The MINOR PLANET CIRCULARS/MINOR PLANETS AND COMETS are published, on behalf of Commission 20 of the International Astronomical Union, usually in batches on the 1st of each month, by:

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

TWX 710-320-6842 ASTROGRAM CAM ** Brian G. Marsden, Director
Telephone 617-864-5758 ** Conrad M. Bardwell, Assistant Director

IDENTIFICATION CHANGES.

Continuation to MPC 5423.

Object	Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
A905 WA *	1905 11	20.84069	03 25 08.59	+16 19 51.8	A905 VF	13.1	024
A905 WA	1905 11	30.00458	03 17 59.64	+15 53 36.2	A905 VF	13.1	024
1939 EO *	1939 03	14.94892	11 38 33.27	-03 33 33.8	1939 DE	15	020
1976 SA10*	1976 09	24.87933	23 49 58.12	-05 46 50.0	1976 QR1	17.0	095

* * * * *

IDENTIFICATIONS.

The following list of identifications with numbered minor planets continues that on MPC 5424.

	Note		Note		Note
A898 VD = (1542)	1	A904 RF = (950)	1	A904 VD = (1089)	1
A905 WA = (1247)	1	A906 VF = (1502)	1	A915 TF = (1450)	1
1933 FT1 = (1481)	2	1933 FY1 = (1481)	2	1939 EO = (1763)	1
1940 EP = (1135)	3	1948 UJ = (1576)	4	1950 CF = (740)	3
1950 CM = (103)	3	1950 HQ = (932)	3	1950 HT = (136)	3
1950 HV = (963)	3	1951 EH1 = (1698)	5	1974 HP3 = (934)	1
1974 KP = (1923)	6	1974 OV = (1976)	1	1974 OW = (1304)	1
1974 OX = (1442)	1	1974 OE1 = (1857)	6	1974 QQ2 = (1123)	6
1974 QR2 = (813)	6	1974 QS2 = (151)	6	1974 QT2 = (23)	1
1974 QU2 = (9)	6	1974 QY2 = (813)	6	1974 QZ2 = (151)	6
1974 QA3 = (515)	6	1974 VF3 = (2075)	7		

Note 1: identification by E. Bowell. 2: this identification is correct; the contrary remark on MPC 942 (NAZ 7, 14) should be ignored. 3: identification by B. G. Marsden. 4: identification by L. Oterma. 5: identification on JASA 186; utilized on MPC 4069. 6: identification by C. M. Bardwell. 7: independent identification by O. Kippes and J. G. Williams. The observations of 1974 KP and 1974 VF3 (MPC 5433, 5438) are re-reductions of positions published previously (MPC 4132, 3894).

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OBSERVATIONS MADE AT CAUSSOLS. REDUCED BY M. ROUSSEAU AT BORDEAUX. COMMUNICATED BY J.-L. HEUDIER.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
43	1979 10	19.06134	03 44 40.75	+23 24 08.1	11.9	010
43	1979 10	20.10138	03 43 54.02	+23 21 25.4	11.9	010
43	1979 10	24.07645	03 40 38.70	+23 09 37.7	11.9	010
187	1979 10	19.94120	01 41 27.30	+12 06 48.9	14.1	010
187	1979 10	23.98331	01 37 48.26	+11 56 26.6	14.1	010
187	1979 10	30.88233	01 31 44.56	+11 35 49.1	14.1	010

340		1979	11	20.08948	05	10	04.08	+28	12	55.8	13.9	010
366		1979	11	17.94574	01	44	58.71	+23	48	38.5	14.0	010
453		1979	10	20.10138	03	48	49.70	+25	15	09.3	14.7	010
453		1979	10	24.07645	03	45	40.07	+25	18	40.3	14.7	010
550		1979	11	20.08948	05	00	05.51	+28	21	06.8	13.8	010
656		1979	10	23.98331	01	48	45.57	+10	52	31.2	15.8	010
828		1979	10	23.98331	01	49	28.80	+12	06	11.0	15.4	010
854		1979	11	19.86602	01	35	51.46	+05	35	09.2	16.3	010
1079		1979	10	20.10138	03	47	57.04	+21	43	57.1	15.6	010
1199		1979	10	20.10138	03	42	30.30	+21	23	08.1	15.4	010
1204		1979	11	20.08948	05	13	21.96	+25	51	11.3	16.1	010
1433		1979	11	17.87907	01	38	30.78	+24	48	24.6	15.4	010
1433		1979	11	17.94574	01	38	27.99	+24	48	01.0	15.4	010
1527		1979	10	20.10138	03	50	04.09	+24	35	21.0	15.7	010
1669		1979	10	19.94120	01	41	56.54	+10	46	20.4	16.4	010
1669		1979	10	23.98331	01	38	53.43	+10	29	28.4	16.4	010
1979	UR1 *	1979	10	19.94120	01	39	51.99	+11	46	31.9	17.0	010
1979	UR1	1979	10	23.98331	01	36	43.70	+11	11	18.8	17.0	010
1979	US1 *	1979	10	19.94120	01	42	05.40	+10	13	06.0	17.0	010
1979	US1	1979	10	23.98331	01	38	47.48	+09	57	56.9	17.0	010
1979	UT1 *	1979	10	19.94120	01	43	53.09	+08	43	55.7	17.5	010
1979	UT1	1979	10	23.98331	01	39	17.38	+08	45	41.8	17.5	010
1979	UU1 *	1979	10	19.94120	01	44	11.23	+12	29	16.7	18.0	010
1979	UU1	1979	10	23.98331	01	40	53.15	+11	57	24.4	18.0	010
1979	UV1 *	1979	10	19.94120	01	45	34.07	+12	24	00.0	18.0	010
1979	UV1	1979	10	23.98331	01	42	12.40	+12	06	17.0	18.0	010
1979	UW1 *	1979	10	19.94120	01	45	49.48	+10	01	46.2	17.0	010
1979	UW1	1979	10	23.98331	01	41	33.87	+10	02	23.1	17.0	010
1979	UX1 *	1979	10	19.94120	01	48	01.42	+12	21	21.8	18.0	010
1979	UX1	1979	10	23.98331	01	44	46.21	+11	42	49.6	18.0	010
1979	UY1 *	1979	10	19.94120	01	49	21.79	+09	01	23.8	16.5	010
1979	UY1	1979	10	23.98331	01	45	31.50	+08	24	36.1	16.5	010
1979	UZ1 *	1979	10	19.06134	03	42	39.77	+21	31	29.2	15.4	010
1979	UZ1	1979	10	20.10138	03	42	04.06	+21	31	15.4		010

OBSERVATIONS MADE AT THE HOHER LIST OBSERVATORY BY M. GROSSMANN AND S. WAGNER.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
/1980g	1980 09	07.10035	03 54 54.08	-00 44 00.9	017
/1980g	1980 09	08.08854	03 56 34.94	-00 39 47.1	017
/1980k	1980 09	06.84549	14 37 54.52	+25 20 31.7	017
/1980k	1980 09	07.82535	14 41 11.84	+25 05 10.9	017

OBSERVATIONS MADE AT THE ZIMMERWALD STATION OF THE BERNE ASTRONOMICAL INSTITUTE BY P. WILD.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
/1980k	1980 08	02.88958	12 00 28.67	+32 35 12.7	11 T	026
/1980k	1980 08	04.89251	12 12 06.67	+32 26 42.6		026
/1980k	1980 08	06.87986	12 23 18.64	+32 14 37.5		026
/1980k	1980 08	07.90174	12 28 55.77	+32 07 08.7		026
/1980k	1980 08	14.87792	13 04 58.00	+30 57 53.6		026
/1980k	1980 08	17.87257	13 19 12.19	+30 20 24.1		026
1980 PO	1980 08	06.97222	21 23 23.05	+01 36 25.8	14.8	026
1980 PO	1980 08	07.02188	21 23 21.06	+01 35 50.6		026
1980 PO	1980 08	07.94097	21 22 47.14	+01 24 44.6		026
1980 PO	1980 08	14.91319	21 18 26.24	-00 06 39.8		026
1980 PO	1980 08	17.86042	21 16 39.20	-00 48 19.9		026
1980 PO	1980 08	17.92153	21 16 36.83	-00 49 12.4		026
1980 PO	1980 08	18.94813	21 16 00.60	-01 04 01.8		026

OBSERVATION MADE AT TAUTENBURG BY F. BORNGEN AND K. KIRSCH.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1980 RE	*	1980 09	03.93194	22 58 14.56	+18 59 55.6	17.5	033

OBSERVATIONS MADE AT KLET BY A. MRKOS, Z. VAVROVA AND L. BROZEK.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
460		1980 08	07.87353	19 48 32.98	-13 34 15.5			046
460		1980 08	07.88777	19 48 32.26	-13 34 18.7			046
554		1980 08	06.98527	21 49 08.12	-10 52 55.4			046
554		1980 08	06.99962	21 49 07.37	-10 52 57.0			046
554		1980 08	07.97978	21 48 12.71	-10 56 07.3			046
554		1980 08	07.99396	21 48 11.92	-10 56 09.7			046
554		1980 08	14.95418	21 41 27.25	-11 20 17.0			046
554		1980 08	14.96836	21 41 26.39	-11 20 20.4			046
554		1980 08	15.93690	21 40 28.60	-11 23 51.6			046
554		1980 08	15.94940	21 40 27.90	-11 23 54.2			046
743		1980 08	07.87353	19 49 30.96	-13 50 44.9			046
743		1980 08	07.88777	19 49 30.18	-13 50 48.3			046
876		1980 08	04.86437	19 58 12.51	-12 23 26.4			046
876		1980 08	04.87855	19 58 12.03	-12 23 31.6			046
876		1980 08	05.88010	19 57 28.61	-12 30 04.7			046
876		1980 08	05.89428	19 57 28.07	-12 30 10.0			046
876		1980 08	07.87353	19 56 04.40	-12 43 09.5			046
876		1980 08	07.88777	19 56 03.77	-12 43 15.9			046
1628		1980 08	04.90390	21 19 04.66	+04 12 10.6			046
1628		1980 08	04.91819	21 19 03.94	+04 12 03.8			046
1628		1980 08	06.94777	21 17 38.21	+03 59 42.8			046
1628		1980 08	06.96194	21 17 37.68	+03 59 37.9			046
1628		1980 08	07.94355	21 16 56.01	+03 53 24.4			046
1628		1980 08	07.95773	21 16 55.39	+03 53 19.2			046
1721		1980 08	06.98527	21 49 56.17	-10 56 42.1			046
1721		1980 08	06.99962	21 49 55.37	-10 56 42.0			046
1721		1980 08	07.97978	21 49 05.65	-10 56 38.2			046
1721		1980 08	07.99396	21 49 04.90	-10 56 38.4			046
1721		1980 08	14.95418	21 43 02.18	-10 56 59.7			046
1721		1980 08	14.96836	21 43 01.34	-10 56 58.9			046
1721		1980 08	15.93690	21 42 10.21	-10 57 06.5			046
1721		1980 08	15.94940	21 42 09.75	-10 57 07.1			046
1875		1980 08	06.94777	21 17 01.02	+02 52 51.5			046
1875		1980 08	06.96194	21 17 00.44	+02 52 47.5			046
1875		1980 08	07.94355	21 16 20.30	+02 47 09.2			046
1875		1980 08	07.95773	21 16 19.84	+02 47 05.4			046
2131		1980 08	05.91668	19 51 51.25	-19 58 26.0			046
2131		1980 08	05.92912	19 51 49.41	-19 58 00.5			046
2131		1980 08	06.88174	19 49 45.43	-19 28 15.5			046
2131		1980 08	06.89047	19 49 44.24	-19 27 58.5			046
1979 SK		1979 10	19.79387	23 19 54.08	+01 58 38.3	17.8		046
1979 SK		1979 10	19.80816	23 19 54.01	+01 58 36.7			046
1979 TC	*	1979 10	11.84270	23 33 20.71	+03 29 41.8	17.6		046
1979 TC		1979 10	11.85740	23 33 20.19	+03 29 38.3			046
1979 TC		1979 10	15.79450	23 30 24.71	+03 20 40.0			046
1979 TC		1979 10	15.80874	23 30 24.49	+03 20 37.4			046
1979 TD	*	1979 10	15.83235	23 19 44.07	+01 57 23.9			046
1979 TD		1979 10	15.84659	23 19 43.74	+01 57 26.1			046
1979 TE	*	1979 10	15.83235	23 19 49.94	+02 08 42.6	17.8		046
1979 TE		1979 10	15.84659	23 19 49.74	+02 08 40.9			046
1979 TF	*	1979 10	15.83235	23 19 50.59	+02 07 39.5	18.0		046
1979 TF		1979 10	15.84659	23 19 50.57	+02 07 37.0			046
1979 TG	*	1979 10	15.83235	23 20 31.64	+02 05 56.5	17.7		046

1979	TG		1979	10	15.84659	23	20	31.59	+02	05	54.7			046
1980	DZ		1980	02	15.02150	12	06	31.55	+10	15	18.3		16	046
1980	DZ		1980	02	15.03580	12	06	31.03	+10	15	20.3			046
1980	DA1		1980	02	15.02150	12	06	33.49	+10	17	16.4			046
1980	DA1		1980	02	15.03580	12	06	33.05	+10	17	20.4			046
1980	JE		1980	05	12.93095	14	08	12.84	-06	08	26.4			046
1980	LH	*	1980	06	13.95848	16	42	43.83	-04	53	27.0		17.2	046
1980	LH		1980	06	13.97260	16	42	42.78	-04	53	26.8			046
1980	LH		1980	06	14.93894	16	41	58.70	-04	53	21.4			046
1980	LH		1980	06	14.95311	16	41	57.86	-04	53	21.2			046
1980	PO	*	1980	08	04.90390	21	24	38.8	+02	00	32			1 046
1980	PO		1980	08	04.91819	21	24	38.3	+02	00	24		15.6	1 046
1980	PO		1980	08	07.94355	21	22	46.93	+01	24	43.6			046
1980	PO		1980	08	07.95773	21	22	46.40	+01	24	33.7			046
1980	PO		1980	08	11.87646	21	20	19.49	+00	34	32.2			046
1980	PO		1980	08	11.90759	21	20	18.24	+00	34	08.4			046
1980	PO		1980	08	12.84944	21	19	43.11	+00	21	34.3			046
1980	PO		1980	08	12.86279	21	19	42.62	+00	21	24.2			046
1980	PO		1980	08	14.84156	21	18	29.00	-00	05	39.4			046
1980	PO		1980	08	14.85574	21	18	28.39	-00	05	51.7			046
1980	PO		1980	08	17.87628	21	16	38.51	-00	48	33.0			046
1980	PO		1980	08	17.88352	21	16	38.27	-00	48	38.5			046
1980	PP	*	1980	08	06.91000	20	58	44.68	-08	09	55.4		17.0	046
1980	PP		1980	08	06.92427	20	58	44.05	-08	09	56.9			046
1980	PP		1980	08	07.90880	20	57	55.89	-08	11	42.9			046
1980	PP		1980	08	07.92301	20	57	55.23	-08	11	45.6			046
1980	PP		1980	08	14.91980	20	52	19.40	-08	25	54.6			046
1980	PP		1980	08	14.93416	20	52	18.83	-08	25	55.6			046
1980	PP		1980	08	18.94920	20	49	14.76	-08	34	54.2			046
1980	PP		1980	08	18.96355	20	49	14.16	-08	34	55.2			046
1980	PQ	*	1980	08	06.91000	21	01	05.22	-07	03	11.8		17.4	046
1980	PQ		1980	08	06.92427	21	01	04.69	-07	03	22.1			046
1980	PQ		1980	08	07.90880	21	00	25.09	-07	17	16.2			046
1980	PQ		1980	08	07.92301	21	00	24.34	-07	17	30.5			046
1980	PQ		1980	08	14.91980	20	55	47.52	-08	59	58.6			046
1980	PQ		1980	08	14.93416	20	55	46.97	-09	00	11.7			046
1980	PQ		1980	08	18.94920	20	53	18.98	-10	00	47.2			046
1980	PQ		1980	08	18.96355	20	53	18.31	-10	01	04.8			046
1980	PR	*	1980	08	06.91000	21	01	50.99	-06	05	38.6		17.8	046
1980	PR		1980	08	06.92427	21	01	50.34	-06	05	39.6			046
1980	PR		1980	08	07.90880	21	00	39.52	-06	09	36.5			046
1980	PR		1980	08	07.92301	21	00	38.75	-06	09	36.8			046
1980	PS	*	1980	08	06.91000	21	03	43.14	-09	44	10.4		16.8	046
1980	PS		1980	08	06.92427	21	03	41.84	-09	44	06.9			046
1980	PS		1980	08	07.90880	21	02	24.54	-09	40	10.4			046
1980	PS		1980	08	07.92301	21	02	23.61	-09	40	08.2			046
1980	PS		1980	08	14.91980	20	53	31.44	-09	14	16.8			046
1980	PS		1980	08	14.93416	20	53	30.40	-09	14	12.2			046
1980	PS		1980	08	18.94920	20	48	45.45	-09	00	51.1			046
1980	PS		1980	08	18.96355	20	48	44.38	-09	00	48.0			046
1980	PT	*	1980	08	06.91000	21	03	53.70	-06	42	59.3		16.8	046
1980	PT		1980	08	06.92427	21	03	53.07	-06	43	04.8			046
1980	PT		1980	08	07.90880	21	03	09.69	-06	49	25.8			046
1980	PT		1980	08	07.92301	21	03	09.02	-06	49	30.9			046
1980	PT		1980	08	14.87756	20	58	07.09	-07	36	16.3			046
1980	PT		1980	08	14.89179	20	58	06.39	-07	36	23.2			046
1980	PT		1980	08	15.90108	20	57	23.77	-07	43	23.1			046
1980	PT		1980	08	15.91525	20	57	23.23	-07	43	30.4			046
1980	PT		1980	08	17.90192	20	56	01.12	-07	57	23.1			046

1980	PT		1980	08	17.91616	20	56	00.35	-07	57	30.8	046
1980	PT		1980	08	18.91326	20	55	20.21	-08	04	29.8	046
1980	PT		1980	08	18.92744	20	55	19.66	-08	04	35.7	046
1980	PU	*	1980	08	06.91000	21	05	56.40	-06	30	25.9	17.2 046
1980	PU		1980	08	06.92427	21	05	55.52	-06	30	31.4	046
1980	PU		1980	08	07.90880	21	05	04.46	-06	35	08.4	046
1980	PU		1980	08	07.92301	21	05	03.71	-06	35	09.4	046
1980	PU		1980	08	14.87756	20	59	14.95	-07	11	12.1	046
1980	PU		1980	08	14.89179	20	59	14.25	-07	11	14.5	046
1980	PU		1980	08	15.90108	20	58	26.61	-07	16	54.3	046
1980	PU		1980	08	15.91525	20	58	25.89	-07	16	59.6	046
1980	PU		1980	08	17.90192	20	56	55.68	-07	28	19.4	046
1980	PU		1980	08	17.91616	20	56	55.04	-07	28	23.6	046
1980	PV	*	1980	08	06.91000	21	10	32.11	-08	31	48.2	17.0 046
1980	PV		1980	08	06.92427	21	10	31.33	-08	31	50.2	046
1980	PV		1980	08	07.90880	21	09	42.43	-08	33	18.6	046
1980	PV		1980	08	07.92301	21	09	41.72	-08	33	19.6	046
1980	PV		1980	08	17.90192	21	01	32.97	-08	50	52.1	046
1980	PV		1980	08	17.91616	21	01	32.48	-08	50	54.6	046
1980	PV		1980	08	18.91326	21	00	45.48	-08	52	51.2	046
1980	PV		1980	08	18.92744	21	00	44.82	-08	52	54.1	046
1980	PW	*	1980	08	06.98527	21	49	31.01	-11	49	47.0	16.7 046
1980	PW		1980	08	06.99962	21	49	30.28	-11	49	48.4	046
1980	PW		1980	08	07.97978	21	48	39.55	-11	50	43.8	046
1980	PW		1980	08	07.99396	21	48	39.12	-11	50	46.9	046
1980	PW		1980	08	14.95418	21	42	16.57	-11	59	02.0	046
1980	PW		1980	08	14.96836	21	42	15.71	-11	59	02.8	046
1980	PW		1980	08	15.93690	21	41	20.58	-12	00	23.4	046
1980	PW		1980	08	15.94940	21	41	19.97	-12	00	23.3	046
1980	PW		1980	08	17.93705	21	39	26.62	-12	03	07.4	046
1980	PW		1980	08	17.95123	21	39	25.64	-12	03	06.7	046
1980	PX	*	1980	08	06.98527	21	52	19.98	-10	50	46.7	16.6 046
1980	PX		1980	08	06.99962	21	52	19.64	-10	50	49.5	046
1980	PX		1980	08	07.97978	21	51	45.60	-10	56	19.2	046
1980	PX		1980	08	07.99396	21	51	44.91	-10	56	23.9	046
1980	PX		1980	08	14.95418	21	47	18.93	-11	38	46.2	046
1980	PX		1980	08	14.96836	21	47	18.29	-11	38	52.0	046
1980	PX		1980	08	15.93690	21	46	39.17	-11	45	06.9	046
1980	PX		1980	08	15.94940	21	46	38.87	-11	45	09.8	046
1980	PX		1980	08	17.93705	21	45	17.61	-11	58	09.0	046
1980	PX		1980	08	17.95123	21	45	17.15	-11	58	13.1	046
1980	PY	*	1980	08	06.98527	21	56	24.35	-12	42	38.7	16.5 046
1980	PY		1980	08	06.99962	21	56	23.40	-12	42	40.5	046
1980	PY		1980	08	07.97978	21	55	23.29	-12	44	50.7	046
1980	PY		1980	08	07.99396	21	55	22.37	-12	44	51.9	046
1980	PY		1980	08	14.95418	21	48	01.36	-13	01	21.7	046
1980	PY		1980	08	14.96836	21	48	00.28	-13	01	24.7	046
1980	PY		1980	08	15.93690	21	46	57.88	-13	03	43.7	046
1980	PY		1980	08	15.94940	21	46	57.28	-13	03	44.8	046
1980	PY		1980	08	17.93705	21	44	49.57	-13	08	28.4	046
1980	PY		1980	08	17.95123	21	44	48.50	-13	08	31.2	046
1980	PZ	*	1980	08	14.99127	22	54	39.92	-03	05	38.6	046
1980	PZ		1980	08	15.00562	22	54	38.98	-03	05	35.3	046
1980	PZ		1980	08	17.97241	22	51	59.17	-02	55	13.1	046
1980	PZ		1980	08	17.98664	22	51	58.44	-02	55	10.8	046
1980	PZ		1980	08	18.98554	22	51	01.98	-02	51	56.1	046
1980	PZ		1980	08	18.99978	22	51	01.35	-02	51	53.9	046
1980	PA1	*	1980	08	14.99127	22	59	08.77	-03	20	51.5	15.8 046
1980	PA1		1980	08	15.00562	22	59	08.07	-03	20	50.7	046

1980	PA1		1980	08	17.97241	22	56	38.05	-03	15	46.2	046
1980	PA1		1980	08	17.98664	22	56	37.37	-03	15	45.6	046
1980	PA1		1980	08	18.98554	22	55	44.64	-03	14	17.1	046
1980	PA1		1980	08	18.99978	22	55	43.88	-03	14	15.5	046
1980	PB1	*	1980	08	15.90108	21	02	45.59	-07	19	12.4	17.0 046
1980	PB1		1980	08	15.91525	21	02	44.83	-07	19	21.3	046
1980	PB1		1980	08	17.90192	21	01	15.42	-07	40	55.7	046
1980	PB1		1980	08	17.91616	21	01	14.60	-07	41	08.1	046
1980	PB1		1980	08	18.91326	21	00	30.79	-07	52	03.8	046
1980	PB1		1980	08	18.92744	21	00	30.17	-07	52	13.0	046

Note 1: near edge of plate.

OBSERVATIONS MADE AT THE SKALNATE PLESO OBSERVATORY BY M. ANTAL, J. KLOBUSNIK AND P. SCHALLING. MEASURED AND REDUCED BY KLOBUSNIK, E. M. PITTICH, SCHALLING AND J. SVOREN.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
3	1976	02 09.87187	10 59 43.27	+01 08 28.2	056
3	1976	02 09.93646	10 59 40.54	+01 09 01.8	056
3	1976	03 23.95868	10 27 41.65	+07 56 24.5	056
3	1976	03 24.02951	10 27 39.32	+07 56 58.6	056
3	1978	07 27.96667	19 56 57.00	-05 13 34.2	056
11	1976	02 09.92708	10 21 41.26	+13 13 53.9	056
11	1976	03 23.94722	09 47 01.09	+17 09 10.6	056
11	1976	03 24.01806	09 46 59.05	+17 09 21.0	056
11	1978	11 06.05972	04 29 50.64	+14 54 52.4	056
11	1978	11 06.15069	04 29 46.17	+14 54 40.1	056
11	1979	01 19.78819	03 40 58.07	+14 55 01.4	056
11	1979	01 19.86319	03 40 58.91	+14 55 17.5	056
18	1976	02 09.86736	10 49 46.58	+08 17 28.4	056
18	1976	02 09.93194	10 49 43.39	+08 18 03.8	056
18	1976	03 23.95417	10 13 13.97	+14 22 06.8	056
18	1976	03 24.02292	10 13 11.53	+14 22 29.7	056
18	1979	01 19.94028	05 57 08.02	+10 25 02.3	056
18	1979	03 19.85625	06 17 33.04	+17 22 56.3	056
25	1976	04 30.99444	18 51 49.54	-00 29 02.9	056
25	1976	05 01.03681	18 51 51.62	-00 28 09.5	056
39	1976	02 09.91667	12 33 23.02	+00 45 34.1	056
39	1976	02 10.13125	12 33 20.70	+00 46 37.0	056
39	1976	03 23.96597	12 10 01.03	+05 47 47.2	056
40	1977	10 12.95484	05 10 59.70	+19 06 37.1	056
40	1977	10 12.97567	05 10 59.94	+19 06 37.6	056
40	1977	10 14.98155	05 11 26.02	+19 07 16.0	056
40	1977	10 15.00238	05 11 26.23	+19 07 16.5	056
40	1977	10 15.12391	05 11 27.41	+19 07 18.8	056
40	1977	10 15.99891	05 11 36.07	+19 07 31.7	056
40	1977	10 19.95659	05 11 54.38	+19 08 31.8	056
40	1977	10 20.00067	05 11 54.33	+19 08 33.3	056
40	1977	10 20.98644	05 11 53.68	+19 08 46.6	056
40	1977	10 21.00727	05 11 53.66	+19 08 40.9	056
40	1977	11 07.94648	05 05 31.64	+19 10 52.0	056
40	1977	11 07.97704	05 05 30.27	+19 10 53.8	056
40	1977	12 15.93089	04 26 29.86	+19 13 01.9	056
40	1977	12 15.97604	04 26 26.94	+19 13 01.7	056
40	1977	12 19.05692	04 23 23.81	+19 14 15.9	056
40	1977	12 19.08920	04 23 21.75	+19 14 16.3	056
40	1978	02 06.91005	04 15 58.11	+20 56 46.7	056
40	1978	02 12.87395	04 20 24.36	+21 18 06.7	056
582	1978	06 03.96632	12 21 48.37	+25 28 06.8	056
704	1976	02 09.79931	06 30 47.14	+19 18 04.8	056

704	1976 02 09.83056	06 30 46.44	+19 17 59.0			056
796	1978 11 20.74826	23 40 24.86	-08 34 23.5			056
796	1978 11 20.80729	23 40 26.80	-08 33 02.9			056

OBSERVATIONS MADE AT TURKU. FROM TURKU INFORMO NO. 7.

Object	Date	UT	R. A. (1950)	Decl.			Obs.
1941 FS	1941 03 19.0195	13 40 23.30	+05 42 10.0				062
1941 FS	1941 03 20.9980	13 39 25.60	+06 05 46.4				062
1941 FS	1941 04 03.8992	13 31 14.55	+08 48 16.8				062
1941 FS	1941 04 16.9620	13 22 25.41	+11 00 58.7				062
1941 FS	1941 04 19.9504	13 20 25.95	+11 26 55.0				062
1941 FS	1941 04 21.9305	13 19 08.39	+11 43 06.5				062
1941 FS	1941 04 24.8990	13 17 15.66	+12 05 37.7				062
1941 FS	1941 04 29.9397	13 14 15.96	+12 39 05.1				062

OBSERVATIONS MADE AT THE CRIMEAN ASTROPHYSICAL OBSERVATORY BY N. S. CHERNYKH AND L. V. ZHURAVLEVA; ASSISTED BY L. G. KARACHKINA (39TH REPORT).

Object	Date	UT	R. A. (1950)	Decl.	O - C		Mag.	N	Obs.
293	1977 05 19.88307	15 12 07.52	-14 00 28.4	0.1-	1+			1	095
1977 KV *	1977 05 19.88307	15 15 46.76	-18 13 54.5				16.5	1	095
1977 KW *	1977 05 19.88307	15 16 50.54	-09 59 17.2				17.0	1	095
1977 KX *	1977 05 19.88307	15 17 25.30	-11 33 15.8				17.0		095
1074	1977 05 19.88307	15 19 34.79	-18 40 43.1	0.0	0			1	095
1579	1977 05 19.88307	15 20 03.83	-09 31 29.4	0.1-	2+			1	095
1137	1977 05 19.88307	15 20 21.61	-15 23 30.6	0.0	0				095
1977 KY *	1977 05 19.88307	15 20 27.59	-14 55 49.8				17.0		095
1302	1977 05 19.88307	15 24 24.99	-16 28 46.6	0.1-	0				095
1977 KM	1977 05 19.88307	15 27 31.43	-14 10 03.7				16.8		095
1977 KN	1977 05 19.88307	15 28 04.48	-10 46 25.9				16.5		095
1139	1977 05 19.88307	15 28 12.13	-10 11 50.7	0.1-	1+			1	095
1595	1977 05 19.88307	15 29 50.55	-12 58 07.6	0.0	1+				095
1977 KP	1977 05 19.88307	15 30 21.58	-10 01 21.0				16.0	1	095
1977 KZ *	1977 05 19.88307	15 31 08.96	-16 49 41.1				17.0		095
644	1977 05 19.88307	15 34 03.59	-17 54 32.3	0.0	1-			1	095
1977 KR	1977 05 19.88307	15 39 11.75	-08 51 23.9				15.2	1	095
358	1977 05 19.88307	15 41 13.10	-14 52 12.0	0.0	0				095
1977 KS	1977 05 19.88307	15 42 29.43	-12 48 02.6				16.5		095
749	1977 05 19.88307	15 47 37.88	-10 26 52.4	0.0	1+			1	095
1977 KT	1977 05 19.88307	15 49 17.17	-13 59 10.7				16.0	1	095
69	1977 12 08.78186	00 00 09.67	-02 23 02.0						095
680	1977 12 08.78186	00 04 58.36	-08 22 10.4					2	095
592	1977 12 08.78186	00 05 43.76	-06 13 48.7						095
1248	1977 12 08.78186	00 09 19.21	-09 04 32.9						095
363	1977 12 08.78186	00 10 32.75	-04 06 07.2						095
1283	1977 12 08.78186	00 12 03.59	-06 49 46.4						095
558	1977 12 08.78186	00 21 28.77	-06 46 46.8					1	095
1269	1977 12 08.78186	23 51 11.03	-03 36 22.0						095
116	1977 12 08.78186	23 54 09.03	-03 54 34.8						095
41	1977 12 08.78186	23 55 48.78	-05 43 10.8						095
69	1977 12 11.72300	00 01 33.14	-02 17 52.7						095
178	1977 12 11.72300	00 04 52.37	-00 36 34.7					1	095
680	1977 12 11.72300	00 06 08.05	-07 54 32.7						095
592	1977 12 11.72300	00 07 27.37	-06 03 28.4						095
1248	1977 12 11.72300	00 10 43.67	-08 41 13.2						095
1051	1977 12 11.72300	00 11 53.14	-07 38 29.4						095
363	1977 12 11.72300	00 12 09.44	-03 45 48.5						095
1283	1977 12 11.72300	00 14 00.65	-06 35 14.9						095
558	1977 12 11.72300	00 22 37.94	-06 34 01.9						095
116	1977 12 11.72300	23 55 21.06	-03 42 14.8						095

41		1977	12	11.72300	23	56	57.68	-05	38	53.0				095
69		1977	12	12.72887	00	02	03.89	-02	15	50.0				095
178		1977	12	12.72887	00	05	30.93	-00	31	22.5			1	095
680		1977	12	12.72887	00	06	33.91	-07	45	00.9				095
592		1977	12	12.72887	00	08	05.09	-05	59	39.5				095
1248		1977	12	12.72887	00	11	14.90	-08	33	05.5				095
363		1977	12	12.72887	00	12	44.94	-03	38	37.9				095
334		1977	12	12.72887	00	13	47.11	-03	32	22.7				095
1283		1977	12	12.72887	00	14	43.02	-06	29	59.6				095
558		1977	12	12.72887	00	23	04.05	-06	29	25.2				095
1977	XJ *	1977	12	12.72887	00	27	22.00	-04	50	28.5				095
116		1977	12	12.72887	23	55	47.75	-03	37	46.7				095
41		1977	12	12.72887	23	57	23.12	-05	37	08.7				095
116		1977	12	28.68690	00	05	08.52	-02	14	06.6			1	095
41		1977	12	28.68690	00	06	04.13	-04	55	32.5			1	095
69		1977	12	28.68690	00	12	33.28	-01	26	24.2				095
680		1977	12	28.68690	00	15	33.39	-05	09	26.4				095
592		1977	12	28.68690	00	20	25.40	-04	42	20.0				095
363		1977	12	28.68690	00	24	36.23	-01	33	08.6				095
1283		1977	12	28.68690	00	28	17.72	-04	50	37.6				095
558		1977	12	28.68690	00	32	22.88	-05	01	21.3				095
129		1977	12	28.68690	00	38	22.45	-08	38	58.3			1	095
344		1978	03	05.74363	08	35	01.09	+43	39	27.6	0.2-	1+	1	095
1978	EO *	1978	03	05.74363	08	39	12.64	+38	54	35.4		17.5		095
1978	EP *	1978	03	05.74363	08	41	56.26	+37	51	00.2		17.0		095
1901		1978	03	05.74363	08	49	27.83	+40	12	34.2	0.6-	2+		095
1978	EQ *	1978	03	05.74363	09	04	46.31	+42	09	57.0		16.0		095
62		1978	03	05.81655	08	21	44.26	+20	00	42.2	0.2-	0	1	095
1978	ER *	1978	03	05.81655	08	24	44.15	+16	20	28.4		18.0	1	095
1978	ES *	1978	03	05.81655	08	26	16.82	+22	47	44.7		17.0		095
1489		1978	03	05.81655	08	27	06.40	+18	06	34.9	0.3-	0		095
1978	ET *	1978	03	05.81655	08	28	15.89	+21	43	40.3		17.0		095
848		1978	03	05.81655	08	30	04.00	+17	39	11.6	0.1-	0		095
570		1978	03	05.81655	08	30	58.76	+16	34	18.4	0.0	1-		095
1905		1978	03	05.81655	08	31	59.32	+15	12	22.7	0.3-	1+		095
1978	EU *	1978	03	05.81655	08	32	11.44	+17	57	17.6		17.5		095
1978	EV *	1978	03	05.81655	08	32	15.13	+18	53	24.4		17.5		095
1978	EW *	1978	03	05.81655	08	33	34.51	+15	11	45.3		17.5		095
1976	TA	1978	03	05.81655	08	33	37.41	+16	05	53.3		17.5		095
1978	EX *	1978	03	05.81655	08	33	50.48	+21	30	15.8		17.0		095
1978	EY *	1978	03	05.81655	08	34	22.23	+21	57	56.8		17.5		095
1978	EZ *	1978	03	05.81655	08	35	09.34	+23	39	29.9		18.0	1	095
1971		1978	03	05.81655	08	35	39.10	+14	27	49.8	0.0	0	1	095
1978	EA1 *	1978	03	05.81655	08	35	59.53	+21	39	20.4		17.0		095
1978	EB1 *	1978	03	05.81655	08	36	05.35	+21	57	10.6		17.0		095
1978	EC1 *	1978	03	05.81655	08	36	29.56	+18	33	35.9		18.0		095
1978	ED1 *	1978	03	05.81655	08	38	04.62	+20	58	03.6		16.5		095
1978	EE1 *	1978	03	05.81655	08	38	25.31	+20	46	10.7		17.5		095
1978	EF1 *	1978	03	05.81655	08	38	54.58	+22	05	10.6		17.0		095
783		1978	03	05.81655	08	39	06.87	+17	56	03.0	0.3-	2+		095
1978	EG1 *	1978	03	05.81655	08	39	39.80	+22	14	25.0		17.0		095
1978	EH1 *	1978	03	05.81655	08	41	03.08	+18	35	48.7		18.0		095
1978	EJ1 *	1978	03	05.81655	08	41	27.80	+17	23	21.5		17.0		095
1978	EK1 *	1978	03	05.81655	08	41	47.18	+19	40	11.9		18.0		095
1840		1978	03	05.81655	08	41	49.14	+21	45	34.3	0.3-	0		095
1978	EL1 *	1978	03	05.81655	08	41	51.42	+16	32	25.7		17.5		095
1493		1978	03	05.81655	08	42	39.69	+18	55	18.3	0.3-	1+		095
949		1978	03	05.81655	08	42	52.43	+18	18	11.6	0.5-	2-		095
1978	EM1 *	1978	03	05.81655	08	43	27.10	+21	59	08.8		17.5		095

1382		1978	03	05.81655	08	45	52.01	+19	18	25.2	0.2-	0		095
1978	EN1	* 1978	03	05.81655	08	45	53.37	+17	25	22.9			17.5	095
1978	EO1	* 1978	03	05.81655	08	47	04.46	+21	42	41.1			17.0	095
1978	EP1	* 1978	03	05.81655	08	48	40.70	+22	35	38.1			18.0	095
1978	EQ1	* 1978	03	05.81655	08	49	22.86	+21	06	17.0			17.0	095
1978	ER1	* 1978	03	05.81655	08	50	59.54	+20	46	51.6			18.0	095
1978	ES1	* 1978	03	05.81655	08	51	32.16	+22	22	58.0			18.0	095
1978	ET1	* 1978	03	05.81655	08	52	06.77	+17	42	19.4			17.5	095
1145		1978	03	05.81655	08	52	20.59	+21	37	30.7	0.4-	2+		095
2051		1978	03	05.81655	08	53	49.75	+15	33	22.0	0.2-	1+		095
1978	EU1	* 1978	03	05.81655	08	54	57.58	+21	12	08.8			16.5	095
1978	EV1	* 1978	03	05.81655	08	55	04.61	+20	01	19.4			16.5	095
243		1978	03	05.81655	08	55	42.65	+17	23	29.3	0.2-	1-		095
1978	EW1	* 1978	03	05.81655	08	55	45.56	+20	32	57.3			17.5	095
1978	EX1	* 1978	03	05.81655	08	56	33.35	+16	24	26.1			17.5	095
1157		1978	03	05.81655	08	57	43.24	+20	54	27.1	0.0	1-		095
1978	EY1	* 1978	03	05.81655	08	58	01.52	+19	29	35.7			17.0	095
1211		1978	03	05.81655	08	58	14.94	+20	37	05.7	0.3-	1+		095
1097		1978	03	05.81655	08	58	55.30	+17	24	44.6	0.2-	1+	17.3	095
1978	EZ1	* 1978	03	05.81655	08	59	27.45	+16	39	22.1			17.5	095
1978	EA2	* 1978	03	05.81655	08	59	45.16	+21	36	24.7			18.0	095
2098		1978	03	05.81655	09	03	25.90	+19	13	16.8	0.0	0		1 095
1978	EB2	* 1978	03	05.81655	09	03	49.96	+20	37	30.8			17.5	1 095
1130		1978	03	05.95091	12	13	38.41	-03	49	03.3	0.1+	1+		095
1978	EC2	* 1978	03	05.95577	12	00	09.36	-02	42	22.1			17.5	1 095
1978	ED2	* 1978	03	05.95577	12	00	39.82	-00	49	49.1			17.5	1 095
839		1978	03	05.95577	12	02	55.53	-07	05	49.8	0.2+	2-		1 095
1978	EE2	* 1978	03	05.95577	12	04	09.93	-03	28	20.6			17.0	1 095
1835		1978	03	05.95577	12	06	42.82	-02	04	57.0	0.1+	1-		095
1978	EF2	* 1978	03	05.95577	12	07	52.52	-03	27	42.1			17.0	095
1978	EG2	* 1978	03	05.95577	12	09	08.43	-04	02	03.0			17.5	095
1978	EH2	* 1978	03	05.95577	12	10	25.34	-04	04	52.5			17.5	095
1978	EJ2	* 1978	03	05.95577	12	10	56.30	+01	15	55.0			17.2	1 095
1275		1978	03	05.95577	12	12	40.71	-04	55	48.9	0.1+	1-		095
1788		1978	03	05.95577	12	14	10.11	-01	14	53.9	0.1+	0		095
1201		1978	03	05.95577	12	14	21.10	-06	21	04.5	0.0	2-		1 095
874		1978	03	05.95577	12	15	02.97	-05	23	23.2	0.1+	1-		095
1978	EK2	* 1978	03	05.95577	12	16	28.46	-00	47	44.3			17.5	095
1978	EL2	* 1978	03	05.95577	12	16	45.27	-02	49	43.2			17.5	2 095
1978	EM2	* 1978	03	05.95577	12	17	12.12	+00	48	12.7			18.0	1 095
1978	EN2	* 1978	03	05.95577	12	18	21.48	+00	52	08.8			18.0	1 095
1978	EO2	* 1978	03	05.95577	12	18	28.04	-02	57	02.8			17.2	095
1906		1978	03	05.95577	12	21	22.86	-03	02	44.0	0.2+	1-		095
1978	EP2	* 1978	03	05.95577	12	21	26.28	-05	05	11.4			17.5	095
406		1978	03	05.95577	12	23	28.99	-07	02	25.9	0.1+	0		1 095
1978	EQ2	* 1978	03	05.95577	12	23	40.55	+00	15	56.7			17.5	095
1257		1978	03	05.95577	12	23	52.95	-06	40	31.2	0.5+	2-		1 095
1978	ER2	* 1978	03	05.95577	12	29	36.85	-07	03	16.5			17.5	1 095
1978	ES2	* 1978	03	05.95577	12	29	38.68	-02	17	11.2			17.8	095
1978	ET2	* 1978	03	05.95577	12	29	55.08	-04	45	00.0			17.8	2 095
325		1978	03	05.95577	12	30	26.80	-07	13	19.2	0.1+	1-		1 095
1978	EU2	* 1978	03	05.95577	12	30	53.57	-03	25	34.0			17.5	095
1978	EV2	* 1978	03	05.95577	12	33	16.09	-06	53	12.5			17.5	1 095
1770		1978	03	05.95577	12	35	09.62	-00	16	42.5	0.2+	1-		095
383		1978	03	05.95577	12	37	15.80	-00	02	47.7	0.2+	1-		1 095
1053		1978	03	05.95577	12	39	33.03	-00	11	01.6	0.1+	0		1 095
1978	EW2	* 1978	03	05.96064	12	14	01.30	-03	09	55.3			17.5	095
1512		1978	03	06.03182	13	20	55.73	-08	54	21.4	0.1+	0		095
1978	EX2	* 1978	03	06.03182	13	35	25.63	-02	25	07.8			17.5	3 095

1204		1978	03	06.03702	13	11	38.55	-07	34	00.7	0.3+	2-		1	095
572		1978	03	06.03702	13	13	04.22	-09	28	29.3	0.3+	2-		1	095
1978	EY2 *	1978	03	06.03702	13	13	57.95	-08	48	00.1			18.0	1	095
1874		1978	03	06.03702	13	15	27.90	-04	28	17.7	0.2+	0		1	095
1287		1978	03	06.03702	13	17	48.71	-11	21	53.0	0.2+	2-		1	095
1978	EZ2 *	1978	03	06.03702	13	18	17.72	-06	26	12.0			18.0	2	095
1797		1978	03	06.03702	13	18	51.72	-06	07	30.0	0.2+	5+		1	095
1978	EA3 *	1978	03	06.03702	13	20	06.04	-07	21	06.3			17.2		095
1978	EB3 *	1978	03	06.03702	13	21	01.84	-08	14	34.6			18.0		095
2197		1978	03	06.03702	13	21	59.63	-05	50	02.9	0.2+	0	16.5		095
1978	EC3 *	1978	03	06.03702	13	23	47.52	-08	07	56.1			16.8		095
1978	ED3 *	1978	03	06.03702	13	23	58.14	-08	08	15.3			17.0		095
1978	EE3 *	1978	03	06.03702	13	24	07.50	-05	01	35.4			17.0		095
1527		1978	03	06.03702	13	24	08.75	-07	40	41.7	0.2+	2-			095
1332		1978	03	06.03702	13	26	12.93	-08	59	38.8	0.1+	1-			095
1769		1978	03	06.03702	13	27	19.46	-11	10	42.6	0.2+	2-	17.5	3	095
1978	EF3 *	1978	03	06.03702	13	30	03.10	-10	29	43.2			17.5		095
1979	UG	1978	03	06.03702	13	30	06.41	-05	13	41.3			18.0		095
1462		1978	03	06.03702	13	30	09.74	-09	06	02.7	0.2+	1-			095
1978	EG3 *	1978	03	06.03702	13	31	55.00	-05	12	29.1			17.5		095
1564		1978	03	06.03702	13	32	20.90	-05	33	33.0	0.1+	1-			095
1978	EH3 *	1978	03	06.03702	13	32	43.73	-05	50	17.6			17.5		095
1978	EJ3 *	1978	03	06.03702	13	33	52.79	-04	25	52.2			17.5		095
1978	EK3 *	1978	03	06.03702	13	34	19.47	-08	38	20.5			17.8		095
710		1978	03	06.03702	13	34	32.87	-07	46	26.9	0.3+	1-			095
1674		1978	03	06.03702	13	36	03.32	-06	10	34.5	0.3+	3-			095
438		1978	03	06.03702	13	36	19.76	-02	10	49.3	0.2+	1-		1	095
144		1978	03	06.03702	13	37	34.06	-03	58	50.2	0.2+	1-			095
1796		1978	03	06.03702	13	38	29.52	-06	30	39.0	0.1-	2+			095
1978	EL3 *	1978	03	06.03702	13	39	45.42	-06	25	29.3			18.0		095
854		1978	03	06.03702	13	41	01.81	-10	34	24.5	0.0	2+			095
875		1978	03	06.03702	13	41	18.73	-11	37	06.9	0.2-	0		1	095
1978	EM3 *	1978	03	06.03702	13	42	23.72	-04	45	59.3			17.8		095
1978	EN3 *	1978	03	06.03702	13	43	14.07	-07	07	45.0			17.0		095
240		1978	03	06.03702	13	45	49.40	-07	55	24.6	0.1-	1+		1	095
894		1978	03	06.03702	13	46	43.87	-09	20	00.2	0.1-	2+		1	095
1424		1978	03	06.03702	13	48	47.89	-05	16	12.5	0.2-	0			095
1978	EO3 *	1978	03	06.76098	08	34	18.92	+32	30	23.6			16.0	1	095
373		1978	03	06.76098	08	39	25.60	+34	13	57.1	0.2-	1+			095
1978	EP3 *	1978	03	06.76098	08	39	28.62	+28	33	14.6			16.5		095
1978	EQ3 *	1978	03	06.76098	08	39	32.27	+31	45	37.2			17.0		095
1978	ER3 *	1978	03	06.76098	08	41	16.55	+32	12	00.0			16.5		095
1978	ES3 *	1978	03	06.76098	08	45	28.58	+30	01	45.2			16.5		095
1357		1978	03	06.76098	08	47	29.26	+33	11	06.1	0.1+	1+			095
1978	ET3 *	1978	03	06.76098	08	50	44.23	+29	01	52.0			16.5		095
1978	EU3 *	1978	03	06.76098	08	51	22.11	+27	17	31.8			15.5		095
1978	EV3 *	1978	03	06.76098	08	52	11.25	+31	09	56.6			16.0		095
1978	EW3 *	1978	03	06.76098	08	53	15.66	+33	11	48.3			16.5		095
1978	EX3 *	1978	03	06.76098	08	58	13.28	+31	20	37.5			16.5		095
1978	EY3 *	1978	03	06.76098	08	58	43.50	+31	18	18.2			16.5		095
1978	EZ3 *	1978	03	06.76098	08	59	42.33	+28	31	45.5			16.5		095
1978	EA4 *	1978	03	06.76098	09	01	28.82	+32	53	59.8			16.5		095
1978	EB4 *	1978	03	06.76098	09	03	29.30	+35	06	41.6			16.5	1	095
1021		1978	03	06.76098	09	06	09.52	+28	12	18.0	0.2-	2+			095
235		1978	03	06.76098	09	10	41.62	+29	14	04.2	0.1+	1+		1	095
1978	EC4 *	1978	03	06.76098	09	13	31.93	+30	13	55.4			16.0	1	095
1244		1978	03	06.82225	08	25	15.54	+08	20	00.2	0.0	1-			095
688		1978	03	06.82225	08	26	28.18	+11	19	49.5	0.0	0			095
1978	ED4 *	1978	03	06.82225	08	28	46.38	+10	25	23.0			17.0		095

