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

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

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

ERRATA.

MPC	Line					
11210	-15	For	Goffmann	read	Hoffmann	
11231	23	For	1982 UC1	read	1982 UC11	

* * * * *

IDENTIFICATION CHANGES.

Continuation to MPC 11207.

Object		Date	UT	R. A. (1950)	Decl.	Old desig.	Obs.
1929 QM	*	1929 08 30.90889		20 56 40.66	-13 19 16.7	1929 PA	024
1965 UO2	*	1965 10 20.57073		00 56 34.99	+09 10 30.5	1965 UY	330

* * * * *

OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

010 Caussols. 0.9-m Schmidt. Communicated by J.-L. Heudier.
012 Uccle. 0.4-m double astrograph. Observer T. Pauwels.
046 Klet. Observer A. Mrkos.
054 Brorfelde. 0.45-m Schmidt. Observers K. Augustesen and P. Jensen.
056 Skalnate Pleso. 0.3-m f/5 astrograph. Observers P. Rychtarcik and G. Cervak. Reduced by G. Cervak. Communicated by J. Svoren.
323 Perth Observatory, Bickley. Observers M. P. Candy, P. Jekabsons, A. Johns and A. McGrath.
372 Geisei. 0.60-m reflector. Observer T. Seki.
373 Oishi Astronomical Observatory. 0.31-m f/5.3 reflector. Measured by T. Urata. Long. and Parallax 135.34, -353, -238 (see MPC 11200).
391 Sendai Observatory, Ayashi Station. Observer M. Koishikawa. 0.25-m reflector (except 300-mm telephoto lens on Nov. 5).
392 JCPM Sapporo Station. 0.25-m reflector. Observer H. Kaneda.
397 Sapporo Science Center. 0.60-m reflector. Observer K. Watanabe.
398 Nagatoro. Observer Kawasato. From Nihondaira Obs. Circ. No. 1564.
399 Kushiro. 0.16-m reflector. Observer S. Ueda. Measured by H. Kaneda.
413 Siding Spring. 0.5-m Uppsala Schmidt. Observer R. H. McNaught.
491 Yebes. Observers M. de Pascual, J. Martin-Pintado, J. Garcia and C. Cabanas.
494 Stakenbridge. Observer B. Manning.
576 Burwash. 0.57-m reflector. Observer A. Young. Measured by D. L. King at the Royal Greenwich Observatory.
657 Climenhaga Observatory. Observers J. B. Tatum and D. D. Balam.
662 Lick. 0.5-m double astrograph. Observer A. R. Klemola.

688 Lowell Observatory, Anderson Mesa Station. The positions of comet 1982i were obtained by S. J. Bus and C. Gullixson with the 0.79-m reflector and CCD. The other positions were obtained by B. A. Skiff with the 0.33-m photographic telescope.
691 University of Arizona, Kitt Peak. 0.91-m reflector, CCD in scanning mode. Observers T. Gehrels and J. V. Scotti. Reduced by J. V. Scotti.
695 Kitt Peak. Observers K. J. Meech and D. Jewitt.
707 Chamberlin Observatory field station. Observer J. Briggs. Measured by E. Everhart.
801 Oak Ridge Observatory. Observers R. E. McCrosky, G. Schwartz and C.-Y. Shao.
881 Toyota. 0.31-m f/7 reflector. Observers K. Suzuki and T. Urata.
887 Ojima. Observers T. Furuyama, T. Niijima and T. Urata. Measured by N. Ishiyama and T. Urata. In part from Orient. Astron. Assoc. Comet Bull. No. 287 and Nihondaira Obs. Circ. No. 1570.
893 Sendai Observatory. 0.41-m reflector. Observer K. Kurosu. Measured by T. Tsumagari.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Periodic Comet Halley					
/1982i	1985	11 07.28846	04 52 55.05	+22 10 48.1		1	688
/1982i	1985	11 22.13032	02 45 30.49	+19 47 42.3		1	688
/1982i	1985	12 05.10131	00 25 25.10	+10 17 50.1		1	688
/1982i	1985	12 08.09261	00 00 29.07	+08 00 07.9		1	688
/1982i	1986	01 19.78707	21 38 13.43	-06 14 34.7		2	491
/1982i	1986	04 17.04625	12 43 34.92	-38 19 42.4		2	491
/1982i	1986	04 17.04868	12 43 32.39	-38 19 24.7			491
/1982i	1986	04 17.05162	12 43 29.62	-38 19 05.6			491
/1982i	1986	04 29.88521	10 58 32.45	-19 20 11.3			491
/1982i	1986	04 29.90287	10 58 28.51	-19 19 09.7			491
/1982i	1986	04 29.92434	10 58 23.71	-19 17 56.5			491
/1982i	1986	04 30.91230	10 54 57.33	-18 23 32.7			491
/1982i	1986	04 30.95800	10 54 48.20	-18 21 07.8			491
/1982i	1986	05 07.91014	10 38 09.18	-13 28 46.5			491
/1982i	1986	05 07.92537	10 38 07.54	-13 28 14.6			491
/1982i	1986	05 07.94061	10 38 06.00	-13 27 45.3			491
/1982i	1986	05 08.90948	10 36 32.64	-12 56 52.6			491
/1982i	1986	05 08.92472	10 36 31.23	-12 56 25.4			491
/1982i	1986	05 08.93995	10 36 29.88	-12 55 57.2			491
/1982i	1986	06 04.90745	10 24 12.01	-06 06 27.7			491
/1982i	1986	06 05.89432	10 24 20.50	-06 00 33.8		3	491
/1982i	1986	06 11.91117	10 25 38.28	-05 31 49.7			491
/1982i	1986	06 13.90398	10 26 12.75	-05 24 40.8		3	491
		Periodic Comet Encke					
/1984 VI	1986	09 26.25403	23 25 07.90	+03 13 11.1			691
/1984 VI	1986	09 26.27301	23 25 06.46	+03 13 04.0			691
/1984 VI	1986	09 26.28267	23 25 05.73	+03 12 59.9			691
		Periodic Comet Wild 2					
/1984 XIV	1986	09 25.22378	22 05 56.18	-13 06 27.6			691
/1984 XIV	1986	09 25.25922	22 05 54.97	-13 06 32.9			691
/1984 XIV	1986	09 26.19331	22 05 28.63	-13 08 57.7		4	691
/1984 XIV	1986	09 26.21486	22 05 28.23	-13 09 03.9		4	691
		Comet Shoemaker (1984 XV)					
/1984 XV	1986	09 26.24104	23 19 43.02	-05 14 21.6			691
/1984 XV	1986	09 26.24797	23 19 41.83	-05 14 33.7			691

Periodic Comet Giacobini-Zinner

/1984e	1985	09	13.19611	05	59	46.19	+20	46	57.1	3 491
/1984e	1985	09	14.20616	06	03	17.94	+19	22	32.1	3 491
/1984e	1985	10	15.18524	07	11	57.38	-15	08	09.9	491

Comet Shoemaker (1984f)

/1984f	1985	03	26.13769	15	38	35.04	-30	52	40.7	491
/1984f	1985	03	27.14051	15	36	47.47	-31	07	39.0	491
/1984f	1985	04	16.02147	14	47	43.82	-35	47	45.5	491
/1984f	1985	04	17.01250	14	44	36.11	-35	59	25.7	491
/1984f	1985	04	18.03852	14	41	18.84	-36	11	09.8	491
/1984f	1985	05	21.92977	12	41	10.98	-37	23	42.6	491
/1984f	1986	10	07.40259	05	46	40.75	-16	56	14.0	801
/1984f	1986	10	08.46458	05	45	57.28	-16	59	56.0	695
/1984f	1986	10	09.47780	05	45	14.58	-17	03	29.5	695

Comet Hartley-Good (1985l)

/1985l	1985	10	15.86986	20	36	12.89	-10	58	19.2	491
/1985l	1985	12	12.76478	17	09	50.74	+15	10	57.3	491

Comet Thiele (1985m)

/1985m	1985	11	14.01794	23	05	31.93	+32	40	07.1	491
/1985m	1985	11	14.06730	23	04	58.44	+32	36	23.1	491
/1985m	1985	11	14.93853	22	55	34.65	+31	31	48.3	491
/1985m	1985	11	15.02440	22	54	41.28	+31	25	27.3	491
/1985m	1985	12	09.76712	21	11	22.55	+13	48	02.8	491
/1985m	1985	12	12.82296	21	07	27.84	+12	51	52.4	491

Periodic Comet Boethin

/1985n	1986	01	13.85681	23	15	03.34	-04	01	51.7	491
/1985n	1986	01	14.83432	23	18	43.71	-03	32	35.2	491

Periodic Comet Ciffreo

/1985p	1985	12	09.89940	04	11	11.32	+31	19	05.4	491
/1985p	1985	12	12.85066	04	09	18.41	+31	51	22.2	491
/1985p	1986	01	10.85045	04	07	55.09	+35	16	42.3	491
/1985p	1986	01	13.92191	04	09	48.95	+35	29	33.6	491
/1985p	1986	01	14.88938	04	10	29.75	+35	33	22.1	491

Periodic Comet Shoemaker 3

/1986a	1986	02	11.01580	09	32	12.43	+24	14	34.5	491
/1986a	1986	02	11.99471	09	31	57.20	+24	19	24.8	491

Comet Shoemaker (1986b)

/1986b	1986	11	06.48330	09	34	13.10	+18	59	56.0	691
/1986b	1986	11	06.52079	09	34	11.56	+18	59	57.2	691

Periodic Comet Holmes

/1986f	1986	09	27.44652	04	53	36.44	+46	02	24.8	691

Periodic Comet Comas Sola

/1986j	1986	09	26.28898	00	40	29.38	-12	36	06.7	691
/1986j	1986	09	26.30939	00	40	28.36	-12	36	10.9	691
/1986j	1986	09	26.31368	00	40	28.15	-12	36	12.5	691

Periodic Comet Kohoutek

/1986k	1986	09	27.15809	20	59	30.00	-10	26	08.6	691
/1986k	1986	09	27.20514	20	59	29.12	-10	26	15.8	691

Comet Wilson (1986l)

/1986l	1986	08	11.75347	22	10	47.84	+24	31	31.4			887
/1986l	1986	08	13.74375	22	07	02.50	+24	16	05.9			887
/1986l	1986	08	13.74826	22	07	01.90	+24	16	05.5			887
/1986l	1986	08	15.66632	22	03	19.34	+23	59	44.9			887
/1986l	1986	08	24.49167	21	45	19.04	+22	24	02.0			887
/1986l	1986	08	27.51181	21	38	54.26	+21	43	28.4			887
/1986l	1986	08	27.51632	21	38	53.68	+21	43	21.2			887
/1986l	1986	08	28.53299	21	36	43.04	+21	28	49.5			887
/1986l	1986	08	28.53819	21	36	42.32	+21	28	45.9			887
/1986l	1986	08	29.89618	21	33	47.51	+21	08	37.6			010
/1986l	1986	09	01.69931	21	27	44.83	+20	24	41.6			323
/1986l	1986	09	03.60000	21	23	39.39	+19	52	56.5			887
/1986l	1986	09	03.60521	21	23	38.63	+19	52	54.2			887
/1986l	1986	09	04.58056	21	21	32.93	+19	36	07.8			323
/1986l	1986	09	05.63576	21	19	16.92	+19	17	35.8			323
/1986l	1986	09	08.55208	21	13	04.38	+18	24	12.6			323
/1986l	1986	09	11.57222	21	06	44.08	+17	25	59.6			323
/1986l	1986	09	19.78611	20	50	17.68	+14	35	37.9			046
/1986l	1986	09	19.78958	20	50	17.27	+14	35	30.9			046
/1986l	1986	09	20.78125	20	48	24.24	+14	14	05.1			046
/1986l	1986	09	20.78472	20	48	23.80	+14	13	58.9			046
/1986l	1986	09	20.80556	20	48	21.49	+14	13	33.5			046
/1986l	1986	09	20.80764	20	48	21.24	+14	13	31.8			046
/1986l	1986	09	21.77917	20	46	31.85	+13	52	19.7			046
/1986l	1986	09	21.78264	20	46	31.48	+13	52	15.1			046
/1986l	1986	09	23.55833	20	43	15.51	+13	13	21.9			323
/1986l	1986	09	23.77010	20	42	52.64	+13	08	37.5			046
/1986l	1986	09	23.77329	20	42	52.26	+13	08	32.7			046
/1986l	1986	09	25.78542	20	39	17.28	+12	23	57.7			046
/1986l	1986	09	25.78854	20	39	16.99	+12	23	53.8			046
/1986l	1986	09	25.86385	20	39	09.07	+12	22	13.7			494
/1986l	1986	09	26.85593	20	37	25.72	+12	00	06.8			046
/1986l	1986	09	26.85905	20	37	25.39	+12	00	03.9			046
/1986l	1986	09	28.85841	20	34	02.81	+11	15	26.4			494
/1986l	1986	09	29.80632	20	32	29.42	+10	54	15.8			046
/1986l	1986	09	29.80933	20	32	29.11	+10	54	11.5			046
/1986l	1986	09	30.46285	20	31	25.78	+10	39	37.1			398
/1986l	1986	09	30.62500	20	31	09.95	+10	36	01.9			323
/1986l	1986	09	30.80573	20	30	52.73	+10	31	56.1			046
/1986l	1986	09	30.80874	20	30	52.39	+10	31	51.5			046
/1986l	1986	09	30.98030	20	30	36.06	+10	28	01.7			801
/1986l	1986	10	01.49757	20	29	46.69	+10	16	27.0			399
/1986l	1986	10	01.50191	20	29	46.34	+10	16	21.7			399
/1986l	1986	10	01.83924	20	29	14.72	+10	08	51.6			046
/1986l	1986	10	01.84225	20	29	14.45	+10	08	48.3			046
/1986l	1986	10	02.00026	20	28	59.79	+10	05	16.7			801
/1986l	1986	10	02.18167	20	28	42.68	+10	01	11.1			657
/1986l	1986	10	03.48264	20	26	43.17	+09	32	13.0			399
/1986l	1986	10	03.49010	20	26	42.48	+09	32	02.5			399
/1986l	1986	10	05.26285	20	24	05.02	+08	52	42.1			707
/1986l	1986	10	05.27604	20	24	03.91	+08	52	22.8			707
/1986l	1986	10	05.86248	20	23	13.43	+08	39	23.4			494
/1986l	1986	10	07.02667	20	21	34.78	+08	13	41.7			801
/1986l	1986	10	07.23132	20	21	17.71	+08	09	13.0		5	657
/1986l	1986	10	07.45069	20	20	59.58	+08	04	25.3	11.5T		397
/1986l	1986	10	07.48611	20	20	56.65	+08	03	39.8			397
/1986l	1986	10	08.13236	20	20	04.04	+07	49	28.0			695

/1986l	1986	10	10.55886	20	16	52.66	+06	56	38.7			399
/1986l	1986	10	10.56563	20	16	52.14	+06	56	30.7			399
/1986l	1986	10	11.16917	20	16	06.57	+06	43	28.9			657
/1986l	1986	10	11.81727	20	15	18.42	+06	29	32.4			494
/1986l	1986	10	11.82612	20	15	17.78	+06	29	21.2			494
/1986l	1986	10	15.16458	20	11	22.80	+05	18	35.1			657
/1986l	1986	10	20.13264	20	06	14.47	+03	36	38.2			657
/1986l	1986	10	23.11569	20	03	32.21	+02	37	38.0			657
/1986l	1986	10	25.37764	20	01	40.29	+01	54	06.5			392
/1986l	1986	10	25.39558	20	01	39.46	+01	53	45.8			392
/1986l	1986	11	01.12194	19	57	01.82	-00	09	30.4			657
/1986l	1986	11	02.37830	19	56	18.73	-00	31	26.7	11.0	T	397
/1986l	1986	11	02.42575	19	56	17.16	-00	32	17.7			397

Comet Sorrells (1986n)

/1986n	1986	11	02.03854	05	36	22.86	+27	00	57.4			576
/1986n	1986	11	02.04623	05	36	21.10	+27	01	02.2	11	T	494
/1986n	1986	11	02.04826	05	36	20.91	+27	01	02.8			576
/1986n	1986	11	02.06021	05	36	18.04	+27	01	09.6			494
/1986n	1986	11	02.65457	05	34	06.92	+27	07	21.3			399
/1986n	1986	11	02.67477	05	34	02.48	+27	07	34.0			399
/1986n	1986	11	02.68021	05	34	01.26	+27	07	36.8	12	T	392
/1986n	1986	11	02.69115	05	33	58.67	+27	07	47.3	12.0	T	397
/1986n	1986	11	02.70851	05	33	54.89	+27	07	59.4			397
/1986n	1986	11	02.72581	05	33	50.89	+27	08	06.8			392
/1986n	1986	11	02.72969	05	33	50.09	+27	08	11.3			397
/1986n	1986	11	03.84317	05	29	34.66	+27	19	36.9		6	056
/1986n	1986	11	03.88241	05	29	25.47	+27	19	58.0		6	056
/1986n	1986	11	03.97674	05	29	03.44	+27	20	56.2			576
/1986n	1986	11	04.00201	05	28	57.35	+27	21	12.4	11	T	494
/1986n	1986	11	04.00991	05	28	55.50	+27	21	17.0	11	T	494
/1986n	1986	11	04.69931	05	26	10.17	+27	28	14.9	12	T	399
/1986n	1986	11	04.73565	05	26	01.30	+27	28	37.1			399
/1986n	1986	11	04.85208	05	25	33.04	+27	29	47.4		6	056
/1986n	1986	11	04.89097	05	25	23.27	+27	30	11.5		6	056
/1986n	1986	11	05.41806	05	23	12.92	+27	35	27.6			662
/1986n	1986	11	05.52025	05	22	47.38	+27	36	26.8			399
/1986n	1986	11	05.71181	05	21	58.5	+27	38	20	11	T	391
/1986n	1986	11	05.74028	05	21	51.3	+27	38	38			391
/1986n	1986	11	06.37924	05	19	07.69	+27	44	50.4			657
/1986n	1986	11	06.58137	05	18	15.21	+27	46	46.4			399
/1986n	1986	11	06.58380	05	18	14.54	+27	46	47.9			399
/1986n	1986	11	06.65139	05	17	56.76	+27	47	29.1	11	T	391
/1986n	1986	11	06.66412	05	17	53.54	+27	47	37.5			893
/1986n	1986	11	06.66933	05	17	52.03	+27	47	39.6			893
/1986n	1986	11	06.67083	05	17	51.43	+27	47	40.5			391
/1986n	1986	11	06.68113	05	17	49.06	+27	47	45.6			893
/1986n	1986	11	07.09931	05	15	57.86	+27	51	43.5			012
/1986n	1986	11	07.58333	05	13	46.81	+27	56	14.1			657
/1986n	1986	11	07.68073	05	13	20.71	+27	57	07.0			392
/1986n	1986	11	08.37150	05	10	09.54	+28	03	23.3			688
/1986n	1986	11	08.37840	05	10	07.57	+28	03	27.7			688
/1986n	1986	11	08.54821	05	09	20.07	+28	04	57.1			392
/1986n	1986	11	08.55405	05	09	18.33	+28	05	00.3			392
/1986n	1986	11	08.90729	05	07	37.94	+28	08	07.5			056
/1986n	1986	11	08.95174	05	07	25.26	+28	08	29.1			056
/1986n	1986	11	09.20069	05	06	13.67	+28	10	39.8			707
/1986n	1986	11	09.25556	05	05	57.79	+28	11	08.8			707
/1986n	1986	11	09.26319	05	05	55.31	+28	11	12.0			707

/1986n	1986	11	09.93958	05	02	37.11	+28	16	51.4				056
/1986n	1986	11	09.96181	05	02	30.52	+28	17	00.9				056
/1986n	1986	11	10.34316	05	00	36.41	+28	20	06.7				688
/1986n	1986	11	10.35104	05	00	34.06	+28	20	09.9				688
/1986n	1986	11	11.13542	04	56	34.53	+28	26	13.8				056
/1986n	1986	11	11.15972	04	56	26.93	+28	26	24.5				056
/1986n	1986	11	12.09167	04	51	34.00	+28	33	06.3				056
/1986n	1986	11	12.11250	04	51	27.50	+28	33	15.4				056

Periodic Comet Urata-Niijima (1986o)

/1986o	1986	10	29.93343	02	01	38.08	+18	22	19.7			7	054
/1986o	1986	10	30.57911	02	00	27.12	+18	52	18.5	16	T	8	887
/1986o	1986	10	30.60341	02	00	24.29	+18	53	27.5				887
/1986o	1986	10	30.61875	02	00	22.30	+18	54	12.5			8	887
/1986o	1986	11	02.54340	01	54	57.47	+21	09	06.0	16	T		881
/1986o	1986	11	02.56701	01	54	54.78	+21	10	13.2				881
/1986o	1986	11	03.66354	01	52	51.27	+22	00	26.9	17	T		372
/1986o	1986	11	03.67465	01	52	49.93	+22	00	59.2				372
/1986o	1986	11	04.47176	01	51	21.54	+22	37	12.4				373
/1986o	1986	11	04.48669	01	51	19.79	+22	37	52.9				373
/1986o	1986	11	04.59957	01	51	06.06	+22	43	18.4				413
/1986o	1986	11	04.60490	01	51	05.27	+22	43	33.5				413
/1986o	1986	11	04.60971	01	51	04.72	+22	43	46.9				413
/1986o	1986	11	04.65000	01	51	00.03	+22	45	24.0	16	T		372
/1986o	1986	11	04.70069	01	50	54.43	+22	47	37.0				372
/1986o	1986	11	05.51481	01	49	23.93	+23	24	37.8				413
/1986o	1986	11	05.52021	01	49	23.30	+23	24	52.2				413
/1986o	1986	11	05.55104	01	49	19.76	+23	25	58.4				881
/1986o	1986	11	06.30146	01	47	55.72	+23	59	25.7				657
/1986o	1986	11	06.33236	01	47	52.13	+24	00	52.9				657
/1986o	1986	11	06.53333	01	47	30.25	+24	09	53.3				399
/1986o	1986	11	06.61528	01	47	20.55	+24	13	31.6	15.5	T		391
/1986o	1986	11	06.63194	01	47	18.79	+24	14	08.4				391
/1986o	1986	11	07.21672	01	46	14.50	+24	40	14.9				691
/1986o	1986	11	07.22031	01	46	14.00	+24	40	25.5				691
/1986o	1986	11	07.24319	01	46	11.39	+24	41	25.6				691
/1986o	1986	11	07.24634	01	46	11.04	+24	41	33.6				691

Note 1: these observations replace those at slightly different times on MPC 10463 and 10589. 2: comet image large and ill-defined. 3: comet image diffuse, difficult to measure. 4: comet image involved with background star. 5: comet image blended with star image. 6: comet image extensively trailed, measurement inaccurate. 7: very weak, trailed, prediscovery image. 8: observations given the designation 1986 UD on IAUC 4267.

* * * * *

OBSERVATIONS MADE AT CAUSSOLS.

Plates taken by A. Barthelemy, J. Ciffreo, J.-L. Heudier, T. Laverge and C. Pollas with the 0.9-m Schmidt in association with the International Near-Earth Asteroid Survey (INAS). Contact: J.-L. Heudier, CERGA Caussols, F-06460 Saint Vallier de Thiey, France.

Object	Date	UT	R. A. (1950)	Decl.	N Obs.
52	1986 09	30.88610	23 02 58.10	-13 31 04.2	010
52	1986 09	30.91740	23 02 57.11	-13 31 10.8	010
88	1986 09	29.86810	21 59 32.00	-04 00 49.4	010
88	1986 09	29.89930	21 59 31.34	-04 00 56.7	010

116	1986	09	30.88610	23	06	10.49	-11	02	49.6	010
116	1986	09	30.90693	23	06	09.52	-11	02	52.2	010
116	1986	09	30.91740	23	06	09.03	-11	02	54.9	010
171	1986	10	01.04375	01	53	11.50	+07	55	45.3	010
171	1986	10	01.07500	01	53	10.63	+07	55	39.5	010
173	1986	10	06.86458	21	26	40.18	-19	28	26.9	010
173	1986	10	06.88542	21	26	40.74	-19	28	34.6	010
173	1986	10	06.89277	21	26	40.79	-19	28	36.0	010
391	1986	10	08.13403	04	57	01.65	+13	59	07.0	010
391	1986	10	08.15486	04	57	02.50	+13	58	37.2	010
391	1986	10	08.16180	04	57	02.65	+13	58	28.1	010
391	1986	10	08.16875	04	57	03.11	+13	58	18.4	010
441	1986	09	29.77080	19	36	13.19	-13	13	58.9	010
441	1986	09	29.80560	19	36	13.50	-13	13	57.5	010
489	1986	08	31.93260	22	47	00.19	-05	18	23.5	010
489	1986	08	31.96390	22	46	59.36	-05	18	35.9	010
660	1986	09	29.77080	19	25	05.64	-14	45	39.4	010
660	1986	09	29.80560	19	25	07.26	-14	45	49.9	010
669	1986	09	29.77080	19	22	43.11	-13	47	22.2	010
669	1986	09	29.80560	19	22	43.96	-13	47	27.5	010
760	1986	09	29.91460	23	04	50.68	+00	23	01.6	010
760	1986	09	29.94580	23	04	49.51	+00	22	57.7	010
798	1986	09	29.82360	21	18	56.97	-04	17	44.8	010
798	1986	09	29.85490	21	18	56.93	-04	17	52.0	010
821	1986	09	29.77080	19	17	47.37	-15	51	49.3	010
821	1986	09	29.80560	19	17	48.95	-15	51	50.9	010
877	1986	10	08.13403	05	02	07.42	+17	08	02.9	010
877	1986	10	08.16528	05	02	07.92	+17	08	01.1	010
976	1986	09	29.77080	19	20	28.44	-14	36	05.0	010
976	1986	09	29.80560	19	20	28.85	-14	36	05.1	010
1089	1986	09	30.88610	23	14	51.01	-12	08	11.1	010
1089	1986	09	30.91740	23	14	49.58	-12	08	14.6	010
1212	1986	10	08.13403	05	12	22.40	+14	03	38.0	010
1212	1986	10	08.16528	05	12	22.63	+14	03	34.7	010
1228	1986	08	31.93260	22	42	00.07	-05	24	20.3	010
1228	1986	08	31.96390	22	41	59.32	-05	24	27.5	010
1261	1986	10	01.04375	01	36	56.08	+07	29	46.0	010
1261	1986	10	01.06458	01	36	55.51	+07	29	42.0	010
1261	1986	10	01.07500	01	36	55.38	+07	29	39.3	010
1293	1986	09	29.77080	19	28	26.62	-13	20	13.0	010
1293	1986	09	29.80560	19	28	29.44	-13	20	12.3	010
1294	1986	10	08.13403	05	08	36.62	+16	46	32.8	010
1294	1986	10	08.16528	05	08	38.16	+16	46	36.2	010
1386	1986	09	30.88610	23	02	49.50	-12	59	37.2	010
1386	1986	09	30.91740	23	02	49.37	-12	59	55.5	010
1613	1986	08	31.93260	22	38	23.63	-04	24	43.0	010
1613	1986	08	31.96390	22	38	21.88	-04	24	48.2	010
1613	1986	09	29.86810	22	13	51.04	-05	43	03.1	010
1613	1986	09	29.89930	22	13	49.67	-05	43	05.1	010
1631	1986	09	30.88610	23	11	39.52	-11	09	36.6	010
1631	1986	09	30.91740	23	11	38.18	-11	09	26.9	010
1959	1986	09	29.77080	19	31	09.47	-16	48	36.5	010
1959	1986	09	29.80560	19	31	10.83	-16	48	30.5	010
2289	1986	10	01.04375	01	49	02.75	+10	30	26.1	010
2289	1986	10	01.07500	01	49	01.92	+10	30	11.7	010
2371	1986	08	31.93260	22	51	29.97	-04	09	38.9	010
2371	1986	08	31.96390	22	51	28.54	-04	09	47.5	010
2391	1986	10	01.04375	01	38	34.36	+07	03	59.4	010
2391	1986	10	01.06458	01	38	33.52	+07	03	53.4	010

2391		1986	10	01.07500	01	38	33.39	+07	03	48.8	010
2624		1986	10	01.04375	01	53	16.37	+08	58	30.3	010
2624		1986	10	01.07500	01	53	15.71	+08	58	23.7	010
2791		1986	08	31.93260	22	36	15.69	-06	19	08.6	010
2791		1986	08	31.96390	22	36	13.77	-06	19	05.9	010
2791		1986	09	29.86810	22	02	34.37	-05	07	48.3	010
2791		1986	09	29.89930	22	02	33.37	-05	07	43.8	010
2823		1986	09	29.86810	22	12	34.02	-04	13	02.9	010
2823		1986	09	29.89930	22	12	33.40	-04	13	09.5	010
2837		1986	10	01.04375	01	49	41.71	+08	12	37.7	010
2837		1986	10	01.07500	01	49	39.86	+08	12	31.1	010
3039		1986	09	29.82360	21	27	51.86	-02	22	02.3	010
3039		1986	09	29.85490	21	27	51.82	-02	22	18.6	010
3055		1986	09	30.88610	23	02	53.41	-11	07	18.5	010
3055		1986	09	30.91740	23	02	51.72	-11	07	14.6	010
3078		1986	09	30.88610	22	59	29.62	-13	51	02.7	010
3078		1986	09	30.91740	22	59	28.90	-13	51	02.0	010
3113		1986	10	08.13403	05	03	03.70	+17	37	54.8	010
3113		1986	10	08.16528	05	03	04.30	+17	37	48.3	010
3224		1986	09	29.91460	23	08	30.78	+00	03	18.8	010
3224		1986	09	29.94580	23	08	29.65	+00	03	11.1	010
3257		1986	09	30.88610	22	57	19.20	-13	35	24.3	010
3257		1986	09	30.91740	22	57	18.35	-13	35	20.9	010
3305		1986	10	01.04375	01	46	19.72	+06	07	42.4	010
3305		1986	10	01.07500	01	46	18.85	+06	07	39.7	010
3497		1986	08	31.93260	22	42	27.69	-07	10	38.8	010
3497		1986	08	31.96390	22	42	26.68	-07	10	54.0	010
1976	SE1	1986	08	31.93260	22	40	04.79	-05	16	48.3	010
1976	SE1	1986	08	31.96390	22	40	03.30	-05	16	59.4	010
1984	YV	1986	09	03.92083	21	12	35.12	+16	51	27.0	010
1984	YV	1986	09	03.94167	21	12	33.94	+16	51	24.3	010
1986	PE	1986	09	29.82360	21	14	44.54	-01	03	47.6	010
1986	PE	1986	09	29.85490	21	14	44.48	-01	03	56.8	010
1986	QH *	1986	08	31.93260	22	46	39.99	-06	47	21.1	010
1986	QH	1986	08	31.96390	22	46	39.20	-06	47	21.1	010
1986	RD	1986	09	29.91460	22	53	14.82	+00	55	55.9	010
1986	RD	1986	09	29.94580	22	53	13.91	+00	55	42.2	010
1986	RF	1986	09	29.91460	23	00	16.66	+00	19	59.1	010
1986	RF	1986	09	29.94580	23	00	15.61	+00	19	40.8	010
1986	RP	1986	09	29.91460	23	00	24.78	+02	48	52.9	010
1986	RP	1986	09	29.94580	23	00	23.69	+02	48	42.5	010
1986	RD1	1986	09	29.86810	22	08	16.04	-04	26	26.6	010
1986	RD1	1986	09	29.89930	22	08	15.60	-04	26	25.9	010
1986	RH1	1986	08	31.93260	22	55	10.91	-04	15	18.2	010
1986	RH1	1986	08	31.95347	22	55	09.53	-04	15	24.1	010
1986	RH1	1986	08	31.96390	22	55	09.23	-04	15	26.1	010
1986	RL1	1986	08	31.93260	22	50	33.73	-04	23	46.7	010
1986	RL1	1986	08	31.96390	22	50	32.77	-04	23	53.3	010
1986	RO1	1986	08	31.93260	22	38	02.13	-05	38	17.6	010
1986	RO1	1986	08	31.96390	22	38	00.69	-05	38	26.8	010
1986	RW1	1986	08	31.93260	22	50	36.41	-05	06	48.3	010
1986	RW1	1986	08	31.96390	22	50	34.97	-05	06	50.2	010
1986	RD2	1986	08	31.00690	00	29	43.39	+40	58	33.2	010
1986	RD2	1986	08	31.06530	00	29	41.34	+40	59	22.7	010
1986	RD2	1986	08	31.08820	00	29	40.17	+40	59	48.5	010
1986	RD2	1986	09	02.02587	00	28	39.75	+41	31	06.2	010
1986	RD2	1986	09	02.10920	00	28	36.76	+41	32	11.0	010
1986	RD2	1986	09	03.00104	00	28	06.06	+41	46	21.2	010
1986	RD2	1986	09	03.08438	00	28	02.80	+41	47	27.8	010

