43	+36 06.4	1.073	1.762	-2.05	+6.0	18.1
1984	11 06	06 24.53	+37 05.5					
1984	11 16	06 11.83	+38 22.2	0.683	1.567	-3.59	+5.8	16.7
1984	11 21	05 59.40	+39 05.4					
1984	11 26	05 40.65	+39 46.0	0.508	1.456	-4.48	+0.2	15.8
1984	12 01	05 12.96	+40 10.4					
1984	12 06	04 33.04	+39 47.3	0.360	1.333	-4.06	-12.5	14.7
1984	12 11	03 38.53	+37 34.2					
1984	12 16	02 32.10	+32 04.6	0.263	1.196	+0.96	-4.7	14.2
1984	12 21	01 24.14	+22 50.1					
1984	12 26	00 25.48	+11 49.0	0.255	1.044	+7.40	+65.4	14.7
1984	12 31	23 39.39	+01 45.7					
1985	01 05	23 03.48	-06 12.4	0.324	0.870	+10.15	+103.8	15.6
1985	01 10	22 34.11	-12 15.8					
1985	01 15	22 08.26	-16 52.9	0.435	0.670	+11.21	+97.7	16.2

Periodic Comet Schuster (1978 I) Elements MPC 7658

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		m2
1984	08 08	19 07.72	-48 01.8	2.253	3.095	-1.11	+2.8	20.7
1984	08 18	18 58.32	-47 46.3					
1984	08 28	18 51.96	-47 13.7	2.314	2.972	-0.98	+3.2	20.6
1984	09 07	18 49.10	-46 28.7					
1984	09 17	18 49.77	-45 35.9	2.426	2.847	-0.87	+2.8	20.5
1984	09 27	18 53.82	-44 37.9					
1984	10 07	19 00.95	-43 36.6	2.558	2.720	-0.82	+2.0	20.4
1984	10 17	19 10.80	-42 32.1					
1984	10 27	19 23.02	-41 24.2	2.682	2.591	-0.80	+0.9	20.3
1984	11 06	19 37.31	-40 11.7					
1984	11 16	19 53.32	-38 53.4	2.783	2.462	-0.82	-0.4	20.1
1984	11 26	20 10.80	-37 27.9					
1984	12 06	20 29.51	-35 53.9	2.850	2.332	-0.85	-1.9	20.0
1984	12 16	20 49.21	-34 10.0					
1984	12 26	21 09.72	-32 15.3	2.880	2.203	-0.88	-3.6	19.7

Periodic Comet Halley Elements MPC 8665

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1984	08 08	06 35.32	+13 50.9	7.310	6.535	37.5	5.4	21.0
1984	08 18	06 38.82	+13 42.8					
1984	08 28	06 41.82	+13 33.1	6.902	6.371	54.7	7.4	20.7
1984	09 07	06 44.19	+13 22.1					
1984	09 17	06 45.77	+13 10.1	6.428	6.205	72.8	8.9	20.5
1984	09 27	06 46.43	+12 57.5					
1984	10 07	06 45.99	+12 44.7	5.918	6.036	92.0	9.5	20.2
1984	10 17	06 44.30	+12 32.4					
1984	10 27	06 41.20	+12 21.0	5.411	5.865	112.6	9.0	19.8
1984	11 06	06 36.59	+12 11.0					
1984	11 16	06 30.40	+12 03.0	4.952	5.691	134.6	7.1	19.5
1984	11 26	06 22.65	+11 57.4					

1984 12 06	06 13.49	+11 54.7	4.592	5.514	157.2	4.0	19.2
1984 12 16	06 03.20	+11 55.1					
1984 12 26	05 52.18	+11 58.6	4.371	5.334	167.1	2.4	19.0
1985 01 05	05 40.95	+12 05.5					
1985 01 15	05 30.05	+12 15.5	4.301	5.151	146.6	6.0	18.8
1985 01 25	05 19.99	+12 28.6					
1985 02 04	05 11.17	+12 44.6	4.362	4.964	122.7	9.6	18.7
1985 02 14	05 03.87	+13 03.2					
1985 02 24	04 58.23	+13 24.1	4.504	4.774	99.8	11.8	18.6
1985 03 06	04 54.27	+13 47.0					
1985 03 16	04 51.93	+14 11.2	4.671	4.579	78.6	12.3	18.5
1985 03 26	04 51.10	+14 36.5					
1985 04 05	04 51.63	+15 02.3	4.811	4.381	59.0	11.3	18.3
1985 04 15	04 53.38	+15 28.2					
1985 04 25	04 56.18	+15 53.8	4.887	4.177	40.8	9.0	18.2

Periodic Comet Haneda-Campos (1978 XX) Elements MPC 8272

Date ET	R. A. (1950) Decl.	Delta	r	Variation		m2
1984 08 28	17 03.05 -27 22.8	1.354	1.862	-1.21	+5.2	20.9
1984 09 07	17 11.49 -27 35.9					
1984 09 17	17 23.94 -27 49.8	1.414	1.709	-1.20	+4.4	20.6
1984 09 27	17 40.18 -28 01.2					
1984 10 07	18 00.01 -28 05.9	1.455	1.563	-1.31	+3.1	20.3
1984 10 17	18 23.17 -27 58.9					
1984 10 27	18 49.47 -27 34.8	1.473	1.432	-1.52	+1.1	19.9
1984 11 06	19 18.61 -26 47.9					
1984 11 16	19 50.20 -25 32.7	1.470	1.323	-1.77	-2.2	19.6
1984 11 26	20 23.83 -23 44.7					
1984 12 06	20 58.98 -21 20.9	1.460	1.250	-2.00	-6.7	19.3
1984 12 16	21 35.11 -18 21.1					
1984 12 26	22 11.74 -14 47.8	1.465	1.221	-2.15	-11.7	19.2
1985 01 05	22 48.44 -10 47.2					
1985 01 15	23 24.88 -06 28.0	1.508	1.243	-2.20	-15.5	19.3
1985 01 25	00 00.86 -02 00.6					
1985 02 04	00 36.23 +02 24.1	1.606	1.311	-2.17	-16.6	19.7
1985 02 14	01 10.90 +06 36.2					
1985 02 24	01 44.82 +10 28.1	1.765	1.415	-2.08	-14.9	20.2
1985 03 06	02 17.94 +13 54.8					
1985 03 16	02 50.21 +16 53.2	1.977	1.544	-1.92	-11.5	20.9

Periodic Comet Oterma Elements AJ 75, 75

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	m2
1984 08 28	04 48.48 +24 21.4	5.765	5.689	80.6	10.1	21.4
1984 09 07	04 52.32 +24 30.8					
1984 09 17	04 55.06 +24 38.4	5.472	5.709	98.5	10.0	21.3
1984 09 27	04 56.60 +24 44.1					
1984 10 07	04 56.88 +24 47.8	5.195	5.729	117.7	8.9	21.2
1984 10 17	04 55.90 +24 49.5					
1984 10 27	04 53.69 +24 48.9	4.970	5.750	138.2	6.6	21.1
1984 11 06	04 50.38 +24 45.9					
1984 11 16	04 46.21 +24 40.4	4.832	5.771	159.9	3.4	21.0
1984 11 26	04 41.43 +24 32.6					
1984 12 06	04 36.42 +24 22.9	4.809	5.793	176.6	0.6	21.0
1984 12 16	04 31.54 +24 12.0					
1984 12 26	04 27.15 +24 00.7	4.910	5.816	154.9	4.1	21.1
1985 01 05	04 23.56 +23 50.0					
1985 01 15	04 20.99 +23 40.9	5.123	5.839	133.1	7.1	21.2
1985 01 25	04 19.60 +23 34.0					
1985 02 04	04 19.45 +23 29.9	5.416	5.863	112.4	8.9	21.3

1985 02 14	04 20.54	+23 28.6					
1985 02 24	04 22.83	+23 30.1	5.752	5.887	93.0	9.7	21.5

Periodic Comet Tsuchinshan 1 — Elements MPC 7658

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1984 08 28	05 15.86	+15 21.6	1.983	1.983	75.3	29.5	20.5
1984 09 07	05 38.22	+15 50.0					
1984 09 17	06 01.14	+16 10.7	1.689	1.866	83.6	32.4	19.8
1984 09 27	06 24.56	+16 24.3					
1984 10 07	06 48.39	+16 31.8	1.417	1.759	91.7	34.6	19.2
1984 10 17	07 12.58	+16 35.2					
1984 10 27	07 36.98	+16 37.0	1.174	1.664	100.0	36.0	18.6
1984 11 06	08 01.43	+16 40.7					
1984 11 16	08 25.74	+16 50.8	0.967	1.588	108.6	36.1	17.9
1984 11 26	08 49.58	+17 12.6					
1984 12 06	09 12.52	+17 52.1	0.799	1.535	118.4	34.4	17.4
1984 12 16	09 34.07	+18 54.9					
1984 12 26	09 53.48	+20 25.5	0.676	1.510	130.0	29.9	16.9
1985 01 05	10 09.97	+22 24.6					
1985 01 15	10 22.80	+24 46.9	0.605	1.514	143.6	22.7	16.7
1985 01 25	10 31.34	+27 20.2					
1985 02 04	10 35.63	+29 44.6	0.593	1.547	156.0	15.0	16.8
1985 02 14	10 36.46	+31 39.0					
1985 02 24	10 35.26	+32 47.2	0.648	1.606	156.9	14.0	17.1
1985 03 06	10 33.89	+33 02.1					
1985 03 16	10 33.83	+32 27.8	0.770	1.687	145.7	19.4	17.7
1985 03 26	10 35.92	+31 13.4					
1985 04 05	10 40.43	+29 29.6	0.952	1.786	132.3	24.5	18.4
1985 04 15	10 47.15	+27 26.4					
1985 04 25	10 55.73	+25 11.1	1.185	1.896	119.6	27.5	19.1
1985 05 05	11 05.78	+22 48.9					
1985 05 15	11 16.95	+20 23.8	1.462	2.015	107.8	28.5	19.9
1985 05 25	11 28.95	+17 57.9					
1985 06 04	11 41.57	+15 33.1	1.771	2.139	96.5	28.1	20.5

1980 CT — a,e,i = 2.35, 0.19, 10 — Elements MPC 8793

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 04 30	14 24.07	-19 53.2	1.628	2.632	174.6	2.0	18.0
1984 05 10	14 13.20	-19 30.7					
1984 05 20	14 03.74	-19 05.7	1.704	2.660	155.9	8.9	18.5
1984 05 30	13 56.48	-18 43.4					
1984 06 09	13 51.90	-18 28.0	1.877	2.686	134.3	15.7	18.9
1984 06 19	13 50.10	-18 22.4					
1984 06 29	13 50.93	-18 27.5	2.116	2.709	115.2	19.9	19.2
1984 07 09	13 54.19	-18 43.2					
1984 07 19	13 59.58	-19 08.7	2.389	2.729	98.4	21.6	19.6

1977 EQ1 — a,e,i = 2.26, 0.09, 3 — Elements MPC 8786

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 04 30	14 32.77	-16 15.4	1.269	2.276	178.0	0.9	17.6
1984 05 10	14 22.39	-15 39.7					
1984 05 20	14 13.40	-15 06.6	1.328	2.296	157.5	9.7	18.1
1984 05 30	14 06.78	-14 41.6					
1984 06 09	14 03.08	-14 28.8	1.476	2.315	135.8	17.8	18.6
1984 06 19	14 02.43	-14 29.8					
1984 06 29	14 04.67	-14 44.3	1.687	2.333	117.1	22.8	19.0
1984 07 09	14 09.55	-15 11.2					
1984 07 19	14 16.71	-15 48.5	1.932	2.350	101.2	25.1	19.4