1905		1978	03	06.82225	08	31	25.87	+15	16	01.5	0.4-	2+		1	095
1978	EE4	* 1978	03	06.82225	08	31	57.48	+13	30	31.0			17.0		095
1978	EW	1978	03	06.82225	08	33	06.64	+15	11	57.4			17.0	1	095
1978	EF4	* 1978	03	06.82225	08	35	40.41	+10	25	05.2			16.5		095
1972	TL2	1978	03	06.82225	08	36	51.01	+14	36	48.6			16.5	1	095
685		1978	03	06.82225	08	40	06.56	+12	48	25.7	0.4-	0			095
1978	EG4	* 1978	03	06.82225	08	40	21.36	+13	47	08.4			15.5		095
1978	EH4	* 1978	03	06.82225	08	40	23.06	+09	30	30.2			16.5		095
1195		1978	03	06.82225	08	41	52.22	+09	48	47.1	0.3-	1+			095
1978	EJ4	* 1978	03	06.82225	08	42	02.10	+10	37	55.4			16.5		095
1023		1978	03	06.82225	08	42	09.36	+06	49	43.8	0.2-	1+			095
1978	EK4	* 1978	03	06.82225	08	42	32.97	+09	09	59.4			16.5		095
1978	EL4	* 1978	03	06.82225	08	43	27.48	+11	15	36.2			17.2		095
1978	EM4	* 1978	03	06.82225	08	44	13.50	+10	55	53.7			17.2		095
1978	EN4	* 1978	03	06.82225	08	45	03.72	+08	07	15.9			17.5		095
1978	EO4	* 1978	03	06.82225	08	50	03.90	+09	11	57.6			16.0		095
2140		1978	03	06.82225	08	50	30.17	+10	07	38.9	0.3+	1-	16.0		095
1978	EP4	* 1978	03	06.82225	08	53	54.06	+08	43	59.9			16.5		095
1978	EQ4	* 1978	03	06.82225	08	54	09.78	+07	36	41.7			17.0		095
1112		1978	03	06.82225	08	54	54.97	+13	02	21.3	0.6-	3+			095
860		1978	03	06.82225	08	55	49.13	+12	43	42.4	0.3-	1+			095
1978	ER4	* 1978	03	06.82225	08	58	34.89	+11	00	16.3			16.2	1	095
1812		1978	03	06.82225	08	58	38.56	+08	28	27.2	0.1+	0		1	095
1167		1978	03	06.82225	08	58	42.53	+09	12	19.5	0.3-	0		1	095
1398		1978	03	06.82225	09	00	42.48	+09	21	21.2	0.3-	0		1	095
1978	ES4	* 1978	03	06.87973	10	45	25.70	+14	13	02.6			17.5	1	095
1978	ET4	* 1978	03	06.87973	10	45	38.40	+17	13	13.9			17.0	1	095
1978	EU4	* 1978	03	06.87973	10	46	04.27	+14	55	14.6			17.2	1	095
2113		1978	03	06.87973	10	48	30.13	+15	02	15.0				1	095
1978	EV4	* 1978	03	06.87973	10	49	14.76	+12	41	03.4			17.0	1	095
1978	EW4	* 1978	03	06.87973	10	50	09.56	+11	47	16.3			17.8	1	095
560		1978	03	06.87973	10	52	07.37	+19	47	12.1	0.3+	0		1	095
274		1978	03	06.87973	10	52	17.52	+12	56	31.8	0.0+	2+			095
1978	EX4	* 1978	03	06.87973	10	53	44.10	+19	32	07.2			17.5	1	095
1978	EY4	* 1978	03	06.87973	10	54	03.70	+15	37	26.7			17.0		095
1978	EZ4	* 1978	03	06.87973	10	54	45.76	+18	26	34.6			17.8		095
1978	EA5	* 1978	03	06.87973	10	55	39.25	+10	46	54.6			17.3		095
1978	EB5	* 1978	03	06.87973	10	57	07.53	+18	40	58.8			17.8		095
1978	EC5	* 1978	03	06.87973	10	58	39.28	+14	47	39.6			17.2		095
1978	ED5	* 1978	03	06.87973	10	58	59.06	+16	04	24.6			17.8		095
1634		1978	03	06.87973	11	01	41.35	+19	34	34.4	0.0+	3+		1	095
1978	EE5	* 1978	03	06.87973	11	02	47.88	+15	39	23.1			17.4		095
1978	EF5	* 1978	03	06.87973	11	02	55.30	+14	10	06.0			17.4		095
1978	EG5	* 1978	03	06.87973	11	03	25.25	+12	42	03.5			17.8		095
1978	EH5	* 1978	03	06.87973	11	04	40.46	+18	01	42.6			17.5		095
1978	EJ5	* 1978	03	06.87973	11	06	02.96	+11	33	09.8			17.6	1	095
1978	EK5	* 1978	03	06.87973	11	06	15.48	+11	56	31.5			17.6	1	095
1978	EL5	* 1978	03	06.87973	11	08	29.25	+10	51	52.8			17.5	1	095
1978	EM5	* 1978	03	06.87973	11	08	48.24	+11	54	24.6			17.4	1	095
1978	EN5	* 1978	03	06.87973	11	10	12.33	+13	56	48.6			17.5		095
1978	EO5	* 1978	03	06.87973	11	12	40.52	+20	13	05.5			17.3	1	095
1978	EP5	* 1978	03	06.87973	11	14	17.38	+15	22	33.4			16.5	4	095
1978	EQ5	* 1978	03	06.87973	11	14	22.32	+15	30	22.5			17.4		095
1978	ER5	* 1978	03	06.87973	11	14	51.35	+11	16	09.7			17.7	3	095
1978	ES5	* 1978	03	06.87973	11	15	09.02	+15	19	21.6			17.5		095
52		1978	03	06.87973	11	16	31.44	+12	01	16.8	0.0+	0			095
106		1978	03	06.87973	11	18	56.90	+11	14	29.4	0.0+	0		1	095
1978	ET5	* 1978	03	06.87973	11	19	01.34	+12	50	57.1			17.3		095
1978	EU5	* 1978	03	06.87973	11	22	03.21	+15	47	28.8			17.2	1	095

1983			1978	03	06.87973	11	23	18.63	+13	32	22.9	0.0	1+		1 095
1089			1978	03	06.87973	11	24	01.26	+11	07	47.5	0.0	2+		1 095
108			1978	03	06.92973	09	43	24.70	+16	01	37.8	0.2-	1+		1 095
566			1978	03	06.92973	09	44	32.23	+20	06	36.1	0.1-	1+		1 095
1978	EV5	*	1978	03	06.92973	09	48	50.42	+18	28	23.4			16.8	1 095
1978	EW5	*	1978	03	06.92973	09	48	57.16	+15	48	09.8			17.8	1 095
1978	EX5	*	1978	03	06.92973	09	48	59.99	+17	58	25.7			17.8	1 095
1182			1978	03	06.92973	09	49	59.14	+13	51	33.2	0.3-	2+		1 095
530			1978	03	06.92973	09	50	34.02	+17	19	28.7	0.1-	0		095
1978	EY5	*	1978	03	06.92973	09	51	24.81	+18	00	37.2			17.0	095
379			1978	03	06.92973	09	51	33.54	+12	08	19.3	0.0	0		1 095
1978	EZ5	*	1978	03	06.92973	09	51	40.90	+16	25	28.2			16.8	095
659			1978	03	06.92973	09	52	46.74	+15	00	26.7	0.1-	0		095
1978	EA6	*	1978	03	06.92973	09	53	43.21	+13	28	38.9			17.0	095
1978	EB6	*	1978	03	06.92973	09	54	28.16	+15	57	53.6			17.2	095
1978	EC6	*	1978	03	06.92973	09	54	36.64	+17	32	27.9			17.5	095
1978	ED6	*	1978	03	06.92973	09	54	49.08	+16	39	36.1			17.0	095
1978	EE6	*	1978	03	06.92973	09	55	38.46	+15	14	16.4			17.0	095
26			1978	03	06.92973	09	55	45.14	+18	18	15.4	0.2-	2+		095
1978	EF6	*	1978	03	06.92973	09	55	48.42	+12	23	44.0			17.0	1 095
1050			1978	03	06.92973	09	56	25.53	+15	55	07.6	0.3-	1+		095
1978	EG6	*	1978	03	06.92973	09	57	02.14	+19	18	46.0			17.8	095
1978	EH6	*	1978	03	06.92973	09	57	09.95	+15	34	54.6			17.8	095
1978	EJ6	*	1978	03	06.92973	10	00	25.20	+15	47	06.2			17.5	095
245			1978	03	06.92973	10	00	37.34	+19	55	16.8	0.2-	2+		1 095
2015			1978	03	06.92973	10	01	10.44	+15	44	12.6	0.2-	1+		095
1978	EK6	*	1978	03	06.92973	10	01	29.98	+16	57	27.3			17.7	095
876			1978	03	06.92973	10	03	08.58	+12	42	47.1	0.2-	2+		1 095
1978	EL6	*	1978	03	06.92973	10	03	49.29	+17	55	37.8			18.0	095
75			1978	03	06.92973	10	06	15.34	+14	54	50.4	0.1-	1+		095
2159			1978	03	06.92973	10	06	19.05	+13	13	16.5	0.3+	0	16.5	095
935			1978	03	06.92973	10	08	32.32	+12	43	17.5	0.3-	1+		1 095
1978	EM6	*	1978	03	06.92973	10	10	12.47	+17	15	40.1			16.5	095
286			1978	03	06.92973	10	10	39.07	+13	58	07.4	0.2-	1+		095
287			1978	03	06.92973	10	10	54.80	+15	39	03.0	0.2-	2+		095
1978	EN6	*	1978	03	06.92973	10	11	51.81	+17	01	20.0			17.8	095
1978	EO6	*	1978	03	06.92973	10	12	19.28	+17	44	21.5			17.8	095
1978	EP6	*	1978	03	06.92973	10	12	21.32	+15	48	03.9			17.1	095
1978	EQ6	*	1978	03	06.92973	10	12	57.15	+17	04	58.0			17.2	095
1978	ER6	*	1978	03	06.92973	10	13	32.52	+14	41	19.4			17.8	095
1978	ES6	*	1978	03	06.92973	10	14	14.53	+14	26	28.3			17.8	095
1978	ET6	*	1978	03	06.92973	10	16	45.79	+14	31	03.6			17.0	095
1978	EU6	*	1978	03	06.92973	10	18	00.33	+16	51	02.7			17.8	1 095
1978	EV6	*	1978	03	06.92973	10	18	47.52	+13	20	41.5			16.5	1 095
1978	EW6	*	1978	03	06.92973	10	24	47.94	+18	35	35.7			16.8	1 095
1978	EX6	*	1978	03	06.98477	11	42	53.47	+21	40	29.2			16.2	1 095
1978	EY6	*	1978	03	06.98477	11	46	54.59	+26	44	56.2			16.8	095
22			1978	03	06.98477	11	47	56.69	+23	17	43.8	0.0	2+		095
1926			1978	03	06.98477	11	55	59.17	+24	53	02.6	0.1+	3+		095
1193			1978	03	06.98477	12	02	09.14	+22	00	41.9	0.1-	5+		095
404			1978	03	06.98477	12	02	10.23	+26	46	35.8	0.2+	3+		095
471			1978	03	06.98477	12	06	41.55	+22	35	05.8	0.1+	2+		095
1978	EZ6	*	1978	03	06.98477	12	09	02.16	+20	49	03.3			16.5	1 095
1978	EA7	*	1978	03	06.98477	12	11	14.16	+24	26	33.6			16.5	095
1978	EB7	*	1978	03	06.98477	12	16	38.48	+24	18	29.0			17.0	095
908			1978	03	06.98477	12	19	11.20	+23	21	38.6	0.2+	3+		1 095
1444			1978	04	07.77563	10	02	49.96	-06	27	49.1	0.2-	2-		1 095
1978	GN	*	1978	04	07.77563	10	14	27.80	-05	38	10.4			16.5	095
773			1978	04	07.77563	10	21	29.00	-01	45	02.8	0.2+	2-		1 095

1437		1978	04	07.77563	10	25	48.37	-04	36	54.5	0.0	1-		095
1832		1978	04	07.77563	10	26	45.54	-06	14	38.7	0.0	2+		095
1978 GO	*	1978	04	07.77563	10	27	14.35	-05	14	11.2			16.0	095
777		1978	04	07.77563	10	31	16.26	-09	39	57.5	0.2-	0		095
1978 GP	*	1978	04	07.77563	10	31	45.47	-02	58	52.2			16.5	1 095
1189		1978	04	07.77563	10	32	11.21	-04	52	56.2	0.3-	1+		095
1978 GQ	*	1978	04	07.77563	10	38	25.36	-06	19	18.7			16.5	3 095
1978 GR	*	1978	04	07.85049	11	28	56.89	+00	37	50.9			17.5	1 095
1978 GS	*	1978	04	07.85049	11	31	25.96	+00	11	53.1			17.5	1 095
1978 GT	*	1978	04	07.85049	11	31	31.88	-01	03	49.4			17.2	1 095
561		1978	04	07.85049	11	31	55.95	+03	50	32.9	0.3-	2+		1 095
2054		1978	04	07.85049	11	33	06.28	-02	54	49.1	0.2-	1+		1 095
233		1978	04	07.85049	11	33	56.32	-04	59	30.8	0.3-	0		095
1978 GU	*	1978	04	07.85049	11	40	29.55	-01	08	10.1			17.2	095
1835		1978	04	07.85049	11	41	36.31	+00	34	15.1	0.2-	1+		095
1978 GV	*	1978	04	07.85049	11	42	47.30	-02	00	33.8			17.5	095
1169		1978	04	07.85049	11	42	57.92	-05	00	32.8	0.0	1-		1 095
1130		1978	04	07.85049	11	42	59.11	-00	08	34.1	0.3-	1+		095
1978 GW	*	1978	04	07.85049	11	44	38.18	+01	57	18.8			17.8	095
1978 GX	*	1978	04	07.85049	11	45	08.02	+03	53	25.4			17.5	1 095
1978 GY	*	1978	04	07.85049	11	46	52.24	+02	34	07.7			17.5	095
1978 GZ	*	1978	04	07.85049	11	47	01.77	-01	53	58.4			17.8	095
927		1978	04	07.85049	11	47	54.87	+03	31	52.0	0.3-	1+		1 095
1275		1978	04	07.85049	11	48	34.91	-00	24	00.1	0.2-	2+		095
1201		1978	04	07.85049	11	49	45.90	-02	27	54.2	0.2-	1+		095
1906		1978	04	07.85049	11	50	09.90	-00	58	26.0	0.2-	2+		095
1978 GA1	*	1978	04	07.85049	11	50	47.68	+01	12	16.8			17.5	095
1788		1978	04	07.85049	11	50	48.44	+01	22	30.4	0.2-	2+		095
1978 GB1	*	1978	04	07.85049	11	51	01.26	+02	13	18.0			17.5	095
874		1978	04	07.85049	11	54	02.06	-01	10	13.9	0.3-	1+		095
1978 GC1	*	1978	04	07.85049	11	54	15.10	-02	14	49.4			17.5	095
1978 GD1	*	1978	04	07.85049	11	57	24.42	+01	39	15.7			17.6	095
1978 GE1	*	1978	04	07.85049	11	57	45.51	+00	39	57.8			17.5	095
1257		1978	04	07.85049	11	57	48.93	-02	57	34.0	0.1+	1+		095
406		1978	04	07.85049	11	58	48.55	-04	48	22.6	0.2-	2+		1 095
1978 GF1	*	1978	04	07.85049	12	02	25.12	-02	59	03.3			17.5	1 095
1770		1978	04	07.85049	12	05	12.52	+01	47	00.2	0.3-	1+		1 095
1978 GG1	*	1978	04	07.85049	12	05	35.56	+00	26	19.0			17.5	1 095
2026		1978	04	07.91965	13	01	01.44	-11	00	04.9	0.0	1-		3 095
1978 GH1	*	1978	04	07.92487	12	58	01.87	-05	34	37.8			16.5	1 095
1287		1978	04	07.92487	12	58	06.27	-07	52	31.1	0.0	1-		1 095
1769		1978	04	07.92487	13	00	22.37	-08	56	55.5	0.1-	1-	17.5	1 095
2197		1978	04	07.92487	13	00	40.73	-03	47	33.3	0.1-	0	16.5	1 095
1512		1978	04	07.92487	13	02	05.57	-07	53	25.6	0.0	0		1 095
1978 EA3		1978	04	07.92487	13	02	32.54	-03	24	13.7			16.8	1 095
1978 EC3		1978	04	07.92487	13	03	05.00	-05	53	24.4			16.5	1 095
1978 GJ1	*	1978	04	07.92487	13	04	00.22	-05	52	08.2			16.8	095
1332		1978	04	07.92487	13	05	21.29	-07	12	15.8	0.1+	1-		095
1978 GK1	*	1978	04	07.92487	13	07	48.82	-09	44	52.0			16.8	1 095
1978 GL1	*	1978	04	07.92487	13	08	41.87	-03	25	37.4			16.5	095
1978 GM1	*	1978	04	07.92487	13	09	18.75	-04	46	07.5			17.8	095
1978 EF3		1978	04	07.92487	13	09	58.99	-08	27	21.1			17.0	095
1462		1978	04	07.92487	13	10	48.13	-07	20	04.2	0.2+	1-		095
1978 EK3		1978	04	07.92487	13	11	09.46	-06	36	55.6			17.5	095
1978 GN1	*	1978	04	07.92487	13	11	28.86	-02	59	19.5			17.8	095
1978 EG3		1978	04	07.92487	13	11	52.32	-03	12	23.0			17.5	095
1978 EH3		1978	04	07.92487	13	12	39.69	-00	59	38.7			17.5	1 095
1564		1978	04	07.92487	13	13	43.94	-02	20	17.0	0.1+	0		095
144		1978	04	07.92487	13	15	11.08	-01	34	10.4	0.0	1+		1 095

1674		1978	04	07.92487	13	16	15.25	-04	00	03.3	0.2+	0		095
1978	EJ3	1978	04	07.92487	13	16	15.60	-02	15	11.7			18.0	1 095
710		1978	04	07.92487	13	16	22.52	-05	33	52.7	0.2+	1-		095
1978	GO1 *	1978	04	07.92487	13	16	58.36	-05	27	16.2			17.2	095
1978	GP1 *	1978	04	07.92487	13	19	11.90	-07	16	35.0			17.0	095
1978	GQ1 *	1978	04	07.92487	13	19	39.83	-07	06	03.2			17.0	095
1978	GR1 *	1978	04	07.92487	13	20	34.72	-06	48	05.5			17.0	095
7631	P-L	1978	04	07.92487	13	20	48.20	-03	51	13.1			17.8	095
1978	GS1 *	1978	04	07.92487	13	20	53.68	-07	51	32.1			17.8	095
1978	GT1 *	1978	04	07.92487	13	21	26.38	-05	52	56.6			17.5	095
1978	GU1 *	1978	04	07.92487	13	22	58.25	-02	14	03.2			17.5	1 095
1978	EM3	1978	04	07.92487	13	23	00.09	-04	09	27.6			17.5	095
875		1978	04	07.92487	13	23	07.44	-06	51	59.3	0.1+	1+		095
1796		1978	04	07.92487	13	23	12.44	-01	03	07.8	0.1+	1-		1 095
854		1978	04	07.92487	13	23	49.37	-06	50	31.4	0.1+	2-		095
240		1978	04	07.92487	13	24	00.60	-05	29	44.2	0.1+	1-		095
1978	GV1 *	1978	04	07.92487	13	24	36.74	-10	19	25.8			18.0	3 095
1978	GW1 *	1978	04	07.92487	13	25	25.12	-07	49	35.0			16.8	095
1978	GX1 *	1978	04	07.92487	13	26	01.02	-03	39	10.2			16.8	095
1978	GY1 *	1978	04	07.92487	13	26	13.50	-05	54	35.9			17.0	095
1978	GZ1 *	1978	04	07.92487	13	26	19.25	-07	23	07.1			17.5	095
1424		1978	04	07.92487	13	29	19.80	-03	58	49.8	0.0	0		095
1978	GA2 *	1978	04	07.92487	13	30	01.65	-05	32	29.6			17.8	095
894		1978	04	07.92487	13	30	44.60	-05	43	17.7	0.1+	0		1 095
1978	GB2 *	1978	04	07.92487	13	30	49.74	-04	08	53.0			16.8	095
1073		1978	04	07.92487	13	31	56.86	-08	54	44.9	0.1+	1-		1 095
1978	GC2 *	1978	04	07.92487	13	32	31.65	-02	18	37.8			16.5	1 095
1978	GH	1978	04	07.92487	13	33	00.83	-06	23	40.2			17.5	1 095
1621		1978	04	07.92487	13	35	02.28	-07	54	43.1	0.0	0		1 095
1912		1978	04	07.92487	13	35	16.34	-05	55	36.8	0.2+	1-		1 095
1978	GD2 *	1978	04	07.92487	13	35	24.01	-08	36	37.9			17.0	1 095
1527		1978	04	07.93009	12	55	42.15	-05	59	23.4	0.1+	0		1 095
1978	EY6	1978	04	11.78545	11	16	06.47	+27	25	36.6			17.5	095
22		1978	04	11.78545	11	19	48.92	+24	02	15.2	0.1+	0		095
1886		1978	04	11.78545	11	26	40.55	+26	44	35.4	0.1+	1+		095
1926		1978	04	11.78545	11	28	15.62	+26	38	57.8	0.1+	1+		095
1193		1978	04	11.78545	11	28	34.36	+22	05	05.7	0.1-	3+		095
1978	GE2 *	1978	04	11.78545	11	28	43.34	+23	22	55.6			17.0	095
1978	GF2 *	1978	04	11.78545	11	30	52.58	+25	24	32.2			17.5	095
1215		1978	04	11.78545	11	32	15.52	+22	59	52.2	0.2+	0		095
1978	GG2 *	1978	04	11.78545	11	32	58.13	+22	41	37.0			16.5	095
404		1978	04	11.78545	11	33	54.86	+28	42	04.5	0.1+	1+		095
471		1978	04	11.78545	11	38	25.83	+24	20	58.9	0.1+	0		095
1978	EA7	1978	04	11.78545	11	38	34.83	+24	50	25.3			17.5	095
1978	EZ6	1978	04	11.78545	11	41	59.22	+23	53	31.4			16.5	095
908		1978	04	11.78545	11	47	31.89	+24	52	08.9	0.1+	1+		1 095
1978	GH2 *	1978	04	11.85317	11	59	42.47	+07	08	54.2			16.5	095
1978	GJ2 *	1978	04	11.85317	12	14	38.77	+11	00	56.5			16.5	2 095
1978	GK2 *	1978	04	11.85838	11	51	16.36	+05	21	49.5			17.0	1 095
386		1978	04	11.85838	11	53	21.73	+09	22	01.9	0.1-	0		095
1978	GL2 *	1978	04	11.85838	11	53	41.64	+11	52	47.6			16.5	095
1978	GM2 *	1978	04	11.85838	11	56	58.80	+13	06	11.2			16.5	095
1978	GN2 *	1978	04	11.85838	12	02	32.67	+09	37	05.8			16.0	095
1839		1978	04	11.85838	12	02	38.44	+11	19	32.5	0.1+	0		2 095
1978	GO2 *	1978	04	11.85838	12	06	42.22	+06	47	43.0			16.0	095
1893		1978	04	11.85838	12	08	11.64	+13	19	57.4	0.0	0		095
1386		1978	04	11.85838	12	09	01.30	+08	01	51.8	0.0	0		095
1978	GP2 *	1978	04	11.85838	12	09	08.78	+08	41	03.2			16.5	2 095
1978	GQ2 *	1978	04	11.85838	12	10	43.95	+11	39	35.4			16.0	095

1978 GR2	*	1978 04 11.85838	12 11 42.87	+10 12 16.8			16.0		095
1978 GS2	*	1978 04 11.85838	12 12 24.51	+09 15 53.2			16.5		095
1978 GT2	*	1978 04 11.85838	12 12 28.43	+10 26 38.8			15.5		095
806		1978 04 11.85838	12 13 10.40	+13 01 12.5	0.0	0			095
1978 GU2	*	1978 04 11.85838	12 14 27.87	+06 53 25.5			17.0		095
1831		1978 04 11.85838	12 18 29.77	+08 04 18.2	0.0	0			095
1978 GV2	*	1978 04 11.85838	12 19 01.80	+08 01 20.0			15.5		095
1978 GW2	*	1978 04 11.85838	12 19 58.76	+11 08 35.0			16.0		095
1978 GX2	*	1978 04 11.85838	12 20 54.10	+08 40 42.0			17.0		095
498		1978 04 11.85838	12 22 52.66	+12 26 09.3	0.0	0			095
651		1978 04 11.85838	12 27 29.12	+05 05 45.8	0.1+	0		1	095
1861		1978 04 11.86359	11 50 16.11	+06 49 13.8	0.0	0		1	095
1978 GY2	*	1978 04 11.86359	11 57 56.17	+11 16 38.0			16.5	2	095
1792		1978 04 11.86359	12 20 00.49	+10 21 31.2	0.0	0			095
1977 EH1		1979 07 31.98597	22 57 13.06	-07 21 33.4			16.7		095
1977 EH1		1979 08 19.95310	22 46 20.81	-08 28 04.6			16.8		095
1977 EH1		1979 08 27.93386	22 40 44.33	-09 01 21.4			16.6		095

Note 1: near edge of plate. 2: measurement uncertain. 3 = 1 + 2. 4: fast-moving object.

OBSERVATIONS MADE AT THE PERTH OBSERVATORY BY P. JEKABSONS. MEASURED BY H. MC MAY AND J. JOHNSTON. COMMUNICATED BY M. P. CANDY.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
/1980m	1980 09	04.49653	17 27 28.93	-22 05 00.8	18.5T	323
/1980m	1980 09	08.50451	17 31 54.94	-22 29 01.2		323
/1980m	1980 09	09.51042	17 33 06.46	-22 35 12.1		323
/1980n	1980 09	10.49722	17 12 11.54	-24 25 52.0	18 T	323
/1980n	1980 09	11.50524	17 13 25.84	-24 24 04.6		323

OBSERVATIONS MADE AT GEISEI BY T. SEKI.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
/1980c	1980 05	06.45660	05 02 52.4	+16 18 05			372
/1980c	1980 05	06.46042	05 02 54.0	+16 18 04		1	372
/1980d	1980 05	09.67361	13 08 57.10	+11 26 06.6	16 T	2	372
/1980d	1980 05	09.68333	13 08 56.73	+11 26 02.3		2	372
/1980e	1980 07	19.63750	18 03 00.89	-17 26 32.5	16 T		372
/1980e	1980 07	19.64861	18 02 59.86	-17 26 16.1			372
/1980k	1980 09	01.46562	14 19 08.51	+26 44 44.0	14.5T	3	372

Note 1: correction to MPC 5340. 2: correction to MPC 5399. 3: from Japan Astron. Circ. No. 249.

OBSERVATIONS MADE WITH THE 1.2-M U.K. SCHMIDT TELESCOPE AT COONABARABRAN.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
/1980l	1980 09	06.71181	03 13 36.29	-35 04 41.6	17 T	1	413
/1980l	1980 09	06.75694	03 13 33.73	-35 06 20.7		1	413
/1980l	1980 09	07.58027	03 12 49.20	-35 36 58.3	17 T	1	413
/1980l	1980 09	07.59416	03 12 48.52	-35 37 27.2		1	413
/1980l	1980 09	08.78509	03 11 39.52	-36 22 11.4	17 T	1	413
/1980l	1980 09	08.79898	03 11 38.88	-36 22 39.9		1	413
1978 NC	1978 08	27.45449	20 04 41.94	-37 38 38.0		2	413
1978 NC	1978 08	27.51005	20 04 40.64	-37 39 15.9		2	413

Note 1: observer K. S. Russell. 2: ends of trail, measured by S. J. Bus.

OBSERVATIONS MADE AT THE UPPSALA SOUTHERN STATION BY G. HAHN AND C.-I. LAGERKVIST (WITH ASSISTANCE FROM G. LYNGA).

Object	Date	UT	R. A. (1950)	Decl.	Obs.
57	1978 12	30.67292	09 11 30.93	-04 10 48.8	414
57	1978 12	30.68942	09 11 30.68	-04 10 50.8	414
57	1979 01	20.55082	08 59 41.78	-04 03 48.0	414

57		1979	01	20.56433	08	59	41.34	-04	03	45.2	414
57		1979	02	06.67962	08	46	51.37	-02	52	12.1	414
57		1979	02	06.69347	08	46	51.02	-02	52	07.8	414
57		1979	02	26.42637	08	34	06.35	-00	38	24.4	414
57		1979	02	26.44357	08	34	05.86	-00	38	20.5	414
57		1979	03	07.48305	08	30	20.91	+00	29	58.4	414
57		1979	03	07.49829	08	30	20.81	+00	30	06.5	414
57		1979	04	24.37055	08	39	26.26	+05	08	32.0	414
57		1979	04	24.38316	08	39	26.90	+05	08	33.8	414
297		1979	03	23.69041	13	19	53.15	-16	34	46.6	414
297		1979	03	23.70219	13	19	52.57	-16	34	46.9	414
485		1979	03	06.52505	11	27	09.32	-06	17	22.9	414
485		1979	03	06.53683	11	27	08.81	-06	17	14.9	414
485		1979	03	21.48465	11	16	20.33	-03	30	24.6	414
485		1979	03	21.49829	11	16	19.87	-03	30	11.9	414
703		1979	01	28.56049	09	49	20.13	+08	47	56.4	414
703		1979	01	28.57227	09	49	19.46	+08	48	00.2	414
911		1979	03	06.54520	13	18	39.58	-27	50	18.6	414
911		1979	03	06.56044	13	18	39.41	-27	50	21.1	414
911		1979	03	23.67102	13	10	34.29	-28	10	20.3	414
911		1979	03	23.68280	13	10	33.90	-28	10	20.1	414
911		1979	04	23.59095	12	52	50.56	-27	32	54.0	414
911		1979	04	23.60619	12	52	50.03	-27	32	51.9	414
955		1979	03	23.69041	13	21	15.20	-16	34	36.5	414
1036		1979	02	04.62649	11	26	23.49	-22	01	55.8	414
1036		1979	02	04.64173	11	26	23.12	-22	01	54.1	414
1036		1979	02	26.49412	11	12	01.26	-21	12	44.2	414
1036		1979	02	26.50936	11	12	00.51	-21	12	42.5	414
1036		1979	03	02.53445	11	08	54.58	-20	53	46.6	414
1036		1979	03	02.54934	11	08	53.67	-20	53	43.3	414
1098		1979	02	04.65033	11	50	44.07	-04	51	44.7	414
1098		1979	02	04.66209	11	50	43.77	-04	51	46.0	414
1098		1979	02	26.53844	11	35	24.23	-05	18	20.3	414
1098		1979	02	26.55022	11	35	24.65	-05	18	20.2	414
1098		1979	03	06.52505	11	27	55.76	-05	11	12.3	414
1098		1979	03	06.53683	11	27	55.13	-05	11	11.1	414
1098		1979	03	21.48465	11	13	28.07	-04	40	54.6	414
1098		1979	03	21.49829	11	13	27.18	-04	40	52.7	414
1139		1979	01	01.54995	07	31	46.45	-10	19	31.0	414
1139		1979	01	01.56173	07	31	45.76	-10	19	35.4	414
1157		1979	03	23.69041	13	15	05.58	-17	39	24.6	414
1157		1979	03	23.70219	13	15	04.94	-17	39	23.2	414
1157		1979	04	23.57184	12	50	34.74	-16	24	57.7	414
1157		1979	04	23.58361	12	50	34.13	-16	24	55.3	414
1175		1979	01	29.57701	10	48	52.14	-15	02	46.1	414
1175		1979	01	29.59516	10	48	51.66	-15	02	47.5	414
1175		1979	02	26.47092	10	30	51.21	-14	22	27.8	414
1175		1979	02	26.48297	10	30	50.42	-14	22	27.1	414
1583		1979	02	04.60302	11	17	59.89	-23	35	15.6	414
1583		1979	02	04.61825	11	17	59.40	-23	35	13.6	414
1583		1979	02	26.49412	11	08	58.02	-23	03	29.0	414
1583		1979	02	26.50936	11	08	57.61	-23	03	28.0	414
1583		1979	03	06.50067	11	05	04.68	-22	35	24.1	414
1583		1979	03	06.51718	11	05	04.25	-22	35	18.9	414
1583		1979	03	20.53389	10	58	21.01	-21	27	53.0	414
1583		1979	03	20.54913	10	58	20.30	-21	27	49.0	414
1979	EB	* 1979	03	06.52505	11	28	51.39	-04	37	28.5	414
1979	EB	1979	03	06.53683	11	28	50.88	-04	37	23.2	414
1979	FN	* 1979	03	21.48465	11	11	33.20	-04	01	12.4	414

1979 FN		1979 03 21.49829	11	11	32.43	-04	01	05.8	414
1979 FO	*	1979 03 21.48465	11	16	40.08	-05	37	55.0	414
1979 FO		1979 03 21.49829	11	16	39.42	-05	37	48.7	414
1979 FP	*	1979 03 21.48465	11	18	13.52	-02	58	41.5	414
1979 FP		1979 03 21.49829	11	18	12.77	-02	58	34.9	414
1979 FQ	*	1979 03 23.69041	13	23	09.97	-16	21	34.1	414
1979 FQ		1979 03 23.70219	13	23	09.28	-16	21	35.6	414
1979 HL1	*	1979 04 23.57184	12	41	34.2	-16	23	56	414
1979 HL1		1979 04 23.58361	12	41	34.2	-16	23	56	414

OBSERVATIONS MADE AT THE ANTARES OBSERVATORY, LA SEYNE SUR MER.

Object	Date	UT	R. A. (1950)			Decl.			Obs.
2	1979 09	02.89774	20	55	31.08	+08	19	21.5	509
2	1979 09	02.90989	20	55	30.61	+08	19	12.1	509
2	1979 09	02.91756	20	55	30.32	+08	19	07.1	509
2	1979 09	13.84670	20	49	52.96	+06	04	22.6	509
2	1979 09	13.85226	20	49	52.75	+06	04	18.6	509
2	1979 09	13.85816	20	49	52.69	+06	04	14.0	509
2	1979 09	17.86406	20	48	20.81	+05	14	28.7	509
2	1979 09	17.87795	20	48	20.63	+05	14	18.1	509
2	1979 09	27.80574	20	45	55.62	+03	13	46.5	509
2	1979 09	27.81391	20	45	55.52	+03	13	41.2	509
2	1979 09	27.82179	20	45	55.44	+03	13	35.1	509
7	1979 06	07.88543	15	15	53.43	-20	55	09.2	509
7	1979 06	07.89267	15	15	53.12	-20	55	07.0	509
7	1979 06	24.90332	15	05	25.36	-19	39	57.6	509
7	1979 06	26.90499	15	04	38.64	-19	32	45.7	509
7	1979 06	26.91112	15	04	38.63	-19	32	44.3	509
7	1979 06	26.91347	15	04	38.53	-19	32	43.7	509
7	1979 06	29.88574	15	03	40.72	-19	22	48.2	509
20	1979 09	13.88420	23	19	14.28	-03	37	30.4	509
20	1979 09	13.89115	23	19	13.95	-03	37	33.2	509
20	1979 09	17.91094	23	15	32.69	-04	02	05.3	509
20	1979 09	17.91788	23	15	32.28	-04	02	06.9	509
20	1979 09	17.92483	23	15	31.83	-04	02	09.5	509
20	1979 09	27.86285	23	06	50.89	-05	00	17.4	509
20	1979 09	27.87094	23	06	50.45	-05	00	20.5	509
20	1979 09	27.88154	23	06	49.76	-05	00	23.7	509
25	1979 03	02.96559	10	57	39.18	-19	11	30.4	509
25	1979 03	02.97392	10	57	38.62	-19	11	27.1	509
25	1979 03	02.98017	10	57	38.41	-19	11	24.5	509
25	1979 03	22.89826	10	40	20.00	-15	49	27.8	509
25	1979 03	22.91216	10	40	19.15	-15	49	18.0	509
25	1979 03	22.91535	10	40	19.10	-15	49	16.2	509
25	1979 03	30.88611	10	34	39.16	-14	08	30.4	509
25	1979 03	30.89236	10	34	38.90	-14	08	26.2	509
40	1979 03	31.01354	14	13	56.53	-06	22	29.4	509
40	1979 03	31.02049	14	13	56.50	-06	22	28.7	509
40	1979 05	30.86447	13	26	16.69	-03	23	39.8	509
40	1979 05	30.87141	13	26	16.67	-03	23	40.3	509
40	1979 05	30.87836	13	26	16.53	-03	23	41.3	509
68	1979 11	24.12949	07	23	03.94	+30	24	03.3	509
68	1979 11	25.16562	07	22	42.78	+30	28	39.5	509
68	1979 11	25.17812	07	22	42.52	+30	28	42.9	509
68	1979 11	28.07917	07	21	33.45	+30	41	47.1	509
68	1979 11	28.08993	07	21	33.12	+30	41	49.9	509
385	1979 11	18.20374	08	18	10.15	+35	57	17.5	509
385	1979 11	18.21381	08	18	10.44	+35	57	19.3	509

385	1979 11 20.18038	08 18 51.82	+36 02 49.8		509
385	1979 11 24.16994	08 19 53.85	+36 14 47.2		509
385	1979 11 25.20486	08 20 05.29	+36 18 03.6		509
385	1979 11 28.10347	08 20 26.00	+36 27 34.4		509
568	1979 11 17.96254	02 17 10.53	+26 47 51.6		509
568	1979 11 19.89896	02 15 54.65	+26 21 59.2		509
568	1979 11 19.91007	02 15 54.23	+26 21 51.3		509
568	1979 11 23.91421	02 13 31.93	+25 28 08.7		509
568	1979 11 23.92463	02 13 31.51	+25 28 00.5		509
568	1979 11 25.90347	02 12 29.73	+25 01 37.6		509
568	1979 11 25.91042	02 12 29.54	+25 01 32.4		509
704	1979 09 02.86250	20 18 08.41	-03 21 19.8		509
704	1979 09 02.87412	20 18 08.08	-03 21 20.4		509
704	1979 09 13.80729	20 13 59.62	-03 30 15.3		509
704	1979 09 13.82083	20 13 59.48	-03 30 16.2		509
704	1979 09 27.78944	20 13 12.48	-03 42 14.5		509
704	1979 09 27.79359	20 13 12.56	-03 42 14.6		509
704	1979 10 19.86004	20 21 54.68	-03 45 48.8		509
704	1979 10 19.87566	20 21 55.17	-03 45 48.5		509

OBSERVATIONS MADE AT FALKENSEE BY M. GRESSMANN.

Object	Date UT	R. A. (1950)	Decl.	N	Obs.
259	1980 05 05.88154	13 41 37.36	+04 02 20.6		542
259	1980 05 05.88537	13 41 37.06	+04 02 23.2		542
259	1980 05 05.88941	13 41 37.08	+04 02 23.9		542
259	1980 05 10.87475	13 38 18.47	+03 59 43.5		542
259	1980 05 10.87837	13 38 18.49	+03 59 41.7	1	542
259	1980 05 10.88254	13 38 18.19	+03 59 43.6	1	542
259	1980 05 12.89816	13 37 04.31	+03 57 26.4		542
259	1980 05 12.90264	13 37 04.07	+03 57 23.0	1	542
259	1980 05 12.90622	13 37 03.99	+03 57 24.5		542
259	1980 05 14.88155	13 35 55.57	+03 54 28.1		542
259	1980 05 14.88741	13 35 55.32	+03 54 27.6		542
259	1980 05 14.89075	13 35 55.26	+03 54 25.9		542
1022	1980 05 12.93383	15 01 05.02	+17 30 50.3		542
1301	1980 04 14.85791	11 14 41.89	+22 41 54.0		542
1301	1980 04 14.86578	11 14 41.89	+22 41 52.9	2	542
1301	1980 04 14.87183	11 14 41.71	+22 41 53.6		542

Note 1: measurement uncertain. 2: trail very weak.

OBSERVATIONS MADE AT THE OSSERVATORIO S. VITTORE.

Object	Date UT	R. A. (1950)	Decl.	Mag.	Obs.
1980 RC *	1980 09 03.90764	22 33 01.62	-04 42 49.1	17.0	552
1980 RC	1980 09 04.94097	22 32 12.72	-04 55 57.8		552
1980 RC	1980 09 09.85000	22 27 38.78	-06 11 46.5	17.0	552
1980 RC	1980 09 09.91597	22 27 35.70	-06 12 45.0		552
1980 RD *	1980 09 09.85000	22 26 25.33	-06 25 24.9	17.0	552
1980 RD	1980 09 09.91597	22 26 21.18	-06 25 40.7		552

OBSERVATIONS MADE AT REINTAL BY F. SEILER. COMMUNICATED BY F. FREVERT.

Object	Date UT	R. A. (1950)	Decl.	Obs.
397	1979 07 18.94236	21 40 50.99	+09 23 17.4	556
397	1979 07 29.87917	21 35 22.84	+10 11 50.6	556
397	1979 07 29.88333	21 35 22.63	+10 11 52.0	556
397	1979 08 14.85208	21 23 46.51	+10 11 50.1	556
397	1979 08 14.88681	21 23 44.71	+10 11 44.4	556
397	1979 08 29.86042	21 12 30.51	+08 53 46.3	556
397	1979 08 29.87431	21 12 29.92	+08 53 41.3	556

397	1979 08 29.89653	21 12 29.02	+08 53 30.8			556
397	1979 08 30.91944	21 11 49.13	+08 45 51.9			556
397	1979 08 30.93472	21 11 48.45	+08 45 44.9			556
397	1979 08 31.92667	21 11 10.84	+08 38 05.8			556
397	1979 08 31.98681	21 11 08.58	+08 37 40.0			556
397	1979 09 27.85278	21 04 36.16	+04 25 14.5			556
397	1979 09 27.87986	21 04 36.30	+04 24 59.2			556
397	1979 09 27.90278	21 04 36.73	+04 24 45.1			556
397	1979 10 09.78611	21 09 18.47	+02 37 19.4			556
397	1979 10 09.81319	21 09 19.49	+02 37 06.5			556
397	1979 10 09.81458	21 09 19.53	+02 37 04.5			556
397	1979 10 10.77222	21 09 54.43	+02 29 12.4			556
397	1979 10 10.77361	21 09 54.56	+02 29 12.3			556
397	1979 10 10.82361	21 09 56.27	+02 28 46.1			556
397	1979 10 10.82500	21 09 56.38	+02 28 47.3			556
397	1979 10 19.77361	21 16 44.58	+01 22 28.8			556
397	1979 10 19.77500	21 16 44.74	+01 22 28.4			556
397	1979 10 20.84514	21 17 43.08	+01 15 27.7			556
397	1979 10 20.84653	21 17 43.17	+01 15 28.2			556
397	1979 10 20.88542	21 17 45.20	+01 15 12.1			556
397	1979 10 26.80694	21 23 42.40	+00 40 34.4			556
579	1980 04 13.81944	07 53 45.43	+30 02 09.3			556
579	1980 04 14.83056	07 54 25.81	+29 59 10.2			556
579	1980 04 14.85278	07 54 26.99	+29 59 05.6			556
579	1980 04 14.88681	07 54 28.06	+29 58 58.2			556
579	1980 04 15.83194	07 55 07.16	+29 56 07.1			556
579	1980 04 15.86181	07 55 08.28	+29 56 02.9			556

OBSERVATION MADE WITH THE CANADA-FRANCE-HAWAII 3.6-M TELESCOPE AT MAUNA KEA BY I. HALLIDAY.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
/1980c	1980 05 07.2490		05 08 04.62	+16 16 52.3	14 T	1 568
/1980c	1980 05 13.2544		05 46 23.19	+15 54 25.5		1 568
/1980c	1980 05 14.2486		05 52 30.38	+15 48 33.9		1 568

Note 1: observatory code 568, Long. and Parallax 204.53, -401, -144 (see MPC 4766).

OBSERVATIONS MADE AT MT. WILSON BY L. E. CUNNINGHAM. MEASURED BY J. GIBSON.

Object	Date	UT	R. A. (1950)	Decl.	N Obs.
/1949 I	1950 11 12.52536		09 41 16.85	-10 16 13.8	3 672
/1949 I	1950 12 11.46944		09 32 37.76	-10 12 33.7	672
/1949 I	1951 02 04.31769		08 54 34.53	-06 41 20.3	1 672
/1949 I	1951 02 04.34026		08 54 33.56	-06 41 12.2	1 672
/1949 IV	1950 05 20.20727		08 13 17.09	+36 25 05.7	672
/1949 IV	1950 11 12.46772		09 22 14.42	+09 32 00.2	3 672
/1949 IV	1950 12 14.36145		09 03 29.26	+06 57 54.6	672
/1949 IV	1950 12 16.37360		09 01 46.16	+06 50 09.1	672
/1949 IV	1951 01 10.37185		08 36 34.23	+05 36 34.6	2 672
/1949 IV	1951 03 04.18926		07 45 45.51	+04 57 44.2	672
/1949 IV	1951 03 04.21252		07 45 44.6	+04 57 44	4 672
/1951 VIII	1951 05 01.40479		14 41 11.53	+07 43 19.2	672
/1951 VIII	1951 07 10.25687		14 08 29.89	+02 27 59.2	672
/1954 IX	1953 09 03.38176		23 55 37.52	+06 14 36.2	5 672
/1954 IX	1953 09 04.43835		23 54 29.38	+06 09 43.1	5 672
/1954 IX	1953 09 05.44947		23 53 23.14	+06 04 52.1	5 672

Note 1: comet image very faint. 2: comet image trailed. 3 = 1 + 2. 4: comet image possibly involved with defect. 5: new reduction using 1.2-m Schmidt field plate taken by C. Kowal.