1986	RE2		1986	10	07.91042	00	08	54.20	+38	27	56.8	010
1986	RE2		1986	10	07.93125	00	08	52.93	+38	27	48.0	010
1986	RE2		1986	10	07.94167	00	08	52.04	+38	27	47.2	010
1986	RF2		1986	10	06.92083	00	07	42.13	+47	56	24.1	010
1986	RF2		1986	10	06.93125	00	07	39.94	+47	56	34.1	010
1986	RF2		1986	10	06.94167	00	07	38.64	+47	56	40.2	010
1986	RK2		1986	10	07.91042	00	21	39.27	+40	29	59.9	010
1986	RK2		1986	10	07.93125	00	21	37.59	+40	29	48.4	010
1986	RK2		1986	10	07.94167	00	21	37.02	+40	29	49.2	010
1986	RM2		1986	08	31.00690	00	48	36.91	+40	20	12.7	010
1986	RM2		1986	08	31.06530	00	48	35.59	+40	21	09.2	010
1986	RM2		1986	08	31.08820	00	48	35.01	+40	21	35.0	010
1986	RM2		1986	10	06.92083	00	08	47.77	+46	21	40.8	010
1986	RM2		1986	10	06.93125	00	08	46.96	+46	21	42.4	010
1986	RM2		1986	10	06.94167	00	08	45.71	+46	21	44.9	010
1986	RG3		1986	09	30.88610	23	01	36.69	-10	24	15.3	010
1986	RG3		1986	09	30.91740	23	01	36.47	-10	24	29.0	010
1986	RW3	*	1986	09	02.06753	00	48	24.96	+42	25	38.1	1 010
1986	RX3	*	1986	09	02.94722	22	42	57.73	+15	20	07.4	010
1986	RX3		1986	09	02.96805	22	42	56.34	+15	20	03.2	010
1986	RX3		1986	09	02.97847	22	42	55.85	+15	19	59.2	010
1986	RY3	*	1986	09	02.94722	22	44	01.15	+16	50	49.8	010
1986	RY3		1986	09	02.97847	22	44	00.10	+16	50	48.2	010
1986	RZ3	*	1986	09	02.94722	22	51	25.42	+18	40	38.0	010
1986	RZ3		1986	09	02.97847	22	51	23.76	+18	40	38.6	010
1986	RA4	*	1986	09	02.94722	22	59	16.89	+16	22	13.0	010
1986	RA4		1986	09	02.97847	22	59	14.18	+16	22	34.1	010
1986	SZ	*	1986	09	29.82360	21	24	38.41	-01	44	44.4	010
1986	SZ		1986	09	29.85490	21	24	38.68	-01	45	15.1	010
1986	SA1	*	1986	09	29.82360	21	26	14.96	-01	09	23.9	010
1986	SA1		1986	09	29.85490	21	26	14.79	-01	09	41.6	010
1986	SB1	*	1986	09	29.86810	21	56	23.94	-05	07	08.7	010
1986	SB1		1986	09	29.89930	21	56	23.20	-05	07	09.4	010
1986	SC1	*	1986	09	29.86810	21	56	32.69	-04	59	33.8	010
1986	SC1		1986	09	29.89930	21	56	32.11	-04	59	43.0	010
1986	SD1	*	1986	09	29.86810	21	58	51.01	-03	30	23.4	010
1986	SD1		1986	09	29.89930	21	58	50.44	-03	30	30.6	010
1986	SE1	*	1986	09	29.86810	21	59	16.31	-03	24	00.9	010
1986	SE1		1986	09	29.89930	21	59	15.56	-03	23	56.4	010
1986	SF1	*	1986	09	29.86810	22	01	42.09	-03	32	38.6	010
1986	SF1		1986	09	29.89930	22	01	41.57	-03	32	40.6	010
1986	SG1	*	1986	09	29.86810	22	02	27.01	-04	29	53.7	010
1986	SG1		1986	09	29.89930	22	02	26.44	-04	29	47.9	010
1986	SH1	*	1986	09	29.86810	22	03	52.79	-06	13	14.7	010
1986	SH1		1986	09	29.89930	22	03	52.75	-06	13	27.8	010
1986	SJ1	*	1986	09	29.86810	22	04	51.82	-02	38	32.1	010
1986	SJ1		1986	09	29.89930	22	04	51.08	-02	38	49.1	010
1986	SK1	*	1986	09	29.86810	22	13	53.03	-02	16	09.5	010
1986	SK1		1986	09	29.89930	22	13	52.30	-02	16	22.0	010
1986	SL1	*	1986	09	29.86810	22	15	08.17	-02	23	08.7	010
1986	SL1		1986	09	29.89930	22	15	07.39	-02	23	09.4	010
1986	SM1	*	1986	09	29.86810	22	15	29.66	-04	47	17.1	010
1986	SM1		1986	09	29.89930	22	15	29.00	-04	47	22.4	010
1986	SN1	*	1986	09	29.91460	22	55	59.30	+00	47	57.2	010
1986	SN1		1986	09	29.94580	22	55	58.34	+00	48	05.7	010
1986	SO1	*	1986	09	29.91460	23	02	02.87	+00	33	05.4	010
1986	SO1		1986	09	29.94580	23	02	01.74	+00	33	16.5	010
1986	SP1	*	1986	09	29.91460	23	03	59.10	+03	38	02.0	010
1986	SP1		1986	09	29.94580	23	03	57.70	+03	37	52.9	010

```
1986 SQ1 * 1986 09 29.91460  23 06 40.59  +01 39 44.8                    010
1986 SR1 * 1986 09 29.91460  23 09 26.91  +00 34 53.8                    010
1986 SS1 * 1986 09 29.91460  23 10 07.75  +00 55 45.9                    010
1986 SS1   1986 09 29.94580  23 10 06.75  +00 56 00.2                    010
1986 ST1 * 1986 09 29.91460  23 11 32.21  +00 26 25.8                    010
1986 ST1   1986 09 29.94580  23 11 30.47  +00 26 29.0                    010
1986 SU1 * 1986 09 30.88610  23 13 54.28  -11 05 29.8                    010
1986 SU1   1986 09 30.91740  23 13 53.12  -11 05 32.6                    010
1986 TT4 * 1986 10 01.04375  01 32 47.72  +06 15 48.9                    010
1986 TT4   1986 10 01.05938  01 32 46.76  +06 15 43.4                    010
1986 TT4   1986 10 01.07500  01 32 46.54  +06 15 40.8                    010
1986 TU4 * 1986 10 01.04375  01 33 49.65  +07 19 23.1                    010
1986 TU4   1986 10 01.05938  01 33 49.34  +07 19 13.2                    010
1986 TU4   1986 10 01.07500  01 33 49.13  +07 19 06.7                    010
1986 TV4 * 1986 10 01.04375  01 35 26.85  +06 14 16.4                    010
1986 TV4   1986 10 01.07500  01 35 25.63  +06 14 05.8                    010
1986 TW4 * 1986 10 01.04375  01 37 04.25  +08 27 38.1                    010
1986 TW4   1986 10 01.05938  01 37 03.06  +08 27 30.8                    010
1986 TW4   1986 10 01.07500  01 37 02.93  +08 27 24.9                    010
1986 TX4 * 1986 10 01.04375  01 38 32.75  +07 39 08.0                    010
1986 TX4   1986 10 01.05938  01 38 31.65  +07 39 05.8                    010
1986 TX4   1986 10 01.07500  01 38 31.52  +07 39 05.1                    010
1986 TY4 * 1986 10 01.04375  01 39 27.02  +10 11 46.0                    010
1986 TY4   1986 10 01.07500  01 39 25.29  +10 11 48.4                    010
1986 TZ4 * 1986 10 01.04375  01 39 56.88  +07 43 10.2                    010
1986 TZ4   1986 10 01.07500  01 39 56.09  +07 43 04.8                    010
1986 TA5 * 1986 10 01.04375  01 40 10.61  +07 51 53.2                    010
1986 TA5   1986 10 01.07500  01 40 09.95  +07 51 41.4                    010
1986 TB5 * 1986 10 01.04375  01 40 43.09  +09 31 03.1                    010
1986 TB5   1986 10 01.07500  01 40 41.86  +09 30 56.4                    010
1986 TC5 * 1986 10 01.04375  01 43 08.27  +08 17 30.2                    010
1986 TC5   1986 10 01.07500  01 43 07.48  +08 17 23.6                    010
1986 TD5 * 1986 10 01.04375  01 44 07.02  +09 29 02.7                    010
1986 TD5   1986 10 01.07500  01 44 05.43  +09 29 09.7                    010
1986 TE5 * 1986 10 01.04375  01 44 20.82  +05 59 27.3                    010
1986 TE5   1986 10 01.07500  01 44 19.91  +05 59 23.9                    010
1986 TF5 * 1986 10 01.04375  01 45 07.39  +10 02 43.2                    010
1986 TF5   1986 10 01.07500  01 45 06.20  +10 02 30.0                    010
1986 TG5 * 1986 10 01.04375  01 45 07.43  +10 02 43.9                    010
1986 TG5   1986 10 01.07500  01 45 06.07  +10 02 28.1                    010
1986 TH5 * 1986 10 01.04375  01 47 13.73  +09 07 48.2                    010
1986 TH5   1986 10 01.07500  01 47 11.84  +09 07 35.6                    010
1986 TJ5 * 1986 10 01.04375  01 47 24.28  +06 58 24.5                    010
1986 TJ5   1986 10 01.07500  01 47 24.01  +06 58 17.3                    010
1986 TK5 * 1986 10 01.04375  01 47 49.22  +05 50 17.6                    010
1986 TK5   1986 10 01.07500  01 47 48.78  +05 50 07.7                    010
1986 TL5 * 1986 10 01.04375  01 49 45.88  +08 25 29.0                    010
1986 TL5   1986 10 01.07500  01 49 45.27  +08 25 23.1                    010
1986 TM5 * 1986 10 01.04375  01 50 26.42  +07 04 50.8                    010
1986 TM5   1986 10 01.07500  01 50 25.67  +07 04 41.6                    010
1986 TN5 * 1986 10 01.04375  01 51 04.21  +07 04 47.3                    010
1986 TN5   1986 10 01.07500  01 51 03.77  +07 04 34.9                    010
1986 TO5 * 1986 10 01.04375  01 51 07.29  +07 49 01.8                    010
1986 TO5   1986 10 01.07500  01 51 06.06  +07 48 59.2                    010
1986 TP5 * 1986 10 01.04375  01 52 01.27  +07 07 24.9                    010
1986 TP5   1986 10 01.07500  01 51 59.61  +07 07 21.6                    010
1986 TQ5 * 1986 10 01.04375  01 52 11.14  +08 48 19.9                    010
1986 TQ5   1986 10 01.07500  01 52 09.87  +08 48 13.3                    010
1986 TR5 * 1986 10 01.04375  01 52 28.21  +08 14 02.9                    010
```

1986	TR5		1986	10	01.07500	01	52	27.55	+08	13	51.8	010
1986	TS5	*	1986	10	02.93194	00	40	39.82	+48	40	11.4	010
1986	TS5		1986	10	02.96319	00	40	38.52	+48	39	59.4	010
1986	TS5		1986	10	02.97361	00	40	38.13	+48	39	57.4	010
1986	TS5		1986	10	02.98403	00	40	37.48	+48	39	51.4	010
1986	UB	*	1986	10	27.75972	21	29	32.97	+04	23	54.2	2 010
1986	UB		1986	10	27.78055	21	29	34.85	+04	23	35.9	010
1986	UB		1986	10	27.79097	21	29	35.42	+04	23	29.2	010
1986	UB		1986	10	28.75972	21	31	10.29	+04	09	13.4	010
1986	UB		1986	10	28.78055	21	31	12.13	+04	08	55.9	010
1986	UB		1986	10	28.79097	21	31	13.09	+04	08	46.2	010
1986	UC	*	1986	10	27.75972	21	32	44.23	+01	59	53.8	2 010
1986	UC		1986	10	27.78055	21	32	44.84	+01	59	51.3	010
1986	UC		1986	10	27.79097	21	32	45.41	+01	59	48.0	010
1986	UC		1986	10	28.75972	21	33	32.88	+01	56	05.5	010
1986	UC		1986	10	28.78055	21	33	33.79	+01	56	02.3	010
1986	UC		1986	10	28.79097	21	33	34.31	+01	55	59.1	010

Note 1: measurement difficult. 2: discoverer C. Pollas.

OBSERVATIONS MADE AT HOHER LIST BY E. W. ELST.
Contact: E. W. Elst, Royal Observatory, B-1180 Brussels, Belgium.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
2104		1986	10 04.96528	01 41 44.84	+29 37 53.5	16.0	017
2104		1986	10 04.99028	01 41 43.83	+29 37 41.7		017
1986	TU2 *	1986	10 04.96528	01 42 46.18	+29 13 37.5	16.5	017
1986	TU2	1986	10 04.99028	01 42 45.09	+29 13 32.1		017

OBSERVATIONS MADE AT TAUTENBURG.
Plates taken by F. Borngen (assisted by C. Hogner and F. Ludwig) with the 1.34-m (134/200/400 cm) Schmidt. Reductions by Borngen. Contact: S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg, Democratic Republic of Germany.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
561		1986	09 09.89549	21 52 24.76	-12 35 39.9	17.2	033
561		1986	09 09.93785	21 52 23.08	-12 35 49.6		033
574		1986	09 09.89549	21 42 59.47	-14 06 30.7	15.8	033
574		1986	09 09.93785	21 42 56.93	-14 06 32.9		033
1136		1986	09 09.81319	19 37 55.79	-07 20 54.8	16.5	033
1136		1986	09 09.82986	19 37 56.04	-07 21 00.5		033
1157		1986	09 09.89549	21 49 02.60	-14 13 03.5	15.2	033
1157		1986	09 09.93785	21 49 00.79	-14 13 04.0		033
1157		1986	10 10.85833	21 37 43.92	-13 30 07.7	15.5	033
1157		1986	10 10.87917	21 37 43.89	-13 30 04.2		033
1737		1986	09 09.89549	21 44 52.98	-12 35 54.6	16.5	033
1737		1986	09 09.93785	21 44 51.17	-12 35 57.5		033
3030		1986	10 09.93472	01 06 51.57	+15 52 32.9	16.1	033
3030		1986	10 10.00278	01 06 48.00	+15 52 17.7		033
3499		1986	09 09.89549	21 49 29.69	-13 30 05.9	17.0	033
3499		1986	09 09.93785	21 49 28.16	-13 30 16.2		033
3499		1986	10 10.85833	21 42 18.37	-14 31 55.5	17.3	033
3499		1986	10 10.87917	21 42 18.54	-14 31 55.7		033
1983	RD	1986	09 09.81319	19 33 37.86	-05 59 24.2	15.5	033
1983	RD	1986	09 09.82986	19 33 39.78	-06 00 13.1		033
1986	TM4 *	1986	10 09.93472	01 02 53.07	+17 11 31.1	19.5	033
1986	TM4	1986	10 10.00278	01 02 48.91	+17 11 28.2		033
1986	TN4 *	1986	10 09.93472	01 05 27.07	+16 42 29.3	18.0	033
1986	TN4	1986	10 10.00278	01 05 23.81	+16 42 07.5		033
1986	TO4 *	1986	10 09.93472	01 08 38.65	+14 19 21.5	17.2	033
1986	TO4	1986	10 10.00278	01 08 35.71	+14 18 52.1		033

1986 TP4 *	1986 10 09.93472	01 09 37.40	+16 18 26.2		18.8		033
1986 TP4	1986 10 10.00278	01 09 33.74	+16 18 03.7				033

OBSERVATIONS MADE AT KLET BY A. MRKOS AND Z. VAVROVA.

Plates with the 0.6-m Maksutov reflector. Contact: A. Mrkos, Department of Astronomy and Astrophysics, Charles University, Svedska 8, C-15000 Prague 5, Czechoslovakia.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
64	1986 09	29.89631	00 07 18.58	+02 35 10.7		046
64	1986 09	29.91014	00 07 17.84	+02 35 05.8		046
64	1986 09	30.89549	00 06 28.40	+02 29 54.7		046
64	1986 09	30.90966	00 06 27.62	+02 29 50.5		046
64	1986 10	01.91615	00 05 37.02	+02 24 33.5		046
64	1986 10	01.93027	00 05 36.29	+02 24 29.5		046
252	1986 10	04.95521	01 16 53.64	+09 20 35.5		046
252	1986 10	04.96979	01 16 53.03	+09 20 28.8		046
252	1986 10	05.91528	01 16 14.82	+09 13 23.7		046
252	1986 10	05.92951	01 16 14.24	+09 13 17.3		046
311	1986 10	05.00556	01 12 31.51	+02 52 11.0		046
311	1986 10	05.94722	01 11 46.84	+02 47 51.0		046
311	1986 10	05.96146	01 11 46.14	+02 47 47.0		046
874	1986 09	30.92575	00 47 14.35	+04 54 48.6		046
874	1986 09	30.93814	00 47 13.88	+04 54 44.2		046
874	1986 10	01.95035	00 46 33.10	+04 47 35.7		046
874	1986 10	01.96464	00 46 32.53	+04 47 30.2		046
1171	1986 10	04.99132	01 13 51.59	+02 40 49.1		046
1171	1986 10	05.00556	01 13 50.94	+02 40 45.7		046
1171	1986 10	05.94722	01 13 10.51	+02 35 55.0		046
1171	1986 10	05.96146	01 13 09.85	+02 35 51.0		046
1358	1986 10	04.92153	01 05 14.76	+06 26 55.5		046
1358	1986 10	04.93646	01 05 13.97	+06 26 51.0		046
1358	1986 10	05.88194	01 04 20.26	+06 22 33.6		046
1358	1986 10	05.89618	01 04 19.39	+06 22 29.9		046
1387	1986 10	04.95521	01 14 36.15	+09 27 44.4		046
1387	1986 10	05.91528	01 13 48.60	+09 18 00.7		046
1387	1986 10	05.92951	01 13 48.07	+09 17 52.2		046
1546	1986 09	30.92575	00 46 20.62	+04 59 16.1		046
1546	1986 09	30.93814	00 46 20.20	+04 59 10.9		046
1546	1986 10	01.95035	00 45 40.19	+04 50 11.2		046
1546	1986 10	01.96464	00 45 39.59	+04 50 02.5		046
1546	1986 10	03.90633	00 44 22.64	+04 32 49.0		046
1546	1986 10	03.92057	00 44 22.02	+04 32 41.6		046
1579	1986 10	04.92153	01 05 26.75	+04 25 37.2		046
1579	1986 10	04.93646	01 05 26.17	+04 25 31.0		046
1579	1986 10	05.88194	01 04 49.26	+04 19 30.9		046
1579	1986 10	05.89618	01 04 48.64	+04 19 24.5		046
1613	1986 09	02.96389	22 36 29.25	-04 30 21.6		046
1613	1986 09	02.97813	22 36 28.48	-04 30 22.1		046
1613	1986 09	11.92900	22 28 07.88	-04 56 16.5		046
1613	1986 09	11.94450	22 28 07.14	-04 56 19.1		046
1638	1986 10	04.92153	00 56 57.80	+06 08 42.8		046
1638	1986 10	04.93646	00 56 57.12	+06 08 38.2		046
1638	1986 10	05.88194	00 56 08.79	+06 03 27.7		046
1638	1986 10	05.89618	00 56 07.97	+06 03 23.6		046
1673	1986 10	04.95521	01 14 19.41	+09 06 03.3		046
1673	1986 10	04.96979	01 14 18.80	+09 05 57.6		046
1688	1986 09	25.80480	00 02 21.50	+19 24 17.4		046
1688	1986 09	25.81910	00 02 20.85	+19 24 11.1		046
1688	1986 09	26.88926	00 01 26.76	+19 14 50.9		046

1688		1986	09	26.90211	00	01	26.11	+19	14	44.3	046
1694		1986	10	04.95521	01	15	36.92	+09	02	52.3	046
1694		1986	10	04.96979	01	15	35.85	+09	02	58.4	046
1694		1986	10	05.91528	01	14	32.75	+09	09	05.1	046
1694		1986	10	05.92951	01	14	31.77	+09	09	11.2	046
1815		1986	10	04.99132	01	10	28.28	+03	08	39.2	046
1815		1986	10	05.00556	01	10	27.65	+03	08	36.2	046
1815		1986	10	05.94722	01	09	46.06	+03	04	01.7	046
1815		1986	10	05.96146	01	09	45.39	+03	04	57.8	046
1875		1986	10	04.95521	01	23	21.55	+07	00	26.3	16.7 046
1875		1986	10	04.96979	01	23	21.04	+07	00	19.1	046
1875		1986	10	05.91528	01	22	43.20	+06	51	10.1	046
1875		1986	10	05.92951	01	22	42.72	+06	51	00.8	046
2045		1986	10	04.92153	00	57	38.40	+06	49	50.6	046
2045		1986	10	04.93646	00	57	37.53	+06	49	47.9	046
2045		1986	10	05.88194	00	56	39.94	+06	46	47.2	046
2045		1986	10	05.89618	00	56	38.93	+06	46	44.1	046
2157		1986	09	29.89631	00	06	50.88	+04	30	49.7	046
2157		1986	09	29.91014	00	06	50.07	+04	30	47.1	046
2157		1986	09	30.89549	00	05	57.41	+04	27	48.1	046
2157		1986	09	30.90966	00	05	56.64	+04	27	45.7	046
2157		1986	10	01.91615	00	05	03.43	+04	24	41.4	046
2157		1986	10	01.93027	00	05	02.70	+04	24	39.8	046
2231		1986	09	29.84417	23	49	54.91	+05	08	23.3	046
2231		1986	09	29.85863	23	49	54.11	+05	08	24.6	046
2231		1986	09	30.84086	23	49	01.41	+05	08	34.4	046
2231		1986	09	30.85554	23	49	00.63	+05	08	32.8	046
2231		1986	10	01.88229	23	48	06.08	+05	08	41.9	046
2231		1986	10	01.89670	23	48	05.32	+05	08	41.5	046
2405		1986	10	04.99132	01	13	04.28	+04	32	27.6	046
2405		1986	10	05.00556	01	13	03.72	+04	32	24.6	046
2405		1986	10	05.94722	01	12	23.48	+04	27	57.6	046
2405		1986	10	05.96146	01	12	22.86	+04	27	54.0	046
2752		1986	09	30.92575	00	45	31.89	+03	42	49.5	046
2752		1986	09	30.93814	00	45	31.34	+03	42	42.9	046
2752		1986	10	01.95035	00	44	50.03	+03	33	56.8	046
2752		1986	10	01.96464	00	44	49.48	+03	33	48.1	046
2752		1986	10	03.90633	00	43	29.83	+03	16	59.0	046
2752		1986	10	03.92057	00	43	29.15	+03	16	53.6	046
3059		1986	10	04.95521	01	16	30.79	+06	49	55.0	046
3059		1986	10	04.96979	01	16	29.93	+06	49	47.6	046
3059		1986	10	05.91528	01	15	40.95	+06	43	07.7	046
3059		1986	10	05.92951	01	15	40.08	+06	43	01.1	046
3175		1986	10	04.92153	00	57	52.67	+06	33	13.0	046
3175		1986	10	04.93646	00	57	51.89	+06	33	07.0	046
3175		1986	10	05.88194	00	57	05.86	+06	27	44.3	046
3175		1986	10	05.89618	00	57	05.15	+06	27	40.1	046
3303		1986	09	30.96319	00	57	14.60	+03	03	44.4	046
3303		1986	09	30.97760	00	57	13.91	+03	03	40.7	046
3303		1986	10	01.98264	00	56	25.34	+02	59	20.1	046
3303		1986	10	01.99676	00	56	24.75	+02	59	17.1	046
3313		1986	09	25.80480	00	08	41.22	+20	16	05.5	046
3313		1986	09	25.81910	00	08	40.53	+20	15	57.5	046
3313		1986	09	26.88926	00	07	44.01	+20	10	12.3	046
3313		1986	09	26.90211	00	07	43.07	+20	10	06.9	046
1986	RA	1986	09	23.78197	22	34	50.93	-05	53	07.3	046
1986	RA	1986	09	23.78637	22	34	52.02	-05	53	25.9	046
1986	RA	1986	09	29.87576	22	58	48.39	-11	58	33.9	046
1986	RA	1986	09	29.88016	22	58	49.34	-11	58	48.5	046

1986	RA		1986	09	30.87471	23	02	33.79	-12	50	37.2		046
1986	RD1		1986	09	11.92900	22	19	59.37	-04	13	01.0	16.8	046
1986	RD1		1986	09	11.94450	22	19	58.80	-04	13	02.9		046
1986	RM1		1986	09	02.99722	22	54	57.41	-05	32	21.8	16.9	046
1986	RX2		1986	09	29.89631	00	07	18.92	+01	48	25.4	16.7	046
1986	RX2		1986	09	29.91014	00	07	17.94	+01	48	22.5		046
1986	RX2		1986	09	30.89549	00	06	34.45	+01	44	16.7		046
1986	RX2		1986	09	30.90966	00	06	33.76	+01	44	13.7		046
1986	RX2		1986	10	01.91615	00	05	48.32	+01	40	05.4		046
1986	RX2		1986	10	01.93027	00	05	48.25	+01	40	02.4		046
1986	SB	*	1986	09	29.84417	23	50	08.44	+06	55	48.9	17.0	046
1986	SB		1986	09	29.85863	23	50	07.73	+06	55	51.9		046
1986	SC	*	1986	09	29.89631	00	01	48.75	+04	53	33.8	16.6	046
1986	SC		1986	09	29.91014	00	01	47.80	+04	53	35.0		046
1986	SC		1986	09	30.89549	00	01	16.23	+04	44	14.8		046
1986	SC		1986	09	30.90966	00	01	15.69	+04	44	08.4		046
1986	SC		1986	10	01.91615	00	00	44.00	+04	34	43.2		046
1986	SC		1986	10	01.93027	00	00	43.32	+04	34	38.1		046
1986	SD	*	1986	09	29.89631	00	03	41.09	+02	48	42.8	16.4	046
1986	SD		1986	09	29.91014	00	03	40.30	+02	48	36.8		046
1986	SD		1986	09	30.89549	00	02	50.88	+02	44	44.1		046
1986	SD		1986	09	30.90966	00	02	50.12	+02	44	40.2		046
1986	SD		1986	10	01.91615	00	01	59.95	+02	40	41.8		046
1986	SD		1986	10	01.93027	00	01	59.13	+02	40	38.6		046
1986	SE	*	1986	09	29.89631	00	04	00.21	+03	46	21.8	16.5	046
1986	SE		1986	09	29.91014	00	03	59.66	+03	46	18.7		046
1986	SE		1986	09	30.89549	00	03	10.31	+03	42	00.3		046
1986	SE		1986	09	30.90966	00	03	09.69	+03	41	56.3		046
1986	SE		1986	10	01.91615	00	02	19.74	+03	37	31.7		046
1986	SE		1986	10	01.93027	00	02	19.05	+03	37	27.6		046
1986	SF	*	1986	09	30.89549	00	03	06.21	+02	32	03.5	16.5	046
1986	SF		1986	09	30.90966	00	03	05.44	+02	31	59.5		046
1986	SF		1986	10	01.91615	00	02	04.53	+02	27	27.9		046
1986	SF		1986	10	01.93027	00	02	03.67	+02	27	23.8		046
1986	SG	*	1986	09	30.92575	00	38	58.58	+06	40	32.2	17.0	046
1986	SG		1986	09	30.93814	00	38	58.04	+06	40	33.4		046
1986	SH	*	1986	09	30.92575	00	39	07.34	+04	20	20.9	16.4	046
1986	SH		1986	09	30.93814	00	39	06.56	+04	20	22.7		046
1986	SH		1986	10	01.95035	00	37	57.61	+04	23	58.1		046
1986	SH		1986	10	01.96464	00	37	56.46	+04	23	59.6		046
1986	SH		1986	10	03.90633	00	35	43.21	+04	30	50.2		046
1986	SH		1986	10	03.92057	00	35	42.38	+04	30	50.0		046
1986	SJ	*	1986	09	30.92575	00	42	16.98	+06	56	21.2	17.0	046
1986	SJ		1986	09	30.93814	00	42	16.56	+06	56	23.0		046
1986	SK	*	1986	09	30.92575	00	43	36.23	+06	43	33.7	16.7	046
1986	SK		1986	09	30.93814	00	43	35.51	+06	43	30.7		046
1986	SK		1986	10	01.95035	00	42	41.04	+06	39	03.9		046
1986	SK		1986	10	01.96464	00	42	40.30	+06	39	01.2		046
1986	SK		1986	10	03.90633	00	40	54.90	+06	30	10.6		046
1986	SK		1986	10	03.92057	00	40	54.15	+06	30	07.1		046
1986	SL	*	1986	09	30.92575	00	49	18.23	+06	11	52.3	17.0	046
1986	SL		1986	09	30.93814	00	49	17.62	+06	11	51.6		046
1986	SM	*	1986	09	30.96319	00	50	47.24	+02	26	25.2	16.8	046
1986	SM		1986	09	30.97760	00	50	46.65	+02	26	17.4		046
1986	SM		1986	10	01.98264	00	50	01.87	+02	16	50.8		046
1986	SM		1986	10	01.99676	00	50	01.32	+02	16	42.9		046
1986	SN	*	1986	09	30.96319	00	51	13.61	+03	34	43.3	17.0	046
1986	SN		1986	09	30.97760	00	51	13.03	+03	34	37.7		046
1986	SN		1986	10	01.98264	00	50	29.50	+03	29	06.6		046

