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CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	N Obs.
1987 QE	1987 09	17.21007	23 14 09.22	-00 53 12.8	MPC12292	1 809
1987 SZ11	1987 09	17.33715	00 43 10.51	+02 59 57.7	MPC13354	2 809

Note 1: identical with 1972 RF. 2: time corrected by -0.06 day; already a correction to MPC 12918.

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IDENTIFICATION CHANGES.

Continuation to MPC 13354.

Object	Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
1950 RO1 *	1950 09	09.23960	22 10 37.7	+00 11 53	1950 QG1	15.6	711
1964 VC3 *	1964 11	01.54383	00 24 12.52	+01 44 09.8	1964 TP1		330
1973 AZ4 *	1973 01	03.82882	04 09 45.46	+30 45 19.1	1973 AO2	16.5	095
1977 RD9 *	1977 09	09.91884	23 31 50.32	-00 52 55.3	1977 QU3	17.0	095
1982 SZ12*	1982 09	26.99325	01 25 10.37	+10 33 50.0	1982 SP4	17.0	095
1987 EF1 *	1987 03	04.28703	12 01 50.59	+02 45 33.6	2667	17.5	688
1987 EF1	1987 03	04.35365	12 01 47.76	+02 45 51.5	2667		688
1987 SK12*	1987 09	16.14514	22 52 00.20	-10 01 08.1	1987 RS	17.6	809
1987 SK12	1987 09	16.14965	22 51 59.94	-10 01 09.7	1987 RS		809

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OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

026 Zimmerwald. 0.4-m Schmidt. Observer P. Wild. Measured by P. Wild and U. Hugentobler.
 293 Burlington remote site. Observer T. Handley.
 372 Geisei. Observer T. Seki.
 400 Kitami. Observer K. Endate. Measured by K. Watanabe.
 413 Siding Spring. Uppsala Southern Schmidt. Observer R. H. McNaught.
 415 Kambah, near Canberra. Observer D. Herald.
 494 Stakenbridge. Observer B. Manning.
 503 Cambridge. Observer J. D. Shanklin.
 568 Mauna Kea. 2.2-m telescope + CCD. Observers E. M. Alvarez, M. J. S. Belton and K. J. Meech.
 657 Victoria. Observers J. B. Tatum and D. D. Balam.
 675 Palomar. 1.6-m reflector + CCD. Observer J. Gibson.

- 693 Lunar and Planetary Laboratory, Catalina Station. 1.5-m reflector + IHW-CCD camera. Observer S. Larson. Measured by S. Larson, E. S. Bus and S. J. Bus.
- 801 Oak Ridge Observatory. Observers R. E. McCrosky, G. Schwartz and C.-Y. Shao.
- 877 Okutama. 0.30-m f/3.8 hyperboloid astrocamera. Observer T. Hioki.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
Periodic Comet Schwassmann-Wachmann 1							
/1974 II	1988 08	19.64850	22 08 14.46	-07 38 48.3	15.5N	1	413
/1974 II	1988 08	20.36562	22 07 54.94	-07 40 04.6			657
/1974 II	1988 08	20.39132	22 07 54.16	-07 40 04.9			657
/1974 II	1988 08	20.70603	22 07 45.13	-07 40 35.1	15.5N	1	413
/1974 II	1988 08	21.34939	22 07 27.51	-07 41 40.3			657
/1974 II	1988 08	22.36806	22 06 59.36	-07 43 27.7			657
Periodic Comet Halley							
/1986 III	1985 08	19.12083	06 02 37.99	+19 09 42.9			026
/1986 III	1985 08	22.11667	06 04 09.63	+19 12 16.2			026
/1986 III	1985 09	12.06233	06 11 59.72	+19 32 10.8			026
/1986 III	1985 09	13.13611	06 12 12.77	+19 33 25.3			026
/1986 III	1985 09	17.15208	06 12 49.32	+19 38 16.2			026
/1986 III	1985 09	19.10625	06 12 58.80	+19 40 50.1			026
/1986 III	1985 09	25.12778	06 12 48.76	+19 49 49.8			026
/1986 III	1985 10	12.95000	06 03 35.64	+20 30 44.4			026
/1986 III	1985 10	14.08472	06 02 21.01	+20 34 20.8			026
/1986 III	1985 11	06.94028	04 54 51.86	+22 09 56.9			026
/1986 III	1985 12	01.78021	00 57 19.65	+13 00 36.3			026
/1986 III	1985 12	10.84201	23 40 42.18	+06 05 38.3			026
/1986 III	1985 12	10.86042	23 40 34.48	+06 04 54.9			026
/1986 III	1985 12	19.80035	22 53 21.43	+01 20 07.7			026
/1986 III	1985 12	21.78194	22 45 35.12	+00 32 37.1			026
/1986 III	1986 01	04.75938	22 06 26.18	-03 24 51.9			026
/1986 III	1986 01	04.79097	22 06 22.06	-03 25 16.6			026
/1986 III	1986 03	10.19410	20 09 16.36	-20 03 47.5			026
/1986 III	1986 03	15.19028	19 57 24.61	-22 42 32.5			026
/1986 III	1986 05	01.92500	10 51 45.83	-17 31 36.1			026
Comet Sorrells (1986n)							
/1986n	1986 11	28.91944	03 03 52.69	+27 51 17.0			026
/1986n	1986 11	30.85417	02 50 39.90	+27 21 40.9			026
Periodic Comet Tempel 2							
/1987g	1988 06	11.11944	15 35 05.98	+03 08 01.2			293
/1987g	1988 08	09.07873	15 52 37.58	-13 42 33.7			801
/1987g	1988 08	16.05755	16 05 23.03	-16 19 09.6			801
/1987g	1988 09	04.41350	16 52 06.70	-23 07 23.9			415
/1987g	1988 09	04.41544	16 52 07.10	-23 07 26.7			415
/1987g	1988 09	05.39965	16 54 55.01	-23 26 15.0	9.0T		415
/1987g	1988 09	05.40136	16 54 55.32	-23 26 17.4			415
Periodic Comet Klemola							
/1987i	1987 07	27.10486	23 58 44.72	+07 52 07.4			026
Comet Furuyama (1987f1)							
/1987f1	1987 12	21.85556	03 01 38.05	-01 09 01.2			026

Comet Levy (1988e)

/1988e	1988	07	07.48524	22	20	54.20	+60	48	29.8		675
/1988e	1988	07	08.48461	22	19	42.64	+61	03	46.8		675
/1988e	1988	07	08.48763	22	19	42.43	+61	03	49.5		675
/1988e	1988	07	08.49078	22	19	42.20	+61	03	52.1		675

Comet Shoemaker-Holt (1988g)

/1988g	1988	07	07.48931	21	46	26.72	+54	04	57.5		675
/1988g	1988	07	07.49066	21	46	26.58	+54	04	59.3		675
/1988g	1988	07	07.49252	21	46	26.38	+54	05	01.5		675
/1988g	1988	07	08.49302	21	44	35.02	+54	25	54.6		675
/1988g	1988	07	08.49499	21	44	34.81	+54	25	56.8		675
/1988g	1988	07	08.49765	21	44	34.50	+54	26	00.0		675
/1988g	1988	07	25.97602	21	05	40.25	+58	49	00.2	16.5T	494
/1988g	1988	08	02.93816	20	45	51.40	+59	43	14.5		494
/1988g	1988	08	02.96263	20	45	47.89	+59	43	20.1	16.5T	494
/1988g	1988	08	19.24809	20	08	47.12	+59	40	09.3		693
/1988g	1988	08	19.28189	20	08	43.05	+59	40	00.6		693

Comet Shoemaker-Holt-Rodriquez (1988h)

/1988h	1988	08	06.91724	19	16	04.88	+10	02	18.2		494
/1988h	1988	08	07.52431	19	15	24.31	+09	52	54.5	14 T	372
/1988h	1988	08	09.14049	19	13	37.37	+09	27	40.0		801
/1988h	1988	08	13.08792	19	09	23.15	+08	24	17.8		801
/1988h	1988	08	16.93841	19	05	26.09	+07	20	24.7		494
/1988h	1988	08	21.91563	19	00	38.96	+05	55	38.4		494
/1988h	1988	09	03.87955	18	50	10.80	+02	08	46.6		503

Comet Machholz (1988j)

/1988j	1988	08	15.74846	05	44	09.01	-00	09	21.2		400
/1988j	1988	08	15.75500	05	44	12.13	-00	09	22.9		400
/1988j	1988	08	17.78750	06	00	48.92	-00	21	49.1	8.7T	372
/1988j	1988	08	19.79826	06	18	16.01	-00	34	32.0	8.2T	372
/1988j	1988	08	21.79207	06	36	32.40	-00	47	05.2		877
/1988j	1988	08	21.80480	06	36	39.38	-00	47	06.5		877
/1988j	1988	08	22.50340	06	43	16.81	-00	51	28.0		675
/1988j	1988	08	22.50765	06	43	19.27	-00	51	29.3		675
/1988j	1988	08	22.50962	06	43	20.39	-00	51	30.1		675
/1988j	1988	08	23.48826	06	52	47.49	-00	57	24.8		657
/1988j	1988	08	24.49590	07	02	43.70	-01	03	09.3		657
/1988j	1988	08	24.81924	07	05	57.68	-01	04	49.2		413
/1988j	1988	08	29.80905	07	57	47.78	-01	26	26.2		413
/1988j	1988	08	29.80928	07	57	47.98	-01	26	27.4		413
/1988j	1988	08	29.80951	07	57	48.18	-01	26	28.2		413
/1988j	1988	08	30.80345	08	08	26.24	-01	28	47.2		413
/1988j	1988	08	30.80373	08	08	26.49	-01	28	50.1		413
/1988j	1988	08	30.80396	08	08	26.57	-01	28	48.7		413
/1988j	1988	09	03.80106	08	51	31.48	-01	28	54.4		415
/1988j	1988	09	03.80264	08	51	32.34	-01	28	53.2		415
/1988j	1988	09	03.80298	08	51	32.70	-01	28	54.3	2	413
/1988j	1988	09	03.80575	08	51	34.41	-01	28	56.4	2	413
/1988j	1988	09	03.80592	08	51	34.47	-01	28	53.1	2	413
/1988j	1988	09	03.80604	08	51	34.64	-01	28	54.6	2	413
/1988j	1988	09	04.79968	09	02	16.95	-01	26	06.2		413
/1988j	1988	09	04.80003	09	02	17.18	-01	26	06.1		413
/1988j	1988	09	04.80038	09	02	17.43	-01	26	05.6		413

Periodic Comet Kopff

/1988k	1988 02 11.24033	08 42 20.98	+19 20 10.5	21	N	3	568
/1988k	1988 02 11.24829	08 42 20.87	+19 20 10.9				3 568
/1988k	1988 02 11.25586	08 42 20.55	+19 20 12.8				3 568
/1988k	1988 03 19.22941	08 22 29.05	+20 41 09.9				568
/1988k	1988 03 19.24510	08 22 28.86	+20 41 09.7				568
/1988k	1988 03 19.25324	08 22 28.72	+20 41 10.3				568
/1988k	1988 03 20.23675	08 22 11.97	+20 42 17.4				568
/1988k	1988 03 20.25008	08 22 11.78	+20 42 18.6				568
/1988k	1988 03 20.25610	08 22 11.59	+20 42 19.0				568
/1988k	1988 03 22.22907	08 21 41.23	+20 44 19.0				568
/1988k	1988 03 22.24080	08 21 41.02	+20 44 18.7				568

Note 1: coma and fan tail to northeast; condensation one-quarter of the way from coma edge to tail end. 2: bad seeing. 3: comet centrally condensed, no obvious coma.

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OBSERVATIONS OF MINOR PLANETS.

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

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

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
026 Zimmerwald							
P. Wild, Astronomisches Institut der Universitat, Sidlerstrasse 5,							
CH-3012 Berne, Switzerland							
Observer P. Wild							
Measurers U. Hugentobler, P. Wild							
0.4-m Schmidt telescope							
1953 UD	1987 11	12.76118	23 04 49.54	+00 30 42.3	17		026
1969 TR1	1986 10	23.79080	00 02 37.70	+02 12 10.2	16.2		026
1969 TR1	1986 11	08.01510	00 03 09.28	+02 29 52.6	16.8		026
1986 TX1	1986 10	27.90347	00 39 11.28	-05 44 51.0			026
1987 QE7	1987 08	28.05938	23 05 07.78	+05 31 48.4		T	026
1987 QE7	1987 09	13.83889	22 54 14.50	+02 30 19.8	17	V	026
1987 QE7	1987 09	20.88333	22 49 53.50	+01 03 31.7			026
1987 SB2	1987 10	27.90660	00 47 59.56	+04 57 58.6	15		026
1987 SB2	1987 11	11.79583	00 38 27.08	+05 56 37.0			026
1987 SB2	1987 11	12.87431	00 37 59.33	+06 01 32.4			026
1987 SK13*	1987 09	20.86250	22 04 19.01	+00 24 55.5	17		026
217	1987 08	29.13333	22 52 30.46	-05 32 36.0	12.8		026
217	1987 08	31.00208	22 51 30.63	-05 55 26.7			026
324	1987 08	31.14306	05 20 35.59	+34 18 02.6	13.5		026
356	1987 08	21.98194	21 19 19.20	-23 19 25.0	13.8		026
356	1987 08	28.99201	21 12 47.76	-23 26 56.3			026
380	1987 04	24.99097	12 27 06.21	+06 45 22.4	14.5		026
380	1987 05	02.00000	12 23 02.72	+06 55 06.0	14.8		026
506	1986 11	03.90903	02 42 29.66	+43 01 26.8	14		026
506	1986 11	27.90972	02 19 18.22	+40 51 00.5			026
594	1987 04	25.03125	13 03 45.37	+42 23 57.1	15.2		026
594	1987 05	02.08160	13 02 22.89	+43 22 12.1			026
648	1987 08	31.14306	05 09 54.44	+30 54 29.1			026
705	1987 04	17.92222	09 05 08.36	+33 48 16.7	14		026
705	1987 04	22.88628	09 07 14.44	+32 46 34.4			026
705	1987 04	23.85417	09 07 42.84	+32 34 31.2			026
715	1986 10	06.93375	01 01 28.67	-07 18 58.5	14.2		026
715	1986 10	11.04826	00 57 25.86	-07 20 05.5			026
744	1987 04	24.99097	12 24 43.92	+07 04 04.8	15.5		026
851	1987 08	20.06528	00 35 06.16	+01 41 39.2	15.8		026
851	1987 08	29.11667	00 31 29.44	+01 04 08.4			026
921	1987 09	20.90174	23 11 56.48	+08 55 29.2	14.8		026
921	1987 09	22.89826	23 10 41.82	+08 36 56.4		S	026
921	1987 09	29.91458	23 06 37.56	+07 30 39.2			026
921	1987 09	30.95000	23 06 04.66	+07 20 50.8			026
926	1987 04	17.92222	09 06 58.47	+36 05 04.2	16.5		026
926	1987 04	22.88628	09 09 38.79	+35 19 39.2			026
926	1987 04	23.85417	09 10 13.99	+35 10 34.8			026
1025	1987 07	22.00764	22 33 52.88	+09 00 40.9	16		026
1025	1987 07	27.01597	22 32 25.10	+08 08 58.6			026
1025	1987 08	22.00208	22 14 38.13	+00 36 48.2	14.8		026
1025	1987 08	29.03194	22 08 12.55	-02 06 10.0			026
1025	1987 08	30.91736	22 06 30.21	-02 51 06.9	15		026
1036	1985 07	12.01319	00 36 00.71	+44 12 00.9	12		026
1036	1985 07	14.02917	00 44 47.53	+44 41 13.0			026
1036	1985 07	23.09722	01 25 02.68	+46 14 24.5			026
1065	1984 08	19.90104	20 57 43.31	-20 52 33.9	14		026
1065	1984 08	20.93177	20 56 56.38	-20 42 48.5		T	026
1129	1987 09	29.91458	23 08 16.33	+08 41 26.1	15		026
1129	1987 09	30.95000	23 07 35.21	+08 35 33.1			026
1306	1987 08	31.14306	05 22 50.06	+31 06 57.9	16		026

1372	1986	11	03.90903	02	32	02.46	+43	35	21.2	15.5	026
1372	1986	11	28.93472	02	06	42.64	+41	31	10.1		026
1395	1983	11	08.85139	01	55	33.88	+18	11	51.4	16.8	026
1471	1987	09	29.93438	22	01	54.00	-03	31	57.2		026
1471	1987	09	29.95417	22	01	53.32	-03	31	56.8		026
1471	1987	09	30.91111	22	01	21.81	-03	32	03.4	15.5	026
1471	1987	10	19.78889	21	56	09.58	-03	21	08.2		026
1496	1987	08	29.13333	22	51	00.15	-03	21	48.5	15	026
1496	1987	08	31.00208	22	49	13.50	-03	29	34.3		026
1549	1987	04	24.99097	12	16	46.11	+07	41	22.0	16.5	026
1549	1987	05	02.00000	12	13	11.59	+07	36	34.8		026
1644	1987	08	22.00208	22	05	35.70	-01	34	53.5	16	026
1645	1987	11	11.79583	00	38	59.70	+05	37	59.7	16	026
1645	1987	11	12.87431	00	38	40.10	+05	35	20.0		026
1732	1987	08	22.02639	23	26	47.18	-05	38	23.5	15.5	026
1732	1987	09	03.04722	23	19	47.73	-07	20	51.7		026
1773	1987	04	22.98750	12	40	14.71	+04	17	07.8	15.5	026
1773	1987	04	28.03958	12	36	39.83	+04	20	49.9		026
1893	1987	05	02.00000	12	30	34.81	+08	36	34.4	16.8	026
1925	1987	08	29.08160	00	56	35.50	-06	45	56.6	16	026
1925	1987	08	31.07153	00	56	17.12	-07	00	44.8		026
1941	1987	10	01.03368	01	30	00.40	+05	03	24.0	16.8	026
1943	1985	07	13.98958	21	07	30.84	+15	00	52.2		T 026
1943	1985	07	19.97361	20	58	17.13	+15	24	02.0	15.2	T 026
1943	1985	07	23.98472	20	51	56.62	+15	20	02.0		026
1943	1985	07	25.03403	20	50	17.92	+15	16	33.9	15.8	026
1943	1985	08	11.90035	20	26	45.46	+12	15	17.8		026
1943	1985	08	19.04097	20	21	06.49	+10	21	10.8	16.2	T 026
1961	1981	01	28.92014	10	14	07.21	+20	32	33.1		T 026
1961	1981	01	30.93162	10	12	41.68	+20	41	03.7	15.8	026
1961	1981	02	02.05208	10	11	07.48	+20	50	00.3		026
2002	1987	04	22.98750	12	43	18.39	+01	06	02.8	16	026
2002	1987	04	28.03958	12	40	18.10	+01	42	10.6		026
2180	1987	08	21.95347	23	10	00.64	+08	56	03.8	15.5	026
2308	1987	04	22.98750	12	45	55.83	+02	05	33.8	15.5	026
2308	1987	04	28.03958	12	41	08.85	+01	51	06.6		026
2488	1986	10	11.04826	00	46	46.09	-07	54	20.8	16.2	026
2488	1986	10	27.90347	00	34	04.53	-06	49	56.0		T 026
2488	1986	10	30.98038	00	32	35.81	-06	30	00.4		T 026
2488	1986	11	07.99670	00	30	19.46	-05	27	48.3		026
2546	1983	01	17.99236	06	38	22.62	+31	33	26.2	15.8	026
3026	1987	08	30.94722	22	12	51.60	+02	26	38.7	16.2	026
3026	1987	09	03.00104	22	10	41.29	+02	08	03.5		026
3026	1987	09	15.87431	22	02	22.29	+00	43	39.3		d 026
3026	1987	09	17.88819	22	01	15.16	+00	30	04.8		026
3026	1987	09	20.86250	21	59	42.97	+00	10	04.5		026
3026	1987	09	30.91111	21	55	44.02	-00	54	54.1	17	026
3451	1987	07	21.98750	20	28	27.58	+06	21	49.5	15	026
3451	1987	07	26.99653	20	25	57.67	+06	06	43.9	14.8	026
3582	1987	12	22.01458	07	46	47.59	+32	50	24.3	15.5	026
3582	1988	02	13.87049	07	00	43.32	+35	23	27.6	16.2	026
3582	1988	02	13.98264	07	00	40.16	+35	23	22.3		026
3582	1988	02	15.87118	06	59	54.17	+35	21	20.0		026
3600	1987	12	22.01458	07	57	46.80	+33	59	56.6	16.2	026
3655	1986	09	27.89410	00	10	04.46	+03	46	16.7	16.5	026
3655	1986	09	29.92326	00	08	43.50	+03	39	42.6		026
3655	1986	10	01.95972	00	07	22.88	+03	33	02.1		026
3655	1986	10	04.01250	00	06	02.26	+03	26	18.5		026
3655	1986	10	06.86111	00	04	12.91	+03	17	01.4		026

3655	1986 10 08.86740	00 02 57.90	+03 10 34.1		026
3722	1987 08 21.95347	23 13 06.11	+09 06 41.1	16.2	026
3722	1987 08 28.06528	23 09 34.20	+08 53 48.1	14.5	026
3722	1987 08 29.00903	23 08 57.36	+08 50 37.4	15.2	026
3726	1987 08 20.06528	00 34 03.96	-00 47 14.2	16.5	026
3726	1987 08 29.11667	00 31 01.64	-01 21 07.9		026

033 Tautenburg

S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg,
Democratic Republic of Germany

Observer F. Borngen

1.3-m Schmidt telescope

SAOC

3199	1988 08 14.02500	01 25 18.81	+01 45 48.7	15.9	033
3199	1988 08 14.03194	01 25 18.76	+01 46 19.5		033
3199	1988 08 14.06250	01 25 18.49	+01 48 46.1		033
3199	1988 08 14.06944	01 25 18.55	+01 49 19.2		033
3271	1988 08 13.85069	16 45 18.78	+15 12 31.2	19.5	033
3271	1988 08 13.86181	16 45 19.95	+15 11 56.8		033
3271	1988 08 13.86806	16 45 20.50	+15 11 47.9		033
3271	1988 08 13.87917	16 45 21.77	+15 11 12.9		033
3288	1988 08 14.91458	22 07 56.40	-00 07 36.4	19.0	033
3288	1988 08 14.92569	22 07 55.35	-00 07 41.9		033
3288	1988 08 14.96667	22 07 52.24	-00 08 03.6		033
3288	1988 08 14.97778	22 07 51.26	-00 08 09.7		033

054 Brorfelde

H. G. Fogh Olsen, Copenhagen University Observatory, Brorfelde,
DK-4340 Tollose, Denmark

Observers K. Augustesen, P. Jensen

Measurer P. Jensen

0.45-m Schmidt

1988 RB *	1988 09 07.93551	23 05 37.91	+18 28 57.1	15.5	054
1988 RB	1988 09 07.95287	23 05 36.95	+18 28 50.6		054
1988 RB	1988 09 08.89815	23 04 51.44	+18 23 48.7		054
1988 RB	1988 09 09.88343	23 04 03.96	+18 18 14.3		054
1988 RC *	1988 09 07.93551	23 09 12.09	+18 22 59.0	17.8	054
1988 RC	1988 09 07.95287	23 09 11.16	+18 22 52.2		054
1988 RC	1988 09 08.89815	23 08 23.06	+18 17 40.8		054
1988 RC	1988 09 09.88343	23 07 32.88	+18 12 01.4		054
1660	1988 09 07.93551	22 57 59.67	+17 01 24.3		054
1660	1988 09 07.95287	22 57 58.62	+17 01 14.1		054
1660	1988 09 08.89815	22 57 08.58	+16 53 05.4		054
1660	1988 09 09.88343	22 56 16.32	+16 44 21.1		054

071 Bulgarian National Observatory

V. G. Shkodrov, Dept. of Astronomy, Bulgarian Academy of Sciences,
72 Lenin Boulevard, BG-1784 Sofia, Bulgaria

Observers V. G. Ivanova, V. I. Umlensky, T. R. Bonev, V. G. Shkodrov

3870	1988 03 21.78456	09 42 56.65	+00 33 08.7		071
3870	1988 03 21.83317	09 42 55.19	+00 33 33.8		071

095 Crimean Astrophysical Observatory

N. S. Chernykh, Crimean Astrophysical Observatory, P.O. Nauchnyj,
Crimea 334413, U.S.S.R.

Yu. V. Batrakov, Institute for Theoretical Astronomy,

Naberezhnaya Kutuzova 10, Leningrad 191187, U.S.S.R.

Observers N. S. Chernykh, L. I. Chernykh, L. G. Karachkina,
T. M. Smirnova, L. V. Zhuravleva

1933 OD	1982 08	23.98995	23 36	21.85	+00 18	10.4	17.0	095
1933 OD	1982 09	16.85069	23 20	59.03	-02 18	10.9	16.5	E 095
1933 OD	1982 09	19.85046	23 18	56.91	-02 39	19.5	16.5	095
1933 OD	1982 09	21.87836	23 17	36.25	-02 53	25.4	16.5	095
1940 WA	1982 08	12.82789	19 54	51.28	-03 15	09.2	17.0	E 095
1940 WA	1982 08	13.83473	19 54	06.53	-03 17	03.2	17.0	E 095
1949 QC1	1982 09	12.89926	23 15	02.10	+00 22	04.5		E 095
1949 QC1	1982 09	20.85070	23 07	10.32	+00 23	57.2		E 095
1971 SN2	1982 08	17.87843	21 50	46.22	-16 37	07.4		095
1971 SP3	1982 09	16.85069	23 30	31.22	-03 04	45.8	16.5	095
1971 SP3	1982 09	19.85046	23 28	15.19	-03 16	19.8	16.5	095
1971 SP3	1982 09	21.87836	23 26	44.34	-03 23	58.3	16.5	095
1978 PO3	1982 09	21.95134	00 49	21.73	+04 42	14.4	17.0	F 095
1978 PO3	1982 09	27.94447	00 44	02.14	+04 11	27.3	17.0	E 095
1978 RY5	1982 09	26.91668	00 09	11.68	-01 25	39.0	17.0	E 095
1978 RY5	1982 10	22.80874	23 46	04.75	-01 34	25.1	17.2	095
1978 TU7	1983 02	02.73953	06 44	31.90	+30 05	43.9	17.5	095
1978 VH8	1982 09	18.89745	23 37	41.25	-00 45	38.4	17.0	095
1979 FV1	1982 09	16.99014	01 13	09.10	+12 14	13.3	17.0	E 095
1979 FV1	1982 09	19.99736	01 11	22.08	+12 09	55.2	17.0	E 095
1979 FV1	1982 09	21.95134	01 10	08.77	+12 06	36.5	17.0	095
1980 FB	1982 09	16.92013	23 50	24.82	-02 27	13.2		095
1981 EC25	1982 09	19.92008	00 36	31.16	+03 11	57.3	16.5	095
1981 EC25	1982 09	24.91298	00 31	43.98	+03 01	05.8		095
1981 EC25	1982 09	27.94447	00 28	42.74	+02 53	55.4		095
1981 EE37	1982 08	14.87506	22 53	48.50	-14 59	56.6	17.0	095
1981 EE37	1982 08	16.89207	22 52	19.28	-15 05	51.1	17.0	E 095
1981 EE37	1982 09	13.83403	22 27	23.44	-15 53	55.9	16.8	095
1981 SF9	1982 12	23.94810	06 29	00.75	+22 16	55.6	17.0	E 095
1982 OF	1982 08	13.90608	22 02	19.85	-08 50	13.2	15.8	095
1982 OF	1982 08	15.89584	22 00	39.20	-08 51	45.3	16.0	095
1982 OF	1982 09	11.80635	21 39	28.75	-09 25	29.2	16.5	E 095
1982 OF	1982 09	19.78103	21 36	10.87	-09 30	07.4	16.5	095
1982 OK	1982 07	27.98584	22 38	53.85	-07 31	12.9	16.5	095
1982 OK	1982 08	14.87506	22 32	42.16	-09 32	58.3	16.5	E 095
1982 OK	1982 08	15.89584	22 32	05.53	-09 41	44.3	16.5	E 095
1982 OK	1982 08	16.89207	22 31	28.90	-09 50	19.7	16.0	095
1982 OK	1982 09	13.83403	22 13	15.34	-13 43	28.0	15.5	E 095
1982 OK	1982 09	20.78474	22 10	38.26	-14 21	36.7	16.0	095
1982 OY *	1982 07	27.90598	20 00	55.35	+02 55	27.8	17.0	095
1982 OY	1982 08	12.82789	19 49	09.25	+02 37	53.5	17.0	095
1982 OA1 *	1982 07	27.98584	22 23	25.76	-00 57	07.3	17.0	095
1982 OB1 *	1982 07	27.98584	22 31	10.00	-06 26	57.3	17.0	095
1982 OC1 *	1982 07	27.98584	22 55	42.54	-03 07	10.2	16.5	N 095
1982 OD1 *	1982 07	27.98584	22 36	27.12	-03 43	22.1	17.0	P 095
1982 PC	1982 07	27.98584	22 22	40.72	-06 49	54.4	16.8	095
1982 PC	1982 08	13.90608	22 14	28.50	-08 39	19.8		P 095
1982 PC	1982 08	15.89584	22 13	06.22	-08 55	29.6	16.5	095
1982 PE *	1982 08	13.90608	21 58	46.38	-09 18	26.8	16.0	095
1982 PE	1982 08	15.89584	21 57	07.50	-09 25	03.6	16.5	E 095
1982 PF *	1982 08	14.80214	20 15	18.84	-17 08	51.4	16.5	095
1982 PG *	1982 08	14.80214	20 18	06.00	-25 45	03.4	16.5	E 095
1982 PH *	1982 08	14.80214	20 22	29.63	-18 54	14.8	16.5	095
1982 PJ *	1982 08	14.80214	20 42	21.34	-24 23	42.5	16.5	095
1982 PK *	1982 08	14.87506	22 36	53.27	-13 13	22.7	17.0	095
1982 PK	1982 09	20.78474	22 07	04.31	-15 27	53.0	16.5	095
1982 PL *	1982 08	14.87506	22 37	50.72	-10 49	46.7	16.0	095
1982 PL	1982 08	16.89207	22 36	32.82	-10 56	17.8	17.0	095
1982 PL	1982 09	13.83403	22 16	42.94	-12 23	26.4	15.5	095

1982 PL		1982 09 20.78474	22 12 53.69	-12 35 50.3	17.0	095
1982 PM	*	1982 08 14.87506	22 38 36.72	-07 07 38.9	17.0	E 095
1982 PM		1982 09 13.83403	22 14 26.90	-09 43 45.0	17.5	E 095
1982 PN	*	1982 08 14.87506	22 42 07.47	-10 24 06.2	17.0	095
1982 PO	*	1982 08 14.87506	22 44 44.25	-12 43 19.9	17.0	095
1982 PO		1982 08 16.89207	22 43 19.25	-12 54 05.1	17.5	095
1982 PP	*	1982 08 14.87506	22 49 08.60	-14 35 06.9	17.0	095
1982 PP		1982 08 16.89207	22 47 33.81	-14 44 36.0	17.5	095
1982 PP		1982 09 13.83403	22 21 52.00	-16 28 16.6	17.0	095
1982 PR	*	1982 08 14.87506	22 52 12.78	-08 46 23.8	16.5	095
1982 PR		1982 08 16.89207	22 50 58.72	-08 53 54.0	16.0	095
1982 PR		1982 08 23.92017	22 46 13.54	-09 21 58.9	17.0	E 095
1982 PR		1982 09 13.83403	22 30 44.10	-10 46 49.6	16.0	095
1982 PS	*	1982 08 14.87506	22 53 05.66	-10 26 46.6	16.0	095
1982 PS		1982 08 16.89207	22 51 28.19	-10 28 59.3	16.5	095
1982 PU	*	1982 08 14.94796	22 54 04.56	-05 12 23.9	17.5	095
1982 PV	*	1982 08 14.94796	23 01 47.88	-02 44 13.6	17.5	095
1982 PV		1982 09 12.82988	22 39 33.52	-02 36 27.1	17.0	p 095
1982 PW	*	1982 08 14.94796	23 05 16.19	-06 19 22.4	17.8	095
1982 PW		1982 09 17.82987	22 36 53.50	-07 38 13.9		095
1982 PX	*	1982 08 14.94796	23 06 50.72	-02 14 26.4	17.5	095
1982 PX		1982 08 16.96846	23 05 09.94	-02 13 39.7	17.5	095
1982 PY	*	1982 08 14.94796	23 12 14.75	-00 34 52.6	17.8	095
1982 PY		1982 08 16.96846	23 11 15.56	-00 36 41.2	17.8	095
1982 PZ	*	1982 08 14.94796	23 22 46.94	-05 34 02.5	17.5	E 095
1982 PZ		1982 08 23.92017	23 16 45.94	-05 52 56.4	17.0	E 095
1982 PA1	*	1982 08 15.82295	19 33 53.72	-26 19 55.8	16.5	P 095
1982 PB1	*	1982 08 15.89584	21 54 27.47	-09 24 58.2	16.5	E 095
1982 PC1	*	1982 08 15.89584	21 57 31.84	-06 10 55.6	16.8	E 095
1982 PD1	*	1982 08 15.89584	21 58 44.03	-05 47 23.3	16.8	095
1982 PE1	*	1982 08 15.89584	22 02 44.10	-06 37 53.6	16.8	095
1982 PF1	*	1982 08 15.89584	22 05 44.75	-05 43 36.9	17.0	095
1982 PG1	*	1982 08 15.89584	22 07 23.88	-10 22 32.9	16.5	095
1982 PH1	*	1982 08 15.89584	22 07 35.78	-09 21 54.1	16.8	095
1982 PJ1	*	1982 08 15.89584	22 07 37.96	-06 38 16.1	16.0	095
1982 PK1	*	1982 08 15.89584	22 08 44.07	-10 14 00.0	16.8	095
1982 PL1	*	1982 08 15.89584	22 11 58.50	-11 41 35.0		E 095
1982 PM1	*	1982 08 15.89584	22 13 07.34	-02 38 29.8	16.8	E 095
1982 PN1	*	1982 08 15.89584	22 17 50.19	-10 56 48.0	16.8	E 095
1982 PO1	*	1982 08 15.89584	22 20 21.50	-03 07 47.8	17.0	E 095
1982 PP1	*	1982 08 15.89584	22 23 32.42	-02 44 36.2	17.0	E 095
1982 PQ1	*	1982 08 15.89584	22 26 57.50	-05 43 19.8	16.5	E 095
1982 PR1	*	1982 08 15.96868	22 55 28.00	-19 21 31.7	16.5	p 095
1982 PS1	*	1982 08 15.96868	23 05 52.00	-23 33 25.5	16.5	p 095
1982 PT1	*	1982 08 15.96868	23 06 40.94	-18 39 45.7	17.0	p 095
1982 PU1	*	1982 08 13.90608	22 21 19.69	-05 22 08.2	16.5	P 095
1982 PV1	*	1982 08 15.89584	22 18 52.40	-05 38 06.0	17.0	095
1982 QD		1982 08 15.89584	22 30 14.12	-03 45 44.4	16.5	E 095
1982 QD		1982 09 11.80635	22 05 05.60	-04 35 17.7	16.0	095
1982 QD		1982 09 16.78126	22 01 11.53	-04 48 41.8	16.5	095
1982 QG		1982 08 16.96846	23 03 03.22	-03 31 50.9	16.5	095
1982 QG		1982 08 23.92017	22 58 13.91	-03 49 46.2	17.0	095
1982 QG		1982 09 12.82988	22 42 17.68	-05 02 50.2	16.5	095
1982 QG		1982 09 17.82987	22 38 37.66	-05 21 35.4		095
1982 QG		1982 09 21.80892	22 36 01.72	-05 35 23.5	17.0	095
1982 QM		1982 08 14.87506	23 02 05.19	-06 44 25.2	17.0	E 095
1982 QM		1982 09 13.83403	22 43 03.44	-10 52 37.8	17.0	095
1982 QB1		1982 08 14.94796	23 04 38.53	-02 53 13.2	17.0	095
1982 QB1		1982 08 16.96846	23 03 15.22	-02 49 19.0	17.0	095

1982 QB1	1982 08	23.92017	22 57	46.47	-02 40	04.2	16.8	095
1982 QB1	1982 09	12.82988	22 39	12.32	-02 39	53.3	17.0	095
1982 QG1	1982 08	14.87506	22 31	10.19	-10 03	00.8	17.0	E 095
1982 QM1	1982 08	16.89207	22 39	18.10	-08 29	24.7	17.0	095
1982 QP1	1982 08	15.89584	22 29	56.06	-09 43	34.2	16.5	E 095
1982 QP1	1982 08	16.89207	22 29	15.19	-09 51	06.8	17.0	E 095
1982 QY1	1982 08	28.93776	23 48	26.69	+10 56	52.2	16.5	E 095
1982 QY1	1982 08	29.96877	23 47	49.97	+10 54	33.1	16.0	E 095
1982 QY1	1982 09	20.85070	23 31	38.87	+09 10	26.3	16.0	E 095
1982 QB2 *	1982 08	16.81568	20 37	55.53	+03 55	57.6	16.0	095
1982 QB2	1982 08	23.84726	20 33	22.94	+03 10	56.1	16.0	E 095
1982 QC2 *	1982 08	16.89207	22 30	21.26	-08 02	52.6	17.0	095
1982 QD2 *	1982 08	16.89207	22 33	15.22	-15 20	51.0	17.0	N 095
1982 QE2 *	1982 08	16.89207	22 43	39.28	-06 31	24.4	17.0	N 095
1982 QE2	1982 09	13.83403	22 25	50.34	-10 57	20.4	17.0	095
1982 QF2 *	1982 08	16.89207	22 49	13.41	-13 07	42.9	17.0	095
1982 QG2 *	1982 08	16.89207	22 49	39.38	-07 57	22.6	17.0	095
1982 QH2 *	1982 08	16.89207	22 55	58.87	-12 56	40.8	17.5	095
1982 QH2	1982 09	20.78474	22 25	51.16	-15 11	01.5	17.0	095
1982 QJ2 *	1982 08	16.96846	22 48	40.38	-05 03	41.0	17.5	E 095
1982 QJ2	1982 09	12.82988	22 26	24.05	-06 04	09.1	16.5	095
1982 QK2 *	1982 08	16.96846	22 50	27.06	-03 34	21.5	17.5	E 095
1982 QK2	1982 09	12.82988	22 29	32.28	-04 28	36.3	16.8	095
1982 QL2 *	1982 08	16.96846	22 55	28.66	-00 25	12.6	16.5	P 095
1982 QL2	1982 09	12.82988	22 35	10.68	+00 10	00.6	16.0	E 095
1982 QM2 *	1982 08	16.96846	22 56	39.88	-06 01	08.0	17.5	P 095
1982 QM2	1982 09	21.80892	22 28	43.56	-07 19	17.5	17.5	095
1982 QN2 *	1982 08	16.96846	22 58	51.56	-06 50	45.5	16.8	095
1982 QO2 *	1982 08	16.96846	23 07	37.13	+00 37	17.2	17.0	E 095
1982 QO2	1982 09	12.82988	22 51	32.62	-02 10	48.8	17.0	E 095
1982 QP2 *	1982 08	16.96846	23 08	37.94	-04 18	50.1	18.0	095
1982 QP2	1982 09	17.82987	22 36	54.76	-05 44	50.2	17.0	P 095
1982 QQ2 *	1982 08	16.96846	23 14	17.78	-00 51	00.3	18.0	095
1982 QR2 *	1982 08	16.96846	23 18	38.69	+00 43	15.9	16.5	E 095
1982 QS2 *	1982 08	16.96846	23 19	02.22	-03 19	57.4	17.8	095
1982 QT2 *	1982 08	17.80898	20 04	44.47	-17 03	36.8	16.0	E 095
1982 QU2 *	1982 08	17.80898	20 05	34.56	-16 21	46.8	16.0	E 095
1982 QV2 *	1982 08	17.80898	20 10	14.56	-18 06	00.6	16.5	095
1982 QW2 *	1982 08	17.80898	20 11	00.16	-16 47	23.5	16.0	E 095
1982 QX2 *	1982 08	17.80898	20 31	52.16	-22 30	07.8	16.5	095
1982 QY2 *	1982 08	17.87843	21 26	13.35	-12 52	19.8	17.0	095
1982 QZ2 *	1982 08	17.87843	21 28	09.66	-15 24	34.0	16.5	095
1982 QA3 *	1982 08	17.87843	21 29	15.85	-13 09	17.2	17.0	P 095
1982 QB3 *	1982 08	17.87843	21 29	43.69	-17 59	22.2	16.5	095
1982 QC3 *	1982 08	17.87843	21 33	33.10	-12 29	06.7	16.5	P 095
1982 QD3 *	1982 08	17.87843	21 35	36.06	-13 07	10.7	14.7	095
1982 QE3 *	1982 08	17.87843	21 40	50.00	-17 54	03.0	16.0	095
1982 QF3 *	1982 08	17.87843	21 52	36.41	-12 52	59.7	16.5	P 095
1982 QG3 *	1982 08	17.87843	21 55	44.44	-16 44	17.2	16.5	N 095
1982 QH3 *	1982 08	17.95495	00 01	22.35	+02 10	52.9	16.5	E 095
1982 QJ3 *	1982 08	17.95495	23 42	14.50	+01 08	06.5	16.5	095
1982 QK3 *	1982 08	23.92017	23 19	27.78	-03 06	23.6		095
1982 QK3	1982 09	17.82987	22 58	45.66	-04 18	43.6	16.0	095
1982 QK3	1982 09	21.80892	22 55	37.47	-04 30	57.0	17.0	095
1982 QL3 *	1982 08	23.98995	23 23	48.91	+02 31	11.2	16.5	N 095
1982 QM3 *	1982 08	23.98995	23 26	34.00	+02 12	53.9	17.0	E 095
1982 QO3 *	1982 08	23.98995	23 44	57.63	-05 03	36.8	16.5	E 095
1982 QP3 *	1982 08	28.93776	23 26	20.12	+08 22	21.0	16.0	M 095
1982 QP3	1982 08	29.96877	23 25	43.91	+08 18	03.8	16.0	095

1982 QP3	1982 09	12.89926	23 16	18.50	+06 49	33.7	16.0	095
1982 QP3	1982 09	20.85070	23 10	53.50	+05 40	35.5	16.5	095
1982 QQ3 *	1982 08	28.93776	23 36	15.38	+02 27	15.1	16.5	095
1982 QR3 *	1982 08	28.93776	23 40	28.41	+09 27	08.2	16.5	E 095
1982 QR3	1982 08	29.96877	23 39	55.75	+09 19	57.2	16.5	095
1982 QR3	1982 09	20.85070	23 26	52.19	+06 13	27.8	17.0	095
1982 QS3 *	1982 08	29.96877	23 45	05.10	+07 00	19.4	17.0	095
1982 QS3	1982 09	20.85070	23 30	20.60	+04 44	54.2	17.0	095
1982 QT3 *	1982 08	29.96877	23 46	27.75	+04 49	55.5	16.5	p 095
1982 RD	1982 09	16.85069	23 11	11.40	-03 58	02.3	17.0	095
1982 RD	1982 09	21.87836	23 07	27.35	-04 31	19.2	16.8	095
1982 RE	1982 09	16.85069	23 13	21.22	-07 50	22.8	17.0	095
1982 RE	1982 09	19.85046	23 11	04.89	-08 11	58.0	16.7	095
1982 RE	1982 09	21.87836	23 09	34.66	-08 26	05.0	16.8	095
1982 RF	1982 09	16.85069	23 16	55.72	-04 21	12.9	16.5	095
1982 RF	1982 09	19.85046	23 14	48.56	-04 41	54.4	16.5	095
1982 RF	1982 09	21.87836	23 13	25.44	-04 55	30.2	16.0	095
1982 RH	1982 09	16.85069	23 22	03.73	-05 04	02.4	16.5	095
1982 RH	1982 09	21.87836	23 18	28.06	-05 58	43.0	16.5	095
1982 RR	1982 09	16.92013	23 57	24.03	-01 37	59.8	15.5	s 095
1982 RR	1982 09	18.89745	23 56	41.38	-02 16	00.0	16.0	s 095
1982 RR	1982 09	20.92014	23 55	56.19	-02 54	51.2	16.0	s 095
1982 RR	1982 09	26.91668	23 53	43.06	-04 48	28.7	16.0	E 095
1982 RR	1982 10	21.80912	23 49	42.84	-10 50	56.4	16.5	095
1982 RV	1982 09	12.82988	22 21	10.82	-05 47	50.5	16.0	095
1982 RW	1982 08	14.87506	22 50	04.53	-07 05	34.0	16.5	E 095
1982 RW	1982 08	14.94796	22 50	01.22	-07 05	44.4	16.8	E 095
1982 RW	1982 08	16.89207	22 48	37.72	-07 09	35.2	17.0	E 095
1982 RW	1982 08	16.96846	22 48	33.85	-07 09	49.3	17.0	E 095
1982 RW	1982 09	12.82988	22 25	42.84	-08 26	19.2	16.0	E 095
1982 RG1	1982 09	19.85046	23 28	08.00	-01 31	07.8	16.5	E 095
1982 RG1	1982 09	21.87836	23 26	37.57	-01 43	44.4	16.5	E 095
1982 RO1	1982 09	26.91668	23 49	44.41	+04 03	50.3		E 095
1982 RW1	1982 09	20.92014	23 44	08.00	-04 46	22.0	17.0	E 095
1982 RA2	1982 09	16.92013	23 46	36.32	-02 15	28.6	17.0	E 095
1982 RG2 *	1982 09	11.80635	21 40	38.68	-05 58	15.5		E 095
1982 RG2	1982 09	16.78126	21 37	32.31	-06 13	13.7	16.5	E 095
1982 RH2 *	1982 09	11.80635	21 48	29.69	-10 34	02.9	16.8	095
1982 RJ2 *	1982 09	11.80635	21 56	29.72	-11 12	08.4	16.0	095
1982 RK2 *	1982 09	12.82988	22 26	36.90	-07 51	17.0	16.5	095
1982 RL2 *	1982 09	12.89926	23 02	58.72	+05 06	32.5	16.0	E 095
1982 RM2 *	1982 09	12.89926	23 04	02.53	+04 34	10.1	16.5	E 095
1982 RN2 *	1982 09	12.89926	23 04	14.60	+04 24	22.2	17.0	E 095
1982 RO2 *	1982 09	12.89926	23 08	44.19	+06 49	08.0	16.5	095
1982 RP2 *	1982 09	12.89926	23 10	27.00	+06 05	05.8	16.5	095
1982 RP2	1982 09	20.85070	23 05	08.69	+04 40	20.6	16.8	095
1982 RQ2 *	1982 09	12.89926	23 14	22.47	+01 05	42.3	16.5	E 095
1982 RQ2	1982 09	20.85070	23 08	58.00	+00 24	21.5	16.5	E 095
1982 RR2 *	1982 09	12.89926	23 18	53.78	+05 28	31.3	17.0	095
1982 RR2	1982 09	20.85070	23 12	29.85	+05 01	58.7	17.0	095
1982 RS2 *	1982 09	12.89926	23 27	55.06	+00 43	22.6	17.0	E 095
1982 RT2 *	1982 09	12.89926	23 28	00.47	+00 53	59.4	17.0	E 095
1982 RU2 *	1982 09	12.89926	23 32	28.10	+00 49	03.7	16.5	E 095
1982 RV2 *	1982 09	12.89926	23 38	31.41	+02 12	53.6	17.0	E 095
1982 RW2 *	1982 09	13.76043	20 48	20.28	-02 05	12.6	16.5	095
1982 RX2 *	1982 09	13.83403	22 11	49.40	-12 20	50.9	16.5	E 095
1982 RY2 *	1982 09	13.83403	22 19	48.63	-16 37	43.0	17.0	095
1982 RZ2 *	1982 09	13.83403	22 23	15.72	-10 38	44.2	17.0	095
1982 RA3 *	1982 09	13.83403	22 27	20.34	-12 05	04.8	17.5	095

1982 RB3 *	1982 09 13.83403	22 29 29.38	-15 32 05.2	16.3	095
1982 RC3 *	1982 09 13.83403	22 32 05.00	-11 10 30.6	17.5	095
1982 RD3 *	1982 09 13.83403	22 35 04.94	-12 48 49.7	17.5	095
1982 RE3 *	1982 09 13.83403	22 36 37.82	-08 41 55.8	17.0	E 095
1982 RF3 *	1982 09 13.83403	22 36 47.44	-09 01 08.5	17.5	E 095
1982 RG3 *	1982 09 13.83403	22 49 32.88	-15 15 46.3	17.0	N 095
1982 RH3 *	1982 09 12.76062	20 37 43.47	+00 38 35.8	16.0	095
1982 RJ3 *	1982 09 12.89926	23 20 46.44	+01 16 05.6	17.0	095
1982 RK3 *	1982 09 12.89926	23 21 40.12	+04 42 24.6	17.0	095
1982 SC	1982 08 17.95495	23 57 08.16	-02 33 24.5	16.5	N 095
1982 SF	1982 09 16.85069	23 41 01.72	-07 46 49.3	16.5	E 095
1982 SL	1982 09 16.92013	23 53 52.92	+03 37 13.5		E 095
1982 SL	1982 09 18.89745	23 52 23.31	+03 23 33.6		095
1982 SL	1982 09 20.92014	23 50 50.06	+03 09 02.8		095
1982 SL	1982 09 26.91668	23 46 16.25	+02 24 19.6		095
1982 SY	1982 09 19.99736	01 15 11.48	+05 44 02.0	17.5	E 095
1982 SY	1982 09 28.01043	01 10 05.69	+05 13 11.8	17.5	095
1982 SC1	1982 09 17.90279	00 44 33.37	+07 49 42.6	17.0	N 095
1982 SC1	1982 09 19.92008	00 42 58.88	+07 50 10.4	16.0	E 095
1982 SC1	1982 09 19.99736	00 42 54.78	+07 50 07.2	16.5	E 095
1982 SC1	1982 09 24.91298	00 38 44.81	+07 48 43.7	16.0	E 095
1982 SE1	1982 09 19.99736	00 59 10.98	+12 59 44.6	16.5	E 095
1982 SE1	1982 09 21.95134	00 57 56.48	+12 54 20.6	17.0	E 095
1982 SG1	1982 09 19.99736	01 05 24.47	+11 25 38.0	17.0	095
1982 SG1	1982 09 21.95134	01 04 09.60	+11 16 54.6	17.0	095
1982 SG1	1982 09 28.01043	01 00 00.57	+10 46 55.0	16.5	095
1982 SJ1	1982 09 17.90279	00 44 06.32	+02 11 50.1	17.0	095
1982 SJ1	1982 09 19.92008	00 42 55.01	+01 53 52.8	16.5	095
1982 SJ1	1982 09 24.91298	00 39 42.77	+01 07 36.2	16.8	095
1982 SJ1	1982 09 27.94447	00 37 37.51	+00 38 43.2	16.8	095
1982 SL1	1982 08 23.98995	23 24 03.38	+01 45 31.6	17.0	E 095
1982 SL1	1982 09 19.85046	23 04 55.53	-01 58 21.2	17.0	E 095
1982 SL1	1982 09 21.87836	23 03 28.97	-02 17 39.7	16.5	E 095
1982 SN1	1982 09 17.90279	00 42 54.40	-00 02 21.6	16.0	E 095
1982 SN1	1982 09 19.92008	00 41 34.36	-00 11 28.6	16.0	E 095
1982 SN1	1982 09 24.91298	00 38 04.86	-00 34 30.4	16.0	E 095
1982 SN1	1982 09 27.94447	00 35 51.74	-00 48 33.6	16.0	E 095
1982 SO1	1982 09 17.90279	00 44 22.74	+03 39 20.1	17.0	P 095
1982 SO1	1982 09 19.92008	00 43 10.18	+03 12 51.7	16.0	095
1982 SO1	1982 09 24.91298	00 39 56.76	+02 06 17.2	16.0	095
1982 SO1	1982 09 27.94447	00 37 53.24	+01 25 22.2	16.0	095
1982 SM2	1982 09 24.91298	00 15 39.48	+05 00 15.6	17.0	095
1982 SM2	1982 09 27.94447	00 12 38.08	+04 57 09.6	16.5	E 095
1982 SX2	1982 09 16.85069	23 32 40.29	-06 07 16.3	16.5	095
1982 SX2	1982 09 19.85046	23 29 31.12	-06 14 34.0	16.5	P 095
1982 SY2	1982 09 16.92013	00 09 03.30	-03 08 49.3	16.5	095
1982 SY2	1982 09 20.92014	00 04 54.92	-03 28 40.5	16.5	095
1982 SY2	1982 09 26.91668	23 58 43.47	-03 56 43.6	17.0	095
1982 SY2	1982 10 15.81258	23 42 34.28	-04 54 29.1	17.0	095
1982 SY2	1982 10 22.80874	23 38 51.97	-04 59 57.6	17.2	095
1982 SD3	1982 09 20.92014	00 06 37.86	-02 54 53.4	17.0	095
1982 SD3	1982 09 26.91668	00 02 06.18	-03 29 21.4	17.5	095
1982 SN3	1982 09 16.92013	00 13 01.01	-03 45 16.0	16.5	095
1982 SN3	1982 09 20.92014	00 10 14.36	-04 16 32.2	17.0	095
1982 SN3	1982 10 15.81258	23 55 11.32	-06 34 58.0	17.0	095
1982 SU3	1982 09 16.92013	00 16 51.34	-02 33 45.2	16.5	095
1982 SU3	1982 09 20.92014	00 14 09.62	-03 17 56.6	17.0	E 095
1982 SU3	1982 10 15.81258	23 58 25.94	-07 16 42.4	17.0	M 095
1982 SG4	1982 09 28.01043	01 24 58.12	+11 14 40.1	17.0	E 095

1982	SE5	*	1982	09	16.85069	23	09	16.88	-02	46	38.6	16.5	N	095
1982	SF5	*	1982	09	16.85069	23	09	56.41	-09	11	34.2	17.0		095
1982	SF5		1982	09	19.85046	23	07	55.69	-09	25	24.2	17.0	P	095
1982	SG5	*	1982	09	16.85069	23	13	12.22	-03	55	10.2	17.0		095
1982	SH5	*	1982	09	16.85069	23	13	31.22	-08	24	59.8	17.0		095
1982	SJ5	*	1982	09	16.85069	23	19	53.56	-10	25	00.2	17.0		095
1982	SK5	*	1982	09	16.85069	23	22	36.84	-02	30	08.8	17.0	N	095
1982	SL5	*	1982	09	16.85069	23	26	50.19	-07	11	21.9	17.0		095
1982	SM5	*	1982	09	16.85069	23	27	30.69	-05	44	08.2	17.0		095
1982	SM5		1982	09	21.87836	23	23	03.94	-05	59	24.5	17.0	I	095
1982	SN5	*	1982	09	16.85069	23	32	21.41	-04	02	25.1	17.0		095
1982	SO5	*	1982	09	16.85069	23	33	55.72	-03	25	57.9	16.5		095
1982	SO5		1982	09	19.85046	23	31	49.38	-03	33	25.2	16.5		095
1982	SO5		1982	09	21.87836	23	30	25.44	-03	38	14.5	16.8		095
1982	SP5	*	1982	09	16.85069	23	36	40.13	-07	30	51.8	17.0		095
1982	SQ5	*	1982	09	16.85069	23	36	46.44	-06	43	56.0	17.0		095
1982	SQ5		1982	09	19.85046	23	34	06.32	-06	53	57.4	17.0	E	095
1982	SR5	*	1982	09	16.85069	23	39	34.69	-06	25	27.6	17.0	E	095
1982	ST5	*	1982	09	16.92013	00	00	28.52	-01	34	52.7	16.0		095
1982	SU5	*	1982	09	16.92013	00	03	09.83	+01	01	05.7	17.0		095
1982	SU5		1982	09	18.89745	00	01	49.23	+00	48	41.0	17.0		095
1982	SV5	*	1982	09	16.92013	00	10	17.10	-00	13	24.8	16.0		095
1982	SV5		1982	09	18.89745	00	08	59.87	-00	35	11.0	16.0	E	095
1982	SV5		1982	09	20.92014	00	07	37.71	-00	57	34.2	16.5		095
1982	SV5		1982	09	26.91668	00	03	28.20	-02	04	31.2	16.5		095
1982	SV5		1982	10	22.80874	23	50	28.12	-05	50	10.8	17.0		095
1982	SW5	*	1982	09	16.92013	00	11	08.17	+00	16	30.8	17.5		095
1982	SX5	*	1982	09	16.92013	00	12	17.50	+04	10	36.6	16.0	E	095
1982	SX5		1982	09	20.92014	00	08	52.18	+03	52	47.0	16.5	E	095
1982	SX5		1982	09	26.91668	00	03	40.82	+03	24	21.2	16.0		095
1982	SX5		1982	10	22.80874	23	46	06.69	+01	36	00.2	16.5	E	095
1982	SY5	*	1982	09	16.92013	00	12	41.72	-00	38	58.6	16.5		095
1982	SY5		1982	09	20.92014	00	09	00.38	-00	50	31.6	17.0		095
1982	SY5		1982	09	26.91668	00	03	20.74	-01	07	50.9	17.0		095
1982	SZ5	*	1982	09	16.92013	00	15	01.00	+01	01	27.0	17.0		095
1982	SZ5		1982	09	20.92014	00	12	18.06	+00	38	52.8	17.0		095
1982	SZ5		1982	09	26.91668	00	08	06.62	+00	04	26.6	16.5	E	095
1982	SZ5		1982	10	22.80874	23	53	07.47	-01	58	25.6	17.5		095
1982	SA6	*	1982	09	16.92013	00	15	35.40	+01	02	52.2	17.0		095
1982	SA6		1982	09	26.91668	00	06	40.64	+01	33	00.4	17.5		095
1982	SB6	*	1982	09	16.92013	00	15	59.18	-01	12	23.1	16.5		095
1982	SB6		1982	09	20.92014	00	13	09.08	-01	33	02.8	16.5	E	095
1982	SB6		1982	09	26.91668	00	08	49.02	-02	03	42.2	17.0	E	095
1982	SB6		1982	10	15.81258	23	56	16.94	-03	26	36.1	16.5		095
1982	SB6		1982	10	22.80874	23	52	43.90	-03	48	01.1	16.5		095
1982	SC6	*	1982	09	16.92013	00	20	10.36	-00	40	47.9	16.5	E	095
1982	SC6		1982	09	20.92014	00	16	10.06	-00	51	39.6	16.8		095
1982	SC6		1982	09	26.91668	00	09	51.81	-01	08	11.6	16.5	E	095
1982	SC6		1982	10	22.80874	23	45	20.69	-01	51	51.1	17.0		095
1982	SD6	*	1982	09	16.92013	00	22	39.40	-02	45	36.4	17.0	E	095
1982	SE6	*	1982	09	16.92013	23	45	26.88	-00	29	49.6	16.5	N	095
1982	SF6	*	1982	09	16.92013	23	47	38.68	-00	16	18.6	17.5	E	095
1982	SG6	*	1982	09	16.92013	23	48	47.10	+01	32	33.0	17.0		095
1982	SH6	*	1982	09	16.92013	23	51	58.54	-01	14	05.5	17.5		095
1982	SH6		1982	09	20.92014	23	49	08.06	-01	35	03.6	17.0		095
1982	SJ6	*	1982	09	16.92013	23	53	18.60	-00	38	46.9	17.5		095
1982	SK6	*	1982	09	16.99014	00	53	17.74	+07	41	34.6	17.0	E	095
1982	SK6		1982	09	27.94447	00	45	14.80	+05	57	40.6	17.0	E	095
1982	SL6	*	1982	09	16.99014	00	57	34.40	+05	57	12.6	17.2		095

1982 SL6	1982 09	19.99736	00 55	18.35	+05 50	24.6	17.5	095
1982 SL6	1982 09	21.95134	00 53	45.20	+05 45	34.8	17.0	095
1982 SL6	1982 09	28.01043	00 48	39.19	+05 28	47.0	17.5	E 095
1982 SM6 *	1982 09	16.99014	00 57	36.39	+05 57	07.7	17.0	095
1982 SM6	1982 09	19.99736	00 55	07.02	+05 56	46.2	17.5	095
1982 SM6	1982 09	27.94447	00 47	41.42	+05 51	36.7	17.0	E 095
1982 SM6	1982 09	28.01043	00 47	37.33	+05 51	28.2	17.0	E 095
1982 SN6 *	1982 09	16.99014	00 59	01.68	+09 30	55.4	17.5	095
1982 SO6 *	1982 09	16.99014	00 59	34.04	+09 37	54.6	17.5	095
1982 SP6 *	1982 09	16.99014	01 02	26.80	+09 22	11.0	17.0	095
1982 SP6	1982 09	19.99736	01 00	13.98	+09 22	34.1	17.0	095
1982 SP6	1982 09	21.95134	00 58	42.97	+09 22	16.5	17.0	095
1982 SP6	1982 09	28.01043	00 53	40.97	+09 18	58.5	17.0	095
1982 SQ6 *	1982 09	16.99014	01 04	06.68	+05 08	57.0	17.5	095
1982 SR6 *	1982 09	16.99014	01 05	36.83	+09 01	35.2	17.0	095
1982 SR6	1982 09	19.99736	01 03	54.54	+08 43	06.0	17.0	095
1982 SR6	1982 09	21.95134	01 02	44.06	+08 30	17.8	17.5	095
1982 SR6	1982 09	28.01043	00 58	48.90	+07 48	43.5	17.0	095
1982 SS6 *	1982 09	16.99014	01 05	50.56	+03 32	46.4	17.8	095
1982 SS6	1982 09	28.01043	00 59	39.17	+02 40	56.3	17.5	P 095
1982 ST6 *	1982 09	16.99014	01 06	54.27	+08 22	52.2	17.5	095
1982 ST6	1982 09	28.01043	00 58	57.28	+07 40	03.6	17.5	095
1982 SU6 *	1982 09	16.99014	01 10	35.86	+06 52	22.0	17.5	095
1982 SV6 *	1982 09	16.99014	01 11	25.00	+06 06	44.3	17.5	095
1982 SV6	1982 09	28.01043	01 07	32.88	+04 14	31.5	17.5	F 095
1982 SW6 *	1982 09	16.99014	01 12	15.62	+03 30	36.5	17.5	095
1982 SX6 *	1982 09	16.99014	01 12	56.76	+03 35	24.2	17.0	095
1982 SY6 *	1982 09	16.99014	01 14	22.16	+05 12	37.8	17.5	095
1982 SY6	1982 09	19.99736	01 12	06.50	+05 10	28.5	16.5	095
1982 SY6	1982 09	21.95134	01 10	32.73	+05 08	42.5	17.5	095
1982 SZ6 *	1982 09	16.99014	01 16	53.08	+09 37	35.9	17.5	P 095
1982 SA7 *	1982 09	16.99014	01 22	14.30	+08 20	38.6	17.0	095
1982 SA7	1982 09	21.95134	01 19	36.92	+07 44	48.2	17.0	095
1982 SA7	1982 09	28.01043	01 15	47.19	+06 56	39.0	17.0	095
1982 SB7 *	1982 09	16.99014	01 27	37.88	+07 19	51.6	17.5	E 095
1982 SC7 *	1982 09	16.99014	01 28	52.29	+06 24	29.1	17.0	E 095
1982 SC7	1982 09	28.01043	01 22	49.53	+05 07	25.7	17.0	E 095
1982 SD7 *	1982 09	17.76050	21 48	49.88	+05 33	40.1	17.0	095
1982 SE7 *	1982 09	17.76050	21 54	07.75	+09 10	36.9	16.5	E 095
1982 SF7 *	1982 09	17.82987	22 47	53.41	-02 35	06.0	17.0	095
1982 SG7 *	1982 09	17.82987	22 47	58.10	-05 20	07.0	17.0	095
1982 SH7 *	1982 09	17.82987	23 01	36.44	-04 09	32.6	16.5	E 095
1982 SJ7 *	1982 09	17.90279	00 23	36.56	+01 40	44.2	16.0	095
1982 SJ7	1982 09	19.92008	00 22	23.00	+01 20	09.4	16.0	095
1982 SJ7	1982 09	24.91298	00 19	12.82	+00 28	56.5	16.0	095
1982 SJ7	1982 09	27.94447	00 17	14.79	-00 01	54.0	16.0	095
1982 SJ7	1982 10	22.80874	00 04	57.52	-03 23	48.4	16.5	E 095
1982 SK7 *	1982 09	17.90279	00 31	29.61	+05 47	13.2	17.5	095
1982 SL7 *	1982 09	17.90279	00 41	23.86	-00 47	01.6	17.0	N 095
1982 SM7 *	1982 09	18.89745	00 10	34.75	-00 26	27.2	16.5	E 095
1982 SM7	1982 09	20.92014	00 09	03.20	-00 35	02.6	17.5	095
1982 SM7	1982 09	26.91668	00 04	29.28	-01 00	32.0	17.5	095
1982 SN7 *	1982 09	18.89745	23 35	07.69	-00 49	35.0	17.5	N 095
1982 SO7 *	1982 09	18.89745	23 42	13.88	+01 45	28.1	17.5	095
1982 SP7 *	1982 09	18.89745	23 52	16.06	-01 35	38.8	17.5	095
1982 SQ7 *	1982 09	18.89745	23 52	59.56	+00 52	44.5	17.5	095
1982 SQ7	1982 09	20.92014	23 51	08.47	+00 50	34.6	17.5	095
1982 SQ7	1982 09	26.91668	23 45	43.04	+00 43	50.3	17.0	095
1982 SR7 *	1982 09	18.89745	23 54	51.06	+00 14	26.8	17.5	095