OBSERVATIONS MADE AT PALOMAR.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
/1977 XI	1980 08	08.46458	02 39 47.6	+25 08 49	20	N 1	675
1943	1968 06	03.43611	23 15 35.49	+05 38 07.0		2	675
1976 QC2 *	1976 08	28.47222	23 29 50.22	-02 32 22.3	15.5	3	675
1976 QD2 *	1976 08	28.47222	23 30 18.59	-02 42 50.3	15.0	3	675
1976 QE2 *	1976 08	28.47222	23 33 35.52	-02 56 09.1	16.0	3	675
1976 QF2 *	1976 08	28.47222	23 34 37.55	-02 38 03.4	17.0	3	675
1976 SC	1976 08	28.47222	23 35 33.58	-02 36 33.2	15.0	3	675
1976 SG1	1976 08	28.47222	23 38 07.69	-03 03 50.3	17.0	3	675
1979 QB	1979 09	18.23958	21 59 14.58	-10 48 47.2		4	675
1979 QB	1979 09	19.28958	22 00 06.10	-10 31 51.7		4	675

Note 1: 1.2-m Schmidt; observers E. Ney and B. Hatfield. 2: 1.2-m Schmidt exposure by F. Zwicky; object identified and measured by J. Gibson, using ephemeris by J. G. Williams. 3: 0.46-m Schmidt; film scanned by Williams, measurer S. J. Bus. 4: 1.2-m Schmidt, observer C. Kowal, measurer Bus.

OBSERVATIONS MADE WITH THE 0.46-M SCHMIDT TELESCOPE AT PALOMAR BY C. S. SHOEMAKER, E. HELIN AND S. J. BUS, WITH ASSISTANCE FROM E. BOWELL, AND UNDER THE DIRECTION OF E. M. SHOEMAKER.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
8	1980 06	10.23889	16 36 34.69	-15 59 31.6		675
8	1980 06	11.27847	16 35 26.34	-15 59 40.8		675
8	1980 06	12.26181	16 34 22.33	-15 59 55.9		675
8	1980 06	18.37083	16 27 59.72	-16 02 31.3		675
8	1980 06	19.34167	16 27 02.03	-16 03 12.4		675
8	1980 06	20.33472	16 26 04.19	-16 03 56.1		675
62	1980 06	10.23889	16 24 13.51	-19 04 18.4		675
62	1980 06	11.27847	16 23 25.10	-19 02 49.6		675
62	1980 06	18.37083	16 18 09.47	-18 53 35.4		675
62	1980 06	19.34167	16 17 28.38	-18 52 25.2		675
62	1980 06	20.33472	16 16 47.59	-18 51 19.6		675
168	1980 06	10.23889	16 37 36.04	-17 21 54.3		675
168	1980 06	11.27847	16 36 50.16	-17 19 50.6		675
168	1980 06	12.26181	16 36 07.21	-17 17 57.6		675
168	1980 06	18.37083	16 31 49.17	-17 06 49.1		675
168	1980 06	19.34167	16 31 10.18	-17 05 12.2		675
168	1980 06	20.33472	16 30 30.86	-17 03 36.8		675
316	1980 06	10.23889	16 27 15.76	-19 08 19.2		675
316	1980 06	11.27847	16 26 28.41	-19 06 59.3		675
316	1980 06	12.26181	16 25 44.14	-19 05 35.8		675
316	1980 06	18.37083	16 21 19.38	-18 58 36.6		675
316	1980 06	19.34167	16 20 39.42	-18 57 33.8		675
316	1980 06	20.33472	16 19 59.35	-18 56 32.3		675
374	1980 06	10.23889	16 32 10.67	-13 34 47.2		675
374	1980 06	11.27847	16 31 19.96	-13 30 19.5		675
374	1980 06	12.26181	16 30 32.74	-13 26 15.3		675
374	1980 06	18.37083	16 25 56.22	-13 03 18.8		675
374	1980 06	19.34167	16 25 15.55	-13 00 03.8		675
374	1980 06	20.33472	16 24 34.99	-12 56 52.8		675
429	1980 06	18.37083	16 43 36.94	-13 17 07.6		675
429	1980 06	19.34167	16 42 48.08	-13 13 59.6		675
429	1980 06	20.33472	16 41 58.35	-13 10 55.9		675
714	1980 06	10.23889	16 38 53.37	-14 08 34.7		675
714	1980 06	11.27847	16 37 56.43	-14 02 05.7		675
714	1980 06	12.26181	16 37 03.44	-13 56 04.4		675
714	1980 06	18.37083	16 31 49.11	-13 20 56.2		675
714	1980 06	19.34167	16 31 02.22	-13 15 44.4		675

714			1980	06	20.33472	16	30	15.28	-13	10	34.3	675
1752			1980	06	11.27847	16	36	13.86	-19	52	14.1	675
1752			1980	06	12.26181	16	35	11.19	-19	47	54.8	675
1752			1980	06	18.37083	16	28	58.78	-19	21	59.6	675
1752			1980	06	19.34167	16	28	02.08	-19	18	09.4	675
1752			1980	06	20.33472	16	27	08.05	-19	14	04.6	675
1791			1980	06	10.23889	16	30	24.71	-14	15	03.4	675
1791			1980	06	11.27847	16	29	33.84	-14	12	07.7	675
1791			1980	06	12.26181	16	28	46.50	-14	09	27.4	675
1791			1980	06	18.37083	16	24	10.53	-13	55	24.6	675
1791			1980	06	19.34167	16	23	30.21	-13	53	32.0	675
1791			1980	06	20.33472	16	22	50.09	-13	51	45.9	675
1980	LL		1980	06	10.23889	16	21	35.35	-13	14	19.5	15.5 675
1980	LL	*	1980	06	11.27847	16	20	40.76	-13	11	31.8	15.5 675
1980	LL		1980	06	12.26181	16	19	51.01	-13	09	10.8	15.5 675
1980	LM		1980	06	10.23889	16	24	28.87	-18	18	08.0	14.5 675
1980	LM	*	1980	06	11.27847	16	23	25.04	-18	21	47.6	14.5 675
1980	LM		1980	06	12.26181	16	22	25.90	-18	25	14.8	14.5 675
1980	LM		1980	06	18.37083	16	16	40.90	-18	48	03.9	14.5 675
1980	LN		1980	06	10.23889	16	32	50.80	-19	47	58.6	17 675
1980	LN	*	1980	06	11.27847	16	31	45.43	-19	45	36.3	17 675
1980	LN		1980	06	12.26181	16	30	44.16	-19	43	25.4	17 675
1980	LN		1980	06	18.37083	16	24	43.71	-19	30	45.1	17 675
1980	LN		1980	06	19.34167	16	23	50.75	-19	28	52.5	17 675
1980	LN		1980	06	20.33472	16	22	57.55	-19	27	01.6	17 675
1980	LO		1980	06	10.23889	16	40	36.15	-14	19	24.3	16.5 675
1980	LO	*	1980	06	11.27847	16	39	35.88	-14	17	46.6	16.5 675
1980	LO		1980	06	12.26181	16	38	39.71	-14	16	21.9	16.5 675
1980	LO		1980	06	18.37083	16	33	04.83	-14	09	59.1	16.5 675
1980	LO		1980	06	19.34167	16	32	15.02	-14	09	21.6	16.5 675
1980	LO		1980	06	20.33472	16	31	24.79	-14	08	47.0	16.5 675
1980	LP	*	1980	06	11.27847	16	46	09.41	-15	59	42.2	16.5 675
1980	LP		1980	06	12.26181	16	45	06.44	-16	01	33.0	16.5 675
1980	LP		1980	06	18.37083	16	38	49.10	-16	14	50.1	16.5 675
1980	LP		1980	06	19.34167	16	37	51.68	-16	17	17.8	16.5 675
1980	LP		1980	06	20.33472	16	36	54.10	-16	19	47.0	16.5 675
1980	MB		1980	06	10.23889	16	30	38.61	-19	20	48.4	15.5 675
1980	MB		1980	06	11.27847	16	29	42.50	-19	15	12.9	15.5 675
1980	MB		1980	06	12.26181	16	28	50.61	-19	09	59.9	15.5 675
1980	MB	*	1980	06	18.37083	16	23	49.88	-18	39	02.3	15.5 675
1980	MB		1980	06	19.34167	16	23	06.60	-18	34	22.3	15.5 675
1980	MB		1980	06	20.33472	16	22	23.40	-18	29	46.2	15.5 675
1980	MC	*	1980	06	18.37083	16	39	40.78	-13	08	49.9	17 675
1980	MC		1980	06	19.34167	16	38	50.01	-13	09	05.5	17 675
1980	MC		1980	06	20.33472	16	37	58.67	-13	09	22.1	17 675
1980	MD	*	1980	06	18.37083	16	42	36.53	-13	53	37.4	17 675
1980	MD		1980	06	19.34167	16	41	54.85	-13	54	28.6	17 675
1980	MD		1980	06	20.33472	16	41	12.70	-13	55	28.2	17 675
1980	ME	*	1980	06	19.34167	16	42	44.22	-13	00	41.4	16.5 675
1980	ME		1980	06	20.33472	16	41	48.16	-13	02	26.2	16.5 675
1980	MF	*	1980	06	20.33472	16	40	41.85	-12	43	45.7	17 675

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY'S ANDERSON MESA STATION BY E. BOWELL.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
10	1980 09	17.40625	04 10 32.72	+24 40 50.1		3 688
33	1980 07	17.33056	23 01 08.33	-08 58 27.4		688
33	1980 07	17.37222	23 01 09.39	-08 58 20.7		688
33	1980 07	19.34722	23 02 00.12	-08 53 11.0		688

33	1980	08	08.33056	23	03	54.27	-08	35	37.4		688
33	1980	09	04.33125	22	50	09.18	-09	25	52.5		688
33	1980	09	07.31458	22	48	09.24	-09	32	23.0		688
51	1980	09	18.50660	04	48	37.04	+12	40	41.6		688
77	1980	09	17.36944	03	22	52.05	+20	21	33.4		688
81	1980	09	17.36944	03	18	47.60	+24	04	03.1		688
101	1980	09	02.23194	22	16	52.96	-13	32	31.4		688
101	1980	09	04.26181	22	14	51.38	-13	30	01.5		688
101	1980	09	07.27917	22	11	56.34	-13	25	38.0		688
112	1980	09	14.35764	23	20	14.07	-01	49	43.2		688
138	1980	02	11.22118	07	35	03.29	+26	00	28.9		688
139	1980	09	04.29653	21	54	38.16	-21	47	40.7		688
140	1980	02	11.22118	07	31	42.38	+22	44	17.3		688
150	1980	02	11.22118	07	24	19.53	+18	58	31.9		688
161	1980	09	17.38889	04	00	59.72	+25	01	22.6		688
161	1980	09	17.40625	04	01	00.23	+25	01	28.6		688
209	1980	09	17.40625	04	11	35.38	+27	28	54.1		688
218	1980	09	04.22014	21	32	41.43	-05	41	29.9		688
228	1980	07	17.30833	22	21	20.07	-10	28	04.6		688
228	1980	07	17.35139	22	21	20.27	-10	27	54.9		688
228	1980	07	19.32431	22	21	31.93	-10	20	45.8		688
228	1980	08	06.31528	22	16	48.84	-09	45	02.0		688
231	1980	02	11.28160	10	00	12.22	+15	47	16.9		688
233	1980	09	17.38889	03	50	32.46	+20	46	33.6		688
267	1980	09	04.29653	21	54	49.15	-22	35	21.6		688
271	1980	07	17.27813	20	06	14.48	-23	41	45.3		688
271	1980	07	17.29132	20	06	13.74	-23	41	46.9		688
271	1980	08	04.25104	19	50	39.96	-24	06	48.8		688
271	1980	09	02.19514	19	34	45.74	-24	03	09.9		688
275	1980	02	11.28160	09	53	48.42	+14	16	14.7		688
281	1980	02	11.23715	07	58	59.61	+30	17	13.3		688
282	1980	07	17.33056	22	50	39.13	-07	03	14.7		688
282	1980	07	17.37222	22	50	38.92	-07	03	25.4		688
282	1980	07	19.34722	22	50	28.25	-07	12	12.2		688
282	1980	08	08.31250	22	42	58.89	-09	25	07.7		688
282	1980	08	08.33056	22	42	58.17	-09	25	16.3		688
282	1980	09	02.23194	22	23	08.02	-13	18	47.9		688
282	1980	09	04.26181	22	21	23.06	-13	37	34.9		688
282	1980	09	07.27917	22	18	50.06	-14	04	40.8		688
307	1980	02	11.22118	07	37	00.81	+25	00	59.3		688
331	1980	02	11.21215	07	22	26.28	+30	28	40.8		688
331	1980	02	11.22882	07	22	25.67	+30	28	39.6		688
333	1980	07	17.29132	20	18	29.66	-24	33	25.7		688
333	1980	09	02.19514	19	45	56.22	-25	02	08.9		688
334	1980	02	11.20451	06	54	36.32	+20	53	38.4		688
337	1980	09	02.23194	22	22	42.02	-15	00	29.1		688
337	1980	09	04.26181	22	20	35.23	-15	05	01.2		688
337	1980	09	07.27917	22	17	29.89	-15	10	57.1		688
341	1980	09	14.21528	23	06	42.09	-14	54	32.7		688
355	1980	09	04.33125	22	51	52.96	-08	38	28.3	1	688
376	1980	09	17.40625	04	12	03.22	+27	47	00.5		688
383	1980	07	17.29132	20	10	57.87	-21	44	47.6		688
383	1980	08	04.25104	19	56	16.73	-22	37	32.1		688
383	1980	09	02.19514	19	39	48.89	-23	25	43.8		688
386	1980	08	06.36667	22	35	03.92	+01	09	05.6		688
386	1980	09	07.35417	22	15	22.93	-05	13	56.4		688
386	1980	09	17.34236	22	09	37.00	-07	27	04.5		688
400	1980	07	17.33056	22	50	49.01	-07	01	18.2		688
400	1980	07	17.37222	22	50	48.17	-07	01	18.0		688

400	1980	07	19.34722	22	50	08.90	-07	00	10.0		688
400	1980	08	08.31250	22	39	35.80	-07	09	19.9		688
400	1980	09	02.23194	22	20	14.81	-07	55	19.4		688
400	1980	09	02.24861	22	20	14.03	-07	55	23.3		688
400	1980	09	04.26181	22	18	38.15	-07	59	31.1		688
400	1980	09	04.31319	22	18	35.65	-07	59	39.4		688
400	1980	09	07.27917	22	16	17.30	-08	05	40.0		688
400	1980	09	07.33160	22	16	14.71	-08	05	45.9	1	688
400	1980	09	17.34236	22	09	05.16	-08	23	58.6		688
418	1980	09	17.40625	04	12	44.33	+25	16	11.1		688
449	1980	07	19.32431	22	28	43.16	-13	27	56.1		688
449	1980	08	06.35000	22	17	41.08	-14	52	55.9		688
449	1980	09	04.29653	21	52	51.28	-17	18	58.0		688
459	1980	08	04.26389	20	02	37.01	-37	05	12.4		688
459	1980	08	08.25839	19	58	26.20	-37	07	08.2		688
459	1980	09	02.21250	19	40	44.64	-36	09	31.7		688
460	1980	08	04.23646	19	51	22.70	-13	22	00.7		688
460	1980	08	04.27535	19	51	20.74	-13	22	08.7		688
460	1980	08	06.26042	19	49	46.81	-13	28	47.8		688
478	1980	09	17.36944	03	16	55.78	+23	33	17.6		688
495	1980	07	17.35139	22	20	26.74	-07	27	21.3		688
495	1980	07	19.32431	22	19	53.67	-07	30	11.7		688
495	1980	08	06.31528	22	10	22.49	-08	26	16.4	1	688
495	1980	09	04.22014	21	46	10.25	-11	04	07.7		688
515	1980	07	19.32431	22	26	59.46	-10	49	08.5		688
515	1980	08	06.35000	22	18	13.76	-11	53	47.3		688
522	1980	02	11.20451	07	15	48.28	+22	06	00.8		688
545	1980	02	11.21215	07	14	29.03	+31	38	43.8		688
554	1980	07	17.30833	22	04	00.17	-10	09	17.4		688
554	1980	07	17.35139	22	03	58.87	-10	09	20.2		688
560	1980	08	06.35000	22	23	56.39	-18	38	47.1		688
560	1980	09	04.23750	22	00	54.98	-21	36	04.9		688
560	1980	09	04.29653	22	00	52.11	-21	36	22.4		688
560	1980	09	07.26111	21	58	34.01	-21	49	47.3		688
579	1980	02	11.23715	07	55	42.03	+30	53	29.5		688
582	1980	09	14.21528	23	08	58.91	-15	11	56.2		688
586	1980	02	11.22118	07	38	23.87	+19	12	42.8		688
648	1980	08	06.31528	22	01	52.31	-03	50	00.6	1	688
648	1980	09	04.22014	21	40	12.49	-04	55	06.8		688
733	1980	09	04.29653	21	46	29.53	-20	55	37.3		688
741	1980	02	11.20451	07	19	21.30	+26	30	08.9		688
741	1980	02	11.22118	07	19	20.74	+26	30	11.4		688
741	1980	02	11.22882	07	19	20.45	+26	30	15.5		688
743	1980	08	04.23646	19	52	20.12	-13	41	30.4		688
743	1980	08	04.27535	19	52	18.17	-13	41	34.8	3	688
743	1980	08	06.26042	19	50	44.68	-13	46	37.9		688
760	1980	07	17.33056	22	53	49.70	-07	35	44.2		688
760	1980	07	17.37222	22	53	48.84	-07	35	44.9		688
760	1980	07	19.34722	22	53	07.45	-07	36	03.4		688
760	1980	08	08.31250	22	42	47.38	-07	56	23.3		688
760	1980	09	02.23194	22	24	28.09	-08	48	49.0		688
760	1980	09	02.24861	22	24	27.29	-08	48	50.4		688
760	1980	09	04.26181	22	22	55.69	-08	53	18.6		688
760	1980	09	04.31319	22	22	53.28	-08	53	25.2		688
760	1980	09	07.27917	22	20	40.18	-08	59	52.3		688
760	1980	09	07.33160	22	20	37.90	-08	59	58.0		688
762	1980	08	06.36667	22	39	02.29	+00	32	27.8		688
762	1980	09	07.35417	22	14	57.05	-00	08	43.8		688
762	1980	09	17.34236	22	07	47.20	-00	34	18.0		688

768	1980	09	17.40625	04	15	07.41	+22	47	08.6		688
805	1980	08	06.36667	22	35	26.39	-01	32	59.4		688
805	1980	09	07.35417	22	16	31.97	-06	43	41.6		688
805	1980	09	17.34236	22	11	17.92	-08	22	53.8		688
822	1980	02	11.20451	07	19	10.26	+20	51	03.6		688
822	1980	02	11.22118	07	19	09.97	+20	51	03.9		688
823	1980	08	06.36667	22	46	32.22	-01	28	31.9		688
823	1980	09	07.35417	22	17	37.53	-03	51	49.9		688
823	1980	09	17.34236	22	08	56.70	-04	49	41.2		688
830	1980	09	17.40625	04	14	23.02	+25	25	02.0		688
847	1980	07	17.33056	22	42	07.95	-05	09	08.2		688
847	1980	07	17.37222	22	42	07.41	-05	09	07.8		688
847	1980	07	19.34722	22	41	41.77	-05	08	49.3		688
847	1980	08	08.31250	22	32	30.08	-05	37	02.1		688
847	1980	09	07.35417	22	08	51.97	-07	34	21.8		688
847	1980	09	17.34236	22	01	50.33	-08	14	52.3		688
864	1980	07	17.33056	22	58	38.03	-02	23	04.3		688
864	1980	07	17.37222	22	58	39.12	-02	23	03.2		688
864	1980	07	19.34722	22	59	31.26	-02	22	36.5		688
876	1980	08	04.23646	19	58	39.96	-12	19	20.6		688
876	1980	08	04.27535	19	58	38.22	-12	19	36.3		688
876	1980	08	06.26042	19	57	12.30	-12	32	35.3		688
941	1980	09	04.29653	22	00	56.90	-23	55	52.3		688
947	1980	02	11.21215	07	27	26.07	+31	36	22.4		688
947	1980	02	11.22882	07	27	25.23	+31	36	21.4		688
978	1980	08	06.21424	19	38	13.26	+13	12	38.7		688
1000	1980	07	17.30833	22	19	48.81	-13	02	07.9		688
1000	1980	07	17.35139	22	19	47.05	-13	02	01.7		688
1000	1980	07	19.32431	22	18	29.73	-12	56	41.0		688
1000	1980	08	06.35000	22	03	20.65	-12	17	45.3		688
1000	1980	09	04.22014	21	35	25.07	-11	28	51.0		688
1008	1980	02	11.28924	10	22	52.76	+21	19	18.0		688
1071	1980	02	11.28160	10	16	51.50	+19	48	15.5		688
1071	1980	02	11.28924	10	16	51.23	+19	48	19.9		688
1080	1980	09	17.38889	03	48	59.26	+23	32	04.3		688
1095	1980	08	06.31528	22	10	19.34	-03	03	22.8		688
1095	1980	09	04.22014	21	50	27.53	-06	04	42.6		688
1157	1980	09	02.19514	19	38	11.13	-28	02	17.2		688
1159	1980	08	04.26389	19	40	25.79	-38	46	29.0		688
1159	1980	08	08.25839	19	36	25.86	-38	20	36.0		688
1162	1980	07	17.27813	20	01	46.49	-23	08	38.7	1	688
1162	1980	07	17.29132	20	01	45.91	-23	08	40.1		688
1162	1980	08	04.25104	19	49	23.00	-23	41	27.6		688
1162	1980	09	02.19514	19	36	49.98	-24	00	37.3		688
1171	1980	07	19.32431	22	38	20.55	-10	18	05.0		688
1171	1980	08	08.31250	22	29	55.05	-11	34	21.2		688
1171	1980	09	02.23194	22	12	02.02	-13	42	57.8		688
1171	1980	09	04.26181	22	10	31.23	-13	52	54.8		688
1171	1980	09	07.27917	22	08	19.37	-14	07	08.3		688
1187	1980	07	17.33056	23	04	01.85	-06	33	03.3		688
1187	1980	07	17.37222	23	04	01.68	-06	32	52.5		688
1187	1980	07	19.34722	23	03	52.82	-06	24	12.5		688
1187	1980	08	08.33056	22	56	09.96	-05	19	39.6		688
1187	1980	09	07.35417	22	28	18.65	-04	51	33.8		688
1187	1980	09	17.34236	22	18	38.78	-04	49	36.2		688
1207	1980	02	11.28924	10	12	19.49	+24	52	21.5		688
1284	1980	07	17.27813	20	00	34.39	-22	28	32.1		688
1284	1980	07	17.29132	20	00	33.56	-22	28	31.3		688
1284	1980	08	04.25104	19	42	21.24	-22	10	26.5		688

1284	1980	09	02.19514	19	24	07.07	-21	10	15.1			688
1308	1980	02	11.23715	08	02	31.79	+26	48	35.1			688
1339	1980	08	06.31528	22	06	21.72	-03	48	34.4			688
1339	1980	09	04.22014	21	43	42.43	-04	52	05.5			688
1392	1980	09	14.35764	23	25	58.20	-07	06	04.0			688
1396	1980	09	14.35764	23	14	10.12	-06	34	17.2			688
1463	1980	07	17.33056	23	04	20.55	-06	24	15.9			688
1463	1980	07	17.37222	23	04	20.30	-06	24	12.0			688
1463	1980	07	19.34722	23	04	07.09	-06	21	05.1			688
1463	1980	08	08.33056	22	57	01.39	-06	14	00.0			688
1494	1980	08	06.31528	22	15	54.74	-06	45	22.0			688
1494	1980	09	04.22014	21	50	50.41	-09	38	09.6			688
1510	1980	07	17.33056	22	51	57.83	-08	31	22.2			688
1510	1980	07	17.37222	22	51	57.02	-08	31	21.8			688
1510	1980	08	08.31250	22	39	22.08	-08	41	00.5		1	688
1510	1980	09	02.23194	22	17	04.85	-09	26	28.4			688
1510	1980	09	04.26181	22	15	12.53	-09	30	19.4			688
1510	1980	09	07.27917	22	12	28.82	-09	35	48.8		1	688
1510	1980	09	11.30347	22	08	58.63	-09	42	33.2			688
1512	1980	08	08.33056	23	08	28.03	-10	40	51.6			688
1512	1980	09	04.33125	22	52	04.62	-11	59	05.2			688
1551	1980	07	19.32431	22	33	17.14	-12	37	27.1			688
1551	1980	08	06.35000	22	24	48.34	-14	17	08.7			688
1551	1980	09	04.29653	22	00	20.64	-17	22	29.2		1	688
1578	1980	07	17.33056	22	47	31.33	-08	44	28.3			688
1578	1980	07	17.37222	22	47	30.74	-08	44	34.6			688
1578	1980	08	08.31250	22	39	15.41	-09	38	43.8			688
1578	1980	09	02.23194	22	24	19.70	-11	08	07.4			688
1578	1980	09	04.26181	22	23	02.57	-11	15	27.4			688
1578	1980	09	07.27917	22	21	09.40	-11	26	08.8			688
1602	1980	02	11.28160	10	03	26.90	+20	02	03.5			688
1602	1980	02	11.28924	10	03	26.52	+20	02	08.5			688
1604	1980	07	17.30833	22	18	47.98	-07	40	53.7			688
1604	1980	07	17.35139	22	18	46.91	-07	40	47.7			688
1604	1980	07	19.32431	22	17	57.76	-07	37	09.7			688
1604	1980	08	06.31528	22	06	50.54	-07	23	07.8	14.5		688
1604	1980	09	04.22014	21	42	47.65	-07	49	21.0			688
1604	1980	09	07.24375	21	40	33.61	-07	52	59.7			688
1652	1980	08	06.31528	21	59	56.47	-06	00	37.4		1	688
1652	1980	09	04.22014	21	33	47.76	-08	13	06.2		1	688
1697	1980	07	17.30833	22	09	37.64	-14	01	41.6			688
1697	1980	07	17.35139	22	09	36.22	-14	01	42.9			688
1721	1980	07	17.30833	22	04	45.47	-11	09	01.2			688
1721	1980	07	17.35139	22	04	43.96	-11	08	59.4			688
1723	1980	07	17.33056	22	48	12.90	-06	55	09.3			688
1723	1980	07	17.37222	22	48	12.43	-06	55	18.8			688
1723	1980	07	19.34722	22	47	49.08	-07	03	01.4			688
1723	1980	09	02.23194	22	23	07.62	-11	46	37.3			688
1723	1980	09	04.26181	22	21	42.00	-12	00	52.8			688
1723	1980	09	07.27917	22	19	37.02	-12	21	36.7			688
1758	1980	07	17.29132	20	17	27.55	-21	22	54.8			688
1758	1980	09	02.19514	19	47	23.74	-24	58	52.6		2	688
1766	1980	08	06.36667	22	52	12.64	-01	53	15.1	16.5		688
1766	1980	09	07.35417	22	30	16.34	-04	57	29.6			688
1766	1980	09	17.34236	22	23	20.27	-06	05	10.6			688
1783	1980	08	06.36667	22	40	02.98	+02	15	37.0			688
1783	1980	09	07.35417	22	16	46.69	-01	10	45.6			688
1783	1980	09	17.34236	22	09	52.82	-02	29	41.4			688
1784	1980	07	17.33056	22	52	52.85	-09	00	38.2			688

1784		1980	07	17.37222	22	52	52.63	-09	00	42.2			688
1784		1980	07	19.34722	22	52	43.42	-09	04	06.2			688
1784		1980	08	08.33056	22	44	38.71	-10	16	26.4			688
1784		1980	09	02.23194	22	23	36.39	-12	35	25.8	15.0		688
1784		1980	09	04.26181	22	21	49.63	-12	45	52.2		1	688
1784		1980	09	07.27917	22	19	15.93	-13	00	33.4			688
1825		1980	07	17.30833	22	03	55.04	-08	48	07.6			688
1825		1980	07	17.35139	22	03	53.76	-08	48	08.8			688
1841		1980	02	11.28160	09	58	07.96	+16	24	47.6			688
1952		1980	09	02.21250	19	54	29.17	-35	32	14.3			688
1963		1980	07	17.29132	19	53	48.47	-26	59	35.2			688
2020		1980	07	17.33056	22	44	38.73	-07	23	21.3		2	688
2020		1980	07	17.37222	22	44	38.23	-07	23	31.2	17.3		688
2020		1980	07	19.34722	22	44	12.38	-07	31	24.6		2	688
2020		1980	08	08.31250	22	35	54.99	-09	19	21.9	16.8		688
2020		1980	09	02.23194	22	19	05.34	-12	14	07.6	16.5		688
2020		1980	09	07.27917	22	15	35.24	-12	48	32.7			688
2022		1980	08	08.33056	22	59	31.92	-11	29	02.7			688
2022		1980	09	04.33125	22	37	31.66	-12	50	55.5			688
2022		1980	09	07.31458	22	34	49.24	-12	58	45.7	16.2		688
2111		1980	09	04.22014	21	33	44.17	-09	15	15.2			688
2131		1980	08	04.25104	19	55	35.15	-20	50	31.2		3	688
2136		1980	08	04.27535	19	51	47.32	-13	41	48.9		4	688
2136		1980	08	06.26042	19	50	24.09	-13	52	49.8			688
2197		1980	08	06.35000	22	07	15.58	-15	20	23.3	17.0		688
2220		1980	07	17.35139	22	25	13.92	-12	46	27.4			688
2220		1980	07	19.32431	22	24	43.75	-12	52	12.4		3	688
2220		1980	08	06.35000	22	16	24.17	-14	03	05.0			688
2220		1980	09	04.29653	21	55	21.15	-16	16	36.5			688
2283		1980	08	04.23646	19	48	44.59	-09	43	06.0	16.5	1	688
2283		1980	08	04.27535	19	48	42.69	-09	43	14.6			688
2283		1980	08	06.26042	19	47	00.40	-09	53	39.2	16.5		688
1972	TL2	1980	07	17.27813	20	09	34.99	-23	52	00.3			688
1972	TL2	1980	07	17.29132	20	09	34.09	-23	51	58.6	16.0		688
1972	TL2	1980	08	04.25104	19	50	09.71	-23	02	15.5			688
1972	TL2	1980	09	02.19514	19	31	12.30	-21	00	53.9	16.5		688
1974	TA1	1980	08	06.31528	22	21	52.95	-08	33	53.3	16.0		688
1974	TA1	1980	08	08.31250	22	20	47.17	-08	42	54.7	16.5		688
1977	RX7	1980	08	06.26042	20	01	03.31	-12	29	55.5	17.0		688
1977	UP	1980	09	02.23194	22	05	08.22	-14	52	34.0	17.0		688
1977	UP	1980	09	04.26181	22	03	14.06	-14	55	46.1	16.5		688
1977	UP	1980	09	07.27917	22	00	32.69	-14	59	24.2	16.8		688
1980	LA	1980	07	17.26528	19	48	52.58	+07	29	36.6			688
1980	LA	1980	08	04.21400	19	28	17.27	+12	50	37.9			688
1980	LA	1980	08	04.22361	19	28	16.61	+12	50	45.9	16.0		688
1980	LA	1980	08	06.21424	19	26	20.46	+13	15	19.8	15.5		688
1980	LA	1980	09	02.13299	19	15	41.51	+15	34	31.8			688
1980	LB	1980	08	08.25839	19	43	07.48	-38	42	31.0	16.0		688
1980	LD	1980	07	17.27813	20	05	08.50	-24	03	23.2			688
1980	LD	1980	07	17.29132	20	05	07.74	-24	03	28.5	16.5		688
1980	LD	1980	08	04.25104	19	50	23.75	-25	30	56.5	16.5		688
1980	LD	1980	09	02.19514	19	35	14.09	-26	53	44.7	16.5		688
1980	LE	1980	07	17.27813	20	03	42.51	-22	57	08.1			688
1980	LE	1980	07	17.29132	20	03	41.63	-22	57	08.3	16.5	1	688
1980	LE	1980	08	04.25104	19	46	14.84	-22	31	36.6	16.5	3	688
1980	MA	1980	08	04.26389	20	07	13.39	-34	18	48.4	16.0		688
1980	MA	1980	09	02.21250	19	47	25.47	-35	06	35.8			688
1980	OA *	1980	07	17.30833	22	19	41.26	-14	38	00.1			688
1980	OA	1980	07	17.35139	22	19	40.40	-14	38	10.0	16.5	2	688

1980	OA		1980	07	19.32431	22	19	04.76	-14	45	01.7		1 688
1980	OA		1980	08	06.35000	22	08	19.99	-16	09	12.1	17.0	688
1980	OA		1980	09	04.29653	21	41	45.49	-18	25	09.0	16.5	688
1980	OB	*	1980	07	17.30833	22	20	42.21	-07	14	39.4		688
1980	OB		1980	07	17.35139	22	20	41.11	-07	14	33.6	16.5	688
1980	OB		1980	07	19.32431	22	19	53.36	-07	10	33.5		688
1980	OB		1980	08	06.31528	22	07	20.53	-07	05	34.7	16.5	1 688
1980	OB		1980	09	04.22014	21	39	30.78	-08	13	53.6	16.5	688
1980	OB		1980	09	07.24375	21	37	11.15	-08	21	47.8	16.2	1 688
1980	OC	*	1980	07	17.33056	22	42	22.18	-07	18	15.8		688
1980	OC		1980	07	17.37222	22	42	21.78	-07	18	16.8	17.0	688
1980	OC		1980	07	19.34722	22	41	57.49	-07	19	40.7		3 688
1980	OC		1980	08	08.31250	22	33	01.32	-08	03	11.2	16.5	1 688
1980	OC		1980	09	02.23194	22	13	58.51	-09	45	22.9	16.0	688
1980	OC		1980	09	04.26181	22	12	22.94	-09	54	00.9	16.0	688
1980	OC		1980	09	07.27917	22	10	04.66	-10	06	31.9	16.5	688
1980	OC		1980	09	11.30347	22	07	09.54	-10	22	23.8	16.5	688
1980	OD	*	1980	07	17.33056	22	44	12.71	-08	07	24.3		688
1980	OD		1980	07	17.37222	22	44	12.84	-08	07	34.3	17.0	688
1980	OD		1980	08	08.31250	22	39	42.18	-10	31	37.9	16.8	688
1980	OD		1980	09	02.23194	22	24	31.84	-14	23	54.0	16.2	688
1980	OD		1980	09	04.26181	22	23	09.73	-14	42	31.7	16.0	688
1980	OD		1980	09	07.27917	22	21	10.14	-15	09	24.6	16.2	688
1980	OE	*	1980	07	17.33056	22	51	34.13	-06	15	51.3		688
1980	OE		1980	07	17.37222	22	51	34.67	-06	15	45.1	17.0	688
1980	OE		1980	08	08.33056	22	48	08.60	-06	00	04.7	16.8	688
1980	OE		1980	09	07.35417	22	24	19.58	-07	45	29.2	16.2	688
1980	OE		1980	09	17.34236	22	17	23.63	-08	21	27.1	17.0	688
1980	OF	*	1980	07	17.33056	22	53	26.05	-03	16	07.1		2 688
1980	OF		1980	07	17.37222	22	53	25.51	-03	15	58.0	17.5	688
1980	OF		1980	08	06.36667	22	45	30.42	-02	17	48.4	16.8	688
1980	OF		1980	09	07.35417	22	20	08.40	-02	21	11.2	16.8	688
1980	OF		1980	09	17.34236	22	12	39.71	-02	35	08.8	17.2	688
1980	OG	*	1980	07	17.33056	22	53	30.40	-08	15	42.0		688
1980	OG		1980	07	17.37222	22	53	31.00	-08	15	50.0	16.0	688
1980	OG		1980	08	08.33056	22	51	55.24	-10	05	58.8	16.5	688
1980	OG		1980	09	07.31458	22	31	02.60	-14	23	31.8	16.2	688
1980	OH	*	1980	07	17.33056	23	04	44.80	-09	19	18.0		688
1980	OH		1980	07	17.37222	23	04	44.57	-09	19	23.2	17.0	688
1980	OH		1980	08	08.33056	22	57	39.04	-10	30	28.8	16.5	688
1980	OH		1980	09	07.31458	22	36	50.06	-12	51	10.6	16.2	688
1980	PA		1980	08	08.38889	23	33	16.33	+05	52	56.4	17.5	688
1980	PA		1980	08	17.42847	00	02	03.34	+11	13	50.9	17	688
1980	PA		1980	09	07.39444	01	58	02.77	+28	11	07.4	17.0	688
1980	PA		1980	09	18.45000	03	37	52.03	+35	26	04.2	17.0	688
1980	PC	*	1980	08	06.35000	22	21	23.03	-18	48	07.5	17.0	688
1980	PD		1980	07	19.32431	22	31	00.55	-12	39	00.3	16.8	688
1980	PD	*	1980	08	06.35000	22	22	03.29	-14	48	20.5	16.5	688
1980	PD		1980	09	04.29653	22	00	14.05	-18	27	57.3	16.5	688
1980	PD		1980	09	07.26111	21	58	08.52	-18	46	06.4	16.5	688
1980	PE	*	1980	08	06.36667	22	41	38.19	+02	20	38.9	16.9	688
1980	PE		1980	09	07.35417	22	21	32.49	-02	46	55.5	16.0	688
1980	PE		1980	09	17.34236	22	15	27.17	-04	35	13.2	16.2	688
1980	PF	*	1980	08	06.36667	22	44	04.14	-03	22	31.3	16.8	688
1980	PG	*	1980	08	06.36667	22	51	03.38	-03	30	08.4	17.0	688
1980	PH	*	1980	08	08.31250	22	31	07.29	-07	42	04.8	17.0	688
1980	PH		1980	09	02.23194	22	09	30.01	-08	33	00.9	16.5	1 688
1980	PH		1980	09	04.26181	22	07	39.13	-08	38	06.3	17.0	688
1980	PH		1980	09	07.27917	22	04	59.49	-08	45	29.1	17.0	688

1980	PJ	*	1980	08	08.33056	22	46	14.98	-11	25	30.6	16.5	688
1980	PJ		1980	09	02.23194	22	25	52.74	-12	07	38.0	16.2	688
1980	PJ		1980	09	04.26181	22	24	05.54	-12	10	15.2	16.5	688
1980	PJ		1980	09	07.27917	22	21	32.14	-12	13	23.2	16.8	688
1980	PK	*	1980	08	08.33056	22	54	06.39	-06	44	47.1	16.5 5	688
1980	PL	*	1980	08	08.33056	22	57	07.59	-10	43	23.0	17.0	688
1980	PM	*	1980	08	08.33056	22	57	16.16	-10	36	40.8	16.0	688
1980	PM		1980	09	07.31458	22	39	00.56	-16	56	35.1	16.8	688
1980	PN	*	1980	08	08.33056	22	59	36.40	-07	26	24.8	16.5	688
1980	PN		1980	09	07.31458	22	39	01.22	-09	45	08.6	16.5	688
1980	RA		1980	08	08.33056	23	03	37.41	-12	18	47.1	17.0 3	688
1980	RA	*	1980	09	02.23194	22	29	06.34	-08	57	54.0	16.0	688
1980	RA		1980	09	02.24861	22	29	04.58	-08	57	43.1	1	688
1980	RA		1980	09	04.26181	22	25	42.92	-08	38	38.1	16.0	688
1980	RA		1980	09	04.31319	22	25	37.69	-08	38	08.5	1	688
1980	RA		1980	09	07.27917	22	20	40.44	-08	09	10.7	16.0 1	688
1980	RA		1980	09	07.33160	22	20	34.67	-08	08	40.0		688
1980	RA		1980	09	17.34236	22	04	34.78	-06	24	55.0	16.2	688
1980	RB		1980	07	17.35139	22	16	10.37	-15	09	50.6	16.2	688
1980	RB		1980	08	06.35000	22	17	20.20	-17	38	41.4	15.5	688
1980	RB	*	1980	09	04.23750	22	04	50.38	-21	22	59.2		688
1980	RB		1980	09	04.29653	22	04	48.80	-21	23	15.6	15.8	688
1980	RB		1980	09	07.26111	22	03	45.38	-21	35	48.4	16.0	688
1980	RF		1980	08	08.31250	22	29	47.20	-06	42	08.8	16.5	688
1980	RF	*	1980	09	02.23194	22	10	45.65	-10	39	36.4	16.0	688
1980	RF		1980	09	04.26181	22	09	06.75	-11	00	02.5	16.0	688
1980	RF		1980	09	07.27917	22	06	43.36	-11	30	04.4	16.0	688
1980	RF		1980	09	11.30347	22	03	41.12	-12	08	56.5	16.5	688
1980	RG	*	1980	09	02.23194	22	12	16.08	-08	56	38.3	17.5	688
1980	RH	*	1980	09	02.23194	22	13	47.42	-11	24	12.8	15.5	688
1980	RH		1980	09	04.26181	22	12	10.36	-11	35	41.7	15.5	688
1980	RH		1980	09	07.27917	22	09	52.31	-11	52	01.3	15.8	688
1980	RH		1980	09	11.30347	22	07	03.05	-12	12	02.1	16.0	688
1980	RJ	*	1980	09	02.23194	22	16	53.71	-15	10	54.2	16.5 1	688
1980	RJ		1980	09	04.26181	22	14	40.47	-15	13	11.0	17.0	688
1980	RK	*	1980	09	02.23194	22	17	17.74	-12	32	49.2	16.5	688
1980	RK		1980	09	04.26181	22	15	31.61	-12	26	54.8	16.2 1	688
1980	RK		1980	09	07.27917	22	13	01.37	-12	17	28.6	16.5	688
1980	RK		1980	09	11.30347	22	09	58.73	-12	03	26.5	16.5	688
1980	RL	*	1980	09	02.23194	22	18	20.27	-15	00	16.7	17.0	688
1980	RM	*	1980	09	02.23194	22	19	29.39	-09	24	46.4	17.0	688
1980	RM		1980	09	02.24861	22	19	28.45	-09	24	46.6		688
1980	RM		1980	09	04.26181	22	17	40.08	-09	27	31.1	17.0 3	688
1980	RN	*	1980	09	02.23194	22	20	21.80	-09	34	53.3	17.0 5	688
1980	RN		1980	09	02.24861	22	20	20.94	-09	34	58.3		688
1980	RO	*	1980	09	02.23194	22	20	58.75	-10	19	02.4	17.0	688
1980	RP		1980	08	08.33056	22	47	08.49	-10	53	39.4	16.8	688
1980	RP	*	1980	09	02.23194	22	22	59.44	-09	37	58.9	16.0	688
1980	RP		1980	09	02.24861	22	22	58.40	-09	37	54.6		688
1980	RP		1980	09	04.26181	22	20	57.42	-09	31	43.3	16.2	688
1980	RP		1980	09	04.31319	22	20	54.21	-09	31	31.5	1	688
1980	RP		1980	09	07.27917	22	18	00.46	-09	22	14.9	17.0	688
1980	RP		1980	09	07.33160	22	17	57.44	-09	22	02.5		688
1980	RQ		1980	08	08.33056	22	48	43.73	-08	01	08.0	15.8	688
1980	RQ	*	1980	09	02.23194	22	26	31.63	-08	15	42.8	16.0	688
1980	RQ		1980	09	02.24861	22	26	30.66	-08	15	43.5		688
1980	RQ		1980	09	04.26181	22	24	38.04	-08	17	29.5	15.5	688
1980	RQ		1980	09	04.31319	22	24	35.16	-08	17	32.3		688
1980	RQ		1980	09	07.27917	22	21	53.36	-08	19	59.5	16.5	688

1980 RQ		1980 09 07.33160	22 21 50.49	-08 20 00.0								688
1980 RQ		1980 09 17.34236	22 13 42.51	-08 25 20.1						16.0		688
1980 RR	*	1980 09 02.23194	22 26 37.42	-14 58 07.3						16.2	1	688
1980 RR		1980 09 04.26181	22 24 36.32	-14 57 34.3						16.0	1	688
1980 RR		1980 09 07.27917	22 21 39.52	-14 55 57.1						16.8		688
1980 RS	*	1980 09 04.22014	21 46 23.97	-05 41 52.3						16.2		688
1980 RT		1980 09 02.24861	22 25 48.50	-08 33 09.0						16.5		688
1980 RT	*	1980 09 04.26181	22 24 13.94	-08 43 54.5						17.0	1	688
1980 RT		1980 09 04.31319	22 24 11.59	-08 44 09.9								688
1980 RU	*	1980 09 07.31458	22 41 53.03	-10 07 38.0						16.5		688
1980 RV	*	1980 09 07.35417	22 08 36.55	-02 32 01.4						16.8		688
1980 RV		1980 09 17.34236	22 02 41.43	-03 49 17.8						17.0		688
1980 RW	*	1980 09 07.35417	22 12 19.22	-00 24 57.7						16.2	1	688
1980 RW		1980 09 17.34236	22 04 34.26	-00 51 42.8						17.0	2	688
1980 RX		1980 08 06.36667	22 52 18.07	-02 55 28.1						16.2		688
1980 RX	*	1980 09 07.35417	22 26 57.36	-03 15 55.0						16.5		688
1980 RX		1980 09 17.34236	22 19 09.62	-03 32 05.2						16.8		688
1980 RY		1980 08 06.36667	22 51 10.22	+02 02 17.8						17.0	2	688
1980 RY	*	1980 09 07.35417	22 29 31.60	-00 59 00.7						16.5		688
1980 RY		1980 09 17.34236	22 22 19.40	-02 19 05.3						17.0	5	688
1980 RZ	*	1980 09 07.35417	22 31 08.69	-02 12 26.3						16.5	1	688
1980 RZ		1980 09 17.34236	22 21 57.36	-02 03 14.9						16.5		688
1980 RA1	*	1980 09 14.30000	23 32 21.35	-12 33 46.4						16.5	3	688
1980 SA	*	1980 09 17.34236	22 11 52.26	-02 58 31.4						16.8		688

Note 1: right ascension uncertain. 2: declination uncertain. 3 = 1 + 2. 4: weak image. 5: diffuse image. The Aug. 17 and Sept. 18 observations are by H. L. Giclas, those Sept. 11 and 14 by B. A. Skiff, and those on Sept. 17 by N. G. Thomas; all positions were measured by E. Bowell.