1986	SN		1986	10	01.99676	00	50	28.94	+03	29	02.0		046
1986	SO	*	1986	09	30.96319	00	53	45.30	+00	36	08.9	16.3	046
1986	SO		1986	09	30.97760	00	53	44.36	+00	36	09.8		046
1986	SO		1986	10	01.98264	00	52	48.70	+00	35	44.9		046
1986	SO		1986	10	01.99676	00	52	47.96	+00	35	45.4		046
1986	SP	*	1986	09	30.96319	00	53	46.97	+02	38	34.6	17.0	046
1986	SP		1986	09	30.97760	00	53	46.30	+02	38	26.6		046
1986	SP		1986	10	01.98264	00	53	05.69	+02	27	59.0		046
1986	SP		1986	10	01.99676	00	53	05.17	+02	27	51.9		046
1986	SQ	*	1986	09	30.96319	00	53	52.44	+02	48	10.2	16.8	046
1986	SQ		1986	09	30.97760	00	53	51.80	+02	48	06.4		046
1986	SQ		1986	10	01.98264	00	53	07.59	+02	43	38.8		046
1986	SQ		1986	10	01.99676	00	53	07.14	+02	43	37.4		046
1986	SR	*	1986	09	30.96319	00	54	12.46	+04	26	26.9	16.9	046
1986	SR		1986	09	30.97760	00	54	11.80	+04	26	26.8		046
1986	SR		1986	10	01.98264	00	53	15.83	+04	26	16.5		046
1986	SR		1986	10	01.99676	00	53	15.00	+04	26	16.6		046
1986	SS	*	1986	09	30.96319	00	54	42.84	+00	54	44.4	16.6	046
1986	SS		1986	09	30.97760	00	54	41.97	+00	54	40.7		046
1986	SS		1986	10	01.98264	00	53	49.56	+00	51	08.1		046
1986	SS		1986	10	01.99676	00	53	48.86	+00	51	05.0		046
1986	ST	*	1986	09	30.96319	00	57	48.01	+02	00	11.5	17.0	046
1986	ST		1986	09	30.97760	00	57	47.37	+02	00	07.6		046
1986	ST		1986	10	01.98264	00	56	58.81	+01	55	35.7		046
1986	ST		1986	10	01.99676	00	56	57.93	+01	55	31.3		046
1986	SU	*	1986	09	30.96319	00	58	02.27	+04	28	42.5	16.8	046
1986	SU		1986	09	30.97760	00	58	01.25	+04	28	39.2		046
1986	SU		1986	10	01.98264	00	57	00.17	+04	23	36.7		046
1986	SU		1986	10	01.99676	00	56	59.25	+04	23	31.4		046
1986	SU		1986	10	04.92153	00	54	00.51	+04	08	53.1		046
1986	SU		1986	10	04.93646	00	53	59.31	+04	08	45.2		046
1986	SU		1986	10	05.88194	00	53	01.52	+04	04	01.3		046
1986	SU		1986	10	05.89618	00	53	00.71	+04	03	58.4		046
1986	SV	*	1986	09	30.96319	00	58	29.45	+00	50	32.7	16.6	046
1986	SV		1986	09	30.97760	00	58	28.73	+00	50	30.7		046
1986	SV		1986	10	01.98264	00	57	28.94	+00	47	46.7		046
1986	SV		1986	10	01.99676	00	57	28.19	+00	47	46.0		046
1986	SW	*	1986	09	30.96319	01	00	41.77	+01	04	00.5	16.7	046
1986	SW		1986	09	30.97760	01	00	41.27	+01	03	58.7		046
1986	SW		1986	10	01.98264	00	59	49.36	+00	59	09.7		046
1986	SW		1986	10	01.99676	00	59	48.74	+00	59	04.8		046
1986	TB		1986	09	29.89631	00	06	33.59	+03	07	35.2	16.5	046
1986	TB		1986	09	29.91014	00	06	32.50	+03	07	38.7		046
1986	TB		1986	09	30.89549	00	05	16.74	+03	14	58.6		046
1986	TB		1986	09	30.90966	00	05	15.66	+03	15	05.8		046
1986	TB		1986	10	01.91615	00	03	58.86	+03	22	31.1		046
1986	TB		1986	10	01.93027	00	03	57.78	+03	22	37.4		046
1986	TE		1986	09	30.84086	23	51	35.49	+08	35	57.0	16.3	046
1986	TE		1986	09	30.85544	23	51	34.78	+08	35	52.7		046
1986	TE		1986	10	01.88229	23	50	40.93	+08	29	06.6		046
1986	TE		1986	10	01.89670	23	50	40.04	+08	29	00.1		046
1986	TF		1986	09	29.84417	23	54	07.78	+06	19	48.0	16.5	046
1986	TF		1986	09	29.85863	23	54	07.14	+06	19	46.0		046
1986	TF		1986	09	30.84086	23	53	31.52	+06	15	05.4		046
1986	TF		1986	09	30.85544	23	53	31.02	+06	15	01.6		046
1986	TF		1986	10	01.88229	23	52	53.85	+06	10	04.5		046
1986	TF		1986	10	01.89670	23	52	53.19	+06	10	00.4		046
1986	TG		1986	09	29.84417	23	59	59.38	+05	42	15.1	16.2	046
1986	TG		1986	09	29.85863	23	59	58.50	+05	42	15.4		046

1986	TG		1986	09	29.89631	23	59	56.04	+05	42	16.0		046
1986	TG		1986	09	29.91014	23	59	55.15	+05	42	16.8		046
1986	TG		1986	09	30.84086	23	58	56.32	+05	43	31.8		046
1986	TG		1986	09	30.85544	23	58	55.52	+05	43	31.5		046
1986	TG		1986	10	01.88229	23	57	51.53	+05	44	42.9		046
1986	TG		1986	10	01.89670	23	57	50.69	+05	44	43.9		046
1986	TB1		1986	10	04.99132	01	22	48.96	+02	28	06.8	16.8	046
1986	TB1		1986	10	05.00556	01	22	48.37	+02	28	06.8		046
1986	TB1		1986	10	05.94722	01	21	51.88	+02	25	50.7		046
1986	TB1		1986	10	05.96146	01	21	50.95	+02	25	49.9		046
1986	TW2	*	1986	10	01.95035	00	44	25.52	+06	50	40.8	16.7	046
1986	TW2		1986	10	01.96464	00	44	25.07	+06	50	42.8		046
1986	TW2		1986	10	03.90633	00	42	32.68	+06	50	55.6		046
1986	TW2		1986	10	03.92057	00	42	31.74	+06	50	56.3		046
1986	TX2	*	1986	10	03.90633	00	35	47.02	+05	08	36.7	16.6	046
1986	TX2		1986	10	03.92057	00	35	46.28	+05	08	35.0		046
1986	TY2	*	1986	10	04.92153	00	53	16.17	+05	56	21.8	16.7	046
1986	TY2		1986	10	04.93646	00	53	15.54	+05	56	19.2		046
1986	TY2		1986	10	05.88194	00	52	12.50	+05	56	21.8		046
1986	TY2		1986	10	05.89618	00	52	11.56	+05	56	22.4		046
1986	TZ2	*	1986	10	04.92153	00	59	11.82	+05	01	44.7	16.9	046
1986	TZ2		1986	10	04.93646	00	59	10.81	+05	01	43.3		046
1986	TZ2		1986	10	05.88194	00	58	16.93	+04	56	22.6		046
1986	TZ2		1986	10	05.89618	00	58	16.21	+04	56	20.2		046
1986	TA3	*	1986	10	04.92153	00	59	22.89	+04	52	54.3	16.5	046
1986	TA3		1986	10	04.93646	00	59	22.58	+04	52	48.8		046
1986	TA3		1986	10	05.88194	00	58	42.35	+04	45	47.1		046
1986	TA3		1986	10	05.89618	00	58	41.76	+04	45	41.5		046
1986	TB3	*	1986	10	04.92153	01	00	00.62	+02	22	29.1	16.7	046
1986	TB3		1986	10	04.93646	00	59	59.96	+02	22	21.9		046
1986	TB3		1986	10	05.88194	00	59	07.81	+02	13	56.6		046
1986	TB3		1986	10	05.89618	00	59	06.99	+02	13	48.0		046
1986	TC3	*	1986	10	04.92153	01	00	13.67	+05	09	16.4	16.9	046
1986	TC3		1986	10	04.93646	01	00	12.88	+05	09	06.0		046
1986	TD3	*	1986	10	04.92153	01	02	23.75	+02	55	51.2	16.6	046
1986	TD3		1986	10	04.93646	01	02	23.07	+02	55	44.4		046
1986	TD3		1986	10	05.88194	01	01	38.58	+02	49	11.1		046
1986	TD3		1986	10	05.89618	01	01	37.77	+02	49	02.2		046
1986	TE3	*	1986	10	04.92153	01	04	55.18	+04	34	11.0	16.8	046
1986	TE3		1986	10	04.93646	01	04	54.38	+04	34	04.5		046
1986	TE3		1986	10	05.88194	01	04	05.17	+04	27	41.4		046
1986	TE3		1986	10	05.89618	01	04	04.47	+04	27	38.9		046
1986	TF3	*	1986	10	04.92153	01	05	36.27	+06	18	25.8	16.9	046
1986	TF3		1986	10	04.93646	01	05	35.39	+06	18	24.7		046
1986	TF3		1986	10	05.88194	01	04	41.15	+06	16	24.2		046
1986	TF3		1986	10	05.89618	01	04	40.42	+06	16	22.1		046
1986	TG3	*	1986	10	04.95521	01	11	18.55	+06	57	07.5	16.7	046
1986	TG3		1986	10	04.96979	01	11	17.61	+06	57	00.1		046
1986	TG3		1986	10	05.91528	01	10	33.19	+06	51	43.9		046
1986	TG3		1986	10	05.92951	01	10	32.92	+06	51	43.1		046
1986	TH3	*	1986	10	04.95521	01	11	52.68	+06	12	18.6	16.2	046
1986	TH3		1986	10	04.96979	01	11	52.16	+06	12	04.3		046
1986	TH3		1986	10	04.99132	01	11	52.25	+06	11	37.8		046
1986	TH3		1986	10	05.00556	01	11	51.86	+06	11	22.6		046
1986	TH3		1986	10	05.91528	01	11	24.61	+05	55	48.9		046
1986	TH3		1986	10	05.92951	01	11	24.11	+05	55	34.9		046
1986	TH3		1986	10	05.94722	01	11	23.98	+05	55	11.6		046
1986	TH3		1986	10	05.96146	01	11	23.56	+05	54	57.7		046
1986	TJ3	*	1986	10	04.95521	01	12	15.51	+06	18	57.8	16.4	046

1986	TJ3		1986	10	04.96979	01	12	14.62	+06	18	54.1	046
1986	TJ3		1986	10	04.99132	01	12	14.53	+06	18	43.6	046
1986	TJ3		1986	10	05.00556	01	12	13.84	+06	18	39.4	046
1986	TJ3		1986	10	05.91528	01	11	39.31	+06	14	27.4	046
1986	TJ3		1986	10	05.92951	01	11	38.80	+06	14	24.6	046
1986	TJ3		1986	10	05.94722	01	11	38.40	+06	14	14.5	046
1986	TJ3		1986	10	05.96146	01	11	37.96	+06	14	10.4	046
1986	TK3	*	1986	10	04.95521	01	12	35.74	+07	53	05.8	16.9 046
1986	TK3		1986	10	04.96979	01	12	34.83	+07	53	01.4	046
1986	TK3		1986	10	05.91528	01	11	53.07	+07	50	29.7	046
1986	TK3		1986	10	05.92951	01	11	52.50	+07	50	31.2	046
1986	TL3	*	1986	10	04.95521	01	15	48.96	+05	53	42.3	16.6 046
1986	TL3		1986	10	04.96979	01	15	48.14	+05	53	36.7	046
1986	TL3		1986	10	04.99132	01	15	47.46	+05	53	20.0	046
1986	TL3		1986	10	05.00556	01	15	46.91	+05	53	14.3	046
1986	TL3		1986	10	05.91528	01	15	09.66	+05	46	35.6	046
1986	TL3		1986	10	05.92951	01	15	09.18	+05	46	28.8	046
1986	TL3		1986	10	05.94722	01	15	08.57	+05	46	14.2	046
1986	TL3		1986	10	05.96146	01	15	08.00	+05	46	07.0	046
1986	TM3	*	1986	10	04.95521	01	15	58.12	+07	58	34.6	16.7 046
1986	TM3		1986	10	04.96979	01	15	57.44	+07	58	28.6	046
1986	TM3		1986	10	05.91528	01	15	11.27	+07	52	39.7	046
1986	TM3		1986	10	05.92951	01	15	10.59	+07	52	29.3	046
1986	TN3	*	1986	10	04.95521	01	17	31.11	+08	16	40.6	16.8 046
1986	TN3		1986	10	04.96979	01	17	30.39	+08	16	38.2	046
1986	TN3		1986	10	05.91528	01	16	41.08	+08	10	51.2	046
1986	TN3		1986	10	05.92951	01	16	40.42	+08	10	49.4	046
1986	TO3	*	1986	10	04.95521	01	18	32.44	+09	57	52.0	16.6 046
1986	TO3		1986	10	04.96979	01	18	31.66	+09	57	48.0	046
1986	TO3		1986	10	05.91528	01	17	38.62	+09	53	22.9	046
1986	TO3		1986	10	05.92951	01	17	37.76	+09	53	18.3	046
1986	TP3	*	1986	10	04.95521	01	18	50.54	+05	48	03.3	16.2 046
1986	TP3		1986	10	04.96979	01	18	49.68	+05	47	59.4	046
1986	TP3		1986	10	04.99132	01	18	48.12	+05	47	49.6	046
1986	TP3		1986	10	05.00556	01	18	47.36	+05	47	46.5	046
1986	TP3		1986	10	05.91528	01	17	57.36	+05	44	35.2	046
1986	TP3		1986	10	05.92951	01	17	56.51	+05	44	32.4	046
1986	TP3		1986	10	05.94722	01	17	55.63	+05	44	21.9	046
1986	TP3		1986	10	05.96146	01	17	54.80	+05	44	18.5	046
1986	TQ3	*	1986	10	04.95521	01	20	39.15	+06	52	42.0	16.7 046
1986	TQ3		1986	10	04.96979	01	20	37.97	+06	52	39.4	046
1986	TQ3		1986	10	05.91528	01	19	41.07	+06	51	03.0	046
1986	TQ3		1986	10	05.92951	01	19	40.07	+06	51	00.4	046
1986	TR3	*	1986	10	04.95521	01	21	16.66	+08	45	24.1	16.7 046
1986	TR3		1986	10	05.91528	01	20	32.48	+08	41	14.0	046
1986	TR3		1986	10	05.92951	01	20	32.06	+08	41	11.0	046
1986	TS3	*	1986	10	04.95521	01	22	05.71	+07	47	55.2	17.0 046
1986	TS3		1986	10	04.96979	01	22	04.90	+07	47	52.9	046
1986	TS3		1986	10	05.91528	01	21	12.07	+07	44	23.2	046
1986	TS3		1986	10	05.92951	01	21	11.05	+07	44	17.6	046
1986	TT3	*	1986	10	04.99132	01	09	01.05	+04	19	18.1	16.7 046
1986	TT3		1986	10	05.00556	01	09	00.48	+04	19	16.6	046
1986	TT3		1986	10	05.94722	01	08	04.19	+04	18	06.9	046
1986	TT3		1986	10	05.96146	01	08	03.34	+04	18	02.2	046
1986	TU3	*	1986	10	04.99132	01	13	46.54	+02	21	38.5	16.9 046
1986	TU3		1986	10	05.00556	01	13	46.04	+02	21	35.3	046
1986	TU3		1986	10	05.94722	01	12	58.67	+02	13	22.0	046
1986	TU3		1986	10	05.96146	01	12	58.13	+02	13	16.0	046
1986	TV3	*	1986	10	04.99132	01	15	17.55	+04	41	16.8	16.7 046

1986	TV3		1986	10	05.00556	01	15	16.78	+04	41	14.9	046
1986	TV3		1986	10	05.94722	01	14	27.77	+04	38	23.5	046
1986	TV3		1986	10	05.96146	01	14	26.99	+04	38	22.1	046
1986	TW3	*	1986	10	04.99132	01	15	21.60	+04	30	32.1	16.7 046
1986	TW3		1986	10	05.00556	01	15	20.61	+04	30	29.9	046
1986	TW3		1986	10	05.94722	01	14	20.13	+04	29	08.5	046
1986	TW3		1986	10	05.96146	01	14	19.23	+04	29	07.3	046
1986	TX3	*	1986	10	04.99132	01	16	48.80	+01	39	35.4	16.8 046
1986	TX3		1986	10	05.00556	01	16	47.90	+01	39	31.3	046
1986	TX3		1986	10	05.94722	01	15	58.08	+01	34	54.5	046
1986	TX3		1986	10	05.96146	01	15	57.53	+01	34	50.0	046
1986	TY3	*	1986	10	04.99132	01	19	04.70	+06	18	18.8	16.8 046
1986	TY3		1986	10	05.00556	01	19	04.00	+06	18	22.6	046
1986	TZ3	*	1986	10	04.99132	01	20	11.24	+03	13	00.9	16.9 046
1986	TZ3		1986	10	05.00556	01	20	10.40	+03	12	55.6	046
1986	TZ3		1986	10	05.94722	01	19	11.45	+03	08	34.8	046
1986	TZ3		1986	10	05.96146	01	19	10.51	+03	08	29.6	046
1986	TA4	*	1986	10	04.99132	01	20	47.82	+02	47	50.1	17.0 046
1986	TA4		1986	10	05.00556	01	20	47.09	+02	47	48.7	046
1986	TB4	*	1986	10	04.99132	01	21	02.39	+04	04	42.5	17.0 046
1986	TB4		1986	10	05.00556	01	21	01.40	+04	04	44.0	046
1986	TB4		1986	10	05.94722	01	20	04.80	+04	04	02.2	046
1986	TB4		1986	10	05.96146	01	20	04.37	+04	04	03.5	046
1986	TC4	*	1986	10	05.94722	01	20	57.42	+02	45	09.5	16.7 046
1986	TC4		1986	10	05.96146	01	20	56.57	+02	45	05.3	046
4601	P-L		1986	10	04.99132	01	11	54.89	+03	14	45.4	046
4601	P-L		1986	10	05.00556	01	11	54.05	+03	14	41.0	046
4601	P-L		1986	10	05.94722	01	11	09.55	+03	10	28.0	046
4601	P-L		1986	10	05.96146	01	11	08.73	+03	10	24.6	046

OBSERVATIONS MADE AT BRORFELDE BY K. AUGUSTESEN AND P. JENSEN.

Observations made in part in association with the International Near-Earth Asteroid Survey (INAS). Contact: H. J. Fogh Olsen, Copenhagen University Observatory, Brorfelde, DK-4340 Tollose, Denmark.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
400		1986	10 08.93516	23 49 50.54	+08 52 02.5		054
635		1986	10 01.90843	22 51 35.26	-03 34 26.0		054
957		1986	10 03.97857	01 10 19.72	+20 58 36.8		054
957		1986	10 04.98863	01 09 35.34	+20 51 16.6		054
1001		1986	10 08.95530	00 47 40.93	+19 09 27.6		054
1139		1986	11 02.90947	01 46 42.27	+08 48 37.3	12.5	054
1721		1986	09 11.94766	23 26 24.01	+12 05 47.1		054
2523		1986	10 08.95530	00 48 07.99	+19 14 30.7		054
2852		1986	10 13.00391	01 54 25.92	+08 47 17.4	16.8	054
2852		1986	11 02.90947	01 37 09.80	+07 13 43.1	17.1	054
2866		1986	10 03.97857	00 56 12.07	+19 06 28.8		054
3065		1986	10 08.91502	23 53 38.55	+05 38 25.8		054
3065		1986	10 08.93516	23 53 37.52	+05 38 18.9		054
3500		1986	09 29.94663	22 47 19.26	-01 24 14.1		054
1981	RU2	1986	09 11.94766	23 33 49.92	+12 21 35.1		054
1981	TP1	1986	10 04.98863	01 02 45.15	+22 35 48.0	16.3	054
1981	TP1	1986	10 11.95079	00 57 29.52	+21 53 24.9		054
1981	XH2	1986	10 08.95530	00 44 17.10	+16 37 09.5		054
1986	RE	1986	09 12.91890	23 09 05.98	+04 01 15.7	17.5	054
1986	RN	1986	09 11.94766	23 27 54.17	+11 36 57.6	16.7	054
1986	RA3	1986	09 09.01502	23 30 12.62	+14 46 13.3	17.2	054
1986	RB3	1986	09 09.01502	23 32 41.67	+13 27 44.8	16.7	054
1986	RQ3	* 1986	09 11.94766	23 30 21.86	+13 04 56.4	17.2	054
1986	RR3	* 1986	09 11.94766	23 31 42.10	+13 06 13.8	17.2	054

1986	RS3	*	1986 09 11.99627	00	18	14.40	+14	15	49.4	17.0	054
1986	RT3	*	1986 09 11.99627	00	19	30.01	+13	07	51.0	17.0	054
1986	SY	*	1986 09 29.94663	22	57	40.99	-00	58	55.0	16.7	054
1986	TQ	*	1986 10 03.97857	01	09	15.02	+21	06	36.0	16.7	054
1986	TQ		1986 10 04.98863	01	08	17.26	+21	07	10.4		054
1986	TR	*	1986 10 04.98863	00	58	46.30	+23	50	14.5	16.2	054
1986	TR		1986 10 11.95079	00	53	53.08	+22	43	07.9		054
1986	TS	*	1986 10 04.98863	01	06	41.70	+25	01	05.2	16.5	054
1986	TS		1986 10 11.95079	00	59	41.20	+25	17	31.5		054
1986	TJ4	*	1986 10 08.91502	00	01	03.44	+08	03	13.6	16.3	054
1986	TJ4		1986 10 11.93065	23	59	18.60	+07	42	58.8		054
1986	TJ4		1986 10 29.88725	23	53	39.00	+05	58	18.9	16.6	054
1986	TJ4		1986 10 31.85348	23	53	36.74	+05	49	42.3		054
1986	TJ4		1986 11 04.84569	23	53	55.04	+05	34	28.2		054
1986	TK4	*	1986 10 13.00391	01	58	47.76	+07	59	25.7	16.2	054
1986	TK4		1986 10 29.91016	01	41	53.19	+08	38	54.9		054
1986	TK4		1986 11 02.90947	01	38	08.01	+08	50	06.4	16.5	054
1986	TL4	*	1986 10 13.00391	02	03	03.96	+08	16	29.6	16.6	054
1986	TL4		1986 10 29.91016	01	47	43.68	+07	31	57.9		054
1986	TL4		1986 11 02.90947	01	44	09.42	+07	23	57.4	16.9	054
1986	TQ4	*	1986 10 11.93065	23	56	54.15	+10	49	05.2	17.0	054
1986	TR4	*	1986 10 11.93065	00	02	16.95	+08	14	46.1	16.5	054
1986	TS4	*	1986 10 11.95079	01	09	53.40	+22	03	59.8	15.8	054

OBSERVATIONS MADE AT THE BULGARIAN NATIONAL OBSERVATORY BY E. W. ELST AND B. I. BILKINA.

Plates measured by G. Peeters. Contact: E. W. Elst, Royal Observatory, B-1180 Brussels, Belgium.

Object		Date	UT	R. A. (1950)			Decl.			Mag.	Obs.
338		1986 09 07.83448		21	47	00.79	-06	29	13.8		071
338		1986 09 07.85144		21	47	00.33	-06	29	14.9		071
678		1986 08 08.05855		02	19	44.19	+21	41	53.7		071
1986	RT	1986 09 07.83448		21	48	25.40	-03	59	58.7	17	071
1986	RT	1986 09 07.85144		21	48	25.01	-04	00	06.0		071
1986	RK3	*	1986 09 07.83448	21	53	39.13	-05	44	59.8	17	071
1986	RK3		1986 09 07.85144	21	53	38.40	-05	45	10.8		071
1986	RL3	*	1986 09 07.83448	21	56	15.89	-05	32	18.0	17	071
1986	RL3		1986 09 07.85144	21	56	15.05	-05	32	22.7		071
1986	RM3	*	1986 09 07.83448	21	58	26.10	-05	27	11.4	17	071
1986	RM3		1986 09 07.85144	21	58	25.21	-05	27	13.6		071
1986	RN3	*	1986 09 07.83448	22	00	41.21	-05	27	51.8	17	071
1986	RN3		1986 09 07.85144	22	00	40.63	-05	27	53.8		071

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

Plates taken with the 0.40-m f/4 astrograph. This is the 56th report in the series carried out jointly by the Institute for Theoretical Astronomy and the Crimean Astrophysical Observatory. Contact: N. S. Chernykh, Crimean Astrophysical Observatory, P.O. Nauchnyj, Crimea 334413, U.S.S.R.; or Yu. V. Batrakov, Institute for Theoretical Astronomy, Naberezhnaya Kutuzova 10, Leningrad 191187, U.S.S.R.

Object		Date	UT	R. A. (1950)			Decl.			Mag.	N	Obs.
1984	CN	1984 02 26.81494		09	42	54.15	+26	37	09.1		1	095
1984	DJ1	*	1984 02 26.81494	09	47	22.08	+24	38	50.2	16.5	1	095
1984	CF	1984 02 26.81494		09	50	57.59	+27	12	22.2	16.5		095
610		1984 02 26.81494		09	58	14.68	+27	45	03.1			095
1984	DK1	*	1984 02 26.81494	09	58	51.20	+30	58	57.3	17.8	1	095
237		1984 02 26.81494		10	02	23.56	+26	04	37.1			095
3055		1984 02 26.81494		10	03	06.20	+26	54	08.9			095

1984	DL1	*	1984	02	26.81494	10	04	47.90	+23	17	28.2	17.5	1 095
1984	DM1	*	1984	02	26.81494	10	06	15.85	+27	12	16.6	17.5	095
1984	DN1	*	1984	02	26.81494	10	07	39.26	+27	52	12.4	16.5	095
1984	DO1	*	1984	02	26.81494	10	16	30.31	+24	21	09.1	17.0	095
1984	DP1	*	1984	02	26.81494	10	16	33.18	+24	54	31.0	16.5	095
1984	DQ1	*	1984	02	26.81494	10	20	08.20	+26	22	50.5	17.5	095
1984	DR1	*	1984	02	26.81494	10	26	19.27	+29	40	15.5	16.5	1 095
1984	DS1	*	1984	02	26.87986	09	35	19.11	+14	21	12.5	17.5	1 095
3175			1984	02	26.87986	09	36	22.48	+13	17	46.5		1 095
1984	DT1	*	1984	02	26.87986	09	37	13.01	+16	02	55.9	17.8	1 095
1984	DU1	*	1984	02	26.87986	09	37	34.17	+09	53	59.5	16.8	1 095
1253			1984	02	26.87986	09	37	38.55	+16	06	55.2		1 095
1898			1984	02	26.87986	09	37	53.78	+13	42	27.8		1 095
1984	DV1	*	1984	02	26.87986	09	39	23.13	+10	32	38.0	16.5	1 095
202			1984	02	26.87986	09	39	47.30	+16	33	03.5		1 095
1913			1984	02	26.87986	09	40	25.64	+15	13	31.0		1 095
1984	DW1	*	1984	02	26.87986	09	40	59.41	+13	43	12.6	17.5	1 095
1984	DR		1984	02	26.87986	09	41	00.78	+15	29	02.3	17.0	095
2032			1984	02	26.87986	09	42	52.36	+15	43	02.7		095
1585			1984	02	26.87986	09	43	34.45	+12	35	01.1		095
1984	DX1	*	1984	02	26.87986	09	45	16.24	+09	08	54.6	17.0	095
2031			1984	02	26.87986	09	46	50.96	+10	39	37.7		095
335			1984	02	26.87986	09	47	10.67	+13	29	46.0		095
1979	SN11		1984	02	26.87986	09	47	42.32	+10	30	28.2	17.5	095
1984	DY1	*	1984	02	26.87986	09	48	24.49	+16	33	33.7	16.0	1 095
1984	DZ1	*	1984	02	26.87986	09	48	58.22	+16	34	24.2	17.5	1 095
970			1984	02	26.87986	09	50	14.73	+10	15	46.9		095
1623			1984	02	26.87986	09	51	44.98	+15	10	14.8		095
1043			1984	02	26.87986	09	51	45.48	+10	41	25.2		095
1984	DE		1984	02	26.87986	09	52	09.50	+09	51	07.1	16.5	095
2003			1984	02	26.87986	09	52	16.93	+16	02	19.8		095
1984	DA2	*	1984	02	26.87986	09	53	10.42	+14	30	12.2	17.0	095
1769			1984	02	26.87986	09	53	27.32	+12	15	05.3		095
1979	XK		1984	02	26.87986	09	54	10.85	+14	03	55.5		095
1984	DB2	*	1984	02	26.87986	09	55	53.61	+15	08	36.7	17.5	095
1984	DC2	*	1984	02	26.87986	09	56	24.50	+15	49	57.1	16.5	095
2480			1984	02	26.87986	09	56	32.58	+17	29	58.3		1 095
1737			1984	02	26.87986	09	56	44.59	+11	41	43.4		095
1984	DD2	*	1984	02	26.87986	09	57	13.72	+16	54	17.9	17.5	1 095
1984	DE2	*	1984	02	26.87986	09	57	39.92	+17	45	33.8	16.8	1 095
1969			1984	02	26.87986	09	58	56.92	+07	43	29.2		1 095
1984	DF2	*	1984	02	26.87986	09	59	20.64	+13	41	08.0	17.0	095
1984	DG2	*	1984	02	26.87986	10	01	24.00	+12	23	42.1	17.0	095
1984	DH2	*	1984	02	26.87986	10	01	31.88	+13	12	45.8	17.0	095
1984	DJ2	*	1984	02	26.87986	10	02	14.92	+12	00	46.1	17.5	095
2300			1984	02	26.87986	10	02	16.88	+15	16	53.4		095
3064			1984	02	26.87986	10	02	30.44	+11	34	23.4		095
1984	DK2	*	1984	02	26.87986	10	03	02.66	+11	19	36.0	17.5	095
191			1984	02	26.87986	10	04	26.30	+09	34	36.0		095
1984	DL2	*	1984	02	26.87986	10	05	08.75	+15	58	52.6	17.5	095
1937	UE		1984	02	26.87986	10	05	16.92	+11	36	36.9		095
2550			1984	02	26.87986	10	05	19.24	+10	01	29.0		095
1984	DM2	*	1984	02	26.87986	10	08	09.47	+13	38	19.1	17.5	095
3128			1984	02	26.87986	10	08	25.64	+14	46	35.0		095
1440			1984	02	26.87986	10	08	40.38	+14	49	42.6		095
555			1984	02	26.87986	10	08	46.01	+13	06	00.5		095
1984	DN2	*	1984	02	26.87986	10	10	26.32	+14	36	09.8	17.5	095
1984	EN1		1984	02	26.87986	10	13	00.42	+11	13	39.2	17.0	1 095
2311			1984	02	26.87986	10	13	38.98	+10	10	19.8		1 095

2835		1984	02	26.87986	10	14	46.90	+12	01	13.0		1	095
3049		1984	02	26.87986	10	14	59.68	+14	06	28.6		1	095
1984	DO2 *	1984	02	26.87986	10	15	15.46	+15	05	45.8	17.5	1	095
1568		1984	02	26.87986	10	15	31.81	+16	02	35.0	17.0	1	095
58		1984	02	26.87986	10	15	53.52	+09	44	19.3		1	095
1157		1984	02	26.87986	10	16	08.85	+11	25	39.2		1	095
1984	DP2 *	1984	02	26.95215	11	30	17.89	+11	15	44.0	17.2	1	095
1984	DQ2 *	1984	02	26.95215	11	30	22.55	+13	41	33.4	17.5	1	095
2773		1984	02	26.95215	11	31	23.31	+08	58	38.9		1	095
2471		1984	02	26.95215	11	31	36.42	+11	25	36.1		1	095
2519		1984	02	26.95215	11	34	57.40	+06	18	49.0		1	095
3356		1984	02	26.95215	11	39	01.29	+08	58	22.7	16.2		095
1984	DR2 *	1984	02	26.95215	11	40	10.09	+09	37	19.9	17.0		095
731		1984	02	26.95215	11	40	34.23	+16	23	00.7		1	095
1984	DS2 *	1984	02	26.95215	11	41	14.00	+08	59	03.4	16.5		095
362		1984	02	26.95215	11	42	01.57	+11	07	54.7			095
1984	DT2 *	1984	02	26.95215	11	46	39.85	+07	33	03.3	17.0	1	095
1984	DU2 *	1984	02	26.95215	11	48	34.36	+14	46	16.3	16.0		095
1984	DV2 *	1984	02	26.95215	11	49	47.92	+13	05	44.8	16.8		095
1984	DW2 *	1984	02	26.95215	11	50	32.70	+10	22	09.9	17.7		095
17		1984	02	26.95215	11	51	14.05	+07	46	10.6			095
1978	PR4	1984	02	26.95215	11	52	03.76	+08	01	26.6	16.2		095
1984	FS	1984	02	26.95215	11	52	33.24	+10	40	16.7	17.5		095
127		1984	02	26.95215	11	52	43.99	+10	33	44.5			095
1984	DX2 *	1984	02	26.95215	11	56	20.50	+12	04	26.8	17.7		095
1984	DY2 *	1984	02	26.95215	11	57	06.90	+09	50	13.8	17.7		095
1984	DZ2 *	1984	02	26.95215	11	57	21.13	+07	51	52.2	17.7		095
1154		1984	02	26.95215	11	57	39.48	+07	07	25.4			095
286		1984	02	26.95215	11	57	43.62	+10	22	37.1			095
1984	DA3 *	1984	02	26.95215	11	57	44.62	+06	31	22.4	17.0	1	095
1984	DB3 *	1984	02	26.95215	11	58	43.38	+09	54	50.8	17.5		095
597		1984	02	26.95215	11	58	48.42	+15	22	48.8		1	095
1860		1984	02	26.95215	12	00	11.50	+09	56	45.4			095
1984	DC3 *	1984	02	26.95215	12	03	57.37	+08	03	05.8	17.7		095
1984	DD3 *	1984	02	26.95215	12	03	59.03	+09	42	42.8	17.5		095
1984	EY	1984	02	26.95215	12	04	39.44	+08	27	38.0	17.5	1	095
1137		1984	02	26.95215	12	07	53.81	+06	26	22.4		1	095
1385		1984	02	26.95215	12	08	13.87	+08	19	11.0		1	095
298		1984	02	27.02774	12	15	30.89	+02	00	13.7		1	095
1984	DE3 *	1984	02	27.02774	12	22	08.89	+01	47	32.3	16.0		095
1984	DF3 *	1984	02	27.02774	12	25	43.39	+05	25	18.9	17.5		095
9		1984	02	27.02774	12	26	12.45	+06	46	52.8			095
394		1984	02	27.02774	12	27	01.33	+05	53	24.6			095
1984	DG3 *	1984	02	27.02774	12	32	38.40	+07	32	00.1	16.0		095
1267		1984	02	27.02774	12	34	01.75	+00	05	51.6		1	095
1984	DH3 *	1984	02	27.02774	12	34	10.35	+06	40	29.0	17.5		095
1984	DJ3 *	1984	02	27.02774	12	36	59.88	+02	04	33.0	16.5		095
11		1984	02	27.02774	12	37	05.92	+01	59	27.4			095
877		1984	02	27.02774	12	37	38.18	+01	56	57.1			095
1984	FU	1984	02	27.02774	12	38	07.42	+01	45	57.6	17.0		095
2849		1984	02	27.02774	12	38	28.84	+04	15	28.5			095
245		1984	02	27.02774	12	39	20.85	+02	19	01.8			095
1984	DK3 *	1984	02	27.02774	12	41	34.06	+06	42	44.9	16.5		095
2136		1984	02	27.02774	12	44	29.23	+03	29	56.7			095
1984	DL3 *	1984	02	27.02774	12	44	53.84	+03	41	13.4	17.0		095
697		1984	02	27.02774	12	45	42.58	+00	48	53.2			095
1630		1984	02	27.02774	12	46	08.68	+01	20	06.0			095
489		1984	02	27.02774	12	47	12.16	-00	21	11.0		1	095
2122		1984	02	27.02774	12	50	27.68	+07	20	33.0		1	095