1982	SS7	*	1982	09	18.89745	23	55	06.06	-03	56	04.9	17.5	095
1982	ST7	*	1982	09	18.89745	23	56	26.91	+03	39	36.0	16.5	095
1982	ST7		1982	09	20.92014	23	54	45.53	+03	36	47.8	16.5	E 095
1982	ST7		1982	09	26.91668	23	49	41.78	+03	26	41.3		E 095
1982	SU7	*	1982	09	19.78103	21	36	06.06	-10	50	40.0	15.5	S 095
1982	SW7	*	1982	09	19.78103	21	51	23.19	-10	50	19.3	16.5	095
1982	SX7	*	1982	09	19.78103	21	56	28.53	-10	01	42.6	16.5	095
1982	SY7	*	1982	09	19.85046	23	01	16.56	-08	40	08.6	17.0	E 095
1982	SZ7	*	1982	09	19.85046	23	11	09.91	-05	28	09.9	17.0	095
1982	SA8	*	1982	09	19.92008	00	23	00.74	+03	44	02.0	17.0	095
1982	SA8		1982	09	27.94447	00	16	21.13	+03	28	21.0	17.0	095
1982	SB8	*	1982	09	19.92008	00	24	24.91	+02	50	19.0	17.0	095
1982	SB8		1982	09	27.94447	00	18	23.26	+02	10	21.8	17.0	095
1982	SC8	*	1982	09	19.92008	00	24	34.20	+04	58	49.9	16.8	095
1982	SC8		1982	09	24.91298	00	19	32.48	+04	39	55.7	17.0	095
1982	SC8		1982	09	27.94447	00	16	27.03	+04	27	42.2	16.0	095
1982	SD8	*	1982	09	19.92008	00	33	48.07	-00	58	57.4	16.5	N 095
1982	SE8	*	1982	09	19.92008	00	35	48.28	+00	04	53.6	17.0	E 095
1982	SF8	*	1982	09	19.92008	00	37	29.58	+05	40	40.7	17.0	095
1982	SG8	*	1982	09	19.92008	00	44	28.52	+02	42	36.4	17.0	095
1982	SH8	*	1982	09	19.92008	00	44	29.56	+01	14	26.9	16.3	095
1982	SH8		1982	09	27.94447	00	38	44.61	+00	37	11.0	17.0	095
1982	SJ8	*	1982	09	19.92008	00	49	52.86	+06	02	26.2	17.0	N 095
1982	SK8	*	1982	09	19.92008	00	51	17.54	+04	56	34.4	17.0	E 095
1982	SK8		1982	09	19.99736	00	51	14.22	+04	56	06.4	16.5	095
1982	SK8		1982	09	21.95134	00	49	52.66	+04	45	42.9	17.0	095
1982	SK8		1982	09	27.94447	00	45	27.30	+04	12	21.3	17.0	E 095
1982	SL8	*	1982	09	19.99736	00	43	01.63	+06	20	43.4	17.0	N 095
1982	SM8	*	1982	09	19.99736	00	47	10.18	+10	27	44.9	17.0	095
1982	SN8	*	1982	09	19.99736	00	48	40.41	+11	13	10.1	17.0	095
1982	SO8	*	1982	09	19.99736	00	49	14.34	+12	09	23.4	17.0	095
1982	SO8		1982	09	21.95134	00	48	14.64	+11	52	50.6	17.0	E 095
1982	SP8	*	1982	09	19.99736	00	51	16.30	+05	29	30.2	17.5	095
1982	SQ8	*	1982	09	19.99736	00	52	16.09	+08	38	09.2	17.5	P 095
1982	SR8	*	1982	09	19.99736	00	56	28.35	+11	50	16.9	17.0	095
1982	SS8	*	1982	09	19.99736	00	56	39.18	+09	51	39.1	17.0	095
1982	ST8	*	1982	09	19.99736	01	00	24.52	+04	41	49.9	17.5	095
1982	SU8	*	1982	09	19.99736	01	03	22.99	+05	13	54.6	17.5	P 095
1982	SV8	*	1982	09	20.78474	22	04	51.13	-10	36	22.4	17.0	E 095
1982	SW8	*	1982	09	20.78474	22	17	20.25	-18	06	35.1	17.0	N 095
1982	SX8	*	1982	09	20.78474	22	23	24.72	-10	49	22.1	17.0	P 095
1982	SY8	*	1982	09	20.85070	23	15	24.97	+08	03	27.5	17.0	095
1982	SZ8	*	1982	09	20.85070	23	17	58.00	+00	31	29.6	17.0	E 095
1982	SA9	*	1982	09	20.85070	23	23	32.40	+01	56	16.9	17.0	095
1982	SB9	*	1982	09	20.85070	23	26	23.78	+06	40	33.3	17.0	095
1982	SC9	*	1982	09	20.85070	23	28	08.28	+07	32	55.2	17.0	095
1982	SD9	*	1982	09	20.85070	23	35	21.60	+03	58	16.3		E 095
1982	SE9	*	1982	09	20.92014	00	07	23.50	+01	55	38.8	17.5	095
1982	SF9	*	1982	09	20.92014	23	37	57.86	-03	36	23.6	17.5	095
1982	SG9	*	1982	09	20.92014	23	42	25.13	-03	39	49.5	17.5	P 095
1982	SH9	*	1982	09	20.92014	23	45	35.94	-01	48	29.3	17.8	P 095
1982	SJ9	*	1982	09	20.92014	23	51	32.63	-01	48	10.2	17.5	P 095
1982	SK9	*	1982	09	20.92014	23	55	45.16	+01	44	05.3	17.5	095
1982	SL9	*	1982	09	20.92014	23	56	01.75	+02	27	39.0	17.5	095
1982	SM9	*	1982	09	20.92014	23	57	24.38	-01	07	17.4	17.5	095
1982	SN9	*	1982	09	20.92014	23	57	47.87	-01	32	22.0	17.5	095
1982	SO9	*	1982	09	20.92014	23	59	14.81	-01	54	42.8	17.5	095
1982	SP9	*	1982	09	20.92014	23	59	45.66	-04	52	51.6	17.5	E 095
1982	SQ9	*	1982	09	21.80892	22	27	04.35	-05	19	13.2	17.5	P 095

1982	SR9 *	1982	09	21.80892	22	37	11.28	-04	44	48.5		095
1982	SS9 *	1982	09	21.80892	22	45	16.16	-07	39	22.4	17.0	095
1982	ST9 *	1982	09	21.87836	23	05	19.29	-09	18	55.1	17.0	095
1982	SU9 *	1982	09	21.87836	23	06	16.88	-05	30	25.6	17.0	095
1982	SW9 *	1982	09	21.95134	00	54	23.28	+05	39	11.2	17.5	095
1982	SW9	1982	09	28.01043	00	50	11.96	+05	14	21.0	17.5	095
1982	SX9 *	1982	09	21.95134	00	57	42.86	+04	26	36.8	17.5	P 095
1982	SY9 *	1982	09	21.95134	01	01	59.96	+08	07	17.1	17.0	095
1982	SZ9 *	1982	09	21.95134	01	06	06.66	+10	32	12.8	17.5	095
1982	SA10*	1982	09	21.95134	01	15	01.49	+07	56	03.6	17.0	095
1982	SB10*	1982	09	24.91298	00	13	25.30	+02	50	31.1	17.0	E 095
1982	SC10*	1982	09	24.91298	00	16	40.71	+05	37	07.4	17.3	E 095
1982	SD10*	1982	09	24.91298	00	28	12.92	+06	40	47.2	17.5	095
1982	SE10*	1982	09	24.91298	00	31	19.42	+03	34	30.2	17.5	095
1982	SF10*	1982	09	24.91298	00	40	13.34	+04	12	15.6	17.0	095
1982	SG10*	1982	09	24.91298	00	52	36.85	+04	49	40.0		E 095
1982	SH10*	1982	09	26.91668	00	00	02.05	-00	22	25.0	17.0	095
1982	SJ10*	1982	09	26.91668	00	01	13.74	+01	08	23.2	17.0	095
1982	SK10*	1982	09	26.91668	00	01	48.50	+00	16	59.4	17.5	095
1982	SL10*	1982	09	26.91668	00	04	42.22	+00	41	22.4	17.0	095
1982	SM10*	1982	09	26.91668	00	07	56.43	-01	06	56.5	17.5	P 095
1982	SN10*	1982	09	26.91668	23	34	03.63	-00	32	15.2	17.5	E 095
1982	SO10*	1982	09	26.91668	23	37	19.66	+00	36	32.0		E 095
1982	SP10*	1982	09	26.91668	23	40	43.00	+00	02	47.7	17.5	095
1982	SQ10*	1982	09	26.91668	23	41	05.53	+01	33	57.8	17.0	095
1982	SR10*	1982	09	26.91668	23	41	22.38	-05	00	10.0	17.0	E 095
1982	SS10*	1982	09	26.91668	23	48	40.28	+02	17	28.0	17.5	095
1982	ST10*	1982	09	26.91668	23	49	02.54	-04	53	24.2	17.0	095
1982	SU10*	1982	09	26.91668	23	50	02.35	+03	40	24.8		E 095
1982	SV10*	1982	09	26.91668	23	56	24.88	+03	12	33.0	17.5	095
1982	SW10*	1982	09	26.91668	23	58	58.38	-00	35	52.2	17.5	095
1982	SX10*	1982	09	27.94447	00	12	19.94	+01	27	57.6	17.0	E 095
1982	SY10*	1982	09	27.94447	00	13	32.88	+01	26	10.6	17.5	E 095
1982	SZ10*	1982	09	27.94447	00	15	15.84	+02	18	15.1	17.5	E 095
1982	SA11*	1982	09	27.94447	00	16	45.82	+01	27	35.4	17.5	095
1982	SB11*	1982	09	27.94447	00	17	58.63	+04	33	23.0	16.5	095
1982	SC11*	1982	09	27.94447	00	19	36.72	+04	59	44.2	17.0	095
1982	SD11*	1982	09	27.94447	00	20	24.42	-01	31	31.3	16.0	095
1982	SE11*	1982	09	27.94447	00	21	38.84	+02	19	21.0	17.5	095
1982	SF11*	1982	09	27.94447	00	25	09.74	+02	54	17.8	17.5	095
1982	SG11*	1982	09	27.94447	00	25	25.89	+03	33	08.5	17.5	F 095
1982	SH11*	1982	09	27.94447	00	26	19.93	+01	40	02.2	17.0	095
1982	SJ11*	1982	09	27.94447	00	33	38.15	+05	09	51.8	17.5	095
1982	SK11*	1982	09	27.94447	00	34	52.38	+02	45	27.0	17.0	095
1982	SL11*	1982	09	27.94447	00	38	17.02	-01	25	52.0	16.5	E 095
1982	SM11*	1982	09	27.94447	00	39	52.52	-00	03	13.6	17.0	095
1982	SN11*	1982	09	27.94447	00	40	15.58	+04	02	28.6	17.5	095
1982	SO11*	1982	09	27.94447	00	44	51.18	+04	23	40.8	17.5	E 095
1982	SP11*	1982	09	27.94447	00	44	53.72	+04	25	28.4	17.0	E 095
1982	SR11*	1982	09	27.94447	00	45	51.54	+03	44	35.6	17.3	E 095
1982	ST11*	1982	09	28.01043	00	48	54.32	+06	23	26.0	17.5	E 095
1982	SU11*	1982	09	28.01043	00	59	02.50	+04	00	47.3	17.0	095
1982	SV11*	1982	09	28.01043	01	05	21.47	+12	04	41.3	16.5	N 095
1982	SW11*	1982	09	28.01043	01	08	37.56	+06	24	12.4	17.5	095
1982	SX11*	1982	09	28.01043	01	09	49.03	+03	23	20.3	17.5	095
1982	SY11*	1982	09	28.01043	01	14	46.01	+04	45	34.4	17.8	095
1982	SZ11*	1982	09	28.01043	01	16	00.08	+07	02	17.6	17.5	P 095
1982	SA12*	1982	09	28.01043	01	20	54.40	+07	56	33.9	17.5	095
1982	SB12*	1982	09	28.01043	01	23	10.10	+06	35	32.5	17.5	E 095

1982	SC12*	1982	09	28.01043	01	24	48.55	+07	59	34.2	17.5	E	095
1982	SD12*	1982	09	16.85069	23	15	04.90	-08	49	42.4	17.0		095
1982	SE12*	1982	09	16.85069	23	15	20.06	-08	48	16.0	17.0		095
1982	SF12*	1982	09	16.92013	00	15	42.80	+01	24	10.6	17.0		095
1982	SF12	1982	09	20.92014	00	11	53.68	+00	59	39.4	16.5		095
1982	SG12*	1982	09	16.92013	23	51	42.00	+00	51	35.0	16.5		095
1982	SG12	1982	09	18.89745	23	50	03.19	+00	32	34.9	17.5	P	095
1982	SH12*	1982	09	16.92013	23	54	22.31	+00	19	48.9	17.5		095
1982	SH12	1982	09	20.92014	23	51	05.72	+00	19	22.2	17.5	F	095
1982	SJ12*	1982	09	19.85046	23	12	11.06	-09	14	00.8	17.0	W	095
1982	SK12*	1982	09	19.85046	23	13	19.26	-09	08	49.8	16.8		095
1982	SL12*	1982	09	19.92008	00	27	09.61	+04	48	41.2	17.0	P	095
1982	SM12*	1982	09	19.92008	00	36	48.62	+04	32	08.2	17.0		095
1982	SN12*	1982	09	19.92008	00	43	47.86	+06	32	15.3	16.3	P	095
1982	SN12	1982	09	19.99736	00	43	45.20	+06	31	31.8	17.0	N	095
1982	SO12*	1982	09	20.85070	23	15	14.34	+02	02	18.7	17.3	F	095
1982	SP12*	1982	09	20.85070	23	17	26.94	+03	41	16.5	17.0		095
1982	SQ12*	1982	09	21.87836	23	11	12.22	-09	30	24.2	17.0		095
1982	SR12*	1982	09	24.91298	00	41	02.88	+05	50	17.0	17.0		095
1982	SR12	1982	09	27.94447	00	39	13.48	+05	23	01.0	16.5		095
1982	SS12*	1982	09	26.91668	00	07	22.08	+00	19	29.2	16.0		095
1982	ST12*	1982	09	26.91668	23	43	21.75	-00	46	10.3	17.8		095
1982	SU12*	1982	09	27.94447	00	18	21.17	+04	20	30.6	17.0		095
1982	SV12*	1982	09	27.94447	00	25	39.22	+06	33	52.5	17.5		095
1982	SW12*	1982	09	27.94447	00	28	49.06	+03	34	49.6	17.5		095
1982	SX12*	1982	09	27.94447	00	37	54.14	+03	42	31.2	17.0		095
1982	SY12*	1982	09	28.01043	01	15	15.24	+03	59	14.7	17.5		095
1982	SA13*	1982	09	16.92013	00	05	50.94	+00	12	52.0	16.5		095
1982	SA13	1982	09	18.89745	00	04	39.18	+00	04	23.0	16.5		095
1982	SA13	1982	09	20.92014	00	03	24.88	-00	04	20.4	16.8		095
1982	SA13	1982	09	26.91668	23	59	43.44	-00	30	18.6	17.0		095
1982	SA13	1982	10	15.81258	23	49	04.50	-01	44	46.8	16.8	N	095
1982	SA13	1982	10	22.80874	23	46	00.47	-02	06	13.7	16.8		095
1982	TV2 *	1982	10	14.81883	00	02	21.51	-08	40	34.4	17.0	N	095
1982	TW2 *	1982	10	14.81883	00	02	55.12	-08	10	21.4	16.5	E	095
1982	TW2	1982	10	15.81258	00	02	17.19	-08	09	01.4	17.0		095
1982	TX2 *	1982	10	14.81883	23	29	40.06	-14	18	57.2	16.8	N	095
1982	TY2 *	1982	10	14.81883	23	36	59.34	-10	28	56.9	17.0		095
1982	TY2	1982	10	15.81258	23	36	25.56	-10	30	51.3	17.0	E	095
1982	TY2	1982	10	21.80912	23	33	36.00	-10	37	44.8	17.0	M	095
1982	TA3 *	1982	10	14.81883	23	45	16.72	-11	57	11.0	16.5		095
1982	TA3	1982	10	21.80912	23	42	33.44	-12	26	37.7	16.5		095
1982	TB3 *	1982	10	14.81883	23	46	00.81	-09	52	25.1	17.0		095
1982	TB3	1982	10	15.81258	23	45	31.41	-09	55	02.9	17.0		095
1982	TC3 *	1982	10	14.81883	23	55	25.90	-07	58	35.1	17.0		095
1982	TD3 *	1982	10	14.81883	23	55	41.44	-06	56	40.3	16.0	E	095
1982	TD3	1982	10	15.81258	23	55	14.03	-06	56	43.1	16.0		095
1982	TE3 *	1982	10	15.81258	00	02	54.96	-06	56	49.8	17.0		095
1982	TF3 *	1982	10	15.81258	23	38	52.04	-07	50	19.1	17.0		095
1982	TF3	1982	10	21.80912	23	35	58.25	-07	56	34.4	16.5	N	095
1982	TG3 *	1982	10	15.88272	00	32	16.36	+18	59	18.0	16.5	E	095
1982	TG3	1982	10	24.85983	00	28	40.52	+17	02	59.3	16.5		095
1982	TH3 *	1982	10	15.88272	00	38	36.22	+18	28	06.2	16.5		095
1982	TH3	1982	10	24.85983	00	31	51.97	+17	43	38.4	16.5		095
1982	TH3	1982	11	09.78902	00	23	34.14	+16	21	14.9	16.5		095
1982	TH3	1982	11	11.75152	00	22	57.52	+16	11	50.0	16.5		095
1982	TJ3 *	1982	10	15.88272	00	38	38.56	+19	08	53.0	16.5		095
1982	TK3 *	1982	10	15.88272	00	41	27.55	+18	33	31.4	17.0		095
1982	TK3	1982	10	24.85983	00	34	00.58	+17	55	21.2	17.0		095

1982 TK3	1982 11 09.78902	00 24 59.11	+16 41 46.9	17.0	M	095
1982 TK3	1982 11 11.75152	00 24 21.35	+16 33 23.8	17.0		095
1982 TL3 *	1982 10 15.88272	00 44 52.78	+21 15 26.3	17.0		095
1982 TL3	1982 10 24.85983	00 38 31.81	+20 19 40.4	17.0	M	095
1982 TM3 *	1982 10 15.88272	00 50 08.78	+20 41 56.3	17.0		095
1982 TN3 *	1982 10 15.88272	00 54 35.89	+18 37 31.9	17.0	M	095
1982 UE	1982 10 14.81883	23 46 37.63	-11 14 55.4	16.2		095
1982 UE	1982 10 21.80912	23 44 11.50	-10 58 24.5	16.5		095
1982 UJ3	1982 09 16.92013	23 53 15.16	+01 21 05.6	17.0		095
1982 UJ3	1982 09 18.89745	23 51 27.34	+01 06 23.0	16.8		095
1982 UJ3	1982 09 20.92014	23 49 36.41	+00 51 12.5	17.0	d	095
1982 UJ3	1982 09 26.91668	23 44 09.50	+00 05 40.4	17.0		095
1982 UQ3	1982 09 16.92013	23 54 28.40	-00 56 03.1	17.0		095
1982 UQ3	1982 09 18.89745	23 52 47.19	-01 05 25.2	17.5		095
1982 UQ3	1982 09 26.91668	23 45 51.28	-01 43 42.0	17.5		095
1982 UR3	1982 09 16.92013	23 53 52.69	+00 19 55.8	17.5		095
1982 UR3	1982 09 18.89745	23 52 21.94	+00 09 18.5	17.0		095
1982 UR3	1982 09 20.92014	23 50 48.03	-00 01 35.6	17.5		095
1982 UR3	1982 09 26.91668	23 46 11.41	-00 34 02.2	17.0		095
1982 UW3	1982 09 16.92013	23 55 22.41	+02 55 37.7	16.0		095
1982 UW3	1982 09 20.92014	23 52 38.00	+02 21 44.9	17.5	D	095
1982 UW3	1982 09 26.91668	23 48 29.75	+01 29 43.5	17.5		095
1982 UW3	1982 10 22.80874	23 33 45.75	-01 59 41.6	17.2		095
1982 UZ3	1982 09 16.92013	23 58 11.84	+01 20 17.3	17.0		095
1982 UZ3	1982 09 18.89745	23 56 40.75	+01 06 47.8	17.0		095
1982 UZ3	1982 09 26.91668	23 50 27.72	+00 11 09.2	17.5		095
1982 UD4	1982 09 16.92013	00 01 43.00	-00 24 57.5	17.0		095
1982 UD4	1982 09 20.92014	23 58 29.75	-00 38 30.8	17.5		095
1982 UD4	1982 09 26.91668	23 53 36.84	-00 58 56.9	17.5		095
1982 UF4	1982 09 16.92013	00 04 20.84	+00 56 24.4	16.0		095
1982 UF4	1982 09 18.89745	00 02 47.00	+00 47 20.0	16.0		095
1982 UF4	1982 09 20.92014	00 01 09.60	+00 37 55.8	16.5		095
1982 UF4	1982 09 26.91668	23 56 18.94	+00 09 40.4	17.5		095
1982 UF4	1982 10 22.80874	23 39 03.47	-01 31 20.5	16.5		095
1982 UJ11*	1982 10 16.02578	03 22 20.86	+37 45 06.8	16.5	E	095
1982 UK11*	1982 10 16.02578	03 23 41.62	+35 00 27.7	16.0		095
1982 UL11*	1982 10 16.02578	03 24 51.58	+32 09 19.1	17.0		095
1982 UM11*	1982 10 16.02578	03 30 13.10	+29 31 21.0	16.5	E	095
1982 UN11*	1982 10 16.02578	03 39 43.66	+32 45 07.8	15.5		095
1982 UO11*	1982 10 16.02578	03 42 46.88	+34 29 07.3	17.0		095
1982 UP11*	1982 10 21.80912	23 27 45.50	-10 07 44.4	17.0		095
1982 UQ11*	1982 10 21.80912	23 42 57.03	-16 26 53.0	16.0	E	095
1982 UR11*	1982 10 21.80912	23 49 10.03	-12 45 46.5	17.0		095
1982 US11*	1982 10 21.80912	23 54 59.16	-06 57 31.5	16.0	E	095
1982 UT11*	1982 10 22.80874	00 06 10.52	-05 52 33.5	17.0	N	095
1982 UU11*	1982 10 22.80874	23 33 34.06	-01 22 35.8	17.5		095
1982 UV11*	1982 10 22.80874	23 42 08.03	-01 29 54.2	17.0		095
1982 UY11*	1982 10 22.80874	23 51 30.63	-06 55 06.0	17.5	N	095
1982 UZ11*	1982 10 22.80874	23 55 19.16	-03 20 22.7	17.0		095
1982 UA12*	1982 10 22.80874	23 55 46.00	-01 14 54.7	16.5		095
1982 UB12*	1982 10 24.85983	00 18 12.90	+19 41 03.9	16.5	E	095
1982 UC12*	1982 10 24.85983	00 34 32.08	+20 42 39.4	17.0		095
1982 UD12*	1982 10 24.85983	00 40 30.43	+22 41 32.6	17.0		095
1982 UE12*	1982 10 24.85983	00 40 49.41	+18 43 43.0	17.0		095
1982 UE12	1982 11 09.78902	00 29 46.20	+17 28 05.1	17.0		095
1982 UE12	1982 11 11.75152	00 28 52.42	+17 19 15.5	17.0		095
1982 UF12*	1982 10 24.85983	00 44 14.34	+20 32 35.8	17.0		095
1982 UF12	1982 11 09.78902	00 35 50.18	+18 49 08.6	17.0	M	095
1982 UG12*	1982 10 24.85983	00 52 08.94	+20 50 40.6	17.5	M	095

1982 UH12*	1982 10	24.85983	00 54	49.92	+18 32	00.0	17.0	N	095
1982 UH12	1982 11	09.78902	00 43	20.01	+16 38	15.9	17.0	M	095
1982 UH12	1982 11	11.75152	00 42	24.98	+16 24	57.9	17.0		095
1982 VM11*	1982 11	09.78902	00 16	50.54	+15 55	12.0	17.0		095
1982 VN11*	1982 11	09.78902	00 22	07.02	+17 39	46.6	16.8		095
1982 VN11	1982 11	11.75152	00 21	23.06	+17 36	39.4	16.5		095
1982 VO11*	1982 11	09.78902	00 24	31.16	+13 55	05.2	17.0	N	095
1982 VP11*	1982 11	09.78902	00 29	48.14	+19 50	45.8	17.0		095
1982 VQ11*	1982 11	09.78902	00 42	46.29	+17 00	22.2	17.0		095
1982 VR11*	1982 11	09.78902	00 50	20.01	+16 51	49.3	17.0	N	095
1982 VS11*	1982 11	11.75152	00 26	02.24	+17 59	27.2	17.0		095
1982 VT11*	1982 11	13.05592	04 54	49.90	+27 41	14.8	17.5	E	095
1982 VU11*	1982 11	13.05592	04 55	58.21	+24 26	39.5	17.5	E	095
1982 VV11*	1982 11	13.05592	04 57	27.88	+22 03	25.2	17.5	E	095
1982 VW11*	1982 11	13.05592	04 57	34.18	+21 22	26.6	17.5	E	095
1982 VX11*	1982 11	13.05592	05 00	35.56	+26 39	27.8	17.0		095
1982 VY11*	1982 11	13.05592	05 00	43.68	+25 54	14.6	17.5		095
1982 VZ11*	1982 11	13.05592	05 01	19.79	+26 04	38.2	17.5		095
1982 VA12*	1982 11	13.05592	05 08	16.20	+20 22	45.0	17.0		095
1982 VB12*	1982 11	13.05592	05 09	17.46	+25 23	18.6	17.5	M	095
1982 VC12*	1982 11	13.05592	05 13	56.36	+23 32	42.0	17.0		095
1982 VD12*	1982 11	13.05592	05 14	50.86	+27 50	30.5	17.5		095
1982 VE12*	1982 11	13.05592	05 17	44.36	+21 03	19.8	17.5		095
1982 VF12*	1982 11	13.05592	05 18	06.20	+22 13	33.6	17.0		095
1982 VF12	1982 12	22.92358	04 37	44.87	+20 20	33.2	17.5		095
1982 VG12*	1982 11	13.05592	05 18	18.12	+25 43	59.9	17.0		095
1982 VH12*	1982 11	13.05592	05 18	25.40	+28 05	59.6	17.0		095
1982 VJ12*	1982 11	13.05592	05 19	05.88	+22 57	15.8	17.0		095
1982 VK12*	1982 11	13.05592	05 21	43.67	+21 13	24.0	16.5		095
1982 VK12	1982 12	22.92358	04 49	47.11	+21 00	09.7	16.5		095
1982 VK12	1983 01	06.80273	04 40	18.14	+20 59	24.9	16.5	E	095
1982 VL12*	1982 11	13.05592	05 23	08.05	+26 18	10.4	17.5		095
1982 VM12*	1982 11	13.05592	05 23	16.25	+19 03	27.9	17.5		095
1982 VN12*	1982 11	13.05592	05 24	50.48	+19 29	03.4	16.5	E	095
1982 VO12*	1982 11	13.05592	05 25	13.67	+26 12	04.2	17.5		095
1982 VP12*	1982 11	13.05592	05 25	59.76	+23 29	27.3	17.0	M	095
1982 VQ12*	1982 11	13.05592	05 26	38.21	+25 35	42.0	17.5		095
1982 VR12*	1982 11	13.05592	05 27	19.96	+23 50	44.9	17.0	M	095
1982 VS12*	1982 11	13.05592	05 32	23.68	+23 23	19.7	17.5	E	095
1982 VT12*	1982 11	13.05592	05 35	37.19	+23 21	35.6	17.5	E	095
1982 VU12*	1982 11	14.97387	04 41	20.94	+08 47	51.8	17.0	E	095
1982 VV12*	1982 11	14.97387	04 42	18.82	+07 18	13.6	16.0	E	095
1982 VW12*	1982 11	14.97387	04 44	22.41	+08 16	54.4	17.0	E	095
1982 VX12*	1982 11	14.97387	04 52	39.66	+09 22	42.4	16.5		095
1982 VX12	1982 12	21.88838	04 26	45.92	+05 12	13.0	16.5	M	095
1982 VY12*	1982 11	14.97387	05 05	45.74	+13 12	25.9	17.5		095
1982 VY12	1982 12	21.88838	04 32	46.74	+11 20	47.8	17.0		095
1982 VZ12*	1982 11	14.97387	05 10	07.68	+10 46	09.6	16.0		095
1982 VZ12	1982 12	21.88838	04 39	01.48	+11 10	27.8	16.5		095
1982 VA13*	1982 11	14.97387	05 13	52.54	+12 14	45.0	16.0		095
1982 VA13	1982 12	21.88838	04 43	00.36	+07 32	07.4	16.0		095
1982 VB13*	1982 11	14.97387	05 14	28.52	+12 50	52.0	17.0		095
1982 WM	1982 10	14.81883	23 42	44.88	-11 07	01.0	16.5		095
1982 WM	1982 10	15.81258	23 42	12.88	-11 08	17.5	16.5	E	095
1982 WM	1982 10	21.80912	23 39	34.56	-11 10	16.4	16.5		095
1982 YQ	1982 12	22.99368	07 22	53.58	+27 24	28.3	17.5		095
1982 YQ	1983 01	06.94435	07 07	29.17	+29 19	30.9	17.0	M	095
1982 YQ	1983 02	02.73953	06 41	01.18	+31 42	39.4	17.0		095

1982	YA2	*	1982	12	21.88838	04	17	14.98	+05	47	19.4	17.0	N	095
1982	YB2	*	1982	12	21.88838	04	20	12.64	+08	40	29.5	17.0	E	095
1982	YC2	*	1982	12	21.88838	04	25	26.12	+08	28	35.0	17.0		095
1982	YD2	*	1982	12	21.88838	04	33	49.56	+04	44	28.8	16.5	E	095
1982	YE2	*	1982	12	21.88838	04	44	10.60	+09	33	36.3	17.0	M	095
1982	YF2	*	1982	12	21.88838	04	45	47.52	+11	21	47.9	17.0		095
1982	YG2	*	1982	12	21.88838	04	52	47.23	+10	38	28.6	17.5	E	095
1982	YH2	*	1982	12	21.88838	04	56	00.49	+10	04	57.6	17.0	E	095
1982	YJ2	*	1982	12	22.92358	04	26	01.74	+21	48	44.5	17.5	E	095
1982	YK2	*	1982	12	22.92358	04	29	21.73	+21	49	56.3	17.5		095
1982	YL2	*	1982	12	22.92358	04	31	12.29	+19	04	57.1	17.5	E	095
1982	YM2	*	1982	12	22.92358	04	35	25.22	+17	12	59.4	17.0		095
1982	YN2	*	1982	12	22.92358	04	36	29.82	+18	16	16.5	17.5		095
1982	YO2	*	1982	12	22.92358	04	42	54.16	+20	07	30.1	17.5		095
1982	YO2		1983	01	06.80273	04	31	20.85	+18	51	14.4	17.5	M	095
1982	YP2	*	1982	12	22.92358	04	43	21.27	+15	42	30.1	17.5		095
1982	YQ2	*	1982	12	22.92358	04	43	53.27	+17	41	14.2	17.5		095
1982	YR2	*	1982	12	22.92358	04	45	51.44	+14	58	17.7	17.0	E	095
1982	YS2	*	1982	12	22.92358	04	50	15.77	+18	54	31.6	17.0		095
1982	YT2	*	1982	12	22.92358	04	51	35.47	+14	41	12.0			095
1982	YU2	*	1982	12	22.92358	04	52	10.21	+17	01	09.5	17.0		095
1982	YU2		1983	01	06.80273	04	41	01.07	+16	32	12.8	17.0		095
1982	YV2	*	1982	12	22.92358	04	53	36.62	+14	43	20.2	17.0	E	095
1982	YW2	*	1982	12	22.92358	05	02	06.08	+17	47	22.3	17.5		095
1982	YX2	*	1982	12	22.92358	05	03	03.91	+19	31	46.0	17.5		095
1982	YY2	*	1982	12	22.92358	05	03	45.02	+22	24	29.6	17.5	N	095
1982	YZ2	*	1982	12	22.92358	05	05	39.42	+20	23	15.2	17.5	E	095
1982	YA3	*	1982	12	22.92358	05	06	26.54	+20	43	53.1	16.5	E	095
1982	YB3	*	1982	12	22.99368	07	10	02.93	+33	08	42.1	17.5	E	095
1982	YC3	*	1982	12	22.99368	07	12	21.86	+30	53	01.4	17.0	E	095
1982	YD3	*	1982	12	22.99368	07	18	35.67	+30	10	04.0	17.0	E	095
1982	YE3	*	1982	12	22.99368	07	23	49.88	+32	48	52.8	17.5	E	095
1982	YF3	*	1982	12	22.99368	07	24	05.62	+34	30	37.0	17.5	M	095
1982	YG3	*	1982	12	22.99368	07	24	14.17	+26	06	55.0	17.0	E	095
1982	YH3	*	1982	12	22.99368	07	28	44.56	+29	24	50.5	17.0		095
1982	YJ3	*	1982	12	22.99368	07	30	22.50	+29	21	07.1	16.5		095
1982	YK3	*	1982	12	22.99368	07	32	22.68	+31	38	06.7	17.0		095
1982	YL3	*	1982	12	22.99368	07	35	40.56	+30	09	24.4	17.5		095
1982	YM3	*	1982	12	22.99368	07	35	55.98	+31	26	14.6	17.0		095
1982	YN3	*	1982	12	22.99368	07	36	09.02	+32	59	32.4	17.0		095
1982	YO3	*	1982	12	22.99368	07	39	35.30	+30	13	17.6	17.0		095
1982	YO3		1983	01	06.94435	07	23	40.69	+32	39	52.5	17.0		095
1982	YP3	*	1982	12	22.99368	07	43	44.71	+31	14	55.3	17.5		095
1982	YP3		1983	01	06.94435	07	25	43.44	+31	28	09.2	17.0		095
1982	YQ3	*	1982	12	22.99368	07	43	50.08	+30	39	17.4	17.5		095
1982	YR3	*	1982	12	22.99368	07	52	38.91	+29	06	36.5	17.5	E	095
1982	YS3	*	1982	12	23.94810	05	50	42.16	+21	46	49.9	17.2	E	095
1982	YT3	*	1982	12	23.94810	05	59	03.10	+22	46	50.7	17.0		095
1982	YU3	*	1982	12	23.94810	06	01	19.65	+20	01	31.9	17.5	M	095
1982	YV3	*	1982	12	23.94810	06	01	57.53	+23	14	15.9	17.0		095
1982	YW3	*	1982	12	23.94810	06	02	24.71	+21	10	27.9	17.2		095
1982	YX3	*	1982	12	23.94810	06	04	08.31	+25	12	30.8	16.5		095
1982	YY3	*	1982	12	23.94810	06	04	34.34	+22	53	49.5	17.5		095
1982	YZ3	*	1982	12	23.94810	06	05	53.86	+18	53	58.6	17.0	E	095
1982	YA4	*	1982	12	23.94810	06	06	57.20	+25	08	11.0	16.0		095
1982	YB4	*	1982	12	23.94810	06	07	19.87	+19	24	34.6	17.2	E	095
1982	YC4	*	1982	12	23.94810	06	08	42.81	+25	45	16.2	17.0		095
1982	YD4	*	1982	12	23.94810	06	10	05.28	+19	57	51.2	17.2		095
1982	YE4	*	1982	12	23.94810	06	11	04.94	+24	06	23.3	17.0		095

1982	YF4	*	1982	12	23.94810	06	11	24.52	+27	29	21.4	17.0	E	095
1982	YG4	*	1982	12	23.94810	06	11	51.61	+24	11	47.1	17.5		095
1982	YH4	*	1982	12	23.94810	06	12	59.53	+23	21	28.7	17.2		095
1982	YJ4	*	1982	12	23.94810	06	13	33.80	+21	57	49.2	17.5		095
1982	YK4	*	1982	12	23.94810	06	13	49.17	+21	44	00.1	17.0		095
1982	YL4	*	1982	12	23.94810	06	15	31.58	+21	10	21.6	17.2		095
1982	YM4	*	1982	12	23.94810	06	16	49.58	+26	34	55.0	17.0		095
1982	YN4	*	1982	12	23.94810	06	17	28.42	+25	46	46.2	17.0		095
1982	YO4	*	1982	12	23.94810	06	19	56.43	+20	40	11.6	17.0		095
1982	YP4	*	1982	12	23.94810	06	20	35.53	+21	40	51.5	16.5		095
1982	YQ4	*	1982	12	23.94810	06	20	48.79	+23	20	09.5	17.2		095
1982	YR4	*	1982	12	23.94810	06	21	18.24	+23	56	56.5	17.0		095
1982	YS4	*	1982	12	23.94810	06	21	22.30	+25	48	29.0	17.2		095
1982	YT4	*	1982	12	23.94810	06	22	10.24	+27	02	11.0	16.8		095
1982	YU4	*	1982	12	24.02032	07	56	48.56	+25	20	59.4	17.0	N	095
1982	YV4	*	1982	12	24.02032	08	02	57.89	+25	25	03.0	17.2		095
1982	YW4	*	1982	12	24.02032	08	08	17.86	+24	29	02.8	17.0		095
1982	YX4	*	1982	12	24.02032	08	12	36.33	+25	53	15.7	17.5		095
1982	YY4	*	1982	12	24.02032	08	13	53.12	+23	03	53.6	17.5		095
1982	YZ4	*	1982	12	24.02032	08	16	25.75	+25	50	15.8	17.0		095
1982	YA5	*	1982	12	24.02032	08	19	36.91	+25	05	14.6	17.5	M	095
1982	YB5	*	1982	12	24.02032	08	22	36.88	+26	48	27.3	17.0		095
1982	YC5	*	1982	12	24.02032	08	23	32.55	+22	15	20.4	17.5		095
1982	YD5	*	1982	12	24.02032	08	25	59.64	+24	35	01.1	16.8		095
1982	YE5	*	1982	12	24.02032	08	26	02.26	+24	14	57.2	17.2	E	095
1982	YF5	*	1982	12	24.02032	08	29	08.88	+21	35	21.5	17.0		095
1982	YG5	*	1982	12	24.02032	08	29	11.81	+28	05	14.1	17.5	N	095
1982	YH5	*	1982	12	24.02032	08	32	29.08	+22	23	25.7	16.8		095
1982	YJ5	*	1982	12	24.02032	08	37	25.29	+20	53	44.8	17.2	N	095
1983	AC		1983	02	02.73953	06	34	08.72	+29	43	53.2	16.5		095
1983	AD		1983	01	06.94435	07	10	38.50	+32	06	17.6	16.5		095
1983	AD		1983	02	02.73953	06	44	49.74	+33	53	37.6	16.5		095
1983	AD		1983	02	10.74931	06	40	55.70	+34	01	04.6	16.5	E	095
1983	AJ		1982	12	24.02032	07	56	05.01	+28	47	58.1	16.0	E	095
1983	AN		1982	12	24.02032	08	12	20.38	+24	16	19.9	16.0		095
1983	AN2		1982	12	24.02032	08	04	00.60	+28	57	15.5	16.5	E	095
1983	AU3	*	1983	01	06.80273	04	07	18.09	+22	03	54.2	17.0	E	095
1983	AV3	*	1983	01	06.80273	04	10	51.99	+19	42	26.5	17.5		095
1983	AW3	*	1983	01	06.80273	04	11	49.31	+15	20	42.9	17.5	M	095
1983	AX3	*	1983	01	06.80273	04	13	36.65	+14	33	54.2	17.0	E	095
1983	AY3	*	1983	01	06.80273	04	13	56.68	+19	10	41.4	17.5		095
1983	AZ3	*	1983	01	06.80273	04	16	45.54	+17	20	05.1	17.0		095
1983	AA4	*	1983	01	06.80273	04	33	17.57	+16	37	42.5	17.0	M	095
1983	AB4	*	1983	01	06.80273	04	46	18.01	+20	10	47.6	17.5	E	095
1983	AC4	*	1983	01	06.94435	07	06	52.69	+28	44	38.6	17.0		095
1983	AD4	*	1983	01	06.94435	07	07	24.69	+33	21	24.8	17.0		095
1983	AE4	*	1983	01	06.94435	07	11	03.12	+28	54	14.3	17.0		095
1983	AF4	*	1983	01	06.94435	07	35	19.32	+28	05	36.9	17.0	E	095
1983	CW5	*	1983	02	02.73953	06	25	51.29	+29	55	02.6	17.5	E	095
1983	CX5	*	1983	02	02.73953	06	31	47.19	+26	09	28.9	16.5		095
1983	CX5		1983	02	10.74931	06	28	18.59	+26	44	40.2	16.5		095
1983	CY5	*	1983	02	02.73953	06	38	27.67	+34	39	08.3	17.5	E	095
1983	CZ5	*	1983	02	02.73953	06	41	03.53	+30	56	34.9	17.5		095
1983	CB6	*	1983	02	02.73953	06	46	15.90	+27	52	08.3	17.5		095
1983	CC6	*	1983	02	02.73953	06	49	33.81	+29	28	07.1	17.5		095
1983	CD6	*	1983	02	02.73953	06	52	07.36	+30	55	14.1	17.5		095
1983	CD6		1983	02	10.74931	06	48	49.15	+30	20	25.4	17.0		095
1983	CE6	*	1983	02	02.73953	06	57	03.76	+28	44	24.6	17.5		095
1983	CF6	*	1983	02	02.73953	06	57	15.84	+29	20	56.0	17.5		095

1983	CG6	*	1983	02	02.73953	06	57	33.62	+34	07	32.4	17.5	095
1983	CH6	*	1983	02	02.73953	06	58	39.76	+28	34	54.7	17.5	095
1983	CJ6	*	1983	02	02.73953	07	03	44.44	+31	37	28.0	17.5	095
1983	CK6	*	1983	02	02.73953	07	07	25.08	+29	51	40.9	17.0	N 095
1983	CL6	*	1983	02	10.74931	06	19	23.32	+26	33	48.9	17.0	N 095
1983	CM6	*	1983	02	10.74931	06	25	08.93	+25	48	13.3	17.0	N 095
1983	CN6	*	1983	02	10.74931	06	25	48.27	+26	43	01.3	17.0	M 095
1983	CO6	*	1983	02	10.74931	06	25	48.91	+30	11	07.8	17.5	E 095
1983	CP6	*	1983	02	10.74931	06	27	20.62	+27	45	10.1	17.5	M 095
1983	CQ6	*	1983	02	10.74931	06	27	39.08	+29	32	10.3	17.0	M 095
1983	CR6	*	1983	02	10.74931	06	25	45.73	+25	12	46.8	17.0	M 095
1983	CS6	*	1983	02	10.74931	06	28	56.10	+26	12	41.9	16.5	095
1983	CT6	*	1983	02	10.74931	06	31	54.06	+24	08	45.6	16.5	E 095
1983	CU6	*	1983	02	10.74931	06	35	28.78	+31	29	48.6	17.5	095
1983	CV6	*	1983	02	10.74931	06	35	34.08	+31	50	49.2	17.0	095
1983	CW6	*	1983	02	10.74931	06	36	56.88	+27	21	52.6	17.0	095
1983	CX6	*	1983	02	10.74931	06	37	57.80	+30	39	01.7	17.0	095
1983	CY6	*	1983	02	10.74931	06	38	13.03	+33	01	04.3	17.0	E 095
1983	CZ6	*	1983	02	10.74931	06	39	47.95	+27	40	57.2	17.0	095
1983	CA7	*	1983	02	10.74931	06	44	15.21	+28	15	56.4	17.0	095
1983	CB7	*	1983	02	10.74931	06	46	22.74	+31	09	46.5	17.5	095
1983	CC7	*	1983	02	10.74931	06	47	24.58	+28	28	51.2	17.0	095
1983	CD7	*	1983	02	10.74931	06	48	45.58	+30	35	23.2	17.0	095
1983	CE7	*	1983	02	10.74931	06	48	48.98	+32	00	11.4	17.0	095
1983	CF7	*	1983	02	10.74931	06	53	26.64	+28	45	12.3	17.0	095
1983	CG7	*	1983	02	10.74931	06	54	25.70	+28	11	23.6	17.0	095
1983	CH7	*	1983	02	10.74931	06	54	40.42	+29	46	15.6	17.0	095
1983	CJ7	*	1983	02	10.74931	06	56	41.65	+26	39	31.9	17.5	095
1983	CK7	*	1983	02	10.74931	06	57	24.87	+27	30	56.8	16.5	095
1983	CL7	*	1983	02	10.74931	06	59	21.63	+31	20	53.2	17.5	E 095
1984	BL		1982	09	17.90279	00	36	28.07	-00	03	06.9	17.0	E 095
1984	BL		1982	09	19.92008	00	35	04.90	-00	12	21.3	17.0	E 095
1984	BL		1982	09	24.91298	00	31	29.16	-00	35	51.6	16.5	E 095
1984	BL		1982	09	27.94447	00	29	13.26	-00	50	09.7	16.5	E 095
1985	RK		1982	12	24.02032	08	27	20.09	+27	48	19.4	17.0	095
1986	EN4		1982	08	14.87506	22	52	34.60	-09	43	52.0	17.5	095
1986	EN4		1982	09	13.83403	22	31	13.50	-11	44	42.8	17.5	095
1986	JT		1982	09	21.95134	00	52	45.68	+09	43	21.2	17.5	P 095
1986	JT		1982	09	28.01043	00	48	09.18	+09	00	23.8	17.0	E 095
1986	QN		1982	08	15.89584	22	31	19.56	-08	28	08.0	16.8	E 095
1986	QN		1982	08	16.89207	22	30	38.32	-08	35	06.0	17.5	095
1986	QZ2		1982	09	20.92014	00	05	16.47	-02	55	35.4	17.0	095
1986	RO2		1982	12	23.94810	05	57	08.30	+21	23	15.8	16.0	095
1986	VV6		1982	11	13.05592	04	55	32.05	+20	16	01.7	16.5	E 095
1986	VV6		1983	01	06.80273	04	11	27.54	+22	11	36.9	17.5	M 095
1986	WO1		1982	09	16.85069	23	42	44.16	-03	40	10.2	16.5	E 095
1986	WO1		1982	09	16.92013	23	42	39.72	-03	40	30.2	17.0	E 095
1987	BJ		1982	09	27.94447	00	36	25.78	-01	09	27.5	16.8	N 095
1987	SE		1982	10	15.88272	00	48	23.42	+17	56	41.1	16.5	095
1987	SE		1982	10	24.85983	00	41	21.70	+17	17	32.9	16.5	095
1987	SE		1982	11	09.78902	00	31	53.52	+16	05	02.0	16.5	095
1987	SE		1982	11	11.75152	00	31	04.44	+15	56	42.6	16.5	095
1987	SV2		1982	09	16.99014	00	57	44.52	+07	05	55.2	17.0	095
1987	SV2		1982	09	19.99736	00	55	40.62	+06	54	39.3	17.0	095
1987	SV2		1982	09	21.95134	00	54	16.46	+06	46	55.3	17.0	095
1987	SV2		1982	09	28.01043	00	49	41.15	+06	21	06.4	17.5	E 095
1987	WB		1982	11	13.05592	05	04	30.42	+19	06	20.2	16.5	095
1987	WB		1982	12	22.92358	04	32	04.05	+16	25	09.5	16.0	095
1987	WB		1983	01	06.80273	04	23	12.75	+15	45	29.8	17.0	095

6766	P-L	1982 07 27.98584	22 31 05.50	-01 02 45.0	17.0	095
17		1982 12 22.92358	04 30 43.14	+15 26 21.4		E 095
17		1983 01 06.80273	04 20 11.33	+15 39 00.8		095
19		1982 09 16.99014	01 31 45.54	+10 40 13.7		E 095
19		1982 09 28.01043	01 25 49.11	+09 56 14.7		E 095
27		1982 08 14.87506	22 54 51.82	-09 21 58.2		095
27		1982 08 16.89207	22 53 18.66	-09 33 09.4		095
27		1982 09 13.83403	22 27 39.22	-12 17 08.8		095
27		1982 09 20.78474	22 21 46.22	-12 49 55.4		095
29		1982 08 17.95495	23 31 54.97	-05 51 55.5		E 095
29		1982 09 16.85069	23 06 07.47	-07 16 48.8		E 095
29		1982 09 17.82987	23 05 13.10	-07 19 29.4		E 095
29		1982 09 19.85046	23 03 21.90	-07 24 51.8		095
29		1982 09 21.87836	23 01 33.28	-07 29 52.2		E 095
30		1982 11 13.05592	04 58 07.25	+26 04 36.6		E 095
30		1983 01 06.80273	04 10 56.13	+23 34 01.8		095
38		1982 12 24.02032	08 09 55.85	+21 36 18.2		095
49		1982 08 17.95495	23 27 15.40	+00 59 11.5		E 095
49		1982 08 23.98995	23 23 58.00	+00 48 53.4		E 095
49		1982 09 17.82987	23 05 52.25	-00 37 57.5		095
50		1982 08 16.89207	22 39 07.03	-06 13 48.5		095
50		1982 09 12.82988	22 20 59.09	-09 03 21.4		E 095
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50		1982 09 20.78474	22 16 42.13	-09 49 37.6		E 095
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60		1982 08 15.89584	22 01 25.66	-07 45 34.9		095
60		1982 09 11.80635	21 37 50.44	-10 24 11.3		E 095
60		1982 09 16.78126	21 34 28.06	-10 50 17.4		E 095
60		1982 09 19.78103	21 32 42.38	-11 04 48.0		095
62		1982 11 13.05592	05 31 28.99	+20 32 40.2		E 095
62		1982 12 22.92358	04 59 21.76	+20 15 27.8		095
67		1982 09 11.80635	21 47 20.38	-04 39 48.5		095
67		1982 09 16.78126	21 45 18.97	-05 19 20.1		095
67		1982 09 19.78103	21 44 26.16	-05 41 49.0		095
69		1982 08 17.95495	23 55 36.50	+03 03 56.4		E 095
69		1982 08 23.98995	23 52 55.25	+02 37 42.0		095
69		1982 08 28.93776	23 50 17.22	+02 12 28.1		E 095
69		1982 08 29.96877	23 49 41.60	+02 06 49.2		E 095
69		1982 09 12.89926	23 40 34.38	+00 39 42.0		E 095
69		1982 09 18.89745	23 36 16.10	-00 01 55.5		E 095
73		1982 12 23.94810	06 02 58.05	+27 17 04.8		E 095
84		1982 12 24.02032	08 21 12.84	+28 21 00.4		E 095
91		1982 08 14.80214	20 43 56.10	-21 02 05.3		E 095
96		1982 08 17.87843	21 51 22.00	-11 22 48.6		095
113		1982 08 14.94796	23 23 08.06	-08 57 50.1		E 095
113		1982 08 16.96846	23 21 50.34	-09 11 43.5		E 095
113		1982 08 23.92017	23 16 45.97	-10 01 50.4		095
122		1982 08 17.95495	23 40 54.13	-01 33 06.2		095
122		1982 08 23.98995	23 37 45.63	-01 55 17.6		095
122		1982 09 16.85069	23 22 03.12	-03 45 10.8		095
122		1982 09 19.85046	23 19 58.22	-03 59 44.6		095
122		1982 09 21.87836	23 18 34.84	-04 09 26.8		095
135		1982 12 22.99368	07 25 03.26	+25 05 59.9		E 095
135		1982 12 25.05306	07 22 56.63	+25 10 07.8		E 095
135		1983 01 06.94435	07 08 42.46	+25 32 27.8		E 095
135		1983 02 02.73953	06 42 35.06	+25 45 00.9		E 095
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142		1982 09 19.99736	01 06 06.93	+10 44 17.7		095

142	1982 09 21.95134	01 04 32.24	+10 36 04.6	095
142	1982 09 28.01043	00 59 19.00	+10 07 32.2	095
145	1982 12 22.99368	07 26 56.30	+30 50 05.0	095
145	1982 12 25.05306	07 25 09.13	+31 09 28.1	095
145	1983 01 06.94435	07 12 07.19	+33 02 41.3	095
156	1982 08 23.84726	20 59 59.41	-01 25 38.3	E 095
156	1982 09 12.76062	20 48 45.16	-03 09 12.6	095
156	1982 09 13.76043	20 48 24.81	-03 14 18.8	095
157	1982 08 15.96868	23 15 33.44	-24 41 36.6	P 095
158	1982 12 24.02032	08 13 27.44	+19 34 57.3	E 095
167	1982 08 17.87843	21 37 03.16	-12 46 23.2	095
170	1982 12 22.99368	07 48 37.83	+28 04 51.7	095
170	1983 01 06.94435	07 31 56.74	+27 14 22.3	095
170	1983 02 02.73953	07 02 35.42	+24 54 29.1	E 095
170	1983 02 10.74931	06 57 08.10	+24 06 07.5	E 095
172	1982 12 22.99368	07 32 08.72	+34 07 15.2	095
172	1982 12 25.05306	07 29 48.66	+34 10 06.6	095
172	1983 01 06.94435	07 13 47.10	+34 13 32.5	095
172	1983 02 02.73953	06 44 24.60	+32 54 27.7	095
172	1983 02 10.74931	06 39 26.30	+32 15 09.1	095
175	1982 11 13.05592	05 09 14.33	+26 24 21.8	095
184	1982 08 14.80214	20 47 38.00	-18 26 50.8	E 095
189	1982 12 22.92358	04 38 07.51	+15 04 38.1	095
189	1983 01 06.80273	04 28 14.11	+14 50 46.8	E 095
193	1982 08 23.92017	23 09 30.13	-09 47 05.6	E 095
193	1982 09 13.83403	22 46 59.94	-10 00 17.1	E 095
193	1982 09 20.78474	22 39 30.35	-09 58 40.0	E 095
193	1982 09 21.80892	22 38 27.06	-09 58 03.8	E 095
208	1982 09 17.90279	00 27 03.52	+02 50 37.4	095
208	1982 09 19.92008	00 25 31.71	+02 41 57.9	095
208	1982 09 24.91298	00 21 37.24	+02 19 43.6	095
208	1982 09 27.94447	00 19 12.24	+02 05 55.7	095
208	1982 10 22.80874	00 01 16.86	+00 23 55.6	E 095
210	1982 09 16.92013	23 58 44.47	-05 54 21.2	095
210	1982 10 14.81883	23 36 06.63	-07 05 17.8	E 095
210	1982 10 15.81258	23 35 30.22	-07 05 55.6	E 095
210	1982 10 21.80912	23 32 20.00	-07 06 10.4	E 095
210	1982 10 22.80874	23 31 53.56	-07 05 38.0	E 095
223	1982 08 17.87843	21 28 50.50	-17 47 23.6	095
231	1982 09 17.90279	00 39 20.90	+06 20 30.2	095
231	1982 09 19.92008	00 37 46.31	+06 13 58.8	095
231	1982 09 24.91298	00 33 44.39	+05 56 36.3	095
231	1982 09 27.94447	00 31 13.98	+05 45 23.8	095
239	1982 12 21.88838	04 53 25.10	+12 31 25.8	E 095
245	1982 12 24.02032	08 16 44.92	+25 39 35.0	095
260	1982 08 17.95495	23 39 29.38	-02 03 35.5	095
260	1982 08 23.98995	23 36 45.38	-02 33 56.0	095
260	1982 09 16.85069	23 22 20.34	-04 58 22.2	095
260	1982 09 19.85046	23 20 24.97	-05 16 57.2	095
260	1982 09 21.87836	23 19 08.25	-05 29 16.0	095
265	1982 08 14.94796	23 03 30.56	-05 50 58.7	095
265	1982 08 16.96846	23 00 58.25	-05 43 44.1	095
265	1982 08 23.92017	22 51 48.22	-05 20 52.6	095
265	1982 09 12.82988	22 25 20.82	-04 28 09.4	095
275	1982 08 17.95495	00 01 09.86	-03 56 11.7	E 095
275	1982 08 23.98995	23 58 06.28	-04 26 35.7	095
275	1982 09 16.85069	23 41 30.22	-06 46 12.2	E 095
275	1982 09 21.87836	23 37 36.10	-07 15 25.2	E 095
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278	1983 01 06.94435	07 31 41.21	+30 45 37.2	095
278	1983 02 02.73953	07 05 09.17	+32 00 49.2	E 095
278	1983 02 10.74931	06 59 38.53	+32 04 26.0	E 095
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283	1982 08 16.96846	22 56 23.50	+00 42 21.8	E 095
283	1982 09 12.82988	22 35 10.80	+00 00 34.8	E 095
283	1982 09 17.82987	22 31 23.97	-00 13 00.2	E 095
283	1982 09 21.80892	22 28 38.03	-00 23 58.6	E 095
297	1982 12 22.99368	07 31 27.20	+29 32 54.4	095
297	1982 12 25.05306	07 29 44.12	+29 35 48.4	095
297	1983 01 06.94435	07 18 03.89	+29 48 26.3	095
297	1983 02 02.73953	06 55 24.81	+29 34 02.4	095
297	1983 02 10.74931	06 50 48.10	+29 20 03.8	095
298	1982 09 17.90279	00 48 57.86	+04 44 21.6	095
298	1982 09 19.92008	00 47 05.90	+04 38 36.6	095
298	1982 09 19.99736	00 47 01.29	+04 38 19.8	095
298	1982 09 21.95134	00 45 09.11	+04 32 19.9	E 095
298	1982 09 24.91298	00 42 13.04	+04 22 51.1	095
298	1982 09 27.94447	00 39 06.54	+04 12 29.6	095
300	1982 09 16.92013	23 52 43.16	-01 40 01.7	095
300	1982 09 18.89745	23 51 17.31	-01 49 02.1	095
300	1982 09 20.92014	23 49 49.13	-01 58 16.0	095
300	1982 09 26.91668	23 45 29.32	-02 25 12.2	095
300	1982 10 15.81258	23 33 39.28	-03 36 33.6	E 095
300	1982 10 22.80874	23 30 33.82	-03 54 09.5	E 095
303	1982 08 14.94796	23 17 52.53	-05 21 10.2	095
303	1982 08 16.96846	23 16 39.28	-05 24 56.6	095
303	1982 08 23.92017	23 12 00.16	-05 40 19.2	095
303	1982 09 17.82987	22 52 36.22	-06 47 32.5	095
303	1982 09 21.80892	22 49 38.41	-06 57 16.4	095
311	1983 02 10.74931	06 25 49.77	+25 27 57.6	095
324	1982 08 15.82295	19 28 50.91	-29 55 27.8	E 095
327	1982 10 16.02578	04 03 16.25	+29 14 06.5	E 095
328	1982 08 14.87506	23 09 15.66	-12 13 24.7	E 095
328	1982 09 13.83403	22 43 54.16	-12 50 15.6	095
328	1982 09 20.78474	22 38 06.56	-12 51 53.6	095
330	1982 08 14.87506	23 07 22.13	-09 35 10.1	E 095
330	1982 09 13.83403	22 47 02.97	-14 24 05.9	E 095
330	1982 09 20.78474	22 42 06.06	-15 21 32.6	N 095
370	1982 10 15.88272	00 40 32.18	+20 21 46.2	095
370	1982 10 24.85983	00 32 55.35	+19 16 00.0	095
370	1982 11 09.78902	00 24 38.36	+17 14 31.1	095
370	1982 11 11.75152	00 24 10.82	+17 00 49.2	095
381	1982 08 14.80214	20 25 41.94	-20 49 11.5	095
381	1982 08 17.80898	20 23 45.82	-21 06 55.4	095
394	1982 12 24.02032	08 30 55.82	+25 26 34.0	095
400	1982 12 22.99368	07 40 26.46	+31 38 06.3	095
400	1982 12 25.05306	07 38 43.65	+31 40 35.0	E 095
400	1983 01 06.94435	07 26 41.00	+31 48 42.5	095
400	1983 02 02.73953	07 01 57.89	+31 10 58.4	095
400	1983 02 10.74931	06 56 48.34	+30 46 33.1	095
402	1982 08 14.80214	20 04 54.60	-19 34 45.3	E 095
402	1982 08 17.80898	20 02 45.10	-19 52 38.5	095
412	1982 12 22.92358	05 05 19.14	+13 51 39.1	E 095
417	1982 09 16.99014	01 05 06.90	+08 29 50.0	095
417	1982 09 19.99736	01 03 12.42	+08 13 39.0	095
417	1982 09 21.95134	01 01 54.28	+08 02 37.0	095
417	1982 09 28.01043	00 57 36.98	+07 26 21.8	095

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434	1982 09	21.80892	22 48	08.84	-03 36	13.4	095
461	1982 08	17.95495	23 45	08.00	-01 58	00.1	095
461	1982 08	23.98995	23 42	03.38	-02 20	36.8	095
461	1982 09	16.85069	23 25	54.94	-04 14	34.8	095
461	1982 09	19.85046	23 23	42.66	-04 29	50.2	095
461	1982 09	21.87836	23 22	13.88	-04 39	59.6	095
468	1982 08	14.87506	22 47	22.60	-08 16	39.8	095
468	1982 08	14.94796	22 47	19.38	-08 17	00.3	E 095
468	1982 08	16.89207	22 46	07.13	-08 24	09.5	095
468	1982 08	23.92017	22 41	19.52	-08 52	28.8	E 095
468	1982 09	13.83403	22 26	06.63	-10 18	30.1	095
468	1982 09	20.78474	22 21	48.75	-10 41	34.8	095
469	1982 08	14.87506	22 44	22.81	-07 54	31.8	095
469	1982 08	16.89207	22 42	55.28	-07 58	36.7	095
469	1982 09	12.82988	22 22	16.58	-08 58	07.8	E 095
469	1982 09	13.83403	22 21	33.03	-09 00	06.3	E 095
469	1982 09	20.78474	22 16	49.62	-09 12	30.7	E 095
488	1982 08	15.96868	22 52	34.10	-22 51	49.2	095
491	1982 08	17.95495	23 49	44.03	+02 41	13.0	095
491	1982 08	23.98995	23 47	21.72	+01 56	41.0	095
491	1982 09	16.85069	23 33	45.31	-01 44	04.3	E 095
491	1982 09	18.89745	23 32	26.22	-02 04	43.7	E 095
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502	1982 08	15.96868	23 22	40.00	-21 08	02.8	095
503	1982 10	14.81883	23 50	23.12	-08 31	36.3	095
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516	1982 10	15.88272	00 27	56.18	+17 58	04.0	E 095
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516	1982 11	09.78902	00 11	05.19	+15 59	19.8	E 095
516	1982 11	11.75152	00 10	16.34	+15 50	42.8	E 095
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565	1982 08	16.81568	20 38	53.41	-00 42	28.7	E 095
565	1982 08	23.84726	20 33	23.19	-01 21	19.2	095
565	1982 09	12.76062	20 23	10.18	-03 21	19.4	095
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577	1982 09	17.90279	00 27	23.84	+07 56	02.1	E 095
577	1982 09	19.92008	00 25	51.49	+07 50	01.5	E 095
577	1982 09	24.91298	00 21	56.64	+07 33	40.0	095
577	1982 09	27.94447	00 19	31.88	+07 22	53.2	E 095
578	1982 10	14.81883	23 39	58.50	-06 49	13.6	E 095
578	1982 10	15.81258	23 39	23.22	-06 49	17.1	095
578	1982 10	21.80912	23 36	20.47	-06 46	20.9	E 095
578	1982 10	22.80874	23 35	55.25	-06 45	19.8	E 095
591	1982 08	14.94796	23 20	15.28	-01 55	34.8	095
591	1982 08	16.96846	23 18	45.50	-01 57	48.3	095
591	1982 08	23.92017	23 13	10.53	-02 08	23.2	095
591	1982 09	12.82988	22 55	15.41	-02 54	48.8	E 095
591	1982 09	17.82987	22 50	50.00	-03 07	48.8	095
591	1982 09	21.80892	22 47	28.25	-03 17	54.1	095
592	1982 08	14.94796	22 52	25.62	-03 39	37.2	095
592	1982 08	16.96846	22 51	15.41	-03 52	20.4	E 095
592	1982 08	23.92017	22 46	51.68	-04 39	39.8	I 095
592	1982 09	12.82988	22 33	00.36	-07 10	41.9	095
592	1982 09	17.82987	22 29	44.69	-07 48	01.6	E 095