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY BY H. L. GICLAS. MEASURED BY M. L. KANTZ.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1959 CZ	1959 01	31.30262	08 39 27.86	+18 41 32.6	690
1959 CZ	1959 02	01.30492	08 38 37.48	+18 45 39.2	690
1959 CZ	1959 02	02.30536	08 37 47.34	+18 49 45.4	690

OBSERVATIONS MADE AT THE GOETHE LINK OBSERVATORY, MEASURED AND REDUCED AT INDIANA UNIVERSITY.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
707	1966 02	18.18830	08 39 17.55	+14 03 26.6	760
707	1966 02	18.23344	08 39 15.08	+14 03 33.7	760
835	1964 01	21.23961	07 06 01.53	+24 27 44.6	760
835	1964 01	21.28266	07 05 59.19	+24 27 42.8	760
1416	1955 08	24.14234	19 44 49.79	-32 04 01.3	760
2271	1952 06	26.22501	17 28 00.18	-19 05 58.7	760
2271	1952 06	26.26738	17 27 58.12	-19 06 00.2	760
2271	1956 04	12.33800	13 33 32.44	-04 35 36.7	760
2271	1956 04	12.39075	13 33 29.72	-04 35 21.1	760
2271	1965 03	31.17080	12 30 00.34	+01 10 38.0	760
2271	1965 03	31.21316	12 29 58.21	+01 10 54.3	760
1950 BU	1950 01	28.37361	08 35 20.73	+18 38 00.3	760
1950 BU	1950 01	28.39304	08 35 19.65	+18 38 05.2	760
1950 BY	1950 01	28.37361	08 53 06.45	+17 57 55.0	760
1950 BY	1950 01	28.39304	08 53 05.01	+17 57 15.9	760
1950 BZ	1950 01	28.37361	08 57 00.05	+17 44 15.6	760
1950 BZ	1950 01	28.39304	08 56 58.75	+17 44 23.6	760
1951 EO	1951 03	05.31771	11 29 32.02	+02 43 23.8	760
1951 EO	1951 03	05.34792	11 29 30.57	+02 43 34.4	760
1951 EQ	1951 03	05.31771	11 29 16.84	-01 06 34.9	760

1951	EQ	1951	03	05.34792	11	29	15.07	-01 06 31.2	760
1951	ES	1951	03	05.31771	11	41	05.01	-02 42 42.7	760
1951	ES	1951	03	05.34792	11	41	02.95	-02 42 42.1	760
1951	KN	1951	05	31.24826	16	53	37.95	-29 16 43.6	760
1951	KN	1951	05	31.28785	16	53	33.84	-29 16 30.4	760
1952	KJ	1952	05	27.15905	15	05	59.57	-08 01 31.2	760
1952	KJ	1952	05	27.18436	15	05	58.02	-08 01 38.0	760
1952	QG1	1952	08	23.32363	23	49	31.64	-07 04 04.4	760
1952	UG	1952	10	22.15528	00	15	35.52	-09 51 38.1	760
1952	UG	1952	10	22.19693	00	15	34.20	-09 51 40.4	760
1952	UG	1952	10	25.14104	00	14	22.12	-09 53 31.1	760
1952	UG	1952	10	25.18097	00	14	20.93	-09 53 30.7	760
1952	UL	1952	10	22.15528	00	18	54.26	-10 54 45.4	760
1952	UL	1952	10	22.19693	00	18	52.51	-10 54 51.6	760
1952	UL	1952	10	25.14104	00	17	11.60	-11 00 21.8	760
1952	UL	1952	10	25.18097	00	17	10.14	-11 00 25.9	760
1953	FG1	1953	04	05.17259	12	32	44.57	-01 05 27.2	760
1953	FG1	1953	04	05.21358	12	32	42.16	-01 05 25.3	760
1953	FJ1	1953	04	05.17259	12	22	44.59	+03 32 52.3	760
1953	FJ1	1953	04	05.21358	12	22	42.66	+03 33 06.2	760
1953	GE1	1953	04	05.21358	12	19	46.29	+00 20 15.8	760
1953	JC	1953	05	07.24241	15	10	39.43	-15 51 45.7	760
1953	JC	1953	05	07.27921	15	10	36.83	-15 51 51.4	760
1953	JC	1953	05	09.22435	15	08	24.33	-15 57 26.4	760
1953	JC	1953	05	09.26116	15	08	21.76	-15 57 43.7	760
1953	JE	1953	05	07.24241	15	01	57.67	-15 39 43.8	760
1953	JE	1953	05	07.27921	15	01	55.84	-15 39 30.4	760
1953	JE	1953	05	09.22435	15	00	25.11	-15 27 57.8	760
1953	QE	1953	08	16.14433	19	53	37.00	-28 09 59.9	760
1953	QE	1953	08	16.19016	19	53	34.83	-28 10 04.5	760
1953	RL	1953	09	13.17327	22	49	14.77	-11 35 58.2	760
1953	RL	1953	09	13.24479	22	49	11.89	-11 36 39.9	760
1953	RL	1953	09	17.22292	22	46	55.31	-12 13 34.4	760
1953	RL	1953	09	17.27363	22	46	53.32	-12 14 00.5	760
1953	TB1	1953	10	10.19965	00	52	55.76	+05 49 48.4	760
1953	TB1	1953	10	10.24758	00	52	52.55	+05 49 38.6	760
1953	TH1	1953	10	10.19965	00	53	21.62	+05 17 48.9	760
1953	TH1	1953	10	10.24758	00	53	18.56	+05 17 42.2	760
1953	TK1	1953	10	08.20934	01	09	58.89	+08 53 37.1	760
1953	TK1	1953	10	08.25795	01	09	56.20	+08 53 17.5	760
1953	TT1	1953	10	08.30761	01	52	01.28	+06 19 52.4	760
1953	TT1	1953	10	08.34998	01	51	59.36	+06 19 39.5	760
1953	TT1	1953	10	30.19339	01	34	47.43	+04 37 47.0	760
1953	TT1	1953	10	30.23435	01	34	45.41	+04 37 37.9	760
1953	TM2	1953	10	13.26176	01	46	10.53	+18 46 01.9	760
1953	TM2	1953	10	18.30416	01	41	25.90	+18 17 43.8	760
1953	TM2	1953	10	18.34372	01	41	23.53	+18 17 28.9	760
1953	TR2	1953	10	14.20068	01	15	04.45	+03 38 55.1	760
1953	TR2	1953	10	14.24859	01	15	01.65	+03 38 35.6	760
1954	QC	1954	08	31.29406	00	28	21.31	-02 13 24.6	760
1954	QC	1954	08	31.32948	00	28	19.88	-02 12 57.4	760
1954	QC	1954	09	27.15346	00	10	52.70	-02 55 57.7	760
1954	QC	1954	09	27.20346	00	10	50.45	-02 56 13.4	760
1954	QD	1954	08	31.29406	00	23	02.39	-01 06 53.9	760
1954	QD	1954	08	31.32948	00	23	01.09	-01 06 58.3	760
1954	QD	1954	09	27.15346	00	04	31.99	-02 48 12.9	760
1954	QD	1954	09	27.20346	00	04	29.57	-02 48 25.6	760
1954	SL	1954	09	23.23643	23	53	18.82	-01 52 39.9	760
1954	SL	1954	09	23.28642	23	53	16.90	-01 53 23.2	760

1955 CB	1955 02 18.17888	09 01 03.51	+17 24 04.3				760
1955 CB	1955 02 18.22610	09 01 01.12	+17 24 13.2				760
1955 ME	1955 06 19.13129	16 22 27.45	-09 23 59.1				760
1955 ME	1955 06 19.17363	16 22 25.65	-09 24 02.3				760
1956 EU	1956 03 09.19630	11 08 47.43	+09 39 36.2				760
1956 EU	1956 03 09.23657	11 08 45.33	+09 39 53.1				760
1957 WF1	1957 11 26.37330	04 46 59.40	+27 19 29.1				760
1957 WF1	1957 11 26.41359	04 46 56.95	+27 19 32.9				760
1959 NM	1959 07 10.21385	19 22 31.34	-20 24 06.0				760
1959 NM	1959 07 10.25758	19 22 28.47	-20 24 19.2				760
1961 TC1	1961 10 10.14583	23 49 17.85	+05 15 24.5				760
1961 TC1	1961 10 10.19340	23 49 16.13	+05 15 04.0				760
1961 UP	1961 10 18.25762	01 43 01.27	+11 14 20.8				760
1961 UP	1961 10 18.29998	01 42 59.47	+11 14 12.2				760
1962 XX	1962 12 03.29857	04 36 24.52	+14 41 36.6				760
1962 XX	1962 12 03.34370	04 36 22.03	+14 41 45.1				760

OBSERVATIONS MADE AT THE HARVARD COLLEGE OBSERVATORY AGASSIZ STATION BY C.-Y. SHAO AND J. BULGER.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
/1977 XI	1980 08 13.28166	02 46 24.70	+26 11 09.8		19.5T		801
1980 PA	1980 08 08.21716	23 32 48.18	+05 47 32.6		17		801
1980 PA	1980 08 10.2313	23 38 32.6	+06 52 27			1	801
1980 PA	1980 08 13.17009	23 47 32.25	+08 33 11.8				801
1980 PA	1980 08 14.21672	23 50 55.61	+09 11 05.5				801
1980 PA	1980 09 04.26565	01 34 31.53	+25 29 31.4				801
1980 PA	1980 09 07.24190	01 56 50.99	+28 03 14.8				801

Note 1: scarcely measurable, very bad conditions.

OBSERVATIONS MADE WITH THE MAKSUTOV ASTROGRAPH AT THE UNIVERSITY OF CHILE, CERRO EL ROBLE STATION, BY C. TORRES AND J. MAZA.

Object	Date	UT	R. A. (1950)	Decl.	Mag.		Obs.
/1980e	1980 06 17.14837	19 05 34.80	-31 29 44.8		16	T	805
/1980e	1980 06 17.23935	19 05 22.66	-31 27 30.7				805
/1980e	1980 06 17.34976	19 05 07.97	-31 24 50.1				805
/1980e	1980 06 18.23657	19 03 11.52	-31 02 58.7				805
/1980e	1980 06 18.25671	19 03 08.82	-31 02 29.1				805
/1980e	1980 06 19.30809	19 00 50.43	-30 36 19.1				805
/1980e	1980 06 19.42754	19 00 34.40	-30 33 15.4				805
/1980e	1980 06 20.11920	18 59 04.22	-30 15 54.1				805
349	1980 05 18.19306	15 11 04.57	-22 21 23.8				805
428	1980 05 18.19306	15 14 13.08	-24 13 49.9				805
675	1980 05 18.12361	13 25 37.29	-19 43 29.4				805
675	1980 05 23.09079	13 23 17.14	-19 12 16.5				805
675	1980 05 23.11232	13 23 16.64	-19 12 08.9				805
675	1980 05 23.12898	13 23 16.18	-19 12 03.5				805
772	1979 10 15.11319	00 01 05.75	-39 50 23.9				805
1416	1980 05 18.12361	13 28 04.63	-19 35 37.7				805
1416	1980 05 23.09079	13 25 27.84	-19 19 41.0				805
1416	1980 05 23.11232	13 25 27.10	-19 19 37.8				805
1416	1980 05 23.12898	13 25 26.73	-19 19 33.3				805
1980 KA *	1980 05 18.12361	13 21 09.00	-18 34 51.9		16		805
1980 KA	1980 05 23.09079	13 19 25.82	-18 04 02.9				805
1980 KA	1980 05 23.11232	13 19 25.44	-18 03 56.8				805
1980 KA	1980 05 23.12898	13 19 25.15	-18 03 50.4				805
1980 KB *	1980 05 18.12361	13 27 54.84	-20 14 28.2		17.5		805
1980 KB	1980 05 23.09079	13 25 51.37	-19 41 10.5				805
1980 KB	1980 05 23.11232	13 25 50.90	-19 41 02.8				805
1980 KB	1980 05 23.12898	13 25 50.50	-19 40 56.1				805

OBSERVATIONS MADE WITH THE 1.0-M SCHMIDT TELESCOPE AT THE EUROPEAN SOUTHERN OBSERVATORY BY C.-I. LAGERKVIST.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
738		1979 08	22.06111	22 01 03.34	-13 37 54.4		809
738		1979 08	22.30486	22 00 51.96	-13 39 07.3		809
738		1979 08	22.30972	22 00 51.69	-13 39 08.7		809
738		1979 08	23.11182	22 00 15.54	-13 43 08.7		809
738		1979 08	23.23682	22 00 09.65	-13 43 45.4		809
738		1979 08	26.06528	21 58 01.97	-13 57 38.3		809
738		1979 08	26.08472	21 58 01.10	-13 57 43.5		809
738		1979 08	26.14722	21 57 58.19	-13 58 01.8		809
738		1979 08	30.18124	21 54 58.45	-14 17 11.7		809
738		1979 08	30.21458	21 54 56.90	-14 17 30.8		809
1621		1979 08	26.08472	21 49 47.39	-09 47 02.4		809
1621		1979 08	26.14722	21 49 43.61	-09 47 28.3		809
1621		1979 08	30.18124	21 45 55.44	-10 14 51.7		809
1621		1979 08	30.21458	21 45 53.49	-10 15 05.6		809
1764		1979 08	22.06111	22 04 43.65	-11 36 34.3	15.5V	809
1764		1979 08	22.30486	22 04 32.21	-11 37 44.6		809
1764		1979 08	22.30972	22 04 31.94	-11 37 46.1		809
1764		1979 08	23.11182	22 03 55.75	-11 41 37.6		809
1764		1979 08	23.23682	22 03 49.89	-11 42 14.1		809
1764		1979 08	26.06528	22 01 41.89	-11 55 45.6		809
1764		1979 08	26.08472	22 01 41.00	-11 55 51.8		809
1764		1979 08	26.14722	22 01 38.08	-11 56 09.6		809
1764		1979 08	30.18124	21 58 38.10	-12 15 03.2		809
1764		1979 08	30.21458	21 58 36.56	-12 15 12.8		809
1979 QG		1979 08	23.11182	21 49 48.10	-14 10 48.7		809
1979 QG		1979 08	23.23682	21 49 41.36	-14 12 36.0		809
1979 QM	*	1979 08	26.06528	22 05 37.18	-10 06 07.8	16.6V	809
1979 QM		1979 08	26.08472	22 05 34.96	-10 06 35.3		809
1979 QM		1979 08	26.14722	22 05 28.43	-10 08 01.5		809
1979 QM		1979 08	30.18124	21 58 23.87	-11 51 10.1		809
1979 QM		1979 08	30.21458	21 58 19.41	-11 52 09.3		809
1979 QN	*	1979 08	22.06111	21 48 34.75	-13 41 42.5	16.9V	809
1979 QN		1979 08	22.30486	21 48 22.31	-13 43 22.4		809
1979 QN		1979 08	22.30972	21 48 21.78	-13 43 25.3		809
1979 QN		1979 08	23.11182	21 47 42.01	-13 49 02.0		809
1979 QO	*	1979 08	22.06111	21 48 36.48	-13 59 21.2	15.8V	809
1979 QO		1979 08	22.30486	21 48 22.29	-14 01 13.1		809
1979 QO		1979 08	22.30972	21 48 21.63	-14 01 16.3		809
1979 QO		1979 08	23.11182	21 47 36.27	-14 07 30.3		809
1979 QP	*	1979 08	22.06111	21 49 34.79	-12 26 40.9	16.6V	809
1979 QP		1979 08	22.30486	21 49 22.75	-12 27 36.2		809
1979 QP		1979 08	22.30972	21 49 22.36	-12 27 38.2		809
1979 QP		1979 08	23.11182	21 48 43.71	-12 30 45.5		809
1979 QP		1979 08	23.23682	21 48 37.52	-12 31 14.1		809
1979 QP		1979 08	26.08472	21 46 20.58	-12 42 08.3		809
1979 QP		1979 08	26.14722	21 46 17.47	-12 42 22.3		809
1979 QP		1979 08	30.18124	21 43 08.61	-12 57 17.7		809
1979 QP		1979 08	30.21458	21 43 07.03	-12 57 24.8		809
1979 QQ	*	1979 08	22.06111	21 49 41.85	-13 41 54.7	17.0V	809
1979 QQ		1979 08	22.30486	21 49 30.61	-13 43 01.2		809
1979 QQ		1979 08	22.30972	21 49 30.12	-13 43 03.3		809
1979 QQ		1979 08	23.11182	21 48 53.71	-13 46 49.2		809
1979 QQ		1979 08	23.23682	21 48 47.82	-13 47 23.8		809
1979 QR	*	1979 08	22.06111	21 49 45.14	-13 37 25.8	16.8V	809
1979 QR		1979 08	22.30486	21 49 33.75	-13 38 19.3		809
1979 QR		1979 08	22.30972	21 49 33.26	-13 38 20.9		809

1979	QR		1979	08	23.11182	21	48	56.64	-13	41	21.3	809
1979	QR		1979	08	23.23682	21	48	50.69	-13	41	48.7	809
1979	QS	*	1979	08	22.06111	21	50	30.41	-10	50	06.3	16.3V 809
1979	QS		1979	08	22.30486	21	50	16.78	-10	51	36.3	809
1979	QS		1979	08	22.30972	21	50	16.50	-10	51	38.2	809
1979	QS		1979	08	23.11182	21	49	33.24	-10	56	36.3	809
1979	QS		1979	08	23.23682	21	49	26.40	-10	57	22.8	809
1979	QS		1979	08	26.08472	21	46	52.85	-11	14	55.2	809
1979	QS		1979	08	26.14722	21	46	49.36	-11	15	18.5	809
1979	QS		1979	08	30.18124	21	43	16.82	-11	39	47.5	809
1979	QS		1979	08	30.21458	21	43	14.98	-11	39	59.7	809
1979	QT	*	1979	08	22.06111	21	50	33.67	-14	34	59.2	16.8V 809
1979	QT		1979	08	22.30486	21	50	20.28	-14	36	04.8	809
1979	QT		1979	08	22.30972	21	50	19.69	-14	36	07.9	809
1979	QT		1979	08	23.11182	21	49	36.98	-14	39	48.6	809
1979	QT		1979	08	23.23682	21	49	29.88	-14	40	23.2	809
1979	QU	*	1979	08	22.06111	21	50	53.99	-11	01	48.1	16.2V 809
1979	QU		1979	08	22.30486	21	50	41.08	-11	02	32.9	809
1979	QU		1979	08	22.30972	21	50	40.85	-11	02	33.7	809
1979	QU		1979	08	23.11182	21	50	01.89	-11	05	03.1	809
1979	QU		1979	08	23.23682	21	49	55.43	-11	05	26.5	809
1979	QU		1979	08	26.08472	21	47	37.93	-11	14	06.2	809
1979	QU		1979	08	26.14722	21	47	34.76	-11	14	17.7	809
1979	QU		1979	08	30.18124	21	44	30.60	-11	26	05.7	809
1979	QU		1979	08	30.21458	21	44	29.01	-11	26	11.2	809
1979	QV	*	1979	08	22.06111	21	50	55.96	-12	09	52.0	17.0V 809
1979	QV		1979	08	22.30486	21	50	42.04	-12	10	35.5	809
1979	QV		1979	08	22.30972	21	50	41.73	-12	10	37.3	809
1979	QV		1979	08	23.11182	21	49	58.84	-12	13	08.3	809
1979	QV		1979	08	23.23682	21	49	51.81	-12	13	31.4	809
1979	QW	*	1979	08	22.06111	21	52	05.81	-11	35	30.3	17.1V 809
1979	QW		1979	08	22.30486	21	51	53.81	-11	36	30.5	809
1979	QW		1979	08	22.30972	21	51	53.58	-11	36	32.1	809
1979	QW		1979	08	23.11182	21	51	15.23	-11	39	43.9	809
1979	QW		1979	08	23.23682	21	51	09.55	-11	40	24.2	809
1979	QX	*	1979	08	22.06111	21	52	17.11	-10	21	18.2	16.6V 809
1979	QX		1979	08	22.30486	21	52	03.02	-10	22	18.5	809
1979	QX		1979	08	22.30972	21	52	02.87	-10	22	19.7	809
1979	QX		1979	08	23.11182	21	51	18.57	-10	25	38.3	809
1979	QX		1979	08	23.23682	21	51	11.57	-10	26	10.2	809
1979	QX		1979	08	26.06528	21	48	35.45	-10	37	51.8	809
1979	QX		1979	08	26.08472	21	48	33.92	-10	37	54.2	809
1979	QX		1979	08	26.14722	21	48	30.33	-10	38	09.8	809
1979	QX		1979	08	30.18124	21	44	51.00	-10	54	38.8	809
1979	QX		1979	08	30.21458	21	44	49.11	-10	54	47.4	809
1979	QY	*	1979	08	22.06111	21	52	31.69	-10	21	00.3	16.6V 809
1979	QY		1979	08	22.30486	21	52	18.26	-10	21	13.7	809
1979	QY		1979	08	22.30972	21	52	18.06	-10	21	14.1	809
1979	QY		1979	08	23.11182	21	51	35.91	-10	21	57.6	809
1979	QY		1979	08	23.23682	21	51	29.29	-10	22	05.5	809
1979	QY		1979	08	30.18124	21	45	27.79	-10	28	14.8	809
1979	QY		1979	08	30.21458	21	45	25.99	-10	28	16.9	809
1979	QZ	*	1979	08	22.06111	21	52	37.27	-11	00	19.0	16.5V 809
1979	QZ		1979	08	22.30486	21	52	24.78	-11	01	50.6	809
1979	QZ		1979	08	22.30972	21	52	24.62	-11	01	52.8	809
1979	QZ		1979	08	23.11182	21	51	46.68	-11	06	55.9	809
1979	QZ		1979	08	23.23682	21	51	40.45	-11	07	43.9	809
1979	QZ		1979	08	26.06528	21	49	26.33	-11	25	29.7	809
1979	QZ		1979	08	26.08472	21	49	25.14	-11	25	36.7	809

1979	QZ		1979	08	26.14722	21	49	21.99	-11	26	00.0	809
1979	QZ		1979	08	30.18124	21	46	16.37	-11	51	00.0	809
1979	QZ		1979	08	30.21458	21	46	14.74	-11	51	12.5	809
1979	QA1	*	1979	08	22.06111	21	53	00.52	-12	35	04.4	16.9V 809
1979	QA1		1979	08	22.30486	21	52	45.26	-12	35	14.3	809
1979	QA1		1979	08	22.30972	21	52	44.90	-12	35	14.7	809
1979	QA1		1979	08	23.11182	21	51	56.39	-12	35	50.2	809
1979	QA1		1979	08	23.23682	21	51	48.68	-12	35	55.3	809
1979	QA1		1979	08	26.06528	21	48	58.42	-12	37	45.4	809
1979	QA1		1979	08	26.08472	21	48	57.11	-12	37	47.3	809
1979	QA1		1979	08	26.14722	21	48	53.23	-12	37	49.6	809
1979	QB1	*	1979	08	22.06111	21	53	28.33	-10	31	38.6	16.8V 809
1979	QB1		1979	08	22.30486	21	53	15.06	-10	33	06.8	809
1979	QB1		1979	08	22.30972	21	53	14.86	-10	33	09.3	809
1979	QB1		1979	08	23.11182	21	52	34.22	-10	37	59.7	809
1979	QB1		1979	08	23.23682	21	52	27.66	-10	38	45.6	809
1979	QB1		1979	08	30.18124	21	46	46.03	-11	19	42.1	809
1979	QB1		1979	08	30.21458	21	46	44.37	-11	19	53.6	809
1979	QC1	*	1979	08	22.06111	21	53	41.54	-12	17	29.8	15.5V 809
1979	QC1		1979	08	22.30486	21	53	23.72	-12	16	55.2	809
1979	QC1		1979	08	22.30972	21	53	23.29	-12	16	54.9	809
1979	QC1		1979	08	23.11182	21	52	26.98	-12	15	03.9	809
1979	QC1		1979	08	23.23682	21	52	17.82	-12	14	46.3	809
1979	QC1		1979	08	26.06528	21	48	58.99	-12	07	59.9	809
1979	QC1		1979	08	26.08472	21	48	57.35	-12	07	57.4	809
1979	QC1		1979	08	26.14722	21	48	52.69	-12	07	48.2	809
1979	QC1		1979	08	30.18124	21	44	14.35	-11	57	37.0	809
1979	QC1		1979	08	30.21458	21	44	12.01	-11	57	31.7	809
1979	QD1	*	1979	08	22.06111	21	54	07.61	-09	28	19.2	16.4V 809
1979	QD1		1979	08	22.30486	21	53	56.58	-09	30	16.5	809
1979	QD1		1979	08	22.30972	21	53	56.51	-09	30	19.6	809
1979	QD1		1979	08	23.11182	21	53	22.36	-09	36	43.2	809
1979	QD1		1979	08	23.23682	21	53	16.97	-09	37	44.3	809
1979	QD1		1979	08	26.08472	21	51	15.31	-10	00	30.5	809
1979	QD1		1979	08	26.14722	21	51	12.52	-10	01	00.8	809
1979	QD1		1979	08	30.18124	21	48	24.12	-10	33	09.4	809
1979	QD1		1979	08	30.21458	21	48	22.69	-10	33	25.1	809
1979	QE1	*	1979	08	22.06111	21	54	14.95	-11	15	19.7	16.5V 809
1979	QE1		1979	08	22.30486	21	54	04.16	-11	17	22.4	809
1979	QE1		1979	08	22.30972	21	54	03.98	-11	17	25.6	809
1979	QE1		1979	08	23.11182	21	53	31.67	-11	24	08.4	809
1979	QE1		1979	08	23.23682	21	53	26.26	-11	25	11.5	809
1979	QE1		1979	08	26.06528	21	51	32.66	-11	48	40.3	809
1979	QE1		1979	08	26.08472	21	51	31.83	-11	48	49.9	809
1979	QE1		1979	08	26.14722	21	51	29.10	-11	49	22.4	809
1979	QF1	*	1979	08	22.06111	21	54	18.24	-09	37	42.7	16.5V 809
1979	QF1		1979	08	22.30486	21	54	04.52	-09	38	58.8	809
1979	QF1		1979	08	22.30972	21	54	04.39	-09	39	00.8	809
1979	QF1		1979	08	23.11182	21	53	22.57	-09	43	10.2	809
1979	QF1		1979	08	23.23682	21	53	15.71	-09	43	51.3	809
1979	QF1		1979	08	30.18124	21	47	14.61	-10	20	23.9	809
1979	QF1		1979	08	30.21458	21	47	12.81	-10	20	34.6	809
1979	QG1	*	1979	08	22.06111	21	54	32.20	-11	05	29.8	17.3V 809
1979	QG1		1979	08	22.30486	21	54	19.85	-11	06	31.7	809
1979	QG1		1979	08	22.30972	21	54	19.68	-11	06	32.5	809
1979	QG1		1979	08	23.11182	21	53	41.17	-11	09	55.7	809
1979	QG1		1979	08	23.23682	21	53	34.96	-11	10	29.0	809
1979	QH1	*	1979	08	22.06111	21	54	53.06	-12	42	35.1	17.0V 809
1979	QH1		1979	08	22.30486	21	54	40.15	-12	43	05.2	809

1979	QH1		1979	08	22.30972	21	54	39.87	-12	43	06.4	809
1979	QH1		1979	08	23.11182	21	54	01.16	-12	44	47.8	809
1979	QH1		1979	08	23.23682	21	53	54.58	-12	45	03.4	809
1979	QH1		1979	08	26.06528	21	51	37.90	-12	50	43.9	809
1979	QH1		1979	08	26.08472	21	51	36.89	-12	50	48.3	809
1979	QH1		1979	08	26.14722	21	51	33.71	-12	50	54.9	809
1979	QJ1	*	1979	08	22.06111	21	55	01.70	-12	29	57.3	16.7V 809
1979	QJ1		1979	08	22.30486	21	54	47.48	-12	32	03.8	809
1979	QJ1		1979	08	22.30972	21	54	47.15	-12	32	06.2	809
1979	QJ1		1979	08	23.11182	21	54	02.40	-12	39	01.6	809
1979	QJ1		1979	08	23.23682	21	53	55.15	-12	40	06.0	809
1979	QJ1		1979	08	26.06528	21	51	17.67	-13	04	10.8	809
1979	QJ1		1979	08	26.08472	21	51	16.50	-13	04	22.6	809
1979	QJ1		1979	08	26.14722	21	51	12.87	-13	04	55.0	809
1979	QJ1		1979	08	30.18124	21	47	33.80	-13	38	19.5	809
1979	QJ1		1979	08	30.21458	21	47	31.93	-13	38	45.8	809
1979	QK1	*	1979	08	22.06111	21	55	26.76	-10	39	10.3	16.6V 809
1979	QK1		1979	08	22.30486	21	55	14.84	-10	40	18.7	809
1979	QK1		1979	08	22.30972	21	55	14.68	-10	40	19.5	809
1979	QK1		1979	08	23.11182	21	54	37.17	-10	44	06.3	809
1979	QK1		1979	08	23.23682	21	54	31.23	-10	44	42.2	809
1979	QL1	*	1979	08	22.06111	21	55	31.96	-09	41	30.7	16.0V 809
1979	QL1		1979	08	22.30486	21	55	17.11	-09	42	46.2	809
1979	QL1		1979	08	22.30972	21	55	16.96	-09	42	48.1	809
1979	QL1		1979	08	23.11182	21	54	30.78	-09	46	53.9	809
1979	QL1		1979	08	23.23682	21	54	23.44	-09	47	34.3	809
1979	QL1		1979	08	26.06528	21	51	41.51	-10	02	05.2	809
1979	QL1		1979	08	26.08472	21	51	39.99	-10	02	06.9	809
1979	QL1		1979	08	26.14722	21	51	36.24	-10	02	26.7	809
1979	QL1		1979	08	30.18124	21	47	51.72	-10	22	45.3	809
1979	QL1		1979	08	30.21458	21	47	49.82	-10	22	55.5	809
1979	QM1	*	1979	08	22.06111	21	55	44.36	-11	20	12.8	16.4V 809
1979	QM1		1979	08	22.30486	21	55	32.21	-11	21	20.3	809
1979	QM1		1979	08	22.30972	21	55	31.97	-11	21	22.0	809
1979	QM1		1979	08	23.11182	21	54	53.97	-11	25	04.5	809
1979	QM1		1979	08	23.23682	21	54	47.83	-11	25	39.2	809
1979	QM1		1979	08	26.06528	21	52	33.67	-11	38	37.5	809
1979	QM1		1979	08	26.08472	21	52	32.67	-11	38	43.5	809
1979	QM1		1979	08	26.14722	21	52	29.56	-11	39	00.7	809
1979	QM1		1979	08	30.18124	21	49	22.60	-11	57	08.3	809
1979	QM1		1979	08	30.21458	21	49	20.97	-11	57	17.8	809
1979	QN1	*	1979	08	22.06111	21	55	53.58	-12	04	52.6	16.7V 809
1979	QN1		1979	08	22.30486	21	55	42.28	-12	07	21.6	809
1979	QN1		1979	08	22.30972	21	55	42.01	-12	07	25.0	809
1979	QN1		1979	08	23.11182	21	55	08.18	-12	15	38.4	809
1979	QN1		1979	08	23.23682	21	55	02.40	-12	16	55.1	809
1979	QN1		1979	08	26.06528	21	53	02.20	-12	45	45.0	809
1979	QN1		1979	08	26.08472	21	53	01.35	-12	45	57.7	809
1979	QN1		1979	08	26.14722	21	52	58.52	-12	46	35.4	809
1979	QO1	*	1979	08	22.06111	21	56	34.55	-12	54	24.1	16.3V 809
1979	QO1		1979	08	22.30486	21	56	22.94	-12	55	24.4	809
1979	QO1		1979	08	22.30972	21	56	22.63	-12	55	25.7	809
1979	QO1		1979	08	23.11182	21	55	45.84	-12	58	45.7	809
1979	QO1		1979	08	23.23682	21	55	39.87	-12	59	16.5	809
1979	QO1		1979	08	26.06528	21	53	30.12	-13	10	49.3	809
1979	QO1		1979	08	26.08472	21	53	29.24	-13	10	55.5	809
1979	QO1		1979	08	26.14722	21	53	26.28	-13	11	10.6	809
1979	QO1		1979	08	30.18124	21	50	24.94	-13	27	07.0	809
1979	QO1		1979	08	30.21458	21	50	23.39	-13	27	25.0	809

1979	QP1	*	1979	08	22.06111	21	56	45.71	-14	15	27.9	16.8V 809
1979	QP1		1979	08	22.30486	21	56	33.88	-14	17	07.0	809
1979	QP1		1979	08	22.30972	21	56	33.47	-14	17	10.0	809
1979	QP1		1979	08	23.11182	21	55	56.10	-14	22	36.7	809
1979	QP1		1979	08	23.23682	21	55	49.94	-14	23	27.4	809
1979	QQ1	*	1979	08	22.06111	21	56	48.34	-11	23	43.7	17.2V 809
1979	QQ1		1979	08	22.30486	21	56	32.71	-11	24	38.7	809
1979	QQ1		1979	08	22.30972	21	56	32.37	-11	24	39.7	809
1979	QQ1		1979	08	23.11182	21	55	47.62	-11	27	59.7	809
1979	QQ1		1979	08	23.23682	21	55	40.36	-11	28	30.6	809
1979	QR1	*	1979	08	22.06111	21	56	56.53	-13	23	24.1	17.3V 809
1979	QR1		1979	08	23.11182	21	56	04.43	-13	27	24.9	809
1979	QR1		1979	08	23.23682	21	55	58.02	-13	27	53.3	809
1979	QR1		1979	08	26.06528	21	53	39.30	-13	38	27.8	809
1979	QR1		1979	08	26.08472	21	53	38.36	-13	38	33.6	809
1979	QR1		1979	08	26.14722	21	53	35.15	-13	38	45.8	809
1979	QS1	*	1979	08	22.06111	21	56	57.47	-13	16	35.2	17.2V 809
1979	QS1		1979	08	22.30486	21	56	43.06	-13	17	26.4	809
1979	QS1		1979	08	22.30972	21	56	42.67	-13	17	27.8	809
1979	QS1		1979	08	23.11182	21	55	57.75	-13	20	18.7	809
1979	QS1		1979	08	23.23682	21	55	50.31	-13	20	44.6	809
1979	QT1	*	1979	08	22.06111	21	57	19.56	-11	33	31.5	16.6V 809
1979	QT1		1979	08	22.30486	21	57	04.95	-11	34	57.2	809
1979	QT1		1979	08	22.30972	21	57	04.70	-11	34	58.2	809
1979	QT1		1979	08	23.11182	21	56	19.35	-11	39	39.6	809
1979	QT1		1979	08	23.23682	21	56	11.96	-11	40	23.8	809
1979	QT1		1979	08	26.06528	21	53	32.75	-11	56	42.5	809
1979	QT1		1979	08	26.08472	21	53	31.63	-11	56	50.0	809
1979	QT1		1979	08	26.14722	21	53	27.99	-11	57	11.6	809
1979	QT1		1979	08	30.18124	21	49	48.38	-12	19	39.7	809
1979	QT1		1979	08	30.21458	21	49	46.43	-12	19	51.2	809
1979	QU1	*	1979	08	22.06111	21	57	30.72	-14	33	03.7	16.7V 809
1979	QU1		1979	08	22.30486	21	57	15.12	-14	33	40.7	809
1979	QU1		1979	08	22.30972	21	57	14.67	-14	33	42.2	809
1979	QU1		1979	08	23.11182	21	56	26.50	-14	35	44.9	809
1979	QU1		1979	08	23.23682	21	56	18.37	-14	36	04.4	809
1979	QV1	*	1979	08	22.06111	21	57	35.65	-09	41	25.6	16.9V 809
1979	QV1		1979	08	22.30486	21	57	19.52	-09	42	07.1	809
1979	QV1		1979	08	22.30972	21	57	19.32	-09	42	08.0	809
1979	QV1		1979	08	23.11182	21	56	28.71	-09	44	23.7	809
1979	QV1		1979	08	30.18124	21	49	09.22	-10	04	15.7	809
1979	QV1		1979	08	30.21458	21	49	07.11	-10	04	21.5	809
1979	QW1	*	1979	08	22.06111	21	57	40.79	-12	20	14.6	16.1V 809
1979	QW1		1979	08	22.30486	21	57	30.43	-12	22	07.7	809
1979	QW1		1979	08	22.30972	21	57	30.21	-12	22	10.2	809
1979	QW1		1979	08	23.11182	21	57	01.23	-12	28	23.3	809
1979	QW1		1979	08	23.23682	21	56	55.90	-12	29	20.7	809
1979	QW1		1979	08	26.06528	21	55	13.59	-12	50	42.5	809
1979	QW1		1979	08	26.08472	21	55	12.89	-12	50	52.8	809
1979	QW1		1979	08	26.14722	21	55	10.36	-12	51	20.9	809
1979	QW1		1979	08	30.18124	21	52	54.18	-13	20	09.4	809
1979	QW1		1979	08	30.21458	21	52	52.96	-13	20	33.2	809
1979	QX1	*	1979	08	22.06111	21	57	42.18	-09	27	59.9	17.3V 809
1979	QX1		1979	08	22.30486	21	57	27.13	-09	28	07.2	809
1979	QX1		1979	08	22.30972	21	57	26.96	-09	28	08.8	809
1979	QX1		1979	08	23.23682	21	56	32.26	-09	28	36.0	809
1979	QY1	*	1979	08	22.06111	21	57	42.81	-10	12	42.3	17.0V 809
1979	QY1		1979	08	22.30486	21	57	29.84	-10	13	11.6	809
1979	QY1		1979	08	22.30972	21	57	29.68	-10	13	11.8	809

1979	QY1		1979	08	23.11182	21	56	49.38	-10	14	48.6	809
1979	QY1		1979	08	23.23682	21	56	42.80	-10	15	05.0	809
1979	QZ1	*	1979	08	22.06111	21	57	52.51	-13	01	16.0	16.8V 809
1979	QZ1		1979	08	22.30486	21	57	41.02	-13	02	13.4	809
1979	QZ1		1979	08	22.30972	21	57	40.73	-13	02	14.8	809
1979	QZ1		1979	08	23.11182	21	57	04.09	-13	05	26.4	809
1979	QZ1		1979	08	23.23682	21	56	58.14	-13	05	55.7	809
1979	QZ1		1979	08	26.06528	21	54	48.56	-13	16	59.6	809
1979	QZ1		1979	08	26.08472	21	54	47.68	-13	17	05.1	809
1979	QZ1		1979	08	26.14722	21	54	44.74	-13	17	19.7	809
1979	QZ1		1979	08	30.18124	21	51	41.96	-13	32	42.2	809
1979	QZ1		1979	08	30.21458	21	51	40.39	-13	33	00.1	809
1979	QA2	*	1979	08	22.06111	21	57	52.94	-14	19	58.6	17.1V 809
1979	QA2		1979	08	22.30486	21	57	38.29	-14	21	06.4	809
1979	QA2		1979	08	22.30972	21	57	37.90	-14	21	08.6	809
1979	QA2		1979	08	23.11182	21	56	51.60	-14	24	51.7	809
1979	QA2		1979	08	23.23682	21	56	44.00	-14	25	27.5	809
1979	QA2		1979	08	26.06528	21	54	01.30	-14	38	13.6	809
1979	QA2		1979	08	26.08472	21	54	00.19	-14	38	18.6	809
1979	QA2		1979	08	26.14722	21	53	56.47	-14	38	34.8	809
1979	QB2	*	1979	08	22.06111	21	58	00.65	-09	36	17.7	16.4V 809
1979	QB2		1979	08	22.30486	21	57	47.41	-09	37	03.7	809
1979	QB2		1979	08	22.30972	21	57	47.23	-09	37	04.3	809
1979	QB2		1979	08	23.11182	21	57	07.74	-09	39	35.2	809
1979	QB2		1979	08	23.23682	21	57	01.11	-09	40	00.0	809
1979	QB2		1979	08	30.18124	21	51	25.26	-10	01	59.2	809
1979	QB2		1979	08	30.21458	21	51	23.59	-10	02	05.5	809
1979	QC2	*	1979	08	22.06111	21	58	32.92	-11	29	03.7	16.3V 809
1979	QC2		1979	08	22.30486	21	58	21.07	-11	30	16.7	809
1979	QC2		1979	08	22.30972	21	58	20.83	-11	30	18.2	809
1979	QC2		1979	08	23.11182	21	57	43.43	-11	34	19.6	809
1979	QC2		1979	08	23.23682	21	57	37.34	-11	34	56.6	809
1979	QC2		1979	08	26.06528	21	55	24.86	-11	49	03.5	809
1979	QC2		1979	08	26.08472	21	55	23.95	-11	49	09.3	809
1979	QC2		1979	08	26.14722	21	55	20.91	-11	49	28.2	809
1979	QC2		1979	08	30.18124	21	52	14.46	-12	09	18.2	809
1979	QC2		1979	08	30.21458	21	52	12.82	-12	09	28.2	809
1979	QD2	*	1979	08	22.06111	21	58	35.97	-14	22	19.0	17.2V 809
1979	QD2		1979	08	22.30486	21	58	24.31	-14	23	12.0	809
1979	QD2		1979	08	22.30972	21	58	23.96	-14	23	13.6	809
1979	QD2		1979	08	23.11182	21	57	47.72	-14	26	09.8	809
1979	QD2		1979	08	23.23682	21	57	41.72	-14	26	36.9	809
1979	QD2		1979	08	26.06528	21	55	33.47	-14	36	42.4	809
1979	QD2		1979	08	26.08472	21	55	32.58	-14	36	46.6	809
1979	QD2		1979	08	26.14722	21	55	29.60	-14	36	59.4	809
1979	QE2	*	1979	08	22.06111	21	58	47.96	-14	05	22.7	17.5V 809
1979	QE2		1979	08	22.30486	21	58	36.66	-14	06	45.2	809
1979	QE2		1979	08	22.30972	21	58	36.39	-14	06	47.0	809
1979	QE2		1979	08	23.11182	21	58	00.80	-14	11	21.2	809
1979	QE2		1979	08	23.23682	21	57	54.89	-14	12	02.6	809
1979	QF2	*	1979	08	22.06111	21	58	49.45	-11	33	41.1	16.7V 809
1979	QF2		1979	08	22.30486	21	58	37.31	-11	34	58.6	809
1979	QF2		1979	08	22.30972	21	58	37.04	-11	35	00.3	809
1979	QF2		1979	08	23.11182	21	57	59.00	-11	39	15.9	809
1979	QF2		1979	08	23.23682	21	57	52.80	-11	39	55.0	809
1979	QF2		1979	08	26.06528	21	55	38.10	-11	54	51.1	809
1979	QF2		1979	08	26.08472	21	55	37.16	-11	54	57.1	809
1979	QF2		1979	08	26.14722	21	55	34.03	-11	55	17.0	809
1979	QG2	*	1979	08	22.06111	21	58	50.85	-11	02	58.7	17.0V 809

1979	QG2		1979	08	22.30486	21	58	38.86	-11	04	39.9		809
1979	QG2		1979	08	22.30972	21	58	38.61	-11	04	41.3		809
1979	QG2		1979	08	23.11182	21	58	02.64	-11	10	12.3		809
1979	QG2		1979	08	23.23682	21	57	56.56	-11	11	04.5		809
1979	QG2		1979	08	26.06528	21	55	48.69	-11	30	28.5		809
1979	QG2		1979	08	26.08472	21	55	47.86	-11	30	36.6		809
1979	QG2		1979	08	26.14722	21	55	44.77	-11	31	02.6		809
1979	QG2		1979	08	30.18124	21	52	47.97	-11	58	11.4		809
1979	QG2		1979	08	30.21458	21	52	46.38	-11	58	24.7		809
1979	QH2	*	1979	08	22.06111	21	59	00.70	-11	07	32.3	17.2V	809
1979	QH2		1979	08	22.30486	21	58	47.56	-11	08	29.7		809
1979	QH2		1979	08	22.30972	21	58	47.34	-11	08	30.8		809
1979	QH2		1979	08	23.11182	21	58	06.12	-11	11	40.9		809
1979	QH2		1979	08	23.23682	21	57	59.44	-11	12	10.3		809
1979	QJ2	*	1979	08	22.06111	21	59	07.18	-12	43	10.2	17.0V	809
1979	QJ2		1979	08	22.30486	21	58	54.29	-12	44	35.2		809
1979	QJ2		1979	08	22.30972	21	58	54.04	-12	44	36.7		809
1979	QJ2		1979	08	23.11182	21	58	14.87	-12	49	15.3		809
1979	QJ2		1979	08	23.23682	21	58	08.26	-12	49	58.7		809
1979	QK2	*	1979	08	22.06111	21	59	28.85	-10	00	45.4	15.8V	809
1979	QK2		1979	08	22.30486	21	59	14.69	-10	02	19.6		809
1979	QK2		1979	08	22.30972	21	59	14.48	-10	02	22.2		809
1979	QK2		1979	08	23.11182	21	58	30.90	-10	07	30.6		809
1979	QK2		1979	08	23.23682	21	58	23.76	-10	08	20.0		809
1979	QK2		1979	08	26.06528	21	55	50.47	-10	26	28.6		809
1979	QK2		1979	08	26.08472	21	55	49.26	-10	26	34.0		809
1979	QK2		1979	08	26.14722	21	55	45.73	-10	26	58.4		809
1979	QK2		1979	08	30.18124	21	52	14.35	-10	52	14.1		809
1979	QK2		1979	08	30.21458	21	52	12.51	-10	52	26.2		809
1979	QL2	*	1979	08	22.06111	21	59	33.61	-10	11	29.8	17.0V	809
1979	QL2		1979	08	22.30486	21	59	21.18	-10	13	20.9		809
1979	QL2		1979	08	22.30972	21	59	20.96	-10	13	23.7		809
1979	QL2		1979	08	23.11182	21	58	42.55	-10	19	32.4		809
1979	QL2		1979	08	23.23682	21	58	36.21	-10	20	30.9		809
1979	QM2	*	1979	08	22.06111	21	59	50.38	-14	05	55.2	17.3V	809
1979	QM2		1979	08	22.30486	21	59	38.62	-14	07	00.9		809
1979	QM2		1979	08	22.30972	21	59	38.34	-14	07	02.2		809
1979	QM2		1979	08	23.11182	21	59	01.15	-14	10	39.8		809
1979	QM2		1979	08	23.23682	21	58	55.13	-14	11	13.7		809
1979	QN2	*	1979	08	22.06111	22	00	09.47	-12	29	12.2	16.9V	809
1979	QN2		1979	08	22.30486	21	59	55.85	-12	30	47.2		809
1979	QN2		1979	08	22.30972	21	59	55.54	-12	30	50.0		809
1979	QN2		1979	08	23.11182	21	59	13.17	-12	36	05.2		809
1979	QN2		1979	08	23.23682	21	59	06.15	-12	36	54.2		809
1979	QO2	*	1979	08	22.06111	22	00	28.32	-10	07	28.0	16.8V	809
1979	QO2		1979	08	22.30486	22	00	15.72	-10	08	23.3		809
1979	QO2		1979	08	22.30972	22	00	15.54	-10	08	25.2		809
1979	QO2		1979	08	23.11182	21	59	37.61	-10	11	28.7		809
1979	QO2		1979	08	23.23682	21	59	31.17	-10	11	58.1		809
1979	QP2	*	1979	08	22.06111	22	00	29.43	-12	38	54.2	17.2V	809
1979	QP2		1979	08	23.11182	21	59	41.49	-12	44	14.4		809
1979	QP2		1979	08	23.23682	21	59	35.53	-12	44	52.4		809
1979	QP2		1979	08	26.06528	21	57	26.81	-12	59	07.0	16.9V	809
1979	QP2		1979	08	26.08472	21	57	26.06	-12	59	14.1		809
1979	QP2		1979	08	26.14722	21	57	23.08	-12	59	32.4		809
1979	QQ2	*	1979	08	22.06111	22	00	38.34	-09	47	23.7	16.0V	809
1979	QQ2		1979	08	22.30486	22	00	28.95	-09	50	18.7		809
1979	QQ2		1979	08	22.30972	22	00	28.79	-09	50	22.0		809
1979	QQ2		1979	08	23.11182	22	00	01.81	-09	59	58.2		809