1984	DM3	*	1984	02	27.02774	12	54	11.45	+05	58	02.5	17.5	1 095
1278			1984	03	05.81100	09	27	34.16	+28	19	33.6		1 095
1694			1984	03	05.81100	09	28	15.49	+27	46	19.8		1 095
1984	CN		1984	03	05.81100	09	36	10.63	+26	49	28.8		095
1984	EV1	*	1984	03	05.81100	09	40	04.82	+21	44	18.8	16.5	1 095
1984	DJ1		1984	03	05.81100	09	40	11.38	+23	30	06.6	17.0	095
1984	CF		1984	03	05.81100	09	44	46.67	+27	44	50.9	17.0	095
1984	EW1	*	1984	03	05.81100	09	45	59.54	+24	36	36.7	17.0	095
1984	EX1	*	1984	03	05.81100	09	50	09.28	+23	50	55.9	17.0	095
3055			1984	03	05.81100	09	54	27.40	+26	33	48.0		095
237			1984	03	05.81100	09	55	37.29	+26	35	59.4		095
1984	DL1		1984	03	05.81100	09	56	45.62	+23	33	05.6	17.0	095
1984	DN1		1984	03	05.81100	10	00	27.00	+28	03	22.1	17.0	095
1984	EY1	*	1984	03	05.81100	10	04	34.20	+23	17	27.3	17.0	095
1984	DN		1984	03	05.87676	09	28	59.85	+15	01	30.5	16.5	1 095
332			1984	03	05.87676	09	34	32.10	+18	18	24.2		1 095
202			1984	03	05.87676	09	34	34.05	+17	21	27.7		1 095
1585			1984	03	05.87676	09	38	04.42	+14	18	00.5		095
1984	DY1		1984	03	05.87676	09	40	18.84	+16	41	32.4	16.0	095
335			1984	03	05.87676	09	40	20.02	+14	18	11.9		095
970			1984	03	05.87676	09	43	09.88	+10	41	08.9		095
1984	DE		1984	03	05.87676	09	45	12.09	+10	07	54.2	17.0	095
1623			1984	03	05.87676	09	46	03.08	+15	42	37.2		095
1043			1984	03	05.87676	09	46	18.52	+11	30	01.8		095
2003			1984	03	05.87676	09	46	25.02	+16	29	37.0		095
1979	XK		1984	03	05.87676	09	48	25.19	+14	35	44.9		095
1737			1984	03	05.87676	09	50	03.04	+11	52	42.3		095
1984	DC2		1984	03	05.87676	09	50	34.48	+16	16	01.7	17.0	095
1969			1984	03	05.87676	09	53	05.75	+08	23	41.9		1 095
3064			1984	03	05.87676	09	55	55.72	+12	25	20.2		095
191			1984	03	05.87676	09	58	39.13	+10	34	33.6		095
555			1984	03	05.87676	10	02	59.46	+13	44	20.3		095
116			1984	03	05.87676	10	04	01.74	+18	15	06.2		1 095
58			1984	03	05.87676	10	09	27.60	+10	38	04.3		1 095
1984	FM1	*	1984	03	21.83350	09	30	06.92	+22	50	54.7	17.0	095
3055			1984	03	21.83350	09	41	45.29	+25	15	25.5		095
1984	FN1	*	1984	03	21.83350	09	42	37.44	+29	46	06.6	17.0	1 095
237			1984	03	21.83350	09	45	07.96	+27	00	46.8		095
1984	FO1	*	1984	03	21.83350	09	48	51.52	+21	09	55.9	17.0	1 095
1984	FP1	*	1984	03	21.83350	09	55	21.51	+23	23	53.0	17.0	095
3356			1984	03	29.84090	11	09	03.48	+12	42	23.7		095
805			1984	03	29.84090	11	12	16.52	+07	46	52.3		1 095
362			1984	03	29.84090	11	12	42.22	+12	39	20.7		1 095
1984	CM1		1984	03	29.84090	11	18	06.87	+09	22	50.0	16.5	095
1984	FQ1	*	1984	03	29.84090	11	19	43.98	+12	53	54.7	17.0	095
2587			1984	03	29.84090	11	20	25.23	+08	19	32.4		1 095
1978	PR4		1984	03	29.84090	11	21	10.44	+09	57	48.6	17.0	095
1984	DU2		1984	03	29.84090	11	22	00.34	+17	11	21.4	16.0	1 095
17			1984	03	29.84090	11	24	36.28	+11	41	39.4		095
127			1984	03	29.84090	11	24	47.70	+12	03	14.9		095
1984	DB3		1984	03	29.84090	11	25	51.75	+11	04	54.5	17.0	095
597			1984	03	29.84090	11	30	02.60	+17	01	48.4		1 095
1984	FS		1984	03	29.84090	11	30	03.25	+16	20	16.8	16.5	1 095
1984	EY		1984	03	29.84090	11	33	51.88	+10	12	17.8	17.0	095
1860			1984	03	29.84090	11	34	30.88	+14	16	47.2		095
1154			1984	03	29.84090	11	36	10.88	+09	29	23.4		095
286			1984	03	29.84090	11	37	19.80	+14	47	50.7		095
1137			1984	03	29.84090	11	39	59.14	+09	28	23.0		095
1984	EZ		1984	03	29.84090	11	42	01.71	+11	31	39.3	16.5	095

1385		1984	03	29.84090	11	43	52.67	+11	36	13.3		095
1984	FR1	* 1984	03	29.84090	11	44	38.31	+14	20	09.0	17.5	095
3024		1984	03	29.84090	11	50	15.18	+12	21	55.9	1	095
1686		1984	03	29.94419	13	02	24.90	-06	47	45.5	1	095
3078		1984	03	29.94419	13	02	52.00	-02	43	31.2	1	095
3225		1984	03	29.94419	13	02	53.62	-02	45	13.6	1	095
311		1984	03	29.94419	13	03	09.96	-01	48	06.7	1	095
2438		1984	03	29.94419	13	03	40.45	-00	03	51.2	1	095
1084		1984	03	29.94419	13	04	44.40	-06	02	04.6	1	095
2243		1984	03	29.94419	13	05	22.48	-05	08	43.8	1	095
3070		1984	03	29.94419	13	08	12.78	-05	09	43.7		095
1376		1984	03	29.94419	13	09	50.81	-04	04	13.0		095
922		1984	03	29.94419	13	10	49.25	-09	19	28.5	1	095
1286		1984	03	29.94419	13	12	15.89	-08	47	18.3		095
1984	GC	1984	03	29.94419	13	14	53.74	-08	35	06.8	17.3	095
1984	FK	1984	03	29.94419	13	15	46.80	-03	34	44.2	16.8	095
589		1984	03	29.94419	13	16	40.35	-02	52	46.9		095
73		1984	03	29.94419	13	16	45.31	-08	47	55.0	1	095
3072		1984	03	29.94419	13	17	38.00	-00	50	37.9	1	095
1475		1984	03	29.94419	13	18	24.72	-08	41	07.9		095
1984	FS1	* 1984	03	29.94419	13	18	49.82	-03	04	17.4	16.5	095
1984	FT1	* 1984	03	29.94419	13	18	57.78	-08	13	21.1	17.3	095
2081		1984	03	29.94419	13	19	03.90	-02	44	49.0		095
76		1984	03	29.94419	13	19	42.91	-08	45	54.7	1	095
3364		1984	03	29.94419	13	21	01.02	+00	03	06.7	17.5 1	095
2110		1984	03	29.94419	13	21	33.91	-06	53	39.8		095
2413		1984	03	29.94419	13	23	42.03	-00	35	26.9	16.5	095
1974	ST	1984	03	29.94419	13	24	58.72	-05	13	29.5		095
1984	HM1	1984	03	29.94419	13	25	26.68	-08	12	12.0	17.5	095
1984	HL1	1984	03	29.94419	13	25	52.29	-08	47	06.6	17.3 1	095
1615		1984	03	29.94419	13	25	52.60	-07	14	26.0		095
1984	FU1	* 1984	03	29.94419	13	26	48.70	-08	33	03.0	17.3	095
1938		1984	03	29.94419	13	27	58.00	-06	13	46.5		095
1984	HC2	1984	03	29.94419	13	29	07.40	-00	25	29.5	17.5 1	095
1984	FV1	* 1984	03	29.94419	13	33	48.26	-02	02	39.1	16.0	095
1984	FW1	* 1984	03	29.94419	13	38	44.42	-00	14	55.7	16.5 1	095
635		1984	03	29.94419	13	38	49.22	-05	24	05.2	1	095
2348		1984	03	29.94419	13	38	52.96	-08	24	36.5	1	095
806		1984	03	29.94419	13	40	00.95	-00	20	46.8	1	095
3065		1984	03	30.80279	10	28	25.78	+04	23	23.2	1	095
3031		1984	03	30.80279	10	28	50.93	+04	42	00.4	1	095
1787		1984	03	30.80279	10	29	48.89	+00	03	24.0	1	095
1023		1984	03	30.80279	10	30	20.24	+02	39	35.9	1	095
733		1984	03	30.80279	10	34	17.53	+05	20	59.3		095
2824		1984	03	30.80279	10	36	13.90	+05	29	33.3		095
765		1984	03	30.80279	10	36	25.46	+05	26	47.7		095
1984	FX1	* 1984	03	30.80279	10	36	53.00	+02	08	44.7	17.5	095
3077		1984	03	30.80279	10	37	14.56	+06	33	51.3		095
297		1984	03	30.80279	10	38	24.79	+05	41	21.3		095
3066		1984	03	30.80279	10	38	29.21	+05	59	34.1		095
2477		1984	03	30.80279	10	38	55.80	+02	34	24.9		095
3073		1984	03	30.80279	10	40	09.54	+03	40	20.1		095
1443		1984	03	30.80279	10	40	24.85	+08	03	42.5	1	095
1407		1984	03	30.80279	10	43	34.75	-00	22	45.4	1	095
1878		1984	03	30.80279	10	45	49.31	+07	00	37.3		095
1984	FY1	* 1984	03	30.80279	10	48	58.03	+04	35	30.2	17.0	095
1984	FZ1	* 1984	03	30.80279	10	50	33.63	+08	11	41.5	17.0 1	095
1666		1984	03	30.80279	10	50	47.47	+02	48	12.4		095
1984	FA2	* 1984	03	30.80279	10	52	35.52	+03	02	42.9	16.5	095

239		1984	03	30.80279	10	54	06.39	+05	22	44.2			095
1651		1984	03	30.80279	10	54	36.39	+04	57	02.0			095
1984	FB2 *	1984	03	30.80279	10	54	47.53	+07	09	46.9	17.8		095
1292		1984	03	30.80279	10	55	47.05	+03	02	11.5			095
1984	FC2 *	1984	03	30.80279	10	56	21.32	+08	13	18.9	17.0	1	095
1984	FD2 *	1984	03	30.80279	10	57	14.17	+04	32	23.4	17.0		095
1984	FE2 *	1984	03	30.80279	10	59	26.72	+05	39	15.0	17.0		095
1570		1984	03	30.80279	11	00	19.43	+05	35	21.3			095
2795		1984	03	30.80279	11	02	26.89	-00	34	41.0		1	095
19		1984	03	30.80279	11	04	14.26	+04	23	49.1		1	095
1033		1984	03	30.80279	11	07	35.91	+01	23	40.2		1	095
374		1984	03	30.87847	11	21	04.55	-05	36	37.0		1	095
1984	FF2 *	1984	03	30.87847	11	22	14.95	-07	28	05.3	17.0		095
2294		1984	03	30.87847	11	24	23.83	-05	54	01.2		1	095
639		1984	03	30.87847	11	25	31.00	-09	15	52.4		1	095
764		1984	03	30.87847	11	25	52.34	-11	29	53.7			095
640		1984	03	30.87847	11	27	01.16	-13	24	14.3			095
1984	FG2 *	1984	03	30.87847	11	28	33.67	-10	41	35.9	17.0		095
1984	FH2 *	1984	03	30.87847	11	33	57.07	-09	08	13.9	17.5		095
1181		1984	03	30.87847	11	36	04.96	-06	26	45.3			095
1836		1984	03	30.87847	11	40	05.94	-09	39	32.7			095
1984	FJ2 *	1984	03	30.87847	11	41	16.75	-05	17	26.6	17.0	1	095
1984	FK2 *	1984	03	30.87847	11	42	27.02	-08	33	07.3	17.5		095
1984	FL2 *	1984	03	30.87847	11	43	08.69	-12	36	46.6	17.0		095
539		1984	03	30.87847	11	48	19.23	-09	17	44.9			095
1420		1984	03	30.87847	11	59	32.67	-05	31	56.2		1	095
84		1984	03	30.95485	12	44	22.99	-16	19	25.7		1	095
1806		1984	03	30.95485	12	48	15.72	-12	35	09.1			095
884		1984	03	30.95485	12	48	23.74	-16	54	06.4		1	095
400		1984	03	30.95485	12	51	18.47	-18	46	07.5		1	095
1560		1984	03	30.95485	12	55	58.62	-15	45	31.0			095
951		1984	03	30.95485	12	57	17.43	-12	13	56.6			095
1982	TC2	1984	03	30.95485	13	00	59.56	-14	55	35.5	17.0		095
922		1984	03	30.95485	13	10	02.37	-09	12	38.1		1	095
2233		1984	03	30.95485	13	12	20.42	-12	25	59.8			095
333		1984	03	30.95485	13	13	06.29	-10	01	29.6			095
73		1984	03	30.95485	13	15	54.70	-08	43	41.0		1	095
1777		1984	03	30.95485	13	17	38.92	-11	56	02.9			095
30		1984	03	30.95485	13	19	43.79	-11	47	40.8		1	095
325		1984	03	30.95485	13	23	36.02	-16	16	56.7		1	095
46		1984	04	03.77432	10	23	27.17	+09	12	38.5		1	095
3065		1984	04	03.77432	10	26	40.85	+04	33	59.3		1	095
3031		1984	04	03.77432	10	26	55.26	+04	49	27.0		1	095
1787		1984	04	03.77432	10	27	49.95	+00	14	32.8			095
1023		1984	04	03.77432	10	28	45.74	+03	02	12.1		1	095
733		1984	04	03.77432	10	31	53.05	+05	15	25.6			095
765		1984	04	03.77432	10	34	10.23	+05	37	32.9			095
108		1984	04	03.77432	10	34	55.67	+09	12	27.1		1	095
3077		1984	04	03.77432	10	35	08.39	+06	47	08.0			095
2391		1984	04	03.77432	10	35	09.91	+09	39	44.5		1	095
297		1984	04	03.77432	10	36	19.74	+05	50	04.9			095
3066		1984	04	03.77432	10	36	35.78	+06	32	02.6			095
2477		1984	04	03.77432	10	36	45.46	+02	59	15.3			095
3033		1984	04	03.77432	10	37	52.94	+09	44	57.5		1	095
1443		1984	04	03.77432	10	38	27.70	+08	17	41.7			095
1878		1984	04	03.77432	10	43	50.05	+07	15	40.4			095
2411		1984	04	03.77432	10	44	13.37	+10	02	06.2		1	095
1984	FY1	1984	04	03.77432	10	46	21.29	+04	43	31.2	17.2		095
1666		1984	04	03.77432	10	47	59.53	+03	09	26.4			095

1984	FZ1		1984	04	03.77432	10	48	45.51	+08	29	08.0		095
1984	FA2		1984	04	03.77432	10	49	52.69	+03	09	19.3		095
2730			1984	04	03.77432	10	50	15.61	+09	41	40.1	1	095
1984	FB2		1984	04	03.77432	10	51	46.86	+07	19	20.0		095
239			1984	04	03.77432	10	52	01.15	+05	41	49.5		095
1651			1984	04	03.77432	10	52	36.93	+05	25	48.8		095
1292			1984	04	03.77432	10	53	30.60	+03	19	16.4		095
1984	FC2		1984	04	03.77432	10	54	05.25	+08	25	39.2		095
62			1984	04	03.77432	10	54	19.46	+09	17	37.8	1	095
1984	GV	*	1984	04	03.77432	10	54	44.27	+04	44	29.1		095
27			1984	04	03.77432	10	56	39.00	+09	36	10.1	1	095
1570			1984	04	03.77432	10	58	04.67	+05	51	55.4		095
19			1984	04	03.77432	11	01	37.29	+04	43	13.1	1	095
362			1984	04	03.84524	11	08	59.12	+12	41	03.3	1	095
805			1984	04	03.84524	11	09	30.14	+08	19	11.8	1	095
434			1984	04	03.84524	11	14	26.23	+08	50	08.6		095
1984	CM1		1984	04	03.84524	11	15	53.70	+10	02	06.8		095
1978	PR4		1984	04	03.84524	11	17	08.52	+10	02	20.0		095
2587			1984	04	03.84524	11	17	14.46	+08	37	02.4	1	095
1984	DU2		1984	04	03.84524	11	18	25.76	+17	17	05.9	1	095
17			1984	04	03.84524	11	20	54.42	+12	06	36.0		095
127			1984	04	03.84524	11	21	02.90	+12	05	24.3		095
1984	DB3		1984	04	03.84524	11	21	30.28	+11	03	24.9		095
1984	GW	*	1984	04	03.84524	11	23	46.03	+12	35	11.5		095
597			1984	04	03.84524	11	25	56.57	+17	03	36.8	1	095
1984	GX	*	1984	04	03.84524	11	26	32.12	+11	21	09.4		095
1984	FS		1984	04	03.84524	11	27	06.72	+16	54	18.9	1	095
1984	EY		1984	04	03.84524	11	29	25.31	+10	16	32.2		095
1860			1984	04	03.84524	11	30	40.71	+14	45	34.6		095
1984	GY	*	1984	04	03.84524	11	32	05.02	+10	02	45.1		095
1154			1984	04	03.84524	11	33	02.23	+09	45	08.7		095
286			1984	04	03.84524	11	34	22.50	+15	18	32.3		095
1137			1984	04	03.84524	11	35	51.19	+09	47	51.4		095
1984	EZ		1984	04	03.84524	11	38	44.45	+12	14	51.9		095
1385			1984	04	03.84524	11	40	14.35	+11	57	37.6		095
1984	FR1		1984	04	03.84524	11	42	47.77	+14	48	16.0		095
1984	EC1		1984	04	03.84524	11	45	25.42	+15	49	43.8		095
3024			1984	04	03.84524	11	46	42.65	+12	27	12.0	1	095
845			1984	04	03.84524	11	48	57.95	+15	08	17.3	1	095
1984	GZ	*	1984	04	03.92014	12	39	56.40	-11	25	26.2	1	095
84			1984	04	03.92014	12	40	16.23	-16	04	57.2	1	095
1806			1984	04	03.92014	12	44	20.34	-12	09	10.0		095
884			1984	04	03.92014	12	46	18.13	-16	43	43.3		095
1984	GA1	*	1984	04	03.92014	12	46	41.51	-16	58	23.4		095
400			1984	04	03.92014	12	47	54.93	-18	38	46.9	1	095
1560			1984	04	03.92014	12	52	37.78	-15	27	09.9		095
951			1984	04	03.92014	12	53	22.26	-11	47	35.6		095
1984	GB1	*	1984	04	03.92014	12	53	43.24	-13	37	39.3		095
1984	HE1		1984	04	03.92014	12	55	38.50	-13	42	32.9		095
1982	TC2		1984	04	03.92014	12	57	45.58	-14	25	17.0		095
1984	GC1	*	1984	04	03.92014	12	59	25.21	-17	02	40.6		095
1984	GD1	*	1984	04	03.92014	13	06	35.14	-13	36	19.5		095
922			1984	04	03.92014	13	06	54.60	-08	45	27.8	1	095
1077			1984	04	03.92014	13	07	18.68	-11	55	45.5		095
2233			1984	04	03.92014	13	08	36.20	-12	00	56.1		095
2065			1984	04	03.92014	13	09	47.00	-15	11	41.4	2	095
333			1984	04	03.92014	13	10	12.38	-09	47	11.5		095
73			1984	04	03.92014	13	12	31.61	-08	26	57.2	1	095
1777			1984	04	03.92014	13	14	12.41	-11	40	36.5		095

30		1984	04	03.92014	13	16	02.75	-11	28	02.4		1	095
325		1984	04	03.92014	13	20	36.38	-16	07	14.4		1	095
374		1984	04	04.81235	11	18	00.99	-04	56	28.8		1	095
2294		1984	04	04.81235	11	20	39.10	-05	27	27.7			095
639		1984	04	04.81235	11	22	14.35	-08	50	03.5			095
764		1984	04	04.81235	11	22	50.00	-11	00	13.0			095
640		1984	04	04.81235	11	24	01.76	-12	46	22.4			095
1984	FG2	1984	04	04.81235	11	25	25.51	-10	08	41.8	17.0		095
1181		1984	04	04.81235	11	32	28.24	-05	55	57.7			095
1836		1984	04	04.81235	11	36	13.93	-09	09	54.2			095
1984	FJ2	1984	04	04.81235	11	37	49.00	-04	25	11.9	17.0	1	095
1984	FL2	1984	04	04.81235	11	39	33.55	-11	59	16.6	17.0		095
539		1984	04	04.81235	11	44	35.83	-08	49	51.4			095
1084		1984	04	04.88875	12	59	56.85	-05	23	00.6		1	095
3070		1984	04	04.88875	13	03	34.01	-04	26	54.0		1	095
1376		1984	04	04.88875	13	04	09.67	-03	18	34.5		1	095
922		1984	04	04.88875	13	06	07.88	-08	38	48.4		3	095
1286		1984	04	04.88875	13	08	06.35	-08	05	14.8		1	095
1984	GC	1984	04	04.88875	13	10	22.57	-07	59	59.8	17.3	1	095
1984	FK	1984	04	04.88875	13	10	44.66	-02	43	49.7	17.0		095
73		1984	04	04.88875	13	11	40.91	-08	22	48.0		1	095
589		1984	04	04.88875	13	12	41.51	-02	11	07.8			095
1984	FS1	1984	04	04.88875	13	12	59.11	-02	39	10.9	16.5		095
2081		1984	04	04.88875	13	13	39.29	-02	15	50.2			095
1984	FT1	1984	04	04.88875	13	14	09.26	-07	27	12.9	17.0		095
76		1984	04	04.88875	13	15	37.52	-08	18	17.5		1	095
2413		1984	04	04.88875	13	19	35.78	+00	05	57.3	16.8	1	095
1984	HM1	1984	04	04.88875	13	19	57.34	-07	50	43.3	17.0		095
1984	HL1	1984	04	04.88875	13	20	08.15	-08	23	54.5	17.0	1	095
1974	ST	1984	04	04.88875	13	20	40.64	-04	45	53.4			095
1984	FU1	1984	04	04.88875	13	22	29.18	-07	39	02.8	17.0		095
1938		1984	04	04.88875	13	23	22.81	-05	27	14.0			095
1984	FV1	1984	04	04.88875	13	29	01.31	-01	32	24.7	16.0		095
2348		1984	04	04.88875	13	33	54.62	-07	38	37.2			095
2312		1984	04	04.88875	13	34	28.20	-05	12	14.0			095
635		1984	04	04.88875	13	34	59.89	-04	44	36.3		1	095
806		1984	04	04.88875	13	35	16.23	-00	11	16.1		1	095
1984	FW1	1984	04	04.88875	13	35	37.41	+00	13	40.5	16.5	1	095
362		1984	04	05.82744	11	07	39.74	+12	40	36.3		1	095
805		1984	04	05.82744	11	08	29.88	+08	31	20.7		1	095
434		1984	04	05.82744	11	13	16.88	+09	26	37.6			095
1984	CM1	1984	04	05.82744	11	15	10.40	+10	15	59.0	16.5		095
1978	PR4	1984	04	05.82744	11	15	43.82	+10	02	40.4			095
1984	GE1 *	1984	04	05.82744	11	15	51.57	+07	30	02.1	17.0	1	095
2587		1984	04	05.82744	11	16	04.49	+08	43	16.3			095
1984	DU2	1984	04	05.82744	11	17	08.98	+17	17	47.8	16.0		095
17		1984	04	05.82744	11	19	34.50	+12	15	01.4			095
127		1984	04	05.82744	11	19	41.76	+12	05	06.1			095
1984	DB3	1984	04	05.82744	11	19	56.15	+11	01	43.1	17.8		095
597		1984	04	05.82744	11	24	25.29	+17	03	05.4		1	095
1984	FS	1984	04	05.82744	11	26	04.70	+17	05	48.6	16.5	1	095
1984	EY	1984	04	05.82744	11	27	48.17	+10	16	48.8	17.0		095
1860		1984	04	05.82744	11	29	15.44	+14	55	33.9			095
1111		1984	04	05.82744	11	30	07.98	+07	25	47.6		1	095
1154		1984	04	05.82744	11	31	52.00	+09	50	38.0			095
286		1984	04	05.82744	11	33	16.97	+15	29	30.2			095
1137		1984	04	05.82744	11	34	19.54	+09	54	27.7			095
1984	EZ	1984	04	05.82744	11	37	32.60	+12	30	26.2	16.5		095
1385		1984	04	05.82744	11	38	52.99	+12	05	01.6			095

1984	GZ		1984	04	05.90278	12	38	08.35	-11	14	22.4	17.0	1 095
84			1984	04	05.90278	12	38	12.44	-15	56	54.2		1 095
1806			1984	04	05.90278	12	42	23.60	-11	55	35.2		095
1984	GA1		1984	04	05.90278	12	44	56.32	-16	49	09.3	17.2	095
884			1984	04	05.90278	12	45	14.95	-16	38	07.3		095
400			1984	04	05.90278	12	46	12.68	-18	34	15.2		1 095
1560			1984	04	05.90278	12	50	56.92	-15	17	24.4		095
951			1984	04	05.90278	12	51	24.30	-11	33	52.2		095
1984	GB1		1984	04	05.90278	12	51	33.26	-13	34	24.7	16.8	095
1982	TC2		1984	04	05.90278	12	56	08.50	-14	09	33.8	17.0	095
1984	GF1	*	1984	04	05.90278	12	56	20.54	-14	05	29.0		095
1984	GC1		1984	04	05.90278	12	57	40.12	-16	57	07.4	17.5	095
922			1984	04	05.90278	13	05	19.00	-08	31	34.2		1 095
1077			1984	04	05.90278	13	05	22.68	-11	47	28.4		095
2233			1984	04	05.90278	13	06	42.30	-11	47	47.6		095
333			1984	04	05.90278	13	08	44.06	-09	39	45.8		095
1777			1984	04	05.90278	13	12	26.84	-11	32	22.9		095
30			1984	04	05.90278	13	14	09.91	-11	17	41.9		095
403			1984	04	27.82219	11	53	51.65	-10	46	06.5		095
439			1984	04	27.82219	11	58	31.00	-04	46	25.0		095
1984	HH2	*	1984	04	27.82219	11	59	46.77	-10	33	41.3	17.0	095
1984	HJ2	*	1984	04	27.82219	12	00	49.50	-02	29	26.0	17.0	1 095
1984	HK2	*	1984	04	27.82219	12	01	11.66	-09	39	25.0		2 095
2478			1984	04	27.82219	12	01	34.87	-04	06	35.8		095
1984	HL2	*	1984	04	27.82219	12	02	42.77	-10	51	04.5	17.0	095
137			1984	04	27.82219	12	03	43.34	-03	46	05.0		095
1984	HM2	*	1984	04	27.82219	12	03	52.81	-10	11	10.2	17.0	095
1996			1984	04	27.82219	12	05	03.02	-06	33	25.0		2 095
678			1984	04	27.82219	12	05	15.61	-09	58	09.7		095
1984	HN2	*	1984	04	27.82219	12	05	56.24	-07	01	48.6		095
1491			1984	04	27.82219	12	07	55.82	-05	51	34.1		095
1984	HO2	*	1984	04	27.82219	12	09	41.02	-09	53	53.2	16.5	095
1984	HP2	*	1984	04	27.82219	12	10	02.04	-03	53	22.6	17.0	095
766			1984	04	27.82219	12	10	47.09	-02	45	25.8		1 095
3085			1984	04	27.82219	12	13	29.83	-07	42	40.4		095
517			1984	04	27.82219	12	14	52.66	-06	13	46.5		095
1984	HQ2	*	1984	04	27.82219	12	15	24.64	-05	50	48.3	17.0	095
1984	HR2	*	1984	04	27.82219	12	15	52.69	-10	24	44.1	17.0	095
684			1984	04	27.82219	12	17	26.16	-08	36	59.8		095
1984	HS2	*	1984	04	27.82219	12	18	45.92	-04	55	44.0	17.0	095
1984	HT2	*	1984	04	27.82219	12	20	17.20	-11	45	31.8	17.0	095
1806			1984	04	27.82219	12	24	41.55	-09	23	59.0		1 095
1135			1984	04	27.82219	12	25	00.78	-06	00	27.9		1 095
1495			1984	04	27.82219	12	25	44.60	-05	16	48.5		1 095
917			1984	04	27.88815	13	26	56.98	-15	36	52.8		1 095
158			1984	04	27.88815	13	30	55.35	-11	01	27.2		095
102			1984	04	27.88815	13	31	59.10	-09	53	12.2		1 095
1226			1984	04	27.88815	13	34	03.13	-14	13	34.0		1 095
72			1984	04	27.88815	13	35	19.53	-09	23	35.9		1 095
271			1984	04	27.88815	13	35	20.06	-14	23	30.1		095
771			1984	04	27.88815	13	39	30.94	-13	17	06.1		095
520			1984	04	27.88815	13	42	18.89	-09	22	11.9		1 095
1016			1984	04	27.88815	13	49	49.17	-15	56	51.3		095
343			1984	04	27.88815	13	52	36.89	-11	01	18.4		095
2674			1984	04	27.88815	13	53	29.63	-10	18	30.7		095
230			1984	04	27.88815	13	55	47.41	-18	50	16.1		1 095
642			1984	04	27.88815	13	57	47.21	-17	52	59.6		1 095
252			1984	04	27.88815	13	57	54.54	-09	14	02.8		1 095
270			1984	04	27.88815	14	01	02.22	-15	07	47.8		1 095