592	1982 09 21.80892	22 27 21.50	-08 16 31.0	095
604	1982 08 14.94796	23 17 40.69	-08 38 00.2	E 095
604	1982 08 16.96846	23 16 32.60	-08 43 54.5	E 095
604	1982 08 23.92017	23 12 06.31	-09 06 08.1	E 095
609	1982 09 16.99014	01 03 40.0	+04 09 47.8	095
609	1982 09 19.99736	01 01 51.39	+03 54 03.2	E 095
609	1982 09 21.95134	01 00 37.29	+03 43 31.4	E 095
609	1982 09 28.01043	00 56 32.86	+03 09 41.3	E 095
615	1982 08 15.82295	19 27 16.38	-26 12 11.5	E 095
629	1982 10 14.81883	23 47 40.88	-15 18 11.0	E 095
629	1982 10 21.80912	23 43 44.75	-15 24 06.7	E 095
632	1982 09 28.01043	01 24 43.82	+10 07 53.0	E 095
638	1982 12 24.02032	08 31 07.72	+21 05 08.6	095
645	1982 12 22.99368	07 09 45.67	+33 27 11.9	E 095
645	1982 12 25.05306	07 07 52.23	+33 31 14.9	095
645	1983 02 02.73953	06 33 57.94	+33 01 50.7	095
645	1983 02 10.74931	06 31 07.17	+32 35 33.7	095
657	1982 10 15.88272	00 47 10.81	+21 51 51.8	095
657	1982 10 24.85983	00 39 24.92	+20 57 53.0	095
657	1982 11 09.78902	00 28 54.89	+19 12 20.5	095
657	1982 11 11.75152	00 28 00.34	+18 59 37.6	095
664	1982 09 16.92013	00 20 12.28	+00 49 30.0	E 095
664	1982 09 17.90279	00 19 31.85	+00 42 35.0	095
664	1982 09 19.92008	00 18 08.20	+00 28 27.7	E 095
664	1982 09 20.92014	00 17 26.32	+00 21 27.6	E 095
664	1982 09 24.91298	00 14 37.76	-00 06 45.0	E 095
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664	1982 10 22.80874	23 57 28.41	-02 56 06.6	095
667	1982 07 27.90598	19 58 31.60	-01 44 44.7	E 095
667	1982 08 12.82789	19 47 55.62	-03 35 14.3	E 095
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672	1982 10 16.02578	03 52 36.28	+35 14 39.5	095
683	1982 10 16.02578	03 38 41.04	+33 06 19.0	095
691	1982 12 22.92358	04 41 29.58	+18 41 12.0	095
691	1983 01 06.80273	04 31 14.63	+19 37 24.8	095
706	1982 08 14.94796	22 59 11.97	-01 52 57.5	095
706	1982 08 16.96846	22 57 28.60	-01 43 01.8	095
706	1982 08 23.92017	22 50 56.54	-01 12 26.6	095
706	1982 09 12.82988	22 30 12.77	-00 12 11.2	E 095
716	1982 09 16.85069	23 09 48.44	-10 24 26.2	E 095
716	1982 09 19.85046	23 07 36.94	-10 43 58.4	E 095
716	1982 09 21.87836	23 06 10.25	-10 56 41.4	E 095
722	1982 12 22.99368	07 51 32.92	+28 55 48.1	E 095
722	1983 01 06.94435	07 34 31.09	+30 06 55.3	E 095
722	1983 02 02.73953	07 03 03.14	+31 01 19.4	095
722	1983 02 10.74931	06 56 47.09	+30 57 13.1	095
729	1982 08 15.82295	19 22 14.38	-20 23 48.1	E 095
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761	1983 02 10.74931	06 51 57.08	+25 54 11.7	095
765	1982 08 14.87506	22 45 24.38	-06 57 54.9	095
765	1982 08 16.89207	22 43 51.78	-06 58 35.8	E 095
765	1982 09 12.82988	22 18 43.61	-07 29 39.8	E 095
765	1982 09 16.78126	22 15 17.47	-07 33 48.6	095
788	1982 09 16.99014	00 55 08.79	+02 16 53.9	N 095
788	1982 09 19.92008	00 53 25.48	+01 55 37.6	E 095
788	1982 09 24.91298	00 50 18.62	+01 18 31.8	E 095
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794	1982 12 22.92358	04 41 51.07	+14 59 38.9	E 095

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821	1982 09	18.89745	00 03	28.52	+04 43	59.7	E	095
821	1982 09	20.92014	00 01	52.42	+04 30	42.7	E	095
821	1982 09	26.91668	23 57	07.91	+03 50	34.9	E	095
821	1982 10	22.80874	23 40	27.72	+01 10	35.5	E	095
846	1982 08	17.95495	00 02	05.55	+00 39	05.8	E	095
846	1982 08	23.98995	23 59	51.03	+00 25	13.0	E	095
846	1982 09	16.92013	23 44	57.41	-01 10	03.8	E	095
846	1982 09	18.89745	23 43	29.00	-01 19	36.4		095
846	1982 09	20.92014	23 41	58.31	-01 29	25.5		095
846	1982 09	26.91668	23 37	32.94	-01 58	12.9		095
855	1982 08	15.96868	23 20	15.50	-18 36	11.5		095
866	1982 12	24.02032	08 24	49.86	+24 00	44.4		095
879	1982 10	16.02578	03 32	25.08	+36 12	22.8		095
885	1982 08	17.87843	21 22	23.82	-14 35	45.6	E	095
891	1982 08	15.96868	23 15	50.78	-21 42	48.4		095
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903	1982 09	11.80635	21 44	28.25	-11 12	55.2		095
903	1982 09	16.78126	21 42	00.75	-11 42	44.3		095
903	1982 09	19.78103	21 40	43.25	-11 59	34.4		095
918	1982 08	13.90608	22 28	17.32	-10 15	13.2	E	095
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918	1982 08	16.89207	22 25	33.68	-10 10	10.6	E	095
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918	1982 09	16.78126	21 57	17.12	-09 17	54.2		095
918	1982 09	19.78103	21 55	16.44	-09 11	02.8		095
923	1982 07	27.90598	19 54	30.04	+02 29	51.6		095
923	1982 08	12.82789	19 41	44.94	+00 58	04.1		095
923	1982 08	13.83473	19 41	03.72	+00 50	46.6	I	095
929	1982 11	13.05592	05 20	30.80	+21 13	55.0		095
929	1982 12	22.92358	04 38	50.70	+19 11	44.1		095
929	1983 01	06.80273	04 27	04.91	+18 37	38.9		095
938	1982 08	17.95495	23 38	43.47	-05 24	46.0	E	095
938	1982 09	16.85069	23 20	03.31	-07 57	56.8		095
938	1982 09	19.85046	23 17	56.91	-08 12	51.4		095
938	1982 09	21.87836	23 16	33.12	-08 22	29.8		095
940	1982 10	14.81883	00 05	35.64	-08 31	04.6	E	095
940	1982 10	15.81258	00 04	59.72	-08 32	17.0		095
949	1982 12	24.02032	08 15	58.70	+27 43	30.4		095
960	1982 12	22.92358	04 56	23.33	+21 28	31.1		095
960	1983 01	06.80273	04 44	04.57	+20 51	42.3	E	095
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999	1982 08	12.82789	19 35	41.53	-03 38	54.4	E	095
999	1982 08	13.83473	19 35	08.50	-03 44	14.8	E	095
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1043	1982 12	21.88838	04 41	02.40	+09 24	25.2		095
1052	1982 12	23.94810	06 28	31.88	+22 27	58.4	E	095
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1060	1982 08	29.96877	23 37	32.50	+08 32	47.4		095
1060	1982 09	12.89926	23 26	53.50	+06 46	33.1		095
1060	1982 09	20.85070	23 20	33.66	+05 29	13.7		095
1062	1982 09	17.90279	00 16	45.41	+05 01	10.1	E	095
1062	1982 09	19.92008	00 15	10.30	+04 54	59.9	E	095
1062	1982 09	26.91668	00 09	32.12	+04 31	47.9	E	095
1062	1982 09	27.94447	00 08	41.38	+04 28	05.9	E	095
1068	1982 12	24.02032	07 58	18.59	+24 44	29.0	E	095
1077	1982 12	22.99368	07 49	14.26	+28 54	46.2		095

1077	1983 01	06.94435	07 32	12.99	+29 26	26.4		095
1077	1983 02	10.74931	06 57	36.68	+28 58	47.0	E	095
1081	1982 11	13.05592	05 11	04.98	+26 57	35.8		095
1082	1982 08	17.95495	23 51	12.47	-01 52	18.3		095
1082	1982 08	23.98995	23 48	36.63	-02 15	05.2		095
1082	1982 09	16.85069	23 33	15.13	-04 15	29.2		095
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1082	1982 09	21.87836	23 29	39.47	-04 42	05.6		095
1091	1982 09	16.99014	01 06	28.20	+05 26	39.0		095
1091	1982 09	19.99736	01 04	45.34	+05 15	45.2		095
1091	1982 09	21.95134	01 03	35.11	+05 08	21.3		095
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1100	1982 08	14.94796	23 22	04.72	-03 06	15.8		095
1100	1982 08	16.96846	23 20	57.28	-03 12	21.0		095
1100	1982 08	23.92017	23 16	33.81	-03 36	55.0		095
1100	1982 09	17.82987	22 57	33.12	-05 27	39.9		095
1100	1982 09	21.80892	22 54	38.94	-05 44	57.2		095
1106	1982 12	22.99368	07 57	28.51	+34 54	39.1	E	095
1107	1982 08	14.80214	20 29	24.10	-22 14	05.0		095
1107	1982 08	17.80898	20 27	19.12	-22 24	16.4		095
1112	1982 12	24.02032	08 23	55.89	+21 38	26.0		095
1126	1982 09	13.83403	22 46	51.66	-11 12	03.9	E	095
1128	1982 09	17.90279	00 24	33.34	+01 11	25.2		095
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1128	1982 09	24.91298	00 18	58.10	+00 36	19.2	E	095
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1128	1982 10	22.80874	23 58	40.50	-01 24	30.0		095
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1129	1982 11	11.75152	00 34	25.51	+15 56	47.0		095
1132	1982 09	16.99014	01 12	50.15	+02 27	34.4	E	095
1135	1982 12	22.99368	07 44	30.88	+27 38	36.8		095
1135	1983 01	06.94435	07 29	40.78	+28 10	01.7		095
1135	1983 02	02.73953	07 03	32.77	+28 18	09.6		095
1135	1983 02	10.74931	06 58	24.35	+28 08	09.9	E	095
1154	1983 02	10.74931	06 58	59.89	+25 43	19.2	E	095
1174	1982 08	14.87506	22 56	16.53	-14 56	11.9		095
1174	1982 08	16.89207	22 54	45.16	-15 00	13.1	E	095
1174	1982 09	13.83403	22 30	39.03	-15 34	57.8		095
1174	1982 09	20.78474	22 25	17.25	-15 31	50.7		095
1186	1982 10	14.81883	23 40	22.72	-13 56	18.6		095
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1204	1982 08	16.96846	23 04	24.94	-09 05	00.0	E	095
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1204	1982 09	21.80892	22 42	34.10	-09 39	08.8	E	095
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1232	1982 10	24.85983	01 00	45.32	+19 27	24.1		095
1232	1982 11	09.78902	00 51	20.86	+17 48	23.9		095
1232	1982 11	11.75152	00 50	26.58	+17 36	27.2	E	095
1237	1982 12	22.99368	07 34	34.24	+32 35	59.2		095
1237	1982 12	25.05306	07 32	37.14	+32 48	26.1		095
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1239	1982 08	14.87506	22 46	35.44	-10 24	36.8		095
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1243	1982 08	16.81568	20 37	49.97	+00 45	37.5		095
1243	1982 08	23.84726	20 33	06.41	+00 20	51.1		095
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1245	1982 07	27.98584	22 26	35.00	-09 07	42.4	E	095
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1245	1982 08	15.89584	22 14	55.19	-10 34	52.8		095
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1245	1982 09	19.78103	21 50	35.25	-13 26	59.2		095
1247	1982 08	14.94796	23 17	12.81	-04 25	23.8		095
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1260	1982 10	16.02578	03 41	56.30	+31 39	22.6		095
1279	1982 12	22.99368	07 48	21.10	+27 40	33.2		095
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1288	1982 09	12.82988	22 37	07.08	+00 26	26.5	E	095
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1295	1982 09	19.99736	00 55	23.28	+05 34	39.0		095
1295	1982 09	21.95134	00 54	12.56	+05 25	49.1		095
1295	1982 09	24.91298	00 52	21.11	+05 12	02.4	E	095
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1308	1982 08	14.80214	20 26	15.82	-25 18	26.3	E	095
1308	1982 08	17.80898	20 23	53.94	-25 19	49.8	E	095
1312	1982 08	14.80214	20 11	58.10	-19 18	35.3		095
1312	1982 08	17.80898	20 09	50.94	-19 46	30.0		095
1314	1983 01	06.80273	04 07	16.06	+21 03	55.0	17.0	E 095
1319	1982 08	23.98995	23 53	09.75	+03 23	31.5	E	095
1319	1982 08	28.93776	23 50	09.41	+03 06	41.1		095
1319	1982 08	29.96877	23 49	29.47	+03 02	50.0	E	095
1319	1982 09	12.89926	23 39	39.10	+02 02	26.6	E	095
1319	1982 09	18.89745	23 35	10.00	+01 33	03.0	E	095
1319	1982 09	20.85070	23 33	43.22	+01 23	12.0	17.0	E 095
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1336	1982 08	14.87506	23 02	17.28	-10 44	04.6		095
1336	1982 08	16.89207	23 01	00.19	-10 54	45.1	E	095
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1350	1982 08	17.95495	23 56	34.60	-02 32	37.9		095
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1350	1982 09	19.85046	23 35	38.97	-05 33	29.5		095
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1358	1982 09	16.92013	00 01	57.75	-01 37	22.2		095
1358	1982 09	18.89745	00 00	10.26	-01 46	21.8		095
1358	1982 09	20.92014	23 58	19.25	-01 55	32.4		095
1358	1982 09	26.91668	23 52	53.84	-02 21	49.0		095
1358	1982 10	15.81258	23 38	56.84	-03 21	37.6		095
1358	1982 10	22.80874	23 35	53.88	-03 30	09.8		095
1365	1982 08	28.93776	23 45	50.41	+07 48	39.3		095
1365	1982 08	29.96877	23 44	59.97	+07 44	56.2		095
1365	1982 09	12.89926	23 32	16.03	+06 34	32.4		095
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1384	1982 08	14.94796	22 58	38.16	-07 17	05.6		095
1384	1982 08	16.89207	22 57	30.12	-07 33	57.8	E	095
1384	1982 08	16.96846	22 57	27.03	-07 34	41.9		095
1384	1982 08	23.92017	22 52	52.84	-08 38	48.3		095
1384	1982 09	13.83403	22 37	01.47	-12 01	58.7		095
1384	1982 09	20.78474	22 32	08.47	-13 03	06.7		095
1407	1982 11	13.05592	04 57	48.21	+27 03	19.0	E	095
1407	1983 01	06.80273	04 16	02.76	+22 26	48.2		095
1412	1982 12	22.99368	07 20	30.89	+27 16	49.2		095
1412	1982 12	25.05306	07 18	26.32	+27 28	30.2		095
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1412	1983 02	02.73953	06 38	42.70	+29 34	31.3		095
1412	1983 02	10.74931	06 36	04.68	+29 33	29.6		095
1414	1982 11	14.97387	05 06	16.10	+09 33	14.6		095
1414	1982 12	21.88838	04 34	25.50	+09 00	32.6		095
1416	1982 09	17.90279	00 23	15.54	+05 29	44.4		095
1416	1982 09	19.92008	00 21	34.21	+05 27	05.5		095
1416	1982 09	24.91298	00 17	15.87	+05 19	18.5	E	095
1416	1982 09	27.94447	00 14	35.97	+05 13	54.8	E	095
1465	1982 09	16.92013	00 02	15.68	-02 32	10.4		095
1465	1982 09	20.92014	23 59	28.69	-02 59	29.4		095
1481	1982 08	17.95495	23 41	24.62	-02 56	11.5		095
1481	1982 08	23.98995	23 37	55.69	-03 12	30.3		095
1481	1982 09	16.85069	23 20	12.60	-04 38	10.8		095
1481	1982 09	19.85046	23 17	52.44	-04 49	20.6		095
1481	1982 09	21.87836	23 16	19.19	-04 56	40.0		095
1497	1982 07	27.98584	22 43	17.62	-07 21	17.6		095
1497	1982 08	14.87506	22 33	00.82	-08 12	57.1	E	095
1497	1982 08	15.89584	22 32	16.33	-08 16	52.5	E	095
1497	1982 08	16.89207	22 31	31.06	-08 20	40.3		095
1497	1982 09	11.80635	22 11	28.50	-10 07	02.1	E	095
1497	1982 09	13.83403	22 10	05.31	-10 14	21.6	E	095
1497	1982 09	16.78126	22 08	11.32	-10 24	28.0		095
1497	1982 09	19.78103	22 06	24.72	-10 33	53.0	E	095
1497	1982 09	20.78474	22 05	51.03	-10 36	51.7	E	095
1504	1982 11	14.97387	04 58	57.84	+13 22	48.8		095
1504	1983 01	06.80273	04 08	23.94	+16 39	20.3	E	095
1520	1982 11	13.05592	05 16	08.25	+24 17	33.0		095
1520	1982 12	22.92358	04 42	31.77	+20 20	21.8		095
1520	1983 01	06.80273	04 33	17.60	+19 01	15.2		095
1522	1982 12	22.99368	07 27	06.68	+28 10	08.8		095
1522	1983 01	06.94435	07 10	59.41	+29 22	21.2		095
1522	1983 02	02.73953	06 44	52.06	+30 17	48.1		095
1522	1983 02	10.74931	06 41	07.52	+30 15	39.8		095
1545	1982 09	16.92013	00 12	02.14	-02 26	25.7		095
1545	1982 09	20.92014	00 08	49.39	-02 46	12.2		095
1545	1982 09	26.91668	00 03	53.48	-03 15	40.5		095
1545	1982 10	15.81258	23 49	14.06	-04 35	19.1		095
1545	1982 10	22.80874	23 44	50.60	-04 55	53.4		095
1553	1982 08	14.87506	23 02	09.44	-09 46	16.7		095
1557	1982 10	16.02578	04 00	06.48	+32 49	44.8	E	095
1585	1982 07	27.98584	22 30	46.60	-05 28	36.7		095
1585	1982 08	13.90608	22 22	24.32	-09 05	14.6		095
1585	1982 08	15.89584	22 21	05.63	-09 34	35.6		095
1591	1982 12	22.92358	04 53	08.88	+15 08	20.2		095
1591	1983 01	06.80273	04 38	34.70	+16 44	19.7		095

1595	1982 08	14.87506	22 39	34.10	-13 13	26.8		095
1595	1982 08	16.89207	22 38	05.57	-13 26	42.3		095
1595	1982 09	13.83403	22 16	08.34	-16 09	24.2		095
1595	1982 09	20.78474	22 11	53.35	-16 34	10.6		095
1602	1982 11	13.05592	05 22	45.15	+22 17	16.6		095
1602	1982 12	22.92358	04 40	48.53	+22 55	35.0	E	095
1602	1983 01	06.80273	04 28	31.89	+23 03	57.0		095
1611	1982 11	13.05592	05 04	41.32	+21 37	30.9		095
1611	1982 12	22.92358	04 32	42.64	+20 04	33.9		095
1611	1983 01	06.80273	04 24	00.19	+19 37	20.3	17.0	095
1613	1982 10	16.02578	03 28	42.65	+32 42	32.6		095
1625	1982 10	15.88272	00 32	23.11	+22 20	03.0		095
1625	1982 10	24.85983	00 25	45.08	+21 40	57.2		095
1625	1982 11	09.78902	00 16	48.70	+20 25	05.2		095
1625	1982 11	11.75152	00 16	01.03	+20 15	56.8		095
1633	1982 09	16.92013	00 01	06.42	-03 26	57.1		095
1633	1982 09	18.89745	23 59	44.28	-03 36	29.3		095
1633	1982 09	20.92014	23 58	19.62	-03 46	15.0		095
1633	1982 09	26.91668	23 54	08.32	-04 14	28.3		095
1633	1982 10	15.81258	23 42	09.53	-05 29	26.6		095
1633	1982 10	22.80874	23 38	41.97	-05 48	53.7		095
1636	1982 11	14.97387	05 05	37.78	+14 32	15.3	E	095
1636	1982 12	21.88838	04 30	11.38	+13 15	20.8	E	095
1651	1982 09	16.92013	00 21	21.44	+03 23	54.3	E	095
1651	1982 09	17.90279	00 20	29.66	+03 15	44.7		095
1651	1982 09	19.92008	00 18	41.32	+02 58	46.2		095
1651	1982 09	20.92014	00 17	46.84	+02 50	17.0	E	095
1651	1982 09	24.91298	00 14	05.17	+02 15	30.9	E	095
1651	1982 09	26.91668	00 12	13.30	+01 57	55.6	E	095
1651	1982 09	27.94447	00 11	15.21	+01 48	48.7	E	095
1651	1982 10	22.80874	23 51	26.81	-01 26	34.0		095
1662	1982 08	17.95495	23 38	11.78	-00 50	15.2		095
1662	1982 08	23.98995	23 34	45.81	-00 56	48.2		095
1662	1982 09	16.85069	23 15	41.47	-01 59	50.4	E	095
1662	1982 09	19.85046	23 13	06.69	-02 09	48.0	E	095
1662	1982 09	21.87836	23 11	24.10	-02 16	27.4	E	095
1683	1982 10	16.02578	03 44	35.81	+38 04	21.0	E	095
1687	1982 09	16.99014	01 12	39.26	+03 18	52.1		095
1687	1982 09	19.99736	01 10	59.72	+03 06	35.2	E	095
1687	1982 09	28.01043	01 05	52.32	+02 31	18.8	E	095
1698	1982 09	16.99014	01 23	27.70	+08 16	09.2		095
1698	1982 09	21.95134	01 20	36.63	+08 00	32.4	E	095
1698	1982 09	28.01043	01 16	42.40	+07 38	54.3		095
1707	1982 12	24.02032	08 03	53.84	+28 07	59.0	E	095
1716	1982 12	23.94810	06 02	03.79	+19 23	08.6	E	095
1718	1982 09	12.89926	23 05	41.28	+05 10	28.1		095
1718	1982 09	20.85070	23 02	05.47	+03 29	52.8	E	095
1738	1982 11	13.05592	04 56	44.17	+25 40	44.5	E	095
1741	1982 09	16.92013	00 11	25.12	-02 56	21.9		095
1741	1982 09	18.89745	00 09	52.56	-03 05	35.0	E	095
1741	1982 09	20.92014	00 08	16.13	-03 14	58.2		095
1741	1982 09	26.91668	00 03	26.78	-03 42	09.8		095
1741	1982 10	15.81258	23 49	36.53	-04 49	39.2		095
1741	1982 10	22.80874	23 45	48.78	-05 03	27.9		095
1750	1982 07	27.90598	19 45	19.60	-00 08	06.0	N	095
1750	1982 08	12.82789	19 25	00.88	+02 13	47.2	E	095
1750	1982 08	13.83473	19 23	59.58	+02 19	50.8	E	095
1753	1982 08	15.96868	23 11	52.38	-23 54	35.7	P	095
1762	1982 08	17.95495	23 30	57.53	-03 14	53.7		095

1762	1982 08	23.98995	23 27	32.84	-03 42	21.6		095
1762	1982 09	16.85069	23 10	11.66	-05 54	46.2	E	095
1762	1982 09	19.85046	23 07	56.75	-06 11	31.0		095
1762	1982 09	21.87836	23 06	27.75	-06 22	29.3		095
1763	1982 08	14.94796	23 13	21.75	+00 00	44.8	E	095
1763	1982 08	16.96846	23 12	15.81	+00 05	34.4	E	095
1763	1982 09	12.82988	22 50	19.86	-00 06	40.8	E	095
1763	1982 09	17.82987	22 46	14.63	-00 19	07.0	E	095
1763	1982 09	21.80892	22 43	22.12	-00 29	25.0	E	095
1769	1982 08	14.94796	23 01	15.13	-05 27	31.6		095
1769	1982 08	16.96846	22 59	54.19	-05 32	26.0		095
1769	1982 08	23.92017	22 54	30.97	-05 53	57.4		095
1769	1982 09	12.82988	22 36	32.97	-07 13	39.2		095
1769	1982 09	17.82987	22 32	31.50	-07 31	54.9		095
1769	1982 09	21.80892	22 29	44.53	-07 44	30.4		095
1774	1982 08	16.96846	23 22	50.56	-03 16	36.7	E	095
1774	1982 09	19.85046	22 58	35.56	-06 10	21.0	E	095
1778	1982 09	16.85069	23 20	56.81	-07 37	33.5		095
1778	1982 09	19.85046	23 18	48.00	-07 51	26.5		095
1778	1982 09	21.87836	23 17	22.37	-08 00	27.9		095
1811	1982 07	27.98584	22 45	13.03	-03 32	44.0		095
1811	1982 09	12.82988	22 17	28.37	-08 17	59.4	E	095
1811	1982 09	16.78126	22 15	11.03	-08 43	35.3		095
1811	1982 09	20.78474	22 13	05.56	-09 08	07.0	E	095
1822	1982 07	27.98584	22 19	25.82	-08 31	46.6	E	095
1822	1982 08	13.90608	22 05	08.57	-09 49	27.8		095
1822	1982 08	15.89584	22 03	10.18	-10 00	33.4		095
1822	1982 09	11.80635	21 39	18.06	-12 19	57.4		095
1829	1982 12	24.02032	08 16	48.01	+20 54	04.2		095
1830	1982 08	17.95495	23 36	48.91	-04 14	12.2		095
1830	1982 09	16.85069	23 11	52.34	-08 02	57.9		095
1830	1982 09	19.85046	23 09	06.91	-08 25	41.8		095
1830	1982 09	21.87836	23 07	17.94	-08 40	28.5		095
1832	1982 12	24.02032	08 15	44.52	+24 11	55.9		095
1833	1982 09	16.92013	00 03	33.98	-05 33	15.0	E	095
1833	1982 10	14.81883	23 44	42.97	-09 22	34.2		095
1833	1982 10	15.81258	23 44	14.34	-09 28	02.6		095
1833	1982 10	21.80912	23 41	49.06	-09 55	46.7		095
1846	1982 12	25.05306	07 08	37.46	+28 37	38.3		095
1846	1983 01	06.94435	06 54	14.51	+29 05	18.1	E	095
1846	1983 02	02.73953	06 31	24.80	+28 53	22.5	E	095
1848	1982 09	17.90279	00 33	24.18	+04 52	31.5		095
1848	1982 09	19.92008	00 31	52.99	+04 43	56.2		095
1848	1982 09	24.91298	00 27	59.11	+04 21	30.1		095
1848	1982 09	27.94447	00 25	33.76	+04 07	19.8		095
1855	1982 07	27.98584	22 21	18.87	-06 13	56.0		095
1855	1982 08	15.89584	22 05	59.39	-07 48	23.6		095
1856	1982 07	27.98584	22 42	27.31	-02 35	24.9		095
1856	1982 08	15.89584	22 29	57.21	-04 09	52.2	E	095
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1856	1982 09	16.78126	22 02	51.78	-08 11	03.9		095
1856	1982 09	19.78103	22 01	02.54	-08 31	09.3		095
1858	1982 12	23.94810	06 14	15.74	+23 22	40.9		095
1879	1982 08	23.98995	23 52	25.40	+02 31	32.4		095
1879	1982 08	28.93776	23 49	26.44	+02 16	10.5	I	095
1879	1982 08	29.96877	23 48	44.41	+02 12	20.2	E	095
1879	1982 09	12.89926	23 37	14.19	+01 03	08.2	E	095
1879	1982 09	20.85070	23 29	44.31	+00 13	18.6	E	095
1895	1982 09	16.99014	01 00	19.06	+04 43	46.3		095

1895	1982 09	21.95134	00 57	09.16	+04 25	01.7	095
1895	1982 09	28.01043	00 52	54.26	+04 00	08.8	095
1910	1982 08	28.93776	23 36	16.88	+05 45	54.0	095
1910	1982 08	29.96877	23 35	39.53	+05 40	29.0	095
1910	1982 09	12.89926	23 26	27.25	+04 15	22.9	095
1910	1982 09	20.85070	23 20	58.34	+03 19	27.8	I 095
1911	1982 12	24.02032	08 05	26.96	+20 04	29.2	E 095
1914	1982 08	15.82295	19 47	23.66	-22 32	07.0	095
1944	1982 10	22.80874	23 37	30.54	+01 34	33.0	E 095
1955	1982 09	16.85069	23 03	51.97	-04 18	45.6	E 095
1955	1982 09	17.82987	23 03	06.84	-04 23	34.1	E 095
1955	1982 09	19.85046	23 01	34.32	-04 33	32.0	E 095
1955	1982 09	21.87836	23 00	03.85	-04 43	15.1	E 095
1957	1982 10	14.81883	00 07	07.26	-12 00	51.2	N 095
1967	1982 12	25.05306	07 05	26.04	+27 34	53.3	095
1971	1982 12	24.02032	08 17	52.40	+21 37	45.5	095
1976	1982 09	16.85069	23 25	01.22	-08 00	31.2	095
1976	1982 09	19.85046	23 22	17.56	-08 17	27.7	095
1976	1982 09	21.87836	23 20	28.68	-08 28	25.6	095
2019	1982 09	19.99736	00 46	34.32	+12 11	11.6	E 095
2019	1982 09	21.95134	00 44	47.32	+11 59	40.8	E 095
2025	1982 08	17.95495	23 54	12.62	+02 43	27.0	095
2025	1982 08	23.98995	23 50	55.25	+02 37	40.6	095
2025	1982 08	28.93776	23 47	48.18	+02 29	48.4	E 095
2025	1982 09	12.89926	23 36	48.60	+01 52	36.3	095
2025	1982 09	18.89745	23 32	06.57	+01 33	48.8	E 095
2025	1982 09	20.85070	23 30	35.78	+01 27	25.6	095
2045	1982 08	14.87506	22 55	09.22	-14 45	51.0	095
2045	1982 09	13.83403	22 25	48.12	-16 14	45.9	095
2045	1982 09	20.78474	22 19	54.91	-16 20	01.8	095
2097	1982 12	24.02032	08 08	10.45	+23 01	30.0	095
2110	1982 12	23.94810	06 04	21.78	+21 58	14.3	095
2128	1982 09	16.85069	23 25	46.34	-09 13	34.3	095
2128	1982 09	19.85046	23 22	01.19	-08 28	02.8	D 095
2128	1982 09	21.87836	23 19	34.38	-07 57	01.2	095
2137	1982 10	15.88272	01 00	03.02	+22 57	55.0	095
2137	1982 10	24.85983	00 52	43.62	+22 23	04.6	095
2137	1982 11	09.78902	00 42	11.85	+21 07	21.2	095
2137	1982 11	11.75152	00 41	13.04	+20 57	43.2	E 095
2144	1982 08	17.87843	21 53	39.93	-13 21	58.6	095
2149	1982 08	15.96868	23 15	29.22	-19 06	02.2	095
2153	1982 09	16.85069	23 20	40.32	-05 52	08.2	095
2153	1982 09	19.85046	23 18	24.13	-06 05	46.3	095
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2158	1982 09	16.99014	01 18	03.40	+08 02	46.9	095
2158	1982 09	19.99736	01 16	14.68	+07 50	13.1	E 095
2158	1982 09	21.95134	01 14	59.53	+07 41	35.2	095
2158	1982 09	28.01043	01 10	49.08	+07 12	56.4	095
2163	1982 09	16.92013	23 48	26.72	-05 10	23.7	E 095
2163	1982 09	20.92014	23 45	32.34	-05 31	24.3	E 095
2163	1982 10	14.81883	23 30	27.50	-07 07	30.0	E 095
2163	1982 10	15.81258	23 30	00.91	-07 09	47.4	E 095
2163	1982 10	21.80912	23 27	48.06	-07 20	19.6	E 095
2169	1982 09	16.92013	00 08	59.60	-01 32	31.8	095
2169	1982 09	20.92014	00 05	48.15	-01 53	00.3	095
2169	1982 09	26.91668	00 00	55.78	-02 23	26.7	095
2169	1982 10	22.80874	23 43	13.22	-04 03	31.0	095
2182	1982 08	16.89207	22 24	25.94	-13 35	45.1	E 095
2193	1982 10	14.81883	23 51	09.47	-11 21	50.2	095

2193	1982 10	15.81258	23 50	30.28	-11 21	28.6		E	095
2193	1982 10	21.80912	23 46	55.66	-11 16	09.2			095
2217	1982 08	14.87506	22 58	08.60	-08 16	37.1			095
2217	1982 08	14.94796	22 58	05.69	-08 16	58.0		E	095
2217	1982 08	16.89207	22 56	54.85	-08 26	10.0			095
2217	1982 08	16.96846	22 56	51.60	-08 26	36.5		E	095
2217	1982 08	23.92017	22 52	14.59	-09 01	18.8		N	095
2217	1982 09	13.83403	22 37	14.88	-10 45	19.0			095
2217	1982 09	20.78474	22 32	50.97	-11 13	49.4			095
2222	1982 08	14.94796	23 12	29.38	-08 43	56.9		E	095
2227	1982 11	14.97387	05 08	20.36	+13 43	06.6		E	095
2227	1982 12	21.88838	04 35	54.94	+11 51	12.4			095
2230	1982 08	17.87843	21 27	33.72	-14 05	39.3			095
2232	1982 08	14.94796	22 58	13.25	-00 31	17.5			095
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2232	1982 08	23.92017	22 52	04.50	-01 10	27.5		E	095
2232	1982 09	12.82988	22 36	37.34	-03 08	29.6			095
2232	1982 09	17.82987	22 33	07.34	-03 39	36.4			095
2232	1982 09	21.80892	22 30	38.19	-04 03	28.6			095
2234	1982 09	16.92013	00 16	19.58	-04 32	51.0		E	095
2234	1982 09	20.92014	00 11	12.40	-04 20	09.9		P	095
2234	1982 10	22.80874	23 36	11.75	-02 10	04.6		M	095
2256	1982 09	16.99014	01 25	41.28	+08 16	12.0			095
2256	1982 09	21.95134	01 22	47.12	+07 58	08.7		E	095
2256	1982 09	28.01043	01 18	44.06	+07 33	08.3			095
2270	1982 09	16.85069	23 13	16.53	-08 25	41.0			095
2270	1982 09	19.85046	23 11	06.75	-08 38	21.5			095
2270	1982 09	21.87836	23 09	40.94	-08 46	33.5			095
2278	1982 12	24.02032	08 17	42.58	+25 07	33.8			095
2294	1982 12	23.94810	05 51	20.69	+27 06	32.3		E	095
2295	1982 09	17.90279	00 20	54.36	+05 31	50.2			095
2295	1982 09	19.92008	00 19	21.44	+05 23	55.0			095
2295	1982 09	24.91298	00 15	24.62	+05 02	51.0		E	095
2295	1982 09	27.94447	00 12	58.51	+04 49	23.4		E	095
2301	1982 12	22.99368	07 46	51.11	+29 23	27.5			095
2301	1983 01	06.94435	07 34	33.83	+31 22	29.6		E	095
2309	1982 09	16.92013	00 12	22.38	-05 14	56.8			095
2309	1982 10	14.81883	23 53	56.19	-08 40	16.1			095
2309	1982 10	15.81258	23 53	23.53	-08 45	41.9			095
2309	1982 10	21.80912	23 50	28.00	-09 14	42.6			095
2322	1982 12	22.92358	04 51	52.74	+18 37	56.5			095
2322	1983 01	06.80273	04 40	18.70	+18 24	19.5		E	095
2324	1982 07	27.98584	22 38	47.66	-08 30	01.1		E	095
2324	1982 08	15.89584	22 27	03.20	-09 36	15.2		E	095
2324	1982 08	16.89207	22 26	18.41	-09 40	20.5		E	095
2324	1982 09	11.80635	22 06	55.66	-11 26	30.6			095
2324	1982 09	16.78126	22 03	51.78	-11 42	47.4			095
2324	1982 09	19.78103	22 02	12.88	-11 51	29.1			095
2324	1982 09	20.78474	22 01	41.47	-11 54	11.6	17.0	E	095
2348	1982 09	28.01043	01 25	26.83	+07 41	32.0	17.0	E	095
2379	1982 11	13.05592	05 25	11.04	+22 33	51.8			095
2379	1982 12	22.92358	04 51	21.14	+21 52	26.5			095
2379	1983 01	06.80273	04 41	16.49	+21 36	47.4		E	095
2383	1982 09	16.92013	23 55	40.00	-02 31	44.6			095
2383	1982 09	18.89745	23 53	39.12	-02 41	40.0			095
2383	1982 09	20.92014	23 51	34.38	-02 51	48.2			095
2383	1982 09	26.91668	23 45	29.28	-03 20	51.7			095
2388	1982 09	27.94447	00 29	50.28	+05 47	27.4			095
2391	1982 09	16.85069	23 42	39.40	-02 57	44.6	17.0	E	095

2391	1982 09 16.92013	23 42 35.34	-02 58 19.2	E 095
2391	1982 09 18.89745	23 40 51.84	-03 12 31.7	095
2391	1982 09 20.92014	23 39 05.16	-03 27 06.8	E 095
2391	1982 09 21.87836	23 38 15.10	-03 33 58.4	095
2391	1982 09 26.91668	23 33 54.25	-04 09 26.4	E 095
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2408	1982 08 12.82789	19 30 15.78	-01 10 44.5	095
2408	1982 08 13.83473	19 29 56.69	-01 26 39.6	095
2412	1982 10 15.88272	00 49 28.82	+17 17 07.9	095
2412	1982 10 24.85983	00 42 03.43	+16 25 34.6	095
2412	1982 11 09.78902	00 32 35.68	+14 54 44.8	095
2412	1982 11 11.75152	00 31 50.59	+14 44 38.2	095
2415	1982 09 16.92013	23 45 30.38	-05 45 41.2	E 095
2433	1982 09 16.99014	01 04 22.14	+06 44 32.6	095
2433	1982 09 19.99736	01 02 16.14	+06 19 50.4	095
2433	1982 09 21.95134	01 00 50.18	+06 03 22.6	095
2433	1982 09 28.01043	00 56 08.23	+05 10 21.4	095
2434	1982 10 14.81883	23 35 07.88	-14 39 29.3	095
2434	1982 10 21.80912	23 31 08.60	-14 05 54.8	095
2464	1982 09 17.90279	00 41 24.63	+04 23 21.3	095
2464	1982 09 19.92008	00 40 02.23	+04 15 11.8	095
2464	1982 09 19.99736	00 39 58.74	+04 14 48.4	E 095
2464	1982 09 24.91298	00 36 26.82	+03 53 47.0	095
2464	1982 09 27.94447	00 34 10.22	+03 40 07.8	095
2465	1982 11 13.05592	05 16 29.83	+26 57 09.4	095
2469	1982 09 13.83403	22 12 05.56	-12 32 28.1	E 095
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2472	1983 01 06.94435	07 15 06.41	+30 35 50.6	095
2472	1983 02 02.73953	06 46 44.75	+29 51 58.8	095
2472	1983 02 10.74931	06 42 38.44	+29 21 46.7	095
2478	1982 09 16.99014	00 55 41.49	+11 12 20.0	E 095
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2478	1982 09 21.95134	00 51 51.61	+10 44 40.4	095
2478	1982 09 28.01043	00 46 36.50	+10 04 39.6	E 095
2484	1982 11 13.05592	05 01 20.40	+21 20 59.7	095
2490	1982 07 27.90598	19 49 51.44	-00 21 25.6	095
2490	1982 08 12.82789	19 37 17.97	-01 28 19.8	095
2490	1982 08 13.83473	19 36 37.60	-01 33 37.1	P 095
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2498	1982 08 17.95495	23 29 09.69	-02 59 08.8	095
2498	1982 09 16.85069	23 07 29.66	-05 00 57.2	E 095
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2498	1982 09 21.87836	23 03 42.66	-05 22 27.5	E 095
2499	1982 08 16.89207	22 35 49.22	-08 07 02.6	095
2504	1982 09 16.92013	23 51 04.53	-02 36 18.9	095
2504	1982 09 18.89745	23 49 25.25	-02 44 39.5	095
2504	1982 09 20.92014	23 47 43.62	-02 53 08.4	095
2504	1982 09 26.91668	23 42 44.53	-03 17 42.4	095
2504	1982 10 22.80874	23 25 32.81	-04 32 29.7	N 095
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2512	1982 11 13.05592	04 56 24.44	+21 18 29.1	E 095
2518	1982 09 21.95134	01 01 52.36	+09 20 56.8	095
2519	1982 12 24.02032	08 07 47.07	+21 47 06.7	095
2524	1983 01 06.80273	04 05 09.97	+20 59 20.5	E 095
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2574	1982 09 20.92014	00 13 07.32	+00 05 00.3	095
2574	1982 09 26.91668	00 08 14.46	-00 21 42.6	E 095
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2583	1983 02 02.73953	06 55 08.60	+33 03 44.6	095
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2697	1982 08 13.90608	22 06 52.94	-07 08 38.9	095
2697	1982 08 15.89584	22 05 32.78	-07 14 31.4	095
2697	1982 09 11.80635	21 47 48.19	-08 42 46.0	095
2697	1982 09 16.78126	21 45 09.00	-08 57 49.5	095
2697	1982 09 19.78103	21 43 43.54	-09 06 17.3	095
2707	1982 11 13.05592	04 52 53.99	+21 34 11.5	16.5 E 095
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2747	1982 08 14.87506	22 50 58.60	-09 17 35.0	095
2747	1982 08 16.89207	22 49 32.07	-09 22 40.5	095
2747	1982 09 13.83403	22 27 33.28	-10 35 16.2	095
2747	1982 09 20.78474	22 22 47.82	-10 47 49.4	095
2748	1982 08 14.87506	22 54 02.94	-09 16 52.8	095
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2748	1982 09 20.78474	22 24 38.97	-10 51 17.5	P 095
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2753	1982 09 13.83403	22 26 14.63	-10 41 08.6	095
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2756	1982 08 14.87506	22 45 17.94	-11 29 19.3	095
2756	1982 08 16.89207	22 43 38.88	-11 33 57.7	095
2756	1982 09 20.78474	22 12 44.82	-12 35 38.2	095
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2758	1982 09 17.82987	22 38 37.85	-07 29 03.1	095
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2763	1982 08 13.90608	22 02 20.41	-09 47 31.9	095
2763	1982 08 15.89584	22 00 38.88	-09 49 38.2	095
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2768	1982 10 14.81883	23 47 24.16	-11 13 33.4	095
2768	1982 10 15.81258	23 46 45.03	-11 10 41.2	E 095
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2771	1982 08 13.83473	19 30 21.35	+03 26 29.1	095
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2774	1982 10	15.88272	00 46	13.29	+19 24	32.1		095
2774	1982 10	24.85983	00 39	42.81	+18 35	07.6		095
2774	1982 11	09.78902	00 31	24.56	+17 01	44.0		095
2774	1982 11	11.75152	00 30	45.94	+16 50	48.6		095
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2781	1982 08	16.96846	23 03	17.72	-06 45	44.2		095
2781	1982 08	23.92017	22 58	57.22	-07 19	12.3		095
2781	1982 09	12.82988	22 44	33.96	-09 04	20.7	E	095
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2781	1982 09	21.80892	22 38	25.25	-09 47	31.4	E	095
2782	1982 09	16.99014	01 17	42.78	+08 01	08.8		095
2782	1982 09	19.99736	01 15	38.21	+07 55	40.1	E	095
2782	1982 09	21.95134	01 14	10.80	+07 51	29.5		095
2782	1982 09	28.01043	01 09	14.22	+07 35	58.5		095
2786	1982 08	15.96868	23 08	44.19	-20 37	13.0		095
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2794	1982 10	24.85983	00 53	19.98	+19 16	12.0		095
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2794	1982 11	11.75152	00 41	53.22	+18 14	14.1		095
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2816	1982 10	14.81883	23 56	44.41	-14 49	54.8		095
2816	1982 10	21.80912	23 53	19.28	-14 41	43.8		095
2820	1982 09	26.91668	00 03	00.74	+04 08	58.8	E	095
2820	1982 10	22.80874	23 46	58.84	+01 03	55.1	E	095
2824	1982 08	14.94796	22 58	51.44	-04 01	07.6		095
2824	1982 08	16.96846	22 57	31.78	-04 02	30.4		095
2824	1982 08	23.92017	22 52	13.12	-04 11	57.8		095
2824	1982 09	12.82988	22 34	02.74	-05 04	40.7		095
2824	1982 09	17.82987	22 29	48.32	-05 19	06.2		095
2824	1982 09	21.80892	22 26	48.53	-05 29	37.2		095
2827	1982 09	17.82987	22 56	29.88	-06 02	32.4		095
2827	1982 09	21.80892	22 52	34.50	-06 09	37.2		095
2843	1982 12	23.94810	05 59	38.97	+20 50	31.3		095
2854	1982 12	23.94810	06 08	20.26	+26 56	04.4		095
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2914	1982 09	19.85046	23 15	01.31	-05 26	16.3		095
2914	1982 09	21.87836	23 13	20.60	-05 41	33.3		095
2970	1982 09	13.83403	22 32	09.28	-09 27	42.0	W	095
2983	1982 11	13.05592	05 25	12.48	+22 49	26.8		095
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2996	1982 09	28.01043	01 04	34.58	+10 46	20.3		095
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3021	1982 10	24.85983	00 30	07.40	+16 15	30.6	E	095
3021	1982 11	09.78902	00 18	26.48	+15 54	32.7		095
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3032	1982 11	13.05592	05 29	52.82	+21 55	41.4	E	095
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3035	1982 12	22.92358	04 41	10.83	+18 22	46.7	17.5	095
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3055	1982 09	18.89745	00 04	02.37	-01 58	42.6		095
3055	1982 09	20.92014	00 01	48.85	-01 57	58.2		095
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3055	1982 10	22.80874	23 31	09.22	-01 18	35.8	E	095
3060	1982 08	13.90608	22 09	44.31	-11 46	04.7	N	095
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3060	1982 09	16.78126	21 39	23.88	-10 39	34.2	E	095
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3075	1982 08	14.94796	23 09	32.81	-05 32	38.2		095
3075	1982 08	16.96846	23 07	50.94	-05 26	32.1		095
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3076	1982 08	28.93776	23 46	06.88	+07 09	49.2		095
3076	1982 08	29.96877	23 45	41.69	+07 02	13.5		095
3076	1982 09	12.89926	23 37	59.19	+04 47	47.4	E	095
3076	1982 09	18.89745	23 34	00.82	+03 35	47.7	E	095
3076	1982 09	20.85070	23 32	43.84	+03 11	20.2	E	095
3077	1982 09	16.92013	23 47	36.47	+01 12	05.6	E	095
3077	1982 09	18.89745	23 45	42.40	+01 00	53.4		095
3077	1982 09	20.92014	23 43	45.32	+00 49	15.0		095
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3128	1982 12	23.94810	06 18	16.38	+22 45	59.5		095
3137	1982 08	23.98995	23 28	18.50	+00 32	36.0		095
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3137	1982 09	21.87836	23 03	09.69	-01 34	24.8	E	095
3140	1982 12	24.02032	08 16	17.35	+22 44	46.8		095
3166	1982 12	23.94810	06 04	42.28	+26 34	41.0		095
3180	1982 09	16.99014	00 52	25.94	+07 37	39.2	N	095
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3180	1982 09	21.95134	00 48	13.78	+07 36	24.4	E	095
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3243	1982 09	26.91668	23 57	34.22	+02 56	41.8		095
3250	1982 11	14.97387	04 58	44.66	+12 49	30.8		095
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3251	1982 09	18.89745	23 43	34.41	-02 28	29.0		095
3251	1982 09	20.92014	23 42	04.68	-02 38	40.8		095
3251	1982 09	26.91668	23 37	42.62	-03 08	19.3		095
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3276	1982 09	24.91298	00 46	33.47	+00 52	17.3		095

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3365	1982 09	26.91668	00 08	21.66	+02 30	09.0		E 095
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3375	1982 09	28.01043	01 21	13.78	+07 40	47.6	17.5	095
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3385	1982 09	21.80892	22 22	59.66	-03 20	30.9		E 095
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3386	1982 09	20.92014	23 44	17.03	-02 14	05.2		095
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3456	1982 09	16.92013	23 51	27.94	-04 30	19.7		095
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3492	1982 09	13.83403	22 38	24.66	-17 16	04.0	16.8	095
3505	1982 12	24.02032	08 06	37.22	+23 13	03.7	16.0	095
3513	1982 09	16.99014	00 56	21.68	+09 10	58.3	16.8	E 095
3513	1982 09	21.95134	00 52	36.70	+08 54	01.0	17.0	095
3558	1982 10	15.88272	00 41	30.58	+18 26	26.1	16.5	095
3558	1982 10	24.85983	00 32	25.56	+18 01	36.5	16.5	095
3558	1982 11	09.78902	00 20	55.70	+17 10	16.5	16.5	095
3558	1982 11	11.75152	00 20	01.30	+17 04	27.0	16.5	095
3565	1982 09	16.92013	00 15	53.28	+03 58	10.2		E 095
3566	1982 09	28.01043	01 14	30.30	+11 58	44.6	16.5	E 095
3573	1982 09	11.80635	22 14	36.91	-06 03	35.1	16.5	N 095
3575	1982 12	22.92358	04 38	29.22	+23 24	01.5	17.0	E 095
3575	1983 01	06.80273	04 27	15.38	+23 27	07.1	17.0	095
3576	1982 09	16.92013	00 21	57.27	-04 58	41.0	16.5	E 095
3576	1982 10	15.81258	23 52	10.94	-05 10	14.1	16.5	095
3576	1982 10	22.80874	23 46	47.25	-04 55	54.5	17.0	095
3583	1982 09	16.85069	23 35	06.28	-06 19	11.0	16.5	095
3583	1982 09	19.85046	23 32	15.00	-06 33	18.8	16.7	095
3583	1982 09	21.87836	23 30	20.63	-06 42	32.9	16.5	095
3600	1982 09	27.94447	00 23	44.36	+02 40	44.3		095
3615	1982 09	16.99014	01 02	01.00	+04 04	57.3	17.5	095
3615	1982 09	19.99736	01 00	09.21	+03 51	35.2	17.0	E 095
3615	1982 09	21.95134	00 58	53.39	+03 42	42.0	17.0	E 095
3615	1982 09	28.01043	00 54	46.44	+03 14	04.7	17.0	095
3629	1982 11	13.05592	05 04	32.20	+21 04	45.4	16.5	095
3629	1982 12	22.92358	04 27	07.45	+17 47	59.2	16.5	E 095
3705	1982 12	23.94810	06 21	20.29	+21 28	34.2	16.8	095
3710	1982 07	27.90598	19 53	48.63	+02 55	21.3		095
3710	1982 08	12.82789	19 42	55.31	+01 14	12.6		095
3715	1982 11	14.97387	05 20	40.32	+12 59	03.0	17.0	E 095
3782	1982 07	27.98584	22 25	01.54	-02 33	22.2	16.5	095
3782	1982 08	13.90608	22 11	56.81	-02 59	13.7	16.5	E 095

3782	1982 08 15.89584	22 10 07.63	-03 05 15.4	16.5	E 095
3782	1982 09 11.80635	21 46 30.19	-04 57 37.5	16.0	095
3782	1982 09 16.78126	21 43 18.69	-05 19 04.3	16.5	095
3782	1982 09 19.78103	21 41 41.12	-05 31 16.1	16.5	095
3832	1982 12 24.02032	08 12 49.80	+21 29 01.1		095
3837	1982 09 21.95134	01 09 10.27	+13 05 12.1	17.0	095
3856	1982 12 23.94810	06 17 07.80	+25 35 04.5	16.5	095
3863	1982 11 14.97387	05 03 45.25	+07 42 08.0	17.0	095
3872	1982 12 24.02032	08 16 15.60	+25 05 17.0		095
3881	1982 09 16.85069	23 36 59.69	-07 20 07.2	16.5	095
3881	1982 09 19.85046	23 34 08.28	-07 34 02.3	16.5	E 095
3881	1982 09 21.87836	23 32 12.72	-07 43 06.9	16.5	095

400 Kitami

K. Watanabe, 13-23-202, 4 Chome, Atsubetsu cyuo 3 jo, Shiroishi-ku,
Observers K. Endate, M. Yanai

Measurer K. Watanabe

0.20-m f/4.8 reflector

AGK3

1988 PV	1988 08 18.50069	21 40 09.98	-01 45 58.7	15	400
1988 PV	1988 08 18.51597	21 40 09.18	-01 46 04.6		400
1988 PV	1988 09 07.45486	21 27 21.91	-03 54 14.4	15.0	400
1988 PV	1988 09 07.47847	21 27 21.18	-03 54 23.8		400
1988 PA1 *	1988 08 15.55243	22 19 23.56	+00 05 37.7	15.0	400
1988 PA1	1988 08 15.57049	22 19 22.70	+00 05 26.2		400
1988 PA1	1988 08 15.58333	22 19 22.10	+00 05 20.8		400
1988 PA1	1988 08 18.49340	22 17 10.23	-00 25 30.9	15.5	400
1988 PA1	1988 08 18.51215	22 17 09.35	-00 25 43.4		400
1988 PA1	1988 08 18.52431	22 17 08.89	-00 25 50.8		400
1988 PA1	1988 08 19.51979	22 16 23.60	-00 36 31.0	15.5	400
1988 PA1	1988 08 19.53681	22 16 22.92	-00 36 42.7		400
1988 PA1	1988 08 19.54931	22 16 22.10	-00 36 52.3		400
238	1988 08 18.50069	21 37 58.81	-01 26 50.1	12	400
238	1988 08 18.51597	21 37 58.09	-01 26 57.5		400
308	1988 08 15.53299	21 31 47.83	-09 56 03.8	11.5	400
308	1988 08 15.55382	21 31 46.65	-09 56 10.6		400
308	1988 08 15.57465	21 31 45.68	-09 56 17.1		400

413 Siding Spring

R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357,
Australia

Observers C. S. Bembrick, J. Byron, R. H. McNaught, Q. A. Parker

Measurers C. S. Bembrick, R. H. McNaught

1.2-m Schmidt and (1) Uppsala Southern Schmidt

1982 DV2	1988 08 19.64850	22 03 00.75	-09 36 59.6	1	413
1982 DV2	1988 08 20.70603	22 02 04.73	-09 43 01.7	1	413
1988 PA	1988 08 10.52978	20 29 48.00	-02 08 12.6		413
1988 PA	1988 08 10.58534	20 29 51.51	-02 09 44.6		413
1988 PK	1988 08 19.64155	22 08 17.82	-08 59 16.8	1	413
1988 PK	1988 08 19.65544	22 08 17.27	-08 59 25.4	1	413
1988 PK	1988 08 20.70603	22 07 34.56	-09 07 43.2	1	413
1988 PL	1988 08 19.64850	22 08 55.36	-07 38 13.8	1	413
1988 PL	1988 08 20.70603	22 07 59.38	-07 44 20.4	1	413
1988 PM	1988 08 19.64850	22 11 27.39	-08 36 38.6	1	413
1988 PM	1988 08 20.70603	22 10 34.67	-08 38 51.2	1	413
1988 PQ	1988 08 19.64850	22 04 02.50	-07 51 38.6	1	413
1988 PQ	1988 08 20.70603	22 03 02.22	-07 54 18.6	1	413
1988 PR	1988 08 19.64850	22 05 11.62	-07 00 29.1	1	413
1988 PR	1988 08 20.70603	22 04 16.74	-07 09 18.9	1	413

1988 PG1 *	1988 08 11.59492	22 28 55.78	-03 35 55.0	17	413
1988 PG1	1988 08 11.65395	22 28 52.70	-03 35 41.0		413
1988 PG1	1988 08 19.66655	22 21 24.28	-03 08 31.6	17	1 413
1988 PG1	1988 08 19.68044	22 21 23.64	-03 08 31.0		1 413
1988 PG1	1988 08 20.72571	22 20 21.66	-03 05 31.0		1 413
1988 PG1	1988 08 20.73612	22 20 21.21	-03 05 30.7		1 413
1988 PH1 *	1988 08 11.59492	22 30 01.84	-03 09 46.5	15	413
1988 PH1	1988 08 11.65395	22 29 58.62	-03 09 28.3		413
1988 PH1	1988 08 19.66655	22 22 15.16	-02 31 13.2	15	1 413
1988 PH1	1988 08 19.68044	22 22 14.46	-02 31 12.1		1 413
1988 PH1	1988 08 20.72571	22 21 10.91	-02 26 37.6		1 413
1988 PH1	1988 08 20.73612	22 21 10.40	-02 26 36.0		1 413
1988 PJ1 *	1988 08 11.59492	22 30 53.38	-02 59 11.6	18	413
1988 PJ1	1988 08 11.65395	22 30 49.99	-02 59 00.1		413
1988 PJ1	1988 08 19.66655	22 22 42.54	-02 37 53.0	17	1 413
1988 PJ1	1988 08 19.68044	22 22 41.65	-02 37 53.9		1 413
1988 PJ1	1988 08 20.72571	22 21 35.01	-02 35 41.4		1 413
1988 PJ1	1988 08 20.73612	22 21 34.48	-02 35 39.9		1 413
1988 QH	1988 08 16.74517	22 03 21.63	-07 23 28.2		1 413
1988 QH *	1988 08 19.64850	22 01 11.61	-07 44 25.6		1 413
1988 QJ *	1988 08 19.64850	22 01 42.85	-09 07 57.2		1 413
1988 QJ	1988 08 20.70603	22 00 37.93	-09 11 51.7		1 413
1988 QK *	1988 08 19.64850	22 03 56.67	-09 08 24.8		1 413
1988 QK	1988 08 20.70603	22 03 04.30	-09 13 46.0		1 413
1988 QL *	1988 08 19.64850	22 05 03.62	-08 54 16.9		1 413
1988 QL	1988 08 20.70603	22 04 08.05	-08 57 05.7		1 413
1988 QM *	1988 08 19.66655	22 16 18.89	-01 27 12.1	17.5	1 413
1988 QM	1988 08 19.68044	22 16 18.32	-01 27 19.3		1 413
1988 QM	1988 08 20.73091	22 15 29.01	-01 34 10.8		1 413
1988 QN *	1988 08 19.66655	22 25 46.02	-03 38 58.6	18	1 413
1988 QN	1988 08 19.68044	22 25 45.52	-03 39 02.9		1 413
1988 QN	1988 08 20.73091	22 24 45.18	-03 43 30.1		1 413
1988 QO *	1988 08 19.67350	22 18 32.72	-02 53 10.0	18.5	1 413
1988 QO	1988 08 20.73091	22 17 41.06	-02 55 36.8		1 413
1988 QP *	1988 08 19.67350	22 21 52.93	-02 09 48.0	18	1 413
1988 QP	1988 08 20.73091	22 21 04.49	-02 12 17.7		1 413
1988 QQ *	1988 08 19.67350	22 25 20.66	-03 37 53.4	18.5	1 413
1988 QQ	1988 08 20.73091	22 24 35.89	-03 46 10.6		1 413
1988 QR *	1988 08 19.67350	22 25 23.34	-03 20 54.8	18.5	1 413
1988 QR	1988 08 20.73091	22 24 33.43	-03 24 24.4		1 413
1988 QS *	1988 08 19.67350	22 25 48.04	-03 23 13.7	18	1 413
1988 QS	1988 08 20.73091	22 24 48.38	-03 22 00.3		1 413
26	1988 06 03.77304	22 00 42.06	-16 45 42.0		1 413
63	1988 06 03.77304	22 03 46.53	-16 55 09.3		1 413
89	1988 06 03.78023	18 13 56.16	-42 43 47.7		1 413
532	1988 06 03.79753	21 15 46.94	-19 43 32.7		1 413
1109	1988 08 19.67350	22 23 11.56	-04 05 05.7		1 413
1109	1988 08 20.73091	22 22 24.81	-04 08 46.3		1 413

491 Yebes

J. Martin-Pintado, Observatorio Astronomico de Madrid, Alfonso XII 3

E-28014 Madrid, Spain

Observers M. de Pascual, J. Martin-Pintado, J. Garcia

3860 1986 09 03.96232 21 38 43.70 -04 04 51.5 491

3860 1986 09 04.95474 21 37 59.45 -04 06 59.1 491

494 Stakenbridge

B. Manning, Moonrakers, Stakenbridge, Churchill, Kidderminster,

Worcs. DY10 3LS, England

Observer B. Manning

0.26-m f/7.2 reflector

1985 DO2 1988 08 21.99098 23 52 27.19 +16 42 54.5 494

503 Cambridge

J. D. Shanklin, 11 City Road, Cambridge, CB1 1DP, England

Observer J. D. Shanklin

0.44-m Schmidt

1980 PA 1988 09 02.93766 22 02 38.30 +04 47 48.0 503

511 Haute Provence

E. W. Elst, Royal Observatory, B-1180 Brussels, Belgium

Observers E. W. Elst, A. Laugier, G. Sause

Measurers E. W. Elst, P. Van den Eynde

0.6-m Schmidt

1981 JA2	1988 08 14.00833	22 54 15.40	-02 58 11.9		511
1981 JA2	1988 08 14.03125	22 54 14.32	-02 58 17.9	17.2	511
1981 JA2	1988 08 15.98264	22 52 42.44	-03 05 40.4		511
1981 JA2	1988 08 16.00694	22 52 41.28	-03 05 45.9		511
1982 UG7	1988 08 14.00833	22 47 42.06	-02 34 23.1		511
1982 UG7	1988 08 14.03125	22 47 41.12	-02 34 28.7	16.5	511
1982 UG7	1988 08 15.98264	22 46 35.75	-02 41 59.7		511
1982 UG7	1988 08 16.00694	22 46 34.81	-02 42 05.1		511
1986 XO2	1988 08 12.99792	22 49 30.09	-05 58 40.0	17.5	511
1986 XO2	1988 08 13.01883	22 49 29.18	-05 58 57.0		511
1986 XO2	1988 08 13.04479	22 49 28.01	-05 59 17.8		511
1988 PY	1988 08 14.00833	22 48 19.91	-03 00 34.6		511
1988 PY	1988 08 14.03125	22 48 19.34	-03 00 35.5	17.5	511
1988 PY	1988 08 15.98264	22 47 23.86	-03 03 42.5		511
1988 PY	1988 08 16.00694	22 47 23.13	-03 03 44.5		511
1988 PE1 *	1988 08 13.06875	23 47 32.95	-00 28 36.2	16.5	511
1988 PE1	1988 08 13.08889	23 47 33.01	-00 28 41.5		511
1988 PE1	1988 08 15.05069	23 47 41.95	-00 42 21.8		511
1988 PE1	1988 08 15.07465	23 47 41.90	-00 42 32.5		511
1988 PK1 *	1988 08 13.91042	22 08 30.08	+03 28 52.6	17.0	511
1988 PK1	1988 08 13.92986	22 08 29.15	+03 28 50.0	17.0	511
1988 PK1	1988 08 15.92014	22 06 59.21	+03 23 45.7	17.0	511
1988 PK1	1988 08 15.94444	22 06 58.14	+03 23 41.2	17.0	511
1988 PM1 *	1988 08 12.99792	22 52 40.55	-05 37 24.4	17.0	511
1988 PM1	1988 08 13.01883	22 52 39.96	-05 37 30.9		511
1988 PM1	1988 08 13.04479	22 52 39.12	-05 37 39.6		511
1988 PM1	1988 08 14.06111	22 52 10.55	-05 42 47.0		511
1988 PM1	1988 08 14.08194	22 52 09.97	-05 42 52.1		511
1988 PN1 *	1988 08 12.99792	22 53 22.06	-06 35 25.9	17.5	511
1988 PN1	1988 08 13.01883	22 53 21.52	-06 35 33.1		511
1988 PN1	1988 08 13.04479	22 53 20.59	-06 35 41.4		511
1988 PN1	1988 08 14.06111	22 52 49.96	-06 41 24.3		511
1988 PN1	1988 08 14.08194	22 52 49.53	-06 41 28.7		511
1988 PP1 *	1988 08 14.00833	22 48 09.35	-02 59 13.9		511
1988 PP1	1988 08 14.03125	22 48 08.21	-02 59 04.9	17.5	511
1988 PP1	1988 08 15.98264	22 46 34.39	-02 46 28.8		511
1988 PP1	1988 08 16.00694	22 46 33.23	-02 46 19.8		511
1988 PQ1 *	1988 08 14.00833	22 50 39.90	-03 59 42.7		511
1988 PQ1	1988 08 14.03125	22 50 38.92	-03 59 45.3	17.2	511
1988 PQ1	1988 08 15.98264	22 49 06.83	-04 01 43.9		511
1988 PQ1	1988 08 16.00694	22 49 05.45	-04 01 45.4		511
1988 PR1 *	1988 08 14.00833	22 53 37.91	-03 15 54.2		511
1988 PR1	1988 08 14.03125	22 53 37.08	-03 16 05.2	17.0	511
1988 PR1	1988 08 15.98264	22 52 25.87	-03 32 02.4		511