1979	QQ2		1979	08	23.23682	21	59	56.96	-10	01	29.0	809
1979	QQ2		1979	08	26.06528	21	58	18.88	-10	35	58.6	809
1979	QQ2		1979	08	26.08472	21	58	18.11	-10	36	12.3	809
1979	QQ2		1979	08	26.14722	21	58	15.71	-10	36	58.8	809
1979	QQ2		1979	08	30.18124	21	55	57.11	-11	26	54.5	809
1979	QQ2		1979	08	30.21458	21	55	55.86	-11	27	19.2	809
1979	QR2	*	1979	08	22.06111	22	01	03.03	-12	18	57.0	16.9V 809
1979	QR2		1979	08	22.30486	22	00	50.67	-12	19	55.9	809
1979	QR2		1979	08	22.30972	22	00	50.46	-12	19	57.2	809
1979	QR2		1979	08	23.11182	22	00	11.47	-12	23	12.2	809
1979	QR2		1979	08	23.23682	22	00	05.15	-12	23	41.7	809
1979	QR2		1979	08	26.06528	21	57	47.20	-12	34	59.3	809
1979	QR2		1979	08	26.08472	21	57	46.22	-12	35	05.2	809
1979	QR2		1979	08	26.14722	21	57	43.09	-12	35	20.2	809
1979	QS2	*	1979	08	22.06111	22	01	27.89	-12	00	14.5	16.9V 809
1979	QS2		1979	08	22.30486	22	01	15.38	-12	01	27.7	809
1979	QS2		1979	08	22.30972	22	01	15.11	-12	01	29.4	809
1979	QS2		1979	08	23.11182	22	00	36.50	-12	05	30.7	809
1979	QS2		1979	08	23.23682	22	00	30.03	-12	06	08.4	809
1979	QS2		1979	08	26.06528	21	58	12.49	-12	20	13.2	809
1979	QS2		1979	08	26.08472	21	58	11.58	-12	20	19.9	809
1979	QS2		1979	08	26.14722	21	58	08.37	-12	20	38.2	809
1979	QT2	*	1979	08	22.06111	22	01	29.42	-11	58	21.2	16.1V 809
1979	QT2		1979	08	22.30486	22	01	17.19	-11	59	32.4	809
1979	QT2		1979	08	22.30972	22	01	16.97	-11	59	34.2	809
1979	QT2		1979	08	23.11182	22	00	40.86	-12	03	28.7	809
1979	QT2		1979	08	23.23682	22	00	34.59	-12	04	05.2	809
1979	QT2		1979	08	26.06528	21	58	25.67	-12	17	42.8	809
1979	QT2		1979	08	26.08472	21	58	24.78	-12	17	49.2	809
1979	QT2		1979	08	26.14722	21	58	21.63	-12	18	07.1	809
1979	QT2		1979	08	30.18124	21	55	22.58	-12	36	55.3	809
1979	QT2		1979	08	30.21458	21	55	20.97	-12	37	04.9	809
1979	QU2	*	1979	08	22.06111	22	01	31.28	-12	02	59.6	15.3V 809
1979	QU2		1979	08	22.30486	22	01	19.28	-12	04	17.9	809
1979	QU2		1979	08	22.30972	22	01	19.02	-12	04	19.5	809
1979	QU2		1979	08	23.11182	22	00	41.50	-12	08	38.0	809
1979	QU2		1979	08	23.23682	22	00	35.34	-12	09	17.7	809
1979	QU2		1979	08	26.06528	21	58	22.22	-12	24	21.9	809
1979	QU2		1979	08	26.08472	21	58	21.34	-12	24	28.8	809
1979	QU2		1979	08	26.14722	21	58	18.26	-12	24	48.7	809
1979	QU2		1979	08	30.18124	21	55	11.17	-12	45	51.0	809
1979	QU2		1979	08	30.21458	21	55	09.57	-12	46	01.7	809
1979	QV2	*	1979	08	22.06111	22	01	50.29	-11	05	31.9	17.5V 809
1979	QV2		1979	08	22.30486	22	01	33.74	-11	05	57.2	809
1979	QV2		1979	08	22.30972	22	01	33.34	-11	05	56.8	809
1979	QV2		1979	08	23.11182	22	00	40.90	-11	07	21.2	809
1979	QV2		1979	08	23.23682	22	00	32.40	-11	07	35.0	809
1979	QW2	*	1979	08	22.06111	22	02	00.81	-11	21	49.9	15.8V 809
1979	QW2		1979	08	22.30486	22	01	47.72	-11	22	40.2	809
1979	QW2		1979	08	22.30972	22	01	47.47	-11	22	41.3	809
1979	QW2		1979	08	23.11182	22	01	06.14	-11	25	28.2	809
1979	QW2		1979	08	23.23682	22	00	59.36	-11	25	53.8	809
1979	QW2		1979	08	26.06528	21	58	32.86	-11	35	38.4	809
1979	QW2		1979	08	26.08472	21	58	31.85	-11	35	42.7	809
1979	QW2		1979	08	26.14722	21	58	28.50	-11	35	55.9	809
1979	QW2		1979	08	30.18124	21	55	02.20	-11	49	31.4	809
1979	QW2		1979	08	30.21458	21	55	00.39	-11	49	38.2	809
1979	QX2	*	1979	08	22.06111	22	02	15.10	-12	51	25.5	16.7V 809
1979	QX2		1979	08	22.30486	22	02	00.49	-12	52	01.5	809

1979	QX2		1979	08	22.30972	22	02	00.22	-12	52	02.4	809
1979	QX2		1979	08	23.11182	22	01	15.57	-12	54	01.2	809
1979	QX2		1979	08	23.23682	22	01	08.12	-12	54	18.4	809
1979	QX2		1979	08	26.06528	21	58	30.68	-13	00	57.7	809
1979	QX2		1979	08	26.08472	21	58	29.62	-13	01	00.5	809
1979	QX2		1979	08	26.14722	21	58	25.98	-13	01	09.5	809
1979	QX2		1979	08	30.18124	21	54	48.97	-13	09	46.8	809
1979	QX2		1979	08	30.21458	21	54	47.09	-13	09	50.8	809
1979	QY2	*	1979	08	22.06111	22	02	15.46	-14	21	15.5	17.0V 809
1979	QY2		1979	08	22.30486	22	02	01.42	-14	22	13.2	809
1979	QY2		1979	08	22.30972	22	02	01.19	-14	22	14.2	809
1979	QY2		1979	08	23.11182	22	01	18.61	-14	25	22.6	809
1979	QY2		1979	08	23.23682	22	01	11.42	-14	25	52.1	809
1979	QY2		1979	08	26.06528	21	58	39.92	-14	36	32.1	809
1979	QY2		1979	08	26.08472	21	58	38.79	-14	36	35.2	809
1979	QY2		1979	08	26.14722	21	58	35.19	-14	36	49.0	809
1979	QZ2	*	1979	08	22.06111	22	02	32.78	-10	23	39.3	17.5V 809
1979	QZ2		1979	08	22.30486	22	02	20.43	-10	25	25.5	809
1979	QZ2		1979	08	22.30972	22	02	20.19	-10	25	28.5	809
1979	QZ2		1979	08	23.11182	22	01	41.46	-10	31	19.2	809
1979	QZ2		1979	08	23.23682	22	01	35.15	-10	32	14.4	809
1979	QA3	*	1979	08	22.06111	22	02	43.35	-13	13	30.1	16.9V 809
1979	QA3		1979	08	22.30486	22	02	28.16	-13	14	33.6	809
1979	QA3		1979	08	22.30972	22	02	27.86	-13	14	35.2	809
1979	QA3		1979	08	23.11182	22	01	41.28	-13	18	02.8	809
1979	QA3		1979	08	23.23682	22	01	32.61	-13	18	38.4	809
1979	QA3		1979	08	26.06528	21	58	43.29	-13	30	50.5	809
1979	QA3		1979	08	26.08472	21	58	42.12	-13	30	56.0	809
1979	QA3		1979	08	26.14722	21	58	38.20	-13	31	11.6	809
1979	QB3	*	1979	08	22.06111	22	02	44.61	-09	41	40.0	17.1V 809
1979	QB3		1979	08	22.30486	22	02	33.86	-09	43	41.8	809
1979	QB3		1979	08	22.30972	22	02	33.70	-09	43	44.7	809
1979	QB3		1979	08	23.11182	22	02	00.08	-09	50	25.0	809
1979	QB3		1979	08	23.23682	22	01	54.56	-09	51	29.0	809
1979	QC3	*	1979	08	22.06111	22	02	52.37	-10	19	27.7	17.0V 809
1979	QC3		1979	08	22.30486	22	02	37.37	-10	20	22.2	809
1979	QC3		1979	08	22.30972	22	02	37.10	-10	20	23.5	809
1979	QC3		1979	08	23.11182	22	01	50.61	-10	23	22.9	809
1979	QC3		1979	08	23.23682	22	01	42.87	-10	23	50.6	809
1979	QC3		1979	08	26.06528	21	58	57.12	-10	34	30.0	809
1979	QC3		1979	08	26.08472	21	58	55.87	-10	34	33.5	809
1979	QC3		1979	08	26.14722	21	58	52.02	-10	34	48.2	809
1979	QD3	*	1979	08	22.06111	22	03	02.72	-11	37	22.3	17.1V 809
1979	QD3		1979	08	22.30486	22	02	48.72	-11	39	21.3	809
1979	QD3		1979	08	22.30972	22	02	48.42	-11	39	23.4	809
1979	QD3		1979	08	23.11182	22	02	05.31	-11	45	56.2	809
1979	QD3		1979	08	23.23682	22	01	58.11	-11	46	57.6	809
1979	QD3		1979	08	26.06528	21	59	24.00	-12	09	59.5	809
1979	QD3		1979	08	26.08472	21	59	22.87	-12	10	09.9	809
1979	QD3		1979	08	26.14722	21	59	19.28	-12	10	40.5	809
1979	QE3	*	1979	08	22.06111	22	03	13.29	-14	30	00.5	16.0V 809
1979	QE3		1979	08	22.30486	22	02	59.03	-14	31	27.7	809
1979	QE3		1979	08	22.30972	22	02	58.78	-14	31	29.7	809
1979	QE3		1979	08	23.11182	22	02	14.48	-14	36	13.9	809
1979	QE3		1979	08	23.23682	22	02	07.21	-14	36	58.2	809
1979	QF3	*	1979	08	22.06111	22	03	44.88	-09	36	08.0	16.8V 809
1979	QF3		1979	08	22.30486	22	03	29.74	-09	36	22.6	809
1979	QF3		1979	08	22.30972	22	03	29.45	-09	36	23.1	809
1979	QF3		1979	08	23.11182	22	02	41.45	-09	37	10.9	809

1979	QF3		1979	08	23.23682	22	02	33.68	-09	37	20.0	809
1979	QG3	*	1979	08	22.06111	22	03	49.66	-12	07	01.6	16.9V 809
1979	QG3		1979	08	22.30486	22	03	37.40	-12	07	52.4	809
1979	QG3		1979	08	22.30972	22	03	37.15	-12	07	53.6	809
1979	QG3		1979	08	23.11182	22	03	00.59	-12	10	39.2	809
1979	QG3		1979	08	23.23682	22	02	54.28	-12	11	04.7	809
1979	QG3		1979	08	26.06528	22	00	44.19	-12	20	38.5	809
1979	QG3		1979	08	26.08472	22	00	43.29	-12	20	42.8	809
1979	QG3		1979	08	26.14722	22	00	40.18	-12	20	55.7	809
1979	QG3		1979	08	30.18124	21	57	40.08	-12	33	51.1	809
1979	QG3		1979	08	30.21458	21	57	38.46	-12	33	57.5	809
1979	QH3	*	1979	08	22.06111	22	04	16.33	-10	05	18.5	17.1V 809
1979	QH3		1979	08	22.30486	22	04	01.07	-10	06	29.8	809
1979	QH3		1979	08	22.30972	22	04	00.78	-10	06	31.2	809
1979	QH3		1979	08	23.11182	22	03	12.35	-10	10	27.4	809
1979	QH3		1979	08	23.23682	22	03	04.44	-10	11	05.6	809
1979	QJ3	*	1979	08	22.06111	22	04	21.73	-12	33	58.0	17.5V 809
1979	QJ3		1979	08	22.30486	22	04	10.07	-12	35	49.0	809
1979	QJ3		1979	08	22.30972	22	04	09.85	-12	35	51.0	809
1979	QJ3		1979	08	23.11182	22	03	33.91	-12	41	54.3	809
1979	QJ3		1979	08	23.23682	22	03	27.95	-12	42	49.8	809
1979	QK3	*	1979	08	22.06111	22	04	59.34	-12	48	22.0	17.2V 809
1979	QK3		1979	08	22.30486	22	04	45.26	-12	49	17.2	809
1979	QK3		1979	08	22.30972	22	04	44.98	-12	49	17.6	809
1979	QK3		1979	08	23.11182	22	04	00.41	-12	52	17.7	809
1979	QK3		1979	08	23.23682	22	03	53.19	-12	52	46.0	809
1979	QL3	*	1979	08	22.06111	22	05	58.91	-11	18	33.4	17.3V 809
1979	QL3		1979	08	22.30486	22	05	46.74	-11	19	29.9	809
1979	QL3		1979	08	22.30972	22	05	46.55	-11	19	31.5	809
1979	QL3		1979	08	23.11182	22	05	08.25	-11	22	42.2	809
1979	QL3		1979	08	23.23682	22	05	01.90	-11	23	11.1	809
1979	QM3	*	1979	08	22.06111	22	06	01.91	-11	47	17.7	17.2V 809
1979	QM3		1979	08	22.30486	22	05	48.23	-11	49	26.3	809
1979	QM3		1979	08	22.30972	22	05	47.92	-11	49	28.7	809
1979	QM3		1979	08	23.11182	22	05	05.41	-11	56	35.7	809
1979	QM3		1979	08	23.23682	22	04	58.33	-11	57	41.5	809
1979	QM3		1979	08	26.06528	22	02	26.43	-12	22	43.7	809
1979	QM3		1979	08	26.08472	22	02	25.37	-12	22	54.2	809
1979	QM3		1979	08	26.14722	22	02	21.80	-12	23	27.8	809
1979	QN3	*	1979	08	22.06111	22	06	22.78	-09	34	45.1	16.8V 809
1979	QN3		1979	08	22.30486	22	06	08.24	-09	35	28.3	809
1979	QN3		1979	08	22.30972	22	06	07.89	-09	35	29.3	809
1979	QN3		1979	08	23.11182	22	05	23.03	-09	37	51.9	809
1979	QN3		1979	08	23.23682	22	05	15.46	-09	38	16.2	809
1979	QO3	*	1979	08	22.06111	22	06	38.66	-11	31	39.2	17.0V 809
1979	QO3		1979	08	22.30486	22	06	24.33	-11	33	05.8	809
1979	QO3		1979	08	22.30972	22	06	24.03	-11	33	06.9	809
1979	QO3		1979	08	23.11182	22	05	39.64	-11	37	50.9	809
1979	QO3		1979	08	23.23682	22	05	32.25	-11	38	34.4	809
1979	QO3		1979	08	26.06528	22	02	52.96	-11	55	17.1	809
1979	QO3		1979	08	26.08472	22	02	51.71	-11	55	24.7	809
1979	QO3		1979	08	26.14722	22	02	47.96	-11	55	47.3	809
1979	QO3		1979	08	30.18124	21	59	00.84	-12	19	21.8	809
1979	QO3		1979	08	30.21458	21	58	58.81	-12	19	33.9	809
1979	QP3	*	1979	08	22.06111	22	06	47.09	-10	01	50.5	16.6V 809
1979	QP3		1979	08	22.30486	22	06	35.30	-10	03	02.9	809
1979	QP3		1979	08	22.30972	22	06	35.00	-10	03	04.8	809
1979	QP3		1979	08	23.11182	22	05	57.71	-10	07	04.2	809
1979	QP3		1979	08	23.23682	22	05	51.54	-10	07	43.1	809

1979	QP3		1979	08	26.06528	22	03	38.64	-10	21	58.7	809
1979	QP3		1979	08	26.08472	22	03	37.62	-10	22	04.9	809
1979	QP3		1979	08	26.14722	22	03	34.56	-10	22	23.7	809
1979	QP3		1979	08	30.18124	22	00	26.64	-10	42	38.0	809
1979	QP3		1979	08	30.21458	22	00	25.03	-10	42	48.5	809
1979	QQ3	*	1979	08	22.06111	22	07	08.87	-11	18	31.9	17.3V 809
1979	QQ3		1979	08	22.30486	22	06	54.73	-11	19	32.5	809
1979	QQ3		1979	08	22.30972	22	06	54.41	-11	19	33.5	809
1979	QQ3		1979	08	23.11182	22	06	10.14	-11	22	55.0	809
1979	QQ3		1979	08	23.23682	22	06	02.77	-11	23	26.9	809
1979	QR3	*	1979	08	22.06111	22	07	10.22	-12	12	24.3	16.9V 809
1979	QR3		1979	08	22.30486	22	06	56.42	-12	13	54.3	809
1979	QR3		1979	08	22.30972	22	06	56.13	-12	13	56.2	809
1979	QR3		1979	08	23.11182	22	06	13.27	-12	18	50.5	809
1979	QR3		1979	08	23.23682	22	06	06.17	-12	19	36.7	809
1979	QR3		1979	08	26.06528	22	03	32.78	-12	36	52.4	809
1979	QR3		1979	08	26.08472	22	03	31.63	-12	37	00.3	809
1979	QR3		1979	08	26.14722	22	03	28.08	-12	37	23.1	809
1979	QR3		1979	08	30.18124	21	59	49.32	-13	01	34.8	809
1979	QR3		1979	08	30.21458	21	59	47.44	-13	01	46.7	809
1979	QS3	*	1979	08	22.06111	22	07	13.95	-12	27	22.2	17.0V 809
1979	QS3		1979	08	22.30486	22	06	59.30	-12	28	27.7	809
1979	QS3		1979	08	22.30972	22	06	59.00	-12	28	29.4	809
1979	QS3		1979	08	23.11182	22	06	12.70	-12	32	04.3	809
1979	QS3		1979	08	23.23682	22	06	05.14	-12	32	37.8	809
1979	QS3		1979	08	26.06528	22	03	20.06	-12	45	08.7	809
1979	QS3		1979	08	26.08472	22	03	18.92	-12	45	13.6	809
1979	QS3		1979	08	26.14722	22	03	15.08	-12	45	30.7	809
1979	QT3	*	1979	08	22.06111	22	07	24.16	-14	40	13.1	16.4V 809
1979	QT3		1979	08	22.30486	22	07	07.40	-14	40	47.0	809
1979	QT3		1979	08	22.30972	22	07	07.18	-14	40	47.7	809
1979	QT3		1979	08	23.11182	22	06	14.87	-14	42	33.5	809
1979	QT3		1979	08	23.23682	22	06	06.43	-14	42	50.2	809
1979	QU3	*	1979	08	22.06111	22	07	33.15	-09	49	41.3	17.3V 809
1979	QU3		1979	08	22.30486	22	07	20.65	-09	50	54.8	809
1979	QU3		1979	08	22.30972	22	07	20.31	-09	50	56.7	809
1979	QU3		1979	08	23.11182	22	06	40.97	-09	54	59.9	809
1979	QU3		1979	08	23.23682	22	06	34.46	-09	55	39.0	809
1979	QV3	*	1979	08	22.06111	22	07	42.96	-09	55	59.9	17.5V 809
1979	QV3		1979	08	22.30486	22	07	31.64	-09	57	13.8	809
1979	QV3		1979	08	22.30972	22	07	31.28	-09	57	15.2	809
1979	QV3		1979	08	23.11182	22	06	55.60	-10	01	19.4	809
1979	QV3		1979	08	23.23682	22	06	49.61	-10	01	58.3	809
1979	QW3	*	1979	08	22.06111	22	07	45.02	-11	10	30.1	17.3V 809
1979	QW3		1979	08	22.30486	22	07	30.93	-11	11	51.0	809
1979	QW3		1979	08	22.30972	22	07	30.58	-11	11	52.6	809
1979	QW3		1979	08	23.11182	22	06	46.00	-11	16	20.3	809
1979	QW3		1979	08	23.23682	22	06	38.68	-11	17	01.8	809
1979	QW3		1979	08	26.06528	22	04	00.84	-11	32	41.0	809
1979	QW3		1979	08	26.08472	22	03	59.65	-11	32	47.6	809
1979	QW3		1979	08	26.14722	22	03	56.04	-11	33	08.3	809
1979	QX3	*	1979	08	22.06111	22	07	45.31	-10	21	32.2	15.0V 809
1979	QX3		1979	08	22.30486	22	07	32.25	-10	21	34.0	809
1979	QX3		1979	08	22.30972	22	07	31.88	-10	21	33.8	809
1979	QX3		1979	08	23.11182	22	06	50.55	-10	21	39.7	809
1979	QX3		1979	08	23.23682	22	06	43.76	-10	21	41.4	809
1979	QX3		1979	08	26.06528	22	04	16.79	-10	22	09.6	809
1979	QX3		1979	08	26.08472	22	04	15.65	-10	22	09.9	809
1979	QX3		1979	08	26.14722	22	04	12.24	-10	22	10.2	809

1979	QX3		1979	08	30.18124	22	00	45.03	-10	22	46.2	809
1979	QX3		1979	08	30.21458	22	00	43.25	-10	22	47.0	809
1979	QY3	*	1979	08	22.06111	22	08	08.46	-10	28	44.5	17.2V 809
1979	QY3		1979	08	22.30486	22	07	53.37	-10	29	37.0	809
1979	QY3		1979	08	22.30972	22	07	52.97	-10	29	38.0	809
1979	QY3		1979	08	23.11182	22	07	05.39	-10	32	28.1	809
1979	QY3		1979	08	23.23682	22	06	57.58	-10	32	54.1	809
1979	QZ3	*	1979	08	22.06111	22	08	50.25	-13	17	46.7	15.9V 809
1979	QZ3		1979	08	22.30486	22	08	35.26	-13	18	37.2	809
1979	QZ3		1979	08	22.30972	22	08	35.03	-13	18	37.5	809
1979	QZ3		1979	08	23.11182	22	07	48.62	-13	21	20.7	809
1979	QZ3		1979	08	23.23682	22	07	40.95	-13	21	45.9	809
1979	QZ3		1979	08	26.06528	22	04	55.62	-13	31	05.5	809
1979	QZ3		1979	08	26.08472	22	04	54.27	-13	31	08.7	809
1979	QZ3		1979	08	26.14722	22	04	50.37	-13	31	20.8	809
1979	QZ3		1979	08	30.18124	22	00	56.15	-13	43	46.8	809
1979	QZ3		1979	08	30.21458	22	00	54.11	-13	43	53.1	809
1979	QA4	*	1979	08	22.06111	22	08	59.65	-13	23	08.1	17.1V 809
1979	QA4		1979	08	22.30486	22	08	45.88	-13	24	39.2	809
1979	QA4		1979	08	22.30972	22	08	45.65	-13	24	41.3	809
1979	QA4		1979	08	23.11182	22	08	02.01	-13	29	40.3	809
1979	QA4		1979	08	23.23682	22	07	54.97	-13	30	26.2	809
1979	QA4		1979	08	26.06528	22	05	20.26	-13	47	47.9	809
1979	QA4		1979	08	26.08472	22	05	18.93	-13	47	54.1	809
1979	QA4		1979	08	26.14722	22	05	15.39	-13	48	16.5	809
1979	QA4		1979	08	30.18124	22	01	35.98	-14	12	12.4	809
1979	QA4		1979	08	30.21458	22	01	34.08	-14	12	24.7	809
1979	QB4	*	1979	08	22.06111	22	09	16.12	-12	04	30.1	17.0V 809
1979	QB4		1979	08	22.30486	22	09	03.45	-12	06	00.5	809
1979	QB4		1979	08	22.30972	22	09	03.18	-12	06	02.0	809
1979	QB4		1979	08	23.11182	22	08	24.26	-12	10	58.7	809
1979	QB4		1979	08	23.23682	22	08	17.73	-12	11	44.7	809
1979	QB4		1979	08	26.06528	22	05	59.21	-12	28	59.1	809
1979	QB4		1979	08	26.08472	22	05	58.14	-12	29	06.0	809
1979	QB4		1979	08	26.14722	22	05	54.82	-12	29	28.9	809
1979	QC4	*	1979	08	22.30486	21	50	12.99	-14	37	50.3	17.2V 809
1979	QC4		1979	08	22.30972	21	50	12.40	-14	37	51.6	809
1979	QC4		1979	08	23.11182	21	49	21.29	-14	38	14.1	809
1979	QC4		1979	08	23.23682	21	49	12.72	-14	38	17.2	809
1979	QD4	*	1979	08	22.30486	21	50	15.02	-14	19	17.7	17.1V 809
1979	QD4		1979	08	22.30972	21	50	14.53	-14	19	19.4	809
1979	QD4		1979	08	23.11182	21	49	38.45	-14	22	16.9	809
1979	QD4		1979	08	23.23682	21	49	32.59	-14	22	43.9	809
1979	QE4	*	1979	08	22.30486	22	02	04.40	-09	26	11.7	17.0V 809
1979	QE4		1979	08	23.23682	22	01	16.41	-09	29	42.5	809
1979	QF4	*	1979	08	22.30486	22	08	27.01	-13	57	05.4	17.4V 809
1979	QF4		1979	08	22.30972	22	08	26.87	-13	57	05.1	809
1979	QF4		1979	08	23.11182	22	07	44.86	-13	57	50.9	809
1979	QF4		1979	08	23.23682	22	07	37.92	-13	57	57.8	809
1979	QG4	*	1979	08	22.30486	22	09	16.51	-10	26	17.7	809
1979	QG4		1979	08	22.30972	22	09	16.11	-10	26	18.1	809
1979	QG4		1979	08	23.23682	22	08	24.86	-10	27	09.0	809
1979	QH4	*	1979	08	22.30486	22	09	20.79	-10	38	25.5	809
1979	QH4		1979	08	22.30972	22	09	20.39	-10	38	25.4	809
1979	QH4		1979	08	23.11182	22	08	37.10	-10	38	46.7	809
1979	QH4		1979	08	23.23682	22	08	30.07	-10	38	50.6	809
1979	QH4		1979	08	26.06528	22	05	55.83	-10	40	08.1	809
1979	QH4		1979	08	26.08472	22	05	54.60	-10	40	08.5	809
1979	QH4		1979	08	26.14722	22	05	51.09	-10	40	10.3	809

1979	QJ4	*	1979	08	22.30486	22	09	24.08	-14	01	58.1	17.3V 809
1979	QJ4		1979	08	22.30972	22	09	23.91	-14	01	58.7	809
1979	QJ4		1979	08	23.11182	22	08	44.26	-14	03	29.9	809
1979	QJ4		1979	08	23.23682	22	08	37.99	-14	03	44.3	809
1979	QJ4		1979	08	26.06528	22	06	17.59	-14	08	56.4	809
1979	QK4	*	1979	08	23.11182	21	54	05.72	-13	47	30.2	809
1979	QK4		1979	08	23.23682	21	53	59.73	-13	47	58.6	809
1979	QK4		1979	08	26.06528	21	51	49.65	-13	58	39.4	16.4V 809
1979	QK4		1979	08	26.08472	21	51	48.78	-13	58	45.2	809
1979	QK4		1979	08	26.14722	21	51	45.79	-13	58	58.8	809
1979	QK4		1979	08	30.18124	21	48	43.16	-14	13	41.1	809
1979	QK4		1979	08	30.21458	21	48	41.61	-14	13	58.2	809
1979	QL4	*	1979	08	23.11182	21	59	46.14	-11	48	48.6	809
1979	QL4		1979	08	23.23682	21	59	38.18	-11	49	12.1	809
1979	QM4	*	1979	08	23.11182	22	08	53.74	-11	37	59.0	809
1979	QM4		1979	08	23.23682	22	08	46.41	-11	38	22.0	809
1979	QN4	*	1979	08	23.11182	22	09	04.41	-14	38	35.9	809
1979	QN4		1979	08	23.23682	22	08	58.39	-14	39	31.8	809
1979	QO4	*	1979	08	23.11182	22	09	04.72	-14	02	12.7	809
1979	QO4		1979	08	23.23682	22	08	57.59	-14	03	01.0	809
1979	QP4	*	1979	08	23.23682	21	52	31.59	-09	27	44.0	809
1979	QQ4	*	1979	08	26.06528	21	49	08.35	-13	52	10.4	17.3V 809
1979	QQ4		1979	08	26.08472	21	49	07.24	-13	52	13.4	809
1979	QQ4		1979	08	26.14722	21	49	03.81	-13	52	15.8	809
1979	QS4	*	1979	08	26.06528	21	52	40.88	-13	58	21.4	809
1979	QU4	*	1979	08	26.06528	21	53	46.96	-13	51	19.3	16.9V 809
1979	QU4		1979	08	26.08472	21	53	45.83	-13	51	20.3	809
1979	QU4		1979	08	26.14722	21	53	41.89	-13	51	21.3	809
1979	QV4	*	1979	08	26.06528	21	55	29.28	-12	40	33.0	17.2V 809
1979	QV4		1979	08	26.08472	21	55	28.30	-12	40	40.9	809
1979	QV4		1979	08	26.14722	21	55	25.04	-12	41	00.2	809
1979	QV4		1979	08	30.18124	21	52	11.29	-13	01	23.9	809
1979	QV4		1979	08	30.21458	21	52	09.61	-13	01	43.4	809
1979	QX4	*	1979	08	26.06528	21	58	55.74	-11	18	49.8	17.6V 809
1979	QX4		1979	08	26.08472	21	58	54.47	-11	18	53.2	809
1979	QX4		1979	08	26.14722	21	58	50.39	-11	19	04.3	809
1979	QY4	*	1979	08	26.06528	21	59	18.10	-11	06	14.0	17.4V 809
1979	QY4		1979	08	26.08472	21	59	16.98	-11	06	23.8	809
1979	QY4		1979	08	26.14722	21	59	13.26	-11	06	53.9	809
1979	QZ4	*	1979	08	26.06528	21	59	44.11	-12	22	56.2	17.3V 809
1979	QZ4		1979	08	26.08472	21	59	42.89	-12	23	00.4	809
1979	QZ4		1979	08	26.14722	21	59	38.87	-12	23	07.7	809
1979	QA5	*	1979	08	26.06528	22	02	25.05	-14	03	49.4	17.3V 809
1979	QA5		1979	08	26.08472	22	02	23.93	-14	03	52.1	809
1979	QA5		1979	08	26.14722	22	02	20.77	-14	04	05.9	809
1979	QB5	*	1979	08	26.06528	22	06	06.20	-11	47	03.0	809
1979	QC5	*	1979	08	26.06528	22	06	18.75	-14	21	06.9	809
1979	QD5	*	1979	08	26.06528	22	06	25.33	-13	16	55.3	809
1979	QE5	*	1979	08	26.06528	22	07	01.80	-13	18	55.6	809
1979	QF5	*	1979	08	26.06528	22	07	24.89	-12	45	12.3	809
1979	QG5	*	1979	08	26.06528	22	07	40.56	-12	51	01.5	809
1979	QH5	*	1979	08	26.06528	22	07	44.28	-13	20	02.5	809
1979	QJ5	*	1979	08	26.06528	22	08	28.87	-12	59	41.0	809
1979	QK5	*	1979	08	26.06528	22	08	32.81	-13	42	15.7	809
1979	QL5	*	1979	08	26.06528	22	08	56.44	-10	48	47.4	809
1979	QM5	*	1979	08	26.08472	21	44	46.78	-14	30	18.9	809
1979	QM5		1979	08	26.14722	21	44	43.07	-14	30	47.1	809
1979	QN5	*	1979	08	26.08472	21	45	08.01	-09	42	38.2	16.6V 809
1979	QN5		1979	08	26.14722	21	45	04.78	-09	42	58.7	809

1979	QN5		1979	08	30.18124	21	41	54.21	-10	04	30.7	809
1979	QN5		1979	08	30.21458	21	41	52.53	-10	04	41.6	809
1979	QO5	*	1979	08	26.08472	21	45	39.14	-09	31	53.9	16.3V 809
1979	QO5		1979	08	26.14722	21	45	35.72	-09	32	01.4	809
1979	QO5		1979	08	30.18124	21	42	09.99	-09	40	16.2	809
1979	QO5		1979	08	30.21458	21	42	08.24	-09	40	20.5	809
1979	QP5	*	1979	08	26.08472	21	45	54.93	-14	11	59.8	809
1979	QP5		1979	08	26.14722	21	45	51.32	-14	12	05.5	809
1979	QQ5	*	1979	08	30.18124	21	40	09.39	-14	25	57.8	809
1979	QQ5		1979	08	30.21458	21	40	07.90	-14	26	15.0	809
1979	QR5	*	1979	08	30.18124	21	40	23.41	-13	09	58.2	809
1979	QR5		1979	08	30.21458	21	40	21.81	-13	10	05.6	809
1979	QS5	*	1979	08	30.18124	21	41	18.50	-12	19	27.4	15.6V 809
1979	QS5		1979	08	30.21458	21	41	16.89	-12	19	38.7	809
1979	QT5	*	1979	08	30.18124	21	41	59.89	-09	54	37.7	16.5V 809
1979	QT5		1979	08	30.21458	21	41	58.33	-09	55	05.4	809
1979	QU5	*	1979	08	30.18124	21	44	54.67	-09	22	02.3	17.2V 809
1979	QU5		1979	08	30.21458	21	44	52.90	-09	22	16.3	809
1979	QV5	*	1979	08	30.18124	21	48	21.36	-09	44	41.8	16.7V 809
1979	QV5		1979	08	30.21458	21	48	19.35	-09	44	47.7	809
1979	QW5	*	1979	08	30.18124	21	49	17.29	-09	22	30.6	17.2V 809
1979	QW5		1979	08	30.21458	21	49	15.61	-09	22	41.3	809
1979	QX5	*	1979	08	30.18124	21	51	40.49	-09	58	51.9	16.5V 809
1979	QX5		1979	08	30.21458	21	51	38.86	-09	59	02.1	809
1979	QY5	*	1979	08	30.18124	21	52	06.95	-09	21	03.4	17.3V 809
1979	QY5		1979	08	30.21458	21	52	05.36	-09	21	24.2	809
1979	QZ5	*	1979	08	30.18124	21	58	02.90	-09	44	55.6	16.2V 809
1979	QZ5		1979	08	30.21458	21	58	01.44	-09	45	09.6	809

OBSERVATIONS MADE WITH THE 0.4-M ASTROGRAPH AT THE EUROPEAN SOUTHERN OBSERVATORY BY H. DEBEHOGNE AND R. R. DE FREITAS MOURAO (ASSISTED BY G. ROMAN). MEASURED BY DEBEHOGNE, F. CALDEIRA, E. RANGEL NETTO, O. TAVARES AND M. NUNES. REDUCED BY DEBEHOGNE AND G. VIEIRA.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
102	1980 05	22.25126	15 13 30.57	-14 45 38.3		809
102	1980 05	22.25819	15 13 30.14	-14 45 35.8		809
102	1980 05	22.26512	15 13 29.83	-14 45 34.0		809
102	1980 05	23.27312	15 12 36.39	-14 40 43.6		809
102	1980 05	23.27976	15 12 36.02	-14 40 41.7		809
102	1980 05	23.28662	15 12 35.62	-14 40 39.9		809
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102	1980 06	04.13751	15 02 55.73	-13 48 05.8		809
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116	1980 05	22.25819	15 09 29.43	-16 39 40.9		809

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116	1980	05	24.18209	15	07	52.03	-16	36	05.6	809
116	1980	05	24.18763	15	07	51.77	-16	36	05.2	809
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116	1980	05	24.20079	15	07	51.09	-16	36	03.5	809
116	1980	05	24.20807	15	07	50.69	-16	36	02.2	809
116	1980	05	24.29290	15	07	46.34	-16	35	52.6	809
116	1980	05	24.29986	15	07	45.92	-16	35	52.4	809
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212	1980	05	22.24019	14	47	48.76	-22	22	42.6	809
212	1980	05	23.20871	14	47	06.57	-22	19	04.6	809
212	1980	05	23.21495	14	47	06.26	-22	19	03.1	809
212	1980	05	23.22118	14	47	06.01	-22	19	02.0	809
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1143		1980	06	05.18395	15	17	21.12	-17	12	03.1	809
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1143		1980	06	06.28579	15	16	52.97	-17	10	01.5	809
1143		1980	06	06.29341	15	16	52.75	-17	10	00.5	809
1143		1980	06	11.20012	15	14	53.94	-17	01	23.0	809
1143		1980	06	11.20704	15	14	53.78	-17	01	22.9	809
1143		1980	06	11.31162	15	14	51.39	-17	01	11.9	809
1143		1980	06	11.31854	15	14	51.24	-17	01	12.7	809
1143		1980	06	13.01667	15	14	13.01	-16	58	22.7	809
1143		1980	06	13.02363	15	14	12.85	-16	58	22.3	809
1143		1980	06	13.03052	15	14	12.67	-16	58	21.5	809
1518		1980	05	22.22634	14	47	37.49	-20	55	32.0	17.6 809
1518		1980	05	22.23326	14	47	37.06	-20	55	31.2	809
1518		1980	05	22.24019	14	47	36.66	-20	55	30.5	809
1518		1980	05	23.20871	14	46	37.21	-20	52	58.7	809
1518		1980	05	23.21495	14	46	37.01	-20	52	57.2	809
1518		1980	05	23.22118	14	46	36.76	-20	52	56.4	809
1518		1980	05	24.16513	14	45	40.29	-20	50	29.3	809
1518		1980	05	24.17275	14	45	39.80	-20	50	28.0	809
1518		1980	05	25.25208	14	44	36.20	-20	47	40.0	809
1518		1980	05	25.25900	14	44	35.73	-20	47	38.1	809
1518		1980	05	26.10671	14	43	47.28	-20	45	27.5	809
1518		1980	05	26.11362	14	43	46.86	-20	45	26.2	809
1518		1980	06	01.01481	14	38	33.37	-20	30	33.2	809
1518		1980	06	01.02316	14	38	32.97	-20	30	32.2	809
1518		1980	06	01.96537	14	37	47.62	-20	28	15.4	809
1518		1980	06	01.97191	14	37	47.35	-20	28	15.3	809
1518		1980	06	01.97884	14	37	47.05	-20	28	13.9	809
1518		1980	06	02.98445	14	36	59.96	-20	25	51.4	809
1518		1980	06	02.99135	14	36	59.71	-20	25	50.2	809
1518		1980	06	02.99830	14	36	59.33	-20	25	48.6	809
1518		1980	06	04.01701	14	36	13.41	-20	23	28.5	809
1518		1980	06	04.02393	14	36	13.08	-20	23	27.7	809
1518		1980	06	04.03086	14	36	12.74	-20	23	26.9	809
1518		1980	06	05.09808	14	35	26.25	-20	21	03.2	809
1518		1980	06	05.10500	14	35	25.91	-20	21	02.5	809
1518		1980	06	05.11262	14	35	25.67	-20	21	01.7	809
1518		1980	06	11.13433	14	31	39.79	-20	08	56.4	809
1518		1980	06	11.14125	14	31	39.50	-20	08	55.6	809
1518		1980	06	11.14818	14	31	39.23	-20	08	54.6	809
1518		1980	06	12.22301	14	31	05.50	-20	07	01.5	809
1518		1980	06	12.22993	14	31	05.27	-20	07	00.6	809
1518		1980	06	12.23686	14	31	05.01	-20	07	00.2	809
1544		1980	05	22.27966	15	24	09.29	-18	18	37.5	809
1544		1980	05	22.28658	15	24	08.84	-18	18	36.7	809
1544		1980	05	22.29344	15	24	08.42	-18	18	35.8	809
1544		1980	05	23.29655	15	23	07.68	-18	16	10.0	809
1544		1980	05	23.30324	15	23	07.28	-18	16	09.3	809
1544		1980	05	23.31017	15	23	06.89	-18	16	08.3	809
1544		1980	05	24.21741	15	22	12.58	-18	13	57.1	809
1544		1980	05	24.22433	15	22	12.15	-18	13	56.2	809
1544		1980	05	24.32614	15	22	05.91	-18	13	41.3	809
1544		1980	05	24.33306	15	22	05.51	-18	13	39.7	809
1544		1980	05	24.33999	15	22	05.05	-18	13	38.8	809
1544		1980	05	25.32029	15	21	06.95	-18	11	18.8	809
1544		1980	05	25.32791	15	21	06.46	-18	11	17.6	809
1544		1980	05	25.33483	15	21	06.00	-18	11	16.8	809
1544		1980	05	26.21022	15	20	14.77	-18	09	11.3	809
1544		1980	05	26.21680	15	20	14.36	-18	09	10.3	809

1570	1980	05	22.27966	15	30	54.61	-17	10	17.7	809
1570	1980	05	22.28658	15	30	54.25	-17	10	16.3	809
1570	1980	05	22.29344	15	30	53.95	-17	10	14.6	809
1570	1980	05	23.29655	15	30	03.22	-17	06	57.7	809
1570	1980	05	23.30324	15	30	02.83	-17	06	55.9	809
1570	1980	05	23.31017	15	30	02.47	-17	06	54.4	809
1570	1980	06	02.01069	15	22	18.71	-16	37	00.5	809
1570	1980	06	02.01762	15	22	18.39	-16	36	58.9	809
1570	1980	06	02.02454	15	22	18.10	-16	36	58.0	809
1570	1980	06	03.09799	15	21	30.59	-16	33	55.5	809
1570	1980	06	03.10492	15	21	30.30	-16	33	54.3	809
1570	1980	06	03.11192	15	21	29.96	-16	33	53.5	809
1570	1980	06	05.17010	15	20	01.57	-16	28	12.7	809
1570	1980	06	05.17702	15	20	01.24	-16	28	12.1	809
1570	1980	06	05.18395	15	20	00.94	-16	28	10.6	809
1570	1980	06	06.27821	15	19	15.43	-16	25	15.6	809
1570	1980	06	06.28579	15	19	15.11	-16	25	14.0	809
1570	1980	06	06.29341	15	19	14.83	-16	25	13.1	809
1616	1980	05	21.21798	13	56	47.89	-10	08	43.4	809
1616	1980	05	21.22698	13	56	47.58	-10	08	42.3	809
1616	1980	05	21.23599	13	56	47.28	-10	08	42.0	809
1616	1980	05	22.20071	13	56	11.48	-10	08	18.3	809
1616	1980	05	22.20763	13	56	11.24	-10	08	18.1	809
1616	1980	05	22.21456	13	56	10.99	-10	08	18.2	809
1616	1980	05	23.23295	13	55	34.40	-10	07	58.5	809
1616	1980	05	23.23918	13	55	34.18	-10	07	58.6	809
1616	1980	05	23.24544	13	55	33.95	-10	07	57.8	809
1616	1980	05	24.14711	13	55	02.56	-10	07	43.1	809
1616	1980	05	24.15473	13	55	02.27	-10	07	43.6	809
1687	1980	05	22.25126	15	13	10.06	-15	31	18.1	809
1687	1980	05	22.25819	15	13	09.70	-15	31	17.1	809
1687	1980	05	22.26512	15	13	09.40	-15	31	16.2	809
1687	1980	05	23.27312	15	12	24.92	-15	28	50.2	809
1687	1980	05	23.27976	15	12	24.63	-15	28	49.5	809
1687	1980	05	23.28662	15	12	24.32	-15	28	48.4	809
1687	1980	05	24.20079	15	11	44.36	-15	26	38.2	809
1687	1980	05	24.20807	15	11	44.03	-15	26	37.0	809
1687	1980	05	25.29813	15	10	56.79	-15	24	02.8	809
1687	1980	05	25.30540	15	10	56.46	-15	24	01.6	809
1687	1980	05	26.16762	15	10	19.57	-15	22	01.9	809
1687	1980	05	26.17455	15	10	19.28	-15	22	01.7	809
1687	1980	05	31.97741	15	06	21.00	-15	09	20.6	809
1687	1980	05	31.98433	15	06	20.81	-15	09	19.5	809
1687	1980	05	31.99126	15	06	20.60	-15	09	18.9	809
1687	1980	06	01.98715	15	05	41.64	-15	07	17.0	809
1687	1980	06	01.99407	15	05	41.42	-15	07	16.8	809
1687	1980	06	02.00100	15	05	41.14	-15	07	16.0	809
1687	1980	06	03.01143	15	05	02.48	-15	05	15.9	809
1687	1980	06	03.01904	15	05	02.17	-15	05	14.8	809
1687	1980	06	03.02666	15	05	01.94	-15	05	13.4	809
1687	1980	06	04.12366	15	04	20.68	-15	03	07.0	809
1687	1980	06	04.13058	15	04	20.43	-15	03	06.5	809
1687	1980	06	04.13751	15	04	20.15	-15	03	05.5	809
1687	1980	06	11.17727	15	00	18.79	-14	51	10.6	809
1687	1980	06	11.18419	15	00	18.63	-14	51	10.4	809
1687	1980	06	11.19112	15	00	18.34	-14	51	09.0	809
1687	1980	06	12.26664	14	59	45.25	-14	49	37.2	809
1687	1980	06	12.27287	14	59	45.02	-14	49	36.1	809
1687	1980	06	12.27911	14	59	44.88	-14	49	35.8	809

1687	1980	06	13.07768	14	59	21.17	-14	48	30.8	809
1687	1980	06	13.08455	14	59	21.03	-14	48	30.5	809
1687	1980	06	13.09147	14	59	20.71	-14	48	30.3	809
1777	1980	05	22.22634	14	44	30.84	-21	02	54.9	809
1777	1980	05	22.23326	14	44	30.47	-21	02	53.1	809
1777	1980	05	22.24019	14	44	30.11	-21	02	51.3	809
1777	1980	05	23.20871	14	43	42.51	-20	58	59.2	809
1777	1980	05	23.21495	14	43	42.22	-20	58	57.8	809
1777	1980	05	23.22118	14	43	41.84	-20	58	56.7	809
1777	1980	05	24.16513	14	42	56.42	-20	55	11.9	809
1777	1980	05	24.17275	14	42	56.05	-20	55	09.7	809
1777	1980	05	25.25208	14	42	04.97	-20	50	52.9	809
1777	1980	05	25.25900	14	42	04.78	-20	50	51.3	809
1777	1980	05	26.10671	14	41	25.84	-20	47	31.2	809
1777	1980	05	26.11362	14	41	25.59	-20	47	29.4	809
1777	1980	06	01.01481	14	37	17.39	-20	24	52.3	809
1777	1980	06	01.02316	14	37	17.06	-20	24	51.2	809
1777	1980	06	01.96537	14	36	41.62	-20	21	22.5	809
1777	1980	06	01.97191	14	36	41.39	-20	21	21.2	809
1777	1980	06	01.97884	14	36	41.14	-20	21	20.0	809
1777	1980	06	02.98445	14	36	04.52	-20	17	42.3	809
1777	1980	06	02.99135	14	36	04.30	-20	17	40.7	809
1777	1980	06	02.99830	14	36	04.10	-20	17	39.1	809
1777	1980	06	04.01701	14	35	28.41	-20	14	02.0	809
1777	1980	06	04.02393	14	35	28.16	-20	14	00.6	809
1777	1980	06	04.03086	14	35	27.95	-20	13	59.5	809
1777	1980	06	05.09808	14	34	52.16	-20	10	16.8	809
1777	1980	06	05.10500	14	34	51.90	-20	10	15.0	809
1777	1980	06	05.11262	14	34	51.64	-20	10	13.6	809
1777	1980	06	11.13433	14	32	02.14	-19	50	54.7	809
1777	1980	06	11.14125	14	32	01.91	-19	50	53.5	809
1777	1980	06	11.14818	14	32	01.69	-19	50	50.3	809
1777	1980	06	12.22301	14	31	37.29	-19	47	44.3	809
1777	1980	06	12.22993	14	31	37.09	-19	47	42.9	809
1777	1980	06	12.23686	14	31	36.97	-19	47	41.5	809
1777	1980	06	13.05199	14	31	20.08	-19	45	25.7	809
1777	1980	06	13.05895	14	31	19.86	-19	45	24.2	809
1777	1980	06	13.06584	14	31	19.72	-19	45	22.5	809
1889	1980	05	22.27966	15	25	17.31	-18	52	28.5	809
1889	1980	05	22.28658	15	25	16.94	-18	52	29.1	809
1889	1980	05	22.29344	15	25	16.54	-18	52	29.6	809
1889	1980	05	23.29655	15	24	22.99	-18	52	55.2	809
1889	1980	05	23.30324	15	24	22.66	-18	52	55.4	809
1889	1980	05	23.31017	15	24	22.31	-18	52	55.6	809
1889	1980	05	24.21741	15	23	34.37	-18	53	17.5	809
1889	1980	05	24.22433	15	23	34.01	-18	53	17.5	809
1889	1980	05	24.32614	15	23	28.54	-18	53	20.1	809
1889	1980	05	24.33306	15	23	28.21	-18	53	20.0	809
1889	1980	05	24.33999	15	23	27.81	-18	53	19.9	809
1889	1980	05	25.32791	15	22	36.09	-18	53	45.3	809
1889	1980	05	25.33483	15	22	35.72	-18	53	45.6	809
1889	1980	05	26.21022	15	21	50.33	-18	54	07.6	809
1889	1980	05	26.21680	15	21	49.89	-18	54	07.9	809
1902	1980	06	03.06752	14	57	33.54	-14	58	22.0	809
1902	1980	06	03.07445	14	57	33.30	-14	58	21.8	809
1902	1980	06	03.08137	14	57	32.97	-14	58	21.6	809
1902	1980	06	04.09942	14	56	56.51	-14	58	18.4	809
1902	1980	06	04.10635	14	56	56.34	-14	58	18.5	809
1902	1980	06	04.11327	14	56	56.11	-14	58	18.1	809