(3053) 1977 QS a,e,i = 2.38, 0.21, 5 Elements MPC 8788

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	04 30	17 07.36	-29 11.8	1.333	2.206	140.5	16.9	17.2
1984	05 10	17 03.04	-29 43.6					
1984	05 20	16 55.39	-30 07.0	1.177	2.160	161.2	8.7	16.7
1984	05 30	16 45.20	-30 18.0					
1984	06 09	16 33.90	-30 14.5	1.109	2.116	169.5	5.0	16.4
1984	06 19	16 23.26	-29 57.8					
1984	06 29	16 14.87	-29 32.5	1.134	2.073	149.1	14.6	16.7
1984	07 09	16 09.90	-29 04.9					
1984	07 19	16 08.87	-28 40.5	1.233	2.034	129.2	22.8	17.0
1984	07 29	16 11.79	-28 22.4					
1984	08 08	16 18.46	-28 11.4	1.379	1.998	112.3	28.0	17.3
1984	08 18	16 28.44	-28 06.4					
1984	08 28	16 41.33	-28 05.3	1.549	1.966	98.2	30.6	17.6
1984	09 07	16 56.75	-28 05.3					
1984	09 17	17 14.31	-28 03.5	1.728	1.939	86.1	31.1	17.8
1984	09 27	17 33.68	-27 57.0					
1984	10 07	17 54.57	-27 43.3	1.907	1.917	75.4	30.3	18.0

(3034) A917 SE a,e,i = 2.32, 0.21, 5 Elements MPC 8780

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	04 30	18 20.74	-30 03.2	1.344	2.087	124.6	23.4	16.3
1984	05 10	18 24.38	-30 45.2					
1984	05 20	18 24.38	-31 29.8	1.143	2.042	142.7	17.5	15.7
1984	05 30	18 20.50	-32 14.2					
1984	06 09	18 13.01	-32 52.8	1.008	1.999	162.4	8.8	15.2
1984	06 19	18 02.87	-33 19.4					
1984	06 29	17 51.69	-33 28.6	0.957	1.960	166.7	6.8	15.0
1984	07 09	17 41.50	-33 19.5					
1984	07 19	17 34.13	-32 55.7	0.990	1.925	147.2	16.6	15.3
1984	07 29	17 30.68	-32 22.9					
1984	08 08	17 31.66	-31 46.6	1.091	1.894	128.3	24.9	15.6
1984	08 18	17 36.91	-31 10.0					
1984	08 28	17 46.02	-30 33.7	1.235	1.870	112.4	30.0	16.0
1984	09 07	17 58.49	-29 57.0					
1984	09 17	18 13.73	-29 17.7	1.403	1.851	99.2	32.4	16.3
1984	09 27	18 31.22	-28 33.7					
1984	10 07	18 50.53	-27 42.6	1.584	1.840	87.8	32.9	16.6

(3063) 1983 PV a,e,i = 5.15, 0.06, 12 Elements MPC 8791

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	06 29	23 22.74	+07 47.9	5.093	5.400	102.2	10.6	17.4
1984	07 09	23 22.98	+08 17.0					
1984	07 19	23 22.11	+08 38.9	4.807	5.395	120.5	9.3	17.3
1984	07 29	23 20.15	+08 52.9					
1984	08 08	23 17.17	+08 58.3	4.575	5.389	139.7	7.0	17.1
1984	08 18	23 13.32	+08 55.1					
1984	08 28	23 08.82	+08 43.4	4.431	5.384	158.4	4.0	16.9
1984	09 07	23 03.95	+08 24.1					
1984	09 17	22 59.03	+07 58.8	4.398	5.378	165.9	2.6	16.8
1984	09 27	22 54.40	+07 29.3					
1984	10 07	22 50.38	+06 58.0	4.480	5.372	150.4	5.3	17.0
1984	10 17	22 47.23	+06 27.3					
1984	10 27	22 45.12	+05 59.3	4.667	5.366	130.5	8.1	17.2
1984	11 06	22 44.18	+05 35.8					
1984	11 16	22 44.45	+05 18.3	4.928	5.359	110.8	9.9	17.3
1984	11 26	22 45.92	+05 07.6					
1984	12 06	22 48.52	+05 04.2	5.229	5.353	91.9	10.6	17.5

1977 DD3 a,e,i = 5.24, 0.08, 15 Elements MPC 7356

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	06 29	00 08.92	+04 35.4	5.045	5.200	-0.27	-3.1	18.8
1984	07 09	00 10.56	+05 07.5					
1984	07 19	00 11.08	+05 33.3	4.732	5.188	-0.29	-3.3	18.6
1984	07 29	00 10.44	+05 52.5					
1984	08 08	00 08.61	+06 04.6	4.458	5.175	-0.31	-3.5	18.4
1984	08 18	00 05.67	+06 09.4					
1984	08 28	00 01.74	+06 07.0	4.255	5.163	-0.33	-3.7	18.2
1984	09 07	23 57.03	+05 58.2					
1984	09 17	23 51.82	+05 44.0	4.155	5.150	-0.33	-3.9	17.9
1984	09 27	23 46.47	+05 26.0					
1984	10 07	23 41.33	+05 06.3	4.174	5.138	-0.33	-3.9	18.0
1984	10 17	23 36.76	+04 47.0					
1984	10 27	23 33.04	+04 30.1	4.308	5.126	-0.31	-3.7	18.3
1984	11 06	23 30.41	+04 17.6					
1984	11 16	23 29.00	+04 10.7	4.534	5.114	-0.30	-3.5	18.4
1984	11 26	23 28.86	+04 10.4					
1984	12 06	23 29.99	+04 17.3	4.819	5.102	-0.28	-3.3	18.6

1976 YU3 a,e,i = 2.62, 0.19, 4 Elements MPC 8793

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	00 48.13	+08 17.4	2.259	2.659	101.7	22.0	18.9
1984	07 29	00 53.57	+08 54.3					
1984	08 08	00 57.07	+09 18.3	1.979	2.618	118.4	19.9	18.5
1984	08 18	00 58.36	+09 27.6					
1984	08 28	00 57.22	+09 20.2	1.739	2.576	137.5	15.4	18.1
1984	09 07	00 53.60	+08 54.8					
1984	09 17	00 47.73	+08 12.0	1.568	2.534	159.4	8.0	17.7
1984	09 27	00 40.12	+07 14.1					
1984	10 07	00 31.69	+06 06.4	1.494	2.492	175.5	1.8	17.2
1984	10 17	00 23.51	+04 56.6					
1984	10 27	00 16.64	+03 52.5	1.527	2.450	152.0	11.0	17.6
1984	11 06	00 11.94	+03 01.4					
1984	11 16	00 09.90	+02 27.6	1.652	2.409	129.9	18.4	17.9
1984	11 26	00 10.67	+02 13.0					
1984	12 06	00 14.18	+02 17.7	1.835	2.368	110.6	22.9	18.2
1984	12 16	00 20.20	+02 40.2					
1984	12 26	00 28.45	+03 18.6	2.045	2.329	93.9	24.9	18.5

1972 KG a,e,i = 2.43, 0.20, 8 Elements MPC 7835

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	00 57.85	+08 33.8	1.906	2.301	99.4	25.8	17.8
1984	07 29	01 04.46	+08 50.0					
1984	08 08	01 08.68	+08 47.8	1.717	2.346	116.0	22.9	17.6
1984	08 18	01 10.25	+08 25.9					
1984	08 28	01 09.02	+07 43.2	1.562	2.390	135.5	17.2	17.3
1984	09 07	01 05.04	+06 40.2					
1984	09 17	00 58.70	+05 20.2	1.472	2.434	158.2	8.8	17.0
1984	09 27	00 50.69	+03 49.0					
1984	10 07	00 42.07	+02 15.4	1.479	2.477	176.4	1.4	16.6
1984	10 17	00 33.95	+00 48.8					
1984	10 27	00 27.30	-00 23.0	1.594	2.519	152.7	10.4	17.3
1984	11 06	00 22.85	-01 14.9					
1984	11 16	00 20.89	-01 45.2	1.803	2.560	130.7	17.0	17.7
1984	11 26	00 21.47	-01 54.6					
1984	12 06	00 24.43	-01 44.9	2.074	2.599	111.3	20.7	18.1
1984	12 16	00 29.50	-01 19.1					
1984	12 26	00 36.41	-00 39.8	2.375	2.636	94.2	21.8	18.5

1938 SL a,e,i = 2.32, 0.26, 7 Elements MPC 7148

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	00 34.59	-07 30.7	1.094	1.737	110.7	33.2	16.7
1984	07 29	00 47.07	-06 44.5					
1984	08 08	00 56.84	-06 12.3	0.935	1.720	123.8	29.4	16.2
1984	08 18	01 03.36	-05 54.1					
1984	08 28	01 06.11	-05 48.8	0.811	1.713	139.9	22.3	15.7
1984	09 07	01 04.81	-05 52.6					
1984	09 17	00 59.74	-05 58.8	0.739	1.716	159.1	12.0	15.3
1984	09 27	00 51.77	-05 59.2					
1984	10 07	00 42.58	-05 45.0	0.739	1.730	168.8	6.4	15.2
1984	10 17	00 34.10	-05 10.5					
1984	10 27	00 27.96	-04 14.5	0.818	1.754	150.8	16.1	15.7
1984	11 06	00 25.18	-02 58.6					
1984	11 16	00 26.03	-01 26.9	0.967	1.787	131.9	24.3	16.2
1984	11 26	00 30.31	+00 16.7					
1984	12 06	00 37.64	+02 09.1	1.167	1.827	115.9	29.0	16.8
1984	12 16	00 47.51	+04 07.1					
1984	12 26	00 59.46	+06 08.6	1.402	1.874	102.1	30.9	17.3

1980 VO a,e,i = 2.55, 0.33, 10 Elements MPC 7829

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	07 19	00 40.63	-10 02.9	1.285	1.893	-2.05	-20.5	17.6
1984	07 29	00 52.25	-09 18.2					
1984	08 08	01 01.61	-08 43.1	1.075	1.838	-2.52	-25.6	17.1
1984	08 18	01 08.22	-08 17.0					
1984	08 28	01 11.52	-07 58.1	0.904	1.792	-3.13	-30.9	16.5
1984	09 07	01 11.08	-07 42.6					
1984	09 17	01 06.89	-07 24.0	0.786	1.756	-3.72	-34.5	16.0
1984	09 27	00 59.45	-06 55.0					
1984	10 07	00 50.09	-06 07.8	0.741	1.732	-3.90	-34.4	15.7
1984	10 17	00 40.69	-04 57.9					
1984	10 27	00 33.12	-03 25.4	0.776	1.719	-3.50	-31.5	16.0
1984	11 06	00 28.82	-01 33.5					
1984	11 16	00 28.40	+00 32.6	0.884	1.720	-2.87	-27.8	16.5
1984	11 26	00 31.86	+02 48.0					
1984	12 06	00 38.90	+05 09.4	1.044	1.734	-2.34	-24.1	17.0
1984	12 16	00 49.00	+07 33.7					
1984	12 26	01 01.68	+09 58.5	1.239	1.760	-1.97	-20.7	17.4

7633 P-L a,e,i = 2.84, 0.06, 3 Elements MPC 7374

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 08.20	+03 27.7	2.362	2.713	99.0	21.7	19.0
1984	07 29	01 14.01	+03 46.9					
1984	08 08	01 17.85	+03 52.9	2.125	2.722	115.6	19.6	18.8
1984	08 18	01 19.49	+03 45.2					
1984	08 28	01 18.77	+03 23.7	1.924	2.731	134.7	15.2	18.5
1984	09 07	01 15.68	+02 49.1					
1984	09 17	01 10.41	+02 04.0	1.791	2.741	156.3	8.5	18.1
1984	09 27	01 03.46	+01 12.4					
1984	10 07	00 55.57	+00 19.9	1.754	2.751	174.8	1.9	17.8
1984	10 17	00 47.67	-00 27.3					
1984	10 27	00 40.67	-01 03.8	1.828	2.762	155.2	8.7	18.2
1984	11 06	00 35.33	-01 25.7					
1984	11 16	00 32.13	-01 31.3	2.000	2.773	133.3	15.0	18.6
1984	11 26	00 31.25	-01 20.6					
1984	12 06	00 32.71	-00 54.5	2.240	2.784	113.5	18.9	18.9
1984	12 16	00 36.33	-00 15.1					
1984	12 26	00 41.89	+00 35.8	2.518	2.796	95.9	20.5	19.2