1988 PR1	1988 08 16.00694	22 52 25.00	-03 32 15.1		511
2321 T-3	1988 08 12.90278	22 08 45.68	-00 29 56.7	17.0	511
2321 T-3	1988 08 12.92361	22 08 44.54	-00 30 02.3		511
2321 T-3	1988 08 13.96042	22 07 51.33	-00 33 49.5		511
2321 T-3	1988 08 13.98125	22 07 50.20	-00 33 53.8		511
2321 T-3	1988 08 14.88750	22 07 03.20	-00 37 22.5	17.2	511
2321 T-3	1988 08 14.90972	22 07 02.05	-00 37 27.9	17.2	511
2321 T-3	1988 08 14.93681	22 07 00.56	-00 37 32.4	17.2	511
2321 T-3	1988 08 14.95868	22 06 59.16	-00 37 39.2	17.2	511
2321 T-3	1988 08 17.90556	22 04 24.40	-00 50 01.0	17.2	511
2321 T-3	1988 08 17.94861	22 04 21.98	-00 50 14.0	17.2	511
150	1988 08 14.00833	22 52 36.29	-04 14 10.5		511
150	1988 08 14.03125	22 52 35.49	-04 14 16.5	12.0	511
150	1988 08 15.98264	22 51 24.19	-04 21 48.9		511
150	1988 08 16.00694	22 51 23.20	-04 21 54.9		511
1117	1988 08 12.99792	22 55 43.06	-07 27 53.0	15.0	511
1117	1988 08 13.01883	22 55 42.35	-07 28 04.1		511
1117	1988 08 13.04479	22 55 41.42	-07 28 15.1		511
1117	1988 08 14.06111	22 55 06.50	-07 36 24.3		511
1117	1988 08 14.08194	22 55 05.74	-07 36 33.6		511
1377	1988 08 12.90278	22 10 17.30	-00 24 48.8	17.0	511
1377	1988 08 12.92361	22 10 16.11	-00 24 54.2		511
1377	1988 08 13.96042	22 09 19.67	-00 30 02.3		511
1377	1988 08 13.98125	22 09 18.61	-00 30 08.4		511
1395	1988 08 13.91042	22 11 01.44	+02 24 28.7	17.0	511
1395	1988 08 13.92986	22 11 00.60	+02 24 26.7	17.0	511
1395	1988 08 15.92014	22 09 36.87	+02 19 05.4	17.0	511
1395	1988 08 15.94444	22 09 35.80	+02 19 02.0	17.0	511
1717	1988 08 12.99792	22 50 30.08	-09 03 46.6	16.5	511
1717	1988 08 13.01883	22 50 29.06	-09 03 49.5		511
1717	1988 08 13.04479	22 50 27.51	-09 03 52.3		511
1717	1988 08 14.06111	22 49 33.15	-09 06 29.0		511
1717	1988 08 14.08194	22 49 32.16	-09 06 30.6		511
2207	1988 08 12.99792	22 46 41.79	-07 25 32.9	16.9	511
2207	1988 08 13.01883	22 46 41.37	-07 25 37.0		511
2207	1988 08 13.04479	22 46 40.65	-07 25 43.3		511
2207	1988 08 14.06111	22 46 15.09	-07 29 04.3		511
2207	1988 08 14.08194	22 46 14.70	-07 29 06.6		511
2691	1988 08 12.99792	22 44 17.19	-06 38 02.5	17.4	511
2691	1988 08 13.01883	22 44 16.16	-06 38 06.8		511
2691	1988 08 13.04479	22 44 14.74	-06 38 12.3		511
2691	1988 08 14.06111	22 43 19.58	-06 41 27.3		511
2691	1988 08 14.08194	22 43 18.42	-06 41 29.2		511

547 Wroclaw

J. Bem, Astronomical Observatory, Wroclaw University, Ul. Kopernika 11,
 PL-51622 Wroclaw, Poland

Observers J. Bem, B. Szczodrowska-Kozar

0.18-m f/9 astrograph

From Acta Astronomica

20	1983 11 08.82334	01 11 03.07	+07 26 35.0		547
20	1983 11 08.83382	01 11 02.66	+07 26 33.2		547
31	1983 11 08.89958	01 34 28.63	+11 57 18.2		547
31	1983 11 08.90978	01 34 27.96	+11 57 21.5		547
31	1983 11 14.89263	01 28 17.93	+12 21 29.9		547
31	1983 11 14.90399	01 28 17.25	+12 21 32.6		547
44	1983 11 08.97067	02 01 17.80	+05 30 37.3		547
44	1983 11 08.98024	02 01 17.30	+05 30 35.3		547
44	1983 11 14.94847	01 56 13.27	+05 08 17.5		547

44	1983	11	14.95609	01	56	12.76	+05	08	15.8	547
68	1983	11	08.87437	01	27	58.07	+06	14	56.7	547
80	1983	11	08.93759	01	59	57.28	+12	02	21.4	547
80	1983	11	08.94720	01	59	56.85	+12	02	15.1	547
80	1983	11	14.92118	01	56	22.64	+10	57	58.1	547
80	1983	11	14.93225	01	56	22.22	+10	57	52.0	547
354	1982	02	20.92846	08	52	17.53	+16	52	08.9	547
354	1982	02	20.93627	08	52	17.18	+16	52	14.2	547
354	1982	02	21.87213	08	51	39.70	+17	02	48.1	547
354	1982	02	21.88190	08	51	39.23	+17	02	55.2	547
354	1982	02	22.82591	08	51	02.36	+17	13	25.1	547
354	1982	02	22.83758	08	51	01.88	+17	13	33.1	547
532	1982	02	20.89307	08	28	25.94	+31	15	01.0	547
532	1982	02	20.90066	08	28	25.63	+31	15	04.4	547
532	1982	02	21.82854	08	27	47.67	+31	20	57.9	547
532	1982	02	21.84181	08	27	47.15	+31	21	03.3	547
532	1982	02	22.79983	08	27	09.27	+31	26	54.7	547
532	1982	02	22.80829	08	27	08.97	+31	26	58.3	547
532	1982	03	26.78634	08	22	42.38	+32	44	59.2	547
532	1982	03	26.79761	08	22	42.58	+32	44	58.1	547
532	1982	03	27.77034	08	23	06.53	+32	44	17.1	547
532	1982	03	27.78109	08	23	06.73	+32	44	14.1	547

556 Reintal

F. Frevert, Dilichstrasse 1, D-6330 Wetzlar, Federal Republic of Germany

Observer F. Seiler

0.30-m f/6 reflector

AGK3

2444	1988	01	09.79167	07	20	05.98	+20	58	08.3	556
2444	1988	01	09.79861	07	20	05.44	+20	58	07.1	556
2444	1988	01	09.84722	07	20	02.25	+20	57	52.0	556
2444	1988	01	09.85417	07	20	01.69	+20	57	48.1	556

563 Seewalchen

F. Frevert, Dilichstrasse 1, D-6330 Wetzlar, Federal Republic of Germany

Observer M. Bressler

0.25-m f/6 reflector

AGK3, SAOC

977	1988	04	16.91528	13	52	41.86	+07	18	20.2	563
977	1988	04	16.92708	13	52	41.29	+07	18	21.8	563
977	1988	04	16.93750	13	52	40.80	+07	18	22.2	563
977	1988	04	16.94792	13	52	40.30	+07	18	23.2	563
977	1988	04	16.95972	13	52	39.64	+07	18	24.2	563
2277	1988	05	12.85069	12	44	48.48	+14	14	13.6	563
2277	1988	05	12.86111	12	44	48.50	+14	14	09.3	563
2277	1988	05	12.88194	12	44	48.22	+14	14	02.6	563
2277	1988	05	12.89236	12	44	48.12	+14	14	00.2	563
2277	1988	05	12.90278	12	44	47.80	+14	13	56.3	563
3431	1987	02	24.94306	09	48	30.97	+07	39	25.2	563
3431	1987	02	24.95694	09	48	30.24	+07	39	25.8	563
3431	1987	02	24.97083	09	48	29.46	+07	39	27.8	563
3431	1987	02	24.98472	09	48	28.91	+07	39	27.9	563
3431	1987	02	24.99861	09	48	28.01	+07	39	30.7	563
3631	1988	04	16.85278	13	47	54.91	+07	05	32.8	563
3631	1988	04	16.86458	13	47	54.35	+07	05	38.5	563
3631	1988	04	16.87500	13	47	53.90	+07	05	42.4	563
3631	1988	04	16.88542	13	47	53.52	+07	05	46.5	563
3642	1987	02	24.82639	09	38	57.48	+20	06	46.3	563
3642	1987	02	24.83681	09	38	56.95	+20	06	53.2	563

3642	1987 02 24.86667	09 38 55.61	+20 07 08.7	563
3642	1987 02 24.89792	09 38 54.17	+20 07 24.3	563
3642	1987 02 24.91181	09 38 53.50	+20 07 31.9	563

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1980 PA	1988 07 29.55476	21 53 29.09	-06 13 48.3	16.8V	568
1980 PA	1988 09 03.30944	22 02 52.56	+04 59 32.7	14.4V	568
1980 PA	1988 09 07.53542	22 05 52.14	+07 20 04.5		568
1980 PA	1988 09 08.37847	22 06 42.53	+07 51 04.8	14.2V	568
1985 DO2	1988 09 03.36950	00 13 22.68	-00 22 32.1		568
1985 DO2	1988 09 04.51843	00 14 54.27	-02 02 29.9	13.4V	568
1985 DO2	1988 09 08.44028	00 19 44.00	-07 37 17.0	13.1V	568
1988 NF	1988 09 03.34615	23 48 47.31	+58 28 40.9		568
1988 NF	1988 09 04.48704	23 49 18.83	+58 42 03.6	13.9V	568
1988 PA	1988 08 26.31319	20 51 37.52	-09 17 16.3		568
1988 PA	1988 09 03.28453	21 03 46.55	-12 13 59.8	17.2V	568

657 Victoria, Climenhaga Observatory

J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 1700,
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1980 FG12	1988 06 14.40562	19 34 24.60	+22 13 50.6		657
1980 FG12	1988 07 20.27090	19 15 46.63	+25 38 41.3		657
1980 FG12	1988 07 20.35424	19 15 43.28	+25 38 17.1		657
1980 FG12	1988 08 11.24278	19 06 53.15	+21 27 50.9		657
1980 FG12	1988 08 11.28167	19 06 52.99	+21 27 13.6	I	657
1985 DO2	1988 08 23.39243	23 55 09.95	+14 57 29.5		657
1985 DO2	1988 08 24.42229	23 57 06.55	+13 37 40.3		657
1985 DO2	1988 08 24.43965	23 57 08.37	+13 36 19.9		657
566	1988 08 21.42049	02 45 55.96	+11 02 41.2		657
3888	1988 06 14.37437	20 19 58.61	+19 09 36.5		657
3888	1988 06 14.42437	20 19 58.84	+19 10 00.0		657
3888	1988 07 19.36569	20 07 46.71	+18 31 59.7		657
3888	1988 07 19.41641	20 07 44.48	+18 31 26.4		657
3888	1988 07 20.28826	20 07 10.26	+18 21 29.6		657

675 Palomar

J. Gibson, ITT/Federal Electric Corporation and Jet Propulsion Laboratory,
MS 238-332, Pasadena, CA 91109, U.S.A. (1)

E. Helin, MS 183-501, Jet Propulsion Laboratory, Pasadena,
CA 91109, U.S.A. (2)

C. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A. (3)

Observers J. Alu (2, S), R. Coker (2, S), J. Gibson (1, C), E. Helin (2, S),
E. Majkowski (2, S), C. Mikolajczak (2, S), B. Roman (2, S), C.

Shoemaker (3, S), E. Shoemaker (3, S), N. G. Thomas (3, S)

Measurers J. Alu (2), R. Coker (2), J. Gibson (1), E. Majkowski (2), C.
Mikolajczak (2), T. Rodriguez (3), B. Roman (2), C. Shoemaker (3)

1.5-m reflector + CCD (C), 0.46-m (S) Schmidt telescope

1974 XT	1988 08 15.18802	20 18 09.11	-23 29 30.0	16.8	3	675
1974 XT	1988 08 17.18950	20 16 11.03	-24 01 19.8		3	675
1983 XF	1988 08 22.42613	00 46 06.44	-00 48 06.3	20	V	1 675
1983 XF	1988 08 22.44273	00 46 06.05	-00 48 09.5			1 675
1983 XF	1988 08 22.45300	00 46 05.86	-00 48 11.7			1 675
1985 CX	1987 09 28.27188	00 51 21.93	-20 19 09.7	17.0		3 675
1985 CX	1987 09 28.29896	00 51 20.63	-20 19 14.6			3 675

1985 DO2	1988 08 12.38177	23 31 45.64	+26 48 18.8	15.0	2 675
1985 DO2	1988 08 12.39931	23 31 47.84	+26 47 25.0		2 675
1987 DE	1987 05 30.17534	10 30 10.78	+24 54 58.8	17.5	3 675
1987 DE	1987 05 30.20590	10 30 13.87	+24 54 47.7		3 675
1987 DF	1987 05 30.17535	10 43 46.56	+20 41 51.0	17.6	3 675
1987 DF	1987 05 30.20590	10 43 48.90	+20 41 42.6		3 675
1987 KF	1988 07 08.31132	21 17 29.03	-21 25 28.7	18.5V	1 675
1987 KF	1988 07 08.31721	21 17 28.72	-21 25 31.3		1 675
1987 KF	1988 07 08.33469	21 17 27.72	-21 25 38.5		1 675
1987 KF	1988 07 08.33978	21 17 27.38	-21 25 41.3		1 675
1987 KF	1988 08 22.33079	20 22 19.04	-26 23 22.3		1 675
1987 KF	1988 08 22.33663	20 22 18.59	-26 23 23.6		1 675
1987 KF	1988 08 22.34281	20 22 18.19	-26 23 24.9		1 675
1987 KK5 *	1987 05 30.17534	10 42 24.55	+20 56 44.3	17.6	3 675
1987 KK5	1987 05 30.20590	10 42 25.96	+20 56 31.5		3 675
1988 FU2 *	1988 03 19.41892	13 31 11.36	+18 45 24.3	17.2	3 675
1988 FU2	1988 03 20.42778	13 30 35.41	+18 52 57.1		3 675
1988 JJ	1988 07 17.20104	15 40 44.89	+05 35 28.7	17.0	3 675
1988 JJ	1988 07 18.19288	15 05 10.82	+05 36 41.2		3 675
1988 JV	1988 07 17.20764	15 14 39.57	-10 10 19.6	17.3	3 675
1988 JV	1988 07 18.19896	15 14 42.23	-10 16 02.0		3 675
1988 NA	1988 07 08.27644	17 25 31.41	+34 02 35.3		1 675
1988 NA	1988 07 08.28186	17 25 31.37	+34 02 30.0		1 675
1988 NA	1988 07 08.29264	17 25 31.25	+34 02 17.5		1 675
1988 NC	1988 08 08.28316	19 17 18.39	-31 49 59.3		2 675
1988 NC	1988 08 08.30451	19 17 17.04	-31 50 19.3	17.0	2 675
1988 NC	1988 08 10.22534	19 15 24.95	-32 20 15.5		2 675
1988 ND	1988 08 09.31441	20 24 07.15	-15 37 56.8	16.0	2 675
1988 ND	1988 08 11.18837	20 22 08.10	-16 24 58.5		2 675
1988 ND	1988 08 15.18802	20 18 03.33	-18 03 52.8	16.0	3 675
1988 ND	1988 08 17.23090	20 16 06.16	-18 53 13.4		3 675
1988 NH	1988 08 07.20277	18 59 43.94	-09 26 40.9	16.8	2 675
1988 NH	1988 08 07.22812	18 59 43.21	-09 26 56.3		2 675
1988 NV	1988 08 07.18646	18 48 28.37	-16 33 02.0	17.0	2 675
1988 NV	1988 08 07.21337	18 48 27.46	-16 33 00.7		2 675
1988 NW	1988 08 08.23802	19 45 39.35	-21 04 00.1	15.8	2 675
1988 NW	1988 08 10.25556	19 44 01.68	-20 51 15.4		2 675
1988 NX	1988 08 09.41580	21 03 43.46	-11 46 10.2	16.0	2 675
1988 NX	1988 08 11.27257	21 01 45.84	-11 51 17.9		2 675
1988 NY *	1988 07 12.42691	20 16 41.82	-24 11 15.4	16.8	2 675
1988 NY	1988 07 15.39705	20 14 05.05	-25 20 54.3		2 675
1988 NY	1988 08 08.22517	19 51 56.23	-33 33 11.5	17.5	2 675
1988 NY	1988 08 10.26111	19 50 23.60	-34 05 49.3		2 675
1988 PP	1988 07 16.41597	22 01 59.06	-13 36 16.7		3 675
1988 PP	1988 07 17.47500	22 01 31.76	-13 44 17.7		3 675
1988 PW *	1988 08 13.39861	22 19 53.79	-17 38 24.9	15.5	3 675
1988 PW	1988 08 14.38993	22 19 45.28	-17 43 30.4		3 675
1988 PX *	1988 08 13.39861	22 30 49.55	-23 53 04.9	17.2	3 675
1988 PX	1988 08 17.39722	22 29 11.31	-23 31 21.0		3 675
1988 PX	1988 08 19.38507	22 28 15.39	-23 19 00.5		3 675
1988 PY *	1988 08 13.40747	22 48 36.71	-02 59 40.4	17.3	3 675
1988 PY	1988 08 14.42795	22 48 08.26	-03 01 14.1		3 675
1988 PY	1988 08 18.35017	22 46 14.65	-03 07 44.3		3 675
1988 PB1	1988 08 13.39063	21 24 21.51	+15 53 59.7		3 675
1988 PB1 *	1988 08 14.25625	21 23 53.94	+15 53 13.9	17.8	3 675
1988 PC1	1988 08 13.39063	21 29 44.92	+16 58 00.0		3 675
1988 PC1 *	1988 08 14.25625	21 29 04.70	+16 57 24.4	17.3	3 675
1988 PD1 *	1988 08 14.25625	21 05 24.59	+12 51 39.0	17.5	3 675
1988 PD1	1988 08 16.30017	21 04 04.85	+12 07 02.4		3 675

1988 PD1	1988 09 05.20156	20 54 49.15	+03 30 07.2	17.0	2 675
1988 PD1	1988 09 08.27778	20 54 18.16	+02 03 45.9		2 675
1988 PF1 *	1988 08 14.34739	21 56 37.64	-08 49 23.5	18	3 675
1988 PF1	1988 08 14.38038	21 56 36.44	-08 49 17.7		3 675
1988 PF1	1988 08 15.36076	21 56 05.82	-08 45 46.6		3 675
1988 PL1 *	1988 08 15.33072	21 23 32.48	+25 03 03.9	17.5	3 675
1988 PL1	1988 08 16.35746	21 22 22.68	+25 02 25.2		3 675
1988 PT1 *	1988 08 13.42413	21 54 50.14	+17 10 59.1	17.2	3 675
1988 PT1	1988 08 17.40607	21 52 08.03	+16 52 53.3		3 675
1988 QC *	1988 08 18.35885	23 15 34.47	-05 36 27.2	18	3 675
1988 QC	1988 08 18.39253	23 15 35.44	-05 36 53.1		3 675
1988 QC	1988 08 19.42760	23 16 08.84	-05 49 58.3		3 675
1988 QC	1988 08 19.45538	23 16 09.54	-05 50 19.9		3 675
1988 QC	1988 08 21.23153	23 17 05.22	-06 13 40.7		1 675
1988 QC	1988 08 21.23596	23 17 05.35	-06 13 44.3		1 675
1988 QC	1988 08 21.24517	23 17 05.58	-06 13 51.8		1 675
1988 QC	1988 08 22.19635	23 17 33.50	-06 26 51.5		1 675
1988 QC	1988 08 22.20091	23 17 33.62	-06 26 55.3		1 675
1988 QC	1988 08 22.20662	23 17 33.76	-06 27 00.2		1 675
1988 QD *	1988 08 16.30712	21 18 11.55	+02 26 33.5	17.5	3 675
1988 QD	1988 08 17.30659	21 17 44.22	+01 56 03.9		3 675
1988 QD	1988 08 18.25572	21 17 19.07	+01 26 57.6		3 675
1988 QD	1988 08 19.35521	21 16 49.94	+00 52 56.9		3 675
1988 QE	1988 08 14.38038	21 46 40.15	-03 16 37.9		3 675
1988 QE *	1988 08 17.32257	21 45 12.63	-03 23 39.8	17.8	3 675
1988 QE	1988 08 18.31302	21 44 43.29	-03 26 09.4		3 675
1988 QE	1988 08 19.33889	21 44 12.75	-03 28 44.4		3 675
1988 QF *	1988 08 18.35885	23 00 58.95	-04 14 40.5	17.5	3 675
1988 QF	1988 08 19.39323	23 00 26.61	-04 41 31.0		3 675
1988 QG *	1988 08 16.38194	22 29 14.90	-11 23 21.1	18	3 675
1988 QG	1988 08 17.42274	22 28 33.76	-11 30 06.2		3 675
1988 QT *	1988 08 17.47048	23 25 15.78	+20 36 23.3	16	3 675
1988 QT	1988 08 18.45451	23 25 00.99	+20 35 48.2		3 675
1988 RA *	1988 09 07.36719	01 15 02.00	+09 30 33.2	15.5	2 675
1988 RA	1988 09 08.45677	01 14 06.59	+09 48 58.9		2 675

801 Oak Ridge

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1.5-m reflector

AC

A904 PC	1988 07 11.26758	21 52 41.02	-03 51 14.9		801
A904 PC	1988 08 09.24466	21 32 38.62	-02 44 38.1		801
1941 HD	1988 07 11.24790	21 24 51.45	-03 37 49.0		801
1941 HD	1988 08 09.22832	21 04 11.65	-07 19 00.4		801
1977 QW2	1988 08 13.23330	22 20 17.38	-02 24 00.1		801
1980 PA	1988 08 09.20517	21 56 31.26	-03 49 08.7		801
1980 PA	1988 09 09.22575	22 07 32.02	+08 22 53.2		801
1980 PA	1988 09 12.18368	22 11 08.23	+10 24 46.5		801
1980 PQ2	1988 07 14.17260	16 55 17.40	-02 45 26.1		801
1980 PQ2	1988 08 10.07857	16 52 31.50	-05 56 48.5		801
1981 JA2	1987 02 28.20058	09 22 41.28	+12 05 57.6		801
1982 UG7	1988 08 10.34072	22 49 28.03	-02 22 50.1		801
1984 DS	1988 06 14.18740	17 18 55.71	-14 35 17.6	w	801
1984 DS	1988 08 10.09973	17 05 54.03	-17 35 39.6	W	801
1986 AL	1988 07 11.22454	20 39 27.08	-14 54 54.4	o	801
1986 AL	1988 08 10.19964	20 13 39.45	-14 01 26.0		801
1986 XO2	1988 08 09.32991	22 52 04.00	-05 12 22.3		801

1988 JB1	1988 08 09.10138	17 11 07.22	-00 24 20.2	801
1988 NF	1988 08 09.18690	23 28 58.49	+49 45 38.0	801
2321 T-3	1988 08 09.29242	22 11 44.64	-00 18 22.5	801
3860	1987 11 21.37419	06 23 13.88	+28 26 32.2	801
3868	1988 07 14.20255	17 49 44.50	-09 58 05.5	801

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Measurers H. Debehogne, J. Dumoulin, E. W. Elst, G. Peeters

0.4-m GPO astrograph and 1.0-m Schmidt telescope

1935 SP1	1987 09 24.23993	23 37 13.60	-05 41 39.8	15.0	3 809
1935 SP1	1987 09 24.24479	23 37 13.16	-05 41 36.5		3 809
1935 SP1	1987 09 24.24965	23 37 12.72	-05 41 33.2		3 809
1935 SP1	1987 09 26.35173	23 34 02.16	-05 18 54.7		3 809
1935 SP1	1987 09 26.35659	23 34 01.70	-05 18 51.5		3 809
1935 SP1	1987 09 26.36146	23 34 01.25	-05 18 48.4		3 809
1935 SP1	1987 09 27.33090	23 32 35.63	-05 08 20.1		3 809
1935 SP1	1987 09 27.33576	23 32 35.20	-05 08 17.1		3 809
1935 SP1	1987 09 27.34062	23 32 34.77	-05 08 13.9		3 809
1935 SP1	1987 09 28.12326	23 31 27.25	-04 59 47.3		3 809
1935 SP1	1987 09 28.12812	23 31 26.82	-04 59 44.3		3 809
1935 SP1	1987 09 28.13298	23 31 26.38	-04 59 41.4		3 809
1935 SP1	1987 09 30.30937	23 28 21.87	-04 36 09.2		3 809
1935 SP1	1987 09 30.31424	23 28 21.48	-04 36 05.9		3 809
1935 SP1	1987 09 30.31910	23 28 21.09	-04 36 02.8		3 809
1935 SP1	1987 09 30.99201	23 27 26.78	-04 28 46.2		3 809
1935 SP1	1987 09 30.99722	23 27 26.35	-04 28 42.9		3 809
1935 SP1	1987 10 01.00243	23 27 25.91	-04 28 39.7		3 809
1935 SP1	1987 10 02.03160	23 26 03.14	-04 17 32.3		3 809
1935 SP1	1987 10 02.03507	23 26 02.86	-04 17 30.1		3 809
1935 SP1	1987 10 02.03854	23 26 02.57	-04 17 27.5		3 809
1935 SP1	1987 10 02.09618	23 25 57.82	-04 16 50.4		3 809
1935 SP1	1987 10 02.09826	23 25 57.66	-04 16 49.3		3 809
1935 SP1	1987 10 02.10035	23 25 57.49	-04 16 48.2		3 809
1935 SP1	1987 10 03.22396	23 24 29.34	-04 04 39.9		3 809
1935 SP1	1987 10 03.22673	23 24 29.13	-04 04 38.0		3 809
1935 SP1	1987 10 03.22951	23 24 28.92	-04 04 36.2		3 809
1935 SP1	1987 10 04.06771	23 23 25.60	-03 55 33.1		3 809
1935 SP1	1987 10 04.07257	23 23 25.23	-03 55 29.5		3 809
1935 SP1	1987 10 04.07743	23 23 24.87	-03 55 26.5		3 809
1966 PK	1987 09 27.36910	00 01 01.02	-03 46 46.9	17.0	3 809
1966 PK	1987 09 27.37396	00 01 00.79	-03 46 48.1		3 809
1966 PK	1987 09 27.37882	00 01 00.56	-03 46 49.3		3 809
1966 PK	1987 10 01.27187	23 58 06.39	-04 02 45.8		3 809
1966 PK	1987 10 01.27673	23 58 06.17	-04 02 46.9		3 809
1966 PK	1987 10 01.28160	23 58 05.97	-04 02 48.1		3 809
1966 PK	1987 10 01.34201	23 58 03.16	-04 03 02.3		3 809
1966 PK	1987 10 01.34687	23 58 02.95	-04 03 03.3		3 809
1966 PK	1987 10 01.35173	23 58 02.73	-04 03 04.3		3 809
1966 PK	1987 10 02.31979	23 57 20.45	-04 06 48.6		3 809
1966 PK	1987 10 02.32465	23 57 20.24	-04 06 49.8		3 809
1966 PK	1987 10 02.32951	23 57 20.02	-04 06 51.0		3 809
1972 RF	1987 09 17.20034	23 14 09.54	-00 52 57.4	15.8	3 809
1972 RF	1987 09 17.20521	23 14 09.38	-00 53 04.8		3 809
1972 RF	1987 09 19.19271	23 13 12.07	-01 46 40.7		3 809

1972 RF	1987 09	19.19757	23 13	11.92	-01 46	48.4	3 809
1972 RF	1987 09	19.20243	23 13	11.77	-01 46	56.2	3 809
1972 RF	1987 09	22.20173	23 11	49.98	-03 06	36.3	3 809
1972 RF	1987 09	22.21042	23 11	49.74	-03 06	50.1	3 809
1972 RF	1987 09	22.21597	23 11	49.60	-03 06	58.5	3 809
1972 RF	1987 09	22.21875	23 11	49.53	-03 07	03.1	3 809
1972 RF	1987 09	22.22153	23 11	49.45	-03 07	07.6	3 809
1972 RF	1987 09	24.16632	23 11	00.59	-03 57	43.4	3 809
1972 RF	1987 09	24.16840	23 11	00.54	-03 57	46.5	3 809
1972 RF	1987 09	24.17048	23 11	00.49	-03 57	49.4	3 809
1972 RF	1987 09	25.16354	23 10	36.89	-04 23	15.6	3 809
1972 RF	1987 09	25.16562	23 10	36.85	-04 23	18.6	3 809
1972 RF	1987 09	25.16771	23 10	36.80	-04 23	21.9	3 809
1972 RF	1987 09	27.20729	23 09	51.50	-05 14	36.8	3 809
1972 RF	1987 09	27.20937	23 09	51.45	-05 14	40.2	3 809
1972 RF	1987 09	27.21146	23 09	51.41	-05 14	43.3	3 809
1972 RF	1987 09	28.00590	23 09	35.84	-05 34	18.5	3 809
1972 RF	1987 09	28.01076	23 09	35.73	-05 34	25.3	3 809
1972 RF	1987 09	28.01527	23 09	35.65	-05 34	32.0	3 809
1972 RF	1987 09	29.00694	23 09	16.43	-05 58	38.2	3 809
1972 RF	1987 09	29.01389	23 09	16.29	-05 58	48.4	3 809
1972 RF	1987 09	29.02083	23 09	16.14	-05 58	58.6	3 809
1972 RF	1987 09	30.35243	23 08	51.53	-06 30	43.5	3 809
1972 RF	1987 09	30.35729	23 08	51.43	-06 30	50.4	3 809
1972 RF	1987 09	30.36215	23 08	51.32	-06 30	57.4	3 809
1972 RF	1987 10	01.01250	23 08	41.51	-06 46	12.6	3 809
1972 RF	1987 10	01.01771	23 08	41.43	-06 46	19.9	3 809
1972 RF	1987 10	01.02257	23 08	41.34	-06 46	26.8	3 809
1972 RF	1987 10	02.00243	23 08	26.38	-07 09	04.4	3 809
1972 RF	1987 10	02.00590	23 08	26.32	-07 09	09.2	3 809
1972 RF	1987 10	02.00937	23 08	26.26	-07 09	14.0	3 809
1972 RF	1987 10	02.10868	23 08	24.48	-07 11	30.5	3 809
1972 RF	1987 10	02.11076	23 08	24.45	-07 11	33.4	3 809
1972 RF	1987 10	02.11285	23 08	24.43	-07 11	36.2	3 809
1972 RF	1987 10	04.04236	23 07	59.40	-07 54	50.0	3 809
1972 RF	1987 10	04.04722	23 07	59.32	-07 54	56.4	3 809
1972 RF	1987 10	04.05208	23 07	59.25	-07 55	02.9	3 809
1980 KR1	1987 09	13.13784	23 46	37.50	-03 15	44.3	3 809
1980 KR1	1987 09	13.14305	23 46	37.20	-03 15	47.0	3 809
1980 KR1	1987 09	16.19062	23 43	44.46	-03 42	14.6	3 809
1980 KR1	1987 09	16.19548	23 43	44.19	-03 42	17.2	3 809
1980 KR1	1987 09	16.20034	23 43	43.91	-03 42	19.5	3 809
1980 KR1	1987 09	17.15729	23 42	49.60	-03 50	37.2	3 809
1980 KR1	1987 09	17.16215	23 42	49.32	-03 50	39.8	3 809
1980 KR1	1987 09	17.16701	23 42	49.04	-03 50	42.4	3 809
1980 KR1	1987 09	18.30798	23 41	43.84	-04 00	30.4	3 809
1980 KR1	1987 09	18.31285	23 41	43.57	-04 00	32.9	3 809
1980 KR1	1987 09	18.31771	23 41	43.29	-04 00	35.4	3 809
1980 KR1	1987 09	24.24479	23 36	11.45	-04 50	10.2	3 809
1980 KR1	1987 09	24.24965	23 36	11.18	-04 50	12.6	3 809
1980 KR1	1987 09	28.12326	23 32	44.53	-05 20	39.3	3 809
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1980 KR1	1987 10	01.23715	23 30	07.23	-05 43	35.5	3 809
1980 KR1	1987 10	01.24201	23 30	06.98	-05 43	37.6	3 809
1980 KR1	1987 10	01.24687	23 30	06.73	-05 43	39.7	3 809
1981 ED28	1987 09	26.11979	00 09	22.72	-01 22	23.2	3 809
1981 ED28	1987 09	26.12465	00 09	22.47	-01 22	25.0	3 809
1981 ED28	1987 09	26.12951	00 09	22.22	-01 22	26.8	3 809

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1981	EO34	1987	09	23.13762	00	12	02.38	-00	34	39.6	3	809	
1981	EO34	1987	09	24.28715	00	11	18.46	-00	48	27.1	3	809	
1981	EO34	1987	09	24.29201	00	11	18.28	-00	48	31.0	3	809	
1981	EO34	1987	09	24.29687	00	11	18.09	-00	48	34.4	3	809	
1981	EO34	1987	09	26.11979	00	10	09.23	-01	10	24.5	3	809	
1981	EO34	1987	09	26.12465	00	10	09.04	-01	10	28.4	3	809	
1981	EO34	1987	09	26.12951	00	10	08.84	-01	10	31.8	3	809	
1981	EO34	1987	10	01.29409	00	06	53.47	-02	11	22.2	3	809	
1981	EO34	1987	10	01.29896	00	06	53.29	-02	11	25.3	3	809	
1981	EO34	1987	10	01.30382	00	06	53.13	-02	11	28.5	3	809	
1981	EO34	1987	10	02.26250	00	06	17.92	-02	22	29.8	3	809	
1981	EO34	1987	10	02.26667	00	06	17.77	-02	22	33.0	3	809	
1981	EO34	1987	10	02.27083	00	06	17.59	-02	22	36.2	3	809	
1981	ED43	1987	09	17.26423	00	53	56.11	+04	45	33.0	17.6	3	809
1981	ED43	1987	09	17.26910	00	53	55.87	+04	45	32.5	3	809	
1981	ED43	1987	09	17.27396	00	53	55.63	+04	45	32.2	3	809	
1981	ED43	1987	09	19.35173	00	52	10.97	+04	42	33.2	3	809	
1981	ED43	1987	09	19.35659	00	52	10.73	+04	42	32.7	3	809	
1981	ED43	1987	09	19.36146	00	52	10.48	+04	42	32.4	3	809	
1981	ED43	1987	09	19.36632	00	52	10.24	+04	42	31.9	3	809	
1981	ED43	1987	09	19.37118	00	52	10.00	+04	42	31.5	3	809	
1981	ED43	1987	09	19.37604	00	52	09.75	+04	42	31.3	3	809	
1981	ED43	1987	09	23.17048	00	48	49.84	+04	36	14.4	3	809	
1981	ED43	1987	09	23.17535	00	48	49.58	+04	36	13.9	3	809	
1981	ED43	1987	09	23.18021	00	48	49.30	+04	36	13.4	3	809	
1981	ED43	1987	09	24.32396	00	47	46.64	+04	34	08.7	3	809	
1981	ED43	1987	09	24.32882	00	47	46.37	+04	34	08.2	3	809	
1981	ED43	1987	09	24.33368	00	47	46.11	+04	34	07.7	3	809	
1981	ED43	1987	09	26.16562	00	46	04.99	+04	30	39.7	3	809	
1981	ED43	1987	09	26.17048	00	46	04.72	+04	30	39.2	3	809	
1981	ED43	1987	09	26.17535	00	46	04.45	+04	30	38.6	3	809	
1981	QA3	1987	09	17.22743	00	13	09.65	-00	00	27.6	3	809	
1981	QA3	1987	09	19.27396	00	11	42.33	-00	09	07.8	3	809	
1981	QA3	1987	09	19.27882	00	11	42.09	-00	09	09.1	3	809	
1981	QA3	1987	09	19.28368	00	11	41.90	-00	09	10.4	3	809	
1981	QA3	1987	09	24.25729	00	08	04.79	-00	30	36.8	3	809	
1981	QA3	1987	09	24.26215	00	08	04.58	-00	30	38.2	3	809	
1981	QA3	1987	09	24.26701	00	08	04.37	-00	30	39.5	3	809	
1981	QA3	1987	10	01.29409	00	02	54.02	-01	00	51.6	3	809	
1981	QA3	1987	10	01.29896	00	02	53.80	-01	00	52.5	3	809	
1981	QA3	1987	10	01.30382	00	02	53.59	-01	00	53.4	3	809	
1981	QA3	1987	10	02.26250	00	02	11.70	-01	04	55.5	3	809	
1981	QA3	1987	10	02.26667	00	02	11.52	-01	04	56.6	3	809	
1981	QA3	1987	10	02.27083	00	02	11.33	-01	04	57.5	3	809	
1981	QA3	1987	10	02.30451	00	02	09.78	-01	05	06.2	3	809	
1981	QA3	1987	10	02.30937	00	02	09.58	-01	05	07.1	3	809	
1981	QA3	1987	10	02.31424	00	02	09.36	-01	05	08.1	3	809	
1982	UV10	1987	09	17.22743	00	10	25.73	-00	08	48.7	3	809	
1982	UV10	1987	09	19.27396	00	08	54.24	-00	18	06.1	3	809	
1982	UV10	1987	09	19.27882	00	08	54.02	-00	18	07.6	3	809	
1982	UV10	1987	09	19.28368	00	08	53.80	-00	18	09.1	3	809	
1982	UV10	1987	09	24.25729	00	05	08.64	-00	40	54.1	3	809	
1982	UV10	1987	09	24.26215	00	05	08.43	-00	40	55.3	3	809	
1982	UV10	1987	09	24.26701	00	05	08.19	-00	40	56.4	3	809	
1982	UV10	1987	10	01.25590	23	59	54.42	-01	12	11.3	3	809	
1982	UV10	1987	10	01.26076	23	59	54.21	-01	12	12.6	3	809	

1982 UV10	1987 10	01.26562	23 59	54.00	-01 12	13.9	3 809
1982 UV10	1987 10	02.30451	23 59	08.52	-01 16	41.7	3 809
1982 UV10	1987 10	02.30937	23 59	08.29	-01 16	43.0	3 809
1982 UV10	1987 10	02.31424	23 59	08.06	-01 16	44.4	3 809
1985 GB	1987 09	23.18576	00 02	18.78	-02 04	30.0	3 809
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1985 GB	1987 09	23.19548	00 02	18.35	-02 04	32.5	3 809
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1985 GB	1987 09	24.27673	00 01	32.28	-02 09	05.0	3 809
1985 GB	1987 09	24.28160	00 01	32.07	-02 09	06.2	3 809
1987 QF6	1987 09	16.20764	23 10	00.96	-04 55	58.8	3 809
1987 QF6	1987 09	16.21215	23 10	00.72	-04 56	04.7	3 809
1987 QF6	1987 09	16.21736	23 10	00.47	-04 56	10.6	3 809
1987 QH7	1987 09	17.22743	00 10	44.65	-00 16	54.6	3 809
1987 QH7	1987 09	19.27396	00 09	16.47	-00 14	54.4	3 809
1987 QH7	1987 09	19.27882	00 09	16.26	-00 14	54.1	3 809
1987 QH7	1987 09	19.28368	00 09	16.05	-00 14	54.0	3 809
1987 QH7	1987 09	24.25729	00 05	31.43	-00 10	25.6	3 809
1987 QH7	1987 09	24.26215	00 05	31.19	-00 10	25.2	3 809
1987 QH7	1987 09	24.26701	00 05	30.95	-00 10	24.9	3 809
1987 QH7	1987 10	01.25590	00 00	10.63	-00 03	38.2	3 809
1987 QH7	1987 10	01.26076	00 00	10.41	-00 03	37.8	3 809
1987 QH7	1987 10	01.26562	00 00	10.18	-00 03	37.5	3 809
1987 QH7	1987 10	02.30451	23 59	24.01	-00 02	26.3	3 809
1987 QH7	1987 10	02.30937	23 59	23.79	-00 02	25.8	3 809
1987 QH7	1987 10	02.31424	23 59	23.58	-00 02	25.4	3 809
1987 QS7	1987 09	12.06493	22 45	16.45	-07 43	25.4	3 809
1987 QS7	1987 09	12.06979	22 45	16.22	-07 43	26.9	3 809
1987 QS7	1987 09	18.08576	22 40	55.17	-08 13	43.1	3 809
1987 QS7	1987 09	18.09062	22 40	54.98	-08 13	44.6	3 809
1987 QS7	1987 09	18.09549	22 40	54.75	-08 13	46.1	3 809
1987 QS7	1987 09	19.12812	22 40	11.95	-08 18	43.1	3 809
1987 QS7	1987 09	19.13298	22 40	11.74	-08 18	44.4	3 809
1987 QS7	1987 09	19.13784	22 40	11.54	-08 18	45.9	3 809
1987 QS7	1987 09	23.20312	22 37	30.96	-08 37	26.6	3 809
1987 QS7	1987 09	23.20799	22 37	30.76	-08 37	28.0	3 809
1987 QS7	1987 09	23.21284	22 37	30.57	-08 37	29.3	3 809
1987 QS7	1987 09	24.09549	22 36	57.73	-08 41	20.7	3 809
1987 QS7	1987 09	24.10035	22 36	57.55	-08 41	22.0	3 809
1987 QS7	1987 09	24.10521	22 36	57.37	-08 41	23.0	3 809
1987 RR	1987 09	14.11493	22 45	50.81	-10 45	10.2	3 809
1987 RR	1987 09	14.11979	22 45	50.63	-10 45	13.1	3 809
1987 RR	1987 09	16.04062	22 44	40.88	-11 03	17.3	3 809
1987 RR	1987 09	16.04548	22 44	40.70	-11 03	20.0	3 809
1987 RR	1987 09	16.05035	22 44	40.53	-11 03	22.8	3 809
1987 RR	1987 09	18.06840	22 43	29.40	-11 21	55.2	3 809
1987 RR	1987 09	18.07326	22 43	29.23	-11 21	57.7	3 809
1987 RR	1987 09	18.07812	22 43	29.05	-11 22	00.2	3 809
1987 RR	1987 09	23.06979	22 40	45.87	-12 05	27.7	3 809
1987 RR	1987 09	23.07465	22 40	45.74	-12 05	30.0	3 809
1987 RR	1987 09	23.07951	22 40	45.58	-12 05	32.5	3 809
1987 RR	1987 09	26.07187	22 39	18.44	-12 29	41.0	3 809
1987 RR	1987 09	26.07673	22 39	18.29	-12 29	43.3	3 809
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1987 RR	1987 09	27.08646	22 38	51.01	-12 37	30.9	3 809
1987 RR	1987 09	27.09132	22 38	50.88	-12 37	33.1	3 809
1987 RR	1987 09	28.17083	22 38	22.78	-12 45	39.8	3 809
1987 RR	1987 09	28.17604	22 38	22.65	-12 45	42.1	3 809

1987 RR	1987 09	28.18125	22 38	22.52	-12 45	44.4	3 809
1987 RT	1987 09	14.07743	22 40	31.23	-09 04	35.4	3 809
1987 RT	1987 09	14.08229	22 40	31.02	-09 04	36.4	3 809
1987 RT	1987 09	14.08715	22 40	30.83	-09 04	37.9	3 809
1987 RT	1987 09	17.03507	22 38	32.32	-09 15	32.0	3 809
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1987 RT	1987 09	17.04479	22 38	31.94	-09 15	34.2	3 809
1987 RT	1987 09	17.05521	22 38	31.52	-09 15	36.4	3 809
1987 RT	1987 09	17.06007	22 38	31.32	-09 15	37.5	3 809
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1987 RT	1987 09	18.08576	22 37	51.52	-09 19	15.2	3 809
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1987 RT	1987 09	18.10104	22 37	50.93	-09 19	18.3	3 809
1987 RT	1987 09	18.10590	22 37	50.73	-09 19	19.4	3 809
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1987 RT	1987 09	19.12812	22 37	11.78	-09 22	50.4	3 809
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1987 RT	1987 09	19.14340	22 37	11.20	-09 22	53.5	3 809
1987 RT	1987 09	19.14826	22 37	11.01	-09 22	54.5	3 809
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1987 RT	1987 09	23.21840	22 34	45.66	-09 35	53.3	3 809
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1987 RT	1987 09	24.11076	22 34	16.22	-09 38	30.5	3 809
1987 RT	1987 09	24.11562	22 34	16.06	-09 38	31.6	3 809
1987 RT	1987 09	24.12048	22 34	15.88	-09 38	32.4	3 809
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1987 RT	1987 09	27.11354	22 32	42.88	-09 46	37.7	3 809
1987 RT	1987 09	27.11840	22 32	42.73	-09 46	38.4	3 809
1987 RT	1987 09	27.12326	22 32	42.58	-09 46	39.2	3 809
1987 RT	1987 09	29.06910	22 31	47.95	-09 51	19.5	3 809
1987 RT	1987 09	29.07638	22 31	47.79	-09 51	20.2	3 809
1987 RT	1987 10	01.11146	22 30	55.51	-09 55	41.2	3 809
1987 RT	1987 10	01.11632	22 30	55.40	-09 55	41.9	3 809
1987 RT	1987 10	01.12118	22 30	55.27	-09 55	42.6	3 809
1987 RT	1987 10	02.13090	22 30	31.40	-09 57	40.2	3 809
1987 RT	1987 10	02.13437	22 30	31.32	-09 57	40.7	3 809
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1987 RU	1987 09	14.07743	22 43	25.03	-09 26	25.5	3 809
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1987 RU	1987 09	14.08715	22 43	24.58	-09 26	29.6	3 809
1987 RU	1987 09	18.10104	22 40	46.11	-09 52	29.5	3 809
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1987 RU	1987 09	19.14340	22 40	08.09	-09 58	46.8	3 809
1987 RU	1987 09	19.14826	22 40	07.92	-09 58	48.5	3 809
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1987 RU	1987 09	24.11076	22 37	31.36	-10 25	37.5	3 809
1987 RU	1987 09	24.11562	22 37	31.21	-10 25	38.9	3 809
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1987 RW	1987 09	12.06493	22 43	29.77	-07 13	29.6	3 809
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1987 RW	1987 09	14.09410	22 41	25.72	-07 16	01.8	3 809

1987 RW	1987 09	14.09896	22 41	25.41	-07 16	02.1	3 809
1987 RW	1987 09	14.10382	22 41	25.11	-07 16	02.4	3 809
1987 RW	1987 09	23.08819	22 33	04.22	-07 23	43.5	3 809
1987 RW	1987 09	23.09514	22 33	03.84	-07 23	43.7	3 809
1987 RW	1987 09	23.10208	22 33	03.45	-07 23	43.9	3 809
1987 RW	1987 09	23.20312	22 32	58.18	-07 23	46.2	3 809
1987 RW	1987 09	23.20799	22 32	57.91	-07 23	46.5	3 809
1987 RW	1987 09	23.21284	22 32	57.63	-07 23	46.8	3 809
1987 RX	1987 09	12.12882	22 02	10.00	-12 30	59.3	3 809
1987 RY	1987 09	12.12882	22 03	01.58	-12 37	02.0	3 809
1987 RY	1987 09	15.98854	22 00	48.20	-12 48	32.6	3 809
1987 RY	1987 09	15.99340	22 00	48.03	-12 48	33.5	3 809
1987 RY	1987 09	15.99826	22 00	47.86	-12 48	34.2	3 809
1987 RY	1987 09	18.01910	21 59	43.85	-12 54	01.2	3 809
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1987 RY	1987 09	18.02951	21 59	43.52	-12 54	02.8	3 809
1987 RY	1987 09	19.09618	21 59	11.35	-12 56	43.6	3 809
1987 RY	1987 09	19.10104	21 59	11.21	-12 56	44.9	3 809
1987 RY	1987 09	19.10590	21 59	11.06	-12 56	45.6	3 809
1987 RY	1987 09	24.01493	21 57	01.25	-13 07	30.5	3 809
1987 RY	1987 09	24.01979	21 57	01.12	-13 07	31.1	3 809
1987 RY	1987 09	24.02465	21 57	01.00	-13 07	31.6	3 809
1987 RY	1987 09	26.00660	21 56	17.22	-13 11	03.1	3 809
1987 RY	1987 09	26.01146	21 56	17.10	-13 11	03.5	3 809
1987 RY	1987 09	26.01632	21 56	16.97	-13 11	03.9	3 809
1987 RZ	1987 09	12.12882	22 04	16.60	-13 37	49.9	3 809
1987 RZ	1987 09	15.98854	22 02	04.92	-13 51	32.2	3 809
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1987 RZ	1987 09	15.99826	22 02	04.59	-13 51	34.3	3 809
1987 RZ	1987 09	19.09618	22 00	30.17	-14 01	17.1	3 809
1987 RZ	1987 09	19.10104	22 00	30.01	-14 01	17.7	3 809
1987 RZ	1987 09	19.10590	22 00	29.84	-14 01	18.4	3 809
1987 RZ	1987 09	24.01493	21 58	24.64	-14 14	05.6	3 809
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1987 RZ	1987 09	26.01146	21 57	42.76	-14 18	20.4	3 809
1987 RZ	1987 09	26.01632	21 57	42.63	-14 18	20.8	3 809
1987 RZ	1987 09	27.01701	21 57	23.76	-14 20	15.9	3 809
1987 RZ	1987 09	27.02187	21 57	23.67	-14 20	16.3	3 809
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1987 RA1	1987 09	13.01146	22 20	24.96	-08 55	23.0	3 809
1987 RA1	1987 09	14.04479	22 19	41.46	-08 59	35.8	3 809
1987 RA1	1987 09	14.04965	22 19	41.26	-08 59	37.0	3 809
1987 RA1	1987 09	14.05451	22 19	41.06	-08 59	38.2	3 809
1987 RA1	1987 09	16.09757	22 18	17.29	-09 07	47.2	3 809
1987 RA1	1987 09	16.10243	22 18	17.09	-09 07	48.2	3 809
1987 RA1	1987 09	16.10729	22 18	16.88	-09 07	49.4	3 809
1987 RA1	1987 09	18.11840	22 16	57.71	-09 15	33.4	3 809
1987 RA1	1987 09	18.12326	22 16	57.52	-09 15	34.5	3 809
1987 RA1	1987 09	18.12812	22 16	57.33	-09 15	35.7	3 809
1987 RB1	1987 09	13.01146	22 21	34.32	-08 58	15.9	3 809
1987 RB1	1987 09	14.04479	22 20	55.48	-09 02	40.7	3 809
1987 RB1	1987 09	14.04965	22 20	55.29	-09 02	42.0	3 809
1987 RB1	1987 09	14.05451	22 20	55.13	-09 02	43.4	3 809
1987 RB1	1987 09	16.09757	22 19	40.84	-09 11	13.0	3 809
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1987 RB1	1987 09	18.11840	22 18	31.03	-09 19	17.6	3 809

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1987 RC1	1987 09	24.05243	22 18	22.07	-12 10	19.9	3 809
1987 RC1	1987 09	24.05729	22 18	21.88	-12 10	20.7	3 809
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1987 RG1	1987 09	16.00729	22 59	20.46	-06 29	44.5	3 809
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1987 RG1	1987 09	17.01632	22 58	32.03	-06 33	39.1	3 809
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1987 RG1	1987 09	18.03646	22 57	43.77	-06 37	31.6	3 809
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1987 RG1	1987 09	18.04618	22 57	43.29	-06 37	33.8	3 809
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1987 RG1	1987 09	19.12118	22 56	53.30	-06 41	33.1	3 809
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1987 RJ1	1987 09	16.01701	23 02	10.40	-05 52	12.6	3 809

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1987 RJ1	1987 09	18.04618	23 00	38.22	-06 06	16.8	3 809
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1987 RJ1	1987 09	19.11632	22 59	50.48	-06 13	35.1	3 809
1987 RJ1	1987 09	19.12118	22 59	50.25	-06 13	37.2	3 809
1987 RJ1	1987 09	23.26597	22 56	54.80	-06 40	51.7	3 809
1987 RJ1	1987 09	23.27014	22 56	54.62	-06 40	53.2	3 809
1987 RJ1	1987 09	23.27430	22 56	54.45	-06 40	54.8	3 809
1987 RJ1	1987 09	27.17396	22 54	27.73	-07 04	32.2	3 809
1987 RJ1	1987 09	27.17882	22 54	27.55	-07 04	33.9	3 809
1987 RJ1	1987 09	27.18368	22 54	27.36	-07 04	35.7	3 809
1987 RJ1	1987 09	28.04479	22 53	58.16	-07 09	28.3	3 809
1987 RJ1	1987 09	28.04965	22 53	58.00	-07 09	30.1	3 809
1987 RJ1	1987 09	28.05451	22 53	57.83	-07 09	31.8	3 809
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1987 RJ1	1987 10	01.16493	22 52	19.84	-07 26	05.6	3 809
1987 RJ1	1987 10	01.16979	22 52	19.70	-07 26	07.2	3 809
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1987 RL1	1987 09	13.13784	23 47	48.19	-03 22	53.8	3 809
1987 RL1	1987 09	13.14305	23 47	47.92	-03 22	55.9	3 809
1987 RL1	1987 09	16.19062	23 45	21.76	-03 41	44.2	3 809
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1987 RL1	1987 09	16.20034	23 45	21.29	-03 41	48.1	3 809
1987 RL1	1987 09	18.30798	23 43	39.09	-03 54	38.8	3 809
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1987 RL1	1987 10	01.23715	23 34	00.24	-05 04	09.9	3 809
1987 RL1	1987 10	01.24201	23 34	00.04	-05 04	11.3	3 809
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1987 RP1	1987 09 16.18090	23 42 11.48	-01 30 35.8	3 809
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1987 SH1	1987 09	24.20799	23 58	09.44	+00 10	08.0	3 809
1987 SH1	1987 09	24.21284	23 58	09.23	+00 10	06.6	3 809
1987 SH1	1987 09	24.21771	23 58	09.02	+00 10	05.1	3 809
1987 SH1	1987 09	27.28160	23 55	56.96	-00 05	11.8	3 809
1987 SH1	1987 09	27.28646	23 55	56.75	-00 05	13.5	3 809
1987 SH1	1987 09	27.29132	23 55	56.53	-00 05	14.9	3 809
1987 SH1	1987 09	28.25174	23 55	15.60	-00 10	00.6	3 809
1987 SH1	1987 09	28.25660	23 55	15.37	-00 10	02.0	3 809
1987 SH1	1987 10	01.20451	23 53	11.61	-00 24	26.5	3 809
1987 SH1	1987 10	01.20937	23 53	11.40	-00 24	28.2	3 809
1987 SH1	1987 10	01.21423	23 53	11.20	-00 24	29.5	3 809
1987 SH1	1987 10	02.18646	23 52	31.16	-00 29	09.2	3 809
1987 SH1	1987 10	02.18993	23 52	31.02	-00 29	10.4	3 809
1987 SH1	1987 10	02.19340	23 52	30.87	-00 29	11.7	3 809
1987 SJ1	1987 09	24.20799	23 58	18.45	+01 14	12.3	3 809
1987 SJ1	1987 09	24.21284	23 58	18.23	+01 14	10.6	3 809
1987 SJ1	1987 09	24.21771	23 58	18.01	+01 14	08.5	3 809
1987 SJ1	1987 09	27.28160	23 56	01.42	+00 54	13.1	3 809
1987 SJ1	1987 09	27.28646	23 56	01.19	+00 54	11.3	3 809
1987 SJ1	1987 09	27.29132	23 56	00.96	+00 54	09.3	3 809
1987 SJ1	1987 09	28.25174	23 55	19.09	+00 47	56.5	3 809
1987 SJ1	1987 09	28.25660	23 55	18.87	+00 47	54.9	3 809
1987 SJ1	1987 10	01.20451	23 53	13.41	+00 29	07.4	3 809
1987 SJ1	1987 10	01.20937	23 53	13.20	+00 29	05.6	3 809
1987 SJ1	1987 10	01.21423	23 53	12.99	+00 29	03.8	3 809
1987 SJ1	1987 10	02.18646	23 52	33.07	+00 22	59.7	3 809
1987 SJ1	1987 10	02.18993	23 52	32.91	+00 22	58.5	3 809
1987 SJ1	1987 10	02.19340	23 52	32.76	+00 22	57.1	3 809
1987 SK1	1987 09	17.24201	00 08	49.81	-02 10	36.2	3 809
1987 SK1	1987 09	19.28923	00 06	47.03	-02 15	03.1	3 809
1987 SK1	1987 09	19.29409	00 06	46.74	-02 15	03.6	3 809
1987 SK1	1987 09	19.29896	00 06	46.44	-02 15	04.1	3 809
1987 SK1	1987 09	23.18576	00 02	47.45	-02 23	28.9	3 809
1987 SK1	1987 09	23.19062	00 02	47.14	-02 23	29.4	3 809
1987 SK1	1987 09	23.19548	00 02	46.84	-02 23	30.1	3 809
1987 SK1	1987 09	24.27187	00 01	39.40	-02 25	45.7	3 809
1987 SK1	1987 09	24.27673	00 01	39.08	-02 25	46.4	3 809
1987 SK1	1987 09	24.28160	00 01	38.76	-02 25	47.4	3 809
1987 SK1	1987 09	24.33923	00 01	35.03	-02 25	54.2	3 809
1987 SK1	1987 09	24.34410	00 01	34.72	-02 25	54.7	3 809
1987 SK1	1987 09	24.34896	00 01	34.40	-02 25	55.3	3 809
1987 SK1	1987 09	27.35243	23 58	26.69	-02 31	58.3	3 809
1987 SK1	1987 09	27.35729	23 58	26.39	-02 31	59.1	3 809
1987 SK1	1987 09	27.36215	23 58	26.09	-02 31	59.9	3 809
1987 SK1	1987 10	01.27187	23 54	25.23	-02 38	59.7	3 809
1987 SK1	1987 10	01.27673	23 54	24.92	-02 39	00.2	3 809
1987 SK1	1987 10	01.28160	23 54	24.62	-02 39	00.6	3 809
1987 SK1	1987 10	01.32673	23 54	21.73	-02 39	05.5	3 809
1987 SK1	1987 10	01.33160	23 54	21.48	-02 39	05.4	3 809
1987 SK1	1987 10	01.33646	23 54	21.14	-02 39	06.1	3 809
1987 SK1	1987 10	02.31979	23 53	21.82	-02 40	39.3	3 809
1987 SK1	1987 10	02.32465	23 53	21.51	-02 40	39.8	3 809

17.0

1987 SK1	1987 10	02.32951	23 53	21.22	-02 40	40.4		3 809
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1987 SL1	1987 09	19.27396	00 07	00.49	+00 46	29.7		3 809
1987 SL1	1987 09	19.27882	00 07	00.21	+00 46	28.5		3 809
1987 SL1	1987 09	19.28368	00 06	59.94	+00 46	27.4		3 809
1987 SL1	1987 09	24.25729	00 02	26.62	+00 25	30.6		3 809
1987 SL1	1987 09	24.26215	00 02	26.35	+00 25	29.4		3 809
1987 SL1	1987 09	24.26701	00 02	26.09	+00 25	28.4		3 809
1987 SL1	1987 10	01.25590	23 55	58.46	-00 04	19.5		3 809
1987 SL1	1987 10	01.26076	23 55	58.18	-00 04	20.7		3 809
1987 SL1	1987 10	01.26562	23 55	57.91	-00 04	22.0		3 809
1987 SL1	1987 10	02.30451	23 55	01.40	-00 08	40.1		3 809
1987 SL1	1987 10	02.30937	23 55	01.14	-00 08	41.3		3 809
1987 SL1	1987 10	02.31424	23 55	00.86	-00 08	42.6		3 809
1987 SN1	1987 09	23.14305	00 11	22.84	-02 14	04.5	16.6	3 809
1987 SN1	1987 09	23.14809	00 11	22.59	-02 14	06.0		3 809
1987 SN1	1987 09	23.15312	00 11	22.35	-02 14	07.3		3 809
1987 SN1	1987 09	24.30173	00 10	23.41	-02 19	45.3		3 809
1987 SN1	1987 09	24.30660	00 10	23.14	-02 19	46.7		3 809
1987 SN1	1987 09	24.31146	00 10	22.88	-02 19	48.2		3 809
1987 SN1	1987 09	26.13437	00 08	50.04	-02 28	36.2		3 809
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1987 SN1	1987 09	26.14410	00 08	49.56	-02 28	38.8		3 809
1987 SN1	1987 10	01.30868	00 04	27.19	-02 52	38.2		3 809
1987 SN1	1987 10	01.31354	00 04	26.95	-02 52	39.5		3 809
1987 SN1	1987 10	01.31840	00 04	26.71	-02 52	40.8		3 809
1987 SP2	1987 10	01.36076	00 40	43.11	-04 44	25.4	16.5	3 809
1987 SP2	1987 10	01.36562	00 40	42.81	-04 44	25.6		3 809
1987 SP2	1987 10	01.37048	00 40	42.46	-04 44	25.9		3 809
1987 SV2	1987 09	17.24965	00 50	59.74	+06 21	35.7	16.1	3 809
1987 SV2	1987 09	17.25451	00 50	59.54	+06 21	34.7		3 809
1987 SV2	1987 09	17.25937	00 50	59.34	+06 21	33.7		3 809
1987 SV2	1987 09	19.35173	00 49	31.47	+06 13	29.0		3 809
1987 SV2	1987 09	19.35659	00 49	31.27	+06 13	27.9		3 809
1987 SV2	1987 09	19.36146	00 49	31.08	+06 13	26.9		3 809
1987 SV2	1987 09	23.17048	00 46	43.81	+05 57	48.0		3 809
1987 SV2	1987 09	23.17535	00 46	43.60	+05 57	46.7		3 809
1987 SV2	1987 09	23.18021	00 46	43.40	+05 57	45.3		3 809
1987 SV2	1987 09	24.32396	00 45	51.21	+05 52	51.5		3 809
1987 SV2	1987 09	24.32882	00 45	50.98	+05 52	50.2		3 809
1987 SV2	1987 09	24.33368	00 45	50.74	+05 52	49.0		3 809
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1987 SV2	1987 09	26.17048	00 44	26.27	+05 44	45.3		3 809
1987 SV2	1987 09	26.17535	00 44	26.05	+05 44	44.1		3 809
1987 SL3	1987 09	16.03020	22 38	50.87	-01 12	37.2		3 809
1987 SL3	1987 09	16.03507	22 38	50.65	-01 12	37.7		3 809
1987 SL3	1987 09	18.05798	22 37	18.59	-01 17	30.2		3 809
1987 SL3	1987 09	18.06285	22 37	18.36	-01 17	30.8		3 809
1987 SL3	1987 09	23.05451	22 33	42.91	-01 29	32.3		3 809
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1987 SL3	1987 09	23.06424	22 33	42.49	-01 29	33.7		3 809
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1987 SL3	1987 09	26.05659	22 31	42.92	-01 36	34.7		3 809
1987 SL3	1987 09	26.06146	22 31	42.72	-01 36	35.3		3 809
1987 SL3	1987 09	26.06632	22 31	42.52	-01 36	35.9		3 809
1987 SL3	1987 09	27.06632	22 31	04.44	-01 38	53.3		3 809
1987 SL3	1987 09	27.07118	22 31	04.25	-01 38	54.0		3 809

1987 SL3	1987 09	27.07604	22 31	04.07	-01 38	54.6	3 809
1987 SL3	1987 09	28.15521	22 30	23.91	-01 41	20.6	3 809
1987 SL3	1987 09	28.16007	22 30	23.71	-01 41	21.3	3 809
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1987 SL3	1987 09	29.05104	22 29	51.72	-01 43	19.5	3 809
1987 SL3	1987 09	29.05590	22 29	51.57	-01 43	20.2	3 809
1987 SL3	1987 09	29.06076	22 29	51.41	-01 43	21.1	3 809
1987 SM3	1987 09	18.05798	22 38	24.67	-01 02	00.0	3 809
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1987 SN3	1987 09	16.03020	22 37	57.19	-00 28	58.0	3 809
1987 SN3	1987 09	16.03507	22 37	56.99	-00 29	01.0	3 809
1987 SN3	1987 09	18.05798	22 36	36.21	-00 48	58.4	3 809
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1987 SN3	1987 09	28.15521	22 31	12.72	-02 24	59.4	3 809
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1987 SN3	1987 09	29.05104	22 30	52.13	-02 32	57.8	3 809
1987 SN3	1987 09	29.05590	22 30	52.01	-02 33	00.4	3 809
1987 SN3	1987 09	29.06076	22 30	51.89	-02 33	03.1	3 809
1987 SS3	1987 09	14.11493	22 46	37.26	-10 34	19.8	3 809
1987 SS3	1987 09	14.11979	22 46	37.02	-10 34	21.3	3 809
1987 SS3	1987 09	16.04062	22 45	03.79	-10 43	53.0	3 809
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1987 SS3	1987 09	18.07326	22 43	29.09	-10 53	19.6	3 809
1987 SS3	1987 09	18.07812	22 43	28.86	-10 53	21.0	3 809
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1987 SS3	1987 09	26.08160	22 38	10.43	-11 23	20.7	3 809
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1987 SS3	1987 09	28.17604	22 37	03.42	-11 29	08.2	3 809
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1987 SV3	1987 09	16.19062	23 45	36.59	-05 06	08.3	3 809
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1987 SV3	1987 09	18.30798	23 43	15.82	-05 03	51.4	3 809
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1987 SV3	1987 09	18.31771	23 43	15.18	-05 03	50.9	3 809
1987 SV3	1987 09	24.24479	23 36	46.52	-04 56	09.1	3 809
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1987 SV3	1987 09	27.33576	23 33	31.71	-04 51	05.9	3 809
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1987 SV3	1987 09	28.12326	23 32	44.14	-04 49	41.2	3 809
1987 SV3	1987 09	28.12812	23 32	43.83	-04 49	41.0	3 809
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1987 SA4	1987 09	19.28923	00 12	23.72	-01 20	10.1	3 809
1987 SA4	1987 09	19.29409	00 12	23.59	-01 20	12.1	3 809
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1987 SA4	1987 09	24.30173	00 09	58.32	-01 55	58.7	3 809
1987 SA4	1987 09	24.30660	00 09	58.16	-01 56	00.8	3 809
1987 SA4	1987 09	24.31146	00 09	58.00	-01 56	02.9	3 809
1987 SA4	1987 09	26.13437	00 09	03.04	-02 09	09.2	3 809
1987 SA4	1987 09	26.13923	00 09	02.89	-02 09	11.3	3 809
1987 SA4	1987 09	26.14410	00 09	02.73	-02 09	13.4	3 809
1987 SA4	1987 10	01.30868	00 06	23.64	-02 45	30.9	3 809
1987 SA4	1987 10	01.31354	00 06	23.48	-02 45	33.0	3 809
1987 SA4	1987 10	01.31840	00 06	23.32	-02 45	35.0	3 809
1987 SC6	1987 09	17.21771	00 08	40.62	+00 22	17.4	16.8 3 809
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1987 SC6	1987 09	17.22743	00 08	40.20	+00 22	14.4	3 809
1987 SC6	1987 09	19.27396	00 07	12.14	+00 11	46.7	3 809
1987 SC6	1987 09	19.27882	00 07	11.93	+00 11	45.2	3 809
1987 SC6	1987 09	19.28368	00 07	11.71	+00 11	43.7	3 809
1987 SC6	1987 09	24.25729	00 03	34.74	-00 13	57.9	3 809
1987 SC6	1987 09	24.26215	00 03	34.52	-00 13	59.4	3 809
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1987 SC6	1987 10	01.25590	23 58	32.32	-00 49	31.1	3 809
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1987 SC6	1987 10	01.26562	23 58	31.90	-00 49	33.9	3 809
1987 SC6	1987 10	02.30451	23 57	48.20	-00 54	41.4	3 809
1987 SC6	1987 10	02.30937	23 57	48.00	-00 54	42.8	3 809
1987 SC6	1987 10	02.31424	23 57	47.79	-00 54	44.2	3 809
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1987 SF6	1987 09	23.12766	00 11	41.33	-00 40	56.8	3 809
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1987 SF6	1987 09	24.28715	00 10	55.78	-00 52	41.7	3 809
1987 SF6	1987 09	24.29201	00 10	55.61	-00 52	44.6	3 809
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1987 SF6	1987 10	01.29409	00 06	24.92	-02 02	11.2	3 809
1987 SF6	1987 10	01.29896	00 06	24.72	-02 02	13.8	3 809
1987 SF6	1987 10	01.30382	00 06	24.50	-02 02	16.7	3 809
1987 SF6	1987 10	02.26250	00 05	48.80	-02 11	24.2	3 809
1987 SF6	1987 10	02.26667	00 05	48.65	-02 11	26.6	3 809
1987 SF6	1987 10	02.27083	00 05	48.50	-02 11	28.9	3 809