1902			1980	06	11.17727	14	53	04.17	-14	59	15.4	809
1902			1980	06	11.18419	14	53	03.96	-14	59	15.9	809
1902			1980	06	11.19112	14	53	03.71	-14	59	15.4	809
1902			1980	06	12.24593	14	52	32.60	-14	59	38.1	809
1902			1980	06	12.25279	14	52	32.43	-14	59	38.4	809
1902			1980	06	12.25971	14	52	32.21	-14	59	38.1	809
1902			1980	06	13.10267	14	52	08.13	-14	59	59.6	809
1902			1980	06	13.10948	14	52	07.92	-15	00	00.5	809
1902			1980	06	13.11640	14	52	07.72	-15	00	00.4	809
2089			1980	05	21.31495	16	47	27.85	-08	27	39.8	809
2089			1980	05	21.32395	16	47	27.36	-08	27	40.4	809
2089			1980	05	21.33295	16	47	26.87	-08	27	41.0	809
2089			1980	05	22.33160	16	46	31.16	-08	28	23.9	809
2089			1980	05	22.33852	16	46	30.76	-08	28	24.6	809
2089			1980	05	22.34545	16	46	30.40	-08	28	24.9	809
2089			1980	05	23.37473	16	45	32.33	-08	29	16.3	809
2089			1980	05	23.38150	16	45	31.97	-08	29	16.4	809
2089			1980	05	23.38843	16	45	31.56	-08	29	16.9	809
2089			1980	05	25.37950	16	43	37.42	-08	31	14.9	809
2089			1980	05	25.38643	16	43	37.03	-08	31	15.5	809
2089			1980	05	28.13664	16	40	56.65	-08	34	43.2	809
2089			1980	05	28.14347	16	40	56.24	-08	34	43.5	809
2089			1980	05	28.31037	16	40	46.08	-08	34	56.7	809
2089			1980	05	28.31868	16	40	45.65	-08	34	57.8	809
2089			1980	06	03.04120	16	35	04.66	-08	44	52.5	809
2089			1980	06	03.04813	16	35	04.27	-08	44	53.2	809
2089			1980	06	03.05505	16	35	03.83	-08	44	54.1	809
2089			1980	06	04.14929	16	33	58.23	-08	47	12.9	809
2089			1980	06	04.15621	16	33	57.84	-08	47	14.1	809
2089			1980	06	04.16314	16	33	57.33	-08	47	15.3	809
2089			1980	06	06.30450	16	31	49.11	-08	52	10.1	809
2089			1980	06	06.31142	16	31	48.69	-08	52	11.2	809
2089			1980	06	06.31835	16	31	48.30	-08	52	11.5	809
2089			1980	06	11.33376	16	26	53.32	-09	05	45.9	809
2089			1980	06	11.34071	16	26	52.89	-09	05	47.6	809
2089			1980	06	11.34775	16	26	52.58	-09	05	48.2	809
2089			1980	06	12.33936	16	25	55.47	-09	08	48.6	809
2089			1980	06	12.34628	16	25	55.07	-09	08	49.8	809
2089			1980	06	12.35321	16	25	54.70	-09	08	50.8	809
2089			1980	06	13.13028	16	25	10.63	-09	11	18.0	809
2089			1980	06	13.13718	16	25	10.29	-09	11	19.2	809
2089			1980	06	13.14410	16	25	09.89	-09	11	20.1	809
1980	KC	*	1980	05	21.21798	13	56	08.26	-09	31	35.3	18.0 809
1980	KC		1980	05	21.22698	13	56	07.96	-09	31	33.8	809
1980	KC		1980	05	21.23599	13	56	07.67	-09	31	32.0	809
1980	KC		1980	05	22.20071	13	55	29.69	-09	27	52.5	809
1980	KC		1980	05	22.20763	13	55	29.42	-09	27	50.3	809
1980	KC		1980	05	22.21456	13	55	29.11	-09	27	48.7	809
1980	KC		1980	05	23.23295	13	54	50.27	-09	24	02.5	809
1980	KC		1980	05	23.23918	13	54	50.00	-09	24	00.9	809
1980	KC		1980	05	24.14711	13	54	16.42	-09	20	48.8	809
1980	KC		1980	05	24.15473	13	54	16.03	-09	20	44.4	809
1980	KD	*	1980	05	21.31495	16	43	45.76	-09	02	54.0	16.8 809
1980	KD		1980	05	21.32395	16	43	45.32	-09	02	53.4	809
1980	KD		1980	05	21.33295	16	43	44.91	-09	02	52.8	809
1980	KD		1980	05	22.33160	16	42	58.83	-09	01	46.5	809
1980	KD		1980	05	22.33852	16	42	58.56	-09	01	45.7	809
1980	KD		1980	05	22.34545	16	42	58.24	-09	01	45.3	809
1980	KD		1980	05	23.37473	16	42	10.29	-09	00	45.0	809

1980	KD		1980	05	23.38150	16	42	09.93	-09	00	44.1	809
1980	KD		1980	05	23.38843	16	42	09.60	-09	00	43.7	809
1980	KD		1980	05	24.35796	16	41	24.06	-08	59	52.4	809
1980	KD		1980	05	24.36492	16	41	23.75	-08	59	52.1	809
1980	KD		1980	05	24.37185	16	41	23.42	-08	59	51.5	809
1980	KD		1980	05	25.37950	16	40	35.72	-08	59	05.1	809
1980	KD		1980	05	25.38643	16	40	35.35	-08	59	05.2	809
1980	KD		1980	06	03.04120	16	33	40.03	-08	57	12.4	809
1980	KD		1980	06	03.04813	16	33	39.73	-08	57	12.5	809
1980	KD		1980	06	03.05505	16	33	39.42	-08	57	12.4	809
1980	KD		1980	06	04.14929	16	32	47.03	-08	57	36.7	809
1980	KD		1980	06	04.15621	16	32	46.73	-08	57	36.6	809
1980	KD		1980	06	04.16314	16	32	46.17	-08	57	37.0	809
1980	KD		1980	06	06.30450	16	31	04.84	-08	58	49.1	809
1980	KD		1980	06	06.31142	16	31	04.52	-08	58	49.2	809
1980	KD		1980	06	06.31835	16	31	04.19	-08	58	49.7	809
1980	KD		1980	06	11.33376	16	27	14.87	-09	03	49.8	809
1980	KD		1980	06	11.34071	16	27	14.56	-09	03	50.1	809
1980	KD		1980	06	11.34775	16	27	14.24	-09	03	50.4	809
1980	KD		1980	06	12.33936	16	26	30.66	-09	05	14.2	809
1980	KD		1980	06	12.34628	16	26	30.37	-09	05	13.9	809
1980	KD		1980	06	12.35321	16	26	30.08	-09	05	13.8	809
1980	KE	*	1980	05	22.22634	14	41	29.76	-22	05	46.9	18.2 809
1980	KE		1980	05	22.23326	14	41	29.39	-22	05	43.3	809
1980	KE		1980	05	22.24019	14	41	28.99	-22	05	39.1	809
1980	KE		1980	05	23.20871	14	40	39.20	-21	56	47.3	809
1980	KE		1980	05	23.21495	14	40	38.88	-21	56	43.5	809
1980	KE		1980	05	23.22118	14	40	38.52	-21	56	39.7	809
1980	KE		1980	05	24.16513	14	39	50.83	-21	48	12.0	809
1980	KE		1980	05	24.17275	14	39	50.52	-21	48	07.8	809
1980	KE		1980	06	01.96537	14	33	26.99	-20	29	17.0	809
1980	KE		1980	06	01.97191	14	33	26.79	-20	29	13.7	809
1980	KE		1980	06	01.97884	14	33	26.53	-20	29	10.7	809
1980	KE		1980	06	02.98445	14	32	50.56	-20	20	28.7	809
1980	KE		1980	06	02.99135	14	32	50.27	-20	20	25.4	809
1980	KE		1980	06	02.99830	14	32	50.08	-20	20	21.7	809
1980	KE		1980	06	04.01701	14	32	15.46	-20	11	38.2	809
1980	KE		1980	06	04.02393	14	32	15.18	-20	11	34.6	809
1980	KE		1980	06	04.03086	14	32	14.92	-20	11	31.3	809
1980	KE		1980	06	05.09808	14	31	40.50	-20	02	31.6	809
1980	KE		1980	06	05.10500	14	31	40.28	-20	02	28.2	809
1980	KE		1980	06	05.11262	14	31	40.07	-20	02	25.2	809
1980	KE		1980	06	11.13433	14	29	07.85	-19	14	20.1	809
1980	KE		1980	06	11.14125	14	29	07.66	-19	14	16.5	809
1980	KE		1980	06	11.14818	14	29	07.50	-19	14	12.7	809
1980	KE		1980	06	12.22301	14	28	47.91	-19	06	09.5	809
1980	KE		1980	06	12.22993	14	28	47.71	-19	06	06.4	809
1980	KE		1980	06	12.23686	14	28	47.54	-19	06	03.4	809
1980	KF	*	1980	05	22.25126	15	07	50.68	-16	09	02.5	17.6 809
1980	KF		1980	05	22.25819	15	07	50.30	-16	09	00.7	809
1980	KF		1980	05	22.26512	15	07	49.84	-16	08	58.8	809
1980	KF		1980	05	23.27312	15	06	50.73	-16	04	56.7	809
1980	KF		1980	05	23.27976	15	06	50.34	-16	04	55.5	809
1980	KF		1980	05	23.28662	15	06	49.96	-16	04	53.7	809
1980	KF		1980	05	24.18209	15	05	58.46	-16	01	21.6	809
1980	KF		1980	05	24.18763	15	05	58.20	-16	01	20.3	809
1980	KF		1980	05	24.19317	15	05	57.89	-16	01	19.1	809
1980	KF		1980	05	24.29290	15	05	52.00	-16	00	55.0	809
1980	KF		1980	05	24.29986	15	05	51.60	-16	00	53.6	809

1980	KF		1980	05	24.30675	15	05	51.20	-16	00	52.2	809
1980	KF		1980	06	02.03916	14	58	22.43	-15	30	14.6	809
1980	KF		1980	06	02.04636	14	58	22.06	-15	30	13.4	809
1980	KF		1980	06	03.06752	14	57	36.81	-15	27	09.9	809
1980	KF		1980	06	03.07445	14	57	36.52	-15	27	09.1	809
1980	KF		1980	06	03.08137	14	57	36.21	-15	27	07.7	809
1980	KF		1980	06	04.09942	14	56	52.68	-15	24	13.0	809
1980	KF		1980	06	04.10635	14	56	52.31	-15	24	11.4	809
1980	KF		1980	06	04.11327	14	56	52.06	-15	24	10.3	809
1980	KF		1980	06	12.24593	14	52	10.68	-15	05	49.3	809
1980	KF		1980	06	12.25279	14	52	10.51	-15	05	49.0	809
1980	KF		1980	06	12.25971	14	52	10.29	-15	05	47.9	809
1980	KG	*	1980	05	22.25126	15	11	19.90	-15	59	40.1	16.0 809
1980	KG		1980	05	22.25819	15	11	19.53	-15	59	37.9	809
1980	KG		1980	05	22.26512	15	11	19.14	-15	59	34.8	809
1980	KG		1980	05	23.27312	15	10	26.62	-15	53	36.2	809
1980	KG		1980	05	23.27976	15	10	26.26	-15	53	34.3	809
1980	KG		1980	05	23.28662	15	10	25.91	-15	53	31.5	809
1980	KG		1980	05	24.18209	15	09	40.27	-15	48	18.5	809
1980	KG		1980	05	24.18763	15	09	40.01	-15	48	16.7	809
1980	KG		1980	05	24.19317	15	09	39.68	-15	48	14.5	809
1980	KG		1980	05	24.20079	15	09	39.32	-15	48	12.3	809
1980	KG		1980	05	24.20807	15	09	38.95	-15	48	09.4	809
1980	KG		1980	05	24.29290	15	09	34.39	-15	47	39.0	809
1980	KG		1980	05	24.29986	15	09	33.99	-15	47	37.0	809
1980	KG		1980	05	24.30675	15	09	33.65	-15	47	34.4	809
1980	KG		1980	05	25.27701	15	08	45.05	-15	41	58.9	809
1980	KG		1980	05	25.28359	15	08	44.68	-15	41	56.9	809
1980	KG		1980	05	25.29813	15	08	43.93	-15	41	52.6	809
1980	KG		1980	05	25.30540	15	08	43.58	-15	41	50.1	809
1980	KG		1980	05	26.16762	15	08	01.52	-15	36	57.5	809
1980	KG		1980	05	26.17455	15	08	01.21	-15	36	55.7	809
1980	KG		1980	05	26.18909	15	08	00.51	-15	36	50.4	809
1980	KG		1980	05	26.19671	15	08	00.08	-15	36	48.3	809
1980	KG		1980	05	31.97741	15	03	41.13	-15	06	17.1	809
1980	KG		1980	05	31.98433	15	03	40.91	-15	06	14.9	809
1980	KG		1980	05	31.99126	15	03	40.64	-15	06	13.4	809
1980	KG		1980	06	01.98715	15	03	00.73	-15	01	24.2	809
1980	KG		1980	06	01.99407	15	03	00.48	-15	01	22.2	809
1980	KG		1980	06	02.00100	15	03	00.20	-15	01	20.5	809
1980	KG		1980	06	03.01143	15	02	21.43	-14	56	36.9	809
1980	KG		1980	06	03.01904	15	02	21.13	-14	56	34.4	809
1980	KG		1980	06	03.02666	15	02	20.84	-14	56	32.3	809
1980	KG		1980	06	03.06752	15	02	19.06	-14	56	21.0	809
1980	KG		1980	06	03.07445	15	02	18.81	-14	56	19.0	809
1980	KG		1980	06	03.08137	15	02	18.52	-14	56	17.2	809
1980	KG		1980	06	04.09942	15	01	41.14	-14	51	39.8	809
1980	KG		1980	06	04.10635	15	01	40.93	-14	51	37.9	809
1980	KG		1980	06	04.11327	15	01	40.59	-14	51	35.8	809
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1980	KG		1980	06	04.13058	15	01	39.96	-14	51	32.3	809
1980	KG		1980	06	04.13751	15	01	39.71	-14	51	30.5	809
1980	KG		1980	06	11.17727	14	58	11.98	-14	24	19.9	809
1980	KG		1980	06	11.18419	14	58	11.84	-14	24	18.4	809
1980	KG		1980	06	11.19112	14	58	11.69	-14	24	17.0	809
1980	KG		1980	06	12.26664	14	57	47.96	-14	20	54.9	809
1980	KG		1980	06	12.27287	14	57	47.85	-14	20	54.1	809
1980	KG		1980	06	12.27911	14	57	47.71	-14	20	53.0	809
1980	KG		1980	06	13.07768	14	57	32.29	-14	18	30.3	809

1980	KG		1980	06	13.08455	14	57	32.15	-14	18	28.6	809
1980	KG		1980	06	13.09147	14	57	32.03	-14	18	27.6	809
1980	KH	*	1980	05	22.25126	15	11	29.37	-16	33	52.0	17.2 809
1980	KH		1980	05	22.25819	15	11	29.08	-16	33	48.9	809
1980	KH		1980	05	22.26512	15	11	28.67	-16	33	43.8	809
1980	KH		1980	05	23.27312	15	10	41.50	-16	23	53.7	809
1980	KH		1980	05	23.27976	15	10	41.16	-16	23	50.3	809
1980	KH		1980	05	23.28662	15	10	40.84	-16	23	46.1	809
1980	KH		1980	05	24.18209	15	09	59.80	-16	15	05.0	809
1980	KH		1980	05	24.18763	15	09	59.51	-16	15	01.5	809
1980	KH		1980	05	24.19317	15	09	59.24	-16	14	58.8	809
1980	KH		1980	05	24.20079	15	09	58.85	-16	14	53.5	809
1980	KH		1980	05	24.20807	15	09	58.47	-16	14	50.1	809
1980	KH		1980	05	24.29290	15	09	54.56	-16	13	59.9	809
1980	KH		1980	05	24.29986	15	09	54.17	-16	13	56.2	809
1980	KH		1980	05	24.30675	15	09	53.75	-16	13	51.8	809
1980	KH		1980	05	25.27701	15	09	09.97	-16	04	30.7	809
1980	KH		1980	05	25.28359	15	09	09.66	-16	04	26.9	809
1980	KH		1980	05	25.29813	15	09	09.06	-16	04	19.9	809
1980	KH		1980	05	25.30540	15	09	08.75	-16	04	15.6	809
1980	KH		1980	05	26.16762	15	08	30.67	-15	56	02.5	809
1980	KH		1980	05	26.17455	15	08	30.35	-15	55	58.5	809
1980	KH		1980	05	31.97741	15	04	32.99	-15	02	34.6	809
1980	KH		1980	05	31.98433	15	04	32.75	-15	02	30.9	809
1980	KH		1980	05	31.99126	15	04	32.50	-15	02	27.7	809
1980	KH		1980	06	01.98715	15	03	55.54	-14	53	42.8	809
1980	KH		1980	06	01.99407	15	03	55.37	-14	53	39.2	809
1980	KH		1980	06	02.00100	15	03	55.17	-14	53	35.8	809
1980	KH		1980	06	03.01143	15	03	18.99	-14	44	52.7	809
1980	KH		1980	06	03.01904	15	03	18.68	-14	44	47.5	809
1980	KH		1980	06	03.02666	15	03	18.45	-14	44	44.8	809
1980	KH		1980	06	03.06752	15	03	16.88	-14	44	23.5	809
1980	KH		1980	06	03.07445	15	03	16.70	-14	44	19.4	809
1980	KH		1980	06	03.08137	15	03	16.40	-14	44	16.2	809
1980	KH		1980	06	04.12366	15	02	40.55	-14	35	26.3	809
1980	KH		1980	06	04.13058	15	02	40.31	-14	35	22.6	809
1980	KH		1980	06	04.13751	15	02	40.13	-14	35	18.9	809
1980	KH		1980	06	11.17727	14	59	19.81	-13	40	18.6	809
1980	KH		1980	06	11.18419	14	59	19.62	-13	40	14.4	809
1980	KH		1980	06	12.26664	14	58	55.52	-13	32	36.5	809
1980	KH		1980	06	12.27287	14	58	55.33	-13	32	33.7	809
1980	KH		1980	06	12.27911	14	58	55.12	-13	32	30.9	809
1980	KJ	*	1980	05	22.25126	15	14	00.38	-15	58	59.3	16.7 809
1980	KJ		1980	05	22.25819	15	14	00.00	-15	58	57.5	809
1980	KJ		1980	05	22.26512	15	13	59.58	-15	58	54.3	809
1980	KJ		1980	05	23.27312	15	13	02.98	-15	52	55.7	809
1980	KJ		1980	05	23.27976	15	13	02.63	-15	52	53.6	809
1980	KJ		1980	05	23.28662	15	13	02.22	-15	52	50.9	809
1980	KJ		1980	05	24.20079	15	12	11.62	-15	47	30.1	809
1980	KJ		1980	05	24.20807	15	12	11.20	-15	47	26.9	809
1980	KJ		1980	05	25.29813	15	11	11.41	-15	41	06.3	809
1980	KJ		1980	05	25.30540	15	11	11.03	-15	41	03.2	809
1980	KJ		1980	05	26.16762	15	10	24.70	-15	36	05.7	809
1980	KJ		1980	05	26.17455	15	10	24.18	-15	36	02.8	809
1980	KJ		1980	05	31.97741	15	05	28.68	-15	04	07.1	809
1980	KJ		1980	05	31.98433	15	05	28.34	-15	04	05.6	809
1980	KJ		1980	05	31.99126	15	05	27.98	-15	04	03.1	809
1980	KJ		1980	06	01.98715	15	04	40.66	-14	58	52.1	809
1980	KJ		1980	06	01.99407	15	04	40.40	-14	58	49.8	809

1980	KJ		1980	06	02.00100	15	04	40.11	-14	58	47.7			809
1980	KJ		1980	06	03.01143	15	03	53.32	-14	53	38.3			809
1980	KJ		1980	06	03.01904	15	03	53.00	-14	53	36.1			809
1980	KJ		1980	06	03.02666	15	03	52.64	-14	53	33.9			809
1980	KJ		1980	06	03.06752	15	03	50.60	-14	53	21.7			809
1980	KJ		1980	06	03.07445	15	03	50.28	-14	53	19.5			809
1980	KJ		1980	06	03.08137	15	03	49.98	-14	53	17.5			809
1980	KJ		1980	06	04.12366	15	03	03.08	-14	48	06.1			809
1980	KJ		1980	06	04.13058	15	03	02.77	-14	48	04.1			809
1980	KJ		1980	06	04.13751	15	03	02.48	-14	48	01.8			809
1980	KJ		1980	06	11.17727	14	58	23.50	-14	16	11.8			809
1980	KJ		1980	06	11.18419	14	58	23.24	-14	16	10.5			809
1980	KJ		1980	06	11.19112	14	58	23.00	-14	16	09.0			809
1980	KJ		1980	06	12.26664	14	57	46.55	-14	11	52.6			809
1980	KJ		1980	06	12.27287	14	57	46.28	-14	11	51.5			809
1980	KJ		1980	06	12.27911	14	57	45.97	-14	11	49.8			809
1980	KK	*	1980	05	22.25126	15	14	23.14	-15	47	06.3		17.4	809
1980	KK		1980	05	22.25819	15	14	22.70	-15	47	05.2			809
1980	KK		1980	05	22.26512	15	14	22.29	-15	47	03.1			809
1980	KK		1980	05	23.27312	15	13	24.73	-15	43	36.9			809
1980	KK		1980	05	23.27976	15	13	24.30	-15	43	35.6			809
1980	KK		1980	05	23.28662	15	13	23.86	-15	43	34.1			809
1980	KK		1980	05	24.20079	15	12	32.60	-15	40	31.1			809
1980	KK		1980	05	24.20807	15	12	32.18	-15	40	29.4			809
1980	KK		1980	05	25.29813	15	11	31.62	-15	36	55.3			809
1980	KK		1980	05	25.30540	15	11	31.24	-15	36	53.7			809
1980	KK		1980	05	26.16762	15	10	44.74	-15	34	10.6			809
1980	KK		1980	05	26.17455	15	10	44.40	-15	34	09.1			809
1980	KK		1980	05	31.97741	15	05	54.53	-15	17	47.1			809
1980	KK		1980	05	31.98433	15	05	54.20	-15	17	45.8			809
1980	KK		1980	05	31.99126	15	05	53.91	-15	17	45.2			809
1980	KK		1980	06	01.98715	15	05	09.07	-15	15	21.0			809
1980	KK		1980	06	01.99407	15	05	08.75	-15	15	19.9			809
1980	KK		1980	06	02.00100	15	05	08.40	-15	15	18.9			809
1980	KK		1980	06	03.01143	15	04	24.69	-15	13	02.0			809
1980	KK		1980	06	03.01904	15	04	24.37	-15	13	00.6			809
1980	KK		1980	06	03.02666	15	04	24.01	-15	12	59.5			809
1980	KK		1980	06	03.06752	15	04	22.13	-15	12	53.9			809
1980	KK		1980	06	03.07445	15	04	21.81	-15	12	53.5			809
1980	KK		1980	06	03.08137	15	04	21.56	-15	12	53.0			809
1980	KK		1980	06	04.12366	15	03	38.22	-15	10	40.0			809
1980	KK		1980	06	04.13058	15	03	37.95	-15	10	38.9			809
1980	KK		1980	06	04.13751	15	03	37.70	-15	10	38.3			809
1980	KK		1980	06	11.17727	14	59	41.56	-15	00	05.0			809
1980	KK		1980	06	11.18419	14	59	41.39	-15	00	04.4			809
1980	KK		1980	06	11.19112	14	59	41.20	-15	00	04.4			809
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1980	KK		1980	06	12.27287	14	59	14.05	-14	59	09.1			809
1980	KK		1980	06	12.27911	14	59	13.90	-14	59	09.0			809
1980	KL	*	1980	05	22.25126	15	14	43.96	-16	21	32.6		17.6	809
1980	KL		1980	05	22.25819	15	14	43.57	-16	21	30.7			809
1980	KL		1980	05	22.26512	15	14	43.13	-16	21	27.6			809
1980	KL		1980	05	23.27312	15	13	48.00	-16	14	57.8			809
1980	KL		1980	05	23.27976	15	13	47.61	-16	14	55.3			809
1980	KL		1980	05	23.28662	15	13	47.19	-16	14	52.8			809
1980	KL		1980	05	24.20079	15	12	58.31	-16	09	05.0			809
1980	KL		1980	05	24.20807	15	12	57.87	-16	09	02.1			809
1980	KL		1980	05	25.29813	15	12	00.32	-16	02	10.7			809
1980	KL		1980	05	25.30540	15	11	59.89	-16	02	08.0			809

1980	KL		1980	05	26.16762	15	11	15.67	-15	56	49.0	809
1980	KL		1980	05	26.17455	15	11	15.27	-15	56	46.5	809
1980	KL		1980	05	31.97741	15	06	40.17	-15	23	07.2	809
1980	KL		1980	05	31.98433	15	06	39.87	-15	23	05.1	809
1980	KL		1980	05	31.99126	15	06	39.55	-15	23	02.6	809
1980	KL		1980	06	01.98715	15	05	56.91	-15	17	41.6	809
1980	KL		1980	06	01.99407	15	05	56.67	-15	17	39.9	809
1980	KL		1980	06	02.00100	15	05	56.39	-15	17	37.9	809
1980	KL		1980	06	03.01143	15	05	14.78	-15	12	22.0	809
1980	KL		1980	06	03.01904	15	05	14.49	-15	12	19.6	809
1980	KL		1980	06	03.02666	15	05	14.17	-15	12	17.3	809
1980	KL		1980	06	04.12366	15	04	30.61	-15	06	44.2	809
1980	KL		1980	06	04.13058	15	04	30.34	-15	06	41.9	809
1980	KL		1980	06	04.13751	15	04	30.06	-15	06	39.7	809
1980	KL		1980	06	11.17727	15	00	40.93	-14	35	34.8	809
1980	KL		1980	06	11.18419	15	00	40.72	-14	35	32.9	809
1980	KL		1980	06	11.19112	15	00	40.50	-14	35	31.7	809
1980	KL		1980	06	12.26664	15	00	13.37	-14	31	33.1	809
1980	KL		1980	06	12.27287	15	00	13.20	-14	31	31.3	809
1980	KL		1980	06	12.27911	15	00	13.05	-14	31	29.9	809
1980	KM	*	1980	05	22.27966	15	25	12.90	-17	16	31.8	17.6 809
1980	KM		1980	05	22.28658	15	25	12.53	-17	16	29.2	809
1980	KM		1980	05	22.29344	15	25	12.17	-17	16	26.5	809
1980	KM		1980	05	23.29655	15	24	22.14	-17	10	51.5	809
1980	KM		1980	05	23.30324	15	24	21.80	-17	10	49.2	809
1980	KM		1980	05	23.31017	15	24	21.50	-17	10	46.8	809
1980	KM		1980	05	24.21741	15	23	36.92	-17	05	45.4	809
1980	KM		1980	05	24.22433	15	23	36.48	-17	05	42.9	809
1980	KM		1980	05	24.32614	15	23	31.30	-17	05	08.7	809
1980	KM		1980	05	24.33306	15	23	30.99	-17	05	06.2	809
1980	KM		1980	05	24.33999	15	23	30.65	-17	05	04.4	809
1980	KM		1980	05	25.32029	15	22	43.00	-16	59	39.8	809
1980	KM		1980	05	25.32791	15	22	42.61	-16	59	37.8	809
1980	KM		1980	05	25.33483	15	22	42.22	-16	59	35.3	809
1980	KM		1980	05	31.99889	15	17	36.40	-16	24	19.9	809
1980	KM		1980	06	01.00581	15	17	36.10	-16	24	17.5	809
1980	KM		1980	06	02.01069	15	16	53.21	-16	19	15.2	809
1980	KM		1980	06	02.01762	15	16	52.92	-16	19	13.3	809
1980	KM		1980	06	02.02454	15	16	52.57	-16	19	09.1	809
1980	KM		1980	06	03.09799	15	16	07.84	-16	13	52.2	809
1980	KM		1980	06	03.10492	15	16	07.59	-16	13	50.4	809
1980	KM		1980	06	03.11192	15	16	07.29	-16	13	47.9	809
1980	KM		1980	06	04.07172	15	15	28.57	-16	09	10.1	809
1980	KM		1980	06	04.07934	15	15	28.23	-16	09	07.4	809
1980	KM		1980	06	04.08695	15	15	27.88	-16	09	05.4	809
1980	KM		1980	06	05.17010	15	14	45.21	-16	03	56.3	809
1980	KM		1980	06	05.17702	15	14	44.91	-16	03	54.7	809
1980	KM		1980	06	05.18395	15	14	44.64	-16	03	52.5	809
1980	KM		1980	06	06.27821	15	14	02.84	-15	58	49.2	809
1980	KM		1980	06	06.28579	15	14	02.59	-15	58	44.7	809
1980	KM		1980	06	06.29341	15	14	02.30	-15	58	42.7	809
1980	KN	*	1980	05	22.27966	15	25	14.52	-17	42	42.7	17.0 809
1980	KN		1980	05	22.28658	15	25	14.21	-17	42	42.1	809
1980	KN		1980	05	22.29344	15	25	13.86	-17	42	41.1	809
1980	KN		1980	05	23.29655	15	24	26.42	-17	40	43.2	809
1980	KN		1980	05	23.30324	15	24	26.10	-17	40	42.3	809
1980	KN		1980	05	23.31017	15	24	25.81	-17	40	41.7	809
1980	KN		1980	05	24.21741	15	23	43.50	-17	38	56.7	809
1980	KN		1980	05	24.22433	15	23	43.14	-17	38	55.9	809

1980	KN		1980	05	24.32614	15	23	38.27	-17	38	42.9	809
1980	KN		1980	05	24.33306	15	23	38.01	-17	38	42.3	809
1980	KN		1980	05	24.33999	15	23	37.69	-17	38	41.2	809
1980	KN		1980	05	25.32029	15	22	52.30	-17	36	48.8	809
1980	KN		1980	05	25.32791	15	22	51.97	-17	36	48.0	809
1980	KN		1980	05	25.33483	15	22	51.68	-17	36	47.3	809
1980	KN		1980	05	26.21022	15	22	11.70	-17	35	07.8	809
1980	KN		1980	05	26.21680	15	22	11.43	-17	35	07.7	809
1980	KN		1980	05	31.99889	15	18	00.51	-17	24	54.9	809
1980	KN		1980	06	01.00581	15	18	00.12	-17	24	54.1	809
1980	KN		1980	06	02.01069	15	17	19.14	-17	23	17.1	809
1980	KN		1980	06	02.01762	15	17	18.90	-17	23	17.0	809
1980	KN		1980	06	02.02454	15	17	18.62	-17	23	16.0	809
1980	KN		1980	06	03.09799	15	16	35.76	-17	21	36.3	809
1980	KN		1980	06	03.10492	15	16	35.47	-17	21	35.4	809
1980	KN		1980	06	03.11192	15	16	35.21	-17	21	34.3	809
1980	KN		1980	06	04.07172	15	15	58.03	-17	20	07.2	809
1980	KN		1980	06	04.07934	15	15	57.70	-17	20	06.7	809
1980	KN		1980	06	04.08695	15	15	57.39	-17	20	05.4	809
1980	KN		1980	06	05.17010	15	15	16.30	-17	18	32.5	809
1980	KN		1980	06	05.17702	15	15	16.02	-17	18	31.3	809
1980	KN		1980	06	05.18395	15	15	15.75	-17	18	31.1	809
1980	KN		1980	06	06.27821	15	14	35.52	-17	17	00.4	809
1980	KN		1980	06	06.28579	15	14	35.28	-17	16	59.5	809
1980	KN		1980	06	06.29341	15	14	35.00	-17	16	58.3	809
1980	KN		1980	06	11.20012	15	11	52.00	-17	11	11.0	809
1980	KN		1980	06	11.20704	15	11	51.80	-17	11	10.6	809
1980	KN		1980	06	11.31162	15	11	48.50	-17	11	04.0	809
1980	KN		1980	06	11.31854	15	11	48.20	-17	11	03.9	809
1980	KN		1980	06	13.01667	15	10	59.30	-17	09	28.8	809
1980	KN		1980	06	13.02363	15	10	59.05	-17	09	28.3	809
1980	KN		1980	06	13.03052	15	10	58.82	-17	09	27.7	809
1980	KO	*	1980	05	22.27966	15	29	19.92	-17	25	27.2	18.0 809
1980	KO		1980	05	22.28658	15	29	19.51	-17	25	26.0	809
1980	KO		1980	05	22.29344	15	29	19.09	-17	25	25.3	809
1980	KO		1980	05	23.29655	15	28	28.40	-17	23	25.0	809
1980	KO		1980	05	23.30324	15	28	28.10	-17	23	24.7	809
1980	KO		1980	05	23.31017	15	28	27.80	-17	23	24.4	809
1980	KO		1980	05	24.21741	15	27	42.40	-17	21	34.5	809
1980	KO		1980	05	24.22433	15	27	42.01	-17	21	33.5	809
1980	KO		1980	05	24.32614	15	27	36.65	-17	21	21.5	809
1980	KO		1980	05	24.33306	15	27	36.26	-17	21	20.7	809
1980	KO		1980	05	24.33999	15	27	35.91	-17	21	19.4	809
1980	KO		1980	05	25.32029	15	26	47.26	-17	19	22.8	809
1980	KO		1980	05	25.32791	15	26	46.91	-17	19	21.9	809
1980	KO		1980	05	25.33483	15	26	46.49	-17	19	21.1	809
1980	KO		1980	06	02.01069	15	20	44.75	-17	05	18.9	809
1980	KO		1980	06	02.01762	15	20	44.47	-17	05	18.0	809
1980	KO		1980	06	02.02454	15	20	44.20	-17	05	16.9	809
1980	KO		1980	06	04.07172	15	19	15.20	-17	01	58.8	809
1980	KO		1980	06	04.07934	15	19	14.83	-17	01	58.5	809
1980	KO		1980	06	04.08695	15	19	14.49	-17	01	57.4	809
1980	KO		1980	06	05.17010	15	18	28.70	-17	00	16.8	809
1980	KO		1980	06	05.17702	15	18	28.40	-17	00	15.6	809
1980	KO		1980	06	05.18395	15	18	28.06	-17	00	14.8	809
1980	KO		1980	06	06.27821	15	17	43.15	-16	58	37.3	809
1980	KO		1980	06	06.28579	15	17	42.82	-16	58	36.6	809
1980	KO		1980	06	06.29341	15	17	42.48	-16	58	35.9	809
1980	LJ		1980	05	24.16513	14	44	20.99	-20	17	46.5	809

1980	LJ		1980	05	24.17275	14	44	20.57	-20	17	46.7	809
1980	LJ		1980	05	25.25208	14	43	20.57	-20	17	56.2	809
1980	LJ		1980	05	25.25900	14	43	20.28	-20	17	56.3	809
1980	LJ		1980	05	26.10671	14	42	34.10	-20	18	03.2	809
1980	LJ		1980	05	26.11362	14	42	33.75	-20	18	03.3	809
1980	LJ		1980	06	01.01481	14	37	29.32	-20	19	01.4	809
1980	LJ		1980	06	01.02316	14	37	28.96	-20	19	01.7	809
1980	LJ	*	1980	06	01.96537	14	36	43.62	-20	19	13.1	17.0 809
1980	LJ		1980	06	01.97191	14	36	43.30	-20	19	13.8	809
1980	LJ		1980	06	01.97884	14	36	42.98	-20	19	14.1	809
1980	LJ		1980	06	02.98445	14	35	55.62	-20	19	27.9	809
1980	LJ		1980	06	02.99135	14	35	55.37	-20	19	27.6	809
1980	LJ		1980	06	02.99830	14	35	54.98	-20	19	27.6	809
1980	LJ		1980	06	04.01701	14	35	08.24	-20	19	43.6	809
1980	LJ		1980	06	04.02393	14	35	07.96	-20	19	44.5	809
1980	LJ		1980	06	04.03086	14	35	07.62	-20	19	44.3	809
1980	LJ		1980	06	05.09808	14	34	19.92	-20	20	03.8	809
1980	LJ		1980	06	05.10500	14	34	19.58	-20	20	04.2	809
1980	LJ		1980	06	05.11262	14	34	19.24	-20	20	03.5	809
1980	LJ		1980	06	11.13433	14	30	18.04	-20	22	35.4	809
1980	LJ		1980	06	11.14125	14	30	17.80	-20	22	34.8	809
1980	LJ		1980	06	11.14818	14	30	17.71	-20	22	36.2	809
1980	LJ		1980	06	12.22301	14	29	39.65	-20	23	12.4	809
1980	LJ		1980	06	12.22993	14	29	39.39	-20	23	12.7	809
1980	LJ		1980	06	12.23686	14	29	39.11	-20	23	13.5	809
1980	LJ		1980	06	13.05199	14	29	11.93	-20	23	43.9	809
1980	LJ		1980	06	13.05895	14	29	11.55	-20	23	44.0	809
1980	LJ		1980	06	13.06584	14	29	11.30	-20	23	44.7	809
1980	LK	*	1980	06	02.01069	15	17	01.30	-16	39	18.7	17.2 809
1980	LK		1980	06	02.01762	15	17	01.01	-16	39	18.4	809
1980	LK		1980	06	02.02454	15	17	00.61	-16	39	17.4	809
1980	LK		1980	06	03.09799	15	16	02.48	-16	38	41.0	809
1980	LK		1980	06	03.10492	15	16	02.17	-16	38	40.6	809
1980	LK		1980	06	03.11192	15	16	01.86	-16	38	40.0	809
1980	LK		1980	06	04.07172	15	15	11.47	-16	38	11.2	809
1980	LK		1980	06	04.07934	15	15	11.11	-16	38	11.0	809
1980	LK		1980	06	04.08695	15	15	10.79	-16	38	11.8	809
1980	LK		1980	06	05.17010	15	14	15.24	-16	37	43.1	809
1980	LK		1980	06	05.17702	15	14	14.87	-16	37	42.3	809
1980	LK		1980	06	05.18395	15	14	14.51	-16	37	42.2	809
1980	LK		1980	06	06.27821	15	13	20.24	-16	37	18.5	809
1980	LK		1980	06	06.28579	15	13	19.90	-16	37	18.9	809
1980	LK		1980	06	06.29341	15	13	19.58	-16	37	18.3	809
1980	LK		1980	06	11.20012	15	09	40.13	-16	36	43.4	809
1980	LK		1980	06	11.20704	15	09	39.83	-16	36	43.1	809
1980	LK		1980	06	13.01667	15	08	29.26	-16	37	00.8	809
1980	LK		1980	06	13.02363	15	08	29.00	-16	37	01.1	809
1980	LK		1980	06	13.03052	15	08	28.75	-16	37	01.7	809

OBSERVATIONS MADE AT THE EUROPEAN SOUTHERN OBSERVATORY BY H.-E. SCHUSTER.

Object		Date	UT	R. A. (1950)	Decl.	Mag.		Obs.
/1980i		1980	07 09.31181	23 43.96	-43 32.6			809
/1980i		1980	07 21.34514	23 51.27	-46 30.6	18	T	809
/1980j		1980	08 06.27292	23 29.07	+04 32.6	19	T	809
/1980j		1980	08 07.31562	23 28.74	+04 34.0			809
/1980j		1980	08 10.25556	23 27.67	+04 36.9	18	T	809
1980	PA	* 1980	08 06.27292	23 27.54	+04 48.4	17		809
1980	PA	1980	08 07.31562	23 30.30	+05 19.8			809
1980	PA	1980	08 09.33160	23 35.88	+06 23.2	17		809

1980 PA 1980 08 10.25556 23 38.65 +06 53.8 809
1980 PA 1980 08 14.26875 23 51.04 +09 14.4 809

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ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

The orbit computers and authors of double designations are B = C. M. Bardwell, E = E. Bowell, G = D. W. E. Green, M = B. G. Marsden, P = O. Kippes, W = J. G. Williams. For further information see MPC 4499.