1981 WY a,e,i = 2.20, 0.21, 8 Elements MPC 6646

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 04.92	-04 46.1	1.307	1.824	102.7	32.9	16.6
1984	07 29	01 15.82	-04 33.5					
1984	08 08	01 23.80	-04 39.9	1.167	1.860	116.9	29.1	16.4
1984	08 18	01 28.45	-05 05.0					
1984	08 28	01 29.36	-05 47.0	1.053	1.901	134.2	22.4	16.0
1984	09 07	01 26.38	-06 41.3					
1984	09 17	01 19.80	-07 39.9	0.991	1.945	153.9	13.1	15.7
1984	09 27	01 10.46	-08 32.8					
1984	10 07	00 59.80	-09 09.1	1.009	1.992	165.3	7.3	15.7
1984	10 17	00 49.52	-09 21.0					
1984	10 27	00 41.08	-09 05.8	1.118	2.040	150.0	14.1	16.1
1984	11 06	00 35.51	-08 24.8					
1984	11 16	00 33.16	-07 22.2	1.307	2.090	130.6	21.1	16.7
1984	11 26	00 33.99	-06 02.9					
1984	12 06	00 37.70	-04 31.0	1.552	2.140	113.1	25.1	17.2
1984	12 16	00 43.87	-02 50.4					
1984	12 26	00 52.11	-01 03.6	1.830	2.189	97.6	26.4	17.6

1942 EB a,e,i = 2.38, 0.16, 8 Elements MPC 7239

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 15.93	+01 59.3	2.262	2.601	97.7	22.8	18.4
1984	07 29	01 22.03	+02 33.3					
1984	08 08	01 26.15	+02 56.1	1.990	2.575	114.0	21.1	18.0
1984	08 18	01 27.99	+03 07.1					
1984	08 28	01 27.26	+03 05.8	1.750	2.546	132.8	16.9	17.6
1984	09 07	01 23.78	+02 52.5					
1984	09 17	01 17.62	+02 28.8	1.572	2.516	154.4	9.9	17.2
1984	09 27	01 09.15	+01 57.6					
1984	10 07	00 59.18	+01 24.0	1.487	2.485	175.4	1.8	16.7
1984	10 17	00 48.84	+00 53.9					
1984	10 27	00 39.33	+00 33.1	1.512	2.452	155.8	9.6	17.1
1984	11 06	00 31.74	+00 26.2					
1984	11 16	00 26.78	+00 35.5	1.633	2.418	133.0	17.4	17.4
1984	11 26	00 24.73	+01 01.4					
1984	12 06	00 25.64	+01 43.2	1.819	2.383	113.0	22.4	17.7
1984	12 16	00 29.28	+02 39.1					
1984	12 26	00 35.38	+03 47.3	2.037	2.348	95.7	24.6	18.0

1981 YE a,e,i = 2.38, 0.13, 4 Elements MPC 6819

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 19.98	+04 55.7	2.375	2.675	95.7	22.2	18.5
1984	07 29	01 25.67	+05 25.4					
1984	08 08	01 29.37	+05 43.2	2.125	2.680	112.3	20.5	18.2
1984	08 18	01 30.81	+05 48.3					
1984	08 28	01 29.78	+05 39.9	1.905	2.682	131.4	16.4	17.9
1984	09 07	01 26.15	+05 18.2					
1984	09 17	01 20.10	+04 44.6	1.747	2.683	153.3	9.7	17.6
1984	09 27	01 12.01	+04 01.8					
1984	10 07	01 02.68	+03 14.6	1.684	2.682	176.1	1.5	17.1
1984	10 17	00 53.10	+02 29.0					
1984	10 27	00 44.33	+01 50.7	1.733	2.678	157.5	8.2	17.5
1984	11 06	00 37.29	+01 24.9					
1984	11 16	00 32.55	+01 14.2	1.884	2.672	134.6	15.3	17.9
1984	11 26	00 30.39	+01 19.5					
1984	12 06	00 30.83	+01 40.4	2.105	2.664	114.2	19.7	18.2
1984	12 16	00 33.70	+02 15.4					
1984	12 26	00 38.74	+03 02.9	2.362	2.655	96.2	21.6	18.5

1982 FK a,e,i = 3.19, 0.17, 11 Elements MPC 7028

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 19.76	+05 17.5	2.432	2.726	95.6	21.8	16.1
1984	07 29	01 25.40	+06 13.9					
1984	08 08	01 29.05	+07 01.0	2.201	2.746	111.9	20.0	15.9
1984	08 18	01 30.49	+07 38.4					
1984	08 28	01 29.53	+08 05.2	2.003	2.769	130.7	16.1	15.6
1984	09 07	01 26.13	+08 21.3					
1984	09 17	01 20.47	+08 27.0	1.866	2.794	152.0	9.7	15.3
1984	09 27	01 12.98	+08 23.3					
1984	10 07	01 04.40	+08 12.8	1.823	2.820	175.3	1.7	14.9
1984	10 17	00 55.66	+07 59.1					
1984	10 27	00 47.70	+07 46.2	1.892	2.848	160.6	6.7	15.3
1984	11 06	00 41.32	+07 38.3					
1984	11 16	00 37.06	+07 38.5	2.064	2.877	138.1	13.3	15.7
1984	11 26	00 35.14	+07 48.7					
1984	12 06	00 35.60	+08 09.7	2.315	2.907	117.7	17.5	16.0
1984	12 16	00 38.28	+08 41.3					
1984	12 26	00 42.96	+09 22.8	2.610	2.938	99.6	19.3	16.4

1983 EW a,e,i = 2.20, 0.15, 3 Elements MPC 8213

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 17.89	+07 41.2	1.977	2.303	95.2	26.1	18.4
1984	07 29	01 25.41	+08 11.6					
1984	08 08	01 30.70	+08 26.8	1.769	2.334	111.0	23.9	18.1
1984	08 18	01 33.45	+08 25.4					
1984	08 28	01 33.39	+08 06.2	1.585	2.363	129.8	19.2	17.8
1984	09 07	01 30.37	+07 28.8					
1984	09 17	01 24.55	+06 34.7	1.457	2.390	151.7	11.5	17.5
1984	09 27	01 16.41	+05 27.3					
1984	10 07	01 06.88	+04 13.1	1.417	2.415	175.5	1.9	17.0
1984	10 17	00 57.15	+03 00.6					
1984	10 27	00 48.41	+01 57.8	1.486	2.438	158.4	8.6	17.5
1984	11 06	00 41.66	+01 11.3					
1984	11 16	00 37.50	+00 44.3	1.653	2.458	135.5	16.4	17.9
1984	11 26	00 36.12	+00 37.5					
1984	12 06	00 37.47	+00 49.6	1.889	2.477	115.3	21.1	18.3
1984	12 16	00 41.30	+01 18.3					
1984	12 26	00 47.30	+02 01.1	2.161	2.492	97.7	23.0	18.7

1973 SD3 a,e,i = 3.12, 0.16, 1 Elements MPC 7373

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 08.45	+07 09.8	2.282	2.617	97.5	22.6	17.9
1984	07 29	01 15.59	+07 50.2					
1984	08 08	01 20.86	+08 18.6	2.036	2.610	113.4	20.9	17.6
1984	08 18	01 24.02	+08 33.7					
1984	08 28	01 24.84	+08 34.6	1.823	2.605	131.6	16.9	17.3
1984	09 07	01 23.20	+08 20.8					
1984	09 17	01 19.25	+07 52.9	1.670	2.604	152.5	10.3	16.9
1984	09 27	01 13.34	+07 13.2					
1984	10 07	01 06.19	+06 25.9	1.607	2.605	175.7	1.7	16.5
1984	10 17	00 58.73	+05 36.8					
1984	10 27	00 51.94	+04 52.1	1.651	2.609	160.6	7.3	16.8
1984	11 06	00 46.71	+04 17.6					
1984	11 16	00 43.60	+03 57.2	1.794	2.616	138.2	14.6	17.2
1984	11 26	00 42.89	+03 52.6					
1984	12 06	00 44.65	+04 04.0	2.011	2.625	118.3	19.3	17.6
1984	12 16	00 48.70	+04 30.2					
1984	12 26	00 54.83	+05 09.4	2.272	2.638	100.7	21.5	17.9

1949 QC a,e,i = 2.67, 0.26, 8 Elements MPC 7834

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 00.82	-04 23.5	1.468	1.971	103.5	30.1	16.5
1984	07 29	01 12.22	-04 16.2					
1984	08 08	01 21.18	-04 27.1	1.300	1.984	117.5	27.0	16.2
1984	08 18	01 27.31	-04 56.0					
1984	08 28	01 30.22	-05 41.5	1.166	2.004	134.0	21.3	15.8
1984	09 07	01 29.71	-06 39.5					
1984	09 17	01 25.93	-07 42.9	1.086	2.031	152.4	13.2	15.5
1984	09 27	01 19.44	-08 42.4					
1984	10 07	01 11.33	-09 27.5	1.084	2.064	164.3	7.5	15.4
1984	10 17	01 03.00	-09 49.6					
1984	10 27	00 55.81	-09 44.4	1.174	2.103	151.9	12.8	15.8
1984	11 06	00 50.84	-09 11.9					
1984	11 16	00 48.62	-08 15.5	1.345	2.147	133.3	19.6	16.3
1984	11 26	00 49.28	-07 00.0					
1984	12 06	00 52.69	-05 29.8	1.577	2.195	115.9	23.8	16.7
1984	12 16	00 58.51	-03 49.3					
1984	12 26	01 06.40	-02 01.7	1.848	2.246	100.5	25.5	17.2

(2896) 1931 RN a,e,i = 2.22, 0.19, 6 Elements MPC 8057

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 16.11	+08 19.0	1.569	1.947	95.3	31.3	17.1
1984	07 29	01 27.26	+08 52.9					
1984	08 08	01 36.05	+09 07.8	1.401	1.985	109.6	28.8	16.9
1984	08 18	01 42.08	+09 02.1					
1984	08 28	01 44.96	+08 34.3	1.251	2.026	126.9	23.5	16.6
1984	09 07	01 44.43	+07 44.1					
1984	09 17	01 40.53	+06 33.2	1.147	2.069	147.9	14.9	16.2
1984	09 27	01 33.67	+05 06.5					
1984	10 07	01 24.84	+03 32.5	1.119	2.112	171.0	4.2	15.9
1984	10 17	01 15.39	+02 02.5					
1984	10 27	01 06.75	+00 47.0	1.191	2.156	161.5	8.4	16.2
1984	11 06	01 00.14	-00 06.2					
1984	11 16	00 56.26	-00 33.9	1.356	2.200	139.0	17.1	16.8
1984	11 26	00 55.35	-00 36.9					
1984	12 06	00 57.33	-00 17.7	1.589	2.243	119.3	22.5	17.3
1984	12 16	01 01.91	+00 19.9					
1984	12 26	01 08.74	+01 12.3	1.863	2.285	102.3	24.9	17.7

1976 GQ3 a,e,i = 3.19, 0.03, 22 Elements MPC 8796

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 30.75	+13 36.1	3.145	3.305	90.0	17.9	18.5
1984	07 29	01 36.35	+13 38.0					
1984	08 08	01 40.40	+13 27.4	2.863	3.305	107.0	17.1	18.3
1984	08 18	01 42.71	+13 03.0					
1984	08 28	01 43.14	+12 23.7	2.608	3.304	126.0	14.3	18.0
1984	09 07	01 41.64	+11 29.0					
1984	09 17	01 38.29	+10 19.4	2.413	3.303	147.3	9.5	17.7
1984	09 27	01 33.33	+08 56.8					
1984	10 07	01 27.22	+07 25.2	2.312	3.302	170.4	2.9	17.4
1984	10 17	01 20.58	+05 50.1					
1984	10 27	01 14.08	+04 17.8	2.330	3.300	165.1	4.4	17.5
1984	11 06	01 08.42	+02 54.5					
1984	11 16	01 04.14	+01 44.9	2.463	3.298	141.9	10.7	17.8
1984	11 26	01 01.58	+00 51.8					
1984	12 06	01 00.93	+00 16.2	2.686	3.296	120.4	14.9	18.1
1984	12 16	01 02.20	-00 02.6					
1984	12 26	01 05.30	-00 06.0	2.960	3.293	101.0	17.0	18.3