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1987 SA7	1987 09	24.35729	01 05	40.88	+00 37	46.2		3 809
1987 SA7	1987 09	24.36215	01 05	40.70	+00 37	43.8		3 809
1987 SA7	1987 09	24.36701	01 05	40.51	+00 37	41.4		3 809
1987 SA7	1987 09	26.18090	01 04	31.75	+00 22	56.9		3 809
1987 SA7	1987 09	26.18576	01 04	31.55	+00 22	54.5		3 809
1987 SA7	1987 09	26.19062	01 04	31.35	+00 22	52.1		3 809
1987 SA7	1987 09	30.37257	01 01	44.75	-00 11	12.9		3 809
1987 SA7	1987 09	30.37743	01 01	44.54	-00 11	15.1		3 809
1987 SA7	1987 09	30.38229	01 01	44.35	-00 11	17.4		3 809
1987 SA7	1987 10	01.37569	01 01	03.67	-00 19	22.5		3 809
1987 SA7	1987 10	01.37986	01 01	03.50	-00 19	24.4		3 809
1987 SA7	1987 10	01.38403	01 01	03.35	-00 19	26.3		3 809
1987 SW9	1987 09	19.36632	00 55	45.63	+03 00	13.2	17.4	3 809
1987 SW9	1987 09	19.37118	00 55	45.42	+03 00	11.3		3 809
1987 SW9	1987 09	19.37604	00 55	45.20	+03 00	09.3		3 809
1987 SL11	1987 09	19.12812	22 37	28.98	-07 34	30.7	17.3	3 809
1987 SL11	1987 09	19.13298	22 37	28.74	-07 34	32.3		3 809
1987 SL11	1987 09	19.13784	22 37	28.51	-07 34	33.5		3 809
1987 SM11	1987 09	16.13993	22 53	29.75	-05 58	01.2		3 809
1987 SN11	1987 09	17.22743	00 14	32.74	+00 45	59.2		3 809
1987 SN11	1987 09	19.27396	00 13	06.04	+00 35	11.0		3 809
1987 SN11	1987 09	19.27882	00 13	05.83	+00 35	09.4		3 809
1987 SN11	1987 09	19.28368	00 13	05.63	+00 35	07.9		3 809
1987 SN11	1987 09	23.12766	00 10	18.80	+00 14	26.0		3 809
1987 SN11	1987 09	23.13264	00 10	18.57	+00 14	24.4		3 809
1987 SN11	1987 09	23.13762	00 10	18.35	+00 14	22.7		3 809
1987 SN11	1987 09	24.28715	00 09	27.40	+00 08	07.2		3 809
1987 SN11	1987 09	24.29201	00 09	27.18	+00 08	05.5		3 809
1987 SN11	1987 09	24.29687	00 09	26.96	+00 08	04.0		3 809
1987 SN11	1987 09	26.11979	00 08	06.40	-00 01	52.7		3 809
1987 SN11	1987 09	26.12465	00 08	06.19	-00 01	54.2		3 809
1987 SN11	1987 09	26.12951	00 08	05.99	-00 01	55.8		3 809
1987 SO11	1987 09	17.24201	00 10	30.40	-01 38	47.9		3 809
1987 SO11	1987 09	19.28923	00 08	52.29	-01 57	00.7		3 809
1987 SO11	1987 09	19.29409	00 08	52.04	-01 57	03.3		3 809
1987 SO11	1987 09	19.29896	00 08	51.81	-01 57	06.0		3 809
1987 SO11	1987 09	23.14305	00 05	45.07	-02 31	07.0		3 809
1987 SO11	1987 09	23.14809	00 05	44.83	-02 31	09.7		3 809
1987 SO11	1987 09	23.15312	00 05	44.58	-02 31	12.0		3 809
1987 SO11	1987 09	24.27187	00 04	49.52	-02 40	59.3		3 809
1987 SO11	1987 09	24.27673	00 04	49.27	-02 41	01.8		3 809
1987 SO11	1987 09	24.28160	00 04	49.03	-02 41	04.3		3 809
1987 SO11	1987 10	01.27187	23 59	14.13	-03 39	43.6		3 809
1987 SO11	1987 10	01.27673	23 59	13.88	-03 39	45.7		3 809
1987 SO11	1987 10	01.28160	23 59	13.64	-03 39	47.9		3 809
1987 SO11	1987 10	02.31979	23 58	25.88	-03 48	00.6		3 809
1987 SO11	1987 10	02.32465	23 58	25.64	-03 48	02.9		3 809
1987 SO11	1987 10	02.32951	23 58	25.41	-03 48	05.2		3 809
1987 SP11	1987 09	17.24201	00 12	19.26	-02 15	26.4		3 809
1987 SP11	1987 09	19.28923	00 10	46.98	-02 30	36.4		3 809
1987 SP11	1987 09	19.29409	00 10	46.77	-02 30	38.6		3 809
1987 SP11	1987 09	19.29896	00 10	46.55	-02 30	40.8		3 809

1987 SP11	1987 09	23.14305	00 07	48.90	-02 59	04.8		3 809
1987 SP11	1987 09	23.14809	00 07	48.66	-02 59	07.0		3 809
1987 SP11	1987 09	23.15312	00 07	48.42	-02 59	09.2		3 809
1987 SP11	1987 09	24.27187	00 06	55.53	-03 07	19.2		3 809
1987 SP11	1987 09	24.27673	00 06	55.30	-03 07	21.4		3 809
1987 SP11	1987 09	24.28160	00 06	55.06	-03 07	23.2		3 809
1987 SQ11	1987 09	17.24201	00 14	25.90	-00 49	45.0		3 809
1987 SR11	1987 09	18.16146	22 44	43.68	-07 23	42.1		3 809
1987 SR11	1987 09	19.16007	22 43	59.66	-07 33	53.5		3 809
1987 SR11	1987 09	19.16493	22 43	59.44	-07 33	56.5		3 809
1987 SR11	1987 09	19.16979	22 43	59.21	-07 33	59.5		3 809
1987 SS11	1987 09	18.16146	22 51	30.66	-08 11	59.0		3 809
1987 SS11	1987 09	19.16007	22 50	49.06	-08 16	43.3		3 809
1987 SS11	1987 09	19.16493	22 50	48.85	-08 16	44.8		3 809
1987 SS11	1987 09	19.16979	22 50	48.64	-08 16	46.1		3 809
1987 SS11	1987 09	23.24965	22 48	04.02	-08 35	30.6		3 809
1987 SS11	1987 09	23.25451	22 48	03.82	-08 35	32.0		3 809
1987 SS11	1987 09	23.25937	22 48	03.62	-08 35	33.3		3 809
1987 SS11	1987 09	24.14271	22 47	29.41	-08 39	27.6		3 809
1987 SS11	1987 09	24.14792	22 47	29.20	-08 39	29.0		3 809
1987 SS11	1987 09	24.15312	22 47	28.99	-08 39	30.1		3 809
1987 ST11	1987 09	23.39444	01 03	44.83	-00 27	04.1		3 809
1987 ST11	1987 09	23.39861	01 03	44.62	-00 27	04.9		3 809
1987 ST11	1987 09	24.35729	01 02	55.81	-00 30	03.6		3 809
1987 ST11	1987 09	24.36215	01 02	55.57	-00 30	04.5		3 809
1987 ST11	1987 09	24.36701	01 02	55.32	-00 30	05.4		3 809
1987 ST11	1987 09	26.18090	01 01	20.39	-00 35	44.0		3 809
1987 ST11	1987 09	26.18576	01 01	20.13	-00 35	44.9		3 809
1987 ST11	1987 09	26.19062	01 01	19.85	-00 35	45.8		3 809
1987 ST11	1987 09	30.37257	00 57	27.53	-00 48	33.6		3 809
1987 ST11	1987 09	30.37743	00 57	27.26	-00 48	34.4		3 809
1987 ST11	1987 09	30.38229	00 57	26.99	-00 48	35.2		3 809
1987 SU11	1987 09	16.17604	23 45	31.91	-03 00	55.0	17.6	3 809
1987 SU11	1987 09	16.18090	23 45	31.68	-03 00	57.3		3 809
1987 SU11	1987 09	16.18576	23 45	31.44	-03 00	59.8		3 809
1987 SU11	1987 09	18.29340	23 43	52.08	-03 17	11.0		3 809
1987 SU11	1987 09	18.29826	23 43	51.85	-03 17	13.0		3 809
1987 SU11	1987 09	18.30312	23 43	51.65	-03 17	15.0		3 809
1987 SU11	1987 09	24.24479	23 39	13.84	-04 01	56.8		3 809
1987 SU11	1987 09	24.24965	23 39	13.62	-04 01	58.6		3 809
1987 SU11	1987 09	28.12326	23 36	22.09	-04 29	16.2		3 809
1987 SU11	1987 09	28.12812	23 36	21.90	-04 29	18.2		3 809
1987 SU11	1987 09	28.13298	23 36	21.69	-04 29	20.0		3 809
1987 SV11	1987 09	24.24479	23 40	25.94	-05 34	03.5		3 809
1987 SV11	1987 09	24.24965	23 40	25.66	-05 34	04.8		3 809
1987 SV11	1987 09	26.35173	23 38	24.77	-05 42	53.4		3 809
1987 SV11	1987 09	26.35659	23 38	24.53	-05 42	54.6		3 809
1987 SV11	1987 09	26.36146	23 38	24.26	-05 42	55.9		3 809
1987 SV11	1987 09	28.12326	23 36	44.78	-05 50	03.8		3 809
1987 SV11	1987 09	28.12812	23 36	44.51	-05 50	05.2		3 809
1987 SV11	1987 09	28.13298	23 36	44.24	-05 50	06.4		3 809
1987 SV11	1987 10	01.23715	23 33	52.22	-06 01	59.1		3 809
1987 SV11	1987 10	01.24201	23 33	51.96	-06 02	00.2		3 809
1987 SV11	1987 10	01.24687	23 33	51.70	-06 02	01.3		3 809
1987 SW11	1987 09	16.17604	23 39	14.26	-03 00	55.2	17.2	3 809
1987 SW11	1987 09	16.18090	23 39	14.04	-03 00	57.4		3 809
1987 SW11	1987 09	16.18576	23 39	13.80	-03 00	59.6		3 809
1987 SW11	1987 09	17.14271	23 38	29.47	-03 08	13.9		3 809
1987 SW11	1987 09	17.14757	23 38	29.26	-03 08	16.1		3 809

1987 SW11	1987 09	17.15243	23 38	29.02	-03 08	18.2		3 809
1987 SW11	1987 09	18.29340	23 37	35.89	-03 16	54.1		3 809
1987 SW11	1987 09	18.29826	23 37	35.63	-03 16	56.4		3 809
1987 SW11	1987 09	18.30312	23 37	35.41	-03 16	58.6		3 809
1987 SW11	1987 09	23.11076	23 33	55.30	-03 52	41.1		3 809
1987 SW11	1987 09	23.11562	23 33	55.08	-03 52	43.3		3 809
1987 SW11	1987 09	23.12048	23 33	54.85	-03 52	45.4		3 809
1987 SW11	1987 09	26.09340	23 31	42.61	-04 14	08.7		3 809
1987 SW11	1987 09	26.09826	23 31	42.39	-04 14	10.7		3 809
1987 SX11	1987 09	16.17604	23 41	50.82	-02 37	03.6	17.5	3 809
1987 SX11	1987 09	16.18090	23 41	50.63	-02 37	12.2		3 809
1987 SX11	1987 09	16.18576	23 41	50.44	-02 37	20.8		3 809
1987 SX11	1987 09	17.14271	23 41	23.50	-03 05	41.6		3 809
1987 SX11	1987 09	17.14757	23 41	23.34	-03 05	50.2		3 809
1987 SX11	1987 09	17.15243	23 41	23.18	-03 05	58.9		3 809
1987 SX11	1987 09	18.30798	23 40	49.34	-03 40	30.3		3 809
1987 SX11	1987 09	18.31285	23 40	49.15	-03 40	39.0		3 809
1987 SX11	1987 09	18.31771	23 40	48.98	-03 40	47.9		3 809
1987 SX11	1987 09	26.10868	23 37	02.24	-07 37	48.3		3 809
1987 SX11	1987 09	26.11354	23 37	02.09	-07 37	57.3		3 809
1987 SY11	1987 09	26.10868	23 38	27.47	-06 58	39.2		3 809
1987 SY11	1987 09	26.11354	23 38	27.25	-06 58	39.5		3 809
1987 SK12	1987 09	16.15486	22 51	59.74	-10 01	09.6		3 809
1987 SK12	1987 09	18.16632	22 50	08.26	-10 11	49.0		3 809
1987 SK12	1987 09	18.17118	22 50	07.99	-10 11	50.4		3 809
1987 SK12	1987 09	18.17604	22 50	07.72	-10 11	52.0		3 809
1987 SK12	1987 09	19.17465	22 49	13.55	-10 16	58.8		3 809
1987 SK12	1987 09	19.17951	22 49	13.29	-10 17	00.3		3 809
1987 SK12	1987 09	19.18437	22 49	13.01	-10 17	01.9		3 809
1987 SL12*	1987 09	16.17604	23 39	06.76	-01 42	25.6	17.1	3 809
1987 SL12	1987 09	16.18090	23 39	06.54	-01 42	27.0		3 809
1987 SL12	1987 09	16.18576	23 39	06.32	-01 42	28.2		3 809
1987 SL12	1987 09	18.29340	23 37	30.63	-01 52	19.0		3 809
1987 SL12	1987 09	18.29826	23 37	30.41	-01 52	20.5		3 809
1987 SL12	1987 09	18.30312	23 37	30.18	-01 52	22.0		3 809
1987 SM12*	1987 09	16.20764	23 09	44.55	-05 05	39.0	17.5	3 809
1987 SM12	1987 09	16.21215	23 09	44.33	-05 05	40.2		3 809
1987 SM12	1987 09	16.21736	23 09	44.07	-05 05	41.5		3 809
1987 SM12	1987 09	18.21146	23 08	10.52	-05 14	31.3		3 809
1987 SM12	1987 09	18.21632	23 08	10.29	-05 14	32.6		3 809
1987 SM12	1987 09	18.22118	23 08	10.08	-05 14	33.9		3 809
1987 SM12	1987 09	19.20799	23 07	24.33	-05 18	53.3		3 809
1987 SM12	1987 09	19.21284	23 07	24.13	-05 18	54.6		3 809
1987 SM12	1987 09	24.17535	23 03	41.47	-05 39	49.5		3 809
1987 SM12	1987 09	24.18021	23 03	41.25	-05 39	50.8		3 809
1987 SM12	1987 09	24.18507	23 03	41.05	-05 39	51.9		3 809
1987 SM12	1987 09	25.17604	23 02	58.44	-05 43	51.4		3 809
1987 SM12	1987 09	25.18090	23 02	58.24	-05 43	52.8		3 809
1987 SM12	1987 09	25.18576	23 02	58.03	-05 43	53.7		3 809
1987 SM12	1987 09	27.21771	23 01	32.91	-05 51	49.7		3 809
1987 SM12	1987 09	27.22257	23 01	32.71	-05 51	50.9		3 809
1987 SM12	1987 09	27.22743	23 01	32.49	-05 51	52.0		3 809
1987 SN12*	1987 09	16.24271	23 18	53.51	-05 51	23.3	17.1	3 809
1987 SN12	1987 09	16.24757	23 18	53.28	-05 51	25.1		3 809
1987 SN12	1987 09	16.25243	23 18	53.06	-05 51	27.0		3 809
1987 SN12	1987 09	18.22882	23 17	23.44	-06 02	53.9		3 809
1987 SN12	1987 09	18.23368	23 17	23.20	-06 02	55.6		3 809
1987 SN12	1987 09	18.23854	23 17	22.98	-06 02	57.3		3 809
1987 SN12	1987 09	23.29687	23 13	43.64	-06 30	36.4		3 809

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1987	SN12	1987	09	23.30660	23	13	43.20	-06	30	39.3		3	809
1987	SN12	1987	09	24.07882	23	13	12.16	-06	34	37.2		3	809
1987	SN12	1987	09	24.08368	23	13	11.97	-06	34	38.7		3	809
1987	SN12	1987	09	24.08854	23	13	11.77	-06	34	40.2		3	809
1987	SN12	1987	09	27.23437	23	11	08.53	-06	49	56.3		3	809
1987	SN12	1987	09	27.23924	23	11	08.34	-06	49	57.6		3	809
1987	SN12	1987	09	27.24409	23	11	08.16	-06	49	58.9		3	809
1987	SN12	1987	09	28.19826	23	10	33.29	-06	54	19.0		3	809
1987	SN12	1987	09	28.20451	23	10	33.06	-06	54	20.6		3	809
1987	SN12	1987	09	28.20937	23	10	32.88	-06	54	22.0		3	809
1987	SO12*	1987	09	16.25729	23	20	22.20	-07	26	48.0	17.1	3	809
1987	SO12	1987	09	16.26215	23	20	21.98	-07	26	51.0		3	809
1987	SO12	1987	09	16.26736	23	20	21.73	-07	26	54.0		3	809
1987	SO12	1987	09	18.24375	23	18	51.14	-07	46	11.9		3	809
1987	SO12	1987	09	18.24896	23	18	50.90	-07	46	14.9		3	809
1987	SO12	1987	09	18.25382	23	18	50.68	-07	46	17.9		3	809
1987	SO12	1987	09	23.31146	23	15	05.44	-08	33	47.1		3	809
1987	SO12	1987	09	23.31632	23	15	05.23	-08	33	49.9		3	809
1987	SO12	1987	09	23.32118	23	15	05.01	-08	33	52.6		3	809
1987	SO12	1987	09	27.24896	23	12	23.01	-09	08	03.6		3	809
1987	SO12	1987	09	27.25382	23	12	22.80	-09	08	06.2		3	809
1987	SO12	1987	09	27.25868	23	12	22.62	-09	08	08.5		3	809
1987	SO12	1987	10	01.17674	23	09	57.50	-09	39	11.5		3	809
1987	SO12	1987	10	01.18159	23	09	57.34	-09	39	13.8		3	809
1987	SO12	1987	10	01.18646	23	09	57.14	-09	39	16.2		3	809
1987	SP12*	1987	09	16.28229	23	26	16.49	-02	21	57.4	17.0	3	809
1987	SP12	1987	09	16.28715	23	26	16.27	-02	21	59.2		3	809
1987	SP12	1987	09	16.29201	23	26	16.06	-02	22	01.0		3	809
1987	SP12	1987	09	18.27604	23	24	54.71	-02	34	01.7		3	809
1987	SP12	1987	09	18.28090	23	24	54.52	-02	34	03.4		3	809
1987	SP12	1987	09	18.28576	23	24	54.32	-02	34	05.2		3	809
1987	SP12	1987	09	19.31701	23	24	12.21	-02	40	21.2		3	809
1987	SP12	1987	09	19.32187	23	24	12.02	-02	40	22.8		3	809
1987	SP12	1987	09	19.32673	23	24	11.81	-02	40	24.6		3	809
1987	SP12	1987	09	24.19271	23	20	58.15	-03	09	33.0		3	809
1987	SP12	1987	09	24.19757	23	20	57.96	-03	09	34.9		3	809
1987	SP12	1987	09	24.20243	23	20	57.74	-03	09	36.6		3	809
1987	SP12	1987	09	27.26632	23	19	01.88	-03	27	22.3		3	809
1987	SP12	1987	09	27.27118	23	19	01.70	-03	27	23.9		3	809
1987	SP12	1987	09	27.27604	23	19	01.51	-03	27	25.4		3	809
1987	SQ12*	1987	09	16.28229	23	27	28.88	-02	35	30.1	17.3	3	809
1987	SQ12	1987	09	16.28715	23	27	28.71	-02	35	30.5		3	809
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1987	SQ12	1987	09	18.27604	23	25	49.19	-02	41	42.2		3	809
1987	SQ12	1987	09	18.28090	23	25	48.92	-02	41	43.4		3	809
1987	SQ12	1987	09	18.28576	23	25	48.66	-02	41	44.0		3	809
1987	SQ12	1987	09	19.31701	23	24	56.30	-02	45	00.2		3	809
1987	SQ12	1987	09	19.32187	23	24	56.04	-02	45	01.1		3	809
1987	SQ12	1987	09	19.32673	23	24	55.78	-02	45	01.9		3	809
1987	SQ12	1987	09	24.19271	23	20	49.13	-03	00	29.7		3	809
1987	SQ12	1987	09	24.19757	23	20	48.89	-03	00	30.4		3	809
1987	SQ12	1987	09	24.20243	23	20	48.64	-03	00	31.7		3	809
1987	SR12*	1987	09	16.28229	23	28	29.22	-02	36	52.3	17.0	3	809
1987	SR12	1987	09	16.28715	23	28	28.98	-02	36	55.1		3	809
1987	SR12	1987	09	16.29201	23	28	28.73	-02	36	57.6		3	809
1987	SR12	1987	09	18.27604	23	26	47.69	-02	54	25.2		3	809
1987	SR12	1987	09	18.28090	23	26	47.43	-02	54	27.8		3	809
1987	SR12	1987	09	18.28576	23	26	47.18	-02	54	30.3		3	809

1987 SR12	1987 09	19.31701	23 25	55.16	-03 03	31.0		3 809
1987 SR12	1987 09	19.32187	23 25	54.91	-03 03	33.6		3 809
1987 SR12	1987 09	19.32673	23 25	54.66	-03 03	36.1		3 809
1987 SR12	1987 09	24.19271	23 21	58.23	-03 44	58.3		3 809
1987 SR12	1987 09	24.19757	23 21	58.00	-03 45	00.9		3 809
1987 SR12	1987 09	24.20243	23 21	57.76	-03 45	03.1		3 809
1987 SR12	1987 09	27.26632	23 19	38.67	-04 09	44.4		3 809
1987 SR12	1987 09	27.27118	23 19	38.45	-04 09	46.8		3 809
1987 SR12	1987 09	27.27604	23 19	38.22	-04 09	49.0		3 809
1987 SR12	1987 09	28.23159	23 18	57.07	-04 17	15.1		3 809
1987 SR12	1987 09	28.23646	23 18	56.86	-04 17	17.3		3 809
1987 SR12	1987 09	28.24132	23 18	56.65	-04 17	19.6		3 809
1987 SS12*	1987 09	17.21771	00 11	18.93	+01 12	26.7	17.2	3 809
1987 SS12	1987 09	17.22257	00 11	18.70	+01 12	26.0		3 809
1987 SS12	1987 09	17.22743	00 11	18.47	+01 12	25.1		3 809
1987 SS12	1987 09	19.27396	00 09	45.81	+01 05	41.1		3 809
1987 SS12	1987 09	19.27882	00 09	45.60	+01 05	40.1		3 809
1987 SS12	1987 09	19.28368	00 09	45.38	+01 05	39.3		3 809
1987 ST12*	1987 09	18.22882	23 17	40.27	-05 04	24.7	17.6	3 809
1987 ST12	1987 09	18.23368	23 17	40.04	-05 04	26.8		3 809
1987 ST12	1987 09	18.23854	23 17	39.81	-05 04	28.9		3 809
1987 SU12*	1987 09	18.22882	23 18	09.94	-05 00	14.7	17.5	3 809
1987 SU12	1987 09	18.23368	23 18	09.72	-05 00	15.9		3 809
1987 SU12	1987 09	18.23854	23 18	09.51	-05 00	17.0		3 809
1987 SV12*	1987 09	18.24375	23 17	57.31	-09 03	53.0	17.0	3 809
1987 SV12	1987 09	18.24896	23 17	57.08	-09 03	54.3		3 809
1987 SV12	1987 09	18.25382	23 17	56.88	-09 03	55.6		3 809
1987 SV12	1987 09	23.31146	23 14	22.84	-09 23	25.8		3 809
1987 SV12	1987 09	23.31632	23 14	22.63	-09 23	26.9		3 809
1987 SV12	1987 09	23.32118	23 14	22.42	-09 23	28.0		3 809
1987 SV12	1987 09	27.24896	23 11	47.04	-09 36	33.4		3 809
1987 SV12	1987 09	27.25382	23 11	46.84	-09 36	34.4		3 809
1987 SV12	1987 09	27.25868	23 11	46.63	-09 36	35.1		3 809
1987 SV12	1987 10	01.17674	23 09	25.01	-09 47	30.3		3 809
1987 SV12	1987 10	01.18159	23 09	24.82	-09 47	31.1		3 809
1987 SV12	1987 10	01.18646	23 09	24.65	-09 47	31.9		3 809
1987 SW12*	1987 09	19.27396	00 05	31.53	-00 18	51.7	16.7	3 809
1987 SW12	1987 09	19.27882	00 05	31.32	-00 18	54.2		3 809
1987 SW12	1987 09	19.28368	00 05	31.11	-00 18	56.6		3 809
1987 SW12	1987 09	24.25729	00 02	05.89	-00 53	07.6		3 809
1987 SW12	1987 09	24.26215	00 02	05.70	-00 53	09.6		3 809
1987 SW12	1987 09	24.26701	00 02	05.50	-00 53	11.6		3 809
1987 SW12	1987 10	01.25590	23 57	16.90	-01 40	48.1		3 809
1987 SW12	1987 10	01.26076	23 57	16.69	-01 40	50.0		3 809
1987 SW12	1987 10	01.26562	23 57	16.49	-01 40	52.0		3 809
1987 SW12	1987 10	02.30451	23 56	34.56	-01 47	45.6		3 809
1987 SW12	1987 10	02.30937	23 56	34.36	-01 47	47.8		3 809
1987 SW12	1987 10	02.31424	23 56	34.17	-01 47	49.7		3 809
1987 SX12*	1987 09	19.27396	00 06	08.05	+00 32	30.0	17.0	3 809
1987 SX12	1987 09	19.27882	00 06	07.80	+00 32	27.8		3 809
1987 SX12	1987 09	19.28368	00 06	07.56	+00 32	25.5		3 809
1987 SX12	1987 09	24.25729	00 02	04.99	-00 06	23.6		3 809
1987 SX12	1987 09	24.26215	00 02	04.76	-00 06	25.6		3 809
1987 SX12	1987 09	24.26701	00 02	04.52	-00 06	27.7		3 809
1987 SX12	1987 10	01.25590	23 56	28.38	-01 00	06.7		3 809
1987 SX12	1987 10	01.26076	23 56	28.12	-01 00	08.9		3 809
1987 SX12	1987 10	01.26562	23 56	27.88	-01 00	11.2		3 809
1987 SY12*	1987 09	19.33368	00 03	27.84	+00 54	59.0	17.5	3 809
1987 SY12	1987 09	19.33854	00 03	27.56	+00 54	56.5		3 809

1987 SY12	1987 09	19.34340	00 03	27.29	+00 54	53.8		3 809
1987 SY12	1987 09	24.20799	23 58	53.19	+00 11	52.6		3 809
1987 SY12	1987 09	24.21284	23 58	52.89	+00 11	50.1		3 809
1987 SY12	1987 09	24.21771	23 58	52.59	+00 11	47.6		3 809
1987 SZ12*	1987 09	19.35173	00 50	24.74	+06 34	55.7		3 809
1987 SZ12	1987 09	19.35659	00 50	24.45	+06 34	54.7		3 809
1987 SZ12	1987 09	19.36146	00 50	24.19	+06 34	53.7		3 809
1987 SA13*	1987 09	23.18576	23 57	31.95	-01 57	07.4	17.0	3 809
1987 SA13	1987 09	23.19062	23 57	31.76	-01 57	10.2		3 809
1987 SA13	1987 09	23.19548	23 57	31.56	-01 57	12.7		3 809
1987 SA13	1987 09	24.33923	23 56	48.72	-02 07	32.2		3 809
1987 SA13	1987 09	24.34410	23 56	48.54	-02 07	34.7		3 809
1987 SA13	1987 09	24.34896	23 56	48.36	-02 07	37.4		3 809
1987 SA13	1987 09	27.35243	23 54	57.73	-02 34	22.6		3 809
1987 SA13	1987 09	27.35729	23 54	57.54	-02 34	25.3		3 809
1987 SA13	1987 09	27.36215	23 54	57.36	-02 34	27.9		3 809
1987 SA13	1987 10	01.32673	23 52	36.21	-03 08	38.5		3 809
1987 SA13	1987 10	01.33160	23 52	36.04	-03 08	40.5		3 809
1987 SA13	1987 10	01.33646	23 52	35.86	-03 08	43.0		3 809
1987 SB13*	1987 09	23.18576	23 58	59.74	-02 22	18.1	17.3	3 809
1987 SB13	1987 09	23.19062	23 58	59.51	-02 22	21.5		3 809
1987 SB13	1987 09	23.19548	23 58	59.27	-02 22	25.0		3 809
1987 SB13	1987 09	24.33923	23 58	04.97	-02 36	02.7		3 809
1987 SB13	1987 09	24.34410	23 58	04.74	-02 36	06.2		3 809
1987 SB13	1987 09	24.34896	23 58	04.51	-02 36	09.7		3 809
1987 SC13*	1987 09	24.14271	22 43	17.60	-08 59	30.6		3 809
1987 SC13	1987 09	24.14792	22 43	17.25	-08 59	31.7		3 809
1987 SC13	1987 09	24.15312	22 43	16.90	-08 59	32.8		3 809
1987 SD13*	1987 09	24.27187	00 04	48.91	-03 19	54.2	17.0	3 809
1987 SD13	1987 09	24.27673	00 04	48.68	-03 19	55.4		3 809
1987 SD13	1987 09	24.28160	00 04	48.45	-03 19	56.6		3 809
1987 SE13*	1987 09	27.24896	23 09	43.05	-10 02	44.6	17.1	3 809
1987 SE13	1987 09	27.25382	23 09	42.84	-10 02	45.5		3 809
1987 SE13	1987 09	27.25868	23 09	42.64	-10 02	46.7		3 809
1987 SE13	1987 10	01.17674	23 07	11.92	-10 16	50.9		3 809
1987 SE13	1987 10	01.18159	23 07	11.71	-10 16	51.4		3 809
1987 SE13	1987 10	01.18646	23 07	11.52	-10 16	52.4		3 809
1987 SF13*	1987 09	27.35243	23 54	23.75	-02 29	02.7	17.2	3 809
1987 SF13	1987 09	27.35729	23 54	23.53	-02 29	04.2		3 809
1987 SF13	1987 09	27.36215	23 54	23.32	-02 29	05.8		3 809
1987 SG13*	1987 09	27.36910	00 00	13.01	-03 36	12.0	17.2	3 809
1987 SG13	1987 09	27.37396	00 00	12.71	-03 36	12.7		3 809
1987 SG13	1987 09	27.37882	00 00	12.40	-03 36	13.5		3 809
1987 SG13	1987 10	01.27187	23 56	12.97	-03 47	44.0		3 809
1987 SG13	1987 10	01.27673	23 56	12.66	-03 47	44.8		3 809
1987 SG13	1987 10	01.28160	23 56	12.36	-03 47	45.7		3 809
1987 SG13	1987 10	01.32673	23 56	09.58	-03 47	53.7		3 809
1987 SG13	1987 10	01.33160	23 56	09.29	-03 47	54.5		3 809
1987 SG13	1987 10	01.33646	23 56	09.01	-03 47	55.5		3 809
1987 SG13	1987 10	01.34201	23 56	08.66	-03 47	56.4		3 809
1987 SG13	1987 10	01.34687	23 56	08.36	-03 47	57.3		3 809
1987 SG13	1987 10	01.35173	23 56	08.06	-03 47	58.2		3 809
1987 SG13	1987 10	02.31979	23 55	09.63	-03 50	35.3		3 809
1987 SG13	1987 10	02.32465	23 55	09.33	-03 50	36.1		3 809
1987 SG13	1987 10	02.32951	23 55	09.05	-03 50	36.9		3 809
1987 SH13*	1987 09	27.36910	00 02	26.87	-03 32	39.9	17.1	3 809
1987 SH13	1987 09	27.37396	00 02	26.55	-03 32	42.0		3 809
1987 SH13	1987 09	27.37882	00 02	26.26	-03 32	44.2		3 809
1987 SH13	1987 10	01.27187	23 58	38.35	-03 53	57.8		3 809

1987	SH13	1987	10	01.27673	23	58	38.08	-03	53	59.1		3	809
1987	SH13	1987	10	01.28160	23	58	37.77	-03	54	00.1		3	809
1987	SH13	1987	10	01.34201	23	58	34.37	-03	54	15.6		3	809
1987	SH13	1987	10	01.34687	23	58	34.06	-03	54	16.7		3	809
1987	SH13	1987	10	01.35173	23	58	33.77	-03	54	18.3		3	809
1987	SJ13*	1987	09	27.36910	00	02	43.56	-04	43	34.8	17.4	3	809
1987	SJ13	1987	09	27.37396	00	02	43.34	-04	43	37.1		3	809
1987	SJ13	1987	09	27.37882	00	02	43.21	-04	43	39.5		3	809
1988	BZ1	1988	02	13.12778	09	26	25.42	+14	14	44.4		4	809
1988	BZ1	1988	02	13.13819	09	26	24.90	+14	14	48.6		4	809
1988	BZ1	1988	02	14.10903	09	25	38.82	+14	18	41.7	17.5	4	809
1988	BZ1	1988	02	14.11944	09	25	38.44	+14	18	42.9		4	809
1988	BA2	1988	02	13.12778	09	27	11.92	+14	13	17.6	17.7	4	809
1988	BA2	1988	02	13.13819	09	27	11.38	+14	13	20.7		4	809
1988	BA2	1988	02	14.10903	09	26	21.36	+14	18	01.5		4	809
1988	BA2	1988	02	14.11944	09	26	20.85	+14	18	04.4		4	809
1988	BK4	1988	02	13.12778	09	27	32.46	+13	22	00.5	17.8	4	809
1988	BK4	1988	02	13.13819	09	27	32.01	+13	22	08.6		4	809
1988	BK4	1988	02	14.10903	09	26	47.65	+13	31	54.4		4	809
1988	BK4	1988	02	14.11944	09	26	47.28	+13	31	59.8		4	809
1988	CT5	1988	02	12.18403	09	28	25.91	+14	22	14.0	17.5	4	809
1988	CT5	1988	02	12.20000	09	28	24.96	+14	22	14.2		4	809
1988	CT5	1988	02	13.12778	09	27	27.15	+14	23	24.9		4	809
1988	CT5	1988	02	13.13819	09	27	26.49	+14	23	26.1		4	809
1988	CT5	1988	02	14.10903	09	26	27.20	+14	24	39.9	17.5	4	809
1988	CT5	1988	02	14.11944	09	26	26.52	+14	24	40.0		4	809
167		1987	09	12.06493	22	42	31.42	-07	56	44.6		3	809
167		1987	09	12.06979	22	42	31.22	-07	56	46.3		3	809
167		1987	09	14.09410	22	41	01.02	-08	07	30.1		3	809
167		1987	09	14.09896	22	41	00.81	-08	07	31.9		3	809
167		1987	09	14.10382	22	41	00.61	-08	07	33.5		3	809
167		1987	09	17.03507	22	38	54.20	-08	22	38.5		3	809
167		1987	09	17.03993	22	38	53.98	-08	22	40.0		3	809
167		1987	09	17.04479	22	38	53.78	-08	22	41.5		3	809
167		1987	09	18.08576	22	38	10.12	-08	27	53.8		3	809
167		1987	09	18.09062	22	38	09.92	-08	27	55.4		3	809
167		1987	09	18.09549	22	38	09.70	-08	27	57.0		3	809
167		1987	09	19.12812	22	37	27.25	-08	33	01.4		3	809
167		1987	09	19.13298	22	37	27.04	-08	33	02.8		3	809
167		1987	09	19.13784	22	37	26.84	-08	33	04.3		3	809
167		1987	09	23.20312	22	34	48.08	-08	52	07.5		3	809
167		1987	09	23.20799	22	34	47.89	-08	52	09.0		3	809
167		1987	09	23.21284	22	34	47.69	-08	52	10.1		3	809
167		1987	09	24.09549	22	34	15.41	-08	56	05.6		3	809
167		1987	09	24.10035	22	34	15.22	-08	56	06.9		3	809
167		1987	09	24.10521	22	34	15.03	-08	56	08.1		3	809
175		1987	09	13.13784	23	41	42.55	-04	50	35.8		3	809
175		1987	09	13.14305	23	41	42.32	-04	50	36.6		3	809
175		1987	09	16.19062	23	39	23.83	-05	00	55.9		3	809
175		1987	09	16.19548	23	39	23.60	-05	00	56.9		3	809
175		1987	09	16.20034	23	39	23.36	-05	00	57.9		3	809
175		1987	09	17.15729	23	38	39.78	-05	04	09.9		3	809
175		1987	09	17.16215	23	38	39.56	-05	04	10.9		3	809
175		1987	09	17.16701	23	38	39.33	-05	04	11.8		3	809
175		1987	09	18.30798	23	37	46.94	-05	07	58.7		3	809
175		1987	09	18.31285	23	37	46.70	-05	08	00.1		3	809
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175		1987	09	24.24479	23	33	19.47	-05	26	35.9		3	809
175		1987	09	24.24965	23	33	19.23	-05	26	36.6		3	809

175	1987	10	01.23715	23	28	25.43	-05	45	07.3	3	809
175	1987	10	01.24201	23	28	25.19	-05	45	08.1	3	809
175	1987	10	01.24687	23	28	25.01	-05	45	08.9	3	809
217	1987	09	14.07743	22	44	03.57	-08	44	53.1	3	809
217	1987	09	14.08229	22	44	03.42	-08	44	56.5	3	809
217	1987	09	14.08715	22	44	03.27	-08	44	59.6	3	809
217	1987	09	17.03507	22	42	42.10	-09	17	53.0	3	809
217	1987	09	17.03993	22	42	41.96	-09	17	56.3	3	809
217	1987	09	17.04479	22	42	41.82	-09	17	59.4	3	809
217	1987	09	26.07187	22	39	29.66	-10	47	47.4	3	809
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217	1987	09	26.08160	22	39	29.48	-10	47	52.5	3	809
217	1987	09	27.08160	22	39	14.65	-10	56	37.5	3	809
217	1987	09	27.08646	22	39	14.58	-10	56	39.8	3	809
217	1987	09	27.09132	22	39	14.50	-10	56	42.2	3	809
217	1987	09	28.17083	22	38	59.82	-11	05	51.0	3	809
217	1987	09	28.17604	22	38	59.74	-11	05	53.6	3	809
217	1987	09	28.18125	22	38	59.66	-11	05	56.1	3	809
257	1987	09	16.25729	23	21	34.41	-08	24	15.6	3	809
257	1987	09	16.26215	23	21	34.18	-08	24	16.9	3	809
257	1987	09	16.26736	23	21	33.92	-08	24	18.4	3	809
257	1987	09	18.24375	23	20	01.98	-08	31	57.2	3	809
257	1987	09	18.24896	23	20	01.74	-08	31	58.3	3	809
257	1987	09	18.25382	23	20	01.51	-08	31	59.5	3	809
257	1987	09	23.31146	23	16	10.36	-08	50	22.2	3	809
257	1987	09	23.31632	23	16	10.12	-08	50	23.2	3	809
257	1987	09	23.32118	23	16	09.93	-08	50	24.0	3	809
257	1987	09	27.24896	23	13	18.03	-09	03	11.0	3	809
257	1987	09	27.25382	23	13	17.81	-09	03	11.7	3	809
257	1987	09	27.25868	23	13	17.59	-09	03	12.5	3	809
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257	1987	10	01.18159	23	10	35.74	-09	14	24.7	3	809
257	1987	10	01.18646	23	10	35.54	-09	14	25.3	3	809
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291	1987	09	14.09410	22	42	17.18	-08	21	24.7	3	809
291	1987	09	14.09896	22	42	16.90	-08	21	26.2	3	809
291	1987	09	14.10382	22	42	16.62	-08	21	28.1	3	809
291	1987	09	17.03507	22	39	37.80	-08	39	55.2	3	809
291	1987	09	17.03993	22	39	37.55	-08	39	57.2	3	809
291	1987	09	17.04479	22	39	37.30	-08	39	59.1	3	809
291	1987	09	18.08576	22	38	42.34	-08	46	21.7	3	809
291	1987	09	18.09062	22	38	42.08	-08	46	23.7	3	809
291	1987	09	18.09549	22	38	41.81	-08	46	25.5	3	809
291	1987	09	19.12812	22	37	48.30	-08	52	37.1	3	809
291	1987	09	19.13298	22	37	48.02	-08	52	39.0	3	809
291	1987	09	19.13784	22	37	47.79	-08	52	40.7	3	809
291	1987	09	23.20312	22	34	27.82	-09	15	52.4	3	809
291	1987	09	23.20799	22	34	27.59	-09	15	54.1	3	809
291	1987	09	23.21284	22	34	27.34	-09	15	55.9	3	809
291	1987	09	24.09549	22	33	46.66	-09	20	40.8	3	809
291	1987	09	24.10035	22	33	46.47	-09	20	42.6	3	809
291	1987	09	24.10521	22	33	46.27	-09	20	44.1	3	809
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302	1987	09	23.13762	00	11	09.21	+00	28	23.4	3	809
302	1987	09	24.28715	00	10	03.19	+00	23	37.6	3	809
302	1987	09	24.29201	00	10	02.92	+00	23	36.5	3	809
302	1987	09	24.29687	00	10	02.65	+00	23	35.1	3	809

302	1987 09 26.11979	00 08 18.17	+00 15 58.4	3 809
302	1987 09 26.12465	00 08 17.89	+00 15 57.1	3 809
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316	1987 09 12.12882	22 05 46.36	-13 33 07.8	3 809
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385	1987 09 14.08229	22 37 23.76	-10 07 01.4	3 809
385	1987 09 14.08715	22 37 23.51	-10 07 01.8	3 809
385	1987 09 17.05521	22 34 54.33	-10 10 50.2	3 809
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385	1987 09 17.06562	22 34 53.82	-10 10 50.9	3 809
385	1987 09 18.10104	22 34 03.00	-10 12 03.0	3 809
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3740	1987 09	18.32465	00 02	35.95	+01 01	11.9		3 809
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3740	1987 09	24.21771	23 56	53.29	+00 55	33.9		3 809
3740	1987 09	27.28160	23 53	51.12	+00 52	17.1		3 809
3740	1987 09	27.28646	23 53	50.83	+00 52	16.8		3 809
3740	1987 09	27.29132	23 53	50.54	+00 52	16.5		3 809
3740	1987 09	28.25174	23 52	53.77	+00 51	14.3		3 809
3740	1987 09	28.25660	23 52	53.47	+00 51	14.0		3 809
3740	1987 10	01.20451	23 50	01.13	+00 48	10.1		3 809
3740	1987 10	01.20937	23 50	00.85	+00 48	09.7		3 809
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3740	1987 10	02.19340	23 49	04.33	+00 47	11.5		3 809
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3831	1988 02	14.11944	09 31	48.38	+13 26	48.4	17.5	4 809

870 Campinas

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 Measurers G. G. Vieira, J. Caldeira, J. Campos, E. R. Netto, F. A. Vieira
 0.40-m f/5 astrograph

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1987 KB	1987 05	23.04861	16 23	44.43	-21 09	52.1		870
1987 KB	1987 05	23.06250	16 23	43.56	-21 09	43.0		870
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1987 KB	1987 05	26.10278	16 20	54.11	-20 36	36.1		870
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1987 KB	1987 06	02.04514	16 14	15.36	-19 18	10.3	15.5	870
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954	1987 05 23.04861	16 32 01.32	-20 08 14.9	870
954	1987 05 23.06250	16 32 00.60	-20 08 12.1	870
954	1987 05 23.07639	16 31 59.96	-20 08 11.0	870
954	1987 05 26.08889	16 29 32.62	-20 02 24.3	870
954	1987 05 26.10278	16 29 31.97	-20 02 24.0	870
954	1987 05 26.11667	16 29 31.29	-20 02 21.2	870
954	1987 05 26.13056	16 29 30.55	-20 02 20.1	870
954	1987 05 26.14444	16 29 29.83	-20 02 18.0	870
954	1987 05 26.15833	16 29 29.18	-20 02 16.3	870
954	1987 05 26.18403	16 29 27.72	-20 02 13.6	870
954	1987 05 26.19792	16 29 27.11	-20 02 13.1	870
954	1987 05 26.21181	16 29 26.31	-20 02 10.0	870
954	1987 05 26.22569	16 29 25.59	-20 02 09.8	870
954	1987 05 26.23958	16 29 24.88	-20 02 06.9	870
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1784	1987 05 26.13056	16 22 15.62	-20 09 34.1	870
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1784	1987 05 26.15833	16 22 13.98	-20 09 30.8	870
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1784	1987 05 26.22569	16 22 09.76	-20 09 25.0	870
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1805	1987 06 03.21875	16 28 07.29	-21 10 11.2	870
1805	1987 06 03.23264	16 28 06.53	-21 10 10.5	870

877 Okutama

N. Kawasato, 3-51, Hana-Koganei, Kodaira, Tokyo 187, Japan

0.30-m f/3.8 hyperboloid astrocamera

1985 DO2	1988 08 21.75133	23 51 57.66	+17 00 41.0	877
1985 DO2	1988 08 21.75307	23 51 57.90	+17 00 33.4	877

975 Valencia

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Observers A. Lopez G., J. A. Lopez O., R. Lopez M.

0.25-m f/15 refractor

SAOC

1	1986 06 02.86271	10 59 17.48	+18 28 25.9	975
1	1986 06 02.86621	10 59 17.51	+18 28 22.9	975
1	1986 06 02.87006	10 59 17.91	+18 28 19.4	975
1	1986 06 03.85552	11 00 11.54	+18 18 36.9	975
1	1986 06 03.85899	11 00 11.64	+18 18 34.8	975

1	1986	06	03.86255	11	00	11.84	+18	18	33.3	975
1	1986	06	11.86772	11	07	55.19	+16	57	31.7	975
1	1986	06	11.87131	11	07	55.28	+16	57	28.1	975
1	1986	06	12.87986	11	08	57.11	+16	47	00.1	975
1	1986	06	12.88345	11	08	57.40	+16	46	58.4	975
3	1986	06	23.93807	16	18	45.45	-03	19	27.7	975
3	1986	06	23.94172	16	18	45.29	-03	19	28.2	975
3	1986	06	23.94508	16	18	45.17	-03	19	28.5	975
3	1986	06	30.92237	16	14	23.09	-03	27	24.4	975
3	1986	06	30.92529	16	14	22.95	-03	27	24.4	975
4	1986	11	04.78387	00	27	28.42	-08	51	57.1	975
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4	1986	11	05.81956	00	27	00.24	-08	50	52.2	975
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4	1986	11	07.78390	00	26	11.47	-08	48	07.8	975
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4	1986	11	07.79122	00	26	11.25	-08	48	07.9	975
4	1986	11	07.79578	00	26	11.03	-08	48	08.1	975
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4	1986	11	07.80358	00	26	10.90	-08	48	06.8	975
6	1986	06	02.88013	12	45	26.16	+13	20	03.0	975
6	1986	06	02.88424	12	45	26.22	+13	20	01.8	975
6	1986	06	03.87236	12	45	27.99	+13	15	40.5	975
6	1986	06	03.87606	12	45	28.04	+13	15	39.7	975
6	1986	06	11.88155	12	46	27.66	+12	35	12.6	975
6	1986	06	11.88601	12	46	27.71	+12	35	10.5	975
6	1986	06	12.89104	12	46	40.76	+12	29	27.3	975
6	1986	06	12.89491	12	46	40.84	+12	29	28.4	975
6	1986	06	23.88069	12	50	19.25	+11	20	31.2	975
6	1986	06	23.88489	12	50	19.48	+11	20	30.4	975
6	1986	06	30.86900	12	53	44.77	+10	30	57.0	975
6	1986	06	30.87321	12	53	44.92	+10	30	55.4	975
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7	1986	06	11.90019	13	06	18.04	-12	09	24.5	975
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7	1986	06	30.89117	13	11	18.65	-11	52	06.9	975
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39	1986	06	12.93414	16	01	43.23	-04	50	09.4	975
39	1986	06	12.93750	16	01	43.11	-04	50	09.8	975

39	1986	06	23.92537	15	54	30.53	-04	58	11.8	975
39	1986	06	23.92922	15	54	30.47	-04	58	12.0	975
39	1986	06	30.91080	15	51	04.73	-05	12	21.2	975
39	1986	06	30.91366	15	51	04.70	-05	12	21.3	975
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40	1986	05	12.91771	15	24	49.12	-13	29	52.6	975
40	1986	05	12.92182	15	24	48.87	-13	29	51.6	975
40	1986	06	02.91685	15	04	15.25	-12	52	53.0	975
40	1986	06	02.92104	15	04	15.05	-12	52	52.9	975
40	1986	06	02.92509	15	04	14.80	-12	52	52.4	975
40	1986	06	03.90014	15	03	27.44	-12	52	10.6	975
40	1986	06	03.90433	15	03	27.24	-12	52	09.6	975
40	1986	06	03.90801	15	03	27.06	-12	52	09.3	975
40	1986	06	11.91208	14	57	51.94	-12	50	32.7	975
40	1986	06	11.91616	14	57	51.50	-12	50	32.4	975
40	1986	06	12.91771	14	57	16.93	-12	50	56.9	975
40	1986	06	12.92173	14	57	16.76	-12	50	57.0	975
40	1986	06	23.91565	14	52	54.28	-13	03	49.1	975
40	1986	06	30.90023	14	52	01.95	-13	19	58.0	975
40	1986	06	30.90323	14	52	02.02	-13	19	59.7	975

* * * * *

ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

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

The orbit computers (column C) are B = C. M. Bardwell, F = I. A. Filippova, G = D. W. E. Green, K = G. R. Kastel', M = B. G. Marsden, N = S. Nakano, V = T. A. Vinogradova.

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1982 OF	13.5	820819	346.39	45.85	302.99	3.83	0.2277	2.4344	57	6		N
1982 PR	12.5	820829	342.30	331.91	31.66	1.05	0.1960	3.1035	30	4		F
1982 QD	14.4	820908	328.63	96.02	293.19	4.15	0.2380	2.2257	32	0		V
1982 QG	13.5	820819	7.29	24.16	300.68	2.28	0.1985	2.6641	36	9		G
1982 QM	13.5	820819	342.76	210.74	151.10	6.20	0.2113	2.7009	34	6		D G
1982 QG1	14.0	820730	355.47	184.47	145.77	7.19	0.2550	2.6919	4	6		E G
1982 QY1	12.5	820829	337.93	134.90	243.81	6.99	0.1253	2.6479	29	0		V
1982 QP3	14.2	820908	13.15	96.51	230.34	5.41	0.2342	2.2979	23	4		K
1982 RD	14.0	820908	334.46	204.30	184.95	2.33	0.2495	2.5944	7	7		G
1982 RE	13.5	820908	326.29	256.19	148.94	4.07	0.2855	2.7921	5	6		G
1982 RF	14.0	820908	350.85	188.19	173.88	2.36	0.2262	2.4357	9	0		G
1982 RR	13.9	820918	358.34	185.99	173.53	14.26	0.3017	2.5834	37	0		V
1982 RG1	14.0	820908	14.29	121.88	204.99	1.75	0.2220	2.5806	7	8		G
1982 RO1	15.0	820908	337.94	144.76	238.93	2.69	0.1510	2.2414	12	7		G
1982 RW1	13.5	820908	334.66	19.49	6.60	8.19	0.1548	2.6349	6	9		G
1982 SC	13.5	820819	0.44	353.26	348.09	9.99	0.2454	2.6411	35	9		G
1982 SC1	13.5	820908	336.35	48.14	349.33	5.73	0.2204	2.5338	7	5		G
1982 SG1	11.5	820908	239.74	278.96	224.21	5.48	0.1406	2.9549	8	4		E M
1982 SL1	14.8	820928	346.58	181.82	192.47	4.68	0.1708	2.1960	29	9		V
1982 SO1	13.0	820908	20.97	150.45	181.57	14.19	0.1561	2.5791	10	9		E M
1982 SM2	15.0	820908	8.55	354.80	348.24	5.41	0.1953	2.2762	10	5		G
1982 SX2	14.5	820908	326.24	23.48	9.59	4.60	0.1422	2.1491	7	6		G
1982 SY2	13.5	820928	65.20	238.94	37.11	3.08	0.1740	2.2146	36	7		G

1982	SD3	12.5	820908	356.61	223.68	136.52	3.15	0.0500	2.9383	6	4	G
1982	SN3	14.5	820928	15.08	196.47	140.17	3.47	0.2453	2.3279	29	5	G
1982	SG4	12.0	820928	19.17	147.72	206.34	8.50	0.0846	3.0338	7	4	F N
1982	SO5	15.1	820918	356.02	359.06	2.05	1.46	0.2908	2.4028	5	3	F
1982	SX5	13.2	821008	40.45	350.50	317.19	2.19	0.1973	2.6631	36	4	F
1982	SY5	14.1	820918	0.53	346.99	10.86	4.48	0.1339	2.4495	10	3	K
1982	SL6	13.0	820918	20.09	335.47	8.16	5.37	0.0801	2.7449	11	4	K
1982	SM6	14.6	820928	342.28	25.95	6.01	7.12	0.1289	2.3969	11	4	F
1982	SP6	12.8	820918	352.24	19.69	359.53	9.84	0.1228	3.0065	11	4	K
1982	SR6	12.7	820928	35.16	117.14	199.07	7.15	0.2407	3.2342	11	4	F
1982	SJ7	14.2	820918	15.96	154.51	176.68	6.73	0.2787	2.6481	35	5	K
1982	SM7	10.5	820908	183.94	161.36	15.49	4.08	0.2981	2.8870	8	3	G
1982	SQ7	13.5	820918	24.98	330.08	352.20	10.05	0.1674	2.9667	8	3	K
1982	ST7	14.2	820928	344.84	57.16	332.88	4.26	0.2924	2.6514	8	3	F
1982	SC8	13.9	820918	59.89	302.29	346.44	4.24	0.1242	2.3024	8	3	K
1982	SK8	12.5	820908	21.78	159.33	177.54	1.94	0.1113	2.8778	8	4	E G
1982	TY2	13.0	821018	0.28	258.37	105.08	4.60	0.0468	2.4780	7	3	E G
1982	TK3	13.3	821018	347.76	76.43	319.60	8.86	0.1368	2.7754	27	4	K
1982	UW3	11.0	820928	280.64	275.20	186.35	14.19	0.1966	3.0707	36	6	G
1982	UZ3	14.0	820928	0.15	167.48	192.91	2.75	0.1606	2.5821	33	5	G
1982	UD4	15.0	820928	356.76	2.09	4.38	1.99	0.2347	2.5371	33	5	G
1982	UH12	13.8	821107	314.69	148.56	293.31	6.43	0.0870	2.3024	18	3	F
1982	VF12	15.1	821217	313.80	271.78	230.41	1.77	0.1835	2.1931	55	3	K
1982	YQ	12.5	830106	297.32	94.93	86.61	12.59	0.1250	2.5744	42	4	G
1983	AN2	11.5	821217	79.02	293.76	77.91	11.24	0.1523	3.0465	19	5	G
1986	TX1	13.5	860927	349.39	339.24	43.93	12.20	0.1714	2.6486	26	7	M
1987	QF6	14.5	870902	307.86	262.93	169.92	22.13	0.3239	2.3233	25	7	M
1987	RR	13.0	870902	341.76	211.22	156.05	12.78	0.1895	3.1041	25	0	D M
1987	RU	15.5	870902	11.24	170.19	152.97	2.59	0.1861	2.1664	12	0	E M
1987	RW	14.0	870902	322.10	50.64	340.16	6.06	0.1534	2.2701	11	0	M
1987	RZ	12.5	870902	348.43	225.67	125.20	2.04	0.1969	3.1942	15	0	E M
1987	RA1	11.5	870902	90.84	307.17	273.40	1.01	0.2294	2.9610	5	0	E M
1987	RB1	13.0	870902	20.06	115.97	191.85	1.40	0.1820	3.2156	5	0	E M
1987	RD1	13.0	870902	271.40	79.33	10.12	1.94	0.1702	2.6554	11	0	M
1987	RE1	14.0	870902	337.05	34.34	342.69	4.93	0.2218	2.2950	13	0	M
1987	RF1	14.5	870902	307.73	245.92	167.54	5.12	0.1905	2.2888	11	0	M
1987	RG1	13.5	870922	10.83	345.78	348.32	1.24	0.1861	2.4423	19	0	M
1987	RH1	14.5	870902	343.56	21.48	345.01	6.29	0.1819	2.1885	15	0	M
1987	RL1	15.0	870922	22.01	189.92	130.51	1.27	0.2352	2.3066	18	0	M
1987	RN1	14.5	870922	351.31	221.32	149.19	2.54	0.2400	2.7654	18	0	M
1987	RO1	12.5	870902	358.51	206.90	131.35	3.55	0.1265	3.2348	4	9	E M
1987	RP1		870902	325.44	47.64	351.50	4.99	0.1859	2.7211	11	0	M
1987	SG1	14.0	870922	37.82	116.07	175.85	12.81	0.3044	2.6248	14	0	M
1987	SJ1	15.0	870922	4.05	150.21	202.36	1.55	0.2243	2.3503	11	0	M
1987	SK1	14.0	870922	326.29	32.41	11.66	5.81	0.1528	2.2838	15	0	M
1987	SL1	14.0	870922	320.52	54.63	358.70	2.55	0.1648	2.4534	15	0	M
1987	SP2	14.5	870922	16.61	301.14	32.43	8.77	0.2663	2.3759	11	9	M
1987	SS3	14.0	870902	42.28	170.58	107.88	1.60	0.2088	2.3298	14	0	M
1987	SA4	15.0	870922	347.00	232.20	157.40	2.93	0.3734	2.6654	14	0	M
1987	SC6	12.0	870922	41.72	142.80	163.10	1.24	0.1428	3.1899	15	0	M
1987	SF6	14.5	870922	4.18	180.84	172.44	5.88	0.2341	2.4642	15	0	M
1987	SP11	15.0	870902	359.70	206.31	145.87	3.11	0.1821	2.4212	7	0	M
1987	ST11	14.5	870922	350.85	331.57	46.83	5.38	0.1307	2.3319	7	0	M
1987	SU11	16.0	870922	1.48	195.14	158.99	2.28	0.1809	2.1683	12	0	E M
1987	SV11	12.5	870922	200.62	143.08	17.59	5.44	0.1820	2.3632	7	0	M
1987	SW11	14.0	870902	358.02	183.89	167.47	3.83	0.1455	2.5808	10	0	E M
1987	SX11	16.0	870902	326.76	237.56	172.72	22.40	0.3307	2.3416	10	0	E M
1987	SK12	13.5	870922	158.98	102.42	80.25	1.57	0.1370	2.2340	3	9	N
1987	SM12	13.0	870922	1.17	7.43	341.12	1.35	0.0283	2.8838	11	0	E M

1987	SN12	14.5	870922	13.96	186.37	144.29	1.53	0.2111	2.5552	12 0	M
1987	SO12	14.5	870922	335.77	230.30	156.58	6.21	0.1762	2.3659	15 0	M
1987	SP12	13.5	870922	348.81	187.55	185.68	2.76	0.2628	3.1128	11 0	M
1987	SQ12	17.0	870902	329.18	74.11	336.73	1.10	0.3877	2.1758	8 0	E M
1987	SR12	14.5	870922	47.64	113.67	176.91	4.36	0.1628	2.2914	12 0	M
1987	SA13	13.5	870922	15.64	158.07	173.19	9.14	0.2626	3.2207	8 0	E M
1987	SG13	14.0	870922	304.72	43.08	19.69	5.51	0.0853	2.2732	5 0	M
1988	CT5	14.0	880209	328.63	221.10	318.26	6.70	0.1184	2.5981	5 9	E G
1988	JV	11.5	880608	191.43	320.04	90.90	14.93	0.1509	2.6198	70 7	B
1988	NA	14.0	880628	8.89	77.76	170.95	29.43	0.3614	2.6105	2 6	E B
1988	NC	14.5	880718	148.26	32.23	110.91	26.47	0.0586	1.8769	29 8	B
1988	ND	13.5	880807	278.34	267.66	134.24	26.40	0.0936	1.9396	34 6	N
1988	NV	12.0	880718	357.32	18.84	273.80	12.30	0.1283	3.0555	26 4	E B
1988	NW	12.5	880718	1.60	350.98	303.67	13.27	0.1787	2.6478	31 4	B
1988	NX	12.0	880718	237.70	163.31	281.44	4.99	0.1400	2.2570	28 4	B
1988	NY	14.5	880718	16.46	163.29	110.41	24.05	0.1830	2.3547	29 4	B
1988	PK	14.0	880807	346.33	183.35	162.75	4.39	0.2449	2.4809	8 7	B
1988	PL	14.5	880807	338.42	148.21	204.16	2.04	0.1398	2.2078	9 8	B
1988	PP	12.0	880718	83.95	90.51	130.90	12.50	0.0898	2.6265	26 4	B
1988	PQ	15.5	880807	14.55	5.28	298.71	3.83	0.1492	2.3627	9 7	B
1988	PR	14.0	880807	239.82	287.11	166.88	8.58	0.0862	2.3871	9 6	B
1988	PV	12.5	880827	354.58	115.30	222.88	5.18	0.2120	2.2655	30 0	N
1988	PX	16.5	880807	355.25	322.02	9.12	6.38	0.3875	2.4650	6 3	E B
1988	PY	10.0	880807	356.10	32.21	309.84	7.17	0.1061	5.1785	5 7	E B
1988	PA1	12.0	880807	4.34	147.54	174.64	12.92	0.0527	2.3363	4 9	E N
1988	PD1	14.5	880827	342.77	180.70	171.84	25.60	0.2279	2.3555	25 4	M
1988	PG1	13.5	880807	356.47	18.52	314.44	11.98	0.1986	2.7038	9 6	B
1988	PH1	11.0	880807	349.12	26.55	320.36	19.82	0.2175	3.1945	9 6	B
1988	PJ1	14.0	880807	21.23	346.27	316.03	14.06	0.1106	2.5599	9 6	B
1988	QC	17.0	880807	346.52	212.86	151.26	8.40	0.4465	2.6817	4 0	B
1988	QD	15.5	880807	8.14	142.34	159.63	24.55	0.2803	2.4203	3 4	B
1988	QE	10.0	880807	357.85	86.35	241.71	7.70	0.0110	5.1494	5 4	E B
1988	RB	12.5	880827	20.37	60.65	252.91	11.87	0.2208	2.5713	2 4	M
1988	RC	13.5	880827	74.56	7.85	249.70	13.97	0.1428	2.6381	2 4	M

1982 QM = 1982 SL2 (T. Furuta, JAM 1969)

1982 SG4 = 1982 SP4 (S. Nakano)

1987 RR = 1987 ST3 (C. M. Bardwell, MPC 12936)

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ORBITAL ELEMENTS BY T. A. VINOGRADOVA, INSTITUTE FOR THEORETICAL ASTRONOMY.

The identifications are by T. A. Vinogradova unless otherwise stated.