Planet	B(1,0)	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1976 GN2	14.0	760412	300.78	95.11	178.26	13.27	0.1411	2.6786	32	4	1	M
1976 SC	14.0	760919	341.28	37.68	344.03	6.43	0.2165	2.4632	32	8		W
1976 SG1	15.5	760919	11.08	173.49	160.17	4.71	0.2557	2.5601	31	4		W
1976 YA	14.5	761208	342.66	212.25	241.15	14.47	0.2453	2.8514	4	3	1	M
1978 NC	15.0	780711	355.69	190.46	114.22	27.65	0.1977	2.5639	48	6		W
1979 QB	18.8	790904	354.17	11.34	342.16	3.38	0.4423	2.3300	67	0		W
1979 QP	13.0	790904	111.86	240.98	309.85	1.67	0.2776	2.9211	8	9		B
1979 QS	14.0	790904	198.46	329.02	166.05	4.01	0.1308	2.4102	8	9		B
1979 QU	16.0	790904	20.86	2.28	295.68	1.69	0.2434	2.4361	8	9		B
1979 QX	14.5	790904	260.87	154.40	290.56	2.51	0.1452	2.5303	8	9		B
1979 QY	13.5	790904	177.97	190.64	320.66	14.22	0.0649	2.9912	8	7		B
1979 QZ	16.0	790904	346.20	185.96	167.39	2.54	0.2034	2.4574	8	0		B
1979 QA1	15.0	790904	311.83	56.29	325.98	9.78	0.0445	2.5611	4	7		B
1979 QB1	15.5	790904	43.62	92.49	176.90	2.35	0.1958	2.5171	8	7		B
1979 QC1	14.5	790904	320.41	60.29	325.95	11.72	0.1737	2.3485	8	0		B
1979 QD1	13.0	790904	131.38	33.70	154.90	16.27	0.1204	2.9965	8	9		B
1979 QE1	16.0	790904	15.72	150.87	154.77	5.39	0.2510	2.6278	4	8		B
1979 QF1	15.5	790904	328.23	169.93	210.61	1.68	0.2150	2.4556	8	7		B
1979 QH1	17.0	790904	3.98	358.88	327.52	2.02	0.2374	2.3943	4	8		B
1979 QJ1	14.5	790904	136.27	35.25	147.81	8.61	0.1561	2.2595	8	9		B
1979 QL1	14.0	790904	103.64	319.98	250.80	1.68	0.1574	2.3512	8	0		B
1979 QM1	14.5	790904	0.64	137.48	192.53	1.02	0.1169	2.8705	8	0		B
1979 QN1	16.5	790904	353.65	193.07	149.46	6.66	0.2015	2.3752	4	8		B
1979 QO1	14.5	790904	347.65	260.95	88.65	0.24	0.1987	3.0514	8	9		B
1979 QR1	15.5	790904	24.04	312.08	349.59	1.34	0.0879	2.8842	4	6		M
1979 QT1	15.5	790904	62.01	84.18	170.90	1.16	0.1349	2.2858	8	0		B
1979 QV1	15.5	790904	115.54	256.78	312.98	5.57	0.0644	2.2408	8	6		B
1979 QW1	17.0	790904	21.31	148.75	148.48	2.76	0.2692	2.1399	8	9		M
1979 QZ1	13.0	790904	228.53	106.92	5.30	0.64	0.1521	3.0565	8	9		B
1979 QA2	15.0	790904	86.08	199.76	19.55	1.35	0.2200	2.4573	4	8		B
1979 QB2	16.5	790904	7.26	36.47	286.04	1.73	0.2114	2.2835	8	7		B
1979 QC2	14.0	790904	307.96	232.28	161.84	2.18	0.1161	2.9587	8	0		B
1979 QD2	15.5	790904	5.32	292.59	29.87	1.23	0.2253	3.0823	4	8		B
1979 QF2	13.5	790904	162.45	8.66	155.79	3.55	0.1033	2.8019	4	8		B
1979 QG2	17.0	790904	0.32	173.28	159.70	2.72	0.2051	2.3424	8	0		B
1979 QK2	15.0	790904	53.45	82.63	178.40	2.22	0.1730	2.3296	8	0		G
1979 QP2	15.0	790904	297.55	264.94	142.46	3.00	0.1336	3.0872	4	6		M
1979 QQ2	16.5	790904	342.03	216.05	155.69	7.37	0.3381	2.4673	8	0		G
1979 QR2	14.0	790904	186.33	171.66	333.14	1.23	0.0725	2.8617	4	8		G
1979 QS2	16.5	790904	343.82	205.71	151.38	0.88	0.2014	2.6484	4	8		M
1979 QT2	17.0	790904	356.43	186.88	153.21	0.57	0.2273	2.2405	8	0		M
1979 QU2	14.0	790904	343.90	203.47	148.82	2.31	0.1259	2.8614	8	0		M
1979 QW2	15.5	790904	340.53	49.60	315.27	1.41	0.2326	2.4820	8	0		G
1979 QX2	16.5	790904	27.03	317.57	335.55	2.81	0.1966	2.3361	8	0		G
1979 QY2	17.5	790904	351.63	328.74	16.92	1.29	0.1817	2.2210	4	8		G

1979	QA3	16.0	790904	308.81	54.62	349.72	1.66	0.2020	2.3448	4	7		M
1979	QC3	17.0	790904	324.08	76.45	306.12	2.01	0.1666	2.2617	4	8		G
1979	QD3	17.0	790904	320.02	235.03	150.64	3.90	0.1482	2.1978	4	8		G
1979	QG3	17.5	790904	7.69	344.82	336.36	0.66	0.2444	2.3709	8	0		G
1979	QM3	16.5	790904	309.42	246.92	148.22	5.72	0.1196	2.2593	4	8		G
1979	QO3	17.0	790904	320.38	239.67	151.81	0.92	0.2047	2.2653	8	0		G
1979	QP3	15.0	790904	344.93	171.67	181.93	1.62	0.1558	2.8581	8	0		G
1979	QR3	16.5	790904	321.62	251.64	137.62	1.54	0.2020	2.3719	8	0		G
1979	QS3	15.5	790904	277.51	89.08	343.62	1.89	0.1580	2.4202	4	8		M
1979	QW3	15.0	790904	110.61	49.37	161.51	0.93	0.1060	2.4001	4	8		M
1979	QX3	14.0	790904	356.46	15.29	324.25	6.90	0.2438	2.9392	8	9		M
1979	QZ3	16.0	790904	338.52	13.59	349.34	2.36	0.1521	2.2269	8	0		G
1979	QA4	16.0	790904	310.91	265.72	122.12	2.29	0.0674	2.3849	8	0		G
1979	QB4	16.5	790904	15.04	172.21	139.86	2.01	0.1769	2.4396	4	8		G
1979	QH4		790904	333.11	44.43	327.10	9.55	0.1819	2.9894	4	7		G
1979	QJ4	13.5	790904	215.77	152.90	335.68	15.37	0.2711	3.0532	4	5		M
1979	QK4	13.5	790904	268.93	59.79	9.81	0.97	0.0839	3.1193	7	6		M
1979	SK	16.0	790924	5.17	52.30	297.73	3.06	0.2008	2.2669	30	0		M
1980	DZ	11.5	800211	183.80	315.66	28.05	11.33	0.1109	2.9307	8	0		M
1980	DA1	11.5	800211	16.99	107.14	37.87	9.89	0.1357	3.9547	8	0		M
1980	KC	14.0	800521	253.29	166.27	185.32	2.67	0.2547	2.6315	3	0	2	M
1980	KD	13.5	800610	34.10	64.16	135.46	8.78	0.2145	3.1859	22	0		M
1980	KE	16.0	800610	310.62	53.30	256.58	8.01	0.2188	2.3909	21	0		M
1980	KF	15.5	800610	94.80	331.45	169.49	0.82	0.0404	2.1611	21	0		M
1980	KG	14.5	800610	349.52	35.00	220.58	3.48	0.1193	2.2751	22	0		M
1980	KH	14.5	800610	336.43	40.36	231.47	12.02	0.1442	2.6340	21	0		M
1980	KJ	13.5	800610	221.58	162.02	223.29	6.09	0.1184	2.3459	21	0		M
1980	KK	16.5	800610	335.96	142.42	135.13	1.01	0.1675	2.1559	21	0		M
1980	KL	15.5	800610	41.90	329.49	224.79	4.54	0.0685	2.2243	21	0		M
1980	KM	14.5	800610	330.61	49.28	228.02	5.71	0.1057	2.7573	15	0		M
1980	KN	13.5	800610	8.28	157.98	71.41	2.32	0.1408	3.2048	22	0		M
1980	KO	14.0	800610	46.18	117.41	75.29	3.01	0.0173	2.9437	15	0		M
1980	LA	14.1	800720	340.68	71.47	265.45	21.78	0.3028	2.3208	80	0		E
1980	LB	12.4	800630	317.52	263.64	108.71	41.48	0.3379	3.1387	58	0		E
1980	LE	14.7	800630	5.92	331.29	310.42	5.06	0.1548	2.3768	51	0		E
1980	LJ	13.0	800610	302.32	286.12	40.49	14.90	0.3013	3.1159	20	0		M
1980	LK	14.5	800610	110.85	49.62	68.87	5.43	0.1232	2.2455	11	0		M
1980	LL	14.0	800610	50.22	331.38	201.82	5.00	0.2742	2.1648	2	3	2	M
1980	LM	13.0	800610	329.32	209.93	86.43	7.13	0.1756	2.3070	8	4		M
1980	LN	15.0	800610	296.50	154.25	177.05	1.15	0.1266	2.2369	10	6		M
1980	LO	14.0	800610	309.41	156.03	164.13	4.28	0.1526	2.4244	10	6		M
1980	LP	14.5	800610	304.25	225.94	105.53	6.81	0.1910	2.3586	9	5		M
1980	MA	12.5	800720	289.13	312.86	76.15	11.49	0.1635	2.6250	76	7		E
1980	MB	13.5	800610	356.00	17.81	240.78	5.98	0.1023	2.4253	10	6		M
1980	MC	16.5	800610	328.07	160.58	152.92	3.78	0.2991	2.1654	2	3	2	M
1980	MD	13.0	800610	315.91	183.55	123.07	7.75	0.0943	3.3482	2	3	2	M
1980	OA	14.0	800720	332.40	289.39	58.42	2.32	0.0811	2.2686	49	5		M
1980	OD	13.5	800809	331.00	233.10	142.32	10.47	0.2386	3.0212	52	6		E
1980	OE	15.4	800809	9.09	19.13	294.54	1.28	0.1869	2.1733	62	5		E
1980	OF	13.5	800809	0.81	18.70	312.42	10.16	0.1597	3.1110	62	5		E
1980	OG	14.5	800809	337.04	228.20	131.62	4.77	0.1630	2.2540	52	4		E
1980	OH	12.5	800809	43.19	188.74	87.54	2.63	0.1486	3.1762	52	4		E
1980	PD	12.8	800809	86.30	100.60	129.81	10.30	0.0823	2.7809	50	4		E
1980	PH	15.0	800809	322.54	68.95	314.33	3.78	0.2178	2.4784	30	4		E
1980	PJ	15.4	800809	1.99	329.72	353.53	3.39	0.2053	2.3058	30	4		E
1980	PP	13.0	800809	155.74	244.67	272.72	8.74	0.0474	3.0219	12	8		B
1980	PQ	15.5	800809	344.26	188.51	153.02	15.06	0.2460	2.6377	12	8		B
1980	PS	14.0	800809	82.29	261.49	305.30	22.37	0.2383	2.3691	12	8		B
1980	PT	13.5	800809	19.74	119.31	172.27	10.12	0.0980	3.0168	12	0		B

1980 PU	16.5	800809	24.24	57.36	222.37	4.25	0.2032	2.1859	11 0	B
1980 PV	13.0	800809	118.55	272.27	282.98	8.99	0.0332	3.0169	12 8	B
1980 PW	15.5	800809	333.75	50.25	310.21	3.69	0.2104	2.3446	11 0	B
1980 PX	16.0	800809	348.33	180.82	159.28	2.36	0.2485	2.2500	11 0	B
1980 PZ		800809	357.57	11.36	323.19	10.71	0.1610	2.4395	4 6	B
1980 PA1	13.5	800809	13.56	348.59	325.58	10.40	0.1570	2.6457	4 6	B
1980 PB1	15.5	800809	334.79	184.29	168.43	9.10	0.1807	2.3224	3 6	B
1980 RA	15.0	800829	318.69	78.75	337.05	21.56	0.3650	2.3870	40 8	M
1980 RB	15.1	800809	354.79	224.05	107.75	4.92	0.3059	2.3959	52 5	E
1980 RH	14.0	800829	18.23	160.69	148.21	1.69	0.1522	2.4120	9 4	M
1980 RK	15.7	800829	356.75	356.54	343.30	6.04	0.2612	2.3637	9 4	E
1980 RP	13.6	800809	5.35	345.76	335.39	17.40	0.2123	3.1420	30 7	E
1980 RQ	13.2	800809	25.01	324.56	331.70	8.52	0.1532	2.7199	40 8	E
1980 RR	13.8	800829	327.84	27.91	351.08	10.42	0.1707	2.7345	5 3	E
1980 RX	12.7	800809	2.96	11.31	319.19	10.96	0.0718	3.0698	42 3	E
1980 RY	13.7	800809	304.09	215.08	197.93	7.81	0.2186	2.7820	42 3	E

Note 1: double designations 1976 GN2 = 1976 HB (B), 1976 YA = 1976 YD4 (P).
2: e assumed.

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

(682) Hagar = 1953 VU3 = 1975 VO5

The identifications are by L. K. Kristensen. The identification (682) = 1951 ET (MPC 2776) is invalid.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	181.78453		(1950.0)	P	Q
n	0.22828399	Peri.	103.20437	+0.40370830	+0.91411954
a	2.6514642	Node	190.83619	-0.89747536	+0.38773684
e	0.1735881	Incl.	11.50084	-0.17764452	+0.11851416
P	4.32	B(1,0)	13.4		

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

090617	024	(9.0-)	0.2+	090706	045	0.3-	0.8+	090722	045	2.7- 1.7+
090620	045	2.4+	0.1+	090708	045	0.1+	1.9+	090723	045	0.2- 0.4+
090621	045	1.8+	0.1+	090710	045	1.0-	0.8+	090810	045	(0.04- 0.06-)
090624	045	6.5-	0.2+	090715	045	1.5-	0.4-	531110	760	0.1+ 0.6-
090628	045	1.2-	1.7+	090716	045	1.0+	0.4-	531110	760	0.4- 1.2-
090705	045	0.5-	0.8-	090718	045	1.2+	1.2-	751103	095	0.2+ 3.1+
090706	045	1.2+	1.3+	090721	045	4.1+	0.5-			

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ORBITAL ELEMENTS BY S. NAKANO, SUMOTO, AND T. URATA, SHIMIZU, JAPAN.

The following orbital elements are from NOC 1133, 1135 and 1137-1140. The identifications are by T. Urata unless otherwise stated.

1974 OS = 1951 EC2 = 1969 QJ = 1972 EG = 1972 GP = 1972 GT = 1975 XH2

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	2.61964		(1950.0)	P	Q
n	0.18799136	Peri.	133.80908	+0.20483426	-0.96990787
a	3.0179474	Node	303.92702	+0.84627892	+0.24305334
e	0.0726384	Incl.	9.12659	+0.49178746	-0.01427561
P	5.24	B(1,0)	11.9		

Residuals in seconds of arc

510306	711	0.9-	1.3+ Y	720409	095	4.4-	3.2-	740727	095	1.7- 2.7-
690821	095	6.1+	0.6+	720412	095	0.1+	0.8-	740822	095	1.8- 0.1+
720314	095	2.5+	2.7-	740725	095	0.2-	1.9-	751202	095	0.1- 3.0-

1974 SJ = 1967 RT = 1976 GJ
Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	282.88683	(1950.0)	P	Q
n	0.28334281	Peri. 260.06099	+0.37743094	-0.92573245
a	2.2957722	Node 167.68334	+0.88727220	+0.35416079
e	0.0919592	Incl. 6.39958	+0.26513002	+0.13262564
P	3.48	B(1,0) 14.4		

Residuals in seconds of arc

670911 095	2.1-	7.0+	740921 095	0.4-	8.2-	741019 808	0.9+	3.1+
740919 095	2.4-	3.6-	741010 808	0.3+	1.1+	760401 095	0.9+	1.3+
740921 808	0.3-	1.9-	741010 808	0.9+	1.2+	760404 095	0.3-	0.4+
740921 808	1.7+	0.5+	741019 808	1.3+	3.2+			

1975 XA3 = 1975 VU1 = 1975 VK6 = 1975 VM9 = 1968 UB2 = 1970 EX
Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	289.12465	(1950.0)	P	Q
n	0.29167314	Peri. 309.94018	+0.99433914	+0.06054088
a	2.2518491	Node 46.78241	-0.01242838	+0.88242523
e	0.2098893	Incl. 6.88159	-0.10552352	+0.46654099
P	3.38	B(1,0) 14.1		

Residuals in seconds of arc

681023 095	0.8-	1.7+	751106 330	1.8-	0.5+	751202 095	0.2+	2.6-
700307 095	0.1+	1.0+	751123 330	0.0	2.6-	751223 330	4.3+	4.4+
751102 095	(0.8-	13.7+)	751126 330	1.8-	0.2+	751229 330	3.3+	2.6+
751106 095	1.8-	2.8-	751129 330	1.7-	0.1+			

1977 QM3 = 1977 RP3 = 1972 RE3 = 1975 EA1
The double designation 1977 QM3 = 1977 RP3 is by O. Kippes (MPC 5347).
Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	288.34321	(1950.0)	P	Q
n	0.19777283	Peri. 1.04730	+0.89223865	+0.45145093
a	2.9176005	Node 332.10887	-0.41443870	+0.80978560
e	0.0810589	Incl. 1.23865	-0.17930633	+0.37475237
P	4.98	B(1,0) 13.1		

Residuals in seconds of arc

720904 095	0.1-	0.2+	750315 095	1.7-	2.9+	770912 095	0.1-	1.1+
750306 095	2.4+	1.4-	770823 095	1.1-	0.8+	770918 095	0.6+	0.7-

1978 VJ7 = 1975 EX2 = 1975 EN3 = 1977 RE5
Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	8.95249	(1950.0)	P	Q
n	0.18066192	Peri. 45.30019	-0.53542259	+0.84457993
a	3.0990304	Node 192.32807	-0.77840950	-0.49471767
e	0.1257745	Incl. 0.72958	-0.32772137	-0.20479053
P	5.46	B(1,0) 12.9		

Residuals in seconds of arc

750308 095	1.4-	0.5-	781105 675	0.9-	0.4+	781108 675	0.2-	0.4-
750314 095	1.1+	0.2-	781106 675	0.3-	0.2-	781129 675	0.2+	0.4+
770909 095	0.3+	0.9-	781107 675	1.6+	0.3+	781130 675	0.3-	0.3-

1980 LD = 1963 FK = 1974 KH
Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	230.98974	(1950.0)	P	Q
n	0.18868000	Peri. 28.74773	-0.67428370	-0.71472714
a	3.0105996	Node 104.32516	+0.63551146	-0.68973168
e	0.0526174	Incl. 11.05322	+0.37612056	-0.11591088
P	5.22	B(1,0) 12.0		

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

630328	760(0.03+	0.02+)X	800614	688	0.5+	0.2-	800618	688	0.7-	0.6+
740524	095	0.0 0.0	800614	688	0.5+	1.3-	800705	688	0.2+	0.2+
800611	688	0.3- 1.5+	800617	688	0.2-	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.

(2290)* 1932 CD1 = 1953 FR = 1976 QR1 = 1980 RF

Discovered 1932 Feb. 14 by K. Reinmuth at Heidelberg. The identification 1932 CD1 = 1953 FR was independently suggested by E. Bowell. The identification 1932 CD1 = 1980 RF was independently found by C. M. Bardwell. The identification 1953 FR = 1972 KL (JASA Note 1978 May 20) is invalid.

Epoch 1981 July 15.0 ET = JDE 2444800.5

			(1950.0)	P	Q
M	10.88955				
n	0.23644043	Peri.	269.10064	+0.41288796	-0.90715713
a	2.5901300	Node	155.99727	+0.89467638	+0.38728574
e	0.2371685	Incl.	11.51102	+0.17052183	+0.16454695
P	4.17	B(1,0)	13.5		

Residuals in seconds of arc

320214	024	0.4- 4.4+	530316	024	1.3+	1.5-	800904	688	1.0-	0.2+
320306	024	0.8+ 1.6+	530320	024	2.5-	3.6-	800907	688	0.1+	0.3-
320314	024	1.4+ 1.3-	760826	095	0.3+	2.7-	800911	688	0.8-	3.7+
320315	024	4.4+ 2.3-	800808	688	0.4-	2.9+				
320326	024	5.1- 5.4+	800902	688	0.6+	1.1-				

(2291)* 1941 FS = 1938 RC = 1967 EO = 1970 TD = 1975 RT1 = 1978 GT2 = 1980 PE

Discovered 1941 Mar. 19 by L. Oterma at Turku.

Epoch 1981 July 15.0 ET = JDE 2444800.5

			(1950.0)	P	Q
M	298.55813				
n	0.18529436	Peri.	293.27792	-0.23379447	-0.96927432
a	3.0471553	Node	169.34793	+0.97225756	-0.23366535
e	0.0601647	Incl.	24.43693	+0.00744094	+0.07686225
P	5.32	B(1,0)	11.5		

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

380902	031(0.04-	0.01-)X	410421	062	1.5-	2.4+	750905	095	1.8-	4.7+
410319	062	2.5+ 0.8+	410424	062	0.1-	2.1+	780411	095	1.5-	0.3+
410320	062	2.2- 1.9-	410429	062	0.7+	0.2+	800806	688	0.2+	1.0-
410403	062	0.1+ 0.4-	670309	095	0.2+	1.9-	800907	688	1.1+	2.4-
410416	062	0.3+ 0.2-	670311	095	1.8+	0.2-	800917	688	0.4+	2.0-
410419	062	0.2- 1.0-	701008	095	0.3-	0.2+				

1971 UG1 = 1980 RT

The identification is by E. Bowell.

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

			(1950.0)	P	Q
M	9.63343				
n	0.20551144	Peri.	220.82408	+0.76847585	-0.63987849
a	2.8438907	Node	178.95806	+0.59568233	+0.71503770
e	0.0788707	Incl.	1.98306	+0.23368233	+0.28156102
P	4.80	B(1,0)	13.5		

Residuals in seconds of arc

711026	029	1.0+ 0.5+	711110	029	2.4-	2.0+	800904	688	1.3-	2.4-
711027	029	0.6+ 2.1+	711119	029	1.1-	1.3+	800904	688	0.8+	1.4-
711030	029	0.7- 0.9+	711119	029	0.8+	1.6+				
711110	029	2.9- 0.1-	800902	688	1.3-	0.6+				

1976 YQ2 = 1980 RW

The identification is by E. Bowell.

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	35.27964		(1950.0)		P		Q				
n	0.21290353	Peri.	94.46983		+0.88271580		-0.45297355				
a	2.7776766	Node	292.50736		+0.35928498		+0.82205581				
e	0.2217164	Incl.	7.77702		+0.30286484		+0.34502058				
P	4.63	B(1,0)	13.5								

Residuals in seconds of arc

761216	095	0.6+	0.4-	761220	095	0.4-	0.5+	800907	688	0.3+	0.2+
761218	095	0.1-	0.0	770113	095	0.1-	0.0	800917	688	0.3-	0.2-

1977 UP

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	78.62646		(1950.0)		P		Q				
n	0.30698597	Peri.	1.28375		+0.99987641		+0.01556155				
a	2.1763291	Node	357.82083		-0.01489713		+0.89233620				
e	0.1517247	Incl.	3.37263		-0.00502409		+0.45110301				
P	3.21	B(1,0)	16.0								

Residuals in seconds of arc

770919	095	2.2-	2.0+	771103	026	4.1+	0.8+	771111	026	0.7+	0.9+
770922	095	0.7-	0.5+	771105	026	1.4-	0.7-	800902	688	0.5-	0.7-
771018	026	0.5+	0.6+	771109	026	1.4-	3.2-	800904	688	0.5-	1.1-
771019	026	1.0-	0.2+	771109	026	1.4+	1.7-	800907	688	1.7+	0.2+
771020	026	0.2-	1.9+	771110	026	0.4-	0.3-				

1980 PA

Epoch 1980 Aug. 29.0 ET = JDE 2444480.5

M	344.20889		(1950.0)		P		Q				
n	0.36929432	Peri.	124.73282		+0.89313908		-0.44823800				
a	1.9240704	Node	261.92343		+0.39937864		+0.82839644				
e	0.4582072	Incl.	2.15439		+0.20687990		+0.33591968				

From 9 observations 1980 Aug. 8-Sept. 18.

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

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

(2292)* 1942 RM = 1959 TD = 1971 HS = 1975 FU = 1980 PO

Discovered 1942 Sept. 7 by Y. Vaisala at Turku. The sign of the declination for the observation of 1975 FU (MPC 4635) was changed.

Epoch 1981 July 15.0 ET = JDE 2444800.5

M	89.86852		(1950.0)		P		Q				
n	0.23274371	Peri.	128.64045		+0.51576774		+0.85605207				
a	2.6174842	Node	172.18255		-0.84303430		+0.51419785				
e	0.2413733	Incl.	14.49165		-0.15256741		+0.05268233				
P	4.23	B(1,0)	13.0								

Residuals in seconds of arc

420907	062	0.5-	0.3-	800804	046	2.7+	2.9+ Y	800812	046	0.0	0.3+
420908	062	0.5+	0.2+	800806	026	1.3+	1.4-	800814	046	0.4+	0.2-
420911	062	0.7+	0.3-	800807	026	0.8+	1.0-	800814	046	0.5-	0.7-
420915	062	0.8-	0.2+	800807	026	0.5+	0.1-	800814	026	0.2+	1.2-
421003	062	0.6+	0.5+	800807	046	0.4-	1.0+	800817	026	0.0	0.8-
591001	024	1.5+	0.7-	800807	046	0.1+	1.5+	800817	046	0.7-	0.0
710427	095	1.2+	0.8+	800811	046	1.6-	2.0-	800817	046	0.2-	0.8+
750316	095	1.5-	2.1-	800811	046	1.8-	1.1-	800817	026	0.9-	0.5-
800804	046	2.0+	1.2+ Y	800812	046	0.5-	0.4-	800818	026	0.3+	0.5+

(2293)* 1977 EH1 = 1934 PO = 1938 EZ = 1949 FH = 1949 FK1 = 1955 HT = 1965 AK = 1971 DX = 1976 AD

Discovered 1977 Mar. 13 by N. Chernykh at the Crimean Astrophysical Observatory. The recovery in 1979 was made on the basis of calculations by G. Kastel', Institute for Theoretical Astronomy. The double designation 1949 FH = 1949 FK1 is by O. Kippes.

Epoch 1981 July 15.0 ET = JDE 2444800.5

M 298.82247		(1950.0)	P	Q
n 0.17715204	Peri.	135.31127	-0.93510115	-0.35435583
a 3.1398238	Node	23.93572	+0.32214378	-0.85493731
e 0.1219240	Incl.	0.59571	+0.14767949	-0.37883260
P 5.56	B(1,0)	12.0		

Residuals in seconds of arc

340807 078 (9.5-	24.1+)X	650111 330	0.3-	0.0	770313 095	0.9-	0.6+
380308 024	1.3+ 2.3+	710218 095	0.6+	3.0+	770322 095	0.6+	0.6+
490324 012	2.8- 1.5-	751222 330	1.2+	0.6-	770325 095	0.3+	1.8+
490324 062(37.9-	47.6-)X	751229 330	0.1+	1.3-	790731 095	0.2-	0.9+
550427 760	1.5+ 4.6-	760105 330	0.5+	1.6-	790819 095	1.1-	1.1+
550427 760	0.6+ 0.2+	760107 026	0.7+	1.0+	790827 095	1.1-	0.6+
650101 330	0.1+ 1.0-	760110 026	0.4-	1.3+			

1970 PL = 1970 QD = A923 PB = 1980 PY

The identification 1970 PL = 1974 VL2 (NOC 1039) is invalid.

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M 160.10037		(1950.0)	P	Q
n 0.29392719	Peri.	286.56872	-0.36724859	+0.92875376
a 2.2403218	Node	321.76360	-0.81922874	-0.34867044
e 0.1219323	Incl.	4.67538	-0.44044606	-0.12587843
P 3.35	B(1,0)	14.0		

Residuals in seconds of arc

230815 754	1.8+ 4.5- Y	700828 095	0.3-	3.9+	800814 046	0.7-	0.2-
230817 754(22.3+	3.3-)	700831 095	0.7+	0.8-	800815 046	2.8-	0.1+
230819 754	5.7+ 3.3-	800806 046	1.5+	0.4-	800815 046	0.6+	0.9+
230822 754	1.9+ 8.5- Y	800806 046	0.8+	0.2-	800817 046	0.2-	0.9+
700804 095	4.7+ 1.6+	800807 046	0.3-	2.2+	800817 046	2.1-	0.1+
700809 095	3.6- 0.6-	800807 046	0.6-	2.9+			
700810 095	1.1+ 1.9-	800814 046	1.2+	0.8+			

1972 NC = 1972 PB = 1956 VC

The double designation 1972 NC = 1972 PB is by T. Urata (NOC 977).

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M 257.63523		(1950.0)	P	Q
n 0.30429790	Peri.	79.75836	+0.96150672	+0.26559409
a 2.1891269	Node	264.81301	-0.27156986	+0.87940679
e 0.2824405	Incl.	4.05705	-0.04188850	+0.39509932
P 3.24	B(1,0)	15.0		

Residuals in seconds of arc

561103 760	0.1+ 2.5+	720714 095	0.6-	0.5-	721101 095	0.6+	1.3-
561103 760	0.0 2.0+	720803 095	0.2+	2.0+	791212 801	0.5-	1.4-
561108 760	0.2- 0.4+	720816 095	1.8+	1.6-	791215 801	0.0	1.6-
561108 012	0.3+ 1.9+	720818 095	1.0-	1.4-			

1974 SU4 = 1959 CZ = 1977 JJ

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M 24.62201		(1950.0)	P	Q
n 0.17548566	Peri.	326.77309	-0.01977132	-0.99908429
a 3.1596756	Node	124.33241	+0.92698439	-0.03253626
e 0.1411458	Incl.	2.63356	+0.37457846	+0.02778426
P 5.62	B(1,0)	12.5		

Residuals in seconds of arc

590131	690	0.3-	0.9+		741010	808	0.3+	0.3+		741109	808	0.3-	0.9+
590201	690	0.4+	0.6-		741010	808	0.0	0.1+		741109	808	0.3-	1.5+
590202	690	0.2-	0.0		741012	808	0.5-	0.6-		770515	095	0.2-	0.6-
740926	095	0.8+	2.1-		741012	808	0.5+	0.4-					

1976 GQ1 = 1976 JE = 1968 UB1 = 1970 EK1

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	30.08145		(1950.0)	P	Q
n	0.17684872	Peri.	90.44693	-0.68392376	-0.72929937
a	3.1434192	Node	42.72556	+0.65752203	-0.62761742
e	0.1367602	Incl.	1.62617	+0.31609029	-0.27243128
P	5.57	B(1,0)	13.0		

Residuals in seconds of arc

681022	095	3.2+	0.5+		700302	805	0.3+	0.8+		760501	095	0.9+	0.2+
681023	095	2.9-	0.3+		700302	805	0.2+	2.3+		760502	095	1.0+	1.1+
681026	095	1.5+	0.6+		760401	095	2.4-	3.1-					
700302	805	0.1-	1.1+		760404	095	0.1-	2.7-					

1976 GU2 = 1976 JN = 1972 TJ7 = 1973 YE2

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	16.17084		(1950.0)	P	Q
n	0.12401317	Peri.	351.16337	+0.60063307	-0.79550258
a	3.9825238	Node	61.88125	+0.73895274	+0.51408600
e	0.1378260	Incl.	5.21055	+0.30526834	+0.32076663
P	7.95	B(1,0)	11.0		

Residuals in seconds of arc

721006	095	1.0-	0.8-		731220	095	0.0	0.0		760404	095	0.3-	0.6+
721013	095	1.2+	0.4+		760401	095	0.5+	0.3-		760502	095	0.5-	0.7-

1977 QP4 = 1974 TX = 1974 WF1

The key identification 1977 QP4 = 1974 TX is by E. Bowell.

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	64.87212		(1950.0)	P	Q
n	0.30572389	Peri.	221.19090	+0.94015580	+0.33985039
a	2.1823145	Node	118.92539	-0.30476082	+0.87105168
e	0.1958584	Incl.	1.61540	-0.15240708	+0.35464161
P	3.22	B(1,0)	14.5		

Residuals in seconds of arc

741010	808	0.0	0.7+		741119	095	0.5+	1.6-		770907	095	0.4-	0.7-
741010	808	0.0	0.7+		770818	095	1.8-	0.9+		770912	095	1.1-	0.2-
741012	808	0.6-	1.0+		770822	095	1.6+	1.1-					
741012	808	1.1+	0.8+		770906	095	0.4+	1.6-					

1980 OB = 1976 HV

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	140.18215		(1950.0)	P	Q
n	0.28933481	Peri.	333.02598	-0.01278069	+0.99703149
a	2.2639654	Node	296.15810	-0.90142008	-0.04435160
e	0.1443117	Incl.	4.85247	-0.43275684	+0.06293760
P	3.41	B(1,0)	14.0		

Residuals in seconds of arc

760423	808	0.3+	0.3+		800717	688	0.2-	0.9-		800904	688	1.2+	0.1-
760423	808	0.7-	0.8+		800717	688	0.9-	0.7-		800907	688	0.8-	0.1-
760426	808	0.2-	0.5-		800719	688	0.2-	1.1+					
760426	808	0.3+	0.0		800806	688	0.1-	0.8+					

1980 OC = 1976 YQ
Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	32.89377	(1950.0)	P	Q
n	0.20279912	Peri. 87.75328	+0.97995303	-0.19864344
a	2.8691915	Node 283.70409	+0.17596744	+0.89890895
e	0.0853181	Incl. 0.89992	+0.09342115	+0.39051694
P	4.86	B(1,0) 13.0		

Residuals in seconds of arc

761216	095	2.8-	2.6+	800717	688	1.4+	0.4+	800904	688	0.3+	1.7-
761218	095	0.5-	2.3+	800719	688	2.2+	1.5+	800907	688	0.0	1.7-
761220	095	2.5+	1.7+	800808	688	0.4+	0.1+	800911	688	1.6-	1.0-
800717	688	0.3-	0.1-	800902	688	0.7+	1.9-				

2533 P-L = 1976 SQ1

The identification is by E. Bowell (MPC 4644).

Epoch 1981 July 15.0 ET = JDE 2444800.5 (J-P)

M	203.38754	(1950.0)	P	Q
n	0.30695226	Peri. 198.43851	+0.74306467	+0.66874949
a	2.1764884	Node 119.56442	-0.61028115	+0.69252504
e	0.2154940	Incl. 1.65231	-0.27461210	+0.27052392
P	3.21	B(1,0) 16.2		

Residuals in seconds of arc

600924	675	0.3-	0.1+	601017	675	0.4-	0.0	760924	095	0.5-	1.6+
600926	675	0.9-	0.3+	601022	675	0.2+	1.0+	760928	095	2.4+	1.9-
600928	675	1.0-	0.4-	601025	675	1.4+	0.7+	790627	801	0.0	2.0+
600929	675	0.3-	0.9-	601026	675	1.4+	0.6+	790628	801	0.2-	1.2+

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NEW NAMES OF MINOR PLANETS.

(1651) Behrens = 1936 HD

Discovered 1936 Apr. 23 by M. Laugier at Nice.

Named in memory of Johann Gerhard Behrens (1889-1978), pastor at Detern, well known for his orbit computations on comets and minor planets. Name proposed by O. Kippes, who found some of the identifications involving this planet.

(1681) Steinmetz = 1948 WE

Discovered 1948 Nov. 23 by M. Laugier at Nice.

Named in memory of Julius Steinmetz (1893-1965), pastor at Gerolfingen; orbit computer. Name proposed by O. Kippes, who found one of the identifications involving this planet.

(1690) Mayrhofer = 1948 VB

Discovered 1948 Nov. 8 by M. Laugier at Nice.

Named in honor of Karl Mayrhofer, Austrian astronomer, currently living at Ried im Innkreis, well known for his orbit computations on minor planets. Name proposed by O. Kippes, who found some of the identifications involving this planet.

(2042) Sitarski = 4633 P-L

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

Named in honor of Grzegorz Sitarski, astronomer at the Polish Academy of Sciences well known for his studies of the motions of comets, including consideration of nongravitational effects. He has recently succeeded in dynamically linking the observations made of (1862) Apollo and (2101) Adonis in the 1930s and the 1970s. Currently involved in an extensive program of

new orbit determinations of one-apparition comets, he has since 1979 been President of IAU Commission 20.

(2119) Schwall = 1930 QG
Discovered 1930 Aug. 30 by M. Wolf and M. Ferrero at Heidelberg.
Named in memory of August Schwall (1877-1947), mechanician at the Heidelberg-Konigstuhl Observatory for almost half a century, night assistant to Wolf during 1914-1932, guiding exposures with the 0.72-m reflector. Name proposed by A. Bohrmann.

(2189) Zaragoza = 1975 QK
Discovered 1975 Aug. 30 at the El Leoncito Station of the Felix Aguilar Observatory.
Named in memory of Aldo Zaragoza (1924-1979), a member of the staff of the Felix Aguilar Observatory for over 20 years. As head of the Calculations Office he was responsible for the analysis and reduction of the plates taken at El Leoncito, and he calculated orbits for the comets and minor planets observed.

(2199) Klet = 1978 LA
Discovered 1978 June 6 by A. Mrkos at the Klet Observatory.
Named for the observatory at which this minor planet was discovered and for the mountain in southern Bohemia on which the observatory is located.

(2200) Pasadena = 6090 P-L
Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.
Named for a suburb of Los Angeles, California. Prominent astronomical institutions in Pasadena are the California Institute of Technology (which operates Palomar Observatory), the Mount Wilson Observatory of the Carnegie Institute of Washington, and the Jet Propulsion Laboratory. Name proposed by E. Bowell.

(2224) Tucson = 2528 P-L
Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.
Named for the city in Arizona. Prominent astronomical institutions in Tucson are the Lunar and Planetary Laboratory of the University of Arizona, Kitt Peak National Observatory, and Steward Observatory. Name proposed by E. Bowell.

(2235) Vittore = A924 GA
Discovered 1924 Apr. 5 by K. Reinmuth at Heidelberg.
Named in honor of the Osservatorio S. Vittore, Bologna, where this object was rediscovered in 1979. It was as a result of the extensive and careful series of observations there by a dedicated group of amateur astronomers that the earlier observations could be identified and the object permanently numbered.

(2236) Austrasia = 1933 FX
Discovered 1933 Mar. 23 by K. Reinmuth at Heidelberg.
Named for the eastern kingdom of the Merovingian Franks from the sixth to the eighth centuries. Austrasia embodied an extensive region on both sides of the Rhine, with Metz as its capital. Name proposed by E. Bowell, who found one of the identifications involving this planet.

(2254) Requiem = 1977 QJ1
Discovered 1977 Aug. 19 by N. S. Chernykh at the Crimean Astrophysical Observatory.

The name is dedicated to the memory of the discoverer's mother, Melaniya Petrovna Chernykh, who died on 1977 Aug. 19, the day that this minor planet was discovered.

(2270) Yazhi = 1980 ED

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

The name comes from the Navajo Indian language and means 'little one'. It was suggested by Debbie Geoffrion.

(2271) Kiso = 1976 UV5

Discovered 1976 Oct. 22 by H. Kosai and K. Hurukawa at the Tokyo Observatory's Kiso Station.

Named for the station of the Tokyo Observatory at which this minor planet was discovered.

(2274) Ehrsson = 1976 EA

Discovered 1976 Mar. 2 by C.-I. Lagerkvist at Kvistaberg.

Named in honor of a friend of the discoverer.

(2286) Fesenkov = 1977 NH

Discovered 1977 July 14 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Named in memory of Vasilej Grigor'evich Fesenkov (1889-1972), one of the founders of the study of astrophysics in the U.S.S.R. His scientific activities covered a wide range of topics, including solar and stellar physics, the moon and planets, atmospheric optics, meteoritics and cosmogony. From 1924 to 1964 he was editor of the Astronomicheskij Zhurnal and from 1945 Chairman of the Committee on Meteorites of the U.S.S.R. Academy of Sciences.

(2288) Karolinum = 1979 UZ

Discovered 1979 Oct. 19 by L. Brozek at the Klet Observatory.

Named for the original main building, still in use, of the Charles University, founded in Prague in 1348.

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EPHEMERIDES.

1980 PA — Elements MPC 5520

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 08 29	00 54.70	+20 02.6	0.188	1.147	133.5	39.7	17.1
1980 09 03	01 25.70	+24 23.2					
1980 09 08	02 02.87	+28 41.5	0.159	1.106	125.0	48.3	16.8
1980 09 13	02 46.05	+32 28.9					
1980 09 18	03 33.49	+35 14.9	0.148	1.074	114.2	58.6	16.9
1980 09 23	04 21.75	+36 41.0					
1980 09 28	05 07.03	+36 49.8	0.154	1.053	105.0	66.8	17.1
1980 10 03	05 46.68	+36 00.3					
1980 10 08	06 19.79	+34 35.7	0.172	1.043	100.1	70.6	17.4
1980 10 13	06 46.75	+32 54.4					
1980 10 18	07 08.41	+31 08.9	0.194	1.046	99.5	70.0	17.6
1980 10 23	07 25.71	+29 26.1					
1980 10 28	07 39.39	+27 50.0	0.216	1.061	102.3	66.2	17.8
1980 11 02	07 49.96	+26 22.3					
1980 11 07	07 57.74	+25 03.9	0.237	1.087	107.7	60.2	17.9
1980 11 12	08 02.98	+23 54.9					
1980 11 17	08 05.86	+22 55.4	0.256	1.123	115.6	52.5	18.0

1980 11 22	08 06.55	+22 05.2					
1980 11 27	08 05.16	+21 23.7	0.275	1.168	125.5	43.4	18.0
1980 12 02	08 01.80	+20 50.7					
1980 12 07	07 56.64	+20 25.3	0.295	1.219	137.4	33.1	18.0
1980 12 12	07 49.99	+20 06.5					
1980 12 17	07 42.25	+19 53.1	0.322	1.275	150.8	22.1	18.1
1980 12 22	07 33.87	+19 44.2					
1980 12 27	07 25.33	+19 38.5	0.361	1.335	164.7	11.2	18.2
1981 01 01	07 17.06	+19 35.2					
1981 01 06	07 09.46	+19 33.7	0.414	1.397	176.9	2.2	18.2
1981 01 11	07 02.86	+19 33.4					
1981 01 16	06 57.50	+19 34.1	0.484	1.460	167.8	8.2	18.9
1981 01 21	06 53.46	+19 35.4					
1981 01 26	06 50.74	+19 37.2	0.570	1.524	156.2	15.1	19.5
1981 01 31	06 49.31	+19 39.1					
1981 02 05	06 49.09	+19 41.0	0.672	1.588	145.8	20.5	20.1
1981 02 10	06 50.00	+19 42.6					
1981 02 15	06 51.93	+19 43.6	0.789	1.651	136.3	24.4	20.6
1981 02 20	06 54.76	+19 43.9					
1981 02 25	06 58.36	+19 43.1	0.918	1.713	127.8	27.2	21.1

1976 UA Elements MPC 4659

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1980 11 17	07 51.03	+09 22.7	0.409	1.223	-4.88	+5.7	21.1
1980 11 22	07 49.14	+07 41.7					
1980 11 27	07 44.94	+05 50.3	0.340	1.218	-6.93	+6.1	20.5
1980 12 02	07 37.86	+03 46.4					
1980 12 07	07 27.23	+01 28.2	0.277	1.203	-9.65	+8.4	19.9
1980 12 12	07 12.27	-01 05.5					
1980 12 17	06 52.27	-03 53.7	0.225	1.179	-12.36	+18.7	19.2
1980 12 22	06 26.71	-06 51.4					
1980 12 27	05 55.69	-09 47.6	0.190	1.146	-12.92	+44.7	18.8
1981 01 01	05 20.33	-12 25.1					
1981 01 06	04 42.95	-14 26.3	0.178	1.104	-9.51	+77.6	19.0
1981 01 11	04 06.36	-15 42.4					
1981 01 16	03 32.69	-16 16.9	0.185	1.052	-3.89	+97.2	19.4
1981 01 21	03 02.78	-16 20.7					
1981 01 26	02 36.37	-16 05.5	0.203	0.991	+1.45	+102.4	19.9
1981 01 31	02 12.63	-15 40.4					
1981 02 05	01 50.53	-15 11.4	0.224	0.920	+6.05	+101.6	20.4

1974 OS Elements MPC 5517

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 08 29	01 30.64	+21 36.5	2.206	2.912	125.6	16.4	16.3
1980 09 08	01 28.05	+22 06.5					
1980 09 18	01 23.21	+22 19.9	2.018	2.899	145.1	11.4	16.0
1980 09 28	01 16.46	+22 15.1					
1980 10 08	01 08.45	+21 51.8	1.916	2.887	163.4	5.7	15.7
1980 10 18	01 00.03	+21 12.0					
1980 10 28	00 52.21	+20 20.7	1.920	2.875	160.4	6.7	15.7
1980 11 07	00 45.82	+19 24.3					
1980 11 17	00 41.52	+18 29.7	2.030	2.864	140.7	12.6	16.0
1980 11 27	00 39.64	+17 42.8					
1980 12 07	00 40.26	+17 07.5	2.222	2.854	120.7	17.3	16.3
1980 12 17	00 43.28	+16 46.0					
1980 12 27	00 48.50	+16 38.6	2.464	2.844	102.5	19.7	16.6
1981 01 06	00 55.66	+16 44.8					
1981 01 16	01 04.52	+17 03.3	2.726	2.835	86.1	20.3	16.8

1976 GU2 Elements MPC 5522

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 08 29	02 23.75	+10 02.1	2.899	3.494	118.4	14.7	16.4
1980 09 08	02 23.80	+10 00.5					
1980 09 18	02 21.97	+09 51.0	2.668	3.482	138.2	11.1	16.1
1980 09 28	02 18.35	+09 34.3					
1980 10 08	02 13.19	+09 12.1	2.517	3.472	159.9	5.7	15.8
1980 10 18	02 06.90	+08 46.5					
1980 10 28	02 00.09	+08 20.6	2.472	3.462	175.0	1.4	15.5
1980 11 07	01 53.42	+07 57.6					
1980 11 17	01 47.55	+07 40.7	2.543	3.454	153.2	7.4	15.9
1980 11 27	01 43.02	+07 32.4					
1980 12 07	01 40.17	+07 34.1	2.717	3.447	131.3	12.4	16.1
1980 12 17	01 39.22	+07 46.5					
1980 12 27	01 40.19	+08 09.2	2.962	3.442	111.2	15.4	16.4
1981 01 06	01 43.00	+08 41.4					
1981 01 16	01 47.52	+09 22.0	3.244	3.438	93.0	16.6	16.6
1981 01 26	01 53.58	+10 09.6					
1981 02 05	02 01.01	+11 02.8	3.532	3.435	76.3	16.2	16.8

(2293) 1977 EH1 Elements MPC 5521

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 08 29	02 55.98	+16 50.4	2.886	3.352	108.9	16.6	17.3
1980 09 08	02 57.52	+16 58.4					
1980 09 18	02 57.02	+16 57.8	2.619	3.333	128.0	13.7	17.0
1980 09 28	02 54.44	+16 48.4					
1980 10 08	02 49.84	+16 30.0	2.414	3.314	149.5	8.8	16.7
1980 10 18	02 43.52	+16 03.4					
1980 10 28	02 36.03	+15 30.4	2.305	3.293	172.8	2.2	16.3
1980 11 07	02 28.04	+14 53.7					
1980 11 17	02 20.37	+14 17.2	2.314	3.272	163.2	5.0	16.5
1980 11 27	02 13.78	+13 44.8					
1980 12 07	02 08.81	+13 19.8	2.434	3.251	140.0	11.2	16.8
1980 12 17	02 05.87	+13 04.9					
1980 12 27	02 05.09	+13 01.1	2.640	3.229	118.6	15.5	17.0
1981 01 06	02 06.46	+13 08.6					
1981 01 16	02 09.87	+13 26.5	2.893	3.206	99.5	17.6	17.2
1981 01 26	02 15.14	+13 53.7					
1981 02 05	02 22.06	+14 28.6	3.161	3.183	82.3	17.9	17.4

1974 SU4 Elements MPC 5521

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 09 18	04 56.25	+19 46.9	2.430	2.783	99.8	20.8	17.1
1980 09 28	05 02.54	+19 49.4					
1980 10 08	05 06.61	+19 48.0	2.167	2.767	117.0	18.8	16.8
1980 10 18	05 08.18	+19 43.6					
1980 10 28	05 07.09	+19 36.6	1.945	2.753	136.7	14.3	16.5
1980 11 07	05 03.33	+19 27.7					
1980 11 17	04 57.18	+19 17.2	1.796	2.741	158.9	7.4	16.1
1980 11 27	04 49.28	+19 06.1					
1980 12 07	04 40.54	+18 55.4	1.748	2.732	175.3	1.7	15.7
1980 12 17	04 32.07	+18 46.8					
1980 12 27	04 24.92	+18 42.5	1.814	2.724	152.4	9.6	16.2
1981 01 06	04 19.87	+18 43.9					
1981 01 16	04 17.42	+18 52.0	1.975	2.718	130.4	16.0	16.5
1981 01 26	04 17.72	+19 07.0					
1981 02 05	04 20.69	+19 27.8	2.201	2.715	111.0	19.8	16.8
1981 02 15	04 26.15	+19 53.3					
1981 02 25	04 33.82	+20 21.8	2.459	2.714	94.0	21.3	17.1

2533 P-L Elements MPC 5523

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 10 28	08 19.19	+18 57.1	2.260	2.494	91.6	23.5	20.5
1980 11 07	08 26.17	+18 35.5					
1980 11 17	08 30.69	+18 22.0	2.025	2.525	108.9	21.7	20.2
1980 11 27	08 32.47	+18 18.5					
1980 12 07	08 31.23	+18 26.4	1.814	2.552	129.1	17.4	19.9
1980 12 17	08 26.83	+18 46.0					
1980 12 27	08 19.42	+19 16.0	1.665	2.576	152.3	10.2	19.6
1981 01 06	08 09.53	+19 53.0					
1981 01 16	07 58.12	+20 32.4	1.613	2.597	177.9	0.8	19.0
1981 01 26	07 46.52	+21 09.3					
1981 02 05	07 36.07	+21 40.3	1.679	2.614	156.5	8.6	19.6
1981 02 15	07 27.87	+22 03.5					
1981 02 25	07 22.59	+22 18.8	1.849	2.627	133.2	16.0	20.0
1981 03 07	07 20.46	+22 27.0					
1981 03 17	07 21.38	+22 28.6	2.086	2.637	112.9	20.3	20.4
1981 03 27	07 25.07	+22 24.3					
1981 04 06	07 31.16	+22 14.0	2.355	2.643	95.3	22.1	20.7

(682) Hagar Elements MPC 5517

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 10 28	08 16.42	+07 21.3	2.947	3.105	89.7	18.7	18.6
1980 11 07	08 21.24	+06 28.5					
1980 11 17	08 24.13	+05 40.1	2.674	3.109	106.9	17.7	18.4
1980 11 27	08 24.92	+04 58.3					
1980 12 07	08 23.46	+04 25.6	2.427	3.111	126.1	14.8	18.1
1980 12 17	08 19.73	+04 04.5					
1980 12 27	08 13.89	+03 57.3	2.243	3.112	146.7	10.0	17.8
1981 01 06	08 06.33	+04 05.1					
1981 01 16	07 57.70	+04 28.1	2.155	3.110	163.3	5.2	17.6
1981 01 26	07 48.83	+05 04.4					
1981 02 05	07 40.58	+05 51.0	2.183	3.106	155.2	7.6	17.7
1981 02 15	07 33.77	+06 43.9					
1981 02 25	07 28.96	+07 38.9	2.319	3.100	135.1	13.0	18.0
1981 03 07	07 26.43	+08 32.7					
1981 03 17	07 26.30	+09 22.3	2.533	3.091	115.3	16.9	18.3
1981 03 27	07 28.45	+10 05.9					
1981 04 06	07 32.70	+10 42.2	2.788	3.081	97.4	18.8	18.5

1965 LA Elements MPC 5442

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 10 28	08 21.87	+28 38.6	2.805	3.028	93.2	19.1	19.6
1980 11 07	08 27.63	+28 48.3					
1980 11 17	08 31.13	+29 06.2	2.555	3.054	111.1	17.6	19.4
1980 11 27	08 32.11	+29 32.7					
1980 12 07	08 30.37	+30 06.7	2.339	3.078	131.2	13.9	19.1
1980 12 17	08 25.84	+30 46.1					
1980 12 27	08 18.74	+31 26.6	2.193	3.100	152.9	8.3	18.8
1981 01 06	08 09.54	+32 03.2					
1981 01 16	07 59.10	+32 30.7	2.151	3.121	168.3	3.6	18.6
1981 01 26	07 48.53	+32 45.6					
1981 02 05	07 38.91	+32 46.4	2.228	3.139	153.1	8.2	18.9
1981 02 15	07 31.20	+32 34.3					
1981 02 25	07 25.98	+32 11.9	2.409	3.155	131.7	13.6	19.2
1981 03 07	07 23.45	+31 42.0					
1981 03 17	07 23.62	+31 07.0	2.662	3.170	111.8	16.9	19.5
1981 03 27	07 26.25	+30 28.6					
1981 04 06	07 31.06	+29 47.6	2.950	3.182	94.1	18.3	19.8