1972 KM a,e,i = 2.54, 0.26, 9 Elements MPC 7613

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	07 19	01 31.73	-01 01.1	1.817	2.160	95.1	27.9	18.1
1984	07 29	01 41.28	-00 59.5					
1984	08 08	01 48.47	-01 14.9	1.651	2.214	110.0	25.5	17.9
1984	08 18	01 53.00	-01 47.1					
1984	08 28	01 54.56	-02 35.3	1.508	2.269	127.5	20.7	17.6
1984	09 07	01 53.00	-03 36.5					
1984	09 17	01 48.43	-04 45.6	1.416	2.326	147.2	13.5	17.4
1984	09 27	01 41.25	-05 55.5					
1984	10 07	01 32.33	-06 57.4	1.407	2.383	163.7	6.8	17.3
1984	10 17	01 22.83	-07 43.1					
1984	10 27	01 13.94	-08 07.1	1.499	2.440	155.8	9.6	17.5
1984	11 06	01 06.71	-08 07.1					
1984	11 16	01 01.81	-07 44.2	1.687	2.496	136.2	15.9	18.0
1984	11 26	00 59.52	-07 01.5					
1984	12 06	00 59.84	-06 02.6	1.945	2.551	117.2	20.1	18.4
1984	12 16	01 02.56	-04 51.5					
1984	12 26	01 07.39	-03 31.1	2.247	2.605	100.1	21.8	18.8

1979 SF9 a,e,i = 2.90, 0.08, 3 Elements MPC 7230

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	01 44.81	+08 21.3	2.252	2.738	107.8	20.6	16.9
1984	08 18	01 48.36	+08 26.8					
1984	08 28	01 49.67	+08 19.1	2.032	2.749	125.9	17.3	16.6
1984	09 07	01 48.58	+07 57.9					
1984	09 17	01 45.14	+07 24.1	1.866	2.761	146.6	11.6	16.3
1984	09 27	01 39.59	+06 39.6					
1984	10 07	01 32.48	+05 48.4	1.785	2.773	169.3	3.8	16.0
1984	10 17	01 24.61	+04 55.6					
1984	10 27	01 16.90	+04 07.1	1.813	2.786	165.6	5.1	16.1
1984	11 06	01 10.25	+03 28.5					
1984	11 16	01 05.36	+03 03.4	1.948	2.800	142.8	12.3	16.5
1984	11 26	01 02.63	+02 53.9					
1984	12 06	01 02.25	+03 00.3	2.166	2.814	121.9	17.3	16.8
1984	12 16	01 04.15	+03 21.3					
1984	12 26	01 08.16	+03 55.3	2.436	2.828	103.3	19.8	17.1
1985	01 05	01 14.08	+04 40.5					
1985	01 15	01 21.66	+05 34.6	2.725	2.843	86.7	20.2	17.4

1981 LA a,e,i = 1.89, 0.07, 25 Elements MPC 7662

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	01 56.39	-27 07.4	1.349	1.985	113.5	27.9	16.3
1984	08 18	02 04.57	-29 29.9					
1984	08 28	02 09.22	-32 05.2	1.223	1.973	123.9	25.1	16.0
1984	09 07	02 09.71	-34 43.0					
1984	09 17	02 05.69	-37 08.8	1.145	1.961	131.4	22.6	15.8
1984	09 27	01 57.23	-39 05.4					
1984	10 07	01 45.27	-40 15.0	1.125	1.947	132.7	22.2	15.7
1984	10 17	01 31.57	-40 25.0					
1984	10 27	01 18.31	-39 31.4	1.165	1.931	126.8	24.3	15.8
1984	11 06	01 07.49	-37 38.8					
1984	11 16	01 00.32	-34 58.8	1.258	1.916	116.5	27.5	16.0
1984	11 26	00 57.16	-31 44.2					
1984	12 06	00 57.86	-28 06.9	1.391	1.899	104.8	30.1	16.3
1984	12 16	01 01.93	-24 16.7					
1984	12 26	01 08.87	-20 20.3	1.552	1.883	93.1	31.4	16.6
1985	01 05	01 18.20	-16 22.6					
1985	01 15	01 29.50	-12 27.2	1.728	1.866	82.0	31.5	16.8

(2884) Reddish a,e,i = 3.12, 0.17, 2 Elements MPC 7936

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	01 48.34	+09 47.2	2.259	2.726	106.5	20.9	17.4
1984	08 18	01 52.87	+10 13.2					
1984	08 28	01 55.28	+10 27.8	2.006	2.702	123.9	18.1	17.1
1984	09 07	01 55.34	+10 30.3					
1984	09 17	01 52.98	+10 20.6	1.802	2.680	143.9	12.8	16.7
1984	09 27	01 48.31	+09 59.2					
1984	10 07	01 41.76	+09 28.2	1.679	2.661	166.4	5.1	16.3
1984	10 17	01 34.07	+08 51.4					
1984	10 27	01 26.17	+08 13.6	1.659	2.643	169.7	3.9	16.2
1984	11 06	01 19.09	+07 40.7					
1984	11 16	01 13.68	+07 17.6	1.747	2.628	146.4	12.0	16.6
1984	11 26	01 10.51	+07 07.4					
1984	12 06	01 09.87	+07 12.1	1.920	2.616	125.3	17.9	16.9
1984	12 16	01 11.76	+07 31.5					
1984	12 26	01 16.04	+08 04.4	2.148	2.606	106.7	21.2	17.2
1985	01 05	01 22.50	+08 49.4					
1985	01 15	01 30.87	+09 44.2	2.401	2.599	90.3	22.2	17.5

1981 EF26 a,e,i = 3.22, 0.10, 7 Elements MPC 8135

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	08 08	01 58.03	+09 16.2	2.964	3.363	-0.68	-2.6	17.4
1984	08 18	02 00.98	+09 10.8					
1984	08 28	02 02.12	+08 54.2	2.690	3.347	-0.76	-2.9	17.1
1984	09 07	02 01.34	+08 26.1					
1984	09 17	01 58.64	+07 47.3	2.470	3.330	-0.84	-3.3	16.8
1984	09 27	01 54.16	+06 59.2					
1984	10 07	01 48.23	+06 04.4	2.337	3.313	-0.88	-3.6	16.5
1984	10 17	01 41.41	+05 07.2					
1984	10 27	01 34.34	+04 12.0	2.315	3.296	-0.88	-3.6	16.4
1984	11 06	01 27.77	+03 23.7					
1984	11 16	01 22.33	+02 46.3	2.409	3.278	-0.83	-3.4	16.7
1984	11 26	01 18.50	+02 22.3					
1984	12 06	01 16.58	+02 12.8	2.596	3.260	-0.75	-3.0	17.0
1984	12 16	01 16.66	+02 17.5					
1984	12 26	01 18.70	+02 35.3	2.842	3.241	-0.68	-2.7	17.2
1985	01 05	01 22.59	+03 04.8					
1985	01 15	01 28.16	+03 44.1	3.112	3.223	-0.62	-2.5	17.4

1979 ML3 a,e,i = 2.59, 0.10, 3 Elements MPC 6305

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 11.11	+15 14.2	2.380	2.735	99.4	21.5	19.1
1984	08 18	02 15.89	+15 37.5					
1984	08 28	02 18.49	+15 49.0	2.144	2.751	116.8	19.1	18.8
1984	09 07	02 18.67	+15 47.3					
1984	09 17	02 16.34	+15 31.8	1.947	2.766	136.7	14.4	18.5
1984	09 27	02 11.54	+15 02.1					
1984	10 07	02 04.66	+14 19.0	1.823	2.780	159.4	7.3	18.2
1984	10 17	01 56.35	+13 25.6					
1984	10 27	01 47.53	+12 26.3	1.801	2.793	175.9	1.4	17.8
1984	11 06	01 39.21	+11 27.4					
1984	11 16	01 32.29	+10 35.1	1.894	2.805	151.9	9.6	18.3
1984	11 26	01 27.40	+09 54.1					
1984	12 06	01 24.91	+09 27.6	2.083	2.815	129.6	15.6	18.7
1984	12 16	01 24.87	+09 16.5					
1984	12 26	01 27.19	+09 20.3	2.337	2.824	109.7	19.1	19.0
1985	01 05	01 31.66	+09 37.7					
1985	01 15	01 38.03	+10 06.7	2.620	2.832	92.1	20.3	19.3

1979 SS11 a,e,i = 2.93, 0.09, 2 Elements MPC 7373

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 08	02 08.67	+12 27.9	2.546	2.913	100.9	20.0	17.8
1984 08 18	02 13.24	+12 55.3					
1984 08 28	02 15.83	+13 12.7	2.277	2.895	118.2	17.9	17.5
1984 09 07	02 16.20	+13 19.3					
1984 09 17	02 14.23	+13 14.6	2.051	2.877	138.0	13.5	17.2
1984 09 27	02 09.94	+12 58.6					
1984 10 07	02 03.63	+12 32.1	1.899	2.860	160.3	6.8	16.8
1984 10 17	01 55.88	+11 57.5					
1984 10 27	01 47.49	+11 18.4	1.851	2.843	175.7	1.5	16.4
1984 11 06	01 39.44	+10 40.0					
1984 11 16	01 32.62	+10 07.2	1.915	2.826	151.8	9.5	16.9
1984 11 26	01 27.71	+09 44.3					
1984 12 06	01 25.12	+09 34.0	2.076	2.809	129.7	15.7	17.2
1984 12 16	01 24.98	+09 37.3					
1984 12 26	01 27.25	+09 54.2	2.301	2.793	109.9	19.3	17.5
1985 01 05	01 31.75	+10 23.4					
1985 01 15	01 38.25	+11 03.4	2.556	2.778	92.5	20.7	17.7

1979 UD1 a,e,i = 2.90, 0.09, 3 Elements MPC 7137

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984 08 08	02 06.09	+09 22.2	2.228	2.641	-1.01	-5.3	17.9
1984 08 18	02 11.66	+09 34.4					
1984 08 28	02 15.06	+09 34.1	1.998	2.646	-1.14	-5.9	17.6
1984 09 07	02 16.05	+09 20.8					
1984 09 17	02 14.53	+08 55.1	1.810	2.653	-1.29	-6.8	17.2
1984 09 27	02 10.55	+08 18.1					
1984 10 07	02 04.45	+07 32.7	1.696	2.661	-1.40	-7.5	16.9
1984 10 17	01 56.91	+06 43.2					
1984 10 27	01 48.82	+05 55.3	1.683	2.671	-1.41	-7.7	16.7
1984 11 06	01 41.21	+05 14.8					
1984 11 16	01 34.97	+04 46.5	1.779	2.682	-1.30	-7.2	17.1
1984 11 26	01 30.75	+04 33.3					
1984 12 06	01 28.92	+04 36.4	1.967	2.694	-1.15	-6.4	17.5
1984 12 16	01 29.53	+04 54.9					
1984 12 26	01 32.48	+05 27.3	2.216	2.707	-1.00	-5.5	17.9
1985 01 05	01 37.59	+06 11.5					
1985 01 15	01 44.59	+07 05.3	2.495	2.721	-0.89	-4.8	18.1

(2965) 1975 BX a,e,i = 2.39, 0.22, 24 Elements MPC 8388

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 08	02 17.92	-13 13.0	2.457	2.906	106.1	19.6	19.2
1984 08 18	02 22.08	-14 41.8					
1984 08 28	02 24.03	-16 24.1	2.253	2.913	121.6	17.2	19.0
1984 09 07	02 23.56	-18 15.9					
1984 09 17	02 20.56	-20 11.2	2.105	2.916	136.4	13.7	18.8
1984 09 27	02 15.13	-22 01.9					
1984 10 07	02 07.63	-23 38.7	2.039	2.917	145.3	11.2	18.6
1984 10 17	01 58.74	-24 52.6					
1984 10 27	01 49.34	-25 37.3	2.069	2.914	141.6	12.2	18.7
1984 11 06	01 40.44	-25 49.3					
1984 11 16	01 32.91	-25 29.6	2.190	2.909	128.3	15.5	18.9
1984 11 26	01 27.38	-24 41.8					
1984 12 06	01 24.20	-23 31.0	2.379	2.900	112.3	18.3	19.1
1984 12 16	01 23.43	-22 02.8					
1984 12 26	01 24.97	-20 21.9	2.607	2.889	96.5	19.8	19.3
1985 01 05	01 28.63	-18 32.3					
1985 01 15	01 34.17	-16 37.5	2.847	2.874	81.7	19.8	19.5