1982 PL = 1971 TD2 = 1980 FM1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	23.85544	(1950.0)	P	Q
n	0.17780073	Peri. 334.27576	+0.96020953	+0.27923072
a	3.1321823	Node 9.51448	-0.25039122	+0.86910183
e	0.2609331	Incl. 1.83015	-0.12370086	+0.40827957
P	5.54	H 12.9	G 0.25	

Residuals in seconds of arc

711013 095	0.5+	0.3+	800316 809	0.0	0.4+	820814 095	0.6-	0.1+
711014 095	(0.7-	5.0+)	800316 809	0.0	0.1+	820816 095	0.8+	0.5-
711015 095	(2.6-	3.6+)	800317 809	0.5-	0.1-	820913 095	0.0	0.7+
711020 095	0.0	0.0	800317 809	0.0	0.0	820920 095	0.3-	0.0
800316 809	0.1+	0.4+	800317 809	0.0	0.2+			
800316 809	0.1-	0.1-	800317 809	0.9+	0.1+			

1982 SJ1 = 1985 JC

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M 104.79071	(1950.0)		P	Q
n 0.22772887	Peri. 235.76461		+0.65689603	-0.75382988
a 2.6557712	Node 173.11180		+0.72652821	+0.62749485
e 0.2141768	Incl. 7.23460		+0.20160447	+0.19491209
P 4.33	H 13.4	G 0.25		

Residuals in seconds of arc

820916 046	4.2+	0.6+	820917 046	0.9-	1.2-	820924 095	0.7+	0.2+
820916 046	5.1+	1.3+	820918 046	5.2-	2.7-	820927 095	3.0+	1.0-
820917 046	0.2-	0.3-	820918 046	3.9-	0.6-	850510 046	1.5+	2.3+
820917 046	1.7+	2.1+	820919 095	1.6-	0.6-	850511 046	1.5-	2.4-
820917 095	1.3-	4.3-	820919 046	2.6-	2.5+			
820917 046	0.6-	1.1-	820919 046	1.7+	5.1+			

1982 SB6 = 1952 HT2 = 1952 HD4 = 1953 RV = 1971 VF = 1976 QA1 = 1980 DP5
= 1980 FN10 = 1986 GS

The double designation 1980 DP5 = 1980 FN10 was suggested by N. S. Chernykh. The identification 1983 TS1 = 1986 GS (MPC 13154) is therefore presumably invalid, and the identification 1983 TS1 = 1978 YC1 is unsupported; the orbit of 1983 TS1 should therefore be replaced by the one-opposition determination on MPC 8380.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M 70.95480	(1950.0)		P	Q
n 0.17244623	Peri. 163.82626		+0.36306925	+0.93122422
a 3.1966880	Node 127.45173		-0.85919187	+0.34774397
e 0.1155184	Incl. 2.28539		-0.36051358	+0.10906686
P 5.72	H 11.6	G 0.25		

Residuals in seconds of arc

520426 711	0.8-	1.0+	711110 029	1.2-	0.7-	820926 095	2.7+	0.5-
520426 760(81.3-75.8+)X			760826 095	3.0-	0.7-	821015 095	0.9-	0.6+
530901 024(94.2+57.9+)X			800221 095	0.4+	0.3-	821022 095	0.7-	0.7-
530901 024	0.7-	0.2+	800316 095	0.8+	2.7-	860409 688	0.9-	0.0
530906 024	3.0+	0.7-	820916 095	0.3-	0.9+	860409 688	0.4-	0.6-
711110 029	0.7-	0.2-	820920 095	2.8+	0.8-			

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

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

1966 PK = 1982 SB4 = 1987 WF3

The key identification 1966 PK = 1982 SB4 is by T. Kobayashi (MPC 10938). The identification 1966 PK = 1987 WF3 is by S. Nakano.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 59.16017	(1950.0)		P	Q
n 0.19112771	Peri. 298.53971		+0.98896641	-0.14375445
a 2.9848406	Node 69.74433		+0.14571791	+0.90050436
e 0.2189830	Incl. 2.18562		+0.02667827	+0.41039805
P 5.16	H 13.0	G 0.25		

Residuals in seconds of arc

660807 074	0.9-	1.5+	660812 074	0.2-	0.4-	870823 675	0.0	0.3+
660807 074	1.6-	0.8+	660812 074	1.3+	0.2-	870823 675	1.1+	0.9+
660808 074	1.1+	0.2+	660816 074	(7.8-	2.0-)	870828 675	1.1+	0.8-
660808 074	1.7-	0.9-	820917 095	1.7+	0.8+	870828 675	0.6+	0.6-
660809 074	1.0+	0.1+	820920 095	1.0+	0.8+	870921 688	0.0	0.1-
660810 074	0.6+	0.2+	820926 095	2.3-	1.5-	870921 688	0.8-	0.8-

870926	801	2.8-	1.4-	871001	809	0.2-	0.3-	871002	809	0.6+	0.1-
870927	809	0.5+	0.1-	871001	809	0.3+	0.1-	871024	801	0.9-	1.7+
870927	809	0.4+	0.1-	871001	809	0.1-	0.0	871117	010	2.2-	1.1+
870927	809	0.3+	0.1-	871001	809	0.3+	0.1-	871117	010	0.8+	0.9+
871001	809	0.1-	0.2-	871002	809	0.6+	0.1+	871120	010	1.9-	0.5-
871001	809	0.7+	0.2-	871002	809	0.7+	0.0	871120	010	0.7+	0.3+

1975 RP = 1964 VU = 1969 OD1 = 1981 RC4 = 1987 SH1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	93.39454		(1950.0)		P		Q
n	0.16875751	Peri.	117.78891	+0.66986068		+0.74247686	
a	3.2431087	Node	194.26945	-0.68655624		+0.61742152	
e	0.1433019	Incl.	0.89351	-0.28271398		+0.25984374	
P	5.84	H	12.0	G	0.25		

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

641106	760(0.08+ 0.06-)X	870918	809	0.7+	0.2+	870928	809	0.2+	0.4+
690717	095 0.0 0.1+	870919	809	0.2+	0.5+	870928	809	0.1-	0.4+
750903	095 0.8+ 0.6-	870919	809	0.2+	0.3+	870929	688	1.0+	1.3-
750906	095 1.8- 0.4-	870919	809	0.2+	0.2+	870929	688	1.1+	0.9-
750909	808 1.3+ 1.2-	870921	688	0.9+	0.3+	871001	809	1.0-	0.1-
750909	808 0.2- 1.7+	870921	688	1.4-	0.3+	871001	809	1.0-	0.4-
810905	095 0.0 0.7+	870924	809	0.7+	0.1-	871001	809	0.8-	0.3-
870916	809 0.5- 0.7-	870924	809	0.8+	0.1-	871002	809	1.6-	0.0
870916	809 0.5- 0.7-	870924	809	0.9+	0.1-	871002	809	1.4-	0.2-
870916	809 0.5- 0.7-	870927	809	0.7+	1.0+	871002	809	1.5-	0.5-
870918	809 0.7+ 0.3+	870927	809	0.8+	0.7+				
870918	809 0.6+ 0.3+	870927	809	0.7+	0.7+				

1976 SJ = 1987 RJ1 = 1987 WM3

The identification 1976 SJ = 1987 WM3 is by T. Kobayashi (MPC 12948).

The double designation 1987 RJ1 = 1987 WM3 was found by S. Nakano.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	72.75777		(1950.0)		P		Q
n	0.26766077	Peri.	207.59404	+0.94317379		-0.33225003	
a	2.3845902	Node	171.80510	+0.31182283		+0.87893427	
e	0.2158502	Incl.	2.31421	+0.11484656		+0.34217607	
P	3.68	H	14.0	G	0.25		

Residuals in seconds of arc

760920	049 0.1+ 0.5+	870916	809	0.3-	0.4-	870927	809	0.0	0.3-
760920	049 (2.5+ 0.8+)Y	870916	809	0.1-	0.4-	870927	809	0.0	0.4-
760920	049 0.2- 0.4-	870916	809	0.2-	0.4-	870928	809	0.0	0.3+
760920	049 0.4- 0.5+	870918	809	0.2+	0.4-	870928	809	0.3+	0.2+
760925	095 2.1- 0.7+	870918	809	0.0	0.4-	870928	809	0.5+	0.1+
760928	095 1.6+ 0.1-	870918	809	0.2+	0.1-	871001	809	0.1-	0.2+
760929	049 0.3+ 0.2-	870919	809	0.4+	0.3+	871001	809	0.0	0.0
760929	049 0.5- 0.0	870919	809	0.5+	0.1+	871001	809	0.2+	0.1-
760930	049 0.2+ 1.6+	870919	809	0.6+	0.0	871002	809	0.2-	0.2+
760930	049(20.9- 10.4+)	870923	809	0.1+	0.1+	871002	809	0.1-	0.1+
870913	809 1.0- 0.1-	870923	809	0.1+	0.1+	871002	809	0.0	0.3+
870913	809 1.1- 0.3+	870923	809	0.2+	0.1+	871122	675	0.3+	0.9-
870913	809 0.5+ 0.5-	870927	809	0.1-	0.3-	871123	675	0.1+	1.1-

1976 SW3 = 1987 SW12

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	38.15339		(1950.0)		P		Q
n	0.17806655	Peri.	218.22569	+0.85250999		-0.52259813	
a	3.1290705	Node	173.25445	+0.49943380		+0.80824038	
e	0.1749244	Incl.	5.30435	+0.15424848		+0.27136448	
P	5.54	H	12.5	G	0.25		

Residuals in seconds of arc

760924 095	1.9-	0.1-	870919 809	1.2+	1.1-	871001 809	0.5-	0.5+
760929 095	0.3+	0.4+	870924 809	0.3-	0.0	871002 809	0.8-	0.5+
761025 095	3.0+	0.6-	870924 809	0.0	0.0	871002 809	0.8-	0.2+
761026 095	1.2-	0.1-	870924 809	0.2+	0.0	871002 809	0.6-	0.3+
870919 809	1.3+	0.2-	871001 809	0.5-	0.5+			
870919 809	1.2+	0.7-	871001 809	0.6-	0.5+			

1982 SA13 = 1975 TO5 = 1975 VV7 = 1981 NN

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 266.16167		(1950.0)		P		Q
n 0.12764984	Peri.	202.96836	+0.98099361			-0.19396909
a 3.9065200	Node	168.21252	+0.18176953			+0.90915989
e 0.0695883	Incl.	1.47170	+0.06790709			+0.36851633
P 7.72	H 11.0		G 0.25			

Residuals in seconds of arc

751014 095	0.6-	1.5-	820916 095	0.4+	0.1+	821015 095	0.8-	0.9+
751106 095	0.7+	0.9+	820918 095	1.2+	0.9-	821022 095	0.4-	1.5+
810702 805	0.6+	0.2+	820920 095	0.1+	0.4-			
810702 805	0.6-	0.4-	820926 095	0.6-	0.6-			

1987 RT = 1935 SQ = 1970 RG = 1975 NL

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 59.23564		(1950.0)		P		Q
n 0.17162174	Peri.	319.04514	+0.95898613			+0.28342085
a 3.2069244	Node	24.49137	-0.25729084			+0.87669467
e 0.1954857	Incl.	0.59004	-0.11894127			+0.38868892
P 5.74	H 12.5		G 0.25			

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

350921 078(0.04- 0.02-)X		870917 809	0.3-	0.2-	870923 809	0.1-	0.7+	
350928 754(0.03- 0.02-)		870917 809	0.1-	0.2-	870923 809	0.1-	0.7+	
350928 754(0.03- 0.02-)		870917 809	0.0	0.3-	870924 809	0.0	0.5+	
351001 754(0.03- 0.02-)		870917 809	0.1+	0.2-	870924 809	0.1+	0.2+	
700909 095	0.7+	1.7-	870917 809	0.0	0.3-	870924 809	0.1-	0.3+
750711 095	0.4-	0.6-	870917 809	0.1+	0.2-	870926 809	0.0	0.5+
750713 095	0.5+	0.2+	870918 809	0.6+	0.3-	870926 809	0.0	0.4+
870912 809	0.9-	0.0	870918 809	0.7+	0.2-	870926 809	0.1-	0.4-
870912 809	0.5-	0.3+	870918 809	0.8+	0.2-	870927 809	0.5-	0.2+
870912 809	0.5-	0.3+	870918 809	1.0+	0.1-	870927 809	0.5-	0.3+
870914 809	0.6+	0.1+	870918 809	0.9+	0.2-	870927 809	0.5-	0.2+
870914 809	0.6+	0.2+	870918 809	1.0+	0.2-	870929 809	0.2-	0.1-
870914 809	0.9+	0.1-	870919 809	0.4-	0.0	870929 809	0.6+	0.2+
870916 809	0.5-	1.9-	870919 809	0.2-	0.0	871001 809	0.3-	0.7+
870916 809	0.7+	1.5-	870919 809	0.2-	0.0	871001 809	0.1-	0.6+
870916 809	0.0	0.8-	870919 809	0.1-	0.0	871001 809	0.1-	0.5+
870916 809	1.0-	0.2-	870919 809	0.0	0.0	871002 809	0.0	0.4+
870916 809	1.0-	0.0	870919 809	0.2+	0.0	871002 809	0.1+	0.3+
870916 809	1.3-	0.6+	870923 809	0.0	0.8+	871002 809	0.2+	0.4+

1987 SV3 = 1980 TY3

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M 109.41645		(1950.0)		P		Q
n 0.27867160	Peri.	331.82966	+0.90645545			+0.42220458
a 2.3213515	Node	3.23710	-0.35108631			+0.76532424
e 0.1614702	Incl.	9.21706	-0.23468471			+0.48582105
P 3.54	H 15.0		G 0.25			

Residuals in seconds of arc

801007	675	0.6-	0.8-	870917	809	0.4+	0.5-	870926	809	0.2+	0.5-
801008	675	2.2-	0.8-	870918	809	0.3+	0.1+	870926	809	0.3+	0.5-
801009	675	0.8-	0.6+	870918	809	0.5+	0.0	870927	809	0.1-	0.1+
801010	675	3.2+	3.0+	870918	809	0.7+	0.1-	870927	809	0.1-	0.2+
801010	095	0.5+	2.1-	870924	809	1.9-	0.0	870927	809	0.2-	0.3+
870916	809	0.1-	0.4+	870924	809	0.4-	0.0	870928	809	0.0	0.0
870916	809	0.1+	0.1+	870924	809	0.1-	0.2-	870928	809	0.0	0.4-
870916	809	0.1+	0.1-	870926	688	0.6-	1.5+	870928	809	0.1-	0.7-
870917	809	0.1+	0.1-	870926	688	0.1+	1.2+				
870917	809	0.4+	0.3-	870926	809	0.2+	0.6-				

1987 SV12 = 1976 SM3 = 1982 VG11
 Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	58.81470		(1950.0)		P		Q
n	0.17730351	Peri.	278.58433		+0.99200089		+0.11903827
a	3.1380354	Node	74.58695		-0.09171497		+0.90830662
e	0.2150835	Incl.	2.49708		-0.08673290		+0.40100994
P	5.56	H	13.0	G	0.25		

Residuals in seconds of arc

760924	095	0.0	1.2-	870918	809	0.6-	0.4+	870927	809	0.3-	0.1-
760929	095	2.4+	4.3-	870923	809	0.8+	0.0	870927	809	0.5-	0.0
821112	095	0.4-	1.6+	870923	809	0.7+	0.0	871001	809	0.1-	1.3+
870918	809	1.0-	0.5+	870923	809	0.6+	0.1-	871001	809	0.3-	1.2+
870918	809	0.9-	0.5+	870927	809	0.2-	0.0	871001	809	0.2-	1.2+

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

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

(3892)* 1941 HD = 1970 EA2 = 1980 TO1 = 1983 HD1 = 1987 DD1

Discovered 1941 Apr. 19 by L. Oterma at Turku. The key identification 1941 HD = 1987 DD1 is by E. Bowell and F. N. Bowman, who found it independently (MPC 11835).

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	72.50368		(1950.0)		P		Q
n	0.23432919	Peri.	72.52263		-0.61099457		+0.78709077
a	2.6056643	Node	159.10807		-0.78603879		-0.59049410
e	0.1400373	Incl.	13.73970		-0.09396098		-0.17833913
P	4.21	H	12.9	G	0.25		

Residuals in seconds of arc

410419	062	0.1+	0.8+	870224	809	1.0+	1.0-	870227	809	0.4+	0.8-
410421	062	0.2+	1.0+	870224	809	1.1+	0.9-	870227	809	0.2+	0.1+
410428	062	0.8-	0.3-	870224	809	0.9+	1.0-	870227	809	0.8+	0.1+
700304	805	0.0	0.4-	870224	054	0.4+	0.5-	870227	809	0.1+	1.1-
700304	805	1.1+	1.0+	870225	809	0.2+	0.9-	870227	809	0.5+	0.2-
700304	805	0.2+	0.2+	870225	809	0.1+	0.7-	870301	809	0.2-	0.2+
801005	809	1.2+	0.3-	870225	809	0.1-	0.7-	870301	809	0.2+	0.3+
801005	809	0.7+	0.0	870226	809	0.5-	0.2+	870301	809	1.0-	0.2+
830418	688	0.9+	2.2-	870226	809	0.4-	0.2+	870301	809	0.7-	0.1+
830418	688	2.0+	1.4-	870226	809	0.2-	0.1+	870301	809	0.2-	0.1+
870223	054	1.0-	0.4-	870227	809	0.5+	1.0-	870301	809	0.1-	0.1-

870302	054	0.8-	2.0+	870304	809	0.7-	0.1-	870311	809	0.6-	1.2+
870303	809	0.8-	0.2-	870305	809	0.3-	0.8+	870311	809	0.8-	1.2+
870303	688	0.7+	0.2-	870305	809	0.4-	0.4+	870401	675	2.7+	0.5-
870303	809	0.9-	0.1-	870305	809	0.7-	0.0	870401	675	2.3+	0.6+
870303	809	0.9-	0.2-	870308	809	0.4-	0.5+	880711	801	0.8-	0.2+
870303	688	1.1-	0.2+	870308	809	0.7-	0.7+	880809	801	0.9-	0.2+
870304	809	0.5-	0.4+	870308	809	0.6-	1.0+				
870304	809	0.0	0.2+	870311	809	0.9-	1.4+				

(3893)* 1980 FG12 = 1977 SX2 = 1984 KE

Discovered 1980 Mar. 20 at Perth.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	5.42662		(1950.0)			P		Q		
n	0.26129353	Peri.	107.11963	+0.53212933				+0.83928052		
a	2.4231685	Node	196.51697	-0.84561837				+0.53338244		
e	0.2608420	Incl.	23.10506	+0.04204707				+0.10541057		
P	3.77	H	13.2	G	0.25					

Residuals in seconds of arc

770921	095	0.8+	3.7+	771017	675	1.1-	0.7-	840529	675	0.6+	1.2-
771007	675	0.3-	1.9-	800320	323	1.4-	1.2+	880515	801	1.7-	0.5+
771011	675	2.2-	0.4+	800320	323	0.1-	0.7+	880611	801	0.2+	2.2+
771011	675	1.4-	1.5+	800321	323	0.2+	1.1-	880614	657	1.3-	0.2-
771012	675	0.9+	0.9-	800321	323	1.3+	0.8-	880615	801	0.6-	0.7+
771012	675	2.2+	0.4-	800324	323	1.5+	0.3-	880720	657	0.6+	2.1-
771016	675	0.2+	1.5-	800414	323	1.8-	1.8-	880720	657	0.8+	0.2-
771016	675	0.9+	0.4-	840526	675	0.2-	0.7+	880811	657	0.5-	1.2-
771017	675	0.4+	0.1+	840528	675	0.5+	0.7+	880811	657	2.1+	0.7+

(3894)* 1980 PQ2 = 1980 RF3 = 1978 EM4 = 1987 DY6

Discovered 1980 Aug. 14 at Perth. The double designation 1980 PQ2 = 1980 RF3 is by K. Hurukawa (JAM 1820) and W. Landgraf (MPC 9458), who found it independently.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	307.18393		(1950.0)			P		Q		
n	0.23158000	Peri.	186.74028	+0.98208580				+0.17547626		
a	2.6262457	Node	162.68877	-0.16030434				+0.96957410		
e	0.1704649	Incl.	13.34273	-0.09904546				+0.17068728		
P	4.26	H	12.1	G	0.25					

Residuals in seconds of arc

780306	095	0.1-	0.5-	870227	809	0.0	0.3+	870304	809	0.5+	0.6-
800814	323	0.5-	0.1+	870227	809	0.1+	0.3+	870305	809	0.4-	0.6-
800815	323	0.7-	1.5-	870228	809	0.6+	0.1+	870305	809	0.3-	0.6-
800818	323	1.4+	0.2-	870228	809	0.7+	0.0	870305	809	0.1-	0.4-
800904	095	2.6-	0.1-	870228	809	0.7+	0.1+	870306	809	1.3-	0.2-
800908	323	2.5+	1.1+	870302	809	0.7+	0.6-	870306	809	1.2-	0.1-
870226	809	0.5-	1.4+	870302	809	0.9+	0.5-	870306	809	1.2-	0.1-
870226	809	0.5-	1.4+	870302	809	1.3+	0.6-	880714	801	0.0	0.7+
870226	809	0.8-	1.6+	870304	809	0.5+	0.8-	880810	801	0.0	0.5-
870227	809	0.2+	0.3+	870304	809	0.2+	0.7-				

(3895)* 1987 DE = 1969 EB = 1980 GS = 1981 PO

Discovered 1987 Feb. 23 by C. S. Shoemaker at Palomar.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	141.98187		(1950.0)			P		Q		
n	0.27358377	Peri.	8.34586	-0.92546346				-0.31920406		
a	2.3500431	Node	150.38097	+0.31934340				-0.94705890		
e	0.1825461	Incl.	24.38167	+0.20380672				+0.03447047		
P	3.60	H	12.7	G	0.25					

Residuals in seconds of arc

690311	095	(0.8-	9.2-)	870223	675	0.5+	0.9+	870422	675	1.0-	0.5+
800412	033	0.2+	0.2-	870225	220	3.5+	0.7-	870530	675	0.8-	1.0+
800412	033	0.2+	0.4-	870227	675	0.2-	2.4-	870530	675	1.7-	0.1+
800413	033	1.3-	0.0	870227	675	0.2-	2.2-	880514	675	0.5+	0.7+
800414	033	1.2+	0.2-	870227	220	0.8-	2.3+	880515	675	0.7+	0.6+
800414	033	0.1+	0.1-	870302	220	(0.1-	6.5-)	880612	675	0.9+	0.7-
810806	046	0.4-	0.4+	870303	220	(0.1+	5.2-)	880612	675	0.2+	0.4-
810806	046	1.0-	0.6-	870304	220	(4.8+	10.1-)	880718	675	0.3-	1.8-
870223	675	0.2+	0.1+	870421	675	2.5-	0.8+	880720	675	0.3-	0.5+

(3896)* 1987 WB = 1950 TD1 = 1951 YN2 = 1979 FH

Discovered 1987 Nov. 18 by J. M. Baur at Osservatorio Chaonis.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M 278.00014		(1950.0)		P		Q	
n	0.18923677	Peri.	321.41975	-0.96335432		+0.23261386	
a	3.0046856	Node	232.55296	-0.18473946		-0.93640261	
e	0.0410765	Incl.	9.68516	-0.19447311		-0.26275642	
P	5.21	H	11.5	G	0.25		

Residuals in seconds of arc

501013	024	0.4+	0.5-	871122	688	1.1-	2.3+	871217	567	1.5-	0.1-	
511228	711	1.9-	1.9-	Y	871122	688	2.5+	2.3+	871217	567	0.4-	0.7+
511228	711	0.9+	1.2-	Y	871123	046	0.4+	0.7-	880108	567	0.2+	1.4+
790324	688	0.1-	0.3+	871123	046	0.4-	0.1-	880108	567	0.8-	1.1+	
821113	095	0.5+	1.3+	871126	046	1.8+	1.4-	880109	567	0.2+	0.7+	
821222	095	0.8-	1.0+	871126	046	1.0+	1.4-	880109	567	1.1-	1.0+	
830106	095	3.2+	1.1-	871126	567	0.2+	0.8-	880123	567	2.5-	0.2+	
871115	046	2.5-	1.3-	871126	567	1.1-	1.8-	880123	567	1.8-	0.1+	
871115	046	3.1-	0.9-	871126	567	1.0+	1.5-	880210	567	2.2+	0.4-	
871118	567	3.2+	0.4-	871126	046	1.0-	1.1+	880210	567	0.6+	0.6-	
871118	567	2.9+	2.1-	871127	046	1.6-	0.5-	880211	567	0.7-	0.2-	
871120	567	2.5+	0.7+	871211	567	0.4-	1.0+	880211	567	0.3+	0.3-	
871120	567	1.6+	0.4+	871212	567	(3.5+	1.7+)	880214	567	0.2+	1.7+	
871120	567	2.4+	0.4+	871212	567	0.7-	0.7+	880214	567	0.3+	1.8+	
871121	567	1.2-	0.1+	871215	567	1.0-	0.7+					
871121	567	3.1-	1.1-	871215	567	0.5-	0.5+					

1949 GH = 1982 QR3

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 31.97313		(1950.0)		P		Q	
n	0.15857473	Peri.	102.01935	+0.41953051		+0.90443813	
a	3.3805000	Node	193.59676	-0.90675092		+0.41356771	
e	0.1055753	Incl.	19.21438	-0.04239009		+0.10465853	
P	6.22	H	11.5	G	0.25		

Residuals in seconds of arc

490404	760	1.6-	0.1-	490420	760	0.6-	0.4+	820828	095	0.9+	0.3+
490404	760	0.5+	0.6+	490425	760	0.8+	0.4-	820829	095	0.3+	0.1-
490420	760	1.2+	1.4-	490425	760	0.2-	0.9+	820920	095	0.8-	0.0

1971 SS1 = 1982 SY

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 351.85140		(1950.0)		P		Q	
n	0.17891744	Peri.	357.24441	+0.42145220		-0.90649035	
a	3.1191419	Node	67.82821	+0.83250533		+0.37557068	
e	0.2046685	Incl.	1.58158	+0.35960105		+0.19292980	
P	5.51	H	12.0	G	0.25		

Residuals in seconds of arc

710923	095	0.1+	2.1+	711021	095	1.4+	1.6-	820919	095	2.7+	0.2+
711011	095	2.4-	1.1+	820917	801	2.2-	2.9-	820928	095	0.4-	0.0

1971 US1 = 1958 TO1 = 1988 QT

The identification 1971 US1 = 1958 TO1 is by S. Nakano.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	4.07392		(1950.0)		P		Q
n	0.22894237	Peri.	118.14773	+0.91164356		+0.37876382	
a	2.6463836	Node	220.17890	-0.40637283		+0.88871859	
e	0.2564784	Incl.	14.31409	+0.06137703		+0.25829680	
P	4.31	H	13.5	G	0.25		

Residuals in seconds of arc

581010	690	0.1+	0.5-	711110	029	0.7+	0.4+	880817	675	0.4-	0.7+
581011	690	(33.8+	18.4+)	711110	029	0.0	0.0	880818	675	0.5+	0.3-
711026	029	0.1+	0.6+	711119	029	0.1+	0.4+				
711030	029	0.9-	0.4+	711119	029	0.2-	0.6-				

1979 XQ = 1982 PP

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	254.25538		(1950.0)		P		Q
n	0.28997977	Peri.	326.63488	+0.99869069		-0.03568953	
a	2.2606072	Node	35.46589	+0.04827313		+0.89458443	
e	0.1297575	Incl.	3.62146	-0.01692945		+0.44547161	
P	3.40	H	13.5	G	0.25		

Residuals in seconds of arc

791114	095	2.1-	0.2-	791211	049	0.6-	0.7-	820816	095	0.3+	0.2-
791122	675	0.2+	0.5+	791211	049	0.7+	1.5-	820913	095	1.7-	2.4+
791124	675	1.1+	0.1+	791223	095	0.9+	0.7+				
791125	675	1.0+	0.8-	820814	095	1.2+	2.0-				

1981 QT3 = 1968 FB = 1987 SS12

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	169.97771		(1950.0)		P		Q
n	0.17472582	Peri.	242.79792	-0.45762888		+0.88914330	
a	3.1688294	Node	359.96769	-0.77489086		-0.39885691	
e	0.0718211	Incl.	5.91875	-0.43602747		-0.22435989	
P	5.64	H	12.0	G	0.25		

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

680325	095	0.3+	0.5-	810902	809	0.8+	0.4+	810906	809	1.0+	0.1+
680325	020	(0.04+	0.00+)	810902	809	0.9+	0.1+	810906	809	0.2+	1.2+
680325	020	(0.03+	0.01+)	810902	809	0.2-	0.2+	810906	809	0.4+	0.6+
810827	809	0.7-	0.2-	810902	809	0.0	0.5-	810906	809	0.4+	1.1+
810827	809	1.1-	0.3-	810902	809	0.9+	0.0	810907	809	1.1+	2.2+
810827	809	0.5-	0.4-	810903	809	0.1-	0.2-	810907	809	1.4+	1.3+
810828	809	0.4-	1.0+	810903	809	0.1+	0.5+	810907	809	1.9+	1.6+
810828	809	0.1+	0.7+	810903	809	0.4+	1.0+	810907	809	0.4+	1.4+
810828	809	1.1+	1.3+	810903	809	0.5+	1.0+	810907	809	0.4+	1.3+
810828	809	0.2-	0.9+	810903	809	0.6+	0.9+	810907	809	0.2+	1.1+
810828	809	0.2-	1.6+	810903	809	0.9+	0.9+	810918	809	0.4-	1.1+
810828	809	0.3-	1.4+	810905	809	1.6-	0.3-	810918	809	0.5-	0.6+
810901	809	0.5+	0.1+	810905	809	2.2-	0.5-	810918	809	0.5-	0.2+
810901	809	0.5+	0.5+	810905	809	2.1-	1.2-	870917	809	0.1-	0.6-
810901	809	1.6+	1.0+	810905	809	0.2+	1.2+	870917	809	0.1-	0.4-
810901	809	0.4+	0.2+	810905	809	0.4-	1.0+	870917	809	0.2-	0.3-
810901	809	0.5+	0.1+	810905	809	0.2-	0.7+	870919	809	0.1+	0.2+
810901	809	0.3+	0.1+	810906	809	0.3+	0.6+	870919	809	0.4+	0.2+
810902	809	0.9+	1.0+	810906	809	0.2+	0.6+	870919	809	0.5+	0.4+

1986 XO2

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	117.76358		(1950.0)		P		Q
n	0.27237382	Peri.	43.19836		-0.92320778		+0.34528679
a	2.3569976	Node	155.41781		-0.35425421		-0.93480596
e	0.2247342	Incl.	23.92650		+0.14896759		-0.08315562
P	3.62	H	12.0	G	0.25		

Residuals in seconds of arc

861202	010	2.2+	1.4-	870228	892	0.8-	2.8+	870327	801	0.8+	0.2-
861202	010	2.1-	0.6+	870302	887	0.7+	1.4-	880809	801	3.4-	0.3+
861202	010	0.6-	0.0	870305	887	0.2+	0.5+	880812	511	0.6+	0.4+
870225	887	1.0-	1.5-	870305	887	0.6+	0.6-	880813	511	1.2+	0.4-
870225	887	0.5+	2.3+	870318	887	0.3+	1.7-	880813	511	1.4+	1.1-
870228	892	0.4+	1.3-	870318	887	0.9-	0.2+				

1987 DF

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	83.73675		(1950.0)		P		Q
n	0.27216460	Peri.	88.15461		-0.35145968		+0.92618367
a	2.3582054	Node	159.55718		-0.93598610		-0.35075851
e	0.2240870	Incl.	23.02310		+0.02015199		-0.13839177
P	3.62	H	13.0	G	0.25		

From 65 observations 1987 Feb. 23-May 20, mean residual 0".6.

1987 VC = 1976 JY = 1982 SY6

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	129.05643		(1950.0)		P		Q
n	0.20944383	Peri.	303.86459		+0.78919166		+0.61209245
a	2.8081817	Node	18.55511		-0.49836689		+0.68603002
e	0.1531317	Incl.	9.07532		-0.35889688		+0.39332639
P	4.71	H	11.5	G	0.25		

Residuals in seconds of arc

760502	095	0.5+	0.9+	871115	399	0.2+	0.1+	871128	399	1.3-	1.8+
820916	095	0.9-	1.4-	871115	399	1.6+	1.1-	871128	399	1.8-	0.2+
820919	095	1.1+	0.1-	871122	399	3.1+	0.7-	871212	399	1.4-	0.5-
820921	095	1.3-	0.8+	871122	399	1.6+	0.4-	871212	399	0.0	1.2-
871115	399	1.7-	0.6-	871122	399	0.9+	1.1-	871212	399	1.2+	0.7-

1988 JBI

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	23.06079		(1950.0)		P		Q
n	0.17739691	Peri.	84.07607		-0.56607472		+0.80547263
a	3.1369338	Node	149.27110		-0.82422194		-0.55682860
e	0.4009163	Incl.	20.07863		+0.01475165		-0.20286881
P	5.56	H	14.0	G	0.25		

From 9 observations 1988 May 12-Aug. 9, mean residual 0".7.

1988 NF

Epoch 1988 Aug. 7.0 ET = JDE 2447380.5

M	353.90585		(1950.0)		P		Q
n	0.30359443	Peri.	94.06055		+0.90923929		+0.20304869
a	2.1925029	Node	254.51876		-0.31328594		+0.90861525
e	0.3611826	Incl.	22.15262		+0.27410917		+0.36495146
P	3.25	H	12.5	G	0.25		

From 16 observations 1988 July 12-Sept. 4.

1988 NH = 1980 TF1 = 1987 DT1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	52.84792		(1950.0)		P		Q
n	0.22912963	Peri.	77.85750	-0.59662999			+0.79661072
a	2.6449415	Node	154.72728	-0.79592791			-0.57189206
e	0.1591620	Incl.	13.15743	-0.10262275			-0.19583370
P	4.30	H	12.5	G	0.25		

Residuals in seconds of arc

801005	809	0.5+	1.1-	870223	010	0.6+	1.9-	880713	675	0.1-	0.3+
801005	809	0.5+	1.1-	870223	010	0.0	0.9-	880807	675	0.5-	1.3-
870223	010	1.7-	0.4-	880711	675	0.2+	0.3-	880807	675	0.2-	2.9-

1988 PA

Epoch 1988 Aug. 7.0 ET = JDE 2447380.5

M	5.47683		(1950.0)		P		Q
n	0.31110545	Peri.	136.62697	+0.48049368			+0.87587920
a	2.1570703	Node	161.94805	-0.83858795			+0.47364464
e	0.4074834	Incl.	8.21689	-0.25670231			+0.09217578
P	3.17	H	17.5	G	0.25		

From 13 observations 1988 Aug. 9-Sept. 3.

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

Comet Machholz (1988j)

T 1988 Sept. 17.56824 ET

q	0.1645584		(1950.0)		P		Q
		Peri.	349.03519	-0.92409786			-0.35362972
		Node	167.03064	+0.38086832			-0.88333104
e	1.0	Incl.	40.20545	+0.03134448			+0.30768863

From 30 observations 1988 Aug. 9-Sept. 4.

Comet Shoemaker-Holt-Rodriquez (1988h)

T 1989 June 12.53839 ET

q	2.4731048		(1950.0)		P		Q
		Peri.	232.18230	+0.15901185			-0.40285734
		Node	114.56604	-0.24032784			+0.86970336
e	1.0	Incl.	97.67078	-0.95757912			-0.28517019

From 29 observations 1988 June 11-Sept. 3.

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

(3897)* 1942 RT = 1969 VG2 = 1973 TN = 1982 SA7 = 1988 AZ4

Discovered 1942 Sept. 8 by Y. Vaisala at Turku.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	148.77924		(1950.0)		P		Q
n	0.22314756	Peri.	147.79731	+0.91600644			+0.40073486
a	2.6919973	Node	188.63933	-0.38923316			+0.87662723
e	0.1582540	Incl.	7.09024	-0.09710691			+0.26633866
P	4.42	H	12.8	G	0.25		

Residuals in seconds of arc

420905	062	0.6+	1.1-	880113	809	1.4+	0.3+	880116	809	0.0	0.2-
420908	062	0.5-	1.5+	880113	809	1.2+	0.5-	880118	809	0.2-	0.4-
420908	062	(1.6-	4.5+)	880113	809	1.3+	0.4-	880118	809	0.2-	0.9-
420911	062	0.2+	0.4+	880113	809	1.3+	0.3-	880120	809	0.8-	0.3-
420915	062	(0.2+	2.9-)	880114	809	0.1+	0.0	880120	809	0.8-	0.4-
691115	095	0.6-	2.3-	880114	809	0.1+	0.1+	880121	809	0.8-	0.3+
731001	095	0.2-	2.9-	880114	809	0.6+	0.4+	880121	809	1.2-	0.5+
820916	095	1.9+	2.3+	880114	809	0.5+	0.4-	880123	809	1.4-	1.1+
820921	095	2.1-	1.1+	880114	809	0.5+	0.4-	880123	809	1.5-	1.0+
820928	095	0.3+	0.4+	880114	809	0.4+	0.5-	880126	809	1.2-	2.3+
880113	809	0.7+	0.2+	880116	809	0.6-	0.2-	880128	809	(0.3-	4.1+)
880113	809	1.0+	0.2+	880116	809	0.6-	0.2-				

(3898)* 1981 SF9 = 1954 UW = 1976 SE6 = 1976 UJ2 = 1987 UE

Discovered 1981 Sept. 26 at Perth. The key identification 1981 SF9 = 1987 UE is by E. Bowell (MPC 12707).

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	57.66122		(1950.0)			P		Q		
n	0.18045437	Peri.	211.54760			+0.81410362		-0.58071911		
a	3.1013999	Node	183.95380			+0.53509229		+0.75065846		
e	0.1721500	Incl.	0.64573			+0.22563586		+0.31508282		
P	5.46	H	12.4			G	0.25			

Residuals in seconds of arc

541022	760	0.3-	1.5+	810928	323	0.3+	0.0	871024	801	0.5+	1.0+
541022	760	0.8-	0.2-	810928	323	0.5-	0.7-	871119	688	0.5+	0.9-
760924	095	1.3-	0.7-	811002	323	(15.4-	0.0)	871119	688	0.3+	2.0+
761026	095	2.7+	0.4+	821223	095	0.2-	0.4-	871124	688	0.8+	1.2-
810926	323	1.2-	1.9-	871020	688	1.6-	1.1-	871124	688	(3.2+	0.4+)
810926	323	1.4+	1.6+	871020	688	1.2-	0.1+				

(3899)* 1982 SN1 = 1948 TF2 = 1949 YG = 1949 YW = 1951 GL1 = 1953 RX
= 1965 SQ = 1976 SZ = 1984 CB = 1985 FQ = 1987 OF1

Discovered 1982 Sept. 17 by M. Mahrova at Klet.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	343.36735		(1950.0)			P		Q		
n	0.17349040	Peri.	329.89931			+0.62133911		-0.78202735		
a	3.1838487	Node	81.64272			+0.72831404		+0.55351035		
e	0.1826720	Incl.	2.82094			+0.28895738		+0.28646032		
P	5.68	H	11.4			G	0.25			

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

481010	012	2.5+	2.0-	760924	095	0.1+	0.4-	820927	095	0.3-	1.8+
481109	012	0.9-	0.1+	820917	095	2.0+	0.5-	840201	046	0.1+	0.9-
491225	760	(0.05+	0.01-)X	820917	046	2.0-	1.7-	840201	046	1.1-	0.2-
491228	760	(26.4-	46.9+)X	820917	046	0.7-	0.7-	850324	046	0.2+	3.0-
510403	839	0.1-	0.6+	820918	046	0.4+	0.6+	850325	046	(2.2+	3.3-)
510403	839	0.4-	1.0-	820918	046	0.7+	0.5-	870728	010	0.6-	0.8-
510414	839	0.5-	0.6-	820919	095	1.4+	0.5-	870728	010	1.5+	0.1+
510414	839	(2.9-	0.4-)X	820919	046	1.0-	0.5+	870728	010	0.4-	0.3-
530901	024	0.7-	0.2-	820919	046	(4.2+	1.9+)				
650920	330	(5.1-	0.9-)X	820924	095	0.0	0.2+				

(3900)* 1985 RK = 1974 QS1 = 1974 RE2

Discovered 1985 Sept. 14 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identifications are by L. D. Schmadel (MPC 10293).

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M 260.93036		(1950.0)		P		Q
n 0.26992689	Peri.	54.73910		+0.83964788		-0.54134774
a 2.3712205	Node	337.93477		+0.45247726		+0.74199378
e 0.1376514	Incl.	6.72292		+0.30042597		+0.39545905
P 3.65	H 13.6		G 0.25			

Residuals in seconds of arc

740824 095	1.7+	1.2-	850815 688	0.1+	2.3+	870223 809	0.5+	0.4-
740827 095	1.0-	1.5-	850914 688	0.3-	0.8-	870223 809	0.1+	0.2-
740911 095	0.0	1.5+	850914 688	2.0+	0.4-	870223 809	0.2+	0.0
821224 095	0.3+	0.5+	850918 688	1.5-	0.6-	870303 688	(3.4-	0.9-)
850815 688	0.9-	1.0+	850918 688	0.5+	0.9-	870303 688	1.7-	0.8-

1971 UT1 = 1976 QJ = 1982 SZ5

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 22.83475		(1950.0)		P		Q
n 0.17534911	Peri.	184.72544		+0.99773511		+0.06699006
a 3.1613157	Node	171.42633		-0.06029777		+0.93079066
e 0.2114430	Incl.	2.33778		-0.02981320		+0.35936205
P 5.62	H 13.0		G 0.25			

Residuals in seconds of arc

711026 029	0.6-	0.3-	711119 029	0.4+	0.6-	820926 095	1.4+	0.1+
711030 029	0.0	0.1-	760826 095	0.0	0.1-	821022 095	2.7-	0.7-
711110 029	1.1+	0.4+	820916 095	0.7+	0.5+			
711110 029	0.7-	0.6+	820920 095	0.4+	0.1+			

1982 QB1 = 1970 SH = 1978 SO2

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 156.51800		(1950.0)		P		Q
n 0.24373747	Peri.	43.34230		+0.99122351		-0.10689054
a 2.5381779	Node	322.58432		+0.05565355		+0.87112807
e 0.2024859	Incl.	7.35519		+0.11991096		+0.47928102
P 4.04	H 14.0		G 0.25			

Residuals in seconds of arc

700927 095	0.4-	0.9-	820816 095	0.9+	1.4+	820823 095	1.0+	1.1+
701001 095	0.1+	2.1+	820819 046	(3.0-	3.0-)	820826 046	2.4-	0.6-
780926 095	2.6+	1.4-	820819 046	2.4-	0.1-	820826 046	(0.9+	3.6+)
781002 095	1.8-	0.2+	820822 046	1.1+	0.9-	820912 095	2.1+	0.7+
820814 095	1.8+	0.8+	820822 046	1.6-	1.5-			

1982 QK3 = 1986 XE4

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 235.47011		(1950.0)		P		Q
n 0.27404729	Peri.	22.56142		+0.98048173		+0.19512593
a 2.3473972	Node	326.15832		-0.18634237		+0.88314452
e 0.1860396	Incl.	2.48165		-0.06270651		+0.42659306
P 3.60	H 14.0		G 0.25			

Residuals in seconds of arc

820823 095	0.6+	0.8-	861204 010	(8.5-	5.8-)	861207 046	0.2-	0.6+
820917 095	2.1+	0.9+	861205 010	(1.1-	6.4-)	861209 046	0.9-	0.1+
820921 095	2.8-	0.5-	861207 046	0.2+	0.2+	861209 046	0.8+	0.9+

1982 RW = 1972 RR2

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	302.22581	(1950.0)	P	Q	
n	0.29714719	Peri.	353.29639	+0.76219714	+0.64702224
a	2.2241078	Node	326.35799	-0.59217155	+0.68413255
e	0.1871138	Incl.	2.11427	-0.26151170	+0.33663761
P	3.32	H	14.0	G	0.25

Residuals in seconds of arc

720817	095	0.2-	0.0	820814	095	1.0-	1.9+	820912	095	0.3+	1.2-
720904	095	1.4+	2.4-	820816	095	(2.6+	4.7+)	820915	688	0.0	1.4+
820814	095	(0.2-	4.0+)	820816	095	0.7-	0.5+	820915	688	0.2+	0.4+

1982 TH3 = 1950 PQ = 1966 SC = 1971 QV = 1973 AO2 = 1984 BJ

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	34.53415	(1950.0)	P	Q	
n	0.18792566	Peri.	82.52713	+0.86375680	-0.48883549
a	3.0186507	Node	306.65684	+0.38084973	+0.79225246
e	0.1118784	Incl.	8.77098	+0.32996616	+0.36520666
P	5.24	H	11.5	G	0.25

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

500814	760	(0.03-	0.01+)X	840126	046	(3.7-	1.6-)	840202	372	0.2-	1.8+
660920	095	0.4+	0.7-	840126	046	(4.0-	1.5+)	840202	372	0.7-	1.4+
710818	095	1.5+	3.0-	840127	046	0.1+	1.3-	840206	372	1.2-	1.4+
730102	095	(13.2+	0.5-)	840127	046	0.2-	1.8-	840206	372	2.3-	1.2-
821015	095	1.4-	0.8+	840129	046	0.6+	0.3+	840208	372	1.2+	0.2+
821024	095	0.5+	0.5+	840129	046	0.2-	0.0	840208	372	0.6+	0.7-
821109	095	0.6-	0.9+	840131	372	0.9+	3.1-				
821111	095	0.6+	0.3-	840131	372	(0.1+	3.6-)				

1982 UJ3 = 1972 TN8 = 1987 BH3

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	228.01172	(1950.0)	P	Q	
n	0.29354874	Peri.	209.89914	+0.65604298	-0.75456952
a	2.2422469	Node	199.11552	+0.70131770	+0.61695956
e	0.0373839	Incl.	2.66850	+0.27885676	+0.22357493
P	3.36	H	13.0	G	0.25

Residuals in seconds of arc

721013	095	0.3-	0.3-	820926	095	1.4+	0.7+	870130	010	1.1-	0.9+
820916	095	(2.8-	0.2+)	821019	033	1.5-	0.8-	870130	010	(3.3-	1.9+)
820918	095	2.1-	1.4-	821019	033	1.4-	0.8-				
820920	095	1.6+	1.7+	870130	010	0.3-	0.9+				

1982 UQ3 = 1986 WR

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	187.71206	(1950.0)	P	Q	
n	0.26237893	Peri.	23.93973	+0.87670157	-0.48103256
a	2.4164859	Node	4.81385	+0.43853302	+0.79802033
e	0.1924386	Incl.	0.97267	+0.19769455	+0.36300308
P	3.76	H	14.0	G	0.25

Residuals in seconds of arc

820916	095	1.1-	0.6+	821019	033	0.1+	0.9-	861126	046	0.5-	1.2+
820918	095	1.2+	1.3+	861125	046	(3.5+	0.6+)	861128	046	(2.5+	4.1+)
820926	095	0.8-	0.6-	861125	046	0.8-	0.8+	861128	046	1.1+	0.1-
821019	033	0.0	1.4-	861126	046	0.3-	0.5+				

1982 UR3 = 1952 RE = 1953 VQ2 = 1975 EJ5 = 1977 QU3 = 1977 RO2

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	347.08591		(1950.0)		P		Q
n	0.19949888	Peri.	245.00312	+0.00884452			-0.99991717
a	2.9007475	Node	204.49560	+0.92534164			+0.01172848
e	0.0529334	Incl.	1.29220	+0.37903116			-0.00530051
P	4.94	H	12.0	G	0.25		

Residuals in seconds of arc

520913	760	1.7-	4.1+	770823	095	1.8+	1.5-	820926	095	0.9-	0.5+
531109	024	0.9+	0.8+	770909	095	1.6+	0.9-	821019	033	0.2+	0.7-
531208	024	1.3-	1.0+	820916	095	0.7-	0.2+	821019	033	0.4+	0.6-
750315	095	(4.9-	3.3-)	820918	095	(3.0+	2.3-)				
750317	095	0.2+	0.3+	820920	095	0.3-	1.1-				

1982 UF4 = 1968 UY = 1973 YB1 = 1977 RL8 = 1984 AF = 1987 US1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	41.52125		(1950.0)		P		Q
n	0.20474570	Peri.	60.85995	+0.67539221			-0.73743844
a	2.8509771	Node	346.65104	+0.66807424			+0.61497067
e	0.0716552	Incl.	1.35723	+0.31228540			+0.27927695
P	4.81	H	12.0	G	0.25		

Residuals in seconds of arc

681022	095	0.3-	1.5+	820918	095	2.1+	0.2-	840111	372	0.7-	3.1-
681026	095	(2.3-	3.2+)	820920	095	1.3+	0.2+	840111	372	0.2+	1.1+
731220	095	(15.2+	2.6+)	820926	095	0.9-	0.3-	871028	372	0.3-	0.4+
770908	675	0.9+	0.2-	821019	033	2.5-	2.3-	871028	372	1.3+	2.3+
770909	675	1.3+	0.2+	821019	033	3.0-	2.5-				
820916	095	0.2+	0.6+	821022	095	(5.3-	0.6+)				

1982 UE12 = 1984 DW

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	137.30044		(1950.0)		P		Q
n	0.24681138	Peri.	85.31912	+0.58918905			-0.80295772
a	2.5170594	Node	328.03384	+0.65729622			+0.54115213
e	0.0216476	Incl.	9.79695	+0.46991270			+0.24982650
P	3.99	H	12.5	G	0.25		

Residuals in seconds of arc

821024	095	0.9+	0.5-	840229	809	0.2+	1.6-	840306	809	1.0+	1.1-
821109	095	1.2+	0.2-	840229	809	0.3+	1.5-	840306	809	1.3+	1.1-
821111	095	0.8-	0.1+	840229	809	0.7+	1.6-	840306	809	1.5+	0.9-
840225	809	0.6+	1.0-	840301	809	1.4+	0.8-	840307	809	0.1-	0.7-
840225	809	1.1+	0.9-	840301	809	1.4+	0.7-	840307	809	0.0	1.2-
840225	809	1.2+	1.1-	840301	809	1.6+	0.6-	840307	809	0.0	1.5-
840226	809	1.8-	0.9-	840304	809	0.6+	0.9-	840309	809	0.1+	0.8-
840226	809	1.4-	1.0-	840304	809	0.4+	0.8-	840309	809	0.3+	0.8-
840226	809	0.9-	1.2-	840304	809	0.6+	0.6-	840309	809	0.2+	0.9-
840227	809	0.3+	0.3-	840305	809	0.3+	1.6-	840311	809	0.9+	0.9-
840227	809	0.4+	0.1-	840305	809	0.6+	1.5-	840311	809	0.9+	0.9-
840227	809	0.9+	0.2-	840305	809	0.8+	1.5-	840311	809	1.0+	0.8-

1982 VK12 = 1987 QP7

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	10.16233		(1950.0)		P		Q
n	0.17338302	Peri.	323.28570	+0.40224597			-0.91465480
a	3.1851694	Node	102.96482	+0.84941790			+0.35651522
e	0.1564239	Incl.	2.35595	+0.34159539			+0.19053475
P	5.68	H	12.0	G	0.25		

Residuals in seconds of arc

821113	095	0.7-	1.4-	830106	095	1.0+	1.6-	870822	033	1.0-	0.6-
821222	095	0.3+	0.2-	870822	033	0.5-	0.4-	870823	033	1.0-	0.2-

* * * * *

ORBITAL ELEMENTS BY T. KOBAYASHI, GUNMA, JAPAN.

Comet Cernis (1983 XII)

Epoch 1983 July 5.0 ET = JDE 2445520.5

T 1983 July 21.21824 ET

q	3.3178967	(1950.0)	P	Q	
z	-0.0005910	Peri.	186.21861	+0.90725559	+0.24294134
	+/-0.0000022	Node	208.88380	+0.40996823	-0.32863074
e	1.0019608	Incl.	134.70396	+0.09387945	-0.91267811

From 152 observations 1983 July 21-1988 Mar. 24, mean residual 0".86.

Comet Shoemaker (1985 XII)

Epoch 1985 Sept. 12.0 ET = JDE 2446320.5

T 1985 Sept. 4.59218 ET

q	2.6965101	(1950.0)	P	Q	
z	-0.0002661	Peri.	235.46182	-0.65096478	+0.34863298
	+/-0.0000011	Node	48.98521	+0.12297678	+0.92499751
e	1.0007174	Incl.	116.66114	-0.74908048	-0.15111137

From 108 observations 1984 May 27-1988 Mar. 24, mean residual 0".86.

Comet Hartley (1985 XIV)

Epoch 1985 Sept. 12.0 ET = JDE 2446320.5

T 1985 Sept. 28.36546 ET

q	4.0002341	(1950.0)	P	Q	
z	+0.0001052	Peri.	255.27251	+0.07838042	-0.34133689
	+/-0.0000059	Node	249.50971	+0.60689650	-0.72905826
e	0.9995793	Incl.	89.32900	-0.79090653	-0.59326485

From 45 observations 1984 Nov. 17-1988 May 18, mean residual 1".38.

Comet Churyumov-Solodovnikov (1986 IX)

Epoch 1986 May 10.0 ET = JDE 2446560.5

T 1986 May 6.51256 ET

q	2.6421410	(1950.0)	P	Q	
z	+0.0001288	Peri.	157.75227	+0.75695890	-0.01845940
	+/-0.0000068	Node	133.91723	-0.64670215	-0.16457513
e	0.9996597	Incl.	114.93411	+0.09375264	-0.98619181

From 46 observations 1986 July 15-1988 Mar. 25, mean residual 0".88.

Comet Wilson (1986I)

Epoch 1987 May 5.0 ET = JDE 2446920.5

T 1987 Apr. 20.78076 ET

q	1.1996507	(1950.0)	P	Q	
z	-0.0002582	Peri.	238.29627	-0.47925856	-0.71646776
	+/-0.0000020	Node	110.95845	-0.50095148	+0.69756927
e	1.0003098	Incl.	147.12199	-0.72066556	-0.00842978

From 447 observations 1986 Aug. 5-1988 Apr. 20, mean residual 0".90.

Nongravitational parameters A1 = +1.87, A2 = +0.1410.

Comet Rudenko (1987u)

Epoch 1987 Oct. 12.0 ET = JDE 2447080.5

T 1987 Oct. 9.52809 ET

q	(1950.0)	P	Q
z	0.6026019	-0.59684011	+0.02430786
	Peri. 143.83955	+0.33533117	+0.91561862
	+/-0.0000065	Node 297.87387	-0.40131243
e	1.0004239	Incl. 114.87165	+0.72892722

From 52 observations 1987 Aug. 22-1987 Dec. 19, mean residual 0".91.

Periodic Comet Kohoutek (1986k)

Epoch 1987 Oct. 12.0 ET = JDE 2447080.5

T 1987 Oct. 30.05565 ET

q	(1950.0)	P	Q
n	1.7753828	+0.09152504	-0.99045624
a	0.14822511	Peri. 175.74689	+0.12513975
e	3.5360755	Node 268.97904	-0.05776227
P	0.4979228	Incl. 5.91586	+0.40321218
	6.65		

From 55 observations 1986 July 30-1988 May 19, mean residual 1".30.

Comet Bradfield (1987s)

Epoch 1987 Nov. 21.0 ET = JDE 2447120.5

T 1987 Nov. 7.27405 ET

q	(1950.0)	P	Q
z	0.8689556	+0.78226681	+0.27311625
	+0.0060472	Peri. 73.91094	+0.80917732
	+/-0.0000030	Node 267.38478	+0.52023031
e	0.9947452	Incl. 34.08791	+0.36945399

From 326 observations 1987 Aug. 12-1988 Mar. 15, mean residual 0".90.

Comet McNaught (1987b1)

Epoch 1987 Dec. 31.0 ET = JDE 2447160.5

T 1987 Dec. 11.94509 ET

q	(1950.0)	P	Q
z	0.8412894	-0.19177318	-0.06808268
	+0.0013467	Peri. 17.42684	-0.08792866
	+/-0.0000153	Node 260.64327	+0.99379741
e	0.9988670	Incl. 97.12542	-0.09952553

From 58 observations 1987 Oct. 11-1988 Mar. 24, mean residual 0".87.

The identifications are by T. Kobayashi unless otherwise stated.

1976 YY = 1953 TX1 = 1972 TX1 = 1983 PT = 1987 SJ6

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	(1950.0)	P	Q
n	81.31977	+0.97263794	-0.23032000
a	0.26125315	Peri. 339.60123	+0.87108203
e	2.4234182	Node 33.76080	+0.07459487
P	0.1778140	Incl. 3.14255	+0.43378426
	3.77	H 14.5	G 0.25

Residuals in seconds of arc

531009	760	0.0	2.9-	761220	095	0.9+	0.7-	870920	071	1.4-	0.1-
531009	760	0.0	1.8-	830813	688	2.2+	1.3+	870921	071	1.8-	0.0
721006	095	5.0+	1.3+	830813	688	0.0	0.2-	870921	046	1.5+	0.8-
721007	095	2.9+	0.0	870919	071	3.2-	0.2-	870921	046	2.4+	0.2-
761216	095	3.6-	0.8+	870919	071	1.3-	0.7-	870921	071	0.2+	3.4+
761218	095	1.4+	1.0+	870919	071	0.5-	1.0+	870922	071	0.9+	2.2+

1979 QJ1 = 1988 CC1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	27.90138		(1950.0)		P		Q
n	0.29363472	Peri.	31.69438	-0.99742963			-0.00411111
a	2.2418047	Node	147.83469	-0.01684847			-0.95690375
e	0.1017763	Incl.	7.72231	+0.06964382			-0.29037616
P	3.36	H	14.0	G	0.25		

Residuals in seconds of arc

790822	809	0.6+	0.1+	790826	809	0.2+	1.3+	880211	675	0.0	0.5-
790822	809	0.9+	0.1-	790826	809	0.7-	0.5-	880214	675	(15.7-	4.9-)
790822	809	0.2+	0.0	790826	809	1.3-	1.1-	880313	675	0.2+	0.5-
790823	809	0.7-	0.7-	790830	809	0.8+	1.0+	880313	675	0.3-	0.4+
790823	809	0.1+	0.6-	790830	809	(0.5+	9.1-)				

1980 TS4 = 1987 SG4

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	58.26686		(1950.0)		P		Q
n	0.28069472	Peri.	25.28730	+0.51541222			-0.85650946
a	2.3101839	Node	33.70678	+0.77761408			+0.45410844
e	0.2184587	Incl.	2.81310	+0.36009246			+0.24531014
P	3.51	H	15.0	G	0.25		

Residuals in seconds of arc

801007	675	1.0-	0.8-	801010	095	0.3-	0.2+	870922	071	0.6+	0.4+
801008	675	0.8-	1.3+	870920	071	0.1-	0.2+	870929	688	0.6-	1.0+
801009	675	1.2+	1.2-	870921	071	0.2+	0.5-	870929	688	0.6-	0.0
801010	675	1.0+	0.2+	870921	071	0.4+	0.8-				

1981 TJ = 1986 WH9

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	183.25599		(1950.0)		P		Q
n	0.21112181	Peri.	125.38376	+0.99626815			+0.06326023
a	2.7932769	Node	231.06305	-0.08000495			+0.93211305
e	0.1086501	Incl.	4.32937	+0.03238785			+0.35659979
P	4.67	H	13.0	G	0.25		

Residuals in seconds of arc

810922	046	0.3+	0.9+	811006	046	0.5-	2.4-	861130	381	2.9-	2.4+
810922	046	1.1-	0.9+	811006	046	2.0+	1.3-	861130	381	2.0+	2.7-
810925	046	0.1-	0.8-	811007	046	1.3+	2.2+	861201	381	(8.5+	5.1+)
810925	046	1.0+	0.8-	811007	046	2.7-	1.3+	861201	381	1.0+	0.3+

1988 GS = 1984 EF1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	3.24700		(1950.0)		P		Q
n	0.25593254	Peri.	215.22911	-0.56204259			+0.82549155
a	2.4568900	Node	20.72524	-0.72134837			-0.45864107
e	0.0855427	Incl.	8.39884	-0.40467845			-0.32895604
P	3.85	H	13.5	G	0.25		

Residuals in seconds of arc

840301	675	0.0	0.8-	880414	046	2.7+	0.3-	880417	046	0.6-	0.8+
840301	675	1.1-	0.3-	880414	046	4.3-	1.2+	880417	046	1.1+	0.2-
840304	675	1.3+	0.3+	880415	046	0.8+	0.1+				
840304	675	0.3-	0.8+	880415	046	0.3+	1.7-				

ORBITAL ELEMENTS BY H. OISHI, NIIZA, JAPAN.

The identifications are by H. Oishi unless otherwise stated.

1953 RG = 1953 RM = 1948 VE = 1959 TT = 1961 AJ

The double designation 1953 RG = 1953 RM is by B. Potter (MPC 1084).

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 274.33741	(1950.0)	P	Q
n 0.17073394	Peri. 250.92454	-0.37541662	-0.89163718
a 3.2180318	Node 223.94673	+0.92648715	-0.35330343
e 0.1154862	Incl. 21.38684	+0.02615213	-0.28312509
P 5.77	H 11.3	G 0.25	

Residuals in seconds of arc

481109 012	2.0-	1.5+	530913 760	0.7+	2.5-	591007 024	1.3+	0.3-
481109 012	3.1+	3.0+	530913 760	1.0-	1.1-	610110 690	(3.4-	28.8-)Y
530909 760	0.5+	0.9+	530916 760	0.6-	0.0	610110 690	1.5-	3.7- Y
530909 760	0.9-	0.7-	530916 760	0.6+	0.1-			

1972 HX = 1972 KA = 1982 BR8 = 1986 CE = 1986 ER1

The double designation 1972 HX = 1972 KA is by B. G. Marsden (MPC 9064).

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 218.20839	(1950.0)	P	Q
n 0.27414331	Peri. 87.66921	-0.94363578	+0.30430705
a 2.3468490	Node 110.02510	-0.33090291	-0.87615345
e 0.1509408	Incl. 7.96479	+0.00740087	-0.37383465
P 3.60	H 13.5	G 0.25	

Residuals in seconds of arc

720419 095	0.3-	0.6-	820119 095	0.8+	0.2+	860210 675	2.6-	2.4-
720419 095	4.3+	3.9+	820120 095	0.9-	0.5+	860306 688	0.6+	0.3+
720517 095	3.6-	2.5-	860210 675	0.8+	1.9+	860306 688	0.9+	0.8-

1978 GJ = 1978 JK3 = 1978 JN3 = 1982 MC = 1986 PE4 = 1986 QF

The double designation 1986 PE4 = 1986 QF was suggested by A. Mrkos.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 239.14414	(1950.0)	P	Q
n 0.26558926	Peri. 50.49630	+0.00651754	+0.99823050
a 2.3969735	Node 219.99753	-0.94333552	-0.01347284
e 0.1120013	Incl. 5.27613	-0.33177645	+0.05791678
P 3.71	H 13.3	G 0.25	

Residuals in seconds of arc

780410 809	0.3+	0.2+	780509 675	0.5-	0.9-	820624 046	(4.0-	2.2-)
780410 809	0.2-	0.4+	780510 675	0.9-	0.3-	860806 046	1.9-	1.0+
780410 809	0.3+	0.1-	820620 046	1.3-	0.8-	860806 046	1.9-	1.4+
780506 808	1.6+	1.5+	820620 046	0.1+	0.3-	860826 046	(4.5+	2.0-)
780506 808	0.3-	1.2+	820624 046	1.7+	1.4-	860826 046	3.2+	0.4-

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ORBITAL ELEMENTS BY K. ICHIKAWA, OKAZAKI, JAPAN.

The identifications are by K. Ichikawa unless otherwise stated.

1972 TC2 = 1972 XE = 1968 TE = 1981 AF4 = 1986 EB5

The double designation 1972 TC2 = 1972 XE and the identifications 1972 TC2 = 1981 AF4 = 1986 EB5 were suggested by B. G. Marsden and H. Oishi, respectively.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)
 M 89.34565 (1950.0) P Q
 n 0.25676508 Peri. 265.55164 +0.92930479 +0.35120483
 a 2.4515812 Node 73.85498 -0.27371629 +0.86262306
 e 0.1506675 Incl. 6.82959 -0.24793549 +0.36405579
 P 3.84 H 12.5 G 0.25
 Residuals in seconds of arc
 681015 095 2.7- 1.3+ 721202 095 1.3- 0.2+ 810108 552 0.5- 1.0+
 681023 095 2.1+ 1.2+ 721206 095 0.2+ 0.7- 860312 413 1.7- 1.2+
 721008 095 1.0+ 1.6- 810108 552 1.0+ 0.5- 860312 413 2.1+ 0.0

1973 SR6 = 1973 UA3 = 1977 TH = 1979 DM

The double designation 1973 SR6 = 1973 UA3 was suggested by S. Nakano.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)
 M 190.29412 (1950.0) P Q
 n 0.23691928 Peri. 27.70957 +0.63353815 -0.76837766
 a 2.5866439 Node 23.34010 +0.66073062 +0.47630638
 e 0.1792569 Incl. 13.23310 +0.40257229 +0.42746696
 P 4.16 H 14.0 G 0.25
 Residuals in seconds of arc
 730925 095 1.7+ 3.3+ 731029 095 1.8- 3.1- 771011 805 1.1+ 1.9-
 731027 095 1.0- 2.2+ 771009 805 1.4+ 1.6- 790228 801 1.1- 1.8-

1977 EH7 = 1970 EC = 1982 VW1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)
 M 229.47872 (1950.0) P Q
 n 0.29370443 Peri. 103.01790 +0.09592657 -0.99448931
 a 2.2414545 Node 341.32010 +0.85434830 +0.10406524
 e 0.0833499 Incl. 7.58895 +0.51077106 +0.01270626
 P 3.36 H 14.8 G 0.25
 Residuals in seconds of arc
 700307 095 0.0 0.2- 770314 381 1.0- 0.5+ 770315 381 1.1- 1.0-
 770312 381 0.6+ 0.6+ 770314 381 0.1- 0.3+ 821114 033 0.0 0.0
 770312 381 1.5+ 1.0+ 770315 381 0.2+ 1.2-

1978 TP2 = 1978 VF12 = 1971 UT2

The double designation 1978 TP2 = 1978 VF12 is by S. Nakano and H. Oishi (MPC 11982), who found it independently. The identification 1978 TP2 = 1971 UT2 was also found by H. Oishi and L. D. Schmadel.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)
 M 271.48872 (1950.0) P Q
 n 0.28002849 Peri. 246.46524 +0.69378311 -0.71970507
 a 2.3138512 Node 159.53236 +0.68509186 +0.64829504
 e 0.1529821 Incl. 4.30690 +0.22206786 +0.24847164
 P 3.52 H 14.5 G 0.25
 Residuals in seconds of arc
 711021 805 1.0- 1.4+ 711021 095 1.0+ 0.2- 781007 095 0.2- 0.2-
 711021 805 0.0+ 1.1- 781003 095 0.2+ 0.2+ 781102 095 0.0+ 0.0

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ORBITAL ELEMENTS BY S. NAKANO, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by S. Nakano unless otherwise stated.