929		1984	04	27.95307	14	18	44.51	-15	47	45.3		1	095
1291		1984	04	27.95307	14	21	58.78	-13	37	34.5			095
1881		1984	04	27.95307	14	22	39.52	-14	12	28.2			095
33		1984	04	27.95307	14	24	01.32	-15	46	14.2			095
190		1984	04	27.95307	14	24	21.12	-08	43	35.0			095
2363		1984	04	27.95307	14	25	34.49	-09	26	05.1			095
525		1984	04	27.95307	14	30	09.59	-11	51	42.4			095
1256		1984	04	27.95307	14	30	42.45	-16	44	39.3		1	095
1674		1984	04	27.95307	14	35	30.51	-11	54	36.0			095
1788		1984	04	27.95307	14	36	15.75	-14	23	05.7			095
822		1984	04	27.95307	14	37	19.41	-15	08	50.4			095
2470		1984	04	27.95307	14	38	37.04	-12	16	19.1			095
2223		1984	04	27.95307	14	43	41.26	-15	15	57.2			095
1424		1984	04	27.95307	14	45	27.72	-15	41	44.2			095
1208		1984	04	27.95307	14	46	40.60	-10	37	43.8			095
79		1984	04	27.95307	14	52	17.31	-14	29	04.2		1	095
21		1984	04	27.95307	14	55	20.63	-13	24	07.8		1	095
748		1984	05	02.82275	13	14	07.14	-10	34	22.0		1	095
789		1984	05	02.82275	13	15	10.92	-15	08	04.3		1	095
368		1984	05	02.82275	13	15	30.40	-11	55	46.8		1	095
2407		1984	05	02.82275	13	17	19.45	-10	51	04.6		1	095
917		1984	05	02.82275	13	22	16.40	-15	13	22.4			095
1978	QX	1984	05	02.82275	13	25	42.93	-10	43	18.3			095
158		1984	05	02.82275	13	27	18.53	-10	39	00.2			095
1984	JP1 *	1984	05	02.82275	13	27	46.50	-15	44	13.0	16.5		095
102		1984	05	02.82275	13	28	09.19	-09	24	15.1			095
1226		1984	05	02.82275	13	29	26.00	-14	08	16.6			095
1984	HR	1984	05	02.82275	13	29	54.17	-10	57	19.0	17.0		095
72		1984	05	02.82275	13	31	04.04	-08	44	04.9		1	095
271		1984	05	02.82275	13	31	41.18	-14	03	24.2			095
1984	HR1	1984	05	02.82275	13	34	32.97	-09	58	43.2	17.0		095
377		1984	05	02.82275	13	34	52.32	-09	38	59.8			095
771		1984	05	02.82275	13	35	48.53	-12	31	51.1			095
520		1984	05	02.82275	13	38	22.00	-09	13	27.2		1	095
2691		1984	05	02.82275	13	38	26.83	-17	39	52.0		1	095
475		1984	05	02.82275	13	39	10.86	-08	34	56.0		1	095
1984	JQ1 *	1984	05	02.82275	13	39	40.05	-12	10	44.0	16.5		095
1984	JR1 *	1984	05	02.82275	13	41	50.92	-10	36	49.4	17.0		095
1984	JL1	1984	05	02.82275	13	42	52.50	-11	42	15.3	16.5		095
1016		1984	05	02.82275	13	44	38.38	-15	38	27.8			095
343		1984	05	02.82275	13	48	04.34	-10	40	54.9			095
1984	JS1 *	1984	05	02.90052	14	13	48.84	-12	19	49.0	17.0	1	095
929		1984	05	02.90052	14	14	10.61	-15	09	46.2		1	095
1984	JT1 *	1984	05	02.90052	14	14	57.49	-09	53	07.1	17.0	1	095
1984	JU1 *	1984	05	02.90052	14	15	16.03	-12	03	22.8	17.0		095
1291		1984	05	02.90052	14	18	14.50	-13	05	41.1		1	095
1881		1984	05	02.90052	14	19	03.16	-13	39	05.0		1	095
33		1984	05	02.90052	14	19	36.96	-15	26	37.1		1	095
190		1984	05	02.90052	14	21	22.10	-08	25	18.2			095
1984	JV1 *	1984	05	02.90052	14	21	32.67	-11	12	21.1	17.5		095
1984	JW1 *	1984	05	02.90052	14	22	34.30	-12	31	30.4	17.5		095
2363		1984	05	02.90052	14	23	06.28	-08	55	11.0			095
525		1984	05	02.90052	14	25	23.87	-11	13	14.2			095
1256		1984	05	02.90052	14	27	35.14	-16	26	34.2		1	095
1984	JX1 *	1984	05	02.90052	14	27	46.48	-10	40	11.8	17.5	2	095
1984	JY1 *	1984	05	02.90052	14	29	00.32	-09	25	43.5	17.0		095
1674		1984	05	02.90052	14	31	45.21	-11	38	09.3			095
822		1984	05	02.90052	14	32	11.80	-14	42	57.0			095
1788		1984	05	02.90052	14	32	18.68	-14	03	35.2			095

2470		1984	05	02.90052	14	34	27.77	-12	00	25.1			095
1984	JZ1 *	1984	05	02.90052	14	36	01.24	-10	59	58.9		17.5	095
1984	JA2 *	1984	05	02.90052	14	36	02.74	-10	56	27.3		17.0	095
1984	JB2 *	1984	05	02.90052	14	38	05.41	-12	01	06.7		17.0	095
1840		1984	05	02.90052	14	40	17.21	-15	44	19.9			1 095
2223		1984	05	02.90052	14	41	13.63	-14	55	23.9			095
1424		1984	05	02.90052	14	41	23.56	-15	34	30.1			095
1208		1984	05	02.90052	14	43	37.03	-10	39	15.8			095
1984	JC2 *	1984	05	02.90052	14	45	12.44	-10	37	21.4		17.0	095
1984	JD2 *	1984	05	02.90052	14	46	37.94	-12	32	57.0		17.0	095
2679		1984	05	02.90052	14	46	50.89	-11	44	31.6			095
79		1984	05	02.90052	14	47	44.99	-14	01	52.1			095
2877		1984	05	02.90052	14	50	15.94	-14	07	15.7			095
21		1984	05	02.90052	14	50	32.32	-13	06	52.9			1 095
219		1984	05	02.90052	14	52	05.24	-09	12	59.7			1 095
2404		1984	05	02.90052	14	53	34.22	-12	31	48.0			1 095
725		1984	05	02.97412	15	29	48.79	-17	10	45.5			1 095
182		1984	05	02.97412	15	31	53.86	-16	28	05.5			095
515		1984	05	02.97412	15	36	18.86	-16	41	25.7			095
614		1984	05	02.97412	15	36	52.28	-16	43	19.4			095
152		1984	05	02.97412	15	39	51.28	-23	37	04.0			095
2051		1984	05	02.97412	15	43	58.94	-19	09	35.4			095
651		1984	05	02.97412	15	44	15.34	-24	10	31.8			095
429		1984	05	02.97412	15	49	26.06	-16	38	40.7			095
274		1984	05	02.97412	15	49	31.21	-16	15	32.2			1 095
1661		1984	05	02.97412	15	53	35.00	-23	18	36.6			095
1984	JE2 *	1984	05	03.87090	11	48	28.12	+09	16	12.4		16.0	1 095
11		1984	05	03.87090	11	50	29.24	+07	39	56.4			1 095
877		1984	05	03.87090	11	50	33.47	+07	10	04.4			1 095
245		1984	05	03.87090	11	57	39.29	+05	57	12.3			095
1984	JF2 *	1984	05	03.87090	12	04	03.88	+09	08	21.0		16.5	095
463		1984	05	03.87090	12	06	26.96	+07	36	43.6			095
1984	JG2 *	1984	05	03.87090	12	06	43.50	+10	55	20.3		16.5	095
489		1984	05	03.87090	12	11	16.50	+07	15	00.0			095
1984	JH2 *	1984	05	03.87090	12	14	24.76	+06	34	00.6		16.5	095
106		1984	05	03.87090	12	15	00.42	+03	18	38.4			1 095
1117		1984	05	03.87090	12	17	45.86	+04	15	09.2			1 095
314		1984	05	03.87090	12	18	53.87	+04	47	20.8			095
866		1984	05	03.87090	12	24	11.51	+09	38	06.2			1 095
1796		1984	05	03.87090	12	25	41.71	+02	57	05.8			1 095
599		1984	05	03.87090	12	25	56.79	+09	45	10.3			1 095
505		1984	05	03.87090	12	27	05.44	+11	27	31.0			1 095
353		1984	05	03.87090	12	27	38.94	+05	29	28.6			1 095
479		1984	05	03.87090	12	29	17.02	+07	52	22.6			1 095
73		1984	05	03.93546	12	48	50.38	-06	23	41.5			1 095
333		1984	05	03.93546	12	49	31.53	-07	55	21.7			1 095
30		1984	05	03.93546	12	49	57.86	-08	46	34.9			1 095
76		1984	05	03.93546	12	57	03.66	-06	08	56.8			1 095
325		1984	05	03.93546	12	58	45.04	-14	27	10.3			1 095
119		1984	05	03.93546	13	10	21.02	-06	48	23.8			1 095
305		1984	05	03.93546	13	11	07.38	-07	48	40.2			095
748		1984	05	03.93546	13	13	32.82	-10	30	26.5			095
789		1984	05	03.93546	13	14	28.38	-14	57	22.8			1 095
368		1984	05	03.93546	13	14	47.62	-11	48	50.9			095
2407		1984	05	03.93546	13	16	33.10	-10	46	31.8			095
158		1984	05	03.93546	13	26	32.05	-10	34	08.0			1 095
1977	RD4	1984	05	03.99762	14	42	53.86	+00	44	52.3		16.5	3 095
745		1984	05	03.99762	14	47	27.83	+03	57	19.1			095
1600		1984	05	03.99762	14	49	16.35	-00	40	24.0			095

630		1984	05	03.99762	14	50	13.38	+05	23	22.0			095
2277		1984	05	03.99762	14	56	37.44	+01	48	06.0			095
1984	JJ2 *	1984	05	03.99762	15	01	15.19	+05	34	42.0	16.0		095
1628		1984	05	03.99762	15	14	13.67	+02	43	16.4		1	095
868		1984	05	04.93562	15	01	09.78	-08	38	43.0		1	095
1984	JK2 *	1984	05	04.93562	15	01	24.86	-05	13	53.5	16.0	1	095
1455		1984	05	04.93562	15	19	20.09	-02	11	13.5			095
1984	LJ	1984	05	04.93562	15	19	20.63	+00	10	02.8	15.5	1	095
2111		1984	05	04.93562	15	20	22.48	-04	50	42.5			095
2802		1984	05	04.93562	15	23	34.03	-03	28	15.3			095
1984	JM2 *	1984	05	04.93562	15	35	25.16	-05	14	10.1	16.5		095
1504		1984	05	05.00714	17	00	10.42	-13	06	43.2			095
1984	JN2 *	1984	05	05.00714	17	04	47.96	-11	51	28.5	16.5		095
638		1984	05	05.00714	17	07	45.95	-14	42	37.5			095
18		1984	05	05.00714	17	11	10.93	-07	24	11.3		1	095
600		1984	05	05.00714	17	15	58.86	-07	51	44.4		1	095
2466		1984	05	05.00714	17	18	40.18	-15	31	42.5			095
807		1984	05	05.00714	17	21	19.93	-09	14	02.3			095
1711		1984	05	05.00714	17	26	58.73	-09	35	26.4		1	095
1716		1984	05	05.87368	13	18	43.95	-13	36	24.7		1	095
917		1984	05	05.87368	13	19	33.67	-14	58	55.0		1	095
1984	JO2 *	1984	05	05.87368	13	20	46.88	-11	10	46.3	17.5		095
1978	QX	1984	05	05.87368	13	23	19.07	-10	28	40.9			095
1984	JP1	1984	05	05.87368	13	25	06.22	-15	18	07.4	16.5		095
158		1984	05	05.87368	13	25	13.48	-10	25	47.1			095
102		1984	05	05.87368	13	25	54.78	-09	07	01.8		1	095
1226		1984	05	05.87368	13	26	47.45	-14	05	08.6			095
1984	HR	1984	05	05.87368	13	27	32.98	-10	48	32.9	17.0		095
72		1984	05	05.87368	13	28	37.75	-08	20	52.0		1	095
271		1984	05	05.87368	13	29	33.12	-13	51	10.3			095
1984	HR1	1984	05	05.87368	13	31	58.17	-09	52	46.4	16.5		095
377		1984	05	05.87368	13	32	44.06	-09	20	03.9			095
771		1984	05	05.87368	13	33	40.65	-12	04	47.4			095
2691		1984	05	05.87368	13	35	48.86	-17	24	08.8		1	095
475		1984	05	05.87368	13	35	54.01	-08	33	27.6		1	095
520		1984	05	05.87368	13	36	02.49	-09	08	35.8			095
1984	JQ1	1984	05	05.87368	13	37	37.84	-11	49	14.2	16.5		095
1984	JL1	1984	05	05.87368	13	40	32.16	-11	24	49.0	17.0	2	095
1016		1984	05	05.87368	13	41	36.20	-15	26	59.7			095
1984	JP2 *	1984	05	05.87368	13	45	02.81	-09	28	46.7	17.0		095
343		1984	05	05.87368	13	45	23.16	-10	28	51.8			095
230		1984	05	05.87368	13	48	50.94	-17	39	05.8		1	095
2674		1984	05	05.87368	13	49	35.57	-09	55	35.4			095
642		1984	05	05.87368	13	51	27.08	-17	31	29.0		1	095
1984	HZ1	1984	05	05.87368	13	51	55.46	-12	33	06.5	17.0	2	095
252		1984	05	05.87368	13	52	31.14	-08	26	36.4		1	095
270		1984	05	05.87368	13	52	57.80	-14	15	27.6		1	095
1291		1984	05	05.93687	14	15	59.12	-12	46	17.4		1	095
1881		1984	05	05.93687	14	16	52.33	-13	18	40.3		1	095
33		1984	05	05.93687	14	16	55.33	-15	14	18.8		1	095
190		1984	05	05.93687	14	19	33.84	-08	14	34.7		1	095
2363		1984	05	05.93687	14	21	36.32	-08	36	32.0			095
525		1984	05	05.93687	14	22	32.43	-10	50	23.3			095
1984	JX1	1984	05	05.93687	14	25	26.72	-10	23	54.8	17.0	3	095
1256		1984	05	05.93687	14	25	40.84	-16	15	17.7			095
1984	JQ2 *	1984	05	05.93687	14	28	38.82	-10	27	22.7	17.0	2	095
822		1984	05	05.93687	14	29	05.82	-14	27	03.1			095
1674		1984	05	05.93687	14	29	27.86	-11	28	19.7			095
1788		1984	05	05.93687	14	29	52.62	-13	51	32.3			095

2470			1984	05	05.93687	14	31	55.25	-11	50	53.2		095
1984	JA2		1984	05	05.93687	14	33	21.78	-10	54	26.4	17.0	095
1984	JR2	*	1984	05	05.93687	14	33	27.63	-12	34	29.6	17.0	095
1984	JB2		1984	05	05.93687	14	36	04.67	-11	39	01.5	17.5	095
1984	JS2	*	1984	05	05.93687	14	36	39.84	-08	33	35.3	17.0	095
1424			1984	05	05.93687	14	38	52.75	-15	29	53.4		095
2223			1984	05	05.93687	14	39	42.72	-14	42	42.8		095
1208			1984	05	05.93687	14	41	43.73	-10	40	24.4		095
2679			1984	05	05.93687	14	44	17.67	-11	20	50.7		095
79			1984	05	05.93687	14	44	56.64	-13	45	05.9		095
21			1984	05	05.93687	14	47	31.43	-12	56	16.0		095
219			1984	05	05.93687	14	49	14.06	-08	45	10.0	1	095
2404			1984	05	05.93687	14	51	09.70	-12	22	03.3	1	095
725			1984	05	06.00561	15	27	04.29	-17	03	14.3	1	095
182			1984	05	06.00561	15	29	02.42	-16	18	11.0	1	095
1967			1984	05	06.00561	15	33	33.63	-18	30	28.8		095
515			1984	05	06.00561	15	34	04.40	-16	33	28.8		095
614			1984	05	06.00561	15	34	22.62	-16	27	52.7		095
2841			1984	05	06.00561	15	42	29.40	-13	34	08.5	3	095
3117			1984	05	06.00561	15	46	24.68	-16	38	02.0		095
429			1984	05	06.00561	15	46	58.73	-16	20	55.7		095
274			1984	05	06.00561	15	47	13.47	-16	10	15.2		095
2512			1984	05	06.00561	15	48	27.57	-16	59	56.1		095
1462			1984	05	06.00561	15	51	51.68	-20	57	05.6		095
145			1984	05	06.00561	16	02	56.98	-13	14	25.6	1	095
119			1984	05	18.82266	13	02	52.88	-05	36	21.2		095
305			1984	05	18.82266	13	04	35.07	-06	50	10.1		095
368			1984	05	18.82266	13	07	05.59	-10	23	36.7		095
748			1984	05	18.82266	13	07	15.75	-09	44	01.5		095
789			1984	05	18.82266	13	07	33.78	-12	44	59.1	1	095
2407			1984	05	18.82266	13	07	54.52	-09	53	37.4		095
1984	KV	*	1984	05	18.82266	13	09	02.42	-07	23	13.6	17.0	095
1978	QX		1984	05	18.82266	13	16	07.74	-09	41	28.4		095
102			1984	05	18.82266	13	17	56.49	-08	03	04.6		095
158			1984	05	18.82266	13	18	05.11	-09	38	27.9		095
72			1984	05	18.82266	13	20	36.86	-06	58	19.3		095
271			1984	05	18.82266	13	21	57.74	-13	04	06.7	1	095
377			1984	05	18.82266	13	25	21.48	-08	10	45.5		095
520			1984	05	18.82266	13	27	35.27	-08	54	48.3		095
1984	JL1		1984	05	18.82266	13	32	57.34	-10	22	40.4	16.5	095
1068			1984	05	18.87127	13	31	58.71	-18	35	44.3		095
192			1984	05	18.87127	13	39	09.01	-19	17	43.1		095
230			1984	05	18.87127	13	39	45.93	-15	46	36.6		095
270			1984	05	18.87127	13	41	58.67	-12	55	57.2	1	095
642			1984	05	18.87127	13	42	42.33	-16	56	41.0		095
929			1984	05	18.87127	14	01	35.82	-13	12	56.4	1	095
33			1984	05	18.87127	14	06	09.07	-14	22	37.2	1	095
1984	KW	*	1984	05	19.83988	12	36	47.88	-09	58	42.0	17.0	1 095
73			1984	05	19.83988	12	42	20.52	-05	50	10.6		095
30			1984	05	19.83988	12	42	34.57	-07	48	24.0		095
333			1984	05	19.83988	12	42	40.42	-07	14	25.2		095
1286			1984	05	19.83988	12	43	51.59	-03	29	01.4	1	095
325			1984	05	19.83988	12	51	09.12	-13	37	37.6	1	095
76			1984	05	19.83988	12	51	12.81	-05	24	36.2		095
119			1984	05	19.83988	13	02	32.49	-05	32	38.5		095
305			1984	05	19.83988	13	04	17.23	-06	47	07.7		095
368			1984	05	19.83988	13	06	42.58	-10	18	29.2		095
748			1984	05	19.83988	13	06	56.28	-09	41	21.4		095
789			1984	05	19.83988	13	07	17.08	-12	36	54.1	1	095

2407			1984	05	19.83988	13	07	27.14	-09	50	38.0		095
1984	KV		1984	05	19.83988	13	08	38.80	-07	22	48.4	16.0	095
692			1984	05	19.90051	14	21	04.72	+01	58	05.9	1	095
28			1984	05	19.90051	14	23	06.39	+00	31	20.1	1	095
1977	RD4		1984	05	19.90051	14	29	06.64	+01	56	36.9	15.5	095
630			1984	05	19.90051	14	36	22.00	+05	08	39.3		095
745			1984	05	19.90051	14	36	24.02	+04	21	40.6		095
2277			1984	05	19.90051	14	42	37.35	+01	38	51.5		095
1984	JJ2		1984	05	19.90051	14	47	40.77	+05	36	56.2	16.0	095
1984	KX	*	1984	05	19.90051	14	50	45.25	-01	21	41.5	16.0	095
368			1984	05	20.81852	13	06	21.49	-10	13	43.5		095
748			1984	05	20.81852	13	06	38.16	-09	38	53.0		095
2407			1984	05	20.81852	13	07	01.72	-09	47	52.4		095
789			1984	05	20.81852	13	07	02.76	-12	29	18.4		095
917			1984	05	20.81852	13	09	04.99	-13	55	14.8		095
1716			1984	05	20.81852	13	12	23.02	-12	07	06.2		095
1984	JP1		1984	05	20.81852	13	15	26.07	-13	20	00.8	16.5	2 095
1978	QX		1984	05	20.81852	13	15	30.39	-09	36	47.2		095
102			1984	05	20.81852	13	16	58.28	-07	54	46.7	1	095
1226			1984	05	20.81852	13	17	03.25	-13	56	33.1		095
158			1984	05	20.81852	13	17	15.88	-09	32	39.4		095
271			1984	05	20.81852	13	21	02.34	-12	57	46.7		095
475			1984	05	20.81852	13	21	50.26	-08	36	17.6	1	095
377			1984	05	20.81852	13	24	30.20	-08	01	55.8	1	095
771			1984	05	20.81852	13	25	36.89	-10	07	41.2		095
520			1984	05	20.81852	13	26	31.55	-08	53	47.3	1	095
1016			1984	05	20.81852	13	29	37.98	-14	37	15.7		095
230			1984	05	20.81852	13	38	43.42	-15	31	01.5	1	095
270			1984	05	20.81852	13	40	40.50	-12	45	30.0	1	095
1016			1984	05	20.86956	13	29	35.98	-14	37	03.5	1	095
1068			1984	05	20.86956	13	31	02.25	-18	27	14.2		095
192			1984	05	20.86956	13	37	42.12	-19	08	32.0		095
230			1984	05	20.86956	13	38	41.72	-15	30	36.3		095
270			1984	05	20.86956	13	40	38.33	-12	45	13.0	1	095
642			1984	05	20.86956	13	41	35.59	-16	51	47.3	1	095
929			1984	05	20.86956	14	00	25.61	-13	00	13.9	1	095
33			1984	05	20.86956	14	04	38.81	-14	15	08.2	1	095
1291			1984	05	20.91956	14	06	03.03	-11	17	11.6	1	095
525			1984	05	20.91956	14	10	23.73	-09	13	10.0	1	095
190			1984	05	20.91956	14	11	27.60	-07	29	15.9	1	095
2363			1984	05	20.91956	14	14	47.15	-07	11	04.8		095
1674			1984	05	20.91956	14	19	05.40	-10	46	02.4		095
1982	UM7		1984	05	20.91956	14	26	17.48	-10	46	39.6		095
79			1984	05	20.91956	14	31	52.32	-12	26	52.2		095
2679			1984	05	20.91956	14	32	41.55	-09	35	23.4		095
21			1984	05	20.91956	14	33	09.47	-12	09	00.4		095
219			1984	05	20.91956	14	35	35.57	-06	44	01.0		095
1052			1984	05	20.91956	14	43	35.24	-09	39	41.7	1	095
874			1984	05	22.81996	14	03	35.79	-04	05	16.1		095
1874			1984	05	22.81996	14	04	59.75	-06	38	43.8		095
1291			1984	05	22.81996	14	04	59.99	-11	07	14.2	1	095
1536			1984	05	22.81996	14	07	08.95	-11	35	53.6	1	095
525			1984	05	22.81996	14	09	11.04	-09	03	21.1		095
190			1984	05	22.81996	14	10	34.13	-07	24	38.4		095
1984	KY	*	1984	05	22.81996	14	12	53.68	-06	58	17.7	16.5	095
1984	KZ	*	1984	05	22.81996	14	13	37.06	-07	14	25.4	17.0	095
2363			1984	05	22.81996	14	14	01.18	-07	01	16.2		095
1636			1984	05	22.81996	14	14	19.75	-07	14	01.5		095
485			1984	05	22.81996	14	19	06.89	-03	12	04.4	1	095

2470		1984	05	22.81996	14	19	08.50	-11	06	59.4		1	095
1178		1984	05	22.81996	14	19	21.92	-03	52	04.1			095
1600		1984	05	22.81996	14	20	19.49	-04	26	27.8			095
294		1984	05	22.81996	14	21	09.01	-04	26	37.6			095
1982	UM7	1984	05	22.81996	14	25	01.94	-10	38	05.0			095
79		1984	05	22.81996	14	30	23.59	-12	18	00.8		1	095
21		1984	05	22.81996	14	31	30.88	-12	04	08.0		1	095
1455		1984	05	23.88119	15	02	16.14	-01	42	16.3			095
1984	LJ	1984	05	23.88119	15	04	58.54	+02	24	55.9	16.0	1	095
2111		1984	05	23.88119	15	06	22.16	-03	37	17.0			095
2802		1984	05	23.88119	15	09	10.75	-02	51	41.1			095
1984	KA1 *	1984	05	23.88119	15	22	28.73	+00	35	11.7	16.0		095
1504		1984	05	23.95265	16	43	03.33	-13	33	00.4		1	095
1984	KB1 *	1984	05	23.95265	16	47	13.25	-10	46	02.6	16.5	1	095
638		1984	05	23.95265	16	55	12.10	-14	57	08.7		1	095
18		1984	05	23.95265	16	56	52.08	-06	06	31.5		1	095
600		1984	05	23.95265	17	03	56.35	-07	04	18.0			095
2330		1984	05	23.95265	17	05	14.53	-10	55	21.1			095
807		1984	05	23.95265	17	09	46.23	-08	43	39.5			095
3097		1984	05	23.95265	17	11	42.50	-13	15	46.4			095
1711		1984	05	23.95265	17	16	02.74	-09	01	38.0			095
33		1984	05	25.84940	14	01	10.62	-13	57	31.5		1	095
1291		1984	05	25.84940	14	03	26.78	-10	51	58.1		1	095
1881		1984	05	25.84940	14	04	49.88	-11	17	10.4		1	095
1536		1984	05	25.84940	14	04	53.67	-11	23	06.9		1	095
525		1984	05	25.84940	14	07	26.21	-08	48	57.5		1	095
822		1984	05	25.84940	14	12	03.30	-12	56	23.9			095
957		1984	05	25.84940	14	12	33.47	-16	20	04.7			095
1984	KC1 *	1984	05	25.84940	14	12	44.04	-13	48	30.0	16.5		095
1256		1984	05	25.84940	14	14	30.43	-15	04	16.0			095
1788		1984	05	25.84940	14	15	41.12	-12	40	33.8			095
1674		1984	05	25.84940	14	16	12.75	-10	35	18.9			095
2470		1984	05	25.84940	14	17	15.78	-11	01	24.3			095
1984	JA2	1984	05	25.84940	14	17	34.71	-10	53	41.0	17.0		095
1984	KD1 *	1984	05	25.84940	14	19	31.15	-10	36	23.2			095
281		1984	05	25.84940	14	22	20.15	-16	59	00.9		1	095
1982	UM7	1984	05	25.84940	14	23	12.99	-10	25	49.7			095
2496		1984	05	25.84940	14	23	13.26	-12	40	59.0			095
1950		1984	05	25.84940	14	23	17.05	-11	32	02.4			095
1424		1984	05	25.84940	14	23	43.47	-15	02	13.6			095
79		1984	05	25.84940	14	28	09.36	-12	04	27.7			095
21		1984	05	25.84940	14	29	02.23	-11	57	04.8			095
2679		1984	05	25.84940	14	29	33.19	-09	06	50.8			095
1208		1984	05	25.84940	14	29	57.45	-10	53	09.9			095
2877		1984	05	25.84940	14	32	21.04	-13	00	47.8			095
2404		1984	05	25.84940	14	36	27.84	-11	29	17.2		1	095
1052		1984	05	25.84940	14	39	10.01	-09	29	35.9		1	095
2188		1984	05	25.84940	14	39	24.83	-11	24	26.4		1	095
2197		1984	05	25.84940	14	40	22.01	-15	04	04.6		1	095
52		1984	05	25.91571	13	51	44.28	-00	36	08.2			095
1984	KE1 *	1984	05	25.91571	13	54	02.33	-02	16	30.7	16.5		095
1952		1984	05	25.91571	13	57	09.43	+01	26	42.9		1	095
2013		1984	05	25.91571	13	59	02.33	-01	49	52.2			095
874		1984	05	25.91571	14	02	15.57	-03	54	07.6			095
190		1984	05	25.91571	14	09	11.66	-07	17	40.0		1	095
487		1984	05	25.91571	14	13	51.28	+01	32	20.2			095
692		1984	05	25.91571	14	16	45.83	+01	30	32.7		1	095
485		1984	05	25.91571	14	17	24.23	-02	58	59.6		1	095
1178		1984	05	25.91571	14	17	50.33	-03	45	59.7		1	095

294		1984	05	25.91571	14	19	12.42	-04	21	02.1		1	095
28		1984	05	25.91571	14	19	31.61	+00	35	23.4		1	095
2292		1984	05	25.97993	17	59	39.14	+02	39	44.9			095
1984	KF1 *	1984	05	25.97993	18	05	38.13	+04	06	12.8	17.0		095
1455		1984	05	26.86003	14	59	56.67	-01	46	17.7			095
1984	LJ	1984	05	26.86003	15	02	59.38	+02	37	32.6	16.0	1	095
2111		1984	05	26.86003	15	04	19.39	-03	29	30.3			095
2802		1984	05	26.86003	15	07	06.37	-02	50	38.4			095
1984	KA1	1984	05	26.86003	15	20	07.47	+00	29	50.1	16.0		095
1984	KB1	1984	05	26.93201	16	44	44.22	-10	19	56.1	16.5	1	095
638		1984	05	26.93201	16	52	36.98	-15	01	22.4			095
18		1984	05	26.93201	16	54	00.40	-05	57	42.6		1	095
600		1984	05	26.93201	17	01	28.16	-07	00	35.9			095
2330		1984	05	26.93201	17	03	03.20	-10	51	43.7			095
2466		1984	05	26.93201	17	03	57.38	-14	38	06.3			095
3097		1984	05	26.93201	17	09	28.47	-13	04	40.6			095
1711		1984	05	26.93201	17	13	50.89	-08	58	33.0			095
33		1984	05	28.85870	13	59	17.14	-13	47	44.5		1	095
1291		1984	05	28.85870	14	02	03.79	-10	37	54.0		1	095
1881		1984	05	28.85870	14	03	31.34	-11	02	02.7		1	095
525		1984	05	28.85870	14	05	55.94	-08	36	28.8			095
190		1984	05	28.85870	14	07	59.45	-07	11	47.8			095
822		1984	05	28.85870	14	10	13.67	-12	46	20.0			095
1636		1984	05	28.85870	14	10	21.51	-06	56	18.5			095
1600		1984	05	28.85870	14	13	09.18	-05	49	41.6		3	095
1788		1984	05	28.85870	14	14	00.76	-12	32	09.4			095
2470		1984	05	28.85870	14	15	33.68	-10	56	53.6			095
1950		1984	05	28.85870	14	21	10.92	-11	30	26.4			095
1982	UM7	1984	05	28.85870	14	21	40.85	-10	15	30.0			095
1424		1984	05	28.85870	14	21	49.56	-14	59	14.6		1	095
79		1984	05	28.85870	14	26	05.39	-11	51	59.1			095
21		1984	05	28.85870	14	26	45.28	-11	51	04.5			095
2679		1984	05	28.85870	14	27	52.15	-08	51	13.9			095
1208		1984	05	28.85870	14	28	22.12	-10	56	16.1			095
219		1984	05	28.85870	14	29	29.62	-05	52	44.7			095
2404		1984	05	28.85870	14	34	39.36	-11	24	04.4		1	095
1052		1984	05	28.85870	14	36	41.48	-09	24	57.6		1	095
182		1984	05	28.92015	15	07	15.20	-15	04	10.9		1	095
1209		1984	05	28.92015	15	11	08.25	-11	34	47.5		1	095
1549		1984	05	28.92015	15	14	54.57	-13	29	23.1			095
614		1984	05	28.92015	15	15	07.58	-14	32	53.5			095
429		1984	05	28.92015	15	27	06.47	-14	06	01.3			095
274		1984	05	28.92015	15	28	30.90	-15	33	06.7			095
1462		1984	05	28.92015	15	33	26.00	-20	04	21.2		1	095
289		1984	05	28.92015	15	34	49.08	-10	56	32.8		1	095
1704		1984	05	28.92015	15	36	24.89	-19	55	55.9		3	095
145		1984	05	28.92015	15	40	46.04	-13	33	44.8			095
278		1984	05	28.92015	15	47	17.10	-20	06	13.6		1	095
235		1984	05	28.92015	15	48	36.55	-19	02	41.9		1	095
1546		1984	05	28.98368	16	15	20.02	-02	54	19.8		1	095
2173		1984	05	28.98368	16	26	16.06	-01	11	30.4			095
894		1984	05	28.98368	16	27	03.66	-05	17	28.6			095
196		1984	05	29.84891	15	01	38.30	-13	37	52.8		1	095
1171		1984	05	29.84891	15	03	40.41	-13	19	06.0		1	095
1400		1984	05	29.84891	15	08	46.15	-07	32	21.9			095
1209		1984	05	29.84891	15	10	27.82	-11	34	41.3			095
1549		1984	05	29.84891	15	14	01.81	-13	28	42.2			095
2841		1984	05	29.84891	15	18	20.07	-13	13	03.9		1	095
429		1984	05	29.84891	15	26	20.78	-14	00	58.0		1	095