(2288) Karolinum Elements MPC 5447

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	11 17	08 48.71	+27 13.8	2.214	2.675	107.0	20.7	16.3
1980	11 27	08 54.78	+28 04.7					
1980	12 07	08 58.38	+29 10.5	1.953	2.645	125.1	17.8	16.0
1980	12 17	08 59.15	+30 30.8					
1980	12 27	08 56.88	+32 02.9	1.751	2.616	144.8	12.5	15.6
1981	01 06	08 51.59	+33 40.8					
1981	01 16	08 43.66	+35 15.6	1.637	2.589	161.5	6.9	15.3
1981	01 26	08 34.04	+36 37.5					
1981	02 05	08 24.01	+37 38.3	1.631	2.563	156.0	9.0	15.3
1981	02 15	08 15.06	+38 13.7					
1981	02 25	08 08.45	+38 24.0	1.724	2.539	136.9	15.5	15.6
1981	03 07	08 04.96	+38 12.6					
1981	03 17	08 04.89	+37 43.9	1.891	2.517	118.1	20.4	15.9
1981	03 27	08 08.12	+37 02.0					
1981	04 06	08 14.33	+36 09.7	2.097	2.498	101.5	23.1	16.1
1981	04 16	08 23.10	+35 08.8					
1981	04 26	08 33.95	+34 00.2	2.319	2.481	87.1	23.9	16.3

1976 GQ1 Elements MPC 5522

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	11 17	09 23.64	+17 08.3	2.432	2.727	96.5	21.1	17.6
1980	11 27	09 30.61	+16 43.0					
1980	12 07	09 35.48	+16 27.5	2.169	2.720	113.8	19.4	17.3
1980	12 17	09 37.97	+16 23.5					
1980	12 27	09 37.93	+16 31.9	1.943	2.716	133.6	15.2	17.0
1981	01 06	09 35.27	+16 52.3					
1981	01 16	09 30.16	+17 22.9	1.786	2.714	155.9	8.5	16.6
1981	01 26	09 23.12	+17 59.9					
1981	02 05	09 14.92	+18 38.3	1.728	2.714	177.4	0.9	16.1
1981	02 15	09 06.61	+19 13.0					
1981	02 25	08 59.28	+19 39.5	1.783	2.716	155.6	8.6	16.6
1981	03 07	08 53.77	+19 55.6					
1981	03 17	08 50.68	+20 00.3	1.936	2.720	133.7	15.3	17.0
1981	03 27	08 50.20	+19 54.0					
1981	04 06	08 52.30	+19 37.3	2.157	2.727	114.4	19.5	17.3
1981	04 16	08 56.77	+19 11.1					
1981	04 26	09 03.31	+18 36.1	2.414	2.736	97.6	21.4	17.6

(1370) Hella Elements MPC 5410

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	11 17	09 38.27	+14 40.5	2.395	2.629	92.4	22.1	19.5
1980	11 27	09 44.43	+13 58.6					
1980	12 07	09 48.36	+13 26.0	2.130	2.633	109.9	20.6	19.2
1980	12 17	09 49.78	+13 04.6					
1980	12 27	09 48.44	+12 55.7	1.893	2.635	130.0	16.6	18.9
1981	01 06	09 44.22	+13 00.1					
1981	01 16	09 37.21	+13 16.7	1.719	2.634	153.1	9.7	18.5
1981	01 26	09 27.93	+13 43.1					
1981	02 05	09 17.22	+14 15.0	1.644	2.630	177.8	0.8	17.9
1981	02 15	09 06.26	+14 47.4					
1981	02 25	08 56.33	+15 15.6	1.686	2.623	156.2	8.7	18.4
1981	03 07	08 48.42	+15 36.4					
1981	03 17	08 43.23	+15 48.1	1.830	2.613	133.1	16.2	18.8
1981	03 27	08 41.00	+15 50.3					
1981	04 06	08 41.66	+15 43.0	2.041	2.600	113.0	20.8	19.1
1981	04 16	08 45.00	+15 26.6					
1981	04 26	08 50.66	+15 01.5	2.283	2.585	95.7	22.8	19.4

1977 RB Elements MPC 4781

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	11 17	09 55.65	+42 30.2	1.371	1.795	97.7	33.1	17.2
1980	11 27	10 10.13	+42 24.6					
1980	12 07	10 20.54	+42 31.8	1.204	1.807	110.9	30.6	16.9
1980	12 17	10 26.02	+42 52.7					
1980	12 27	10 25.70	+43 24.1	1.053	1.819	126.6	25.7	16.5
1981	01 06	10 18.71	+43 57.5					
1981	01 16	10 04.77	+44 16.6	0.945	1.833	143.7	18.5	16.1
1981	01 26	09 45.05	+43 59.8					
1981	02 05	09 22.43	+42 49.7	0.912	1.847	153.2	13.9	16.0
1981	02 15	09 00.94	+40 41.9					
1981	02 25	08 43.92	+37 49.7	0.973	1.861	142.8	18.8	16.2
1981	03 07	08 32.87	+34 34.2					
1981	03 17	08 27.81	+31 13.6	1.118	1.874	124.9	25.8	16.7
1981	03 27	08 27.88	+27 59.2					
1981	04 06	08 32.04	+24 55.3	1.316	1.888	108.4	30.2	17.2
1981	04 16	08 39.39	+22 02.1					
1981	04 26	08 49.14	+19 17.9	1.540	1.900	94.2	31.9	17.6

1975 TN Elements MPC 5013

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	11 17	09 31.04	-01 57.3	2.272	2.457	88.7	23.7	18.3
1980	11 27	09 38.25	-03 28.3					
1980	12 07	09 43.31	-04 51.5	2.054	2.485	104.1	22.6	18.1
1980	12 17	09 45.97	-06 03.2					
1980	12 27	09 46.05	-06 59.3	1.855	2.514	121.6	19.5	17.8
1981	01 06	09 43.45	-07 35.2					
1981	01 16	09 38.33	-07 46.6	1.704	2.542	140.6	14.2	17.5
1981	01 26	09 31.15	-07 30.6					
1981	02 05	09 22.69	-06 46.8	1.634	2.571	156.9	8.6	17.3
1981	02 15	09 13.99	-05 38.5					
1981	02 25	09 06.14	-04 12.4	1.668	2.599	155.0	9.3	17.4
1981	03 07	09 00.05	-02 37.4					
1981	03 17	08 56.33	-01 02.0	1.803	2.626	137.8	14.8	17.7
1981	03 27	08 55.25	+00 26.5					
1981	04 06	08 56.76	+01 43.6	2.015	2.653	119.3	19.2	18.1
1981	04 16	09 00.70	+02 46.6					
1981	04 26	09 06.76	+03 34.3	2.274	2.679	102.5	21.5	18.4

(2249) 1942 GA Elements MPC 5348

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	11 17	09 37.70	+12 26.3	3.209	3.386	91.8	17.0	17.6
1980	11 27	09 42.52	+12 04.1					
1980	12 07	09 45.64	+11 50.8	2.906	3.372	110.0	15.9	17.3
1980	12 17	09 46.84	+11 47.9					
1980	12 27	09 46.04	+11 56.2	2.636	3.356	130.2	12.9	17.0
1981	01 06	09 43.17	+12 16.2					
1981	01 16	09 38.38	+12 47.0	2.436	3.340	152.7	7.8	16.7
1981	01 26	09 32.00	+13 26.4					
1981	02 05	09 24.57	+14 11.3	2.339	3.324	176.5	1.0	16.2
1981	02 15	09 16.82	+14 57.5					
1981	02 25	09 09.54	+15 40.9	2.362	3.306	159.2	6.1	16.6
1981	03 07	09 03.44	+16 18.2					
1981	03 17	08 59.08	+16 47.2	2.495	3.289	136.5	12.0	16.8
1981	03 27	08 56.78	+17 06.7					
1981	04 06	08 56.62	+17 16.6	2.705	3.270	116.0	16.0	17.1
1981	04 16	08 58.59	+17 16.9					
1981	04 26	09 02.50	+17 08.1	2.958	3.252	97.8	17.9	17.3

1972 RV3 Elements MPC 5276

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 11 17	09 44.19	+14 08.5	2.384	2.594	90.8	22.4	20.0
1980 11 27	09 50.92	+13 44.8					
1980 12 07	09 55.45	+13 33.2	2.145	2.627	108.3	20.9	19.7
1980 12 17	09 57.49	+13 35.5					
1980 12 27	09 56.83	+13 53.2	1.932	2.658	128.4	16.9	19.4
1981 01 06	09 53.35	+14 26.3					
1981 01 16	09 47.15	+15 13.1	1.780	2.686	151.4	10.1	19.1
1981 01 26	09 38.71	+16 09.5					
1981 02 05	09 28.80	+17 09.5	1.726	2.711	176.0	1.5	18.7
1981 02 15	09 18.54	+18 06.6					
1981 02 25	09 09.12	+18 54.9	1.790	2.733	158.1	7.8	19.1
1981 03 07	09 01.49	+19 31.1					
1981 03 17	08 56.34	+19 53.7	1.958	2.753	135.0	14.8	19.5
1981 03 27	08 53.94	+20 03.1					
1981 04 06	08 54.25	+20 00.4	2.198	2.769	114.7	19.2	19.9
1981 04 16	08 57.08	+19 46.8					
1981 04 26	09 02.12	+19 23.7	2.473	2.783	97.1	21.0	20.2

(2245) 1968 BC Elements MPC 5320

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 11 17	09 40.55	+21 28.6	2.247	2.518	94.0	23.1	16.8
1980 11 27	09 49.14	+21 45.9					
1980 12 07	09 55.51	+22 18.5	2.020	2.545	111.0	21.2	16.5
1980 12 17	09 59.31	+23 07.8					
1980 12 27	10 00.29	+24 13.7	1.826	2.574	130.3	16.9	16.2
1981 01 06	09 58.25	+25 33.9					
1981 01 16	09 53.23	+27 03.1	1.697	2.602	151.2	10.5	16.0
1981 01 26	09 45.66	+28 33.1					
1981 02 05	09 36.35	+29 54.3	1.665	2.630	165.2	5.5	15.8
1981 02 15	09 26.49	+30 57.9					
1981 02 25	09 17.40	+31 38.8	1.743	2.658	152.0	10.1	16.1
1981 03 07	09 10.16	+31 56.0					
1981 03 17	09 05.53	+31 51.3	1.918	2.686	131.8	16.0	16.4
1981 03 27	09 03.81	+31 28.6					
1981 04 06	09 04.92	+30 51.6	2.158	2.713	113.2	19.8	16.8
1981 04 16	09 08.63	+30 03.3					
1981 04 26	09 14.58	+29 06.3	2.431	2.739	96.8	21.4	17.1

1976 SH2 Elements MPC 5321

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 11 17	09 55.78	+16 53.6	2.150	2.352	89.1	24.8	19.1
1980 11 27	10 04.26	+16 19.9					
1980 12 07	10 10.43	+15 58.3	1.927	2.390	105.7	23.4	18.9
1980 12 17	10 13.95	+15 50.8					
1980 12 27	10 14.52	+15 58.8	1.723	2.425	125.0	19.4	18.6
1981 01 06	10 11.92	+16 22.5					
1981 01 16	10 06.13	+16 59.9	1.571	2.458	147.5	12.4	18.2
1981 01 26	09 57.52	+17 46.6					
1981 02 05	09 46.87	+18 36.0	1.509	2.488	171.5	3.4	17.9
1981 02 15	09 35.42	+19 20.7					
1981 02 25	09 24.58	+19 54.5	1.559	2.515	160.9	7.4	18.1
1981 03 07	09 15.57	+20 14.1					
1981 03 17	09 09.24	+20 18.6	1.714	2.540	137.7	15.3	18.5
1981 03 27	09 05.95	+20 09.2					
1981 04 06	09 05.68	+19 47.9	1.942	2.561	117.3	20.3	19.0
1981 04 16	09 08.19	+19 16.2					
1981 04 26	09 13.10	+18 35.6	2.209	2.579	99.8	22.6	19.3

(2189) Zaragoza Elements MPC 5127

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	10 18.53	+11 40.8	2.437	2.818	102.4	20.0	18.6
1980 12 17	10 21.96	+12 00.7					
1980 12 27	10 23.07	+12 37.6	2.198	2.844	122.0	17.1	18.4
1981 01 06	10 21.68	+13 32.0					
1981 01 16	10 17.74	+14 43.0	2.011	2.867	144.2	11.6	18.1
1981 01 26	10 11.44	+16 07.0					
1981 02 05	10 03.26	+17 38.0	1.916	2.887	167.8	4.1	17.7
1981 02 15	09 53.99	+19 08.4					
1981 02 25	09 44.66	+20 30.4	1.939	2.904	164.3	5.3	17.8
1981 03 07	09 36.26	+21 38.1					
1981 03 17	09 29.65	+22 28.2	2.076	2.919	141.1	12.4	18.2
1981 03 27	09 25.36	+23 00.3					
1981 04 06	09 23.60	+23 15.5	2.298	2.930	120.0	17.2	18.5
1981 04 16	09 24.34	+23 15.8					
1981 04 26	09 27.40	+23 03.2	2.566	2.938	101.5	19.6	18.8
1981 05 06	09 32.48	+22 39.7					
1981 05 16	09 39.32	+22 06.7	2.849	2.943	85.3	20.0	19.1

1979 UE Elements MPC 5175

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1980 12 07	10 30.96	+26 39.1	2.450	2.862	-0.90	+4.8	17.7
1980 12 17	10 36.01	+27 24.1					
1980 12 27	10 38.64	+28 24.2	2.220	2.872	-1.02	+5.7	17.4
1981 01 06	10 38.57	+29 37.6					
1981 01 16	10 35.66	+31 00.1	2.045	2.881	-1.16	+6.3	17.1
1981 01 26	10 30.00	+32 24.9					
1981 02 05	10 21.97	+33 43.6	1.958	2.889	-1.29	+6.1	16.9
1981 02 15	10 12.38	+34 46.9					
1981 02 25	10 02.35	+35 27.9	1.979	2.897	-1.33	+5.1	17.0
1981 03 07	09 53.04	+35 43.3					
1981 03 17	09 45.51	+35 33.5	2.102	2.903	-1.24	+3.9	17.2
1981 03 27	09 40.42	+35 01.6					
1981 04 06	09 38.05	+34 12.0	2.301	2.908	-1.09	+3.3	17.5
1981 04 16	09 38.39	+33 09.0					
1981 04 26	09 41.20	+31 55.9	2.546	2.912	-0.94	+3.1	17.8
1981 05 06	09 46.17	+30 35.4					
1981 05 16	09 52.98	+29 09.0	2.808	2.915	-0.82	+3.2	18.0

1952 UT Elements MPC 4642

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	10 42.02	+16 22.9	2.176	2.521	98.7	22.7	19.2
1980 12 17	10 47.50	+16 28.0					
1980 12 27	10 50.46	+16 49.7	1.957	2.559	117.1	20.0	19.0
1981 01 06	10 50.61	+17 28.3					
1981 01 16	10 47.77	+18 22.6	1.779	2.595	138.0	14.7	18.7
1981 01 26	10 41.99	+19 28.6					
1981 02 05	10 33.63	+20 39.8	1.678	2.627	160.3	7.3	18.4
1981 02 15	10 23.46	+21 47.8					
1981 02 25	10 12.64	+22 44.2	1.685	2.657	165.9	5.2	18.3
1981 03 07	10 02.41	+23 23.0					
1981 03 17	09 53.91	+23 41.4	1.805	2.683	145.2	12.2	18.7
1981 03 27	09 47.87	+23 40.1					
1981 04 06	09 44.63	+23 21.5	2.011	2.706	124.4	17.8	19.1
1981 04 16	09 44.18	+22 48.7					
1981 04 26	09 46.31	+22 04.2	2.271	2.725	106.0	20.8	19.4
1981 05 06	09 50.69	+21 10.4					
1981 05 16	09 56.99	+20 08.7	2.552	2.742	89.8	21.6	19.7

(2200) Pasadena Elements MPC 5133

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	10 32.36	+12 43.7	1.835	2.222	99.6	25.9	17.5
1980 12 17	10 41.11	+11 50.0					
1980 12 27	10 47.58	+11 07.4	1.578	2.193	115.8	23.8	17.1
1981 01 06	10 51.36	+10 38.1					
1981 01 16	10 52.07	+10 23.9	1.356	2.166	134.9	18.8	16.7
1981 01 26	10 49.52	+10 25.0					
1981 02 05	10 43.74	+10 40.1	1.198	2.141	157.2	10.3	16.2
1981 02 15	10 35.28	+11 05.1					
1981 02 25	10 25.27	+11 33.4	1.129	2.118	177.4	1.2	15.6
1981 03 07	10 15.18	+11 57.7					
1981 03 17	10 06.59	+12 11.8	1.161	2.099	153.4	12.2	16.1
1981 03 27	10 00.69	+12 11.9					
1981 04 06	09 58.10	+11 56.7	1.277	2.082	131.8	21.0	16.5
1981 04 16	09 58.98	+11 26.4					
1981 04 26	10 03.08	+10 42.1	1.447	2.070	113.8	26.4	16.9
1981 05 06	10 10.00	+09 45.0					
1981 05 16	10 19.32	+08 36.3	1.645	2.061	98.9	29.0	17.2

(2198) Ceplecha Elements MPC 5132

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	10 46.20	+03 29.9	2.301	2.550	93.0	22.7	20.1
1980 12 17	10 52.20	+02 38.8					
1980 12 27	10 55.98	+02 00.6	2.080	2.592	110.4	20.8	19.8
1981 01 06	10 57.30	+01 37.4					
1981 01 16	10 56.01	+01 31.5	1.887	2.634	130.5	16.5	19.6
1981 01 26	10 52.12	+01 43.7					
1981 02 05	10 45.89	+02 13.8	1.758	2.675	153.1	9.6	19.3
1981 02 15	10 37.89	+02 59.1					
1981 02 25	10 29.01	+03 54.9	1.727	2.714	174.5	2.0	18.9
1981 03 07	10 20.26	+04 54.9					
1981 03 17	10 12.64	+05 52.5	1.811	2.753	156.6	8.3	19.4
1981 03 27	10 06.91	+06 42.1					
1981 04 06	10 03.50	+07 20.4	1.995	2.790	134.5	14.8	19.8
1981 04 16	10 02.55	+07 45.5					
1981 04 26	10 03.97	+07 57.1	2.249	2.825	114.9	18.8	20.1
1981 05 06	10 07.53	+07 55.7					
1981 05 16	10 12.98	+07 42.1	2.540	2.859	97.8	20.5	20.5

1979 UC Elements MPC 5175

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1980 12 07	10 54.71	+16 22.5	2.397	2.683	-0.84	+5.0	18.4
1980 12 17	11 01.30	+16 24.6					
1980 12 27	11 05.78	+16 42.2	2.135	2.684	-0.96	+6.0	18.1
1981 01 06	11 07.84	+17 16.2					
1981 01 16	11 07.19	+18 06.4	1.908	2.682	-1.11	+7.0	17.8
1981 01 26	11 03.75	+19 10.2					
1981 02 05	10 57.58	+20 22.6	1.753	2.678	-1.26	+7.5	17.5
1981 02 15	10 49.15	+21 36.2					
1981 02 25	10 39.32	+22 41.9	1.699	2.672	-1.34	+7.1	17.3
1981 03 07	10 29.19	+23 32.2					
1981 03 17	10 19.99	+24 01.7	1.757	2.663	-1.30	+6.0	17.5
1981 03 27	10 12.71	+24 09.0					
1981 04 06	10 07.96	+23 55.5	1.908	2.653	-1.16	+4.9	17.8
1981 04 16	10 06.01	+23 24.0					
1981 04 26	10 06.79	+22 37.9	2.120	2.641	-1.00	+4.4	18.1
1981 05 06	10 10.07	+21 39.7					
1981 05 16	10 15.54	+20 31.7	2.359	2.626	-0.87	+4.2	18.4

1977 NT Elements MPC 5276

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	10 55.39 +07 40.5	3.301	3.485	92.4	16.4	18.7
1980 12 17	10 59.69 +07 15.3					
1980 12 27	11 02.35 +07 00.2	2.986	3.462	110.9	15.4	18.4
1981 01 06	11 03.20 +06 56.3					
1981 01 16	11 02.11 +07 04.3	2.707	3.438	131.4	12.4	18.1
1981 01 26	10 59.08 +07 24.0					
1981 02 05	10 54.23 +07 54.3	2.500	3.413	153.8	7.3	17.8
1981 02 15	10 47.87 +08 32.9					
1981 02 25	10 40.56 +09 16.1	2.398	3.387	177.5	0.7	17.3
1981 03 07	10 32.96 +09 59.5					
1981 03 17	10 25.82 +10 38.9	2.415	3.361	158.4	6.3	17.7
1981 03 27	10 19.79 +11 10.7					
1981 04 06	10 15.38 +11 32.6	2.541	3.333	135.9	12.1	17.9
1981 04 16	10 12.90 +11 43.2					
1981 04 26	10 12.44 +11 42.6	2.743	3.305	115.6	15.9	18.2
1981 05 06	10 13.96 +11 30.9					
1981 05 16	10 17.34 +11 08.9	2.985	3.276	97.6	17.8	18.4

1979 UG Elements MPC 5277

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	10 57.45 +06 43.2	2.416	2.634	91.6	22.0	18.7
1980 12 17	11 03.73 +06 14.0					
1980 12 27	11 07.95 +05 58.6	2.160	2.653	109.3	20.5	18.5
1981 01 06	11 09.84 +05 58.9					
1981 01 16	11 09.14 +06 16.6	1.932	2.668	129.5	16.5	18.1
1981 01 26	11 05.78 +06 51.9					
1981 02 05	10 59.85 +07 43.5	1.767	2.680	152.5	9.8	17.8
1981 02 15	10 51.79 +08 47.5					
1981 02 25	10 42.39 +09 57.7	1.700	2.689	177.0	1.1	17.3
1981 03 07	10 32.66 +11 06.7					
1981 03 17	10 23.73 +12 07.3	1.750	2.696	157.3	8.2	17.7
1981 03 27	10 16.53 +12 54.5					
1981 04 06	10 11.67 +13 25.8	1.902	2.699	134.3	15.4	18.1
1981 04 16	10 09.43 +13 40.6					
1981 04 26	10 09.80 +13 39.8	2.124	2.699	114.3	19.9	18.4
1981 05 06	10 12.57 +13 24.8					
1981 05 16	10 17.48 +12 57.2	2.379	2.696	96.9	21.9	18.7

(2205) 1973 SU4 Elements MPC 5178

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	11 03.46 -05 13.2	3.292	3.364	85.6	17.0	18.6
1980 12 17	11 08.27 -06 10.9					
1980 12 27	11 11.49 -07 00.3	3.001	3.363	103.1	16.6	18.4
1981 01 06	11 12.94 -07 39.3					
1981 01 16	11 12.47 -08 05.6	2.731	3.360	122.2	14.3	18.1
1981 01 26	11 10.06 -08 17.3					
1981 02 05	11 05.80 -08 12.6	2.518	3.357	142.9	10.2	17.9
1981 02 15	10 59.96 -07 50.8					
1981 02 25	10 53.04 -07 12.8	2.395	3.352	162.5	5.1	17.6
1981 03 07	10 45.66 -06 21.2					
1981 03 17	10 38.55 -05 20.3	2.386	3.346	162.0	5.3	17.6
1981 03 27	10 32.40 -04 15.6					
1981 04 06	10 27.73 -03 12.4	2.489	3.339	142.5	10.5	17.8
1981 04 16	10 24.89 -02 15.2					
1981 04 26	10 24.03 -01 27.5	2.681	3.331	122.4	14.8	18.1
1981 05 06	10 25.12 -00 51.0					
1981 05 16	10 28.07 -00 26.8	2.927	3.321	104.1	17.2	18.3

1969 VW Elements MPC 5351

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	11 09.13	+04 43.7	2.413	2.577	88.2	22.5	19.0
1980 12 17	11 16.62	+04 05.1					
1980 12 27	11 22.21	+03 39.4	2.151	2.588	105.1	21.5	18.7
1981 01 06	11 25.61	+03 29.0					
1981 01 16	11 26.52	+03 35.9	1.909	2.595	124.5	18.2	18.4
1981 01 26	11 24.77	+04 01.5					
1981 02 05	11 20.33	+04 45.6	1.720	2.600	146.7	12.0	18.0
1981 02 15	11 13.44	+05 46.1					
1981 02 25	11 04.72	+06 57.7	1.620	2.603	171.2	3.3	17.6
1981 03 07	10 55.11	+08 13.3					
1981 03 17	10 45.75	+09 24.7	1.633	2.602	163.4	6.3	17.8
1981 03 27	10 37.72	+10 24.8					
1981 04 06	10 31.80	+11 09.3	1.753	2.599	139.8	14.4	18.1
1981 04 16	10 28.49	+11 36.1					
1981 04 26	10 27.87	+11 45.3	1.949	2.592	119.1	19.8	18.5
1981 05 06	10 29.81	+11 38.2					
1981 05 16	10 34.09	+11 16.4	2.187	2.583	101.3	22.6	18.8

(2210) 9597 P-L Elements MPC 5180

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	11 16.39	+06 05.4	2.822	2.940	87.0	19.6	20.6
1980 12 17	11 22.55	+05 36.4					
1980 12 27	11 26.95	+05 19.5	2.540	2.947	104.6	18.8	20.4
1981 01 06	11 29.34	+05 16.3					
1981 01 16	11 29.50	+05 28.2	2.280	2.951	124.5	15.9	20.1
1981 01 26	11 27.30	+05 55.5					
1981 02 05	11 22.74	+06 37.7	2.077	2.952	146.8	10.5	19.8
1981 02 15	11 16.05	+07 32.2					
1981 02 25	11 07.78	+08 34.3	1.968	2.950	170.8	3.1	19.4
1981 03 07	10 58.68	+09 38.2					
1981 03 17	10 49.71	+10 37.4	1.977	2.945	163.6	5.5	19.5
1981 03 27	10 41.77	+11 26.4					
1981 04 06	10 35.58	+12 01.8	2.096	2.936	140.2	12.6	19.8
1981 04 16	10 31.60	+12 22.0					
1981 04 26	10 29.98	+12 27.1	2.298	2.925	119.3	17.5	20.1
1981 05 06	10 30.69	+12 18.1					
1981 05 16	10 33.56	+11 56.2	2.544	2.910	101.0	19.9	20.4

(2258) 1939 TA Elements MPC 5353

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 07	11 05.51	+05 23.9	2.302	2.492	89.2	23.3	16.6
1980 12 17	11 14.05	+04 23.7					
1980 12 27	11 20.70	+03 34.4	2.050	2.498	105.4	22.3	16.4
1981 01 06	11 25.15	+02 58.1					
1981 01 16	11 27.13	+02 37.0	1.821	2.506	123.9	19.0	16.0
1981 01 26	11 26.47	+02 32.3					
1981 02 05	11 23.11	+02 44.7	1.642	2.516	145.2	12.9	15.7
1981 02 15	11 17.30	+03 13.0					
1981 02 25	11 09.65	+03 53.6	1.548	2.526	168.9	4.3	15.3
1981 03 07	11 01.06	+04 41.2					
1981 03 17	10 52.64	+05 29.0	1.560	2.538	166.4	5.3	15.4
1981 03 27	10 45.47	+06 10.5					
1981 04 06	10 40.32	+06 41.0	1.676	2.551	143.4	13.5	15.8
1981 04 16	10 37.67	+06 57.8					
1981 04 26	10 37.63	+06 59.8	1.872	2.564	123.1	19.2	16.1
1981 05 06	10 40.07	+06 47.5					
1981 05 16	10 44.76	+06 21.8	2.115	2.579	105.6	22.2	16.5

1941 SZ Elements MPC 5032

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	12 07	11 22.35	+02 01.7	3.302	3.347	84.1	17.0	20.1
1980	12 17	11 27.47	+01 31.0					
1980	12 27	11 31.02	+01 10.7	3.006	3.353	102.1	16.7	19.9
1981	01 06	11 32.80	+01 02.3					
1981	01 16	11 32.64	+01 07.3	2.728	3.355	122.1	14.4	19.6
1981	01 26	11 30.44	+01 26.3					
1981	02 05	11 26.24	+01 59.5	2.505	3.355	144.2	9.9	19.3
1981	02 15	11 20.24	+02 45.7					
1981	02 25	11 12.87	+03 41.8	2.376	3.351	168.1	3.5	19.0
1981	03 07	11 04.73	+04 43.7					
1981	03 17	10 56.58	+05 46.1	2.366	3.344	167.3	3.8	19.0
1981	03 27	10 49.16	+06 43.9					
1981	04 06	10 43.09	+07 32.9	2.474	3.334	143.7	10.2	19.3
1981	04 16	10 38.80	+08 10.3					
1981	04 26	10 36.51	+08 35.0	2.673	3.321	122.3	14.8	19.6
1981	05 06	10 36.24	+08 46.8					
1981	05 16	10 37.93	+08 46.1	2.925	3.305	103.1	17.3	19.8

1977 GA Elements MPC 4931

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	12 27	11 42.47	-32 07.5	3.284	3.354	85.5	17.0	17.6
1981	01 06	11 46.08	-33 51.5					
1981	01 16	11 47.76	-35 28.4	2.992	3.310	100.1	17.0	17.4
1981	01 26	11 47.29	-36 54.7					
1981	02 05	11 44.49	-38 05.9	2.720	3.263	115.1	15.9	17.1
1981	02 15	11 39.35	-38 56.6					
1981	02 25	11 32.12	-39 21.4	2.494	3.213	129.2	13.8	16.8
1981	03 07	11 23.32	-39 15.7					
1981	03 17	11 13.81	-38 36.6	2.341	3.161	139.1	11.9	16.6
1981	03 27	11 04.59	-37 25.2					
1981	04 06	10 56.62	-35 46.0	2.277	3.106	139.4	12.1	16.5
1981	04 16	10 50.68	-33 46.6					
1981	04 26	10 47.22	-31 36.6	2.305	3.049	129.8	14.7	16.6
1981	05 06	10 46.40	-29 25.0					
1981	05 16	10 48.15	-27 19.7	2.409	2.989	115.7	17.7	16.7
1981	05 26	10 52.28	-25 26.2					
1981	06 05	10 58.52	-23 48.0	2.563	2.927	100.7	19.9	16.8

(2239) 1978 RC Elements MPC 5316

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980	12 27	11 45.57	+10 50.7	3.091	3.440	102.5	16.2	18.5
1981	01 06	11 48.03	+10 46.0					
1981	01 16	11 48.57	+10 52.6	2.827	3.449	121.9	14.0	18.3
1981	01 26	11 47.10	+11 09.6					
1981	02 05	11 43.60	+11 35.6	2.618	3.458	143.1	9.9	18.0
1981	02 15	11 38.26	+12 07.8					
1981	02 25	11 31.44	+12 42.5	2.501	3.466	164.7	4.3	17.7
1981	03 07	11 23.69	+13 15.3					
1981	03 17	11 15.72	+13 41.7	2.499	3.473	165.9	4.0	17.7
1981	03 27	11 08.25	+13 58.6					
1981	04 06	11 01.91	+14 03.8	2.612	3.479	144.9	9.5	18.0
1981	04 16	10 57.16	+13 56.6					
1981	04 26	10 54.26	+13 37.6	2.818	3.484	124.2	13.8	18.3
1981	05 06	10 53.29	+13 07.7					
1981	05 16	10 54.18	+12 28.2	3.081	3.489	105.4	16.2	18.5
1981	05 26	10 56.79	+11 40.3					
1981	06 05	11 00.93	+10 45.1	3.369	3.492	88.4	16.9	18.7

(2199) Klet Elements MPC 5133

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 27	11 36.98	+03 17.9	2.136	2.525	101.6	22.4	18.7
1981 01 06	11 42.83	+03 10.0					
1981 01 16	11 46.49	+03 20.2	1.852	2.491	119.8	20.0	18.3
1981 01 26	11 47.67	+03 50.9					
1981 02 05	11 46.12	+04 43.2	1.612	2.455	140.6	14.8	17.8
1981 02 15	11 41.77	+05 56.4					
1981 02 25	11 34.92	+07 26.4	1.450	2.417	164.0	6.5	17.4
1981 03 07	11 26.18	+09 05.7					
1981 03 17	11 16.64	+10 44.0	1.393	2.376	168.5	4.8	17.2
1981 03 27	11 07.57	+12 10.8					
1981 04 06	11 00.12	+13 18.1	1.443	2.334	144.9	14.3	17.5
1981 04 16	10 55.19	+14 01.7					
1981 04 26	10 53.20	+14 20.9	1.573	2.289	123.6	21.5	17.8
1981 05 06	10 54.20	+14 17.3					
1981 05 16	10 58.05	+13 53.4	1.748	2.244	105.7	25.7	18.1
1981 05 26	11 04.43	+13 11.9					
1981 06 05	11 12.99	+12 15.3	1.938	2.197	90.6	27.5	18.3

(2264) Sabrina Elements MPC 5354

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 12 27	12 21.17	-02 27.0	3.390	3.516	89.1	16.2	17.8
1981 01 06	12 25.87	-02 57.7					
1981 01 16	12 29.03	-03 18.5	3.073	3.496	107.4	15.6	17.5
1981 01 26	12 30.47	-03 28.2					
1981 02 05	12 30.06	-03 26.0	2.786	3.474	127.4	13.0	17.2
1981 02 15	12 27.73	-03 11.5					
1981 02 25	12 23.60	-02 45.2	2.563	3.452	149.4	8.4	16.9
1981 03 07	12 17.91	-02 08.6					
1981 03 17	12 11.11	-01 24.5	2.439	3.428	172.8	2.1	16.5
1981 03 27	12 03.81	-00 37.1					
1981 04 06	11 56.70	+00 09.4	2.432	3.404	163.5	4.8	16.7
1981 04 16	11 50.44	+00 50.5					
1981 04 26	11 45.55	+01 22.7	2.537	3.378	140.9	10.8	16.9
1981 05 06	11 42.37	+01 43.9					
1981 05 16	11 41.08	+01 52.8	2.725	3.351	120.3	15.1	17.2
1981 05 26	11 41.69	+01 49.5					
1981 06 05	11 44.10	+01 34.5	2.962	3.324	101.9	17.4	17.4

(2181) Fogelin Elements MPC 5034

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981 01 16	12 48.47	+04 19.5	1.840	2.310	105.7	24.2	17.1
1981 01 26	12 53.32	+03 37.0					
1981 02 05	12 55.39	+03 06.6	1.627	2.324	123.7	20.7	16.8
1981 02 15	12 54.38	+02 47.9					
1981 02 25	12 50.22	+02 39.5	1.461	2.340	144.7	14.2	16.4
1981 03 07	12 43.10	+02 38.8					
1981 03 17	12 33.69	+02 41.6	1.376	2.358	167.8	5.1	16.0
1981 03 27	12 23.08	+02 43.0					
1981 04 06	12 12.57	+02 38.1	1.396	2.378	165.7	6.0	16.1
1981 04 16	12 03.43	+02 23.3					
1981 04 26	11 56.60	+01 56.7	1.517	2.400	143.2	14.6	16.5
1981 05 06	11 52.54	+01 17.9					
1981 05 16	11 51.37	+00 27.6	1.716	2.422	123.2	20.4	17.0
1981 05 26	11 52.91	-00 33.0					
1981 06 05	11 56.87	-01 42.5	1.961	2.446	106.1	23.5	17.3
1981 06 15	12 02.94	-02 59.7					
1981 06 25	12 10.79	-04 23.5	2.229	2.471	91.3	24.3	17.7

A915 TA Elements MPC 5177

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981	01 16	12 46.98	-07 43.1	2.445	2.812	101.5	20.0	20.6
1981	01 26	12 50.75	-08 03.9					
1981	02 05	12 52.35	-08 09.8	2.173	2.805	120.4	17.6	20.3
1981	02 15	12 51.55	-07 59.2					
1981	02 25	12 48.33	-07 31.2	1.949	2.795	141.8	12.7	20.0
1981	03 07	12 42.79	-06 46.0					
1981	03 17	12 35.39	-05 45.8	1.809	2.783	165.4	5.2	19.6
1981	03 27	12 26.85	-04 35.4					
1981	04 06	12 18.10	-03 21.0	1.778	2.768	169.7	3.7	19.5
1981	04 16	12 10.11	-02 10.2					
1981	04 26	12 03.70	-01 09.4	1.858	2.751	146.1	11.8	19.8
1981	05 06	11 59.40	-00 23.0					
1981	05 16	11 57.50	+00 06.6	2.025	2.731	124.8	17.7	20.1
1981	05 26	11 58.00	+00 19.1					
1981	06 05	12 00.75	+00 15.3	2.244	2.710	106.3	21.1	20.4
1981	06 15	12 05.56	-00 03.3					
1981	06 25	12 12.17	-00 34.9	2.484	2.686	90.1	22.2	20.6

(2206) 1976 GR3 Elements MPC 5178

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981	01 16	12 51.52	+07 56.0	2.480	2.913	106.3	18.9	17.5
1981	01 26	12 55.50	+08 06.1					
1981	02 05	12 57.31	+08 29.3	2.228	2.905	124.7	16.2	17.2
1981	02 15	12 56.76	+09 04.3					
1981	02 25	12 53.83	+09 48.2	2.033	2.898	144.7	11.4	16.9
1981	03 07	12 48.68	+10 36.5					
1981	03 17	12 41.72	+11 23.5	1.926	2.891	162.9	5.8	16.6
1981	03 27	12 33.68	+12 02.7					
1981	04 06	12 25.41	+12 28.5	1.926	2.885	159.7	6.9	16.7
1981	04 16	12 17.82	+12 37.1					
1981	04 26	12 11.68	+12 26.9	2.030	2.880	140.7	12.8	16.9
1981	05 06	12 07.47	+11 58.7					
1981	05 16	12 05.48	+11 14.3	2.214	2.875	121.5	17.5	17.2
1981	05 26	12 05.70	+10 16.3					
1981	06 05	12 08.02	+09 07.0	2.448	2.870	104.2	20.0	17.5
1981	06 15	12 12.26	+07 48.7					
1981	06 25	12 18.17	+06 23.1	2.704	2.867	88.7	20.8	17.7

(2269) 1976 JA2 Elements MPC 5416

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981	01 16	12 56.42	+13 13.8	2.540	2.978	106.8	18.4	16.8
1981	01 26	13 00.16	+13 41.1					
1981	02 05	13 01.67	+14 20.8	2.317	2.992	124.9	15.7	16.6
1981	02 15	13 00.78	+15 10.5					
1981	02 25	12 57.53	+16 05.8	2.151	3.006	143.6	11.3	16.3
1981	03 07	12 52.08	+17 01.0					
1981	03 17	12 44.92	+17 49.5	2.075	3.021	158.1	7.1	16.1
1981	03 27	12 36.75	+18 24.6					
1981	04 06	12 28.43	+18 41.5	2.104	3.036	154.1	8.3	16.2
1981	04 16	12 20.82	+18 37.5					
1981	04 26	12 14.64	+18 12.8	2.235	3.052	137.3	12.9	16.5
1981	05 06	12 10.31	+17 29.5					
1981	05 16	12 08.09	+16 30.3	2.444	3.067	119.2	16.7	16.8
1981	05 26	12 07.96	+15 18.6					
1981	06 05	12 09.81	+13 57.2	2.702	3.083	102.4	18.8	17.0
1981	06 15	12 13.46	+12 28.5					
1981	06 25	12 18.67	+10 54.4	2.981	3.099	87.0	19.1	17.3

(2262) 1978 RB Elements MPC 5354

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981 01 16	13 04.03	-06 48.7	3.017	3.301	98.0	17.2	18.9
1981 01 26	13 06.29	-07 26.9					
1981 02 05	13 06.58	-07 55.6	2.718	3.289	117.3	15.4	18.6
1981 02 15	13 04.73	-08 13.8					
1981 02 25	13 00.69	-08 20.9	2.465	3.275	138.7	11.5	18.3
1981 03 07	12 54.56	-08 16.7					
1981 03 17	12 46.67	-08 02.0	2.297	3.257	161.8	5.5	18.0
1981 03 27	12 37.61	-07 38.6					
1981 04 06	12 28.12	-07 09.8	2.241	3.236	172.6	2.3	17.7
1981 04 16	12 19.05	-06 39.7					
1981 04 26	12 11.16	-06 12.5	2.305	3.213	149.5	9.2	18.1
1981 05 06	12 05.00	-05 51.9					
1981 05 16	12 00.92	-05 40.5	2.466	3.186	127.7	14.5	18.3
1981 05 26	11 59.01	-05 39.9					
1981 06 05	11 59.23	-05 50.4	2.689	3.157	108.3	17.8	18.6
1981 06 15	12 01.44	-06 12.0					
1981 06 25	12 05.44	-06 43.9	2.937	3.125	91.0	19.0	18.7

(1229) Tilia Elements MPC 5277

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981 01 16	12 56.67	-06 26.0	3.422	3.718	99.8	15.1	18.4
1981 01 26	12 59.05	-06 40.3					
1981 02 05	12 59.74	-06 44.0	3.129	3.713	119.3	13.4	18.1
1981 02 15	12 58.65	-06 36.5					
1981 02 25	12 55.80	-06 17.8	2.888	3.706	140.6	9.8	17.9
1981 03 07	12 51.31	-05 48.6					
1981 03 17	12 45.52	-05 10.6	2.734	3.699	163.4	4.4	17.6
1981 03 27	12 38.87	-04 26.7					
1981 04 06	12 31.95	-03 40.5	2.694	3.690	173.1	1.9	17.4
1981 04 16	12 25.36	-02 56.1					
1981 04 26	12 19.67	-02 17.2	2.773	3.680	150.2	7.8	17.7
1981 05 06	12 15.28	-01 46.7					
1981 05 16	12 12.50	-01 26.6	2.949	3.669	128.8	12.4	18.0
1981 05 26	12 11.41	-01 17.6					
1981 06 05	12 12.03	-01 19.9	3.191	3.656	109.5	15.2	18.2
1981 06 15	12 14.28	-01 32.8					
1981 06 25	12 18.03	-01 55.6	3.463	3.643	92.0	16.2	18.4

(2214) 1953 GF Elements MPC 5220

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981 01 16	12 55.28	-08 21.2	3.406	3.696	99.4	15.2	18.8
1981 01 26	12 58.08	-08 23.2					
1981 02 05	12 59.23	-08 12.9	3.084	3.663	118.9	13.6	18.5
1981 02 15	12 58.61	-07 49.3					
1981 02 25	12 56.22	-07 12.1	2.812	3.628	140.1	10.1	18.2
1981 03 07	12 52.15	-06 21.8					
1981 03 17	12 46.69	-05 20.3	2.628	3.592	163.1	4.6	17.8
1981 03 27	12 40.29	-04 11.0					
1981 04 06	12 33.51	-02 58.2	2.558	3.554	173.2	1.9	17.6
1981 04 16	12 26.99	-01 47.2					
1981 04 26	12 21.33	-00 42.8	2.607	3.514	149.9	8.3	17.9
1981 05 06	12 16.98	+00 11.2					
1981 05 16	12 14.27	+00 52.2	2.755	3.474	128.3	13.2	18.1
1981 05 26	12 13.33	+01 19.2					
1981 06 05	12 14.20	+01 32.4	2.967	3.431	108.8	16.3	18.3
1981 06 15	12 16.79	+01 32.3					
1981 06 25	12 20.98	+01 20.4	3.208	3.388	91.4	17.5	18.5

1972 NC Elements MPC 5521

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981 01 16	13 01.82	-11 29.7	2.486	2.778	96.7	20.6	19.7
1981 01 26	13 06.13	-12 13.0					
1981 02 05	13 08.29	-12 44.1	2.194	2.760	115.0	18.9	19.3
1981 02 15	13 08.01	-13 01.0					
1981 02 25	13 05.14	-13 01.6	1.941	2.737	135.6	14.7	19.0
1981 03 07	12 59.67	-12 44.1					
1981 03 17	12 51.88	-12 08.1	1.761	2.711	158.4	7.8	18.6
1981 03 27	12 42.44	-11 15.2					
1981 04 06	12 32.26	-10 09.9	1.685	2.680	172.5	2.8	18.2
1981 04 16	12 22.48	-08 58.7					
1981 04 26	12 14.11	-07 49.7	1.723	2.646	150.6	10.8	18.5
1981 05 06	12 07.89	-06 49.4					
1981 05 16	12 04.27	-06 03.1	1.854	2.607	128.6	17.6	18.8
1981 05 26	12 03.33	-05 33.1					
1981 06 05	12 04.97	-05 20.1	2.042	2.565	109.4	21.9	19.1
1981 06 15	12 08.99	-05 23.5					
1981 06 25	12 15.11	-05 41.9	2.255	2.518	92.8	23.8	19.3

(2246) 1979 XH Elements MPC 5320

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981 01 16	12 54.42	-02 50.3	3.240	3.572	101.7	15.6	17.5
1981 01 26	12 57.81	-02 51.3					
1981 02 05	12 59.50	-02 40.6	2.962	3.570	120.9	13.7	17.2
1981 02 15	12 59.42	-02 18.0					
1981 02 25	12 57.57	-01 44.3	2.738	3.568	141.8	9.9	17.0
1981 03 07	12 54.09	-01 01.1					
1981 03 17	12 49.28	-00 11.2	2.602	3.568	163.8	4.5	16.7
1981 03 27	12 43.61	+00 41.4					
1981 04 06	12 37.61	+01 32.6	2.577	3.568	170.8	2.6	16.5
1981 04 16	12 31.92	+02 17.9					
1981 04 26	12 27.07	+02 53.9	2.667	3.570	149.4	8.3	16.9
1981 05 06	12 23.48	+03 18.3					
1981 05 16	12 21.44	+03 29.9	2.852	3.572	128.7	12.8	17.1
1981 05 26	12 21.05	+03 28.9					
1981 06 05	12 22.31	+03 15.8	3.100	3.576	109.9	15.5	17.4
1981 06 15	12 25.17	+02 51.8					
1981 06 25	12 29.47	+02 18.2	3.381	3.580	92.9	16.5	17.6

(2238) 1972 RQ1 Elements MPC 5315

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1981 01 16	13 02.42	-05 47.5	3.180	3.468	98.7	16.3	18.6
1981 01 26	13 05.55	-06 06.5					
1981 02 05	13 06.93	-06 14.6	2.876	3.449	117.9	14.6	18.3
1981 02 15	13 06.40	-06 11.3					
1981 02 25	13 03.92	-05 56.3	2.620	3.428	138.9	11.0	18.0
1981 03 07	12 59.59	-05 30.2					
1981 03 17	12 53.68	-04 54.7	2.447	3.406	161.6	5.3	17.7
1981 03 27	12 46.67	-04 12.6					
1981 04 06	12 39.17	-03 27.7	2.385	3.383	174.6	1.6	17.4
1981 04 16	12 31.90	-02 44.5					
1981 04 26	12 25.52	-02 07.2	2.440	3.358	151.4	8.2	17.7
1981 05 06	12 20.53	-01 39.1					
1981 05 16	12 17.30	-01 22.3	2.592	3.332	129.9	13.5	18.0
1981 05 26	12 15.98	-01 17.7					
1981 06 05	12 16.56	-01 25.4	2.810	3.306	110.5	16.7	18.2
1981 06 15	12 18.97	-01 44.6					
1981 06 25	12 23.05	-02 14.4	3.059	3.278	93.3	18.0	18.4