6560 P-L a,e,i = 2.26, 0.09, 3 Elements MPC 7943

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 10.76	+09 24.5	2.017	2.431	101.4	24.1	19.0
1984	08 18	02 16.95	+09 40.8					
1984	08 28	02 20.84	+09 44.1	1.774	2.421	118.1	21.6	18.7
1984	09 07	02 22.10	+09 33.4					
1984	09 17	02 20.49	+09 08.9	1.569	2.409	137.7	16.3	18.3
1984	09 27	02 15.93	+08 31.1					
1984	10 07	02 08.71	+07 42.6	1.432	2.396	160.2	8.1	17.9
1984	10 17	01 59.53	+06 48.1					
1984	10 27	01 49.47	+05 54.1	1.393	2.381	172.4	3.2	17.6
1984	11 06	01 39.84	+05 07.9					
1984	11 16	01 31.84	+04 35.9	1.461	2.366	149.3	12.3	18.0
1984	11 26	01 26.30	+04 21.7					
1984	12 06	01 23.71	+04 26.9	1.617	2.349	127.3	19.5	18.3
1984	12 16	01 24.11	+04 50.3					
1984	12 26	01 27.35	+05 29.9	1.827	2.331	108.3	23.6	18.7
1985	01 05	01 33.16	+06 23.3					
1985	01 15	01 41.21	+07 27.6	2.061	2.312	91.9	25.2	19.0

(3001) 1982 BC1 a,e,i = 2.36, 0.07, 18 Elements MPC 8532

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 06.11	+34 50.7	1.967	2.265	93.3	26.5	17.4
1984	08 18	02 15.16	+37 08.2					
1984	08 28	02 21.98	+39 19.5	1.748	2.252	106.3	25.5	17.1
1984	09 07	02 26.01	+41 21.2					
1984	09 17	02 26.69	+43 09.1	1.554	2.239	120.6	22.7	16.7
1984	09 27	02 23.58	+44 36.4					
1984	10 07	02 16.61	+45 34.5	1.403	2.228	135.5	18.3	16.4
1984	10 17	02 06.44	+45 54.5					
1984	10 27	01 54.45	+45 30.1	1.318	2.219	147.0	14.1	16.2
1984	11 06	01 42.68	+44 21.2					
1984	11 16	01 33.10	+42 36.3	1.317	2.210	146.5	14.3	16.1
1984	11 26	01 27.07	+40 29.2					
1984	12 06	01 25.19	+38 16.0	1.402	2.203	134.0	18.8	16.4
1984	12 16	01 27.40	+36 09.8					
1984	12 26	01 33.27	+34 18.9	1.556	2.198	118.1	23.2	16.7
1985	01 05	01 42.29	+32 47.7					
1985	01 15	01 53.90	+31 36.6	1.755	2.194	102.8	25.9	17.0

1981 XF2 a,e,i = 2.20, 0.15, 4 Elements MPC 7450

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 11.84	+08 20.5	1.495	1.967	101.5	30.3	17.5
1984	08 18	02 20.82	+08 52.7					
1984	08 28	02 27.02	+09 10.0	1.325	1.997	116.8	26.8	17.2
1984	09 07	02 29.99	+09 12.2					
1984	09 17	02 29.42	+08 59.5	1.185	2.029	135.6	20.3	16.9
1984	09 27	02 25.21	+08 33.1					
1984	10 07	02 17.73	+07 56.4	1.102	2.063	157.9	10.5	16.5
1984	10 17	02 07.92	+07 14.6					
1984	10 27	01 57.20	+06 34.9	1.107	2.098	173.7	3.0	16.3
1984	11 06	01 47.18	+06 04.8					
1984	11 16	01 39.24	+05 49.9	1.212	2.134	151.5	12.8	16.9
1984	11 26	01 34.23	+05 53.0					
1984	12 06	01 32.48	+06 14.5	1.401	2.170	130.1	20.3	17.4
1984	12 16	01 33.91	+06 52.3					
1984	12 26	01 38.21	+07 43.9	1.645	2.206	111.6	24.5	17.9
1985	01 05	01 45.03	+08 46.5					
1985	01 15	01 53.96	+09 57.3	1.919	2.241	95.7	25.9	18.3

1982 HL a,e,i = 2.75, 0.10, 6 Elements MPC 7363

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 25.51	+09 49.7	2.666	2.979	97.8	19.7	19.0
1984	08 18	02 30.19	+10 08.7					
1984	08 28	02 32.93	+10 18.4	2.395	2.968	115.1	17.9	18.7
1984	09 07	02 33.50	+10 18.4					
1984	09 17	02 31.76	+10 09.0	2.162	2.957	134.8	14.0	18.3
1984	09 27	02 27.66	+09 50.7					
1984	10 07	02 21.42	+09 24.8	2.000	2.945	156.8	7.7	18.0
1984	10 17	02 13.53	+08 53.9					
1984	10 27	02 04.73	+08 21.7	1.939	2.931	175.8	1.4	17.6
1984	11 06	01 55.93	+07 52.4					
1984	11 16	01 48.06	+07 30.4	1.995	2.917	154.2	8.5	18.0
1984	11 26	01 41.85	+07 18.9					
1984	12 06	01 37.83	+07 20.1	2.152	2.902	131.7	14.7	18.3
1984	12 16	01 36.20	+07 34.3					
1984	12 26	01 36.96	+08 01.1	2.377	2.886	111.5	18.5	18.6
1985	01 05	01 40.00	+08 39.4					
1985	01 15	01 45.09	+09 27.3	2.636	2.869	93.5	20.0	18.9

1983 NK a,e,i = 3.14, 0.11, 13 Elements MPC 8271

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	08 08	02 23.60	+28 16.4	2.954	3.160	-0.77	-1.7	18.1
1984	08 18	02 28.50	+29 08.2					
1984	08 28	02 31.43	+29 51.3	2.710	3.181	-0.86	-1.6	17.9
1984	09 07	02 32.18	+30 24.0					
1984	09 17	02 30.63	+30 44.0	2.494	3.202	-0.95	-1.8	17.6
1984	09 27	02 26.80	+30 48.8					
1984	10 07	02 20.92	+30 36.2	2.340	3.222	-1.03	-2.4	17.4
1984	10 17	02 13.54	+30 05.1					
1984	10 27	02 05.37	+29 16.1	2.278	3.242	-1.05	-3.0	17.2
1984	11 06	01 57.32	+28 12.7					
1984	11 16	01 50.24	+27 00.4	2.329	3.262	-1.00	-3.5	17.3
1984	11 26	01 44.78	+25 45.5					
1984	12 06	01 41.39	+24 34.6	2.489	3.281	-0.90	-3.4	17.6
1984	12 16	01 40.24	+23 32.4					
1984	12 26	01 41.30	+22 41.9	2.731	3.299	-0.80	-3.0	17.9
1985	01 05	01 44.45	+22 04.6					
1985	01 15	01 49.48	+21 40.4	3.022	3.317	-0.71	-2.5	18.2

1979 SX9 a,e,i = 2.87, 0.01, 3 Elements MPC 7148

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 25.27	+12 39.5	2.604	2.907	97.0	20.3	18.4
1984	08 18	02 30.48	+13 05.4					
1984	08 28	02 33.73	+13 21.9	2.347	2.909	114.1	18.5	18.1
1984	09 07	02 34.78	+13 28.4					
1984	09 17	02 33.49	+13 24.5	2.126	2.911	133.5	14.5	17.8
1984	09 27	02 29.83	+13 10.4					
1984	10 07	02 24.00	+12 46.6	1.973	2.912	155.5	8.2	17.5
1984	10 17	02 16.51	+12 15.4					
1984	10 27	02 08.09	+11 39.8	1.920	2.913	178.7	0.5	16.9
1984	11 06	01 59.66	+11 04.1					
1984	11 16	01 52.15	+10 33.2	1.981	2.914	156.4	7.8	17.5
1984	11 26	01 46.29	+10 10.9					
1984	12 06	01 42.59	+10 00.1	2.145	2.915	133.8	14.1	17.8
1984	12 16	01 41.24	+10 02.0					
1984	12 26	01 42.25	+10 16.6	2.380	2.915	113.5	18.0	18.1
1985	01 05	01 45.49	+10 42.9					
1985	01 15	01 50.75	+11 19.5	2.653	2.916	95.4	19.6	18.4

1982 BY1 a,e,i = 2.38, 0.17, 3 Elements MPC 6825

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 24.65	+12 02.8	2.270	2.602	97.3	22.7	18.9
1984	08 18	02 31.12	+12 32.8					
1984	08 28	02 35.57	+12 52.8	1.993	2.572	113.8	21.1	18.5
1984	09 07	02 37.65	+13 02.0					
1984	09 17	02 37.08	+12 59.7	1.748	2.540	132.8	16.9	18.1
1984	09 27	02 33.67	+12 45.4					
1984	10 07	02 27.50	+12 19.7	1.566	2.507	154.8	9.8	17.7
1984	10 17	02 19.02	+11 44.4					
1984	10 27	02 09.08	+11 03.1	1.478	2.472	178.0	0.8	17.0
1984	11 06	01 58.88	+10 21.5					
1984	11 16	01 49.68	+09 45.7	1.501	2.435	155.6	9.7	17.5
1984	11 26	01 42.54	+09 21.3					
1984	12 06	01 38.15	+09 12.1	1.620	2.398	132.5	17.6	17.9
1984	12 16	01 36.80	+09 19.4					
1984	12 26	01 38.44	+09 42.8	1.803	2.360	112.4	22.7	18.2
1985	01 05	01 42.91	+10 20.9					
1985	01 15	01 49.88	+11 11.4	2.015	2.321	95.2	25.0	18.4

1979 MO6 a,e,i = 2.68, 0.20, 12 Elements MPC 6112

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 08.36	-02 06.0	1.735	2.231	105.5	26.0	18.5
1984	08 18	02 17.71	-02 39.0					
1984	08 28	02 24.87	-03 29.1	1.519	2.207	120.2	23.3	18.2
1984	09 07	02 29.43	-04 35.0					
1984	09 17	02 31.09	-05 53.2	1.345	2.186	136.5	18.4	17.8
1984	09 27	02 29.67	-07 18.2					
1984	10 07	02 25.31	-08 40.9	1.235	2.170	152.3	12.4	17.4
1984	10 17	02 18.62	-09 50.8					
1984	10 27	02 10.57	-10 37.2	1.210	2.159	156.7	10.5	17.3
1984	11 06	02 02.51	-10 52.3					
1984	11 16	01 55.70	-10 33.3	1.274	2.152	143.6	15.8	17.6
1984	11 26	01 51.13	-09 42.3					
1984	12 06	01 49.37	-08 24.0	1.415	2.151	126.3	21.7	17.9
1984	12 16	01 50.56	-06 44.9					
1984	12 26	01 54.57	-04 51.0	1.608	2.154	110.1	25.4	18.3
1985	01 05	02 01.17	-02 47.1					
1985	01 15	02 10.02	-00 37.8	1.832	2.163	95.6	26.9	18.6

1983 NJ a,e,i = 3.09, 0.08, 16 Elements MPC 8271

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	08 08	02 28.44	+01 15.6	2.834	3.167	-0.70	-2.2	18.1
1984	08 18	02 33.18	+00 36.4					
1984	08 28	02 36.09	-00 15.0	2.594	3.180	-0.77	-2.5	17.9
1984	09 07	02 37.00	-01 17.5					
1984	09 17	02 35.82	-02 29.0	2.399	3.193	-0.85	-2.9	17.6
1984	09 27	02 32.60	-03 45.9					
1984	10 07	02 27.55	-05 03.3	2.281	3.206	-0.92	-3.2	17.4
1984	10 17	02 21.13	-06 15.3					
1984	10 27	02 13.95	-07 16.1	2.267	3.218	-0.94	-3.1	17.3
1984	11 06	02 06.76	-08 00.6					
1984	11 16	02 00.27	-08 25.8	2.363	3.230	-0.90	-2.7	17.5
1984	11 26	01 55.10	-08 30.9					
1984	12 06	01 51.67	-08 16.7	2.553	3.241	-0.82	-2.3	17.8
1984	12 16	01 50.18	-07 45.9					
1984	12 26	01 50.67	-07 01.0	2.807	3.252	-0.73	-2.1	18.1
1985	01 05	01 53.08	-06 05.0					
1985	01 15	01 57.24	-05 00.8	3.092	3.262	-0.65	-1.9	18.3