(3901)* 1958 GQ = 1958 GH = 1954 KE = 1976 SC4

Discovered 1958 Apr. 7 at the Purple Mountain Observatory.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	27.04107		(1950.0)		P		Q
n	0.23164794	Peri.	231.77337	-0.50363541		+0.86334173	
a	2.6257321	Node	8.16987	-0.70702895		-0.39094626	
e	0.2774262	Incl.	12.80787	-0.49644883		-0.31906438	
P	4.25	H	12.1	G	0.25		

Residuals in seconds of arc

540524	078	0.0	0.1-	580413	330	2.1+	0.0	880415	474	0.1+	0.4-
580407	330	0.3+	0.2-	580425	330	2.1-	1.0+	880415	474	0.1+	0.5+
580408	760	1.0-	0.1-	760924	095	0.3+	0.2-	880521	474	0.1-	0.2+
580408	760	0.3-	1.9-	760929	095	0.8+	1.3-	880521	474	0.1+	0.0

(3902)* 1986 AL = 1934 AB = 1984 WF1 = 1984 YG1

Discovered 1986 Jan. 14 by S. Inoda and T. Urata at Karasuyama.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	32.06878		(1950.0)		P		Q
n	0.17104772	Peri.	340.32795	+0.07953442		+0.96564392	
a	3.2140887	Node	293.57586	-0.87456841		-0.05149664	
e	0.0793570	Incl.	15.66006	-0.47833501		+0.25471534	
P	5.76	H	11.4	G	0.25		

Residuals in seconds of arc

340107	024	0.7+	1.1+	860114	889	(3.6-	0.1-)	860216	889	0.6-	1.4+
841120	010	1.2+	0.6+	860114	889	1.6-	0.1-	870224	474	0.8-	1.6+
841120	010	0.9-	0.5+	860208	889	3.0-	1.0-	870224	474	0.5-	0.9+
841217	095	1.6-	0.4+	860208	889	0.4+	0.8+	880711	801	0.4-	0.2+
860112	688	1.5+	1.4-	860209	889	0.3+	0.1-	880810	801	1.2+	0.3+
860112	688	2.7+	1.3-	860209	889	0.9+	1.7-				

(3903)* 1987 SV2 = 1951 MO = 1972 TD11 = 1972 UF = 1977 RM6

Discovered 1987 Sept. 20 by E. W. Elst at Rozhen.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	138.58225		(1950.0)		P		Q
n	0.19620763	Peri.	304.91501	+0.29150613		+0.95654299	
a	2.9330904	Node	342.02918	-0.86996959		+0.26204479	
e	0.0818565	Incl.	1.30909	-0.39771484		+0.12789853	
P	5.02	H	12.0	G	0.25		

Residuals in seconds of arc

510628	839	(70.0+	3.7+)	870917	809	0.5+	0.3+	870924	809	0.6+	0.1+
721013	095	2.1+	1.0+	870919	809	0.1+	0.0	870924	809	0.4+	0.1+
721028	095	1.9-	1.3-	870919	809	0.3+	0.0	870926	809	0.5+	0.9-
770911	095	1.2-	1.1+	870919	809	0.6+	0.2+	870926	809	0.6+	0.8-
770918	095	2.0-	0.1+	870920	071	(5.7+	4.2-)	870926	809	0.8+	0.7-
770921	095	2.2+	0.4+	870920	071	(7.1+	4.1-)	871001	881	0.4-	0.1+
820916	095	1.0-	0.9+	870921	071	(6.9-	1.1+)	871001	881	1.3-	0.1+
820919	095	0.0	0.0	870921	071	(4.7-	1.1+)	871002	881	1.3-	0.1+
820921	095	0.1-	0.7+	870923	809	0.2-	0.3-	871002	881	1.2-	0.6-
820928	095	0.5+	0.2-	870923	809	0.1+	0.3-	871018	881	0.2+	0.0
870917	809	0.3+	0.1+	870923	809	0.5+	0.5-	871018	881	1.0-	0.2+
870917	809	0.4+	0.2+	870924	809	0.6+	0.1+				

(3904)* 1988 DQ = 1939 CC1 = 1947 CG = 1951 CN1

Discovered 1988 Feb. 22 by R. H. McNaught at Siding Spring.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5

M	112.02840		(1950.0)		P		Q
n	0.24121242	Peri.	126.19037	+0.18444791		-0.96374792	
a	2.5558553	Node	311.98153	+0.79772871		+0.26138279	
e	0.0983250	Incl.	15.03165	+0.57411486		-0.05356291	
P	4.09	H	11.5	G	0.25		

Residuals in seconds of arc

390213	062	3.4-	1.6-	840305	413	0.6+	0.3+	880310	413	1.0-	0.3-
390217	062	(97.0+	13.9+)	840307	413	0.3+	0.1-	880310	413	1.5+	0.3-
470214	754	(38.3+	2.6+)	840307	413	0.9+	0.5-	880412	413	0.0	0.6-
470214	754	(35.2+	1.7+)	880219	413	0.7-	0.1+	880414	413	0.4-	0.4+
470219	754	(4.6+	0.2+)	880219	413	1.5+	0.3-	880416	413	1.1+	0.7-
470219	754	1.0+	0.1-	880222	413	2.0-	0.0	880420	413	1.1+	0.0
470220	754	0.4+	0.7-	880222	413	1.3+	0.3-	880420	413	1.0-	0.5+
470220	754	1.8+	0.2-	880223	413	1.2-	0.7+	880420	413	0.0	0.4+
510207	711	0.8-	1.4+ Y	880223	413	0.1+	0.8+	880711	413	1.6+	0.2+
510207	711	(0.9+	5.9-)Y	880225	413	1.5-	0.1+				
840305	413	0.2-	0.8+	880225	413	0.0	0.3+				

1969 UR = 1982 VA13 = 1984 FQ

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	118.56500		(1950.0)		P		Q
n	0.23020262	Peri.	220.49646	+0.21441861		-0.96728140	
a	2.6367163	Node	217.70151	+0.94360431		+0.24099669	
e	0.1488506	Incl.	12.81222	+0.25226090		-0.07929243	
P	4.28	H	12.0	G	0.25		

Residuals in seconds of arc

691016	095	2.0+	1.7+	821114	095	0.8+	1.1+	840331	688	1.1-	0.2-
691111	095	0.6-	1.2-	821221	095	0.6-	0.2+				
691113	095	1.1-	2.0-	840331	688	1.1+	0.3-				

1972 AU = 1970 QE1 = 1987 TB

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	96.27268		(1950.0)		P		Q
n	0.23513661	Peri.	10.50696	+0.98926056		+0.12915953	
a	2.5997011	Node	341.64444	-0.14483863		+0.80339358	
e	0.1734495	Incl.	12.54861	-0.01962939		+0.58127151	
P	4.19	H	13.0	G	0.25		

Residuals in seconds of arc

700830	095	1.4-	2.4-	720115	029	0.6+	0.2-	871002	054	0.5+	0.9-
700909	095	0.6+	3.4+	720116	029	0.4-	1.3+				
720114	029	0.2+	0.3-	720117	029	(9.1-	0.3+)				

1975 LQ = 1987 SO11 = 1987 WH3

The double designation 1987 SO11 = 1987 WH3 is by B. G. Marsden.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	126.65092		(1950.0)		P		Q
n	0.25979676	Peri.	144.84020	+0.61649677		+0.78688156	
a	2.4324715	Node	163.16626	-0.74227818		+0.59244241	
e	0.1573478	Incl.	5.42332	-0.26259254		+0.17271191	
P	3.79	H	14.0	G	0.25		

Residuals in seconds of arc

750606	808	0.0	0.3+	870919	809	0.0	0.1+	871001	809	0.6+	0.5-
750606	808	0.3-	0.1-	870919	809	0.2+	0.0	871001	809	0.5+	0.4-
750612	808	0.7+	1.2-	870923	809	0.7-	0.1+	871002	809	1.1+	0.6-
750614	808	0.5-	0.2+	870923	809	0.4-	0.1+	871002	809	1.0+	0.6-
750614	808	0.0	0.9+	870923	809	0.3-	0.5+	871002	809	1.0+	0.6-
870917	809	1.1-	0.5+	870924	809	0.8-	0.1+	871117	010	0.2+	0.7+
870917	809	1.3-	0.5+	870924	809	0.8-	0.1+	871117	010	1.1-	0.5+
870917	809	1.6+	0.5+	870924	809	0.6-	0.2+				
870919	809	0.0	0.1+	871001	809	0.8+	0.8-				

1976 YW2 = 1977 AF = 1978 EB7 = 1983 CX5

The double designation 1976 YW2 = 1977 AF is by B. G. Marsden (MPC 9153). The identification 1976 YW2 = 1978 EB7 was suggested by W. Landgraf and L. D. Schmadel.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	349.17043		(1950.0)		P		Q
n	0.16918831	Peri.	1.25486	-0.21623369		-0.93044374	
a	3.2376012	Node	101.29178	+0.89308278		-0.31093280	
e	0.0695968	Incl.	17.55812	+0.39452015		+0.19389491	
P	5.83	H	11.0	G	0.25		

Residuals in seconds of arc

761216	095	0.4-	0.3-	770120	095	0.6+	0.0	830202	095	1.2+	2.4+
770113	095	0.0	0.1+	780306	095	0.0	0.0	830210	095	1.3-	2.2-

1978 VK8 = 1987 SQ9

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	40.99296		(1950.0)		P		Q
n	0.20877647	Peri.	319.15051	+0.71075871		-0.70237548	
a	2.8141628	Node	85.51295	+0.65501842		+0.64082821	
e	0.1616073	Incl.	2.21955	+0.25646231		+0.30985140	
P	4.72	H	14.0	G	0.25		

Residuals in seconds of arc

781105	675	0.4-	0.4-	781129	675	0.0	0.3+	870920	071	2.7-	0.5-
781106	675	0.3+	0.2-	781130	675	0.3-	0.1+	870921	071	1.9-	0.6-
781107	675	0.2-	0.2+	870919	071	2.9+	0.6+				
781108	675	0.6+	0.1-	870919	071	1.6+	0.5+				

1979 MP1 = 1987 SK6

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	114.79343		(1950.0)		P		Q
n	0.25908425	Peri.	164.26997	+0.86337944		+0.50450085	
a	2.4369291	Node	165.42485	-0.46601386		+0.80296869	
e	0.1214938	Incl.	1.68625	-0.19340896		+0.31736442	
P	3.80	H	15.0	G	0.25		

Residuals in seconds of arc

780315	675	2.6-	0.2-	790624	413	0.8-	0.4-	790727	675	3.7+	0.2+
780315	675	0.6-	0.9-	790625	413	1.0-	0.2+	790823	675	1.2-	0.9+
780316	675	0.5+	2.6-	790724	675	2.4-	0.2-	870921	046	1.8+	2.5-
780316	675	0.4+	2.2-	790724	413	1.2+	0.6-	870921	046	0.1+	2.1-
790623	413	1.0+	0.1-	790725	675	0.4-	1.2-				

1979 MM8 = 1978 EO8 = 1987 SX12

The identification 1979 MM8 = 1978 EO8 was suggested by C. Atallah.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	108.53539		(1950.0)		P		Q
n	0.25700435	Peri.	154.58649	+0.88531951		+0.46497617	
a	2.4500593	Node	177.70007	-0.43672841		+0.83339692	
e	0.1265364	Incl.	3.65095	-0.15961725		+0.29874192	
P	3.83	H	14.5	G	0.25		

Residuals in seconds of arc

780315	675	(7.6-	62.3+)	790726	675	0.9-	1.1+	870919	809	0.4+	0.0
780316	675	0.8-	2.2-	790726	675	0.6-	0.6+	870924	809	0.6-	0.1-
790623	413	1.0+	0.5-	790727	675	0.9-	0.0	870924	809	0.2-	0.1+
790624	413	0.3-	1.0-	790728	413	0.3+	0.4-	870924	809	0.1-	0.3+
790625	413	1.5+	0.5-	790823	675	1.7+	0.2+	871001	809	0.5+	0.7-
790629	413	0.7-	0.0	870919	809	0.3+	0.0	871001	809	0.1+	0.8-
790724	413	0.8-	0.2+	870919	809	0.3+	0.0	871001	809	0.1+	0.9-

1981 DE2 = 1979 YO9 = 1988 PM

The identification 1981 DE2 = 1979 YO9 is by H. Oishi (JAM 1952).

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	193.47340		(1950.0)		P		Q
n	0.18821295	Peri.	179.63227		-0.75432503		-0.64891053
a	3.0155781	Node	319.32987		+0.60190768		-0.62306314
e	0.0412865	Incl.	8.78594		+0.26210854		-0.43670064
P	5.24	H	12.5	G	0.25		

Residuals in seconds of arc

791225	095	0.0	0.3+	810308	413	0.9+	0.3+	810409	413	1.3+	0.1-
810209	413	0.7-	0.8-	810312	413	1.2-	0.3-	810501	413	1.9+	0.7-
810212	413	1.0-	0.0	810312	413	0.2-	0.1-	810503	413	0.6+	0.2+
810228	413	2.5-	0.5-	810407	413	0.4-	0.9+	880813	413	2.2+	0.5+
810228	413	0.4+	0.1+	810407	413	2.3+	0.0	880814	413	1.6+	0.3-
810306	413	1.2-	0.2-	810408	413	0.0	0.1+	880816	413	0.6-	0.5-
810306	413	0.6+	0.8-	810408	413	0.6+	0.5+	880819	413	0.3+	0.3-
810308	413	1.1-	0.6+	810409	413	0.5-	0.1+	880820	413	3.2-	0.1+

1981 GN1 = 1981 GP1 = 1950 QG1 = 1982 SE5

The double designation 1981 GN1 = 1981 GP1 is by K. Hurukawa (JAM 1902).

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	276.90265		(1950.0)		P		Q
n	0.27774537	Peri.	129.43066		+0.60075305		+0.79939861
a	2.3265141	Node	177.45698		-0.77592284		+0.58534445
e	0.1285022	Incl.	9.85192		-0.19245653		+0.13540216
P	3.55	H	13.5	G	0.25		

Residuals in seconds of arc

500819	711	0.1+	0.6-	Y	810311	413	1.1+	0.3-	810407	413	0.1+	0.2+
810209	413	2.5+	2.7-		810311	413	0.8+	0.5-	810408	413	2.4-	2.2+
810213	413	(4.1+	3.9-)		810316	413	0.7+	1.2-	810408	413	0.2-	0.4+
810302	413	0.3+	0.2-		810316	413	0.2+	0.3-	810411	413	2.8-	1.9+
810302	413	1.7+	2.2-		810329	413	0.7-	0.9+	810411	413	0.5-	0.2-
810303	413	0.8+	0.8-		810329	413	0.0	0.3+	810426	413	1.5-	1.0-
810303	413	2.6+	2.3-		810401	801	0.4+	2.7+	810502	413	0.8-	0.1-
810307	413	0.9+	0.5-		810407	801	3.0-	1.0-	810503	413	1.0-	0.2-
810307	413	2.0+	1.5-		810407	413	2.6-	1.6+	820916	095	0.6+	3.0-

1981 UJ4 = 1972 YW = 1975 XS5 = 1983 JO = 1984 UU2 = 1984 WK1 = 1987 SL6

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	328.44445		(1950.0)		P		Q
n	0.31379087	Peri.	125.88536		-0.83680677		-0.54733245
a	2.1447502	Node	20.94064		+0.48935702		-0.75875474
e	0.0637331	Incl.	2.16103		+0.24552829		-0.35315496
P	3.14	H	13.5	G	0.25		

Residuals in seconds of arc

721230	095	0.7-	1.0-		811030	381	3.2-	0.5+	841026	688	2.4+	0.2-
730103	095	1.8-	2.0-		811030	381	2.4-	0.0	841120	688	1.1+	1.2-
751204	095	1.2+	1.8+		830506	688	0.0	3.7-	841120	688	1.2+	0.3-
811022	095	3.4+	2.3-		830506	688	0.6-	2.7-	870921	046	1.8-	1.8-
811024	095	1.3+	3.4-		841026	688	2.5+	3.3+	870921	046	2.5-	1.6-

1982 PC = 1982 QL = 1969 UK1 = 1972 NN = 1979 WZ6

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	308.12241		(1950.0)		P		Q
n	0.29798866	Peri.	149.82405		+0.62791531		+0.77789080
a	2.2199188	Node	159.04095		-0.72710575		+0.59763350
e	0.2030937	Incl.	3.95364		-0.27756009		+0.19421663
P	3.31	H	14.5	G	0.25		

Residuals in seconds of arc

691016	095	0.0	0.2-	820813	095	(1.5-	7.4-)	820819	675	1.4+	2.3+
720713	095	0.7-	3.3+	820814	046	1.6+	0.4-	820819	675	0.0	2.3+
720716	095	(5.3-	5.3+)	820814	046	(3.3+	1.6-)	820819	046	0.0	0.5+
720719	095	0.5+	2.3-	820815	095	0.1+	1.4-	820819	046	1.8-	0.3-
791117	095	0.1-	0.9+	820818	046	(0.6-	3.1-)	820821	046	1.0-	1.8-
820727	095	(4.4-	0.4-)	820818	046	0.5+	1.4-	820821	046	0.5-	0.7-

1982 SU3 = 1977 PF1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	122.92023		(1950.0)		P		Q
n	0.20587040	Peri.	140.39408	+0.63372976		+0.77221783	
a	2.8405840	Node	168.68026	-0.75538341		+0.63043553	
e	0.1723620	Incl.	13.39017	-0.16668081		+0.07893456	
P	4.79	H	12.5	G	0.25		

Residuals in seconds of arc

770814	095	0.5-	0.3+	820920	095	0.4-	0.5-	821015	095	1.1+	0.9-
770821	095	0.5+	0.3-	820924	033	1.2-	2.0+				
820916	095	1.6+	3.2-	820924	033	1.0-	2.5+				

1982 SV5 = 1931 TR3 = 1975 PK

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	254.19174		(1950.0)		P		Q
n	0.28940696	Peri.	206.78106	+0.94562522		-0.32492456	
a	2.2635891	Node	172.13694	+0.31436901		+0.90140889	
e	0.1954256	Incl.	6.18112	+0.08345700		+0.28615739	
P	3.41	H	14.0	G	0.25		

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

311012	690(0.19+	0.06+)X	750816	805	0.7-	0.5-	820926	095	0.1+	2.0+	
311014	690(0.16+	0.06+)X	820916	095	1.2-	0.9-	821022	095	0.1+	0.5-	
750814	805	1.2-	1.2-	820918	095	2.5+	3.5-				
750815	805	1.8+	1.7+	820920	095	1.5-	2.7+				

1982 SC6 = 1964 TE1 = 1964 UL = 1980 BJ1 = 1980 DE2 = 1986 XL2

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	165.73227		(1950.0)		P		Q
n	0.27196899	Peri.	75.43333	+0.05642367		-0.99812237	
a	2.3593407	Node	11.41214	+0.86332036		+0.03678431	
e	0.1998797	Incl.	6.91869	+0.50149211		+0.04897601	
P	3.62	H	13.5	G	0.25		

Residuals in seconds of arc

641008	330	0.4-	2.5-	800220	095	0.4+	0.3-	821022	095	0.1+	0.7+
641030	330	2.2+	0.2+	820916	095	2.2-	1.3+	861201	010	0.9-	0.4-
641109	330	2.7-	3.7+	820920	095	1.9-	1.6-	861202	010	1.0+	1.8-
800123	095	0.4+	1.8+	820926	095	3.7+	0.2+				

1982 UE = 1979 YV7 = 1980 BL6

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	254.64824		(1950.0)		P		Q
n	0.28918586	Peri.	292.23315	+0.95574218		-0.28455568	
a	2.2647428	Node	84.36270	+0.28993063		+0.86781767	
e	0.2236044	Incl.	4.30672	+0.04997119		+0.40733348	
P	3.41	H	14.0	G	0.25		

Residuals in seconds of arc

791223	095	0.4-	0.0	821011	688	0.1-	0.5-	821017	688	0.6-	1.0-
800122	095	0.5+	0.1-	821014	095	0.4-	0.7+	821021	095	0.5-	1.7+
821011	688	0.7+	0.2-	821017	688	0.9+	0.8-				

1982 WM = 1963 SB1 = 1986 VE6 = 1988 EP1

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 179.64369	(1950.0)	P	Q
n 0.25936626	Peri. 286.15984	+0.87791933	-0.47202312
a 2.4351624	Node 102.06565	+0.46466259	+0.79943203
e 0.1600453	Incl. 4.71145	+0.11552630	+0.37162158
P 3.80	H 13.0	G 0.25	

Residuals in seconds of arc

630927 760	(80.2+ 44.2-)X	821118 491	0.7+ 1.3+	880313 054	2.0+ 0.9+
821014 095	2.1- 2.8+	861106 688	0.5- 0.1-	880313 054	1.2- 0.4+
821015 095	1.2- 1.0+	861106 688	0.0 0.1-	880314 054	0.2- 0.2+
821021 095	1.9+ 2.0-	861204 688	1.4+ 1.2+		
821117 491	0.6+ 2.2-	861204 688	0.9- 0.8-		

1984 ER1 = 1982 VC11 = 1987 SS11

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 338.37758	(1950.0)	P	Q
n 0.17291423	Peri. 297.06493	+0.04677096	-0.99870669
a 3.1909237	Node 150.23386	+0.93007290	+0.03625929
e 0.1838257	Incl. 2.30133	+0.36438562	+0.03563996
P 5.70	H 13.0	G 0.25	

Residuals in seconds of arc

821114 095	0.0 0.1+	840306 809	0.4+ 0.4-	870918 809	0.2+ 1.5-
840302 809	0.6- 0.3+	840308 809	0.4- 0.6-	870919 809	0.5- 0.4-
840302 809	0.5- 0.6+	840308 809	0.3- 0.5-	870919 809	0.6- 0.5-
840302 809	0.3- 0.4+	840308 809	0.0 0.7-	870919 809	0.6- 0.5-
840304 809	0.2- 0.3+	840310 809	0.3- 0.4+	870923 809	1.1+ 0.7+
840304 809	0.0 0.5+	840310 809	0.0 0.3+	870923 809	1.0+ 0.6+
840304 809	0.3+ 0.7+	840310 809	0.1- 0.5+	870923 809	1.0+ 0.6+
840305 809	0.2+ 1.4-	840313 809	0.3- 0.1+	870924 809	1.1+ 0.6+
840305 809	0.4+ 1.2-	840313 809	0.5- 0.0	870924 809	1.1+ 0.6+
840305 809	0.6+ 1.1-	840313 809	0.1+ 0.2-	870924 809	1.0+ 0.9+
840306 809	0.4+ 0.0	870918 809	2.2- 1.1-		
840306 809	0.2+ 0.1-	870918 809	1.7- 2.6-		

1986 RF = 1956 LA = 1978 VB13 = 1982 SK6 = 1985 FL2 = 1988 AT4

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 232.42901	(1950.0)	P	Q
n 0.23589873	Peri. 75.91277	-0.03565376	+0.99837770
a 2.5940988	Node 192.30395	-0.97831330	-0.04393783
e 0.1556946	Incl. 12.02419	-0.20403897	+0.03621386
P 4.18	H 13.0	G 0.25	

Residuals in seconds of arc

560610 760	0.9- 0.2+	850324 688	0.1+ 0.4+	860929 010	(17.5+ 1.0+)
560610 760	0.7+ 2.0-	850324 688	0.1+ 0.2-	860929 054	0.5- 0.6+
781102 095	0.7+ 0.5+	860908 054	0.5+ 0.3+	860929 010	(18.3+ 1.6+)
820916 095	0.7- 0.7+	860911 054	0.8- 0.3-	880113 033	0.5- 1.9-
820927 095	0.9+ 1.6-	860912 054	0.6+ 0.6-	880113 033	0.2- 0.0

1987 KB = 1951 TR = 1962 WM = 1976 KC1 = 1982 AO

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M 84.50900	(1950.0)	P	Q
n 0.26955006	Peri. 66.49101	+0.62249295	+0.76487052
a 2.3734347	Node 243.05877	-0.76860296	+0.55755748
e 0.2664968	Incl. 10.71577	-0.14748563	+0.32264957
P 3.66	H 13.0	G 0.25	

Residuals in seconds of arc

511002	094(10.9+ 43.3+)X	870526	870	0.3+	1.5+	870602	870	2.1-	1.3+
621124	760(26.1- 4.1+)X	870526	870	0.5+	1.9+	870602	870	1.0-	0.2-
760526	095 0.2+ 6.0-	870526	870	0.2+	1.7+	870603	870	0.5-	0.1-
760529	095 0.5- 1.1-	870526	870	0.4+	0.9+	870603	870	0.8-	0.0
820104	675 0.2+ 0.9+	870526	870	(3.1-	1.6+)	870603	870	0.6-	0.1-
870522	675(11.9- 21.4+)	870526	870	0.9-	0.8-	870603	870	0.9-	0.8-
870523	870 1.1- 0.0	870526	870	1.6-	0.8-	870603	870	0.2-	0.1-
870523	870 2.7+ 1.1-	870526	870	0.8-	0.6-	870603	870	0.6-	0.1+
870523	870 1.6+ 2.7-	870526	870	0.7-	0.2+	870603	870	0.8-	0.7-
870523	870 1.1+ 0.8+	870526	870	0.1-	0.8+	870603	870	1.2+	0.4+
870523	870 0.2+ 1.1+	870530	870	1.4-	1.5+	870603	870	1.5+	0.2+
870523	870(17.6- 16.2+)	870530	870	0.3-	0.2+	870603	870	2.4+	0.0
870523	675(20.9+ 2.9+)	870530	870	1.7-	0.4+	870603	870	1.8+	0.2-
870524	870 0.1+ 1.1+	870531	870	0.4+	0.0	870605	870	0.6+	0.2+
870526	870 1.4- 2.0+	870531	870	0.5-	2.7-	870605	870	(3.9+	0.3+)
870526	870 0.0 0.9+	870531	870	0.9+	0.3+	870605	870	2.0+	0.6+

1987 RY = 1964 TP1 = 1982 UU6 = 1982 VV8

The double designation 1982 UU6 = 1982 VV8 was suggested by

L. G. Karachkina.

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	73.90123	(1950.0)	P	Q	
n	0.16873303	Peri.	251.89947	+0.70706609	+0.70712044
a	3.2434224	Node	63.09889	-0.64611286	+0.64956744
e	0.1550937	Incl.	0.39726	-0.28739470	+0.27936147
P	5.84	H	12.0	G	0.25

Residuals in seconds of arc

641009	330 0.1- 0.2+	870915	809	1.1+	0.6-	870924	809	1.3-	0.9+
821020	095 0.3- 0.2-	870915	809	1.1+	0.5-	870924	809	1.4-	0.9+
821025	095 0.8+ 0.3+	870918	809	1.3+	0.7-	870924	809	1.4-	1.0+
821109	095 0.3- 0.7-	870918	809	1.3+	0.7-	870926	809	0.5-	2.0+
870912	809 1.3- 2.0-	870918	809	1.3+	0.6-	870926	809	0.7-	2.1+
870912	809 0.8- 1.8-	870919	809	0.1+	0.6+	870926	809	1.0-	2.2+
870912	809 0.3+ 1.9-	870919	809	0.2+	0.0				
870915	809 1.2+ 0.6-	870919	809	0.3+	0.0				

1987 SN11 = 1982 XO3

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	1.56340	(1950.0)	P	Q	
n	0.17831559	Peri.	272.79246	+0.20712569	-0.97827716
a	3.1261564	Node	165.24522	+0.91032550	+0.18953076
e	0.1657430	Incl.	1.91909	+0.35833842	+0.08397549
P	5.53	H	13.5	G	0.25

Residuals in seconds of arc

821213	381 3.7+ 0.2-	870919	809	0.3+	0.2+	870924	809	0.0	0.2-
821214	381 0.5- 0.0	870919	809	0.4+	0.2+	870924	809	0.0	0.3-
821214	381 3.2- 0.2+	870919	809	0.6+	0.2+	870924	809	0.1+	0.2-
870917	809 0.5- 0.4+	870923	809	0.1-	0.0	870926	809	0.3-	0.3-
870917	809 1.1- 0.3-	870923	809	0.1-	0.1+	870926	809	0.1-	0.2-
870917	809 0.4+ 0.7+	870923	809	0.0	0.0	870926	809	0.3+	0.2-

2636 P-L = 1988 PN

Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 (J-P)

M	63.81596	(1950.0)	P	Q	
n	0.27898976	Peri.	79.65864	-0.40404508	+0.91466552
a	2.3195909	Node	166.49230	-0.85745600	-0.37429546
e	0.1898545	Incl.	2.84656	-0.31861697	-0.15261026
P	3.53	H	15.0	G	0.25

Residuals in seconds of arc

600924	675	0.3-	0.2+	601017	675	0.3+	0.5+	601026	675	0.5-	0.6-
600926	675	0.7-	0.5+	601022	675	0.2+	1.5-	880813	413	(12.8-	15.6-)
600927	675	1.0+	1.8+	601025	675	0.2-	0.0	880814	413	0.7+	0.1-
600928	675	0.1-	0.4-	601025	675	0.1+	0.5-	880816	413	0.6-	0.2-

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NEW NAMES OF MINOR PLANETS.

(2680) Mateo = 1975 NF

Discovered 1975 July 1 at the El Leoncito Station of the Felix Aguilar Observatory.

Named in memory of Jose Mateo (1914-1978), a geophysicist who was for many years in charge of the Gravimetry and Tide Department of the La Plata Observatory. Later, as Director of the Observatory, he started the final phase of construction of the astronomical complex at El Leoncito.

(2893) Peiroos = 1975 QD

Discovered 1975 Aug. 30 at the El Leoncito Station of the Felix Aguilar Observatory.

Named for the Thracian chief who fought courageously to defend Troy.

(3393) Stur = 1984 WY1

Discovered 1984 Nov. 28 by M. Antal at Piszkesteto.

Named in memory of Ludovit Velislav Stur (1815-1856), ideologist and organizer of the Slovak national-liberation movement, codifier of the Slovak literary language, linguist, philosopher, historian, writer, poet, journalist, educationalist and editor. Stur was also an enthusiastic promoter of Czecho-Slovak contacts, Slavonic solidarity and human coexistence with high respect for democracy. An active authority during the 1848-1849 revolution, he led the revival from the oppression of a millennium that almost caused the Slovaks to lose their identity.

(3608) Kataev = 1978 SD1

Discovered 1978 Sept. 27 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Named in memory of the Soviet writer Valentin Petrovich Kataev (1897-1986).

(3625) Fracastoro = 1984 HZ1

Discovered 1984 Apr. 27 by W. Ferreri at the European Southern Observatory.

Named in honor of Mario Girolamo Fracastoro, former director of the Catania and the Pino Torinese observatories. His early research (in Florence) included solar physics, astronomical technology and the physics of photometric binaries. In 1963 he began a systematic study of the star RS CVn. More recently, he has been involved in astrometric work on binary systems, serving as president of IAU Commission 26 during 1982-1985 and as a member of the Hipparcos mission definition group.

(3659) Bellingshausen = 1969 TE2

Discovered 1969 Oct. 8 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Named in memory the Russian admiral Faddej Faddeevich Bellingshausen (1778-1852), head of the first Russian Antarctic expedition in 1819-1821.

(3660) Lazarev = 1978 QX2

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

Named in memory of the Russian admiral Mikhail Petrovich Lazarev (1797-1851), a participant in the first Russian Antarctic expedition and commander of the ship Mirnyj.

(3702) Trubetskaya = 1970 NB

Discovered 1970 July 3 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Named for Ekaterina Ivanovna Trubetskaya (1800-1854), a princess who voluntarily followed her husband, the Decembrist S. P. Trubetskoj, to exile in Siberia.

(3703) Volkonskaya = 1978 PU3

Discovered 1978 Aug. 9 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Named for Mariya Nikolaevna Volkonskaya (1805-1865), another princess who voluntarily followed her husband, the Decembrist S. G. Volkonskij, to exile in Siberia.

(3719) Karamzin = 1976 YO1

Discovered 1976 Dec. 16 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Named in memory of Nikolaj Mikhailovich Karamzin (1766-1826), author of the celebrated twelve-volume "History of the Russian State".

(3730) Hurban = 1983 XM1

Discovered 1983 Dec. 4 by M. Antal at Piszkesteto.

Named in memory of Jozef Miloslav Hurban (1817-1888), poet, writer, journalist, editor, critic, historian and a leading ideologist of the Slovak national revival. A close colleague (and biographer) of Ludovit Stur, he promoted the Slovak literary language and organized cultural and educational activities. During the revolution of 1848-1849 he asserted Slovak national and social claims.

(3747) Belinskij = 1975 VY5

Discovered 1975 Nov. 5 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Named in honor of Vissarion Grigor'evich Belinskij (1811-1848), Russian literary critic and publicist, revolutionary democrat.

(3778) Regge = 1984 HK1

Discovered 1984 Apr. 26 by W. Ferreri at the European Southern Observatory.

Named in honor of Tullio Regge, professor of the theory of relativity at Turin University. His research has included particle scattering at high energy and the development of the concept of complex angular momentum and of poles of the scattering matrix in the angular momentum. Regge is a recipient of the American Physical Society's Heineman award and of the Lewis Strauss Foundation's Einstein medal.

(3831) Pettengill = 1986 TP2

Discovered 1986 Oct. 7 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Gordon H. Pettengill, planetary physicist at the Massachusetts Institute of Technology and currently director of the MIT Center for Space Research. Pettengill pioneered the development of planetary radar astronomy, beginning in the late 1950s with the first application of coherent earth-based radar to lunar studies. In 1965 he led delay-Doppler observations that revealed the 3/2 spin-orbit resonance of Mercury. Since then his observations have helped characterize the physical

and dynamical properties of the inner planets, the Galilean satellites, Saturn's rings, and several asteroids and comets. Pettengill was principal investigator for the Pioneer Venus radar mapper experiment, which during 1978-1981 provided the first global maps of Venus topography, radar reflectivity and surface slope. He is also PI for the radar experiments on the Magellan Mission to Venus. Name suggested and citation written by S. J. Ostro, who was a student of Pettengill.

(3832) Shapiro = 1981 QJ

Discovered 1981 Aug. 30 by E. Bowell at the Anderson Mesa Station of Lowell Observatory.

Named in honor of Irwin I. Shapiro, physicist associated with the Massachusetts Institute of Technology and with Harvard University during the past three decades, and since 1983 the director of the Harvard-Smithsonian Center for Astrophysics. Shapiro has been responsible for major advances in radio and radar science, and he has made fundamental theoretical and observational contributions to celestial mechanics, astrometry, astrophysics, gravitation physics, geophysics and planetary physics. His planetary ephemerides, considered among the best available, have been used for virtually every Arecibo Observatory radar observation of asteroids, comets, planets, and the satellites of Mars and Jupiter. The underlying ephemeris software also constitutes a primary tool for analysis of VLBI measurements, whose diverse applications include high-precision terrestrial geodesy. During the early 1960s Shapiro played a central role in the radar determination of the astronomical unit, and his research since then has led to refined values for planetary orbital elements, masses, dimensions and spin vectors. Name suggested and citation written by S. J. Ostro, who was a student of Shapiro.

(3842) Harlansmith = 1985 FC1

Discovered 1985 Mar. 21 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Harlan J. Smith, the Edward Randall, Jr., M.D. Centennial Professor in Astronomy at The University of Texas and Director of McDonald Observatory since 1963. Under his leadership, McDonald has become one of the most productive observatories in the world. While serving as Chairman of the Astronomy Department from 1963 to 1978, Smith oversaw its development into the largest and one of the best academic astronomy programs in the United States. Name suggested and citation prepared by R. P. Binzel in celebration of Harlan Smith's 25th year as observatory director.

(3843) OISCA = 1987 DM

Discovered 1987 Feb. 28 by Y. Oshima at Gekko Observatory.

Named for the Organization for Industrial, Spiritual and Cultural Advancement, founded by Yonosuke Nakano in 1961 as a sister organization of the International Foundation for Cultural Harmony, to which Gekko Observatory belongs. OISCA-International is now active in supporting the efforts of people in developing countries to be free from poverty and hunger through promoting education.

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EPHEMERIDES.

1988 PA		a,e,i = 2.16, 0.41, 8			Elements MPC 13591			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 09 16		21 24.33	-15 32.1	0.440	1.391	145.7	24.0	17.4
1988 09 26		21 41.31	-16 55.5					
1988 10 06		21 58.66	-17 24.9	0.595	1.472	133.1	29.7	18.4

1988 10 16	22 16.21	-17 11.0						
1988 10 26	22 33.88	-16 23.8	0.796	1.564	121.5	32.8	19.2	
1988 11 05	22 51.53	-15 11.9						
1988 11 15	23 09.15	-13 41.9	1.037	1.665	110.5	33.8	19.9	

1987 SY		a,e,i = 1.44, 0.59, 6			Elements MPC 12791			
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation	V	
1988 11 15	09 33.69	+17 54.4		1.334	1.693	-2.66 +12.7	20.6	
1988 11 25	09 52.66	+16 13.0						
1988 12 05	10 12.39	+14 16.2		0.997	1.547	-3.75 +20.3	19.8	
1988 12 15	10 33.53	+11 57.2						
1988 12 25	10 57.38	+09 02.6		0.683	1.382	-5.53 +34.9	18.8	
1989 01 04	11 26.49	+05 06.1						
1989 01 14	12 06.18	-00 44.7		0.411	1.197	-8.25 +64.7	17.6	

1989 01 19	12 33.35	-04 51.5						
1989 01 24	13 08.58	-10 05.1	0.306	1.098	-13.83	+79.5	17.1	
1989 01 29	13 55.29	-16 27.1						
1989 02 03	14 56.32	-23 17.2	0.248	0.996	-15.92	+47.7	17.1	
1989 02 08	16 09.67	-28 54.2						
1989 02 13	17 25.04	-31 43.2	0.264	0.892	-4.40	-20.5	18.0	
1989 02 18	18 30.55	-31 49.3						
1989 02 23	19 22.00	-30 21.2	0.349	0.791	+1.53	-23.1	19.0	

1987 DF		a,e,i = 2.36, 0.22, 23			Elements MPC 13590			
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation	V	
1988 09 16	00 42.49	-10 52.4		1.493	2.466	-1.58 -1.8	16.3	
1988 09 26	00 34.27	-13 21.3						
1988 10 06	00 25.78	-15 28.4		1.553	2.512	-1.58 -1.6	16.5	
1988 10 16	00 18.08	-17 05.2						
1988 10 26	00 12.11	-18 08.2		1.717	2.556	-1.45 -0.9	16.9	
1988 11 05	00 08.41	-18 38.7						
1988 11 15	00 07.22	-18 40.6		1.958	2.598	-1.25 -0.4	17.4	
1988 11 25	00 08.50	-18 18.8						
1988 12 05	00 12.06	-17 38.2		2.244	2.637	-1.06 -0.2	17.8	
1988 12 15	00 17.61	-16 42.9						
1988 12 25	00 24.89	-15 36.4		2.545	2.674	-0.90 -0.3	18.1	

1953 RG		a,e,i = 3.22, 0.12, 21			Elements MPC 13599			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong. Phase	V	
1988 09 16	01 43.96	+23 23.4		2.385	3.211	138.8 11.9	16.4	
1988 09 26	01 39.30	+22 32.8						
1988 10 06	01 33.20	+21 23.2		2.231	3.188	159.9 6.2	16.0	
1988 10 16	01 26.26	+19 57.0						
1988 10 26	01 19.27	+18 19.2		2.186	3.166	168.4 3.6	15.8	
1988 11 05	01 13.01	+16 36.7						
1988 11 15	01 08.13	+14 56.8		2.259	3.144	148.4 9.5	16.1	
1988 11 25	01 05.11	+13 26.4						
1988 12 05	01 04.17	+12 10.0		2.431	3.122	126.8 14.6	16.4	
1988 12 15	01 05.37	+11 10.2						
1988 12 25	01 08.61	+10 27.6		2.668	3.100	106.9 17.7	16.7	

1982 SB6		a,e,i = 3.20, 0.12, 2			Elements MPC 13583			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong. Phase	V	
1988 09 16	01 55.81	+08 40.4		2.279	3.139	142.7 11.2	16.5	
1988 09 26	01 50.84	+08 05.0						
1988 10 06	01 44.40	+07 22.9		2.184	3.161	165.2 4.6	16.1	
1988 10 16	01 37.07	+06 37.8						
1988 10 26	01 29.64	+05 54.3		2.199	3.183	170.1 3.1	16.1	

1988 11 05	01	22.86	+05	16.7					
1988 11 15	01	17.36	+04	48.9	2.329	3.205	147.2	9.6	16.5
1988 11 25	01	13.63	+04	33.2					
1988 12 05	01	11.87	+04	30.5	2.552	3.228	125.7	14.4	16.9
1988 12 15	01	12.15	+04	40.8					
1988 12 25	01	14.39	+05	02.9	2.835	3.249	106.2	16.9	17.2

1982 PL		a,e,i = 3.13, 0.26, 2				Elements MPC 13582			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V	
1988 09 16		03 09.52	+18 37.6	1.780	2.473	122.7	20.0	17.0	
1988 09 26		03 09.22	+18 46.9						
1988 10 06		03 06.06	+18 44.7	1.641	2.513	143.1	13.8	16.7	
1988 10 16		03 00.28	+18 31.1						
1988 10 26		02 52.57	+18 07.5	1.579	2.555	166.1	5.4	16.3	
1988 11 05		02 43.90	+17 36.7						
1988 11 15		02 35.42	+17 03.0	1.622	2.601	169.4	4.0	16.3	
1988 11 25		02 28.22	+16 31.9						
1988 12 05		02 23.09	+16 07.9	1.772	2.648	146.2	12.0	16.9	
1988 12 15		02 20.46	+15 54.3						
1988 12 25		02 20.45	+15 52.6	2.008	2.697	125.2	17.3	17.4	
1989 01 04		02 22.94	+16 02.6						
1989 01 14		02 27.72	+16 23.2	2.300	2.748	106.6	20.1	17.8	
1989 01 24		02 34.51	+16 52.7						
1989 02 03		02 43.01	+17 29.2	2.618	2.799	90.1	20.6	18.1	

(3899) 1982 SN1		a,e,i = 3.18, 0.18, 3				Elements MPC 13592			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V	
1988 09 16		03 19.03	+15 20.8	1.957	2.625	121.4	19.1	15.8	
1988 09 26		03 20.02	+15 22.0						
1988 10 06		03 18.36	+15 14.7	1.760	2.615	141.1	13.9	15.4	
1988 10 16		03 14.13	+14 59.4						
1988 10 26		03 07.72	+14 37.9	1.639	2.607	163.4	6.2	15.0	
1988 11 05		02 59.89	+14 12.7						
1988 11 15		02 51.63	+13 47.5	1.620	2.603	171.9	3.1	14.8	
1988 11 25		02 44.05	+13 26.9						
1988 12 05		02 38.11	+13 14.6	1.709	2.602	148.7	11.3	15.3	
1988 12 15		02 34.45	+13 13.2						
1988 12 25		02 33.41	+13 24.1	1.888	2.605	127.4	17.5	15.7	
1989 01 04		02 35.03	+13 46.9						
1989 01 14		02 39.17	+14 20.3	2.124	2.610	108.6	20.9	16.0	
1989 01 24		02 45.61	+15 02.6						
1989 02 03		02 54.07	+15 51.5	2.389	2.619	92.2	22.1	16.3	

1971 UT1		a,e,i = 3.16, 0.21, 2				Elements MPC 13593			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V	
1988 09 16		03 39.59	+17 19.5	1.996	2.600	116.1	20.3	17.5	
1988 09 26		03 41.43	+17 12.3						
1988 10 06		03 40.54	+16 56.0	1.820	2.629	135.5	15.4	17.1	
1988 10 16		03 36.95	+16 31.2						
1988 10 26		03 31.02	+15 59.4	1.713	2.660	157.7	8.2	16.8	
1988 11 05		03 23.42	+15 23.1						
1988 11 15		03 15.08	+14 45.9	1.705	2.693	176.3	1.4	16.5	
1988 11 25		03 07.11	+14 12.3						
1988 12 05		03 00.44	+13 46.2	1.808	2.728	153.9	9.1	17.0	
1988 12 15		02 55.79	+13 30.7						
1988 12 25		02 53.55	+13 27.4	2.008	2.765	132.0	15.3	17.5	
1989 01 04		02 53.81	+13 35.9						
1989 01 14		02 56.47	+13 55.4	2.276	2.803	112.5	18.9	17.9	

1975 RP		a,e,i = 3.24, 0.14, 1			Elements MPC 13584			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 09 16		05 25.32	+22 28.9	3.193	3.361	90.8	17.4	18.0
1988 09 26		05 30.50	+22 29.8					
1988 10 06		05 33.75	+22 28.8	2.934	3.386	108.5	16.3	17.8
1988 10 16		05 34.88	+22 26.2					
1988 10 26		05 33.77	+22 22.2	2.704	3.411	128.3	13.2	17.5
1988 11 05		05 30.41	+22 16.7					
1988 11 15		05 24.96	+22 09.6	2.540	3.435	150.4	8.2	17.2
1988 11 25		05 17.84	+22 00.7					
1988 12 05		05 09.64	+21 50.0	2.476	3.458	174.1	1.7	16.9
1988 12 15		05 01.14	+21 38.1					
1988 12 25		04 53.18	+21 26.2	2.533	3.480	161.6	5.1	17.1
1989 01 04		04 46.46	+21 15.8					
1989 01 14		04 41.53	+21 08.3	2.704	3.502	138.5	10.7	17.5
1989 01 24		04 38.69	+21 04.8					
1989 02 03		04 38.02	+21 05.6	2.959	3.522	117.3	14.4	17.8
1989 02 13		04 39.48	+21 10.7					
1989 02 23		04 42.92	+21 19.4	3.262	3.542	98.3	16.0	18.1

1971 SS1		a,e,i = 3.12, 0.20, 2			Elements MPC 13588			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		05 43.95	+23 14.9	2.010	2.481	106.1	22.8	16.4
1988 10 16		05 50.14	+23 22.3					
1988 10 26		05 53.58	+23 29.2	1.788	2.482	123.7	19.5	16.1
1988 11 05		05 54.02	+23 36.2					
1988 11 15		05 51.34	+23 43.2	1.616	2.487	144.3	13.4	15.7
1988 11 25		05 45.77	+23 49.6					
1988 12 05		05 37.94	+23 54.1	1.524	2.495	167.6	4.9	15.3
1988 12 15		05 28.87	+23 55.9					
1988 12 25		05 19.88	+23 54.9	1.537	2.508	167.9	4.7	15.3
1989 01 04		05 12.22	+23 52.3					
1989 01 14		05 06.87	+23 50.1	1.657	2.524	144.6	13.0	15.8
1989 01 24		05 04.42	+23 50.0					
1989 02 03		05 04.99	+23 52.8	1.859	2.543	123.8	18.8	16.2
1989 02 13		05 08.51	+23 58.5					
1989 02 23		05 14.68	+24 06.3	2.112	2.566	105.9	21.8	16.6
1989 03 05		05 23.17	+24 14.9					
1989 03 15		05 33.64	+24 22.9	2.390	2.591	90.2	22.6	16.9

1984 ER1		a,e,i = 3.19, 0.18, 2			Elements MPC 13606			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		05 48.37	+20 39.8	2.189	2.633	105.1	21.5	17.7
1988 10 16		05 54.09	+20 32.3					
1988 10 26		05 57.28	+20 23.8	1.946	2.621	122.8	18.6	17.4
1988 11 05		05 57.71	+20 15.5					
1988 11 15		05 55.27	+20 08.2	1.752	2.612	143.3	13.1	17.0
1988 11 25		05 50.15	+20 02.3					
1988 12 05		05 42.87	+19 57.8	1.639	2.607	166.1	5.2	16.5
1988 12 15		05 34.29	+19 55.0					
1988 12 25		05 25.59	+19 54.1	1.633	2.604	168.5	4.3	16.5
1989 01 04		05 17.93	+19 55.8					
1989 01 14		05 12.27	+20 01.1	1.735	2.605	145.4	12.4	16.9
1989 01 24		05 09.25	+20 10.4					
1989 02 03		05 09.09	+20 23.6	1.922	2.609	124.4	18.2	17.3
1989 02 13		05 11.78	+20 40.0					
1989 02 23		05 17.12	+20 58.5	2.162	2.616	106.2	21.3	17.7
1989 03 05		05 24.80	+21 17.4					
1989 03 15		05 34.52	+21 35.2	2.427	2.627	90.2	22.2	18.0

1987 RT	a,e,i = 3.21, 0.20, 1					Elements MPC 13585		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	01.65	+23 56.3	2.697	3.066	102.0	18.6	17.9
1988 10 16	06	05.02	+23 58.5					
1988 10 26	06	05.99	+24 00.9	2.475	3.104	120.9	15.9	17.7
1988 11 05	06	04.44	+24 03.6					
1988 11 15	06	00.37	+24 06.2	2.302	3.143	142.2	11.1	17.4
1988 11 25	05	54.06	+24 07.9					
1988 12 05	05	46.04	+24 07.6	2.216	3.181	165.7	4.4	17.1
1988 12 15	05	37.08	+24 04.8					
1988 12 25	05	28.14	+23 59.3	2.245	3.218	169.8	3.1	17.1
1989 01 04	05	20.12	+23 52.3					
1989 01 14	05	13.78	+23 45.0	2.392	3.255	146.2	9.7	17.5
1989 01 24	05	09.60	+23 39.1					
1989 02 03	05	07.79	+23 35.4	2.632	3.292	124.5	14.3	17.9
1989 02 13	05	08.35	+23 34.6					
1989 02 23	05	11.13	+23 36.4	2.931	3.328	105.0	16.7	18.2
1989 03 05	05	15.91	+23 40.2					
1989 03 15	05	22.46	+23 45.2	3.255	3.363	87.6	17.2	18.5

1987 KB	a,e,i = 2.37, 0.27, 11					Elements MPC 13606		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	23.83	+21 12.2	2.269	2.586	96.9	22.6	17.8
1988 10 16	06	28.57	+20 32.8					
1988 10 26	06	30.56	+19 51.8	2.057	2.636	115.0	20.0	17.5
1988 11 05	06	29.58	+19 10.3					
1988 11 15	06	25.53	+18 29.0	1.883	2.684	136.0	14.8	17.2
1988 11 25	06	18.60	+17 48.9					
1988 12 05	06	09.30	+17 10.7	1.784	2.728	159.4	7.3	16.9
1988 12 15	05	58.49	+16 35.6					
1988 12 25	05	47.36	+16 05.2	1.795	2.769	170.6	3.3	16.8
1989 01 04	05	37.07	+15 41.0					
1989 01 14	05	28.63	+15 24.2	1.923	2.808	148.2	10.6	17.3
1989 01 24	05	22.71	+15 15.3					
1989 02 03	05	19.55	+15 13.7	2.147	2.843	126.2	16.3	17.7
1989 02 13	05	19.16	+15 18.2					
1989 02 23	05	21.35	+15 27.3	2.430	2.874	106.6	19.3	18.1
1989 03 05	05	25.82	+15 39.1					
1989 03 15	05	32.28	+15 51.8	2.737	2.903	89.4	20.0	18.4

1977 QD2	a,e,i = 2.30, 0.19, 6					Elements MPC 9213		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	51.37	+29 18.2	1.907	2.171	91.2	27.4	18.7
1988 10 16	07	02.37	+29 30.5					
1988 10 26	07	10.59	+29 46.2	1.714	2.216	106.7	25.4	18.4
1988 11 05	07	15.58	+30 06.8					
1988 11 15	07	16.91	+30 33.0	1.540	2.260	125.2	20.9	18.1
1988 11 25	07	14.29	+31 03.4					
1988 12 05	07	07.72	+31 34.4	1.414	2.304	146.9	13.5	17.7
1988 12 15	06	57.67	+32 00.5					
1988 12 25	06	45.33	+32 15.3	1.374	2.346	168.6	4.8	17.4
1989 01 04	06	32.35	+32 15.0					
1989 01 14	06	20.53	+31 59.3	1.443	2.388	159.3	8.4	17.7
1989 01 24	06	11.36	+31 31.8					
1989 02 03	06	05.64	+30 57.8	1.612	2.428	137.1	16.0	18.2
1989 02 13	06	03.61	+30 21.6					
1989 02 23	06	05.09	+29 45.9	1.853	2.467	117.1	20.9	18.7
1989 03 05	06	09.65	+29 11.8					
1989 03 15	06	16.83	+28 39.1	2.134	2.504	99.8	23.0	19.1

(3622) Ilinsky		a,e,i = 3.39, 0.04, 5			Elements MPC 11859			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	53.22	+21 56.5	3.115	3.273	90.1	17.8	17.4
1988 10 16	06	59.25	+21 36.1					
1988 10 26	07	03.38	+21 16.8	2.836	3.275	107.5	16.8	17.1
1988 11 05	07	05.42	+20 59.3					
1988 11 15	07	05.19	+20 44.5	2.585	3.277	127.1	13.9	16.8
1988 11 25	07	02.65	+20 32.7					
1988 12 05	06	57.93	+20 23.8	2.396	3.280	148.9	8.9	16.5
1988 12 15	06	51.34	+20 17.4					
1988 12 25	06	43.48	+20 12.9	2.306	3.283	172.1	2.3	16.1
1989 01 04	06	35.13	+20 09.4					
1989 01 14	06	27.14	+20 06.7	2.334	3.286	162.8	5.1	16.3
1989 01 24	06	20.35	+20 04.6					
1989 02 03	06	15.34	+20 03.3	2.474	3.290	139.9	11.1	16.7
1989 02 13	06	12.50	+20 02.8					
1989 02 23	06	11.96	+20 03.0	2.699	3.294	119.0	15.2	17.0
1989 03 05	06	13.68	+20 03.6					
1989 03 15	06	17.50	+20 03.8	2.973	3.298	100.3	17.3	17.3

1987 SV12		a,e,i = 3.14, 0.22, 2			Elements MPC 13586			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	56.81	+23 13.0	2.836	2.997	89.4	19.5	18.5
1988 10 16	07	03.35	+23 10.4					
1988 10 26	07	07.77	+23 10.8	2.601	3.040	106.7	18.2	18.3
1988 11 05	07	09.85	+23 15.1					
1988 11 15	07	09.42	+23 24.1	2.391	3.082	126.4	15.0	18.1
1988 11 25	07	06.42	+23 37.4					
1988 12 05	07	00.99	+23 53.9	2.241	3.125	148.6	9.5	17.8
1988 12 15	06	53.53	+24 11.9					
1988 12 25	06	44.72	+24 29.1	2.189	3.166	172.6	2.3	17.4
1989 01 04	06	35.46	+24 43.6					
1989 01 14	06	26.72	+24 54.2	2.255	3.207	162.7	5.2	17.7
1989 01 24	06	19.38	+25 00.9					
1989 02 03	06	14.06	+25 04.4	2.434	3.248	139.6	11.4	18.1
1989 02 13	06	11.10	+25 05.6					
1989 02 23	06	10.58	+25 05.4	2.697	3.287	118.6	15.3	18.5
1989 03 05	06	12.39	+25 04.0					
1989 03 15	06	16.34	+25 01.6	3.007	3.325	99.9	17.1	18.8

1976 SZ5		a,e,i = 3.13, 0.17, 2			Elements MPC 13051			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	07	00.05	+21 00.3	3.153	3.281	88.4	17.7	18.4
1988 10 16	07	05.68	+20 48.2					
1988 10 26	07	09.38	+20 38.4	2.895	3.310	106.0	16.8	18.2
1988 11 05	07	10.98	+20 32.0					
1988 11 15	07	10.30	+20 29.7	2.662	3.339	125.8	13.9	17.9
1988 11 25	07	07.33	+20 31.6					
1988 12 05	07	02.18	+20 37.6	2.490	3.366	147.9	8.9	17.6
1988 12 15	06	55.18	+20 46.7					
1988 12 25	06	46.94	+20 57.5	2.417	3.393	171.7	2.4	17.3
1989 01 04	06	38.21	+21 08.8					
1989 01 14	06	29.84	+21 19.6	2.463	3.418	163.6	4.7	17.5
1989 01 24	06	22.63	+21 29.2					
1989 02 03	06	17.17	+21 37.8	2.625	3.442	140.4	10.5	17.9
1989 02 13	06	13.82	+21 45.5					
1989 02 23	06	12.72	+21 52.4	2.874	3.466	119.1	14.4	18.2
1989 03 05	06	13.82	+21 58.4					
1989 03 15	06	16.98	+22 03.2	3.173	3.488	100.1	16.3	18.5

1982 TH3		a,e,i = 3.02, 0.11, 9			Elements MPC 13594			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	56.11	+29 35.7	2.599	2.787	90.2	21.0	16.7
1988 10 16	07	04.39	+29 30.1					
1988 10 26	07	10.39	+29 26.3	2.352	2.805	106.7	19.8	16.5
1988 11 05	07	13.83	+29 24.8					
1988 11 15	07	14.43	+29 25.9	2.130	2.824	125.7	16.5	16.2
1988 11 25	07	12.08	+29 28.5					
1988 12 05	07	06.84	+29 30.7	1.964	2.844	147.3	10.8	15.8
1988 12 15	06	59.08	+29 29.7					
1988 12 25	06	49.60	+29 22.6	1.891	2.864	169.8	3.5	15.5
1989 01 04	06	39.47	+29 07.5					
1989 01 14	06	29.89	+28 44.4	1.932	2.885	162.5	5.9	15.6
1989 01 24	06	21.94	+28 14.9					
1989 02 03	06	16.36	+27 42.0	2.083	2.907	139.8	12.6	16.1
1989 02 13	06	13.53	+27 08.0					
1989 02 23	06	13.50	+26 34.7	2.316	2.929	119.2	17.2	16.5
1989 03 05	06	16.10	+26 03.0					
1989 03 15	06	21.05	+25 32.7	2.596	2.951	100.9	19.3	16.8

1981 UN		a,e,i = 2.23, 0.09, 2			Elements MPC 10624			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	47.17	+22 41.4	1.843	2.120	91.5	28.1	17.6
1988 10 16	06	58.67	+22 18.0					
1988 10 26	07	07.61	+21 54.6	1.632	2.139	106.6	26.4	17.3
1988 11 05	07	13.59	+21 33.5					
1988 11 15	07	16.18	+21 16.7	1.439	2.160	124.6	22.1	16.9
1988 11 25	07	15.07	+21 05.8					
1988 12 05	07	10.21	+21 01.0	1.292	2.181	146.1	14.6	16.5
1988 12 15	07	01.90	+21 01.5					
1988 12 25	06	51.13	+21 05.0	1.226	2.202	170.8	4.1	16.0
1989 01 04	06	39.35	+21 09.2					
1989 01 14	06	28.29	+21 12.8	1.264	2.224	163.2	7.3	16.2
1989 01 24	06	19.49	+21 15.4					
1989 02 03	06	13.90	+21 17.8	1.402	2.245	139.6	16.5	16.8
1989 02 13	06	11.93	+21 20.3					
1989 02 23	06	13.52	+21 22.9	1.611	2.266	119.3	22.4	17.3
1989 03 05	06	18.30	+21 24.6					
1989 03 15	06	25.86	+21 24.4	1.860	2.287	102.2	25.2	17.7

(3726) Johnadams		a,e,i = 2.87, 0.08, 3			Elements MPC 12692			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06	06	57.57	+21 35.5	2.746	2.906	89.1	20.1	17.4
1988 10 16	07	04.79	+21 27.6					
1988 10 26	07	09.97	+21 22.4	2.487	2.921	106.0	19.1	17.2
1988 11 05	07	12.86	+21 21.3					
1988 11 15	07	13.20	+21 25.2	2.251	2.936	125.3	16.0	16.9
1988 11 25	07	10.91	+21 34.6					
1988 12 05	07	06.02	+21 49.0	2.073	2.950	147.2	10.4	16.5
1988 12 15	06	58.84	+22 07.2					
1988 12 25	06	50.04	+22 27.0	1.988	2.964	171.3	2.9	16.1
1989 01 04	06	40.52	+22 46.1					
1989 01 14	06	31.34	+23 03.1	2.019	2.977	163.9	5.2	16.3
1989 01 24	06	23.50	+23 17.1					
1989 02 03	06	17.75	+23 28.2	2.162	2.989	140.5	12.1	16.7
1989 02 13	06	14.52	+23 36.9					
1989 02 23	06	13.96	+23 43.8	2.389	3.001	119.4	16.7	17.1
1989 03 05	06	15.95	+23 49.0					
1989 03 15	06	20.31	+23 52.4	2.664	3.013	100.8	18.9	17.4

1983	TW1	a,e,i = 2.60, 0.22, 4				Elements MPC 12454		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		07 05.76	+20 05.8	2.872	2.991	87.0	19.5	18.9
1988 10 16		07 12.08	+19 53.6					
1988 10 26		07 16.36	+19 44.4	2.618	3.021	104.3	18.6	18.7
1988 11 05		07 18.38	+19 39.5					
1988 11 15		07 17.92	+19 39.8	2.383	3.048	123.9	15.6	18.5
1988 11 25		07 14.87	+19 46.0					
1988 12 05		07 09.31	+19 57.9	2.205	3.073	146.2	10.3	18.1
1988 12 15		07 01.54	+20 14.3					
1988 12 25		06 52.20	+20 33.5	2.121	3.095	170.4	3.0	17.8
1989 01 04		06 42.17	+20 53.4					
1989 01 14		06 32.46	+21 12.6	2.157	3.115	164.2	4.9	17.9
1989 01 24		06 24.03	+21 30.0					
1989 02 03		06 17.59	+21 45.4	2.309	3.132	140.5	11.6	18.3
1989 02 13		06 13.58	+21 59.1					
1989 02 23		06 12.14	+22 11.2	2.546	3.147	119.0	16.0	18.7
1989 03 05		06 13.19	+22 21.7					
1989 03 15		06 16.54	+22 30.6	2.831	3.159	100.0	18.1	19.0

1980	FF12	a,e,i = 2.17, 0.09, 3				Elements MPC 9589		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		06 54.37	+26 03.1	2.126	2.352	90.2	25.1	19.0
1988 10 16		07 04.77	+26 01.0					
1988 10 26		07 12.90	+26 01.5	1.871	2.346	105.9	24.1	18.7
1988 11 05		07 18.35	+26 06.1					
1988 11 15		07 20.67	+26 16.4	1.635	2.338	124.2	20.5	18.3
1988 11 25		07 19.49	+26 32.7					
1988 12 05		07 14.61	+26 53.7	1.447	2.328	145.6	13.8	17.8
1988 12 15		07 06.20	+27 16.1					
1988 12 25		06 55.02	+27 35.3	1.342	2.316	169.5	4.4	17.3
1989 01 04		06 42.41	+27 46.6					
1989 01 14		06 30.11	+27 47.5	1.345	2.303	162.8	7.2	17.4
1989 01 24		06 19.82	+27 38.7					
1989 02 03		06 12.72	+27 23.0	1.451	2.289	139.1	16.4	17.9
1989 02 13		06 09.39	+27 04.0					
1989 02 23		06 09.88	+26 43.8	1.630	2.273	118.4	22.5	18.3
1989 03 05		06 13.88	+26 23.4					
1989 03 15		06 20.97	+26 02.5	1.847	2.256	100.9	25.6	18.6