471		1984	05	29.84891	15	26	56.94	-08	42	04.6			095
1558		1984	05	29.84891	15	27	40.93	-06	24	22.4			095
289		1984	05	29.84891	15	34	04.88	-10	53	36.6		1	095
18		1984	05	29.92036	16	51	02.04	-05	50	05.1		1	095
600		1984	05	29.92036	16	58	53.87	-06	58	10.6			095
2330		1984	05	29.92036	17	00	46.79	-10	48	43.5			095
807		1984	05	29.92036	17	05	10.06	-08	39	49.0			095
1609		1984	05	29.92036	17	06	33.61	-04	47	06.6			095
1711		1984	05	29.92036	17	11	33.10	-08	56	15.5			095
242		1984	05	29.92036	17	23	31.75	-10	25	27.9			095
509		1984	05	29.92036	17	24	02.46	-08	48	12.4			095
2507		1984	05	29.92036	17	28	39.84	-09	45	36.1			095
1461		1984	05	29.92036	17	31	06.57	-13	20	33.5			095
692		1984	05	30.83619	14	13	39.81	+01	04	55.5		1	095
485		1984	05	30.83619	14	15	02.92	-02	41	42.2		1	095
28		1984	05	30.83619	14	17	06.00	+00	33	42.9		1	095
1977	RD4	1984	05	30.83619	14	21	54.52	+02	05	29.4	15.5		095
630		1984	05	30.83619	14	28	57.29	+04	25	40.6			095
745		1984	05	30.83619	14	30	09.30	+04	14	21.5			095
2277		1984	05	30.83619	14	35	03.94	+01	00	53.7			095
1984	JJ2	1984	05	30.83619	14	40	08.86	+04	58	08.0	16.0		095
1984	KX	1984	05	30.83619	14	42	02.08	-01	47	04.8	16.0	1	095
1461		1984	05	30.92925	17	30	19.92	-13	22	25.0		1	095
943		1984	05	30.92925	17	36	07.94	-13	55	53.2		1	095
320		1984	05	30.92925	17	37	29.10	-14	32	05.2			095
1984	KG1 *	1984	05	30.92925	17	40	03.40	-13	56	32.6		1	095
317		1984	05	30.92925	17	45	15.12	-20	23	29.4			095
3089		1984	05	30.92925	17	46	02.06	-18	57	11.6			095
1291		1984	05	31.88399	14	00	50.29	-10	24	52.7		1	095
525		1984	05	31.88399	14	04	40.35	-08	25	41.2		1	095
190		1984	05	31.88399	14	06	51.78	-07	06	31.6			095
822		1984	05	31.88399	14	08	37.70	-12	37	27.3			095
1636		1984	05	31.88399	14	08	42.16	-06	49	50.1			095
1600		1984	05	31.88399	14	10	06.93	-06	32	20.2			095
1674		1984	05	31.88399	14	13	10.53	-10	25	01.4			095
1950		1984	05	31.88399	14	19	19.72	-11	29	58.9			095
1424		1984	05	31.88399	14	20	03.68	-14	56	45.0		1	095
1982	UM7	1984	05	31.88399	14	20	25.47	-10	07	02.5		2	095
79		1984	05	31.88399	14	24	11.33	-11	40	26.8			095
21		1984	05	31.88399	14	24	40.14	-11	46	08.2			095
1208		1984	05	31.88399	14	26	50.61	-10	59	32.8			095
219		1984	05	31.88399	14	27	30.20	-05	36	22.4		1	095
2223		1984	05	31.88399	14	28	43.64	-13	05	31.4			095
2404		1984	05	31.88399	14	32	59.96	-11	19	47.7		1	095
1052		1984	05	31.88399	14	34	23.77	-09	21	28.2		1	095
847		1984	06	24.89664	18	01	07.34	-23	25	47.4		1	095
1544		1984	06	24.89664	18	03	48.48	-26	23	16.6			095
2592		1984	06	24.89664	18	07	50.32	-21	31	51.0			095
1464		1984	06	24.89664	18	12	32.66	-25	18	20.4			095
2043		1984	06	24.89664	18	15	25.69	-26	50	12.3			095
551		1984	06	24.89664	18	17	03.56	-23	58	28.1			095
996		1984	06	24.89664	18	17	06.88	-24	18	02.8			095
1249		1984	06	24.89664	18	21	44.88	-21	03	33.8		1	095
830		1984	06	24.89664	18	38	39.97	-28	06	09.8		1	095
622		1984	06	25.89873	17	44	42.51	-12	21	19.0		1	095
1579		1984	06	25.89873	17	44	50.04	-11	54	50.2		1	095
1984	MP *	1984	06	25.89873	17	50	49.48	-07	10	37.5	16.0		095
1754		1984	06	25.89873	17	54	18.83	-06	56	04.1			095
1984	MQ *	1984	06	25.89873	17	55	03.64	-07	35	44.9	16.5		095

3366			1984	06	25.89873	17	57	59.51	-08	02	55.7	16.0	095
1984	MR	*	1984	06	25.89873	18	02	53.01	-11	11	56.6	16.5	095
2903			1984	06	25.89873	18	03	25.22	-08	40	53.1		095
1984	MS	*	1984	06	25.89873	18	11	22.88	-12	01	14.2	16.5	095
216			1984	06	25.89873	18	14	00.88	-06	30	20.8		095
2115			1984	06	25.96538	19	32	32.44	-12	03	11.9		095
1315			1984	06	25.96538	19	45	08.69	-12	47	02.8		095
201			1984	06	25.96538	19	45	47.69	-13	29	33.9		095
541			1984	06	25.96538	19	53	44.41	-17	27	25.3	1	095
1419			1984	06	25.96538	19	58	30.53	-11	40	34.2		095
622			1984	06	28.87778	17	41	41.91	-12	26	59.0	1	095
1984	MP		1984	06	28.87778	17	48	19.84	-06	58	58.8	16.0	095
1754			1984	06	28.87778	17	52	21.41	-07	00	33.8		095
1984	MQ		1984	06	28.87778	17	52	34.44	-07	48	27.0	16.5	095
2846			1984	06	28.87778	17	54	01.97	-09	53	30.5		095
3366			1984	06	28.87778	17	55	36.51	-08	04	39.1	16.0	095
1984	MR		1984	06	28.87778	17	59	55.84	-11	21	31.4	16.5	095
2903			1984	06	28.87778	18	00	38.22	-08	31	16.6		095
1984	MS		1984	06	28.87778	18	08	43.07	-12	06	49.6	16.5	095
216			1984	06	28.87778	18	11	21.93	-06	25	13.0	1	095
2115			1984	06	28.95223	19	30	15.94	-11	59	14.0		095
1649			1984	06	28.95223	19	37	54.50	-11	53	00.2		095
1315			1984	06	28.95223	19	43	06.06	-12	44	50.1		095
201			1984	06	28.95223	19	43	48.32	-13	35	58.4		095
2862			1984	06	28.95223	19	44	14.66	-15	58	57.5		095
1984	MT	*	1984	06	28.95223	19	44	52.04	-13	28	31.7	17.0	095
2106			1984	06	28.95223	19	47	46.66	-12	38	56.2		095
541			1984	06	28.95223	19	51	29.88	-17	25	24.9	1	095
1335			1984	06	28.95223	19	52	46.41	-16	36	11.7		095
1419			1984	06	28.95223	19	56	04.63	-11	40	50.2		095
1984	MU	*	1984	06	29.88218	18	26	31.28	-04	44	58.0	17.0	1 095
1614			1984	06	29.88218	18	35	51.53	-04	35	52.0		095
972			1984	06	29.95751	20	09	10.81	-17	48	13.1	1	095
2250			1984	06	29.95751	20	11	47.03	-18	15	52.8	1	095
1542			1984	06	29.95751	20	16	32.10	-15	38	56.1		095
2103			1984	06	29.95751	20	17	02.72	-19	05	09.0		095
1837			1984	06	29.95751	20	20	41.19	-18	10	36.8		095
1646			1984	06	29.95751	20	22	08.06	-17	46	52.6		095
408			1984	06	29.95751	20	22	56.00	-20	01	10.3		095
1017			1984	06	29.95751	20	24	39.50	-18	20	31.8		095
1726			1984	06	29.95751	20	25	10.60	-14	17	05.9	1	095
1984	MV	*	1984	06	29.95751	20	26	07.47	-15	58	44.2	16.5	095
702			1984	06	29.95751	20	27	36.13	-15	13	02.4		095
2610			1984	06	29.95751	20	32	31.13	-17	31	21.8		095
556			1984	06	29.95751	20	37	59.94	-16	54	44.0		095
740			1984	06	29.95751	20	39	28.60	-19	09	22.1		095
1984	NA	*	1984	07	02.86719	17	32	32.68	-04	53	21.0	16.0	1 095
1425			1984	07	02.86719	17	35	05.45	-03	01	42.8	1	095
1984	NB	*	1984	07	02.86719	17	35	30.36	-03	03	26.1	16.5	095
622			1984	07	02.86719	17	37	47.07	-12	35	50.6	1	095
1579			1984	07	02.86719	17	40	05.38	-11	56	21.2	1	095
1984	MP		1984	07	02.86719	17	45	08.87	-06	46	10.2	16.0	095
1984	MQ		1984	07	02.86719	17	49	20.91	-08	08	17.5	16.5	095
1754			1984	07	02.86719	17	49	48.61	-07	08	05.7		095
1984	NC	*	1984	07	02.86719	17	51	00.78	-03	12	42.2	16.0	1 095
2846			1984	07	02.86719	17	51	04.14	-10	04	41.0		095
3366			1984	07	02.86719	17	52	29.85	-08	08	45.2	16.0	095
1984	ND	*	1984	07	02.86719	17	54	53.69	-02	50	27.7	16.5	1 095
1984	MR		1984	07	02.86719	17	56	03.39	-11	36	27.6	16.5	1 095

2903		1984 07 02.86719	17 57 00.25	-08 20 14.5							095
1984 MS		1984 07 02.86719	18 05 14.31	-12 16 34.9					16.5	1	095
216		1984 07 02.86719	18 07 50.72	-06 20 09.5						1	095
2115		1984 07 02.94936	19 27 05.38	-11 55 04.5							095
1649		1984 07 02.94936	19 34 58.69	-12 05 57.3							095
1315		1984 07 02.94936	19 40 12.25	-12 43 03.4							095
2862		1984 07 02.94936	19 40 16.16	-16 03 14.1							095
201		1984 07 02.94936	19 40 53.10	-13 46 23.8							095
1984 MT		1984 07 02.94936	19 42 32.75	-13 30 16.9					17.0	2	095
2106		1984 07 02.94936	19 44 43.28	-12 50 34.2							095
541		1984 07 02.94936	19 48 17.22	-17 23 28.1						1	095
2419		1984 07 02.94936	19 48 59.44	-11 52 25.4							095
1335		1984 07 02.94936	19 49 25.32	-16 44 19.2							095
1419		1984 07 02.94936	19 52 34.94	-11 42 49.3							095
972		1984 07 02.94936	20 07 02.32	-17 44 53.5						1	095
1986 TM	*	1986 10 06.92492	00 14 12.27	-02 59 48.1					15.0		095
1986 TM		1986 10 10.90642	00 07 42.07	-02 18 53.5							095
1986 TM		1986 10 11.92746	00 06 03.78	-02 08 06.1					15.0		095

Note 1: near edge of plate. 2: measurement uncertain. 3 = 1 + 2.

OBSERVATIONS MADE AT THE PERTH OBSERVATORY.

Plates taken by P. Jekabsons, A. McGrath and M. Kempin with the 0.3-m astrograph. Contact: M. P. Candy, Perth Observatory, Bickley, WA 6076, Australia.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
502	1986 09	26.73542	01 24 22.39	-25 50 20.5	323
3015	1986 09	04.72847	01 16 56.27	-07 35 03.2	323
3015	1986 09	05.74236	01 16 25.55	-07 36 26.0	323
3015	1986 09	08.70417	01 14 48.69	-07 40 29.9	323
1986 RA	1986 09	22.69306	22 30 22.98	-04 39 24.8	323
1986 RA	1986 09	27.69375	22 46 28.56	-08 56 52.5	323
1986 RA	1986 09	30.65903	23 01 44.79	-12 38 59.8	323

OBSERVATIONS MADE AT GEISEI BY T. SEKI.

In part from Orient. Astron. Assoc. Comet Bull. No. 287 and Nihondaira Obs. Circ. No. 1563. Contact: T. Seki, Kamimachi 2-9-35, Kochi, Japan.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
2298	1986 10	02.67327	01 34 29.68	+10 01 23.5	16	372
2298	1986 10	03.66840	01 33 46.02	+09 53 10.9	16	372
1986 RA	1986 09	24.56319	22 37 59.64	-06 44 07.4	14	372
1986 RA	1986 09	24.57188	22 38 01.51	-06 44 37.6		372
1986 TX	* 1986 10	03.70660	01 52 35.68	+07 11 08.1	18	372
1986 TX	1986 10	03.71840	01 52 35.13	+07 11 06.6		372
1986 TX	1986 10	08.74514	01 48 06.76	+06 48 29.4	18	372
1986 TX	1986 10	08.75903	01 48 06.15	+06 48 26.3		372
1986 TX	1986 10	11.66806	01 45 21.73	+06 35 02.4	18	372
1986 TX	1986 10	11.68403	01 45 20.71	+06 34 57.1		372
1986 TX	1986 10	13.71910	01 43 22.73	+06 25 30.3	17.5	372
1986 TX	1986 10	13.74757	01 43 20.92	+06 25 24.0		372

OBSERVATIONS MADE AT KUSHIRO BY S. UEDA.

Films obtained with a 0.16-m reflector, measured by H. Kaneda. From Nihondaira Obs. Circ. No. 1570. Contact: T. Urata, 1-8-303, 1 Chome, Dobayashi, Shimizu, Shizuoka 424, Japan.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1986 UA	1986 10	30.54468	02 28 44.68	+11 28 45.5	399
1986 UA	1986 10	31.61782	02 27 53.54	+11 24 30.0	399
1986 UE	1986 10	30.54468	02 35 50.53	+11 31 16.7	399

OBSERVATIONS MADE WITH THE 1.2-m U.K. SCHMIDT AT SIDING SPRING.

Plates taken by M. Hawkins and M. Hartley, measured by D. Waldron and R. H. McNaught. Contact: R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2857, Australia.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1986 TN	*	1986 10	06.73156	04 12 42.44	-35 08 57.8	16.0R	3	413
1986 TN		1986 10	06.76281	04 12 41.75	-35 11 03.7		2	413
1986 TO	*	1986 10	10.69156	03 32 40.08	-43 50 22.7	16.0R	1	413
1986 TO		1986 10	10.73670	03 32 37.00	-43 52 37.1			413
1986 TO		1986 10	11.70821	03 31 36.52	-44 41 40.5			413
1986 TO		1986 10	11.75683	03 31 32.90	-44 44 02.1			413
1986 TO		1986 10	21.69200	03 14 11.69	-52 58 23.3			413
1986 TO		1986 10	21.69547	03 14 11.13	-52 58 34.1			413
1986 TO		1986 10	23.61240	03 09 05.82	-54 29 55.9			413
1986 TO		1986 10	23.61795	03 09 04.91	-54 30 09.6			413
1986 TO		1986 10	23.61932	03 09 04.58	-54 30 15.5			413
1986 TO		1986 10	23.62279	03 09 04.06	-54 30 23.8			413

Note 1: discoverer D. Waldron. 2: sense of motion ambiguous. 3 = 1 + 2.

OBSERVATIONS MADE WITH THE 0.5-m UPPSALA SCHMIDT AT SIDING SPRING BY R. H. McNAUGHT.

Contact: R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2857, Australia.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1986 TO		1986 10	23.61110	03 09 06.20	-54 29 50.5	15	413
1986 TO		1986 10	23.61631	03 09 05.12	-54 30 05.2		413
1986 TO		1986 10	25.58542	03 03 08.88	-56 01 27.0		413
1986 TO		1986 10	25.59028	03 03 07.53	-56 01 42.3		413
1986 TO		1986 10	25.59514	03 03 06.67	-56 01 55.5		413
1986 TO		1986 10	25.60000	03 03 05.32	-56 02 07.9		413
1986 TO		1986 10	25.60532	03 03 04.46	-56 02 22.7		413
1986 TO		1986 10	25.62153	03 03 01.07	-56 03 07.1		413
1986 TO		1986 10	25.62639	03 03 00.12	-56 03 19.8		413
1986 TO		1986 10	25.64057	03 02 57.31	-56 04 00.3		413
1986 TO		1986 10	25.64578	03 02 56.18	-56 04 17.5		413
1986 TO		1986 10	28.72014	02 52 01.35	-58 20 39.8		413
1986 TO		1986 10	28.72431	02 52 00.47	-58 20 51.4		413
1986 TO		1986 11	04.63956	02 19 33.57	-62 51 40.5		413
1986 TO		1986 11	04.64442	02 19 31.89	-62 51 50.9		413
1986 UH	*	1986 10	28.74664	03 50 31.55	-61 43 44.5	16	413
1986 UH		1986 10	28.75049	03 50 30.90	-61 43 31.2		413
1986 UH		1986 10	28.75556	03 50 30.14	-61 43 16.0		413
1986 UH		1986 10	29.71794	03 44 31.08	-60 02 04.8	15	413
1986 UH		1986 10	29.72315	03 44 26.66	-60 01 29.6		413
1986 UH		1986 10	29.72639	03 44 25.45	-60 01 09.3		413
1986 VA	*	1986 11	04.59720	01 43 54.91	+22 48 31.6	17	413
1986 VA		1986 11	04.61456	01 43 54.11	+22 48 19.5		413
1986 VA		1986 11	05.51162	01 43 13.96	+22 42 12.4		413
1986 VA		1986 11	05.52685	01 43 13.34	+22 42 04.6		413
1986 VB	*	1986 11	04.59720	01 45 05.28	+22 32 12.3	18	413
1986 VB		1986 11	04.61456	01 45 04.08	+22 32 14.8		413
1986 VB		1986 11	05.51162	01 43 29.07	+22 40 15.6		413
1986 VB		1986 11	05.52685	01 43 28.09	+22 40 23.0		413
1986 VC	*	1986 11	04.59720	01 48 06.00	+21 32 06.9	16	413
1986 VC		1986 11	04.61456	01 48 04.90	+21 32 03.3		413
1986 VC		1986 11	05.51162	01 47 10.93	+21 30 42.4		413
1986 VC		1986 11	05.52685	01 47 10.11	+21 30 38.6		413
1986 VD	*	1986 11	04.59720	01 48 34.22	+21 38 25.1	17	413
1986 VD		1986 11	04.61456	01 48 33.38	+21 38 13.9		413

1986 VD		1986 11 05.51162	01 47 52.90	+21 32 05.9			413
1986 VD		1986 11 05.52685	01 47 52.33	+21 31 57.6			413
1986 VE	*	1986 11 04.59720	01 52 00.41	+23 14 04.9		16	413
1986 VE		1986 11 04.61456	01 51 59.95	+23 13 57.0			413
1986 VE		1986 11 05.51162	01 51 22.12	+23 01 54.8			413
1986 VE		1986 11 05.52685	01 51 21.60	+23 01 44.4			413

OBSERVATIONS MADE AT MOUNT JOHN UNIVERSITY OBSERVATORY.

Plates taken with the 0.6-m f/14 Cassegrain reflector by A. C. Gilmore, measured by P. M. Kilmartin. Computational support from R. McIntosh and W. M. Kissling. Reductions using field plates from the Carter Observatory, AGK3, SAO Catalog and Cape Photographic Catalogue. Contact: A. C. Gilmore, P.O. Box 57, Lake Tekapo, New Zealand.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1986 TO	1986 10 29.46715	02 49 06.32	-58 52 29.3	16.6	474
1986 TO	1986 10 29.47653	02 49 03.99	-58 52 52.5		474
1986 TO	1986 10 31.58032	02 40 01.23	-60 19 28.2	16.6	474
1986 TO	1986 10 31.58964	02 39 58.61	-60 19 50.8		474

OBSERVATIONS MADE AT YEBES BY M. DE PASCUAL, J. GARCIA, C. CABANAS AND F. SANCHEZ.

Contact: M. de Pascual M., Observatorio Astronomico de Madrid, Alfonso XII, 3, Madrid, Spain.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
2	1984 07 24.01528	23 10 12.91	+08 47 37.8		491
2	1984 07 24.02914	23 10 12.78	+08 47 34.1		491
2	1984 07 24.03329	23 10 12.66	+08 47 33.4		491
2	1984 07 24.03744	23 10 12.66	+08 47 31.7		491
2	1984 07 25.00909	23 09 58.64	+08 43 01.8		491
2	1984 07 25.01463	23 09 58.54	+08 42 59.8		491
2	1984 07 25.02017	23 09 58.46	+08 42 58.8		491
18	1984 07 23.92398	16 12 10.05	-07 51 16.6		491
18	1984 07 23.92952	16 12 10.04	-07 51 18.7		491
18	1984 07 23.93506	16 12 10.01	-07 51 20.2		491
18	1984 07 24.92818	16 12 08.00	-07 57 23.5		491
18	1984 07 24.93372	16 12 08.00	-07 57 25.4		491
18	1984 07 24.93926	16 12 08.00	-07 57 27.5		491
25	1984 07 24.13036	02 51 57.68	+22 14 13.1		491
25	1984 07 24.13763	02 51 58.43	+22 14 13.5		491
389	1984 07 24.95242	22 25 30.71	-00 59 10.8		491
389	1984 07 24.95934	22 25 30.57	-00 59 10.2		491
389	1984 07 24.96627	22 25 30.26	-00 59 09.8		491
389	1984 07 27.99894	22 23 43.30	-00 56 56.9		491
389	1984 07 28.00448	22 23 43.09	-00 56 57.1		491
480	1984 07 24.06457	01 51 46.84	+28 34 38.0	1	491
480	1984 07 24.07981	01 51 47.46	+28 34 42.1	1	491
532	1984 07 24.10405	00 25 52.99	-15 51 01.8		491
532	1984 07 24.11097	00 25 53.08	-15 51 06.3	1	491
532	1984 07 25.08504	00 26 00.07	-15 57 14.0		491
532	1984 07 25.09335	00 26 00.11	-15 57 17.2		491
532	1984 07 25.10166	00 26 00.15	-15 57 19.5		491
582	1984 07 23.99843	22 13 23.73	-01 07 22.6		491
582	1984 07 24.97561	22 12 53.68	-01 15 29.8		491
582	1984 07 24.99085	22 12 53.03	-01 15 37.2		491
704	1984 07 23.90390	18 23 20.38	-21 47 23.0		491
704	1984 07 23.90944	18 23 20.14	-21 47 21.8		491
704	1984 07 23.91498	18 23 19.85	-21 47 19.7		491
704	1984 07 24.91017	18 22 35.58	-21 43 00.1		491
704	1984 07 24.91571	18 22 35.38	-21 42 57.5		491

704	1984 07 24.92125	18 22 35.12	-21 42 56.1			491
1065	1984 07 27.97366	21 18 10.28	-23 53 09.1			491
2130	1984 07 27.97366	21 13 50.90	-24 45 48.5			491

Note 1: image difficult to measure.

OBSERVATIONS MADE AT THE OSSERVATORIO S. VITTORE.

Plates taken by C. Vacchi and G. Sassi; blinked by Vacchi; measured by Vacchi, V. Goretti and E. Colombini. Reduced by Colombini from least-squares plate-constants solutions with five or more AGK3 or SAO reference stars. Contact: E. Colombini, Via S. Vittore 44, I-40136 Bologna, Italy.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1986 OA	1986 09	05.84097	20 10 31.92	-02 57 22.0	17.3		552
1986 OA	1986 09	05.87014	20 10 31.35	-02 57 26.5			552
1986 OA	1986 09	05.88472	20 10 30.95	-02 57 30.3			552
1986 OA	1986 09	06.82917	20 10 11.67	-03 00 37.0	17.3		552
1986 OA	1986 09	06.86042	20 10 11.02	-03 00 43.9			552
1986 OA	1986 09	11.90625	20 08 52.87	-03 17 26.6	17.5		552
1986 OA	1986 09	11.93194	20 08 52.53	-03 17 32.3			552
1986 TA	1986 09	30.94792	00 15 32.02	+02 52 31.9	15.3		552
1986 TA	1986 10	03.85208	00 13 16.06	+02 44 47.7	15.3		552
1986 TA	1986 10	03.87540	00 13 14.94	+02 44 45.1		1	552
1986 TA	1986 10	04.84722	00 12 30.76	+02 42 11.7	15.4		552
1986 TA	1986 10	04.86597	00 12 29.83	+02 42 08.2			552
1986 TA	1986 10	10.87153	00 08 19.57	+02 27 58.8	15.5		552
1986 TA	1986 10	10.91181	00 08 17.89	+02 27 53.1			552
1986 TA	1986 10	11.88819	00 07 42.08	+02 25 55.9	15.5		552
1986 TA	1986 10	11.90625	00 07 41.30	+02 25 51.9			552
1986 TA	1986 10	24.73611	00 02 25.54	+02 12 02.0	16.0		552
1986 TA	1986 10	24.75278	00 02 25.22	+02 12 02.0			552
1986 TA	1986 10	29.78958	00 01 51.19	+02 14 01.4	16.5		552
1986 TA	1986 10	29.91250	00 01 50.76	+02 14 07.0			552
1986 TB	1986 09	30.94792	00 05 12.74	+03 15 24.3	16.0		552
1986 TB	1986 10	03.88611	00 01 30.98	+03 36 58.2	16.0		552
1986 TB	1986 10	03.90833	00 01 29.33	+03 37 07.4			552
1986 TB	1986 10	04.87986	00 00 17.80	+03 44 11.6	16.1		552
1986 TB	1986 10	04.89653	00 00 16.54	+03 44 15.0			552
1986 TB	1986 10	10.92431	23 53 20.14	+04 27 20.4	16.2		552
1986 TB	1986 10	10.94028	23 53 19.06	+04 27 27.1			552
1986 TB	1986 10	11.92917	23 52 16.49	+04 34 23.6	16.2		552
1986 TB	1986 10	11.93958	23 52 15.80	+04 34 28.7			552
1986 TB	1986 10	24.76944	23 41 48.12	+06 03 16.8	16.8		552
1986 TB	1986 10	24.78681	23 41 47.38	+06 03 24.3			552
1986 TB	1986 10	30.77708	23 39 07.77	+06 44 46.0	17.0		552
1986 TB	1986 10	30.82292	23 39 06.71	+06 45 04.7			552
1986 TC	1986 09	30.94792	00 11 30.23	+04 47 47.9	16.3		552
1986 TC	1986 10	03.92222	00 08 34.22	+04 41 47.9	16.3		552
1986 TC	1986 10	03.94306	00 08 32.98	+04 41 45.4			552
1986 TC	1986 10	04.91250	00 07 36.77	+04 39 45.6	16.4		552
1986 TC	1986 10	04.93056	00 07 35.69	+04 39 43.8			552
1986 TC	1986 10	10.95625	00 02 06.48	+04 27 44.6	16.7		552
1986 TC	1986 10	10.97292	00 02 05.52	+04 27 41.3			552
1986 TC	1986 10	11.95937	00 01 15.85	+04 25 49.2	16.8		552
1986 TC	1986 10	11.97326	00 01 15.04	+04 25 47.0			552
1986 TC	1986 10	24.80556	23 52 50.31	+04 08 50.9	17.0		552
1986 TC	1986 10	24.82361	23 52 49.71	+04 08 50.1			552
1986 TC	1986 10	24.83542	23 52 49.40	+04 08 49.0			552
1986 TC	1986 10	30.85250	23 50 40.37	+04 07 14.4	17.2		552
1986 TC	1986 10	30.91806	23 50 39.36	+04 07 14.1			552
1986 TG	1986 10	24.76944	23 42 05.28	+06 08 47.6	16.3		552

1986	TG	1986	10	24.78681	23	42	04.92	+06	08	49.1	552
1986	TG	1986	10	30.78819	23	41	07.64	+06	19	30.0	16.5 552
1986	TG	1986	10	30.83611	23	41	07.44	+06	19	35.6	552

Note 1: time uncertain.

OBSERVATIONS MADE AT THE CLIMENHAGA OBSERVATORY, VICTORIA, BY D. D. BALAM AND J. B. TATUM.

For details see MPC 10595. Contact: J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 1700, Victoria, BC, V8W 2Y2, Canada.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
93	1986 10	12.19340	00 15 39.93	+03 09 57.6	657
93	1986 10	13.31424	00 14 43.42	+03 07 22.2	657
104	1986 10	13.45174	05 12 14.31	+24 11 02.2	657
194	1986 10	11.18437	00 09 49.59	-16 10 07.4	657
485	1986 10	12.19340	00 15 14.24	+03 11 22.4	657
485	1986 10	13.31424	00 14 27.26	+03 00 04.8	657
877	1986 10	12.39375	05 03 55.79	+17 05 19.8	657
3199	1986 10	23.13271	19 07 13.10	+55 54 23.5	657
1930 VD	1986 11	06.45458	06 34 24.62	+26 33 54.7	657
1930 VD	1986 11	06.50250	06 34 25.51	+26 33 45.1	657
1977 QC4	1986 09	05.34174	00 21 14.84	-09 05 33.8	657
1980 RZ2	1986 10	13.43125	05 21 53.79	+34 59 18.5	657
1980 RZ2	1986 10	13.47431	05 21 54.24	+34 59 28.3	657
1980 RZ2	1986 11	06.48861	05 18 02.16	+36 09 51.2	657
1981 EU35	1986 10	02.31743	02 09 42.82	+07 37 27.8	657
1982 TP	1986 10	02.25146	01 53 49.29	+21 07 45.7	657
1982 TP	1986 10	02.30007	01 53 46.82	+21 07 38.4	657
1984 AC1	1986 10	07.25910	01 10 52.68	-10 34 57.7	657

OBSERVATIONS MADE AT PALOMAR.