1981 EZ25 a,e,i = 3.21, 0.18, 20 Elements MPC 8135

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	08 08	02 36.79	+26 33.6	2.418	2.622	-0.95	-8.6	18.5
1984	08 18	02 44.24	+28 38.4					
1984	08 28	02 49.72	+30 41.6	2.177	2.623	-1.12	-8.9	18.3
1984	09 07	02 52.83	+32 41.9					
1984	09 17	02 53.17	+34 36.9	1.965	2.628	-1.34	-9.5	18.0
1984	09 27	02 50.39	+36 22.9					
1984	10 07	02 44.41	+37 54.2	1.805	2.635	-1.54	-10.7	17.7
1984	10 17	02 35.53	+39 04.8					
1984	10 27	02 24.53	+39 49.0	1.725	2.646	-1.63	-12.3	17.5
1984	11 06	02 12.76	+40 03.9					
1984	11 16	02 01.73	+39 51.9	1.743	2.659	-1.55	-13.5	17.6
1984	11 26	01 52.81	+39 19.3					
1984	12 06	01 46.93	+38 35.3	1.860	2.676	-1.35	-13.3	17.8
1984	12 16	01 44.47	+37 48.9					
1984	12 26	01 45.40	+37 07.0	2.053	2.694	-1.17	-12.0	18.1
1985	01 05	01 49.49	+36 34.1					
1985	01 15	01 56.33	+36 12.2	2.296	2.716	-1.04	-10.2	18.4

1981 ER17 a,e,i = 3.12, 0.16, 5 Elements MPC 7932

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	08 08	02 26.80	+15 34.2	2.352	2.653	-1.06	-3.7	18.5
1984	08 18	02 34.59	+15 59.9					
1984	08 28	02 40.50	+16 14.2	2.099	2.644	-1.20	-4.0	18.2
1984	09 07	02 44.22	+16 16.1					
1984	09 17	02 45.52	+16 05.0	1.877	2.637	-1.37	-4.5	17.9
1984	09 27	02 44.26	+15 40.5					
1984	10 07	02 40.54	+15 02.9	1.714	2.633	-1.52	-5.3	17.5
1984	10 17	02 34.74	+14 14.2					
1984	10 27	02 27.54	+13 17.9	1.642	2.632	-1.58	-5.9	17.1
1984	11 06	02 19.93	+12 19.5					
1984	11 16	02 12.92	+11 25.3	1.677	2.634	-1.52	-6.0	17.4
1984	11 26	02 07.41	+10 40.9					
1984	12 06	02 04.05	+10 10.6	1.816	2.638	-1.36	-5.4	17.7
1984	12 16	02 03.14	+09 56.1					
1984	12 26	02 04.73	+09 57.4	2.030	2.645	-1.19	-4.7	18.1
1985	01 05	02 08.72	+10 13.2					
1985	01 15	02 14.86	+10 41.4	2.288	2.654	-1.05	-3.9	18.4

1980 VN1 a,e,i = 2.55, 0.23, 9 Elements MPC 7016

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 24.51	+04 05.7	1.724	2.144	99.8	27.8	18.5
1984	08 18	02 35.29	+04 39.0					
1984	08 28	02 44.16	+05 02.1	1.481	2.102	113.8	26.1	18.1
1984	09 07	02 50.68	+05 15.2					
1984	09 17	02 54.40	+05 19.3	1.268	2.064	130.2	21.8	17.6
1984	09 27	02 54.88	+05 16.2					
1984	10 07	02 51.93	+05 09.0	1.105	2.031	149.5	14.5	17.1
1984	10 17	02 45.76	+05 02.2					
1984	10 27	02 37.05	+05 00.9	1.018	2.002	168.9	5.5	16.6
1984	11 06	02 27.16	+05 11.1					
1984	11 16	02 17.73	+05 37.0	1.024	1.980	159.3	10.2	16.8
1984	11 26	02 10.27	+06 20.7					
1984	12 06	02 05.91	+07 21.9	1.118	1.965	138.1	19.6	17.2
1984	12 16	02 05.11	+08 38.6					
1984	12 26	02 07.90	+10 07.5	1.277	1.956	119.3	26.0	17.6
1985	01 05	02 14.06	+11 45.6					
1985	01 15	02 23.18	+13 29.6	1.474	1.955	103.6	29.3	18.0

1981 ED21 a,e,i = 2.74, 0.35, 9 Elements MPC 7933

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	08 08	02 14.99	+18 20.6	1.782	2.162	-1.53	-10.8	19.1
1984	08 18	02 26.22	+20 14.5					
1984	08 28	02 35.99	+22 07.1	1.506	2.089	-1.94	-12.2	18.6
1984	09 07	02 43.82	+23 58.0					
1984	09 17	02 49.22	+25 46.4	1.261	2.020	-2.48	-14.3	18.1
1984	09 27	02 51.59	+27 30.1					
1984	10 07	02 50.45	+29 05.0	1.065	1.957	-3.11	-17.6	17.5
1984	10 17	02 45.67	+30 25.6					
1984	10 27	02 37.61	+31 24.5	0.937	1.900	-3.56	-22.2	17.0
1984	11 06	02 27.55	+31 55.5					
1984	11 16	02 17.45	+31 58.0	0.892	1.852	-3.52	-25.8	16.8
1984	11 26	02 09.40	+31 37.4					
1984	12 06	02 05.12	+31 04.6	0.930	1.814	-3.09	-25.4	17.1
1984	12 16	02 05.42	+30 31.1					
1984	12 26	02 10.39	+30 04.8	1.031	1.788	-2.66	-21.7	17.4
1985	01 05	02 19.74	+29 50.0					
1985	01 15	02 32.88	+29 46.8	1.174	1.775	-2.37	-17.0	17.8

(2814) 1982 FA3 a,e,i = 2.87, 0.07, 2 Elements MPC 7466

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 08	02 48.05	+14 06.1	2.523	2.740	91.3	21.7	17.7
1984	08 18	02 55.57	+14 28.2					
1984	08 28	03 01.22	+14 40.5	2.277	2.752	107.3	20.5	17.5
1984	09 07	03 04.71	+14 42.5					
1984	09 17	03 05.82	+14 34.1	2.055	2.764	125.6	17.2	17.2
1984	09 27	03 04.39	+14 15.3					
1984	10 07	03 00.46	+13 46.7	1.888	2.777	146.6	11.4	16.9
1984	10 17	02 54.34	+13 09.9					
1984	10 27	02 46.61	+12 27.7	1.807	2.790	169.6	3.7	16.5
1984	11 06	02 38.15	+11 44.4					
1984	11 16	02 29.95	+11 04.7	1.837	2.804	165.0	5.2	16.6
1984	11 26	02 22.93	+10 33.3					
1984	12 06	02 17.82	+10 13.5	1.976	2.818	141.9	12.5	17.0
1984	12 16	02 15.01	+10 07.1					
1984	12 26	02 14.63	+10 14.2	2.198	2.832	120.9	17.3	17.4
1985	01 05	02 16.65	+10 34.0					
1985	01 15	02 20.85	+11 04.7	2.470	2.847	102.3	19.7	17.7

1978 RH a,e,i = 3.18, 0.26, 2 Elements MPC 5602

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	02 51.62	+13 40.1	1.851	2.390	109.8	23.4	17.3
1984	09 07	02 57.78	+13 57.4					
1984	09 17	03 01.47	+14 03.6	1.627	2.370	126.8	19.9	16.9
1984	09 27	03 02.42	+13 58.8					
1984	10 07	03 00.51	+13 43.5	1.455	2.355	146.6	13.5	16.5
1984	10 17	02 55.95	+13 19.2					
1984	10 27	02 49.30	+12 48.7	1.362	2.345	169.0	4.6	16.1
1984	11 06	02 41.55	+12 16.6					
1984	11 16	02 33.92	+11 48.2	1.369	2.341	166.2	5.8	16.1
1984	11 26	02 27.55	+11 28.6					
1984	12 06	02 23.39	+11 21.9	1.475	2.343	143.6	14.4	16.5
1984	12 16	02 21.93	+11 29.8					
1984	12 26	02 23.34	+11 52.2	1.659	2.350	123.5	20.4	16.9
1985	01 05	02 27.51	+12 27.7					
1985	01 15	02 34.21	+13 14.0	1.893	2.363	106.1	23.6	17.3
1985	01 25	02 43.14	+14 08.5					
1985	02 04	02 54.01	+15 08.7	2.152	2.381	90.9	24.5	17.6

(3010) 1978 SB5 a,e,i = 3.20, 0.19, 2 Elements MPC 8668

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 08.11	+15 10.0	2.701	3.128	105.6	18.1	18.6
1984	09 07	03 10.44	+15 11.8					
1984	09 17	03 10.62	+15 04.9	2.486	3.165	124.4	15.2	18.3
1984	09 27	03 08.57	+14 49.5					
1984	10 07	03 04.38	+14 26.1	2.327	3.201	145.6	10.2	18.1
1984	10 17	02 58.35	+13 56.0					
1984	10 27	02 51.00	+13 21.3	2.257	3.237	168.6	3.5	17.8
1984	11 06	02 43.05	+12 45.2					
1984	11 16	02 35.29	+12 11.4	2.303	3.273	166.7	4.0	17.9
1984	11 26	02 28.48	+11 43.2					
1984	12 06	02 23.21	+11 23.7	2.463	3.308	143.6	10.2	18.3
1984	12 16	02 19.85	+11 14.4					
1984	12 26	02 18.55	+11 16.0	2.713	3.342	122.2	14.4	18.6
1985	01 05	02 19.30	+11 28.2					
1985	01 15	02 21.98	+11 49.7	3.019	3.376	102.8	16.5	18.9
1985	01 25	02 26.42	+12 19.4					
1985	02 04	02 32.42	+12 55.6	3.345	3.408	85.2	16.8	19.2

1981 YH1 a,e,i = 2.18, 0.24, 18 Elements MPC 8277

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 19.00	-04 01.7	1.675	2.194	106.9	26.1	17.9
1984	09 07	03 25.97	-04 30.0					
1984	09 17	03 30.34	-05 07.7	1.430	2.138	121.8	23.5	17.5
1984	09 27	03 31.58	-05 51.7					
1984	10 07	03 29.27	-06 36.3	1.225	2.081	138.4	18.6	17.0
1984	10 17	03 23.22	-07 13.3					
1984	10 27	03 13.66	-07 32.7	1.085	2.024	153.5	12.7	16.5
1984	11 06	03 01.51	-07 23.4					
1984	11 16	02 48.33	-06 37.7	1.033	1.967	153.3	13.1	16.3
1984	11 26	02 35.95	-05 13.7					
1984	12 06	02 26.11	-03 15.2	1.071	1.912	136.7	20.7	16.5
1984	12 16	02 19.88	-00 50.6					
1984	12 26	02 17.69	+01 51.7	1.179	1.859	118.3	27.8	16.8
1985	01 05	02 19.54	+04 44.3					
1985	01 15	02 25.10	+07 41.6	1.326	1.809	102.1	32.1	17.1
1985	01 25	02 33.99	+10 39.7					
1985	02 04	02 45.88	+13 35.6	1.489	1.765	88.6	33.9	17.4

(2828) Iku-Turso a,e,i = 2.24, 0.09, 3 Elements MPC 7604

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 11.88	+14 23.6	1.682	2.173	104.9	26.7	17.4
1984	09 07	03 19.46	+14 49.0					
1984	09 17	03 24.44	+15 04.4	1.454	2.153	121.1	23.6	17.0
1984	09 27	03 26.36	+15 09.7					
1984	10 07	03 24.86	+15 04.9	1.265	2.134	140.6	17.3	16.6
1984	10 17	03 19.89	+14 50.8					
1984	10 27	03 11.81	+14 28.7	1.144	2.116	163.5	7.7	16.1
1984	11 06	03 01.60	+14 01.9					
1984	11 16	02 50.77	+13 35.5	1.118	2.100	170.6	4.4	15.9
1984	11 26	02 40.94	+13 15.3					
1984	12 06	02 33.56	+13 06.8	1.190	2.085	146.6	15.1	16.3
1984	12 16	02 29.47	+13 13.2					
1984	12 26	02 28.97	+13 35.4	1.341	2.071	125.4	22.8	16.7
1985	01 05	02 32.00	+14 12.4					
1985	01 15	02 38.23	+15 01.7	1.538	2.060	107.6	27.1	17.1
1985	01 25	02 47.29	+16 00.5					
1985	02 04	02 58.79	+17 05.8	1.755	2.051	92.6	28.7	17.4