1976	UH16	a,e,i = 3.18, 0.16, 13				Elements MPC 12784		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		06 56.12	+09 56.1	2.646	2.801	88.3	20.9	17.3
1988 10 16		07 03.56	+08 53.3					
1988 10 26		07 08.99	+07 49.5	2.412	2.824	104.1	20.0	17.0
1988 11 05		07 12.21	+06 46.9					
1988 11 15		07 13.02	+05 48.3	2.200	2.849	121.8	17.2	16.8
1988 11 25		07 11.35	+04 56.9					
1988 12 05		07 07.32	+04 15.8	2.041	2.875	141.0	12.5	16.5
1988 12 15		07 01.21	+03 48.4					
1988 12 25		06 53.65	+03 37.0	1.967	2.901	157.9	7.3	16.2
1989 01 04		06 45.44	+03 42.5					
1989 01 14		06 37.51	+04 04.3	1.999	2.929	156.9	7.6	16.3
1989 01 24		06 30.74	+04 39.6					
1989 02 03		06 25.79	+05 24.9	2.138	2.958	139.6	12.5	16.7
1989 02 13		06 23.07	+06 16.1					
1989 02 23		06 22.75	+07 09.6	2.359	2.988	120.7	16.6	17.0
1989 03 05		06 24.74	+08 02.1					
1989 03 15		06 28.90	+08 51.4	2.632	3.017	103.1	18.7	17.3

(3848) 1982 FH3		a,e,i = 2.46, 0.09, 3			Elements MPC 13298			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		07 00.22	+19 05.2	2.510	2.672	88.2	22.0	18.4
1988 10 16		07 08.50	+18 37.9					
1988 10 26		07 14.75	+18 11.6	2.238	2.665	104.4	21.2	18.1
1988 11 05		07 18.66	+17 47.9					
1988 11 15		07 19.92	+17 28.6	1.985	2.658	123.1	18.2	17.7
1988 11 25		07 18.33	+17 15.1					
1988 12 05		07 13.82	+17 08.5	1.784	2.648	144.5	12.5	17.3
1988 12 15		07 06.61	+17 09.1					
1988 12 25		06 57.32	+17 16.1	1.668	2.638	167.8	4.5	16.9
1989 01 04		06 46.92	+17 28.3					
1989 01 14		06 36.62	+17 44.2	1.665	2.626	164.5	5.7	16.9
1989 01 24		06 27.68	+18 02.1					
1989 02 03		06 21.02	+18 21.2	1.771	2.613	141.1	13.7	17.3
1989 02 13		06 17.22	+18 40.6					
1989 02 23		06 16.49	+18 59.5	1.959	2.599	120.0	19.3	17.7
1989 03 05		06 18.71	+19 17.1					
1989 03 15		06 23.65	+19 32.3	2.191	2.583	101.7	22.1	18.0

(3761) 1936 OH		a,e,i = 3.13, 0.28, 16			Elements MPC 12793			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		07 12.61	+07 14.9	3.908	3.931	84.0	14.7	17.9
1988 10 16		07 16.54	+06 23.2					
1988 10 26		07 18.93	+05 31.6	3.631	3.947	101.2	14.3	17.7
1988 11 05		07 19.64	+04 41.5					
1988 11 15		07 18.57	+03 54.9	3.373	3.960	119.9	12.5	17.5
1988 11 25		07 15.73	+03 13.8					
1988 12 05		07 11.19	+02 40.1	3.173	3.972	139.3	9.3	17.2
1988 12 15		07 05.19	+02 16.2					
1988 12 25		06 58.15	+02 03.4	3.064	3.982	156.0	5.8	17.0
1989 01 04		06 50.57	+02 02.6					
1989 01 14		06 43.05	+02 13.6	3.070	3.990	156.3	5.7	17.0
1989 01 24		06 36.21	+02 35.2					
1989 02 03		06 30.53	+03 05.3	3.191	3.995	139.9	9.1	17.3
1989 02 13		06 26.39	+03 41.6					
1989 02 23		06 23.99	+04 21.3	3.404	3.999	120.6	12.3	17.5
1989 03 05		06 23.39	+05 02.3					
1989 03 15		06 24.56	+05 42.4	3.674	4.000	102.0	14.1	17.7

(3878) 1982 VR4		a,e,i = 3.10, 0.19, 2			Elements MPC 13471			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		07 07.02	+20 19.3	2.878	2.992	86.7	19.5	18.2
1988 10 16		07 14.04	+20 02.1					
1988 10 26		07 19.06	+19 47.4	2.636	3.029	103.7	18.6	18.0
1988 11 05		07 21.88	+19 36.5					
1988 11 15		07 22.29	+19 30.4	2.414	3.066	122.9	15.7	17.8
1988 11 25		07 20.20	+19 30.0					
1988 12 05		07 15.70	+19 35.0	2.245	3.102	144.6	10.6	17.5
1988 12 15		07 09.06	+19 44.9					
1988 12 25		07 00.88	+19 58.1	2.169	3.138	168.3	3.7	17.2
1989 01 04		06 51.97	+20 13.1					
1989 01 14		06 43.23	+20 28.3	2.208	3.173	166.6	4.1	17.3
1989 01 24		06 35.60	+20 42.5					
1989 02 03		06 29.75	+20 55.5	2.363	3.208	143.3	10.6	17.7
1989 02 13		06 26.12	+21 07.0					
1989 02 23		06 24.87	+21 16.9	2.608	3.242	122.0	15.0	18.1
1989 03 05		06 25.96	+21 25.2					
1989 03 15		06 29.23	+21 31.5	2.906	3.275	103.0	17.2	18.4

1978 VH8		a,e,i = 2.85, 0.05, 1			Elements MPC 12576			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		07 06.35	+22 10.5	2.850	2.972	87.1	19.6	18.0
1988 10 16		07 13.79	+21 54.7					
1988 10 26		07 19.27	+21 41.1	2.579	2.978	103.9	18.9	17.8
1988 11 05		07 22.56	+21 30.8					
1988 11 15		07 23.41	+21 25.0	2.327	2.983	123.0	16.2	17.5
1988 11 25		07 21.67	+21 24.2					
1988 12 05		07 17.35	+21 28.1	2.130	2.988	144.6	11.0	17.1
1988 12 15		07 10.67	+21 36.0					
1988 12 25		07 02.21	+21 46.0	2.022	2.992	168.4	3.8	16.7
1989 01 04		06 52.80	+21 56.2					
1989 01 14		06 43.44	+22 05.2	2.029	2.995	166.8	4.3	16.8
1989 01 24		06 35.19	+22 12.1					
1989 02 03		06 28.82	+22 17.0	2.151	2.998	143.1	11.4	17.2
1989 02 13		06 24.88	+22 20.2					
1989 02 23		06 23.56	+22 22.0	2.360	3.000	121.6	16.3	17.5
1989 03 05		06 24.83	+22 22.5					
1989 03 15		06 28.51	+22 21.6	2.620	3.001	102.7	18.9	17.8

1971 QN		a,e,i = 2.19, 0.20, 3			Elements MPC 9472			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		07 09.72	+22 35.0	2.195	2.353	86.4	25.1	19.1
1988 10 16		07 19.26	+22 09.6					
1988 10 26		07 26.39	+21 46.1	1.976	2.393	102.3	23.9	18.9
1988 11 05		07 30.78	+21 26.3					
1988 11 15		07 32.09	+21 11.9	1.769	2.430	120.9	20.4	18.6
1988 11 25		07 30.06	+21 03.8					
1988 12 05		07 24.64	+21 01.8	1.607	2.465	142.8	14.0	18.2
1988 12 15		07 16.08	+21 04.9					
1988 12 25		07 05.16	+21 10.8	1.527	2.497	167.6	4.8	17.8
1989 01 04		06 53.08	+21 16.8					
1989 01 14		06 41.29	+21 21.3	1.559	2.526	166.2	5.3	17.9
1989 01 24		06 31.20	+21 23.7					
1989 02 03		06 23.78	+21 24.5	1.702	2.551	141.9	13.8	18.4
1989 02 13		06 19.53	+21 24.6					
1989 02 23		06 18.55	+21 24.3	1.926	2.574	120.5	19.3	18.8
1989 03 05		06 20.60	+21 23.5					
1989 03 15		06 25.38	+21 21.6	2.196	2.593	102.1	22.0	19.2

1977 DR1		a,e,i = 2.60, 0.16, 12			Elements MPC 13454			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 06		07 14.63	+33 36.9	2.909	3.021	86.7	19.3	18.6
1988 10 16		07 22.45	+33 48.3					
1988 10 26		07 28.15	+34 04.1	2.636	3.025	103.4	18.6	18.3
1988 11 05		07 31.43	+34 24.8					
1988 11 15		07 31.95	+34 50.1	2.382	3.026	122.2	16.1	18.1
1988 11 25		07 29.48	+35 18.4					
1988 12 05		07 23.97	+35 46.7	2.181	3.026	142.9	11.3	17.7
1988 12 15		07 15.62	+36 10.5					
1988 12 25		07 05.08	+36 24.6	2.069	3.023	162.8	5.5	17.4
1989 01 04		06 53.36	+36 24.8					
1989 01 14		06 41.75	+36 09.2	2.073	3.018	160.5	6.2	17.4
1989 01 24		06 31.53	+35 39.1					
1989 02 03		06 23.64	+34 58.1	2.189	3.011	139.9	12.2	17.7
1989 02 13		06 18.64	+34 10.7					
1989 02 23		06 16.70	+33 20.8	2.391	3.002	119.2	16.7	18.1
1989 03 05		06 17.69	+32 31.0					
1989 03 15		06 21.33	+31 42.5	2.643	2.990	100.6	19.1	18.3

1982 DN		a,e,i = 2.36, 0.16, 2				Elements MPC 10832		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 20.43	+20 05.5	2.098	2.521	103.4	22.6	18.1
1988 11 05		07 25.92	+19 44.9					
1988 11 15		07 28.78	+19 28.7	1.826	2.489	121.4	19.8	17.7
1988 11 25		07 28.66	+19 18.5					
1988 12 05		07 25.37	+19 15.4	1.600	2.455	142.3	14.2	17.2
1988 12 15		07 18.93	+19 19.4					
1988 12 25		07 09.80	+19 29.5	1.454	2.420	166.1	5.6	16.6
1989 01 04		06 58.93	+19 43.4					
1989 01 14		06 47.67	+19 58.9	1.414	2.384	167.6	5.1	16.5
1989 01 24		06 37.54	+20 14.1					
1989 02 03		06 29.78	+20 28.2	1.482	2.347	143.3	14.5	16.9
1989 02 13		06 25.23	+20 41.0					
1989 02 23		06 24.21	+20 52.3	1.630	2.310	121.8	21.3	17.3
1989 03 05		06 26.63	+21 01.6					
1989 03 15		06 32.26	+21 08.2	1.822	2.273	103.7	25.2	17.6
1989 03 25		06 40.68	+21 10.7					
1989 04 04		06 51.50	+21 07.9	2.028	2.235	88.3	26.6	17.8

1973 SW		a,e,i = 5.26, 0.08, 17				Elements MPC 12958		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 19.04	+03 46.9	4.608	4.894	100.9	11.5	16.9
1988 11 05		07 20.14	+03 12.0					
1988 11 15		07 19.87	+02 40.8	4.329	4.888	119.2	10.2	16.7
1988 11 25		07 18.24	+02 14.9					
1988 12 05		07 15.34	+01 55.7	4.105	4.882	138.1	7.8	16.5
1988 12 15		07 11.33	+01 44.9					
1988 12 25		07 06.49	+01 43.2	3.970	4.877	154.7	4.9	16.3
1989 01 04		07 01.17	+01 51.2					
1989 01 14		06 55.79	+02 08.7	3.947	4.872	157.9	4.4	16.3
1989 01 24		06 50.77	+02 34.6					
1989 02 03		06 46.50	+03 07.3	4.039	4.867	143.5	6.9	16.4
1989 02 13		06 43.27	+03 45.0					
1989 02 23		06 41.32	+04 25.6	4.230	4.863	124.8	9.6	16.6
1989 03 05		06 40.74	+05 07.2					
1989 03 15		06 41.57	+05 48.1	4.487	4.859	106.2	11.3	16.8
1989 03 25		06 43.77	+06 26.7					
1989 04 04		06 47.24	+07 02.2	4.776	4.856	88.6	11.9	17.0

1982 UR3		a,e,i = 2.90, 0.05, 1				Elements MPC 13595		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 21.77	+20 44.6	2.344	2.747	103.2	20.6	16.9
1988 11 05		07 26.51	+20 28.7					
1988 11 15		07 28.74	+20 17.4	2.098	2.747	121.5	17.9	16.6
1988 11 25		07 28.25	+20 11.8					
1988 12 05		07 24.99	+20 12.4	1.900	2.748	142.6	12.6	16.2
1988 12 15		07 19.12	+20 18.6					
1988 12 25		07 11.16	+20 29.1	1.786	2.750	166.1	4.9	15.8
1989 01 04		07 01.98	+20 41.8					
1989 01 14		06 52.65	+20 54.7	1.781	2.753	168.9	4.0	15.8
1989 01 24		06 44.34	+21 06.5					
1989 02 03		06 37.97	+21 16.5	1.889	2.757	145.2	11.8	16.2
1989 02 13		06 34.14	+21 24.6					
1989 02 23		06 33.12	+21 30.8	2.084	2.761	123.9	17.3	16.6
1989 03 05		06 34.86	+21 35.0					
1989 03 15		06 39.17	+21 36.6	2.332	2.766	105.3	20.3	16.9
1989 03 25		06 45.77	+21 35.1					
1989 04 04		06 54.32	+21 29.6	2.603	2.771	89.0	21.2	17.2

1948 KF		a,e,i = 2.31, 0.28, 11				Elements MPC 8209		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 35.90	+27 17.6	2.579	2.934	100.9	19.4	18.3
1988 11 05		07 39.32	+27 49.7					
1988 11 15		07 40.13	+28 30.4	2.323	2.946	120.1	16.9	18.0
1988 11 25		07 38.07	+29 19.2					
1988 12 05		07 33.01	+30 14.1	2.118	2.954	141.6	12.0	17.6
1988 12 15		07 25.03	+31 11.4					
1988 12 25		07 14.66	+32 05.6	2.001	2.959	163.8	5.3	17.2
1989 01 04		07 02.79	+32 50.9					
1989 01 14		06 50.63	+33 23.1	2.002	2.959	163.8	5.3	17.2
1989 01 24		06 39.54	+33 40.6					
1989 02 03		06 30.57	+33 45.0	2.119	2.956	141.6	11.9	17.6
1989 02 13		06 24.45	+33 39.4					
1989 02 23		06 21.45	+33 27.0	2.324	2.949	120.2	16.9	18.0
1989 03 05		06 21.52	+33 10.8					
1989 03 15		06 24.44	+32 52.3	2.578	2.938	101.2	19.4	18.3
1989 03 25		06 29.87	+32 32.4					
1989 04 04		06 37.44	+32 11.0	2.846	2.924	84.4	19.9	18.5

1981 WU		a,e,i = 2.25, 0.17, 3				Elements MPC 9072		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 18.62	+18 19.6	1.478	1.965	103.6	29.5	17.4
1988 11 05		07 27.11	+17 52.7					
1988 11 15		07 32.24	+17 32.5	1.304	1.995	120.2	25.4	17.1
1988 11 25		07 33.63	+17 22.1					
1988 12 05		07 31.09	+17 23.6	1.167	2.028	140.6	18.0	16.7
1988 12 15		07 24.74	+17 37.7					
1988 12 25		07 15.32	+18 02.6	1.099	2.063	164.4	7.4	16.2
1989 01 04		07 04.17	+18 34.8					
1989 01 14		06 53.03	+19 10.0	1.127	2.100	168.7	5.3	16.3
1989 01 24		06 43.67	+19 44.4					
1989 02 03		06 37.31	+20 15.8	1.254	2.138	145.1	15.3	16.9
1989 02 13		06 34.56	+20 43.1					
1989 02 23		06 35.49	+21 05.7	1.458	2.177	124.4	22.0	17.4
1989 03 05		06 39.78	+21 23.0					
1989 03 15		06 47.00	+21 34.4	1.709	2.215	107.1	25.4	17.9
1989 03 25		06 56.67	+21 38.9					
1989 04 04		07 08.29	+21 36.2	1.982	2.254	92.2	26.3	18.3

1982 TL1		a,e,i = 3.03, 0.05, 8				Elements MPC 9032		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 30.21	+30 44.4	2.501	2.886	102.6	19.6	17.3
1988 11 05		07 35.36	+31 06.6					
1988 11 15		07 37.93	+31 34.9	2.254	2.888	120.8	17.1	17.0
1988 11 25		07 37.67	+32 08.5					
1988 12 05		07 34.47	+32 45.5	2.056	2.890	141.1	12.4	16.6
1988 12 15		07 28.44	+33 22.4					
1988 12 25		07 20.05	+33 54.1	1.942	2.893	161.9	6.1	16.3
1989 01 04		07 10.19	+34 15.9					
1989 01 14		07 00.00	+34 24.4	1.938	2.897	164.3	5.3	16.2
1989 01 24		06 50.77	+34 18.8					
1989 02 03		06 43.51	+34 00.9	2.045	2.901	144.1	11.5	16.6
1989 02 13		06 38.91	+33 33.8					
1989 02 23		06 37.27	+33 01.0	2.240	2.906	123.5	16.5	16.9
1989 03 05		06 38.52	+32 25.0					
1989 03 15		06 42.45	+31 47.2	2.489	2.911	105.1	19.3	17.3
1989 03 25		06 48.75	+31 08.3					
1989 04 04		06 57.05	+30 28.2	2.763	2.917	88.7	20.0	17.5

2024 P-L		a,e,i = 2.27, 0.08, 5			Elements MPC 12585			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 29.95	+27 41.7	1.860	2.288	102.3	25.1	18.4
1988 11 05		07 38.08	+27 47.9					
1988 11 15		07 43.35	+28 00.5	1.614	2.269	119.3	22.3	18.0
1988 12 05		07 45.29	+28 20.6					
1988 12 15		07 43.56	+28 47.8	1.409	2.250	139.3	16.6	17.5
1988 12 25		07 37.97	+29 19.2					
1988 12 25		07 28.90	+29 49.6	1.275	2.230	161.8	7.9	17.0
1989 01 04		07 17.32	+30 12.3					
1989 01 14		07 04.84	+30 21.6	1.240	2.211	168.0	5.3	16.8
1989 01 24		06 53.40	+30 15.4					
1989 02 03		06 44.60	+29 55.6	1.308	2.193	145.5	14.7	17.2
1989 02 13		06 39.48	+29 26.2					
1989 02 23		06 38.41	+28 51.3	1.457	2.175	124.4	22.0	17.6
1989 03 05		06 41.20	+28 13.5					
1989 03 15		06 47.45	+27 33.7	1.651	2.158	106.6	26.2	18.0
1989 03 25		06 56.66	+26 51.7					
1989 04 04		07 08.28	+26 06.5	1.866	2.142	91.7	27.8	18.3

1982 SU3		a,e,i = 2.84, 0.17, 13			Elements MPC 13605			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 37.89	+07 22.6	2.948	3.223	97.0	17.8	18.2
1988 11 05		07 40.89	+06 40.8					
1988 11 15		07 41.82	+06 03.9	2.696	3.242	115.1	16.0	18.0
1988 12 05		07 40.58	+05 34.2					
1988 12 15		07 37.16	+05 14.1	2.487	3.259	134.9	12.4	17.7
1988 12 25		07 31.70	+05 05.8					
1988 12 25		07 24.58	+05 10.7	2.357	3.274	154.8	7.3	17.4
1989 01 04		07 16.38	+05 29.3					
1989 01 14		07 07.86	+06 00.7	2.335	3.287	162.7	5.1	17.3
1989 01 24		06 59.84	+06 42.6					
1989 02 03		06 53.05	+07 31.9	2.430	3.299	146.7	9.4	17.6
1989 02 13		06 48.04	+08 25.4					
1989 02 23		06 45.15	+09 19.8	2.624	3.308	126.4	13.9	17.9
1989 03 05		06 44.47	+10 12.5					
1989 03 15		06 45.97	+11 01.6	2.882	3.316	107.3	16.6	18.2
1989 03 25		06 49.48	+11 45.7					
1989 04 04		06 54.80	+12 23.7	3.169	3.323	89.9	17.5	18.4

1984 SW3		a,e,i = 2.39, 0.26, 10			Elements MPC 9356			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 35.72	+28 57.4	1.432	1.895	101.2	31.0	16.3
1988 11 05		07 45.82	+28 16.6					
1988 11 15		07 52.09	+27 37.8	1.275	1.940	117.3	26.9	16.0
1988 12 05		07 54.12	+27 02.3					
1988 12 15		07 51.68	+26 29.8	1.150	1.990	137.4	19.6	15.7
1988 12 25		07 44.88	+25 58.5					
1988 12 25		07 34.53	+25 25.2	1.087	2.043	161.2	8.9	15.3
1989 01 04		07 22.10	+24 47.2					
1989 01 14		07 09.53	+24 03.8	1.120	2.099	172.4	3.5	15.2
1989 01 24		06 58.76	+23 16.9					
1989 02 03		06 51.09	+22 29.9	1.256	2.157	148.2	13.9	15.9
1989 02 13		06 47.14	+21 45.7					
1989 02 23		06 46.92	+21 05.2	1.474	2.216	127.1	20.9	16.5
1989 03 05		06 50.06	+20 28.3					
1989 03 15		06 56.08	+19 53.6	1.743	2.275	109.3	24.4	17.0
1989 03 25		07 04.46	+19 19.4					
1989 04 04		07 14.73	+18 44.0	2.039	2.334	94.0	25.3	17.4

1979 QW3		a,e,i = 2.43, 0.15, 1			Elements MPC 11991			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 37.15	+20 33.4	2.290	2.644	99.6	21.8	18.6
1988 11 05		07 43.01	+20 16.5					
1988 11 15		07 46.42	+20 05.1	2.011	2.618	117.4	19.6	18.3
1988 11 25		07 47.09	+20 00.6					
1988 12 05		07 44.78	+20 03.9	1.773	2.590	138.0	14.7	17.8
1988 12 15		07 39.43	+20 15.1					
1988 12 25		07 31.35	+20 32.7	1.610	2.561	161.5	7.0	17.3
1989 01 04		07 21.26	+20 54.1					
1989 01 14		07 10.28	+21 16.1	1.552	2.531	173.0	2.7	17.0
1989 01 24		06 59.81	+21 35.9					
1989 02 03		06 51.12	+21 51.9	1.607	2.499	148.2	12.0	17.5
1989 02 13		06 45.17	+22 04.0					
1989 02 23		06 42.45	+22 12.4	1.752	2.467	126.0	18.9	17.8
1989 03 05		06 43.02	+22 17.2					
1989 03 15		06 46.73	+22 18.4	1.950	2.433	107.0	23.0	18.1
1989 03 25		06 53.25	+22 15.4					
1989 04 04		07 02.20	+22 07.5	2.169	2.400	90.7	24.6	18.4

1971 RA		a,e,i = 2.20, 0.20, 5			Elements MPC 12142			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 44.59	+21 40.8	2.083	2.430	98.1	23.9	19.0
1988 11 05		07 50.49	+21 42.7					
1988 11 15		07 53.58	+21 53.3	1.863	2.464	116.1	21.1	18.7
1988 11 25		07 53.56	+22 13.9					
1988 12 05		07 50.20	+22 44.7	1.680	2.495	137.2	15.6	18.4
1988 12 15		07 43.53	+23 24.0					
1988 12 25		07 33.99	+24 08.1	1.571	2.523	161.4	7.2	18.0
1989 01 04		07 22.49	+24 51.7					
1989 01 14		07 10.36	+25 29.8	1.570	2.548	172.0	3.1	17.8
1989 01 24		06 59.12	+25 58.9					
1989 02 03		06 50.03	+26 18.4	1.683	2.570	147.5	11.9	18.3
1989 02 13		06 43.93	+26 29.4					
1989 02 23		06 41.15	+26 33.6	1.887	2.588	125.3	18.2	18.8
1989 03 05		06 41.62	+26 32.8					
1989 03 15		06 45.08	+26 27.8	2.145	2.604	106.2	21.5	19.2
1989 03 25		06 51.14	+26 18.8					
1989 04 04		06 59.38	+26 05.9	2.423	2.616	89.7	22.5	19.5

1987 SN1		a,e,i = 2.67, 0.07, 2			Elements MPC 12449			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 42.53	+22 59.6	2.445	2.776	98.8	20.7	18.1
1988 11 05		07 47.89	+22 56.8					
1988 11 15		07 50.79	+23 00.7	2.196	2.787	116.9	18.4	17.8
1988 11 25		07 51.00	+23 11.9					
1988 12 05		07 48.37	+23 30.5	1.989	2.798	137.8	13.7	17.4
1988 12 15		07 42.93	+23 55.1					
1988 12 25		07 35.07	+24 23.0	1.859	2.808	161.1	6.5	17.0
1989 01 04		07 25.52	+24 50.6					
1989 01 14		07 15.32	+25 14.3	1.838	2.817	173.1	2.4	16.8
1989 01 24		07 05.68	+25 31.6					
1989 02 03		06 57.67	+25 41.8	1.933	2.826	149.3	10.3	17.3
1989 02 13		06 52.07	+25 45.5					
1989 02 23		06 49.27	+25 43.7	2.123	2.833	127.2	16.1	17.7
1989 03 05		06 49.34	+25 37.8					
1989 03 15		06 52.12	+25 28.4	2.372	2.840	107.9	19.5	18.0
1989 03 25		06 57.33	+25 15.7					
1989 04 04		07 04.64	+24 59.5	2.647	2.845	91.0	20.6	18.3

1982 XV1		a,e,i = 3.02, 0.09, 11				Elements MPC 10387		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 44.40	+26 47.0	2.916	3.225	99.0	17.7	17.2
1988 11 05		07 48.64	+27 13.9					
1988 11 15		07 50.66	+27 48.6	2.655	3.236	117.7	15.7	16.9
1988 11 25		07 50.25	+28 30.8					
1988 12 05		07 47.32	+29 19.5	2.442	3.246	138.5	11.6	16.6
1988 12 15		07 41.91	+30 11.9					
1988 12 25		07 34.36	+31 03.9	2.312	3.255	160.3	5.8	16.3
1989 01 04		07 25.31	+31 51.1					
1989 01 14		07 15.64	+32 29.2	2.296	3.263	167.7	3.7	16.2
1989 01 24		07 06.40	+32 55.7					
1989 02 03		06 58.53	+33 10.2	2.398	3.271	147.3	9.4	16.5
1989 02 13		06 52.74	+33 14.0					
1989 02 23		06 49.45	+33 09.3	2.596	3.277	126.0	14.1	16.9
1989 03 05		06 48.78	+32 58.4					
1989 03 15		06 50.63	+32 43.1	2.856	3.283	106.7	16.9	17.1
1989 03 25		06 54.79	+32 24.4					
1989 04 04		07 00.99	+32 03.0	3.142	3.287	89.4	17.7	17.4

6552 P-L		a,e,i = 2.27, 0.11, 7				Elements MPC 9761		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 27.50	+12 53.6	1.588	2.022	100.6	28.9	17.7
1988 11 05		07 37.18	+11 57.8					
1988 11 15		07 44.05	+11 06.4	1.383	2.022	116.0	26.1	17.3
1988 11 25		07 47.73	+10 23.7					
1988 12 05		07 47.91	+09 54.0	1.209	2.025	134.4	20.4	16.8
1988 12 15		07 44.46	+09 41.7					
1988 12 25		07 37.71	+09 49.9	1.095	2.031	155.5	11.6	16.4
1989 01 04		07 28.52	+10 19.2					
1989 01 14		07 18.28	+11 07.2	1.067	2.041	168.4	5.6	16.1
1989 01 24		07 08.74	+12 08.3					
1989 02 03		07 01.38	+13 15.9	1.138	2.053	150.2	13.8	16.5
1989 02 13		06 57.25	+14 23.6					
1989 02 23		06 56.79	+15 26.5	1.291	2.067	129.6	21.6	17.1
1989 03 05		06 59.93	+16 21.5					
1989 03 15		07 06.36	+17 06.5	1.497	2.084	112.0	26.3	17.5
1989 03 25		07 15.61	+17 40.1					
1989 04 04		07 27.19	+18 01.6	1.732	2.104	97.1	28.2	17.9

1981 ET		a,e,i = 2.75, 0.25, 10				Elements MPC 12443		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 58.14	+31 20.2	2.910	3.184	96.8	18.1	18.2
1988 11 05		08 02.28	+31 38.7					
1988 11 15		08 04.03	+32 04.1	2.668	3.218	115.3	16.1	17.9
1988 11 25		08 03.15	+32 35.7					
1988 12 05		07 59.55	+33 11.6	2.469	3.249	135.9	12.2	17.7
1988 12 15		07 53.26	+33 48.6					
1988 12 25		07 44.66	+34 21.9	2.350	3.278	157.1	6.7	17.4
1989 01 04		07 34.45	+34 47.0					
1989 01 14		07 23.57	+35 00.1	2.342	3.305	165.9	4.1	17.3
1989 01 24		07 13.16	+34 59.3					
1989 02 03		07 04.21	+34 45.7	2.454	3.329	147.7	9.1	17.6
1989 02 13		06 57.43	+34 21.6					
1989 02 23		06 53.25	+33 50.4	2.665	3.351	126.6	13.7	17.9
1989 03 05		06 51.72	+33 14.9					
1989 03 15		06 52.73	+32 37.1	2.941	3.370	107.1	16.4	18.3
1989 03 25		06 56.04	+31 58.2					
1989 04 04		07 01.34	+31 18.8	3.244	3.387	89.6	17.2	18.5

1980 KR1		a,e,i = 2.19, 0.14, 5				Elements MPC 12959		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 49.20	+16 09.4	2.144	2.456	96.0	23.7	18.6
1988 11 05		07 56.30	+15 36.1					
1988 11 15		08 01.01	+15 08.2	1.877	2.439	113.0	21.9	18.2
1988 11 25		08 02.98	+14 48.3					
1988 12 05		08 01.93	+14 38.5	1.640	2.419	132.7	17.4	17.8
1988 12 15		07 57.66	+14 40.8					
1988 12 25		07 50.33	+14 55.9	1.468	2.398	155.4	9.8	17.3
1989 01 04		07 40.51	+15 22.7					
1989 01 14		07 29.26	+15 58.4	1.393	2.374	173.9	2.5	16.8
1989 01 24		07 18.01	+16 39.0					
1989 02 03		07 08.22	+17 20.5	1.430	2.348	152.3	11.3	17.2
1989 02 13		07 01.05	+18 00.0					
1989 02 23		06 57.20	+18 35.3	1.560	2.320	129.6	19.2	17.6
1989 03 05		06 56.84	+19 05.3					
1989 03 15		06 59.85	+19 29.1	1.748	2.291	110.2	24.0	18.0
1989 03 25		07 05.92	+19 45.9					
1989 04 04		07 14.62	+19 55.0	1.961	2.260	93.9	26.2	18.3

1987 MK		a,e,i = 2.70, 0.18, 12				Elements MPC 12322		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 59.78	+32 50.1	2.328	2.636	96.7	22.0	17.9
1988 11 05		08 06.34	+32 55.1					
1988 11 15		08 10.05	+33 06.7	2.112	2.674	114.2	19.7	17.6
1988 11 25		08 10.63	+33 24.5					
1988 12 05		08 07.88	+33 46.7	1.933	2.713	134.1	15.1	17.3
1988 12 15		08 01.78	+34 09.5					
1988 12 25		07 52.76	+34 27.5	1.825	2.750	155.5	8.5	17.0
1989 01 04		07 41.65	+34 35.0					
1989 01 14		07 29.70	+34 27.8	1.821	2.787	166.8	4.6	16.9
1989 01 24		07 18.37	+34 04.6					
1989 02 03		07 08.90	+33 27.5	1.931	2.823	149.2	10.3	17.3
1989 02 13		07 02.12	+32 40.4					
1989 02 23		06 58.44	+31 47.7	2.138	2.858	128.2	15.8	17.7
1989 03 05		06 57.81	+30 52.8					
1989 03 15		07 00.01	+29 57.7	2.409	2.891	109.1	19.0	18.1
1989 03 25		07 04.66	+29 03.0					
1989 04 04		07 11.38	+28 08.9	2.711	2.923	92.1	20.0	18.4

1976 GD2		a,e,i = 2.25, 0.14, 8				Elements MPC 10830		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 46.83	+12 01.0	2.122	2.432	95.8	24.0	19.1
1988 11 05		07 54.01	+10 56.9					
1988 11 15		07 58.85	+09 54.9	1.854	2.408	112.1	22.4	18.7
1988 11 25		08 01.02	+08 57.6					
1988 12 05		08 00.23	+08 08.4	1.617	2.382	130.9	18.2	18.3
1988 12 15		07 56.33	+07 30.8					
1988 12 25		07 49.47	+07 08.3	1.442	2.354	151.6	11.5	17.8
1989 01 04		07 40.19	+07 03.4					
1989 01 14		07 29.49	+07 17.0	1.359	2.325	165.6	6.0	17.4
1989 01 24		07 18.78	+07 47.3					
1989 02 03		07 09.44	+08 30.5	1.383	2.295	150.8	12.1	17.6
1989 02 13		07 02.62	+09 21.9					
1989 02 23		06 59.03	+10 16.0	1.498	2.264	129.9	19.6	18.0
1989 03 05		06 58.86	+11 08.8					
1989 03 15		07 02.04	+11 56.9	1.671	2.232	111.2	24.5	18.4
1989 03 25		07 08.27	+12 37.7					
1989 04 04		07 17.14	+13 09.6	1.870	2.201	95.3	26.9	18.6

(3729) 1983 VP7		a,e,i = 2.63, 0.19, 13			Elements MPC 12693			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 02.64	+35 40.8	2.669	2.954	96.6	19.5	17.3
1988 11 05		08 08.35	+36 13.5					
1988 11 15		08 11.46	+36 54.5	2.434	2.980	114.3	17.6	17.1
1988 11 25		08 11.64	+37 42.7					
1988 12 05		08 08.67	+38 35.6	2.238	3.004	133.7	13.7	16.8
1988 12 15		08 02.49	+39 28.8					
1988 12 25		07 53.43	+40 15.7	2.118	3.027	152.9	8.5	16.5
1989 01 04		07 42.20	+40 49.5					
1989 01 14		07 29.97	+41 04.8	2.103	3.047	160.2	6.3	16.5
1989 01 24		07 18.15	+40 59.1					
1989 02 03		07 08.00	+40 34.2	2.201	3.064	145.4	10.5	16.7
1989 02 13		07 00.45	+39 54.0					
1989 02 23		06 55.96	+39 03.7	2.396	3.080	125.7	15.1	17.1
1989 03 05		06 54.58	+38 07.8					
1989 03 15		06 56.12	+37 09.4	2.651	3.093	107.1	17.9	17.4
1989 03 25		07 00.23	+36 10.5					
1989 04 04		07 06.53	+35 11.8	2.936	3.105	90.2	18.8	17.6

(3746) 1964 TC1		a,e,i = 3.18, 0.25, 1			Elements MPC 12781			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 01.84	+21 35.2	3.359	3.571	94.1	16.1	18.7
1988 11 05		08 05.26	+21 28.5					
1988 11 15		08 06.74	+21 27.6	3.103	3.607	113.0	14.6	18.5
1988 11 25		08 06.14	+21 32.8					
1988 12 05		08 03.42	+21 44.1	2.887	3.642	134.1	11.2	18.2
1988 12 15		07 58.66	+22 00.5					
1988 12 25		07 52.12	+22 20.5	2.749	3.675	157.1	6.0	17.9
1989 01 04		07 44.29	+22 41.8					
1989 01 14		07 35.82	+23 02.1	2.723	3.706	178.1	0.5	17.6
1989 01 24		07 27.48	+23 19.5					
1989 02 03		07 20.00	+23 32.7	2.821	3.735	154.7	6.5	18.0
1989 02 13		07 13.97	+23 41.3					
1989 02 23		07 09.81	+23 45.5	3.027	3.763	132.1	11.2	18.4
1989 03 05		07 07.69	+23 45.9					
1989 03 15		07 07.63	+23 42.8	3.309	3.789	111.6	14.1	18.7
1989 03 25		07 09.53	+23 36.6					
1989 04 04		07 13.20	+23 27.4	3.627	3.814	93.1	15.2	18.9

1982 TT		a,e,i = 3.04, 0.13, 11			Elements MPC 12445			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 56.36	+15 22.5	2.605	2.855	94.2	20.3	17.2
1988 11 05		08 01.72	+14 24.8					
1988 11 15		08 04.85	+13 30.1	2.363	2.879	111.7	18.6	17.0
1988 11 25		08 05.56	+12 40.1					
1988 12 05		08 03.75	+11 56.6	2.155	2.903	131.4	14.7	16.7
1988 12 15		07 59.46	+11 21.3					
1988 12 25		07 52.99	+10 55.3	2.017	2.928	153.0	8.8	16.4
1989 01 04		07 44.89	+10 39.3					
1989 01 14		07 35.99	+10 33.0	1.981	2.953	169.1	3.6	16.1
1989 01 24		07 27.26	+10 35.5					
1989 02 03		07 19.61	+10 44.7	2.061	2.978	153.9	8.4	16.4
1989 02 13		07 13.78	+10 58.7					
1989 02 23		07 10.22	+11 15.0	2.243	3.004	132.7	14.0	16.8
1989 03 05		07 09.09	+11 31.6					
1989 03 15		07 10.36	+11 46.6	2.495	3.029	113.2	17.6	17.2
1989 03 25		07 13.85	+11 58.5					
1989 04 04		07 19.30	+12 06.1	2.784	3.054	95.9	19.0	17.5

1982 VK12		a,e,i = 3.19, 0.16, 2			Elements MPC 13595			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 50.36	+20 37.8	2.432	2.731	96.6	21.2	17.0
1988 11 05		07 57.13	+20 25.0					
1988 11 15		08 01.59	+20 18.5	2.192	2.746	114.0	19.2	16.8
1988 11 25		08 03.52	+20 19.9					
1988 12 05		08 02.76	+20 29.9	1.987	2.764	134.0	14.9	16.4
1988 12 15		07 59.29	+20 48.2					
1988 12 25		07 53.39	+21 13.4	1.853	2.783	156.6	8.1	16.1
1989 01 04		07 45.63	+21 42.5					
1989 01 14		07 36.89	+22 12.1	1.821	2.805	178.9	0.4	15.6
1989 01 24		07 28.28	+22 38.7					
1989 02 03		07 20.84	+23 00.4	1.904	2.828	154.9	8.5	16.2
1989 02 13		07 15.41	+23 16.0					
1989 02 23		07 12.48	+23 25.5	2.086	2.852	132.8	14.8	16.6
1989 03 05		07 12.21	+23 29.4					
1989 03 15		07 14.53	+23 27.9	2.337	2.878	113.2	18.5	17.0
1989 03 25		07 19.23	+23 21.4					
1989 04 04		07 25.99	+23 09.7	2.624	2.904	96.0	20.0	17.3

1984 SH		a,e,i = 2.16, 0.16, 3			Elements MPC 9826			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 00.39	+19 30.1	2.211	2.487	94.0	23.5	18.7
1988 11 05		08 07.39	+19 13.3					
1988 11 15		08 11.92	+19 04.0	1.960	2.496	111.3	21.7	18.4
1988 11 25		08 13.67	+19 04.0					
1988 12 05		08 12.34	+19 14.9	1.738	2.503	131.5	17.1	18.0
1988 12 15		08 07.76	+19 37.1					
1988 12 25		08 00.10	+20 09.0	1.581	2.506	154.9	9.6	17.5
1989 01 04		07 49.93	+20 47.3					
1989 01 14		07 38.28	+21 27.3	1.523	2.506	179.5	0.2	17.0
1989 01 24		07 26.58	+22 04.2					
1989 02 03		07 16.24	+22 34.8	1.580	2.504	154.0	10.0	17.6
1989 02 13		07 08.41	+22 57.8					
1989 02 23		07 03.75	+23 13.5	1.736	2.498	130.8	17.4	18.0
1989 03 05		07 02.43	+23 22.5					
1989 03 15		07 04.34	+23 25.6	1.954	2.489	110.9	21.9	18.4
1989 03 25		07 09.15	+23 23.0					
1989 04 04		07 16.47	+23 14.7	2.200	2.477	93.9	23.8	18.7

1987 SS1		a,e,i = 3.31, 0.28, 17			Elements MPC 12787			
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation	V	
1988 10 26		08 00.11	+02 51.1	2.923	3.098	-0.65	+1.9	18.6
1988 11 05		08 04.34	+01 34.6					
1988 11 15		08 06.55	+00 21.7	2.713	3.153	-0.69	+1.9	18.5
1988 11 25		08 06.61	-00 44.6					
1988 12 05		08 04.50	-01 41.4	2.532	3.208	-0.75	+1.8	18.3
1988 12 15		08 00.30	-02 25.3					
1988 12 25		07 54.31	-02 53.4	2.416	3.262	-0.81	+1.9	18.1
1989 01 04		07 47.02	-03 03.5					
1989 01 14		07 39.08	-02 54.9	2.394	3.315	-0.84	+2.1	18.0
1989 01 24		07 31.27	-02 28.9					
1989 02 03		07 24.33	-01 48.4	2.484	3.368	-0.82	+2.2	18.1
1989 02 13		07 18.84	-00 57.5					
1989 02 23		07 15.22	-00 00.9	2.675	3.420	-0.77	+2.1	18.5
1989 03 05		07 13.61	+00 57.4					
1989 03 15		07 14.05	+01 53.9	2.941	3.470	-0.70	+2.0	18.8
1989 03 25		07 16.43	+02 46.0					
1989 04 04		07 20.54	+03 31.9	3.251	3.519	-0.63	+1.8	19.1

1987 SW3		a,e,i = 2.25, 0.17, 4			Elements MPC 12449			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 02.89	+20 53.9	2.384	2.642	93.7	22.0	18.4
1988 11 05		08 09.24	+20 26.5					
1988 11 15		08 13.20	+20 04.6	2.117	2.642	111.3	20.4	18.1
1988 11 25		08 14.48	+19 49.6					
1988 12 05		08 12.81	+19 42.6	1.880	2.638	131.5	16.2	17.7
1988 12 15		08 08.07	+19 43.7					
1988 12 25		08 00.43	+19 51.9	1.709	2.632	154.7	9.2	17.3
1989 01 04		07 50.43	+20 04.7					
1989 01 14		07 39.04	+20 19.0	1.640	2.623	178.8	0.4	16.7
1989 01 24		07 27.58	+20 31.7					
1989 02 03		07 17.36	+20 41.0	1.687	2.611	154.4	9.4	17.3
1989 02 13		07 09.44	+20 46.2					
1989 02 23		07 04.49	+20 47.4	1.835	2.596	131.2	16.7	17.7
1989 03 05		07 02.70	+20 45.1					
1989 03 15		07 04.00	+20 39.4	2.048	2.578	111.1	21.1	18.0
1989 03 25		07 08.12	+20 30.1					
1989 04 04		07 14.68	+20 16.6	2.289	2.558	93.8	23.0	18.3

(3816) 1975 VG9		a,e,i = 2.61, 0.12, 12			Elements MPC 13047			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 53.69	+30 18.4	2.067	2.409	97.5	24.1	16.5
1988 11 05		08 02.73	+29 56.8					
1988 11 15		08 09.11	+29 38.6	1.808	2.387	113.9	22.3	16.1
1988 11 25		08 12.43	+29 24.3					
1988 12 05		08 12.34	+29 13.8	1.582	2.367	133.0	17.7	15.7
1988 12 15		08 08.60	+29 05.1					
1988 12 25		08 01.38	+28 54.7	1.420	2.349	155.0	10.2	15.2
1989 01 04		07 51.32	+28 37.9					
1989 01 14		07 39.63	+28 10.5	1.353	2.332	173.3	2.8	14.8
1989 01 24		07 27.98	+27 30.7					
1989 02 03		07 17.99	+26 40.1	1.394	2.318	153.5	10.9	15.1
1989 02 13		07 10.88	+25 42.4					
1989 02 23		07 07.29	+24 41.6	1.529	2.307	131.4	18.8	15.6
1989 03 05		07 07.29	+23 40.6					
1989 03 15		07 10.65	+22 40.3	1.726	2.297	112.4	23.6	16.0
1989 03 25		07 16.96	+21 40.8					
1989 04 04		07 25.73	+20 41.0	1.953	2.291	96.3	25.7	16.3

1981 EW21		a,e,i = 2.63, 0.12, 1			Elements MPC 11045			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 56.91	+19 41.5	2.510	2.777	94.9	20.9	18.6
1988 11 05		08 03.44	+19 17.7					
1988 11 15		08 07.81	+18 59.2	2.223	2.754	112.3	19.4	18.3
1988 11 25		08 09.71	+18 47.5					
1988 12 05		08 08.94	+18 44.0	1.970	2.731	132.2	15.5	17.9
1988 12 15		08 05.35	+18 49.2					
1988 12 25		07 59.10	+19 02.4	1.784	2.706	154.8	8.9	17.4
1989 01 04		07 50.63	+19 21.8					
1989 01 14		07 40.79	+19 44.5	1.697	2.681	178.3	0.6	16.9
1989 01 24		07 30.75	+20 07.2					
1989 02 03		07 21.69	+20 27.3	1.727	2.655	155.4	8.9	17.3
1989 02 13		07 14.67	+20 43.4					
1989 02 23		07 10.36	+20 54.8	1.856	2.629	132.6	16.1	17.7
1989 03 05		07 09.04	+21 01.5					
1989 03 15		07 10.70	+21 03.4	2.052	2.602	112.6	20.7	18.0
1989 03 25		07 15.14	+21 00.3					
1989 04 04		07 22.01	+20 51.8	2.280	2.575	95.5	22.7	18.3

1976 SW3		a,e,i = 3.13, 0.17, 5			Elements MPC 13584			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 56.88	+14 59.5	2.585	2.833	94.0	20.5	17.7
1988 11 05		08 02.75	+14 27.2					
1988 11 15		08 06.42	+14 00.6	2.352	2.865	111.4	18.7	17.5
1988 11 25		08 07.70	+13 41.6					
1988 12 05		08 06.48	+13 31.7	2.151	2.898	131.3	14.8	17.2
1988 12 15		08 02.78	+13 32.1					
1988 12 25		07 56.88	+13 43.0	2.019	2.932	153.5	8.6	16.9
1989 01 04		07 49.31	+14 03.3					
1989 01 14		07 40.84	+14 30.9	1.987	2.966	173.1	2.3	16.6
1989 01 24		07 32.45	+15 03.1					
1989 02 03		07 25.05	+15 36.9	2.072	3.000	156.2	7.6	16.9
1989 02 13		07 19.40	+16 09.9					
1989 02 23		07 15.98	+16 40.1	2.261	3.035	134.2	13.5	17.4
1989 03 05		07 14.95	+17 06.2					
1989 03 15		07 16.32	+17 27.4	2.523	3.069	114.3	17.2	17.7
1989 03 25		07 19.90	+17 43.0					
1989 04 04		07 25.44	+17 52.7	2.824	3.104	96.7	18.7	18.1

6627 P-L		a,e,i = 3.07, 0.10, 3			Elements MPC 8385			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 59.30	+17 07.6	2.653	2.894	93.8	20.0	18.6
1988 11 05		08 05.27	+16 41.0					
1988 11 15		08 09.11	+16 20.0	2.403	2.912	111.4	18.4	18.4
1988 11 25		08 10.60	+16 06.3					
1988 12 05		08 09.60	+16 01.2	2.185	2.931	131.3	14.6	18.1
1988 12 15		08 06.11	+16 05.4					
1988 12 25		08 00.36	+16 18.5	2.036	2.950	153.7	8.5	17.7
1989 01 04		07 52.83	+16 39.0					
1989 01 14		07 44.29	+17 04.8	1.988	2.970	175.5	1.5	17.3
1989 01 24		07 35.70	+17 33.0					
1989 02 03		07 28.03	+18 00.8	2.058	2.990	157.0	7.4	17.7
1989 02 13		07 22.05	+18 26.3					
1989 02 23		07 18.31	+18 48.1	2.231	3.010	134.6	13.5	18.1
1989 03 05		07 17.03	+19 05.5					
1989 03 15		07 18.20	+19 18.0	2.479	3.030	114.6	17.4	18.5
1989 03 25		07 21.67	+19 25.3					
1989 04 04		07 27.19	+19 27.1	2.765	3.050	96.9	19.0	18.8

1981 DV		a,e,i = 2.63, 0.05, 14			Elements MPC 11044			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 54.59	+06 06.7	2.262	2.513	92.7	23.3	19.2
1988 11 05		08 01.88	+04 35.3					
1988 11 15		08 06.95	+03 04.8	2.018	2.510	108.2	22.0	19.0
1988 11 25		08 09.56	+01 38.6					
1988 12 05		08 09.49	+00 20.4	1.803	2.507	125.5	18.7	18.6
1988 12 15		08 06.65	-00 44.9					
1988 12 25		08 01.21	-01 32.3	1.645	2.506	143.7	13.4	18.3
1989 01 04		07 53.63	-01 57.3					
1989 01 14		07 44.74	-01 57.1	1.572	2.506	156.6	9.0	18.0
1989 01 24		07 35.67	-01 31.9					
1989 02 03		07 27.55	-00 45.1	1.601	2.506	150.4	11.2	18.1
1989 02 13		07 21.36	+00 17.4					
1989 02 23		07 17.77	+01 28.4	1.724	2.508	133.2	16.7	18.5
1989 03 05		07 17.03	+02 41.6					
1989 03 15		07 19.14	+03 51.9	1.915	2.510	115.5	20.9	18.8
1989 03 25		07 23.90	+04 55.2					
1989 04 04		07 31.00	+05 49.3	2.146	2.513	99.5	23.1	19.1

(3795) 1986 GV1		a,e,i = 2.39, 0.18, 10			Elements MPC 12957			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 05.55	+26 08.0	2.551	2.805	94.2	20.7	18.4
1988 11 05		08 12.27	+26 28.0					
1988 11 15		08 16.77	+26 57.6	2.270	2.793	111.8	19.2	18.1
1988 11 25		08 18.69	+27 38.2					
1988 12 05		08 17.74	+28 29.8	2.024	2.779	131.8	15.3	17.7
1988 12 15		08 13.71	+29 30.7					
1988 12 25		08 06.65	+30 36.6	1.847	2.763	153.7	9.1	17.3
1989 01 04		07 57.00	+31 41.3					
1989 01 14		07 45.64	+32 37.7	1.772	2.744	168.7	4.0	17.0
1989 01 24		07 33.88	+33 19.6					
1989 02 03		07 23.13	+33 44.3	1.814	2.722	151.7	9.9	17.2
1989 02 13		07 14.59	+33 52.1					
1989 02 23		07 09.08	+33 45.9	1.955	2.698	129.8	16.4	17.6
1989 03 05		07 06.89	+33 29.4					
1989 03 15		07 07.97	+33 05.5	2.160	2.672	110.2	20.4	17.9
1989 03 25		07 12.07	+32 36.2					
1989 04 04		07 18.78	+32 02.6	2.392	2.643	93.1	22.2	18.1

1987 SN11		a,e,i = 3.13, 0.17, 2			Elements MPC 13607			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 56.73	+18 41.2	2.349	2.625	94.7	22.2	18.4
1988 11 05		08 04.43	+18 14.0					
1988 11 15		08 09.87	+17 52.4	2.107	2.636	111.5	20.4	18.1
1988 11 25		08 12.80	+17 38.4					
1988 12 05		08 13.03	+17 33.4	1.897	2.650	130.9	16.3	17.8
1988 12 15		08 10.47	+17 38.4					
1988 12 25		08 05.33	+17 52.7	1.751	2.666	153.1	9.6	17.4
1989 01 04		07 58.10	+18 14.7					
1989 01 14		07 49.60	+18 41.4	1.702	2.684	176.5	1.3	17.0
1989 01 24		07 40.95	+19 09.3					
1989 02 03		07 33.25	+19 35.4	1.765	2.705	158.2	7.8	17.4
1989 02 13		07 27.41	+19 57.6					
1989 02 23		07 24.05	+20 14.7	1.929	2.728	135.8	14.6	17.8
1989 03 05		07 23.40	+20 26.2					
1989 03 15		07 25.42	+20 32.0	2.166	2.752	116.1	18.9	18.2
1989 03 25		07 29.91	+20 31.7					
1989 04 04		07 36.55	+20 25.4	2.442	2.778	98.9	20.8	18.6

(3738) 1977 QA1		a,e,i = 2.22, 0.17, 1			Elements MPC 12711			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 07.43	+21 36.7	2.342	2.590	92.9	22.5	17.9
1988 11 05		08 14.73	+21 18.6					
1988 11 15		08 19.73	+21 07.3	2.069	2.581	110.0	21.1	17.5
1988 11 25		08 22.10	+21 04.3					
1988 12 05		08 21.53	+21 11.0	1.824	2.569	129.8	17.1	17.1
1988 12 15		08 17.79	+21 27.5					
1988 12 25		08 10.94	+21 52.3	1.640	2.554	152.7	10.2	16.7
1989 01 04		08 01.39	+22 22.1					
1989 01 14		07 50.05	+22 52.4	1.554	2.537	177.3	1.0	16.1
1989 01 24		07 38.25	+23 18.5					
1989 02 03		07 27.41	+23 37.3	1.582	2.516	156.3	9.1	16.5
1989 02 13		07 18.81	+23 47.8					
1989 02 23		07 13.24	+23 50.5	1.712	2.493	132.9	16.9	16.9
1989 03 05		07 11.03	+23 46.7					
1989 03 15		07 12.13	+23 37.4	1.908	2.468	112.6	21.8	17.3
1989 03 25		07 16.27	+23 23.1					
1989 04 04		07 23.06	+23 03.8	2.134	2.440	95.4	24.1	17.6

1981 GC		a,e,i = 2.63, 0.18, 1			Elements MPC 10831			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 02.18	+21 07.3	2.505	2.758	94.0	21.1	18.6
1988 11 05		08 09.32	+20 45.1					
1988 11 15		08 14.35	+20 28.0	2.206	2.723	111.1	19.8	18.3
1988 11 25		08 16.98	+20 17.9					
1988 12 05		08 16.92	+20 15.9	1.939	2.688	130.7	16.1	17.9
1988 12 15		08 13.97	+20 22.5					
1988 12 25		08 08.20	+20 36.7	1.736	2.651	153.1	9.7	17.4
1989 01 04		07 59.98	+20 56.6					
1989 01 14		07 50.07	+21 18.6	1.630	2.613	177.7	0.8	16.8
1989 01 24		07 39.65	+21 39.1					
1989 02 03		07 30.00	+21 55.2	1.639	2.576	157.2	8.5	17.1
1989 02 13		07 22.29	+22 05.6					
1989 02 23		07 17.34	+22 09.8	1.748	2.538	134.0	16.3	17.5
1989 03 05		07 15.50	+22 08.5					
1989 03 15		07 16.83	+22 01.9	1.925	2.500	113.9	21.3	17.8
1989 03 25		07 21.12	+21 50.1					
1989 04 04		07 28.03	+21 32.9	2.135	2.462	96.7	23.8	18.1

1975 LQ		a,e,i = 2.43, 0.16, 5			Elements MPC 13602			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 08.51	+14 48.3	2.548	2.754	91.2	21.2	19.1
1988 11 05		08 14.64	+14 16.4					
1988 11 15		08 18.60	+13 50.5	2.292	2.769	108.5	19.8	18.9
1988 11 25		08 20.13	+13 32.7					
1988 12 05		08 19.05	+13 24.9	2.062	2.783	128.4	16.1	18.6
1988 12 15		08 15.24	+13 28.5					
1988 12 25		08 08.88	+13 43.8	1.894	2.794	150.8	9.9	18.2
1989 01 04		08 00.41	+14 09.9					
1989 01 14		07 50.60	+14 44.5	1.824	2.803	172.9	2.5	17.8
1989 01 24		07 40.54	+15 24.0					
1989 02 03		07 31.31	+16 04.9	1.872	2.809	157.7	7.6	18.1
1989 02 13		07 23.87	+16 44.1					
1989 02 23		07 18.87	+17 19.5	2.027	2.813	134.8	14.4	18.5
1989 03 05		07 16.61	+17 49.7					
1989 03 15		07 17.09	+18 14.0	2.254	2.815	114.4	18.8	18.9
1989 03 25		07 20.15	+18 31.8					
1989 04 04		07 25.49	+18 43.0	2.519	2.815	96.6	20.7	19.2

1981 VC1		a,e,i = 2.20, 0.16, 3			Elements MPC 10831			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 03.08	+22 44.0	1.790	2.108	94.1	28.1	18.0
1988 11 05		08 13.15	+22 32.7					
1988 11 15		08 20.41	+22 30.1	1.594	2.146	110.1	25.6	17.7
1988 11 25		08 24.46	+22 38.7					
1988 12 05		08 24.93	+22 59.8	1.421	2.184	129.4	20.4	17.3
1988 12 15		08 21.56	+23 33.2					
1988 12 25		08 14.50	+24 15.7	1.304	2.221	152.2	11.9	16.9
1989 01 04		08 04.35	+25 01.7					
1989 01 14		07 52.36	+25 43.9	1.276	2.258	174.9	2.2	16.5
1989 01 24		07 40.24	+26 16.0					
1989 02 03		07 29.67	+26 35.0	1.357	2.293	156.0	10.1	17.0
1989 02 13		07 21.96	+26 41.1					
1989 02 23		07 17.78	+26 36.5	1.533	2.327	133.4	18.0	17.6
1989 03 05		07 17.20	+26 23.8					
1989 03 15		07 19.99	+26 04.6	1.772	2.359	114.0	22.6	18.1
1989 03 25		07 25.72	+25 40.0					
1989 04 04		07 33.87	+25 10.1	2.043	2.389	97.5	24.5	18.4

1972 YR		a,e,i = 2.52, 0.18, 2				Elements MPC 12324		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		07 56.81	+21 57.4	1.771	2.110	95.3	28.0	17.0
1988 11 05		08 07.59	+21 21.1					
1988 11 15		08 15.61	+20 50.0	1.571	2.134	110.9	25.7	16.7
1988 11 25		08 20.51	+20 26.5					
1988 12 05		08 21.96	+20 12.5	1.397	2.162	129.5	20.6	16.3
1988 12 15		08 19.76	+20 09.1					
1988 12 25		08 14.05	+20 15.2	1.276	2.192	151.7	12.3	15.9
1989 01 04		08 05.43	+20 28.1					
1989 01 14		07 55.05	+20 43.6	1.243	2.226	176.5	1.5	15.4
1989 01 24		07 44.48	+20 57.5					
1989 02 03		07 35.28	+21 06.9	1.315	2.261	158.5	9.2	15.9
1989 02 13		07 28.66	+21 10.7					
1989 02 23		07 25.30	+21 08.8	1.481	2.298	136.0	17.4	16.5
1989 03 05		07 25.30	+21 01.7					
1989 03 15		07 28.47	+20 49.5	1.714	2.337	116.8	22.3	17.0
1989 03 25		07 34.44	+20 32.0					
1989 04 04		07 42.73	+20 09.0	1.984	2.377	100.4	24.5	17.4

1935 SP1		a,e,i = 2.40, 0.25, 23				Elements MPC 12442		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 30.48	+44 25.7	2.672	2.904	93.3	20.0	17.8
1988 11 05		08 38.38	+45 15.8					
1988 11 15		08 43.50	+46 16.6	2.449	2.928	109.3	18.6	17.6
1988 11 25		08 45.39	+47 26.9					
1988 12 05		08 43.58	+48 43.7	2.257	2.949	126.3	15.6	17.4
1988 12 15		08 37.69	+50 01.2					
1988 12 25		08 27.73	+51 10.4	2.130	2.967	142.0	11.8	17.1
1989 01 04		08 14.26	+52 01.3					
1989 01 14		07 58.56	+52 24.5	2.096	2.982	148.8	9.8	17.0
1989 01 24		07 42.55	+52 15.1					
1989 02 03		07 28.17	+51 34.2	2.168	2.993	140.3	12.1	17.2
1989 02 13		07 16.93	+50 27.4					
1989 02 23		07 09.58	+49 03.3	2.331	3.001	124.2	15.8	17.5
1989 03 05		07 06.18	+47 29.6					
1989 03 15		07 06.42	+45 52.0	2.559	3.006	107.1	18.4	17.8
1989 03 25		07 09.80	+44 14.4					
1989 04 04		07 15.76	+42 38.4	2.818	3.007	91.0	19.4	18.0

(3772) 1982 UR7		a,e,i = 3.02, 0.07, 11				Elements MPC 12799		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 11.66	+20 19.6	3.022	3.208	91.6	18.0	17.1
1988 11 05		08 17.32	+20 24.3					
1988 11 15		08 21.06	+20 37.1	2.743	3.212	109.6	16.9	16.8
1988 11 25		08 22.67	+20 59.0					
1988 12 05		08 21.99	+21 30.7	2.495	3.216	129.8	13.6	16.5
1988 12 15		08 18.94	+22 11.9					
1988 12 25		08 13.64	+23 00.6	2.315	3.218	152.2	8.2	16.2
1989 01 04		08 06.44	+23 53.7					
1989 01 14		07 57.96	+24 47.0	2.239	3.220	174.8	1.6	15.8
1989 01 24		07 49.08	+25 36.2					
1989 02 03		07 40.71	+26 17.9	2.284	3.221	158.4	6.5	16.1
1989 02 13		07 33.73	+26 50.3					
1989 02 23		07 28.77	+27 13.2	2.439	3.221	135.7	12.4	16.4
1989 03 05		07 26.17	+27 27.1					
1989 03 15		07 26.04	+27 33.2	2.671	3.221	115.1	16.2	16.7
1989 03 25		07 28.31	+27 32.6					
1989 04 04		07 32.75	+27 25.9	2.943	3.220	96.9	18.0	17.0

1977 RG		a,e,i = 2.79, 0.11, 9			Elements MPC 9765			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 10.34	+11 03.6	2.876	3.041	89.9	19.1	19.1
1988 11 05		08 16.17	+10 24.9					
1988 11 15		08 20.11	+09 51.2	2.587	3.029	107.1	18.2	18.8
1988 11 25		08 21.97	+09 24.5					
1988 12 05		08 21.56	+09 06.9	2.324	3.015	126.4	15.3	18.5
1988 12 15		08 18.78	+09 00.6					
1988 12 25		08 13.74	+09 07.1	2.122	3.000	147.7	10.1	18.1
1989 01 04		08 06.77	+09 26.8					
1989 01 14		07 58.46	+09 58.9	2.016	2.984	167.8	4.0	17.7
1989 01 24		07 49.67	+10 40.9					
1989 02 03		07 41.34	+11 29.6	2.025	2.967	159.2	6.8	17.8
1989 02 13		07 34.34	+12 21.0					
1989 02 23		07 29.37	+13 11.5	2.144	2.950	137.5	13.1	18.2
1989 03 05		07 26.79	+13 58.6					
1989 03 15		07 26.75	+14 40.1	2.342	2.931	117.0	17.6	18.5
1989 03 25		07 29.17	+15 14.7					
1989 04 04		07 33.85	+15 41.8	2.583	2.912	99.0	19.8	18.8

1974 SW		a,e,i = 2.67, 0.21, 3			Elements MPC 12695			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 17.12	+17 05.9	2.611	2.788	89.6	20.9	18.7
1988 11 05		08 23.34	+16 32.5					
1988 11 15		08 27.36	+16 05.3	2.377	2.830	107.1	19.5	18.5
1988 11 25		08 28.96	+15 45.8					
1988 12 05		08 27.98	+15 35.4	2.167	2.870	127.0	15.9	18.2
1988 12 15		08 24.35	+15 34.9					
1988 12 25		08 18.24	+15 44.0	2.017	2.908	149.5	9.9	17.9
1989 01 04		08 10.11	+16 01.3					
1989 01 14		08 00.69	+16 24.5	1.966	2.945	173.1	2.3	17.5
1989 01 24		07 50.98	+16 50.4					
1989 02 03		07 41.99	+17 16.3	2.032	2.979	160.3	6.4	17.8
1989 02 13		07 34.62	+17 39.9					
1989 02 23		07 29.48	+17 59.7	2.209	3.012	137.3	12.9	18.3
1989 03 05		07 26.83	+18 15.1					
1989 03 15		07 26.72	+18 25.6	2.464	3.043	116.7	17.0	18.7
1989 03 25		07 29.00	+18 30.9					
1989 04 04		07 33.39	+18 30.9	2.761	3.072	98.4	18.8	19.0

1987 OQ		a,e,i = 2.65, 0.18, 12			Elements MPC 12322			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1988 10 26		08 14.48	+11 29.1	2.330	2.518	89.0	23.2	17.8
1988 11 05		08 21.68	+10 07.2					
1988 11 15		08 26.59	+08 47.7	2.111	2.556	105.3	21.9	17.6
1988 11 25		08 28.94	+07 33.3					
1988 12 05		08 28.57	+06 26.7	1.914	2.594	123.8	18.4	17.3
1988 12 15		08 25.39	+05 30.8					
1988 12 25		08 19.56	+04 48.8	1.771	2.632	144.2	12.6	17.0
1989 01 04		08 11.55	+04 22.9					
1989 01 14		08 02.13	+04 14.5	1.716	2.669	162.0	6.5	16.7
1989 01 24		07 52.38	+04 22.6					
1989 02 03		07 43.39	+04 44.5	1.772	2.706	156.8	8.2	16.9
1989 02 13		07 36.13	+05 16.4					
1989 02 23		07 31.23	+05 53.5	1.931	2.742	137.3	14.2	17.3
1989 03 05		07 28.97	+06 31.8					
1989 03 15		07 29.37	+07 07.8	2.167	2.777	118.1	18.4	17.7
1989 03 25		07 32.26	+07 38.9					
1989 04 04		07 37.33	+08 03.6	2.446	2.811	100.8	20.5	18.1