Palomar-Leiden Survey plates taken with the 1.2-m Schmidt by T. Gehrels, scanned and measured by C. J. van Houten and I. van-Houten-Groeneveld at Leiden. Computational support from the late P. Herget.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
2126 P-L *	1960 09	24.45000	00 49 22.66	+11 33 00.9	17.4	675
2126 P-L	1960 09	26.37010	00 47 33.82	+11 29 03.7		675
2126 P-L	1960 09	28.45140	00 45 33.04	+11 24 10.2		675
2126 P-L	1960 09	29.44510	00 44 34.78	+11 21 39.0		675
2126 P-L	1960 10	25.37570	00 20 28.76	+09 52 08.0		675
2126 P-L	1960 10	26.36840	00 19 45.05	+09 48 34.1		675
2538 P-L *	1960 09	24.46184	00 48 21.11	+00 07 52.1	17.6	675
2538 P-L	1960 09	26.37988	00 46 21.65	+00 02 08.1		675
2538 P-L	1960 09	28.43822	00 44 11.17	-00 03 56.7		675
2538 P-L	1960 09	29.39514	00 43 10.15	-00 06 44.2		675
2538 P-L	1960 10	17.31529	00 24 38.40	-00 48 34.2		675
2538 P-L	1960 10	22.26809	00 20 14.63	-00 54 13.7		675
2538 P-L	1960 10	25.30351	00 17 48.91	-00 56 00.1		675
2538 P-L	1960 10	26.35766	00 17 01.41	-00 56 18.0		675
2820 P-L *	1960 09	24.41183	00 35 59.68	+00 58 45.6	17.7	675
2820 P-L	1960 09	24.46184	00 35 56.48	+00 58 32.8		675
2820 P-L	1960 09	26.31530	00 34 04.14	+00 51 04.0		675
2820 P-L	1960 09	27.40836	00 32 56.75	+00 46 39.7		675
2820 P-L	1960 09	28.39725	00 31 55.63	+00 42 39.6		675
2820 P-L	1960 10	22.23406	00 09 06.76	-00 35 27.9		675
2820 P-L	1960 10	25.25350	00 06 54.24	-00 40 38.0		675
2820 P-L	1960 10	26.31531	00 06 10.92	-00 42 05.4		675
4020 P-L *	1960 09	24.37573	00 25 49.07	+04 51 13.6	17.2	675
4020 P-L	1960 09	25.42780	00 24 53.87	+04 44 05.4		675
4020 P-L	1960 09	26.30558	00 24 08.04	+04 38 04.5		675

4020	P-L		1960	09	28.36808	00	22	18.79	+04	23	47.7	675
4020	P-L		1960	10	17.27085	00	06	53.12	+02	15	37.4	675
4020	P-L		1960	10	22.22293	00	03	48.95	+01	47	28.8	675
4020	P-L		1960	10	24.35836	00	02	40.61	+01	36	31.3	675
4020	P-L		1960	10	26.32573	00	01	44.42	+01	27	08.3	675
4575	P-L	*	1960	09	24.41183	00	25	13.47	-00	48	51.6	15.7 675
4575	P-L		1960	09	26.31530	00	23	44.31	-01	09	36.8	675
4575	P-L		1960	09	27.40836	00	22	52.41	-01	21	27.5	675
4575	P-L		1960	09	28.39725	00	22	05.63	-01	32	09.1	675
4575	P-L		1960	10	17.28198	00	08	41.14	-04	30	43.3	675
4575	P-L		1960	10	22.23406	00	06	11.87	-05	04	57.2	675
4575	P-L		1960	10	25.25350	00	04	59.33	-05	22	31.5	675
4575	P-L		1960	10	26.31531	00	04	37.25	-05	28	05.5	675

OBSERVATIONS MADE WITH THE 1.2-m SCHMIDT AT PALOMAR.
Plates taken by E. Helin and in the course of Palomar Sky Survey II.
Measured by S. Singer-Brewster, J. Alu and J. Laderman. Contact: E. Helin, Jet Propulsion Laboratory, MS 183-501, Pasadena, CA 91109, U.S.A.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1983	AS2	1986	09 05.41250	01 57 22.09	+01 14 41.4	17.5		675
1983	AS2	1986	09 05.47500	01 57 21.95	+01 14 36.0			675
1986	AO2	1986	03 06.19792	08 21 51.07	+26 34 49.1	17.5		675
1986	AO2	1986	03 06.25000	08 21 50.14	+26 34 36.4			675
1986	AO2	1986	03 08.19306	08 21 21.17	+26 24 58.3			675
1986	AO2	1986	03 08.22083	08 21 20.81	+26 24 52.3			675
1986	AQ2	1986	03 06.19792	08 31 34.96	+25 08 47.6	16.8		675
1986	AQ2	1986	03 06.25000	08 31 33.82	+25 08 41.4			675
1986	AQ2	1986	03 08.19306	08 30 57.49	+25 03 10.6			675
1986	AQ2	1986	03 08.21435	08 30 57.09	+25 03 07.4			675
1986	ER2	* 1986	03 06.19792	08 28 19.82	+22 49 26.5	18.0	1	675
1986	ER2	1986	03 06.25000	08 28 18.24	+22 49 18.4			675
1986	ER2	1986	03 08.19306	08 27 19.34	+22 42 51.9			675
1986	ER2	1986	03 08.21435	08 27 18.67	+22 42 47.9			675
1986	ES2	* 1986	03 06.19792	08 29 38.07	+23 31 31.6	17.5	1	675
1986	ES2	1986	03 06.25000	08 29 36.43	+23 31 38.5			675
1986	ES2	1986	03 08.19306	08 28 36.85	+23 35 12.6			675
1986	ES2	1986	03 08.21435	08 28 36.13	+23 35 16.3			675
1986	ET2	* 1986	03 06.19792	08 31 35.55	+23 33 52.9	18.0	1	675
1986	ET2	1986	03 06.25000	08 31 33.95	+23 33 54.9			675
1986	ET2	1986	03 08.19306	08 30 35.58	+23 34 17.0			675
1986	ET2	1986	03 08.21435	08 30 34.28	+23 34 18.2			675
1986	EU2	* 1986	03 06.19792	08 38 47.11	+23 33 47.1	18.5	1	675
1986	EU2	1986	03 06.25000	08 38 45.60	+23 33 36.6			675
1986	EU2	1986	03 08.19306	08 37 48.26	+23 24 53.5			675
1986	EU2	1986	03 08.21435	08 37 47.63	+23 24 48.5			675
1986	EV2	* 1986	03 06.19792	08 20 20.72	+22 03 15.5	18.0	1	675
1986	EV2	1986	03 06.25000	08 20 20.03	+22 03 32.8			675
1986	EV2	1986	03 08.19306	08 19 57.70	+22 14 16.2			675
1986	EV2	1986	03 08.22083	08 19 57.42	+22 14 24.0			675
1986	EW2	* 1986	03 06.19792	08 37 20.18	+23 24 21.7	17.5	1	675
1986	EW2	1986	03 06.25000	08 37 18.76	+23 24 34.4			675
1986	EW2	1986	03 08.19306	08 36 26.66	+23 32 04.6			675
1986	EW2	1986	03 08.22083	08 36 26.12	+23 32 10.4			675
1986	EX2	* 1986	03 06.19792	08 35 57.06	+23 27 35.8	18.0	1	675
1986	EX2	1986	03 06.25000	08 35 55.92	+23 27 39.7			675
1986	EX2	1986	03 08.19306	08 35 11.58	+23 29 15.5			675
1986	EX2	1986	03 08.22083	08 35 11.22	+23 29 17.2			675
1986	PB	1986	08 02.33819	21 51 03.33	+01 03 46.7	17		675
1986	PB	1986	08 02.37986	21 51 01.56	+01 02 48.6			675

1986	PB		1986	08	04.30278	21	49	40.37	+00	14	02.9		675
1986	PB		1986	08	04.34444	21	49	38.49	+00	12	58.9		675
1986	RQ		1986	10	04.27361	23	57	16.97	+08	05	33.4	16.5	675
1986	RQ		1986	10	04.32222	23	57	15.04	+08	04	58.9		675
1986	RQ		1986	10	05.27431	23	56	38.19	+07	52	33.0		675
1986	RQ		1986	10	05.32639	23	56	36.15	+07	51	55.3		675
1986	RO3	*	1986	09	07.41319	01	31	01.77	+29	05	19.0	17.8	3 675
1986	RO3		1986	09	07.47569	01	31	01.02	+29	05	47.0		2 675
1986	RP3	*	1986	09	07.41319	01	43	35.66	+30	42	14.8	17.8	3 675
1986	RP3		1986	09	07.47569	01	43	35.00	+30	42	42.7		2 675
1986	RU3	*	1986	09	01.43403	01	59	31.47	+04	31	09.3	18.5	1 675
1986	RU3		1986	09	01.49653	01	59	29.79	+04	31	43.6		675
1986	RV3	*	1986	09	05.41250	01	57	00.19	+01	17	36.6	17.8	1 675
1986	RV3		1986	09	05.47500	01	57	00.04	+01	17	17.6		675
1986	SX	*	1986	09	30.30903	01	11	45.42	+33	11	02.4	16.2	1 675
1986	SX		1986	09	30.37847	01	11	42.35	+33	10	19.3		675
1986	TT	*	1986	10	04.27361	00	12	12.85	+08	12	34.6	17	1 675
1986	TT		1986	10	04.32222	00	12	07.65	+08	13	01.8		675
1986	TT		1986	10	05.27431	00	10	24.86	+08	21	55.9		675
1986	TT		1986	10	05.32639	00	10	19.34	+08	22	23.2		675
1986	TU	*	1986	10	04.20347	22	31	25.15	+04	29	04.7	17	1 675
1986	TU		1986	10	04.25903	22	31	23.52	+04	27	53.1		675
1986	TU		1986	10	05.20833	22	30	59.00	+04	06	41.7		675
1986	TU		1986	10	05.26042	22	30	57.63	+04	05	34.7		675
1986	TV	*	1986	10	04.20347	22	34	51.90	+06	01	37.2	18.5	1 675
1986	TV		1986	10	04.25903	22	34	50.44	+06	01	05.2		675
1986	TV		1986	10	05.20833	22	34	28.77	+05	51	27.8		675
1986	TV		1986	10	05.26042	22	34	27.64	+05	50	58.8		675
1986	TW	*	1986	10	04.20347	22	39	54.92	+06	18	00.0	18	5 675
1986	TW		1986	10	04.25903	22	39	53.90	+06	17	19.4		675
1986	TW		1986	10	05.20833	22	39	39.76	+06	03	48.0		675
1986	TW		1986	10	05.26042	22	39	38.86	+06	03	08.2		675
1986	TY	*	1986	10	04.27361	23	53	26.63	+10	14	00.4	17.5	1 675
1986	TY		1986	10	04.32222	23	53	22.67	+10	14	29.9		675
1986	TY		1986	10	05.27477	23	52	02.87	+10	24	58.9		675
1986	TY		1986	10	05.32639	23	51	58.06	+10	25	30.4		675
1986	TZ	*	1986	10	04.27361	23	56	42.05	+11	47	08.5	17	1 675
1986	TZ		1986	10	04.32222	23	56	40.17	+11	46	39.0		675
1986	TZ		1986	10	05.27431	23	56	04.44	+11	35	40.1		675
1986	TZ		1986	10	05.32639	23	56	02.44	+11	35	07.0		675
1986	TJ2		1986	09	01.43403	02	01	28.08	+02	30	09.6	17.5	675
1986	TJ2		1986	09	01.49653	02	01	29.52	+02	29	55.4		675
1986	TJ2		1986	09	05.41250	02	02	15.92	+02	12	36.6		675
1986	TJ2		1986	09	05.47500	02	02	16.09	+02	12	21.6		675
1986	TV2	*	1986	10	04.38889	02	48	51.01	+02	15	32.6	18.2	1 675
1986	TV2		1986	10	04.43750	02	48	50.17	+02	14	56.8		675
1986	TV2		1986	10	05.39583	02	48	34.92	+02	01	57.2		675
1986	TV2		1986	10	05.44792	02	48	34.00	+02	01	20.1		675
1986	TD4	*	1986	10	04.38889	02	34	49.90	+01	12	32.1	18.5	1 675
1986	TD4		1986	10	04.43750	02	34	47.94	+01	13	56.8		675
1986	TE4	*	1986	10	04.38889	02	36	53.30	-01	24	24.0	17.5	1 675
1986	TE4		1986	10	04.43750	02	36	52.20	-01	24	56.7		675
1986	TF4	*	1986	10	04.38889	02	47	16.14	+00	18	53.5	18	1 675
1986	TF4		1986	10	04.43750	02	47	15.27	+00	18	11.9		675
1986	TG4	*	1986	10	04.20347	22	28	15.28	+02	32	06.4	16.5	1 675
1986	TG4		1986	10	04.25903	22	28	13.31	+02	32	07.7		675
1986	TG4		1986	10	05.20833	22	27	37.75	+02	32	35.1		675
1986	TG4		1986	10	05.26042	22	27	35.98	+02	32	36.2		675
1986	TH4	*	1986	10	04.20347	22	32	33.42	+01	57	01.7	18	1 675

1986 TH4	1986 10 04.25903	22 32 31.81	+01 56 54.6		675
1986 TH4	1986 10 05.20833	22 31 59.12	+01 54 28.1		675
1986 TH4	1986 10 05.26042	22 31 57.59	+01 54 20.7		675

Note 1: discoverer E. Helin. 2: at extreme edge of plate. 3 = 1 + 2. 4: beginning of trail obscured by star iamge. 5 = 1 + 4.

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

Four-minute exposures with the 0.46-m Schmidt telescope. Film pairs scanned by C. Shoemaker with a stereomicroscope, measured by her with a Mann comparator at the U.S. Geological Survey. Reference stars from the SAO Catalog. Contact: C. S. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
3139	1985 10 12.16736	23 09 41.34	+24 20 38.7		17	675
3139	1985 10 12.24826	23 09 38.86	+24 19 54.0			675
3139	1985 10 13.18663	23 09 13.20	+24 11 04.6			675
1985 RU	1985 10 12.16736	23 06 52.21	+25 49 51.2			675
1985 RU	1985 10 12.24826	23 06 49.34	+25 49 46.0			675
1985 RU	1985 10 13.18663	23 06 20.64	+25 48 53.0			675
1985 RU	1985 10 14.20347	23 05 51.90	+25 47 39.7			675
1985 RZ	1985 10 12.39358	01 22 01.17	+29 39 53.5			675
1985 RZ	1985 10 14.42170	01 19 55.37	+29 48 27.9			675
1986 CB	1986 03 03.26510	09 54 58.33	+28 05 54.4			675
1986 CB	1986 03 04.22483	09 54 12.91	+28 18 03.5			675
1986 CB	1986 03 07.35799	09 51 53.56	+28 54 47.4			675
1986 EJ	1986 04 04.30521	10 38 23.07	-11 23 57.0			675
1986 EJ	1986 04 05.28263	10 37 22.72	-11 31 25.2			675
1986 GV	1986 05 04.29132	10 55 42.46	+27 42 23.5			675
1986 GV	1986 05 05.23142	10 55 58.33	+27 36 32.7			675
1986 GV	1986 05 09.17240	10 57 19.14	+27 10 17.9			675
1986 GV	1986 05 10.17188	10 57 43.18	+27 03 15.4			675

OBSERVATIONS MADE AT PALOMAR BY S. J. BUS AND B. A. SKIFF.

Four-minute exposures with the 0.46-m Schmidt telescope. Film pairs scanned by C. S. Shoemaker with a stereomicroscope. Measured by F. Salazar using a PDS scanning microdensitometer at the Lowell Observatory. SAO reference stars, global solutions. Contact: C. S. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1866	1985 05 24.32361	15 37 07.95	-11 21 11.7		675
1866	1985 05 24.34704	15 37 03.52	-11 21 38.4		675
3502	1985 05 24.32361	15 17 57.14	-14 53 40.9		675
3502	1985 05 24.34704	15 17 56.00	-14 53 40.1		675
1985 JR	1985 05 24.26944	14 39 38.03	-07 09 09.5		675
1985 JR	1985 05 24.29947	14 39 36.39	-07 09 17.7		675
1985 JW	1985 05 24.25902	14 21 10.62	-14 55 53.1		675
1985 JW	1985 05 24.28958	14 21 09.37	-14 55 54.0		675
1985 JY	1985 05 24.25902	14 28 06.93	-13 43 49.2		675
1985 JY	1985 05 24.28958	14 28 05.77	-13 43 44.4		675
1985 JN1	1985 05 24.32361	15 29 46.81	-13 38 17.9		675
1985 JN1	1985 05 24.34704	15 29 45.33	-13 38 19.8		675

OBSERVATIONS MADE WITH THE 0.33-m PHOTOGRAPHIC TELESCOPE AT THE LOWELL OBSERVATORY'S ANDERSON MESA STATION BY B. A. SKIFF.

See also MPC 9533. Contact: E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
28	1986 10 07.22086	01 06 22.36	-04 45 42.5			688
28	1986 10 07.26497	01 06 20.22	-04 46 01.3			688
29	1986 09 05.27095	22 32 43.87	-12 34 08.1			688

29	1986	09	05.34722	22	32	39.37	-12	34	19.9	688
52	1986	09	11.30316	23	16	11.39	-11	51	16.0	688
52	1986	09	11.37205	23	16	08.33	-11	51	40.7	688
85	1986	10	06.17068	00	19	58.33	+07	37	04.9	688
85	1986	10	06.21837	00	19	56.32	+07	36	28.8	688
93	1986	10	06.17068	00	20	57.67	+03	24	42.5	688
93	1986	10	06.21837	00	20	55.03	+03	24	35.4	688
113	1986	10	04.34220	01	34	58.30	+01	28	02.7	688
116	1986	09	11.30316	23	21	16.96	-09	42	14.6	688
116	1986	09	11.37205	23	21	13.48	-09	42	34.7	688
126	1986	09	11.30316	23	27	07.46	-06	51	53.0	688
126	1986	09	11.37205	23	27	03.38	-06	52	11.3	688
127	1986	10	05.19477	23	52	46.39	-07	40	57.9	688
127	1986	10	05.25269	23	52	43.44	-07	41	04.9	688
152	1986	10	04.29095	01	28	52.06	+01	54	35.2	688
152	1986	10	04.34220	01	28	49.49	+01	54	29.5	688
160	1986	09	04.22061	21	41	02.51	-17	55	41.9	688
160	1986	09	04.29707	21	40	58.82	-17	55	52.2	688
173	1986	09	04.22061	21	33	07.83	-15	10	57.7	688
173	1986	09	04.29707	21	33	04.91	-15	11	48.5	688
220	1986	10	04.31668	01	49	10.43	+25	07	06.3	688
220	1986	10	04.36866	01	49	07.93	+25	06	49.9	688
265	1986	10	05.16571	23	16	51.82	+15	38	01.2	688
265	1986	10	05.22372	23	16	48.17	+15	37	53.0	688
268	1986	09	04.22061	21	46	27.29	-15	06	45.2	688
268	1986	09	04.29707	21	46	24.17	-15	07	02.2	688
330	1986	10	07.22086	00	53	16.92	-07	01	07.3	688
330	1986	10	07.26497	00	53	14.89	-07	01	28.6	688
332	1986	09	11.30316	23	16	55.33	-08	12	55.4	688
332	1986	09	11.37205	23	16	51.73	-08	13	12.9	688
333	1986	10	05.19477	23	36	53.37	-01	42	46.4	688
333	1986	10	05.25269	23	36	50.93	-01	42	55.7	688
339	1986	10	05.19477	23	43	06.81	-03	57	05.0	688
339	1986	10	05.25269	23	43	04.63	-03	57	31.2	688
383	1986	09	05.27095	22	43	18.43	-12	09	20.2	688
383	1986	09	05.34722	22	43	14.83	-12	09	42.3	688
485	1986	10	06.17068	00	19	36.53	+04	12	54.4	688
485	1986	10	06.21837	00	19	34.31	+04	12	25.2	688
515	1986	10	04.29095	01	28	28.07	+05	53	57.0	688
515	1986	10	04.34220	01	28	25.84	+05	53	42.2	688
520	1986	10	06.19964	00	18	17.97	-07	04	48.7	688
520	1986	10	07.19836	00	17	26.49	-07	05	52.4	688
520	1986	10	07.24293	00	17	24.19	-07	05	55.6	688
574	1986	09	04.22061	21	48	43.45	-14	01	38.3	688
574	1986	09	04.29707	21	48	38.43	-14	01	43.7	688
639	1986	09	05.29618	23	26	18.49	+10	17	27.7	688
639	1986	09	05.37257	23	26	14.87	+10	17	17.2	688
639	1986	10	05.16571	23	04	24.70	+08	09	29.8	688
639	1986	10	05.22372	23	04	22.64	+08	09	11.6	688
640	1986	09	05.29618	23	28	58.70	+15	16	22.6	688
640	1986	09	05.37257	23	28	55.53	+15	16	02.3	688
640	1986	10	05.16571	23	09	23.27	+11	58	49.5	688
640	1986	10	05.22372	23	09	21.31	+11	58	21.9	688
642	1986	09	05.27095	22	36	03.66	-14	58	41.1	688
642	1986	09	05.34722	22	36	00.06	-14	58	53.0	688
676	1986	09	04.22061	21	44	33.15	-13	37	06.7	688
676	1986	09	04.29707	21	44	30.30	-13	37	45.9	688
715	1986	10	07.22086	01	01	11.80	-07	19	07.6	688
715	1986	10	07.26497	01	01	09.07	-07	19	09.1	688

765	1986	09	04.22061	21	30	54.12	-14	01	35.2		688
765	1986	09	04.29707	21	30	49.84	-14	01	37.5		688
771	1986	10	05.16571	23	21	50.22	+11	50	07.6		688
771	1986	10	05.22372	23	21	47.70	+11	49	25.5		688
782	1986	10	07.22086	01	16	15.67	-01	09	12.3		688
782	1986	10	07.26497	01	16	12.95	-01	09	25.7		688
805	1986	10	07.19836	00	24	51.35	-06	41	23.7		688
805	1986	10	07.24293	00	24	49.62	-06	41	46.2		688
816	1986	10	04.20681	22	48	49.57	-20	38	13.7		688
816	1986	10	04.26502	22	48	47.79	-20	38	23.6		688
845	1986	10	06.19964	00	16	14.32	-11	50	54.7		688
845	1986	10	07.19836	00	15	22.14	-11	51	08.1		688
845	1986	10	07.24293	00	15	19.75	-11	51	09.4		688
855	1986	10	07.28726	01	35	28.76	+11	25	12.1		688
855	1986	10	07.33813	01	35	25.43	+11	25	08.1		688
873	1986	10	05.19477	23	39	32.29	-06	40	43.0		688
873	1986	10	05.25269	23	39	29.75	-06	41	02.5		688
876	1986	10	07.31267	02	15	50.98	-01	31	18.0		688
876	1986	10	07.36363	02	15	49.10	-01	31	42.5		688
898	1986	10	04.31668	01	50	43.07	+22	20	54.7	16.0	688
898	1986	10	04.36866	01	50	40.30	+22	20	32.5		688
935	1986	09	04.22061	21	34	19.56	-16	37	53.3		688
935	1986	09	04.29707	21	34	15.08	-16	38	00.3		688
1032	1986	10	04.20681	23	11	41.47	-19	51	00.2		688
1032	1986	10	04.26502	23	11	39.30	-19	51	01.6		688
1038	1986	10	04.29095	01	29	19.03	-00	13	26.0		688
1038	1986	10	04.34220	01	29	16.86	-00	13	32.9		688
1092	1986	10	07.28726	01	21	32.93	+16	53	13.6		688
1092	1986	10	07.33813	01	21	30.38	+16	53	02.7		688
1095	1986	10	07.31267	02	08	41.85	+05	45	28.7		688
1095	1986	10	07.36363	02	08	39.85	+05	45	07.6		688
1111	1986	09	05.27095	22	41	33.31	-11	18	28.1		688
1111	1986	09	05.34722	22	41	29.75	-11	18	54.5		688
1119	1986	10	04.29095	01	44	22.72	+02	28	20.8		688
1119	1986	10	04.34220	01	44	19.93	+02	28	10.4		688
1139	1986	10	04.31668	01	54	15.43	+21	13	29.6		688
1139	1986	10	04.36866	01	54	15.12	+21	12	34.0		688
1154	1986	09	04.22061	21	46	23.03	-19	33	23.7		688
1154	1986	09	04.29707	21	46	20.10	-19	33	37.5		688
1157	1986	09	04.22061	21	53	12.77	-14	12	13.0		688
1157	1986	09	04.29707	21	53	09.17	-14	12	14.6		688
1181	1986	10	04.23584	22	23	29.99	-00	22	42.0		688
1260	1986	10	04.31668	01	40	50.62	+23	53	57.2	16.5	688
1260	1986	10	04.36866	01	40	47.91	+23	53	51.8		688
1266	1986	09	05.29618	23	28	10.33	+10	29	41.8		688
1266	1986	09	05.37257	23	28	06.75	+10	29	40.2		688
1266	1986	10	05.16571	23	05	15.00	+09	34	49.3		688
1266	1986	10	05.22372	23	05	12.60	+09	34	39.7		688
1271	1986	09	05.27095	22	30	00.59	-14	50	13.6		688
1271	1986	09	05.34722	22	29	57.23	-14	50	40.5		688
1339	1986	10	04.31668	02	03	57.01	+25	52	16.9		688
1339	1986	10	04.36866	02	03	54.72	+25	52	12.9		688
1385	1986	10	07.22086	01	10	40.72	-04	53	31.6		688
1385	1986	10	07.26497	01	10	38.50	-04	53	46.8		688
1386	1986	09	11.30316	23	09	29.75	-08	18	50.0		688
1386	1986	09	11.37205	23	09	27.47	-08	20	00.5		688
1463	1986	10	04.31668	02	02	16.36	+22	34	59.4	14.8	688
1463	1986	10	04.36866	02	02	14.17	+22	35	01.5		688
1466	1986	09	04.29707	21	33	06.09	-12	28	14.4		688

1478	1986	09	04.22061	21	31	01.70	-12	21	14.4		2	688
1499	1986	10	04.31668	01	50	09.37	+23	41	47.5			688
1499	1986	10	04.36866	01	50	07.03	+23	41	26.2			688
1516	1986	09	11.37205	23	17	55.87	-13	56	31.5			688
1516	1986	10	04.20681	23	00	58.11	-15	57	11.3	17.0		688
1516	1986	10	04.26502	23	00	56.03	-15	57	22.8			688
1586	1986	09	05.27095	22	41	36.69	-12	09	55.0	16.2		688
1586	1986	09	05.34722	22	41	32.46	-12	10	23.9			688
1615	1986	09	04.22061	21	37	25.64	-13	59	22.8	16.2		688
1615	1986	09	04.29707	21	37	22.43	-13	59	40.8			688
1628	1986	10	04.29095	01	32	25.67	+00	20	33.0			688
1628	1986	10	04.34220	01	32	23.63	+00	20	01.1			688
1658	1986	10	04.20681	23	12	05.55	-21	02	23.9			688
1658	1986	10	04.26502	23	12	03.40	-21	02	24.3			688
1674	1986	09	05.27095	22	44	28.38	-11	44	16.3			688
1674	1986	09	05.34722	22	44	24.94	-11	44	39.1			688
1682	1986	10	06.17068	00	29	25.27	+09	57	34.5	15.8		688
1682	1986	10	06.21837	00	29	22.44	+09	57	25.3			688
1721	1986	09	05.29618	23	31	58.92	+12	08	29.0			688
1721	1986	09	05.37257	23	31	55.10	+12	08	30.0			688
1721	1986	10	05.16571	23	07	31.99	+11	14	33.2			688
1721	1986	10	05.22372	23	07	29.52	+11	14	22.0			688
1737	1986	09	04.22061	21	49	04.78	-12	28	39.8			688
1737	1986	09	04.29707	21	49	01.17	-12	28	47.1			688
1760	1986	10	07.28726	01	25	37.31	+15	21	30.2	17.0		688
1760	1986	10	07.33813	01	25	35.31	+15	21	14.9			688
1772	1986	10	04.29095	01	37	30.82	+01	10	54.8			688
1772	1986	10	04.34220	01	37	28.12	+01	10	38.6			688
1782	1986	10	05.19477	23	38	16.68	-03	17	16.3	17.0		688
1782	1986	10	05.25269	23	38	14.51	-03	17	30.5			688
1785	1986	10	07.28726	01	19	42.35	+15	20	32.3			688
1785	1986	10	07.33813	01	19	39.15	+15	20	16.7			688
1803	1986	10	05.16571	23	05	06.94	+08	10	18.2			688
1803	1986	10	05.22372	23	05	03.47	+08	10	12.2			688
1812	1986	10	05.19477	23	36	41.65	-02	48	25.3			688
1812	1986	10	05.25269	23	36	39.49	-02	48	50.4			688
1826	1986	09	05.29618	23	18	06.98	+10	04	57.3			688
1826	1986	09	05.37257	23	18	03.23	+10	04	45.8		1	688
1833	1986	09	04.19427	20	57	34.80	-13	10	51.5			688
1833	1986	09	04.27063	20	57	32.69	-13	11	28.7			688
1880	1986	10	07.31267	02	04	24.04	+04	27	38.5			688
1880	1986	10	07.36363	02	04	21.41	+04	27	23.5			688
1999	1986	09	04.27063	20	52	24.35	-14	52	54.1	16.5		688
2069	1986	10	07.19836	00	21	10.24	-07	19	25.0		3	688
2069	1986	10	07.24293	00	21	07.88	-07	19	31.0			688
2079	1986	09	05.34722	22	36	50.72	-14	38	42.8		1	688
2136	1986	10	06.19964	00	01	47.62	-08	59	16.5			688
2136	1986	10	07.19836	00	01	08.25	-09	05	03.4			688
2136	1986	10	07.24293	00	01	06.45	-09	05	16.1			688
2160	1986	10	04.29095	01	28	46.27	+04	54	44.5	16.8		688
2160	1986	10	04.34220	01	28	43.76	+04	54	28.0			688
2186	1986	10	06.17068	00	21	17.40	+06	34	50.4			688
2186	1986	10	06.21837	00	21	15.02	+06	34	34.0			688
2220	1986	10	04.29095	01	33	15.65	+05	23	43.7			688
2220	1986	10	04.34220	01	33	13.37	+05	23	30.0			688
2285	1986	10	05.19477	23	47	10.81	-07	05	05.9	16.8		688
2285	1986	10	05.25269	23	47	08.78	-07	05	30.1			688
2471	1986	10	05.19477	23	58	07.65	-04	12	58.1			688
2471	1986	10	05.25269	23	58	04.75	-04	13	01.9			688

2505		1986	10	05.19477	23	52	05.95	-03	39	37.1		688
2505		1986	10	05.25269	23	52	03.53	-03	39	49.6		688
2519		1986	10	05.19477	23	57	54.80	-04	17	34.1	16.5	688
2519		1986	10	05.25269	23	57	52.26	-04	17	47.4		688
2521		1986	10	04.31668	01	42	15.92	+22	23	04.3		688
2521		1986	10	04.36866	01	42	13.39	+22	22	55.2		688
2551		1986	09	04.19427	20	55	23.40	-18	06	30.3		688
2551		1986	09	04.27063	20	55	20.32	-18	06	41.2		688
2553		1986	09	05.27095	22	33	27.75	-14	17	01.8	16.5	688
2553		1986	09	05.34722	22	33	24.33	-14	17	27.1		688
2616		1986	10	05.19477	23	59	30.33	-02	00	15.9	15.5	688
2616		1986	10	05.25269	23	59	27.05	-02	00	37.3		688
2634		1986	10	07.31267	02	06	28.97	+03	44	04.0		688
2634		1986	10	07.36363	02	06	27.15	+03	43	49.8		688
2682		1986	09	05.27095	22	52	12.20	-14	08	03.5		688
2682		1986	09	05.34722	22	52	08.22	-14	08	42.8		688
2709		1986	09	04.19427	20	47	41.13	-13	10	29.9		688
2709		1986	09	04.27063	20	47	38.39	-13	10	47.4		688
2737		1986	10	06.17068	00	13	23.84	+09	19	15.1	16.5	688
2737		1986	10	06.21837	00	13	21.02	+09	19	07.3		688
2754		1986	10	04.17749	22	14	27.65	+02	06	07.0		688
2754		1986	10	04.23584	22	14	27.25	+02	05	53.2		688
2756		1986	09	04.22061	21	34	22.28	-18	14	27.4		688
2756		1986	09	04.29707	21	34	18.30	-18	14	29.0		688
2758		1986	09	04.22061	21	46	14.02	-13	46	37.4	16.8	688
2758		1986	09	04.29707	21	46	09.57	-13	46	48.6		688
2764		1986	10	07.28726	01	25	17.88	+12	33	53.3		688
2764		1986	10	07.33813	01	25	14.71	+12	33	37.8		688
2784		1986	10	07.31267	02	13	19.34	+00	49	27.7	17.2	688
2868		1986	10	07.22086	00	59	32.84	-05	11	00.4		688
2868		1986	10	07.26497	00	59	30.79	-05	11	18.8		688
2911		1986	09	05.27095	22	48	37.96	-10	41	53.9		688
2911		1986	09	05.34722	22	48	34.35	-10	42	29.5		688
2920		1986	10	04.31668	02	04	00.50	+21	52	36.1		688
2920		1986	10	04.36866	02	03	59.04	+21	52	25.3		688
2999		1986	10	06.19964	00	07	11.01	-11	14	46.2	1	688
2999		1986	10	07.19836	00	06	13.34	-11	18	09.4		688
2999		1986	10	07.24293	00	06	10.94	-11	18	19.1		688
3009		1986	09	05.27095	22	39	00.68	-14	04	02.5		688
3009		1986	09	05.34722	22	38	56.20	-14	04	03.2		688
3015		1986	10	07.22086	00	52	18.97	-08	01	46.3	16.5	688
3015		1986	10	07.26497	00	52	16.77	-08	01	45.7		688
3020		1986	10	06.19964	00	18	31.37	-05	40	54.7	17.2	688
3020		1986	10	07.19836	00	17	46.76	-05	46	55.9		688
3020		1986	10	07.24293	00	17	44.68	-05	47	12.6		688
3032		1986	09	05.27095	22	37	39.84	-13	54	16.1	16.0	688
3032		1986	09	05.34722	22	37	36.07	-13	54	38.6		688
3047		1986	10	07.28726	01	36	23.92	+12	33	41.9	3	688
3047		1986	10	07.33813	01	36	21.52	+12	33	31.5	1	688
3049		1986	09	11.30316	23	12	45.91	-08	56	35.6	16.8	688
3049		1986	09	11.37205	23	12	42.65	-08	56	55.3		688
3055		1986	09	11.30316	23	23	23.92	-11	27	58.5		688
3055		1986	09	11.37205	23	23	19.28	-11	27	58.1		688
3078		1986	09	11.30316	23	13	24.35	-13	01	54.4		688
3078		1986	09	11.37205	23	13	21.01	-13	02	09.2		688
3078		1986	10	04.20681	22	57	30.28	-13	55	15.7		688
3078		1986	10	04.26502	22	57	28.20	-13	55	19.7		688
3128		1986	09	05.27095	22	51	43.09	-11	32	45.4	16.2	688
3128		1986	09	05.34722	22	51	39.54	-11	33	08.3		688