1972 LE a,e,i = 3.13, 0.33, 16 Elements MPC 8148

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 28	03 37.03	+05 41.6	2.191	2.578	100.8	22.6	17.3
1984 09 07	03 41.30	+05 46.8					
1984 09 17	03 43.02	+05 45.8	2.017	2.644	118.1	19.6	17.1
1984 09 27	03 42.01	+05 40.2					
1984 10 07	03 38.23	+05 32.4	1.884	2.710	138.0	14.3	16.9
1984 10 17	03 31.91	+05 25.0					
1984 10 27	03 23.55	+05 21.2	1.826	2.777	159.1	7.3	16.7
1984 11 06	03 13.98	+05 23.9					
1984 11 16	03 04.20	+05 35.6	1.874	2.844	166.1	4.8	16.7
1984 11 26	02 55.21	+05 57.6					
1984 12 06	02 47.86	+06 30.3	2.036	2.911	146.8	10.7	17.1
1984 12 16	02 42.68	+07 12.9					
1984 12 26	02 39.90	+08 04.2	2.292	2.977	125.9	15.5	17.5
1985 01 05	02 39.52	+09 02.5					
1985 01 15	02 41.39	+10 06.0	2.610	3.043	106.7	18.0	17.9
1985 01 25	02 45.28	+11 13.4					
1985 02 04	02 50.95	+12 23.1	2.957	3.107	89.4	18.5	18.2

1978 QO2 a,e,i = 3.11, 0.18, 1 Elements MPC 7937

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 28	03 24.17	+17 47.0	2.159	2.554	101.2	22.8	17.7
1984 09 07	03 30.98	+18 11.1					
1984 09 17	03 35.50	+18 26.5	1.927	2.555	117.8	20.4	17.4
1984 09 27	03 37.43	+18 33.1					
1984 10 07	03 36.58	+18 30.7	1.735	2.560	137.2	15.4	17.1
1984 10 17	03 32.98	+18 19.5					
1984 10 27	03 26.94	+18 00.1	1.613	2.567	159.3	7.8	16.8
1984 11 06	03 19.18	+17 34.2					
1984 11 16	03 10.71	+17 05.2	1.590	2.578	176.5	1.3	16.4
1984 11 26	03 02.67	+16 37.0					
1984 12 06	02 56.11	+16 14.3	1.676	2.591	152.8	10.0	16.9
1984 12 16	02 51.78	+16 00.6					
1984 12 26	02 50.07	+15 58.0	1.855	2.608	131.0	16.5	17.3
1985 01 05	02 51.07	+16 07.1					
1985 01 15	02 54.64	+16 26.9	2.098	2.627	111.8	20.3	17.7
1985 01 25	03 00.57	+16 55.9					
1985 02 04	03 08.57	+17 32.1	2.375	2.649	94.9	21.8	18.0

(2939) Coconino a,e,i = 2.44, 0.16, 4 Elements MPC 8276

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 28	03 51.44	+23 34.9	2.584	2.833	93.6	20.8	18.8
1984 09 07	03 57.20	+24 08.8					
1984 09 17	04 00.79	+24 37.4	2.320	2.835	110.7	19.4	18.5
1984 09 27	04 01.90	+24 59.9					
1984 10 07	04 00.25	+25 15.3	2.085	2.834	130.2	15.6	18.2
1984 10 17	03 55.79	+25 22.3					
1984 10 27	03 48.66	+25 18.9	1.913	2.831	152.3	9.4	17.9
1984 11 06	03 39.40	+25 04.2					
1984 11 16	03 28.92	+24 38.5	1.841	2.826	173.8	2.1	17.5
1984 11 26	03 18.34	+24 04.1					
1984 12 06	03 08.85	+23 25.6	1.885	2.818	157.0	7.8	17.8
1984 12 16	03 01.38	+22 48.3					
1984 12 26	02 56.51	+22 16.8	2.034	2.808	134.0	14.6	18.1
1985 01 05	02 54.49	+21 54.8					
1985 01 15	02 55.27	+21 43.4	2.256	2.795	113.3	18.9	18.4
1985 01 25	02 58.65	+21 42.9					
1985 02 04	03 04.37	+21 52.2	2.513	2.780	95.1	20.7	18.7

(2953) 1979 SV11 a,e,i = 2.83, 0.02, 1 Elements MPC 8282

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 46.35	+20 33.2	2.605	2.882	95.4	20.4	17.8
1984	09 07	03 52.29	+20 51.4					
1984	09 17	03 56.15	+21 02.6	2.346	2.884	112.5	18.8	17.6
1984	09 27	03 57.65	+21 06.4					
1984	10 07	03 56.61	+21 02.5	2.121	2.887	132.0	14.9	17.3
1984	10 17	03 52.99	+20 50.5					
1984	10 27	03 46.98	+20 30.2	1.962	2.889	154.2	8.6	17.0
1984	11 06	03 39.12	+20 02.4					
1984	11 16	03 30.21	+19 28.9	1.902	2.891	178.2	0.6	16.4
1984	11 26	03 21.25	+18 52.8					
1984	12 06	03 13.26	+18 18.4	1.958	2.892	157.3	7.6	16.9
1984	12 16	03 07.05	+17 49.8					
1984	12 26	03 03.14	+17 29.9	2.119	2.893	134.4	14.1	17.3
1985	01 05	03 01.78	+17 20.6					
1985	01 15	03 02.93	+17 22.0	2.352	2.894	113.9	18.1	17.6
1985	01 25	03 06.46	+17 33.4					
1985	02 04	03 12.13	+17 53.4	2.623	2.895	95.8	19.8	17.9

1980 RK a,e,i = 2.39, 0.26, 6 Elements MPC 7776

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 38.15	+24 53.8	1.480	1.881	96.3	32.3	18.5
1984	09 07	03 49.81	+26 18.1					
1984	09 17	03 58.54	+27 34.0	1.330	1.927	110.5	29.2	18.2
1984	09 27	04 03.75	+28 41.2					
1984	10 07	04 04.91	+29 38.0	1.201	1.979	127.9	23.5	17.9
1984	10 17	04 01.77	+30 21.4					
1984	10 27	03 54.49	+30 46.9	1.118	2.034	148.7	14.7	17.6
1984	11 06	03 43.99	+30 50.0					
1984	11 16	03 31.90	+30 29.7	1.115	2.092	168.0	5.7	17.4
1984	11 26	03 20.17	+29 49.5					
1984	12 06	03 10.64	+28 58.0	1.210	2.152	157.0	10.3	17.8
1984	12 16	03 04.42	+28 05.3					
1984	12 26	03 01.93	+27 19.2	1.397	2.213	136.0	18.0	18.4
1985	01 05	03 03.10	+26 44.7					
1985	01 15	03 07.53	+26 23.0	1.649	2.273	117.1	22.7	18.9
1985	01 25	03 14.74	+26 13.2					
1985	02 04	03 24.28	+26 13.6	1.941	2.333	100.6	24.5	19.3

1982 DJ a,e,i = 2.30, 0.11, 6 Elements MPC 6825

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 36.68	+21 33.7	1.772	2.150	97.4	27.8	18.0
1984	09 07	03 46.97	+22 40.0					
1984	09 17	03 55.03	+23 41.3	1.537	2.130	112.2	25.9	17.7
1984	09 27	04 00.34	+24 37.7					
1984	10 07	04 02.36	+25 28.3	1.329	2.112	129.7	21.4	17.2
1984	10 17	04 00.69	+26 11.8					
1984	10 27	03 55.19	+26 45.0	1.173	2.096	150.4	13.5	16.8
1984	11 06	03 46.29	+27 04.4					
1984	11 16	03 35.12	+27 07.4	1.099	2.082	171.1	4.2	16.3
1984	11 26	03 23.40	+26 54.4					
1984	12 06	03 13.07	+26 30.4	1.124	2.070	157.9	10.3	16.6
1984	12 16	03 05.67	+26 03.1					
1984	12 26	03 02.06	+25 39.8	1.239	2.061	135.8	19.4	17.0
1985	01 05	03 02.49	+25 25.9					
1985	01 15	03 06.74	+25 23.3	1.416	2.055	116.7	25.3	17.4
1985	01 25	03 14.41	+25 31.5					
1985	02 04	03 25.04	+25 48.9	1.626	2.052	100.7	28.2	17.8

1979 MW1 a,e,i = 2.64, 0.18, 5 Elements MPC 5784

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1984	08 28	03 35.63	+22 36.7	1.811	2.184	-1.51	-3.0	18.6
1984	09 07	03 45.83	+23 04.8					
1984	09 17	03 53.56	+23 21.6	1.608	2.199	-1.74	-2.8	18.3
1984	09 27	03 58.38	+23 26.7					
1984	10 07	03 59.92	+23 19.5	1.433	2.219	-2.01	-3.2	18.0
1984	10 17	03 58.04	+22 59.2					
1984	10 27	03 52.88	+22 25.3	1.313	2.241	-2.25	-4.3	17.6
1984	11 06	03 45.12	+21 38.9					
1984	11 16	03 35.91	+20 43.1	1.280	2.267	-2.30	-5.6	17.1
1984	11 26	03 26.67	+19 43.5					
1984	12 06	03 18.82	+18 47.3	1.350	2.296	-2.12	-6.0	17.7
1984	12 16	03 13.39	+18 00.9					
1984	12 26	03 10.92	+17 28.3	1.517	2.328	-1.81	-5.3	18.1
1985	01 05	03 11.55	+17 11.1					
1985	01 15	03 15.10	+17 08.3	1.750	2.361	-1.53	-4.2	18.6
1985	01 25	03 21.27	+17 17.9					
1985	02 04	03 29.72	+17 37.2	2.023	2.397	-1.31	-3.1	19.0

1937 GG a,e,i = 2.42, 0.23, 8 Elements MPC 7019

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 58.84	+13 53.8	2.668	2.916	93.9	20.2	19.4
1984	09 07	04 04.35	+13 59.9					
1984	09 17	04 07.88	+13 59.8	2.381	2.897	111.0	18.9	19.1
1984	09 27	04 09.12	+13 53.8					
1984	10 07	04 07.82	+13 42.5	2.123	2.874	130.5	15.3	18.8
1984	10 17	04 03.87	+13 26.8					
1984	10 27	03 57.36	+13 07.7	1.931	2.849	152.4	9.3	18.4
1984	11 06	03 48.70	+12 47.3					
1984	11 16	03 38.63	+12 27.9	1.837	2.821	172.9	2.5	18.0
1984	11 26	03 28.14	+12 12.4					
1984	12 06	03 18.37	+12 03.9	1.860	2.790	156.1	8.2	18.3
1984	12 16	03 10.27	+12 04.9					
1984	12 26	03 04.52	+12 16.8	1.989	2.756	133.1	15.1	18.5
1985	01 05	03 01.49	+12 39.9					
1985	01 15	03 01.21	+13 13.3	2.189	2.720	112.3	19.5	18.8
1985	01 25	03 03.58	+13 55.7					
1985	02 04	03 08.39	+14 45.5	2.423	2.681	94.1	21.5	19.1

(2806) 1953 GG a,e,i = 2.38, 0.05, 2 Elements MPC 7463

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 44.60	+16 59.4	1.940	2.288	96.6	26.0	17.3
1984	09 07	03 53.80	+17 18.8					
1984	09 17	04 00.74	+17 29.4	1.705	2.282	112.1	24.1	17.0
1984	09 27	04 05.00	+17 31.4					
1984	10 07	04 06.18	+17 25.1	1.498	2.277	130.4	19.5	16.6
1984	10 17	04 04.07	+17 10.9					
1984	10 27	03 58.68	+16 49.6	1.347	2.273	152.0	11.8	16.2
1984	11 06	03 50.51	+16 22.7					
1984	11 16	03 40.57	+15 53.2	1.283	2.270	175.2	2.1	15.7
1984	11 26	03 30.20	+15 25.1					
1984	12 06	03 20.93	+15 03.4	1.325	2.268	158.0	9.4	16.1
1984	12 16	03 13.96	+14 52.2					
1984	12 26	03 10.00	+14 53.9	1.461	2.267	135.2	17.8	16.5
1985	01 05	03 09.35	+15 09.1					
1985	01 15	03 11.91	+15 36.5	1.663	2.267	115.5	23.1	16.9
1985	01 25	03 17.42	+16 14.1					
1985	02 04	03 25.53	+16 59.2	1.900	2.269	98.7	25.4	17.3

1980 RB a,e,i = 2.40, 0.31, 5 Elements MPC 6198

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 28	03 47.34	+13 27.5	1.416	1.833	96.7	33.2	17.8
1984 09 07	03 58.87	+13 42.2					
1984 09 17	04 07.34	+13 45.8	1.282	1.893	111.1	29.7	17.6
1984 09 27	04 12.25	+13 39.6					
1984 10 07	04 13.23	+13 25.5	1.167	1.958	129.2	23.3	17.3
1984 10 17	04 10.17	+13 05.9					
1984 10 27	04 03.31	+12 43.3	1.098	2.026	151.0	13.8	17.1
1984 11 06	03 53.53	+12 21.3					
1984 11 16	03 42.28	+12 03.8	1.112	2.096	172.1	3.7	16.8
1984 11 26	03 31.23	+11 54.8					
1984 12 06	03 21.95	+11 57.5	1.226	2.167	156.8	10.3	17.4
1984 12 16	03 15.48	+12 13.1					
1984 12 26	03 12.27	+12 41.1	1.432	2.238	135.0	18.1	17.9
1985 01 05	03 12.35	+13 20.0					
1985 01 15	03 15.44	+14 07.4	1.702	2.308	115.9	22.5	18.5
1985 01 25	03 21.15	+15 00.7					
1985 02 04	03 29.11	+15 57.7	2.010	2.377	99.3	24.2	19.0

(2928) 1976 GN8 a,e,i = 3.01, 0.07, 10 Elements MPC 8208

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 28	03 52.17	+30 44.6	2.690	2.904	91.9	20.3	17.4
1984 09 07	03 59.48	+31 36.5					
1984 09 17	04 04.75	+32 23.7	2.420	2.892	108.0	19.3	17.2
1984 09 27	04 07.65	+33 05.3					
1984 10 07	04 07.88	+33 39.7	2.178	2.881	126.0	16.3	16.9
1984 10 17	04 05.28	+34 04.4					
1984 10 27	03 59.90	+34 16.4	1.992	2.870	146.0	11.2	16.5
1984 11 06	03 52.18	+34 12.6					
1984 11 16	03 42.92	+33 51.1	1.896	2.860	164.2	5.4	16.3
1984 11 26	03 33.21	+33 12.6					
1984 12 06	03 24.29	+32 20.9	1.910	2.851	158.9	7.2	16.3
1984 12 16	03 17.18	+31 22.0					
1984 12 26	03 12.59	+30 22.6	2.029	2.842	138.5	13.2	16.6
1985 01 05	03 10.84	+29 28.5					
1985 01 15	03 11.94	+28 43.3	2.229	2.834	118.5	17.8	16.9
1985 01 25	03 15.72	+28 08.8					
1985 02 04	03 21.92	+27 45.0	2.476	2.827	100.5	20.1	17.2

1981 AD a,e,i = 2.67, 0.18, 16 Elements MPC 6895

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 08 28	03 45.22	-00 46.2	1.847	2.253	99.9	26.2	18.2
1984 09 07	03 54.93	-01 20.7					
1984 09 17	04 02.42	-02 05.4	1.628	2.231	113.8	24.3	17.9
1984 09 27	04 07.28	-02 57.7					
1984 10 07	04 09.14	-03 53.5	1.440	2.212	129.3	20.5	17.5
1984 10 17	04 07.80	-04 46.8					
1984 10 27	04 03.27	-05 29.9	1.307	2.198	145.3	14.9	17.1
1984 11 06	03 55.99	-05 54.0					
1984 11 16	03 46.90	-05 51.4	1.251	2.187	154.9	11.1	16.9
1984 11 26	03 37.25	-05 17.4					
1984 12 06	03 28.48	-04 11.4	1.288	2.181	146.9	14.3	17.1
1984 12 16	03 21.77	-02 37.8					
1984 12 26	03 17.88	-00 43.3	1.411	2.180	130.3	20.1	17.4
1985 01 05	03 17.16	+01 25.1					
1985 01 15	03 19.57	+03 40.7	1.597	2.183	113.4	24.4	17.8
1985 01 25	03 24.88	+05 58.5					
1985 02 04	03 32.81	+08 14.9	1.822	2.190	98.1	26.5	18.1

(2956) 1982 HN1 a,e,i = 2.76, 0.09, 3 Elements MPC 8283

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	04 05.44	+17 55.4	2.814	3.016	91.6	19.6	18.6
1984	09 07	04 11.50	+18 05.1					
1984	09 17	04 15.63	+18 08.9	2.545	3.018	108.5	18.4	18.4
1984	09 27	04 17.58	+18 06.9					
1984	10 07	04 17.14	+17 59.3	2.302	3.020	127.8	15.2	18.1
1984	10 17	04 14.23	+17 46.3					
1984	10 27	04 08.92	+17 28.5	2.121	3.020	149.5	9.6	17.8
1984	11 06	04 01.58	+17 06.6					
1984	11 16	03 52.88	+16 42.3	2.035	3.019	172.8	2.4	17.4
1984	11 26	03 43.68	+16 17.9					
1984	12 06	03 34.95	+15 56.4	2.066	3.017	161.4	6.0	17.6
1984	12 16	03 27.59	+15 40.7					
1984	12 26	03 22.21	+15 33.0	2.208	3.013	138.2	12.6	17.9
1985	01 05	03 19.20	+15 34.6					
1985	01 15	03 18.65	+15 45.7	2.430	3.009	117.1	16.9	18.2
1985	01 25	03 20.50	+16 05.4					
1985	02 04	03 24.57	+16 32.6	2.697	3.003	98.4	19.0	18.5

(2808) 1976 HS a,e,i = 3.01, 0.08, 9 Elements MPC 7464

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	03 56.76	+30 18.9	2.572	2.780	91.0	21.3	16.8
1984	09 07	04 05.02	+31 12.8					
1984	09 17	04 11.27	+32 02.2	2.312	2.773	106.7	20.3	16.5
1984	09 27	04 15.13	+32 46.4					
1984	10 07	04 16.27	+33 23.8	2.076	2.767	124.5	17.3	16.2
1984	10 17	04 14.48	+33 52.4					
1984	10 27	04 09.76	+34 09.1	1.894	2.762	144.3	12.1	15.9
1984	11 06	04 02.46	+34 10.5					
1984	11 16	03 53.36	+33 54.4	1.796	2.758	163.3	5.9	15.6
1984	11 26	03 43.57	+33 20.8					
1984	12 06	03 34.39	+32 32.9	1.807	2.756	160.7	6.8	15.6
1984	12 16	03 26.94	+31 36.6					
1984	12 26	03 22.01	+30 38.7	1.923	2.755	140.6	13.1	15.9
1985	01 05	03 19.99	+29 45.3					
1985	01 15	03 20.92	+29 00.4	2.122	2.755	120.5	17.9	16.2
1985	01 25	03 24.62	+28 25.7					
1985	02 04	03 30.82	+28 01.5	2.370	2.756	102.5	20.4	16.5

(2936) 1979 SF a,e,i = 2.68, 0.07, 8 Elements MPC 8275

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	04 07.39	+29 34.6	2.560	2.734	88.9	21.7	18.2
1984	09 07	04 15.45	+30 29.2					
1984	09 17	04 21.40	+31 20.1	2.315	2.749	104.8	20.7	18.0
1984	09 27	04 24.88	+32 06.8					
1984	10 07	04 25.54	+32 48.1	2.090	2.763	122.8	17.7	17.7
1984	10 17	04 23.17	+33 21.9					
1984	10 27	04 17.74	+33 45.2	1.917	2.776	143.0	12.4	17.4
1984	11 06	04 09.61	+33 54.3					
1984	11 16	03 59.56	+33 46.7	1.829	2.789	162.9	6.0	17.2
1984	11 26	03 48.72	+33 21.7					
1984	12 06	03 38.45	+32 42.0	1.850	2.801	161.4	6.4	17.2
1984	12 16	03 29.91	+31 53.2					
1984	12 26	03 23.90	+31 01.9	1.979	2.812	141.0	12.7	17.5
1985	01 05	03 20.86	+30 14.2					
1985	01 15	03 20.81	+29 34.1	2.193	2.823	120.6	17.5	17.9
1985	01 25	03 23.57	+29 03.6					
1985	02 04	03 28.87	+28 43.1	2.456	2.833	102.2	19.9	18.2

2037 P-L a,e,i = 3.22, 0.15, 18 Elements MPC 8786

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	04 18.26	+36 13.2	3.610	3.672	85.5	15.9	20.5
1984	09 07	04 23.60	+37 18.3					
1984	09 17	04 27.11	+38 22.5	3.337	3.681	102.1	15.5	20.3
1984	09 27	04 28.51	+39 25.1					
1984	10 07	04 27.53	+40 24.2	3.086	3.689	120.0	13.6	20.1
1984	10 17	04 24.05	+41 17.6					
1984	10 27	04 18.09	+42 01.7	2.890	3.695	138.7	10.2	19.9
1984	11 06	04 09.93	+42 32.9					
1984	11 16	04 00.19	+42 48.0	2.783	3.701	154.6	6.6	19.7
1984	11 26	03 49.72	+42 45.2					
1984	12 06	03 39.54	+42 25.3	2.786	3.704	155.4	6.4	19.7
1984	12 16	03 30.62	+41 51.5					
1984	12 26	03 23.67	+41 08.8	2.901	3.707	139.8	9.9	19.9
1985	01 05	03 19.16	+40 22.5					
1985	01 15	03 17.22	+39 37.4	3.107	3.708	120.9	13.2	20.1
1985	01 25	03 17.79	+38 57.0					
1985	02 04	03 20.71	+38 23.5	3.368	3.708	102.5	15.0	20.3

(2978) 1978 SR a,e,i = 3.11, 0.17, 1 Elements MPC 8397

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	08 28	04 07.56	+22 02.0	2.519	2.719	90.3	21.8	17.7
1984	09 07	04 15.60	+22 28.1					
1984	09 17	04 21.58	+22 48.3	2.288	2.747	106.4	20.6	17.5
1984	09 27	04 25.19	+23 02.8					
1984	10 07	04 26.18	+23 11.3	2.081	2.776	124.9	17.2	17.2
1984	10 17	04 24.44	+23 13.6					
1984	10 27	04 20.00	+23 09.1	1.927	2.807	146.1	11.4	16.9
1984	11 06	04 13.25	+22 57.3					
1984	11 16	04 04.88	+22 38.8	1.860	2.839	169.6	3.6	16.6
1984	11 26	03 55.83	+22 14.8					
1984	12 06	03 47.22	+21 48.4	1.906	2.871	165.7	4.8	16.8
1984	12 16	03 40.00	+21 23.2					
1984	12 26	03 34.86	+21 02.6	2.062	2.905	142.5	11.9	17.2
1985	01 05	03 32.21	+20 49.2					
1985	01 15	03 32.11	+20 44.2	2.303	2.939	121.4	16.6	17.5
1985	01 25	03 34.47	+20 47.4					
1985	02 04	03 39.08	+20 58.2	2.596	2.973	102.8	18.9	17.9

1949 PP a,e,i = 3.19, 0.13, 2 Elements MPC 8147

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	09 17	04 28.71	+19 16.5	2.598	3.022	105.3	18.7	17.9
1984	09 27	04 31.72	+19 16.5					
1984	10 07	04 32.39	+19 11.5	2.373	3.047	124.0	15.8	17.7
1984	10 17	04 30.64	+19 01.9					
1984	10 27	04 26.50	+18 47.9	2.202	3.071	145.3	10.6	17.4
1984	11 06	04 20.27	+18 30.3					
1984	11 16	04 12.54	+18 10.2	2.121	3.096	168.4	3.7	17.1
1984	11 26	04 04.07	+17 49.1					
1984	12 06	03 55.79	+17 29.6	2.154	3.121	166.6	4.2	17.2
1984	12 16	03 48.56	+17 14.0					
1984	12 26	03 43.04	+17 04.5	2.301	3.146	143.4	10.7	17.5
1985	01 05	03 39.67	+17 02.6					
1985	01 15	03 38.59	+17 08.6	2.537	3.171	122.1	15.2	17.9
1985	01 25	03 39.79	+17 22.2					
1985	02 04	03 43.13	+17 42.4	2.828	3.196	102.9	17.5	18.2
1985	02 14	03 48.40	+18 07.8					
1985	02 24	03 55.37	+18 37.0	3.139	3.221	85.8	17.8	18.4