3199		1986	09	05.28750	23	24	45.16	+17	20	48.9			688
3199		1986	09	05.29618	23	24	41.85	+17	21	55.4			688
3199		1986	09	05.30486	23	24	38.51	+17	23	05.3			688
3199		1986	09	05.36389	23	24	15.75	+17	30	49.6			688
3199		1986	09	05.37257	23	24	12.57	+17	31	59.1			688
3199		1986	09	05.38125	23	24	09.46	+17	33	07.0			688
3253		1986	10	07.22086	01	10	10.10	-03	34	41.6			688
3253		1986	10	07.26497	01	10	06.98	-03	34	48.1			688
3257		1986	09	11.30316	23	14	21.68	-13	36	50.1			688
3257		1986	09	11.37205	23	14	17.14	-13	36	57.8			688
3268		1986	10	06.17068	00	17	25.95	+08	30	14.8			688
3268		1986	10	06.21837	00	17	23.59	+08	29	47.3			688
3279		1986	09	04.19427	20	42	00.74	-13	32	33.7			688
3279		1986	09	04.27063	20	41	58.79	-13	32	58.0			688
3305		1986	10	04.29095	01	43	14.89	+06	04	52.8			688
3305		1986	10	04.34220	01	43	11.77	+06	04	48.6			688
3315		1986	10	07.31267	02	15	21.26	-00	08	33.5			688
3315		1986	10	07.36363	02	15	18.91	-00	08	54.9			688
3357		1986	10	06.19964	00	22	51.42	-09	00	10.2		1	688
3357		1986	10	07.19836	00	22	09.56	-09	06	06.1			688
3357		1986	10	07.24293	00	22	07.71	-09	06	21.7			688
3497		1986	09	05.27095	22	39	05.09	-07	48	09.0	16.5		688
3497		1986	09	05.34722	22	39	01.35	-07	48	49.2			688
3499		1986	09	04.22061	21	53	01.43	-13	05	57.5	16.5		688
3499		1986	09	04.29707	21	52	58.25	-13	06	19.3			688
3502		1986	09	11.37205	23	27	24.68	-08	00	10.6	16.5		688
3505		1986	10	04.17749	22	22	11.32	+00	26	37.0	16.8		688
3505		1986	10	04.23584	22	22	09.76	+00	26	26.9			688
3506		1986	09	04.22061	21	37	52.83	-17	56	36.7	16.5		688
3506		1986	09	04.29707	21	37	49.15	-17	56	37.4			688
1936	XA	1986	10	04.31668	01	59	30.69	+21	03	26.0	16.8		688
1936	XA	1986	10	04.36866	01	59	28.55	+21	03	11.9			688
1938	DN1	1986	10	07.22086	01	12	59.10	-05	39	32.1	17.2		688
1938	DN1	1986	10	07.26497	01	12	56.86	-05	39	59.4			688
1952	SG	1986	10	07.22086	01	06	15.19	-02	45	51.4	16.5		688
1952	SG	1986	10	07.26497	01	06	12.85	-02	46	07.8			688
1964	TN2	1986	10	04.17749	22	15	59.63	+01	36	44.9	17.5		688
1964	TN2	1986	10	04.23584	22	15	58.60	+01	36	28.9			688
1964	UO	1986	09	05.29618	23	24	45.97	+11	54	45.5	16.8	1	688
1964	UO	1986	09	05.37257	23	24	42.67	+11	54	27.9			688
1964	UO	1986	10	05.16571	23	05	33.12	+08	44	52.2	16.8		688
1964	UO	1986	10	05.22372	23	05	31.33	+08	44	24.7			688
1970	QA1	1986	09	04.19427	20	48	01.87	-16	46	21.0	16.2		688
1970	QA1	1986	09	04.27063	20	47	59.84	-16	46	10.1			688
1971	UJ	1986	09	11.30316	23	10	42.33	-08	44	17.5	17.0		688
1971	UJ	1986	09	11.37205	23	10	39.49	-08	44	30.4			688
1975	TV2	1986	10	07.31267	01	51	50.42	+02	27	29.8	17.2		688
1975	TV2	1986	10	07.36363	01	51	47.34	+02	27	19.1			688
1976	QX	1986	09	06.28206	00	13	24.06	+01	47	13.7	16.8		688
1976	QX	1986	09	06.33639	00	13	21.95	+01	47	02.9			688
1976	QX	1986	10	05.19477	23	51	16.51	-00	20	11.6	16.8		688
1976	QX	1986	10	05.25269	23	51	13.77	-00	20	25.3			688
1978	SL7	1986	10	05.19477	23	37	55.27	-03	38	31.5	17.8		688
1978	SL7	1986	10	05.25269	23	37	52.29	-03	38	37.3			688
1981	DQ2	1986	10	07.28726	01	25	31.91	+16	03	52.5	17.8		688
1981	DQ2	1986	10	07.33813	01	25	29.25	+16	03	33.8			688
1981	RU2	1986	09	05.29618	23	38	50.08	+12	39	53.5	17.0	3	688
1981	RU2	1986	09	05.37257	23	38	46.85	+12	39	41.3			688
1981	RU2	1986	10	05.16571	23	16	32.58	+10	26	46.9	17.0		688

1981	RU2	1986	10	05.22372	23	16	30.54	+10	26	25.7		688
1981	SQ1	1986	09	04.19427	21	03	16.79	-14	33	59.4	16.5	688
1981	SQ1	1986	09	04.27063	21	03	14.24	-14	34	16.1		688
1982	HB2	1986	09	11.30316	23	21	36.99	-11	36	42.9	17.5	688
1982	HB2	1986	09	11.37205	23	21	32.44	-11	37	03.9		688
1982	TP	1986	10	04.31668	01	52	09.99	+21	01	08.2	16.8	688
1982	TP	1986	10	04.36866	01	52	07.40	+21	00	57.8		688
1982	TC2	1986	10	04.17749	22	28	41.97	+02	10	37.3	17.0	688
1982	TC2	1986	10	04.23584	22	28	40.08	+02	10	15.7		688
1982	VT	1986	10	07.31267	02	14	06.67	+04	18	18.1	17.0	688
1982	VT	1986	10	07.36363	02	14	03.48	+04	18	22.0		688
1983	AS2	1986	10	04.29095	01	42	05.42	+00	06	33.6	16.8	688
1983	AS2	1986	10	04.34220	01	42	03.00	+00	06	25.2		688
1983	CX2	1986	10	07.28726	01	38	11.01	+14	06	48.4	17.2	688
1983	CX2	1986	10	07.33813	01	38	08.79	+14	06	34.7		688
1984	AZ	1986	10	07.31267	02	05	08.42	+03	29	30.9	17.5	688
1984	AZ	1986	10	07.36363	02	05	05.82	+03	29	18.0		688
1984	CN	1986	10	06.19964	00	07	40.04	-08	18	15.3	16.8 1	688
1984	CN	1986	10	07.19836	00	06	50.65	-08	19	50.7	16.8 1	688
1984	CN	1986	10	07.24293	00	06	47.90	-08	19	54.4		688
1985	GE1	1986	10	06.17068	00	32	13.41	+08	03	40.0	17.0	688
1985	GE1	1986	10	06.21837	00	32	10.71	+08	03	18.9		688
1986	RA	1986	10	04.19987	23	14	40.22	-15	27	10.9		688
1986	RA	1986	10	04.26502	23	14	53.32	-15	29	56.6		688
1986	RK	1986	09	05.29618	23	24	42.43	+12	21	48.4	16.5	688
1986	RK	1986	09	05.37257	23	24	38.82	+12	21	21.2		688
1986	RK	1986	10	05.16571	23	05	10.92	+07	43	50.7	16.8	688
1986	RK	1986	10	05.22372	23	05	09.54	+07	43	15.5		688
1986	RL	1986	09	05.29618	23	25	25.61	+12	27	44.2	16.2	688
1986	RL	1986	09	05.37257	23	25	22.13	+12	27	29.1		688
1986	RL	1986	10	05.16571	23	04	32.10	+09	41	55.3	16.8	688
1986	RL	1986	10	05.22372	23	04	30.16	+09	41	33.0		688
1986	RW	1986	10	04.17749	22	14	24.55	+00	34	57.3	16.8	688
1986	RW	1986	10	04.23584	22	14	23.11	+00	34	51.8		688
1986	RX1	1986	10	04.17749	22	26	50.00	+01	58	40.4	17.0	688
1986	RX1	1986	10	04.23584	22	26	49.91	+01	58	41.9		688
1986	RO2	1986	10	04.17749	22	13	02.75	+02	19	56.1	16.8	688
1986	RO2	1986	10	04.23584	22	13	01.36	+02	19	38.8		688
1986	RP2	1986	10	04.20681	22	59	47.41	-18	32	07.9	16.8	688
1986	RP2	1986	10	04.26502	22	59	46.30	-18	32	28.5		688
1986	RQ2	1986	09	11.30316	23	23	00.12	-13	24	29.7	16.5	688
1986	RQ2	1986	09	11.37205	23	22	57.42	-13	25	06.6		688
1986	RQ2	1986	10	04.20681	23	09	14.22	-16	25	35.0	16.8	688
1986	RQ2	1986	10	04.26502	23	09	12.43	-16	25	55.1		688
1986	RR2	1986	10	05.19477	23	47	56.78	-06	29	36.6	16.2	688
1986	RR2	1986	10	05.25269	23	47	54.99	-06	30	07.5		688
1986	RS2	1986	10	05.19477	23	44	50.24	-02	21	36.7	17.0	688
1986	RS2	1986	10	05.25269	23	44	48.01	-02	22	03.9		688
1986	RT2	1986	10	05.19477	23	38	02.49	-01	08	12.2	17.2 3	688
1986	RT2	1986	10	05.25269	23	37	59.87	-01	08	24.3		688
1986	RV2	1986	10	05.19477	23	53	21.28	-00	12	58.1	17.5 3	688
1986	RV2	1986	10	05.25269	23	53	18.26	-00	13	30.4	1	688
1986	RW2	1986	10	05.19477	23	57	12.76	-02	25	11.2	16.5	688
1986	RW2	1986	10	05.25269	23	57	09.80	-02	25	23.3		688
1986	RZ2	1986	10	04.17749	22	16	32.76	+01	09	19.5	17.2	688
1986	RZ2	1986	10	04.23584	22	16	31.47	+01	09	07.5		688
1986	RA3	1986	10	05.16571	23	10	28.46	+12	55	38.9	17.0	688
1986	RA3	1986	10	05.22372	23	10	26.06	+12	55	19.1		688
1986	RC3	1986	09	06.28206	00	08	10.22	-02	28	54.9	17.0 1	688

1986	RC3		1986	09	06.33639	00	08	07.55	-02	29	08.2		1 688
1986	RE3	*	1986	09	05.27095	22	48	35.46	-10	41	07.3	16.5	4 688
1986	RE3		1986	09	05.34722	22	48	32.75	-10	41	51.2		688
1986	RF3	*	1986	09	06.28206	00	12	06.36	+02	06	39.5	17.2	4 688
1986	RF3		1986	09	06.33639	00	12	04.12	+02	06	21.9		688
1986	RF3		1986	09	12.29047	00	07	59.49	+01	27	42.5	17.0	688
1986	RF3		1986	09	12.31395	00	07	58.32	+01	27	34.6		688
1986	RF3		1986	10	05.19477	23	50	23.37	-01	15	00.7	17.2	688
1986	RF3		1986	10	05.25269	23	50	20.85	-01	15	21.9		688
1986	RG3	*	1986	09	11.30316	23	10	02.43	-06	43	20.9	16.5	4 688
1986	RG3		1986	09	11.37205	23	09	59.88	-06	44	14.1		688
1986	RH3	*	1986	09	11.30316	23	10	31.73	-12	35	39.9	17.2	4 688
1986	RH3		1986	09	11.37205	23	10	27.56	-12	35	47.3		688
1986	RJ3	*	1986	09	11.30316	23	13	10.91	-07	21	19.0	17.2	4 688
1986	RJ3		1986	09	11.37205	23	13	07.76	-07	21	38.8		1 688
1986	TA1	*	1986	10	04.20681	22	49	56.23	-20	43	25.6	17.0	4 688
1986	TA1		1986	10	04.26502	22	49	55.01	-20	43	09.9		688
1986	TB1	*	1986	10	04.29095	01	23	30.40	+02	29	47.3	17.2	4 688
1986	TB1		1986	10	04.34220	01	23	27.36	+02	29	40.8		688
1986	TC1	*	1986	10	04.29095	01	24	47.42	+01	25	06.9	16.0	4 688
1986	TC1		1986	10	04.34220	01	24	45.06	+01	24	42.3		688
1986	TD1	*	1986	10	04.29095	01	29	23.02	+01	16	56.5	17.2	4 688
1986	TD1		1986	10	04.34220	01	29	19.57	+01	16	57.8		688
1986	TE1	*	1986	10	04.29095	01	35	55.21	+05	17	24.1	16.8	4 688
1986	TE1		1986	10	04.34220	01	35	52.77	+05	17	08.4		688
1986	TF1	*	1986	10	04.31668	01	46	06.48	+19	52	25.2	17.0	4 688
1986	TF1		1986	10	04.36866	01	46	02.91	+19	52	02.8		688
1986	TG1	*	1986	10	04.31668	01	47	38.43	+22	50	50.8	17.0	4 688
1986	TG1		1986	10	04.36866	01	47	35.15	+22	51	04.7		688
1986	TH1	*	1986	10	04.31668	01	48	38.10	+25	06	07.6	17.0	4 688
1986	TH1		1986	10	04.36866	01	48	35.76	+25	06	01.4		688
1986	TJ1	*	1986	10	04.31668	01	48	43.54	+22	55	42.4	17.2	4 688
1986	TJ1		1986	10	04.36866	01	48	41.18	+22	55	33.8		688
1986	TK1	*	1986	10	04.31668	01	50	26.90	+21	19	06.1	17.0	4 688
1986	TK1		1986	10	04.36866	01	50	24.18	+21	18	55.7		1 688
1986	TL1	*	1986	10	04.31668	02	00	25.91	+20	49	22.4	16.8	4 688
1986	TL1		1986	10	04.36866	02	00	23.57	+20	49	15.0		688
1986	TM1	*	1986	10	04.31668	02	02	54.81	+20	31	02.2	16.2	4 688
1986	TM1		1986	10	04.36866	02	02	52.85	+20	30	39.4		688
1986	TN1	*	1986	10	04.31668	02	05	45.01	+22	41	16.1	17.2	4 688
1986	TN1		1986	10	04.36866	02	05	42.70	+22	40	59.3		688
1986	TO1		1986	10	06.19964	00	05	59.10	-09	51	56.0	16.8	688
1986	TO1	*	1986	10	07.19836	00	05	17.33	-10	00	53.3	16.8	4 688
1986	TO1		1986	10	07.24293	00	05	15.31	-10	01	19.0		688
1986	TP1		1986	10	06.19964	00	08	29.18	-05	30	51.9	17.2	1 688
1986	TP1	*	1986	10	07.19836	00	07	53.44	-05	34	58.3	17.2	4 688
1986	TP1		1986	10	07.24293	00	07	51.49	-05	35	07.9		688
1986	TQ1	*	1986	10	07.19836	00	10	20.53	-10	36	00.6	17.0	5 688
1986	TQ1		1986	10	07.24293	00	10	16.95	-10	36	00.3		3 688
1986	TR1		1986	10	06.19964	00	15	08.50	-06	52	32.0	17.2	2 688
1986	TR1	*	1986	10	07.19836	00	14	18.13	-06	56	27.6	17.2	4 688
1986	TR1		1986	10	07.24293	00	14	15.41	-06	56	36.2		688
1986	TS1		1986	10	06.19964	00	16	18.81	-11	16	33.1	16.5	688
1986	TS1	*	1986	10	07.19836	00	15	11.95	-11	10	44.3	16.5	4 688
1986	TS1		1986	10	07.24293	00	15	09.08	-11	10	29.3		688
1986	TT1		1986	10	06.19964	00	22	02.36	-09	41	44.2	17.0	1 688
1986	TT1	*	1986	10	07.19836	00	21	07.94	-09	40	53.4	17.0	4 688
1986	TT1		1986	10	07.24293	00	21	05.43	-09	40	51.9		688
1986	TU1		1986	10	06.19964	00	22	04.14	-08	09	13.4	17.2	1 688

1986	TU1	*	1986	10	07.19836	00	21	11.19	-08	08	37.7	17.0 4 688
1986	TU1		1986	10	07.24293	00	21	08.99	-08	08	37.1	688
1986	TV1		1986	10	06.19964	00	24	53.79	-09	27	55.3	17.0 688
1986	TV1	*	1986	10	07.19836	00	24	02.06	-09	32	55.4	17.0 4 688
1986	TV1		1986	10	07.24293	00	23	59.36	-09	33	09.2	688
1986	TW1	*	1986	10	07.22086	00	51	25.20	-05	02	14.5	16.5 4 688
1986	TW1		1986	10	07.26497	00	51	22.32	-05	02	21.0	688
1986	TX1	*	1986	10	07.22086	00	58	44.11	-06	39	09.4	17.0 4 688
1986	TX1		1986	10	07.26497	00	58	41.19	-06	39	08.8	688
1986	TY1	*	1986	10	07.22086	00	59	50.97	-02	08	47.7	16.2 4 688
1986	TY1		1986	10	07.26497	00	59	48.65	-02	08	49.4	688
1986	TZ1	*	1986	10	07.22086	01	10	02.73	-05	53	10.3	16.0 4 688
1986	TZ1		1986	10	07.26497	01	10	00.40	-05	53	18.7	688
1986	TA2	*	1986	10	07.22086	01	11	01.53	-03	47	25.6	17.2 4 688
1986	TA2		1986	10	07.26497	01	10	58.99	-03	47	33.0	688
1986	TB2	*	1986	10	07.22086	01	15	20.58	-06	19	04.8	17.2 4 688
1986	TB2		1986	10	07.26497	01	15	17.86	-06	19	14.2	688
1986	TC2	*	1986	10	07.22086	01	16	05.18	-01	55	44.7	16.8 7 688
1986	TC2		1986	10	07.26497	01	16	02.96	-01	56	06.2	688
1986	TD2	*	1986	10	07.22086	01	16	18.85	-04	09	55.7	17.0 4 688
1986	TD2		1986	10	07.26497	01	16	16.28	-04	10	07.7	688
1986	TE2	*	1986	10	07.28726	01	16	12.27	+16	17	13.5	16.8 4 688
1986	TE2		1986	10	07.33813	01	16	09.30	+16	17	01.9	688
1986	TF2	*	1986	10	07.28726	01	19	44.30	+16	37	25.2	17.2 4 688
1986	TF2		1986	10	07.33813	01	19	41.30	+16	37	20.8	688
1986	TG2	*	1986	10	07.28726	01	21	58.31	+18	01	02.5	16.2 4 688
1986	TG2		1986	10	07.33813	01	21	54.58	+18	01	11.6	688
1986	TH2	*	1986	10	07.28726	01	28	47.08	+13	52	47.6	17.0 4 688
1986	TH2		1986	10	07.33813	01	28	44.55	+13	52	21.7	688
1986	TJ2	*	1986	10	07.31267	01	50	40.81	-01	20	57.7	16.8 4 688
1986	TJ2		1986	10	07.36363	01	50	38.38	-01	21	19.8	688
1986	TK2	*	1986	10	07.31267	01	52	33.33	+00	38	42.9	16.8 4 688
1986	TK2		1986	10	07.36363	01	52	30.51	+00	38	21.8	688
1986	TL2	*	1986	10	07.31267	01	54	24.68	+03	39	15.3	17.2 4 688
1986	TL2		1986	10	07.36363	01	54	22.52	+03	39	10.3	688
1986	TM2	*	1986	10	07.31267	01	57	54.93	+05	37	59.1	17.2 4 688
1986	TM2		1986	10	07.36363	01	57	52.15	+05	37	38.0	688
1986	TN2	*	1986	10	07.31267	01	57	55.33	+04	00	09.1	16.5 4 688
1986	TN2		1986	10	07.36363	01	57	52.95	+04	00	00.3	688
1986	TO2	*	1986	10	07.31267	01	58	53.48	+00	51	41.0	16.5 4 688
1986	TO2		1986	10	07.36363	01	58	51.50	+00	51	01.7	688
1986	TP2	*	1986	10	07.31267	01	59	00.85	+04	53	14.7	16.8 4 688
1986	TP2		1986	10	07.36363	01	58	58.06	+04	52	49.0	688
1986	TQ2	*	1986	10	07.31267	01	59	36.27	+03	26	29.4	17.0 4 688
1986	TQ2		1986	10	07.36363	01	59	34.19	+03	26	07.6	688
1986	TR2	*	1986	10	07.31267	02	05	14.53	-00	38	45.5	16.8 4 688
1986	TR2		1986	10	07.36363	02	05	12.03	-00	38	51.8	688
1986	TS2	*	1986	10	07.31267	02	11	19.14	+01	58	13.4	17.5 4 688
1986	TS2		1986	10	07.36363	02	11	16.88	+01	58	00.4	688
1986	TT2	*	1986	10	07.31267	02	15	05.53	+02	55	55.4	17.5 4 688
1986	TT2		1986	10	07.36363	02	15	03.72	+02	55	46.4	688
4657	P-L		1986	09	05.27095	22	40	49.58	-09	21	40.1	17.0 3 688
4657	P-L		1986	09	05.34722	22	40	45.62	-09	22	00.9	688

Note 1: right ascension uncertain. 2: declination uncertain. 3 = 1 + 2.
4: discoverer E. Bowell. 5 = 1 + 4. 7 = 3 + 4.

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY.
Plates taken by O. G. Franz with the 0.46-m astrographic refractor, measured by L. H. Wasserman using a PDS scanning microdensitometer. AGK3

catalogue, global plate solutions. Contact: E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
38	1986 10	01.34965	02 24 55.17	+25 31 00.7	690
38	1986 10	01.36146	02 24 54.78	+25 31 01.1	690
38	1986 10	01.37326	02 24 54.36	+25 31 01.5	690
38	1986 10	01.38438	02 24 54.00	+25 31 01.8	690
38	1986 10	01.38889	02 24 53.85	+25 31 01.8	690
38	1986 10	01.39271	02 24 53.72	+25 31 01.8	690

OBSERVATIONS MADE WITH THE SPACEWATCH CAMERA 0.91-m TELESCOPE ON KITT PEAK.

Observations made by T. Gehrels and J. V. Scotti with a CCD in scanning mode. Reduced by J. V. Scotti and C. Lykins using reference stars from the SAO 1984 catalog. For further details see MPC 9198 and 10373. Contact: T. Gehrels, Space Sciences Building, University of Arizona, Tucson, AZ 85721, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
2202	1986 09	27.48552	07 04 04.49	+12 00 27.1		691
2202	1986 09	27.49016	07 04 05.34	+12 00 24.1		691
3200	1986 10	24.25299	00 54 12.48	+48 06 00.6	16.8V	691
3200	1986 10	24.26384	00 54 10.03	+48 05 36.7		691
3200	1986 10	24.27029	00 54 08.56	+48 05 21.8		691
3288	1986 10	25.19354	02 31 17.00	+15 03 40.0		691
3288	1986 10	25.19986	02 31 16.53	+15 03 37.4		691
3288	1986 10	25.21274	02 31 15.74	+15 03 32.5		691
3288	1986 10	30.27366	02 25 39.41	+14 29 04.9		691
3288	1986 10	30.27895	02 25 39.00	+14 29 03.3		691
3288	1986 10	30.30409	02 25 37.28	+14 28 52.6		691
3293	1986 10	30.18470	23 41 18.47	-02 02 26.9		691
3293	1986 10	30.20716	23 41 17.95	-02 02 29.0		691
3293	1986 10	30.21162	23 41 17.84	-02 02 29.7		691
1977 YA	1986 09	27.28073	04 39 00.86	+46 36 30.4		691
1977 YA	1986 09	27.29101	04 39 01.53	+46 36 45.0		691
1977 YA	1986 10	24.27749	04 56 29.62	+57 50 13.2		691
1977 YA	1986 10	24.29501	04 56 29.66	+57 50 41.4		691
1977 YA	1986 10	24.30289	04 56 29.76	+57 50 54.2		691
1985 JA	1986 09	27.40286	04 46 33.52	+33 46 22.2	19.4V	691
1985 JA	1986 09	27.41693	04 46 34.28	+33 46 12.4		691
1985 JA	1986 10	24.31156	04 59 20.90	+24 43 47.3		691
1985 JA	1986 10	24.31778	04 59 20.76	+24 43 36.3		691
1985 JA	1986 10	24.33029	04 59 20.61	+24 43 12.9		691
1986 JK	1986 09	26.38332	03 40 35.86	+16 29 43.1		691
1986 JK	1986 09	27.34523	03 39 20.40	+16 26 59.6		691
1986 JK	1986 09	27.36253	03 39 18.84	+16 26 57.3		691
1986 JK	1986 09	27.36687	03 39 18.53	+16 26 56.0		691
1986 JK	1986 10	25.21997	02 50 18.51	+14 11 10.4		691
1986 JK	1986 10	25.22470	02 50 18.14	+14 11 08.9		691
1986 JK	1986 10	25.22929	02 50 17.61	+14 11 07.0		691
1986 JK	1986 10	25.24463	02 50 15.68	+14 11 02.1		691
1986 JK	1986 10	25.26464	02 50 13.50	+14 10 54.4		691
1986 JK	1986 10	25.26991	02 50 12.83	+14 10 53.2		691
1986 JK	1986 10	25.27456	02 50 12.19	+14 10 51.6		691
1986 JK	1986 10	30.31223	02 41 08.73	+13 41 35.1		691
1986 JK	1986 10	30.31683	02 41 08.21	+13 41 34.0		691
1986 JK	1986 10	30.32142	02 41 07.65	+13 41 31.9		691
1986 JK	1986 10	30.33782	02 41 06.02	+13 41 25.4		691
1986 JK	1986 10	30.35764	02 41 03.81	+13 41 19.6		691
1986 JK	1986 10	30.36215	02 41 03.33	+13 41 18.6		691
1986 JK	1986 10	30.36699	02 41 02.75	+13 41 16.8		691

1986 LA	1986 09 25.09527	19 43 13.73	+26 51 59.4			691
1986 LA	1986 09 25.10774	19 43 18.04	+26 51 41.5			691
1986 LA	1986 09 26.17012	19 49 40.87	+26 25 35.0			691
1986 LA	1986 09 26.18093	19 49 44.62	+26 25 18.2			691
1986 LA	1986 10 25.11803	22 22 44.95	+12 00 37.8			691
1986 LA	1986 10 25.12895	22 22 47.61	+12 00 20.7			691
1986 LA	1986 10 25.13738	22 22 49.68	+12 00 07.9			691
1986 LA	1986 10 30.14274	22 43 04.98	+10 00 49.0			691
1986 LA	1986 10 30.15198	22 43 07.07	+10 00 36.9			691
1986 LA	1986 10 30.16653	22 43 10.36	+10 00 17.4			691

OBSERVATIONS MADE AT KITT PEAK BY K. J. MEECH AND D. JEWITT.

Contact: K. J. Meech, Department of Earth, Atmospheric and Planetary Sciences, 54-410, Massachusetts Institute of Technology, Cambridge, MA 02139, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.		Obs.
1986 RA	1986 10 08.15463	23 28 12.27	-18 00 27.0			695
1986 RA	1986 10 08.15810	23 28 12.68	-18 00 31.1			695
1986 RA	1986 10 08.16157	23 28 13.83	-18 00 38.8			695
1986 RA	1986 10 08.17199	23 28 15.40	-18 00 52.8			695

OBSERVATIONS MADE AT THE GOETHE LINK OBSERVATORY.

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

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
1956 AQ	1956 01 14.20278	07 07 56.40	+21 11 31.4			760
1956 UC	1956 10 28.16457	01 40 02.51	+22 50 10.7			760
1956 UC	1956 10 28.20762	01 40 00.21	+22 49 52.2			760
1958 DG	1958 02 18.28759	10 05 03.21	+17 56 06.5			760
1958 DG	1958 02 18.35347	10 04 59.49	+17 56 23.4			760
1958 DH	1958 02 18.28759	10 00 12.64	+17 15 42.0			760
1958 DH	1958 02 18.35347	10 00 08.80	+17 16 09.6			760
1958 DK	1958 02 18.28759	09 49 21.16	+17 13 08.8			760
1958 DK	1958 02 18.35347	09 49 18.11	+17 13 36.4			760
1958 DL	1958 02 18.28759	09 42 17.57	+18 26 04.0			760
1958 DL	1958 02 18.35347	09 42 13.68	+18 26 36.2			760
1958 DP	1958 02 23.19453	08 35 59.52	+20 24 07.1			760
1958 DP	1958 02 23.23819	08 35 57.60	+20 24 17.5			760
1958 DU	1958 02 24.24162	10 18 04.90	+16 18 09.8			760
1958 DU	1958 02 24.28407	10 18 02.26	+16 18 27.5			760
1958 DW	1958 02 24.33679	10 16 38.84	+12 44 53.4			760
1958 DW	1958 02 24.37917	10 16 36.99	+12 45 06.5			760
1958 DZ	1958 02 24.33679	10 10 03.08	+10 46 01.4			760
1958 DZ	1958 02 24.37917	10 10 00.41	+10 46 08.1			760
1958 DE1	1958 02 24.33679	10 19 36.82	+08 07 03.7			760
1958 DE1	1958 02 24.37917	10 19 35.56	+08 07 34.2			760
1958 DK1	1958 02 18.28759	09 50 13.13	+12 38 27.9			760
1958 DK1	1958 02 18.35347	09 50 08.76	+12 38 38.7			760
1958 GF	1958 04 08.13196	12 34 44.78	+00 01 59.9			760
1958 GF	1958 04 08.17500	12 34 42.14	+00 01 56.8			760
1958 GH	1958 04 08.13196	12 33 19.33	-05 55 49.9			760
1958 GH	1958 04 08.17500	12 33 16.28	-05 56 00.6			760
1958 GJ	1958 04 08.13196	12 28 35.45	-05 35 10.6		1	760
1958 GJ	1958 04 08.17500	12 28 33.46	-05 34 50.2		1	760
1958 GK	1958 04 08.13196	12 26 39.99	-03 23 13.1			760
1958 GK	1958 04 08.17500	12 26 37.28	-03 23 08.2			760
1958 GM	1958 04 08.13196	12 23 44.23	-05 09 51.5		1	760

1958	GM	1958	04	08.17500	12	23	41.67	-05	09	43.5	1 760
1958	GX	1958	04	17.12339	11	44	31.02	+06	23	37.3	760
1958	GX	1958	04	17.14179	11	44	30.31	+06	23	36.3	760
1958	JB	1958	05	13.19581	15	02	30.06	-31	03	04.1	1 760
1958	PB	1958	08	15.17102	21	30	50.62	-27	15	46.6	760
1960	FB	1960	03	23.21724	11	45	56.10	+05	17	25.1	760
1960	FB	1960	03	23.26099	11	45	53.45	+05	17	44.8	760
1961	UL	1961	10	18.25762	01	46	53.56	+08	06	04.7	760
1961	UL	1961	10	18.29998	01	46	51.28	+08	05	49.7	760
1963	XA	1964	01	21.28266	07	13	25.56	+24	17	12.1	760
1964	UG	1964	10	31.24360	02	18	23.85	+09	56	46.5	760
1964	UG	1964	10	31.28735	02	18	21.87	+09	56	24.9	760

Note 1: approximate positions on MPC 1779-1780 inferior.

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

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

Object	Date	UT	R. A. (1950)			Decl.			Mag.	N	Obs.
2197	1986	10	08.13947	23	17	15.30	-07	56	09.4	17	801
1936 XA	1986	10	08.32406	01	56	51.78	+20	45	32.3		801
1938 DN1	1986	10	08.28170	01	12	08.98	-05	50	09.3		801
1964 UO	1986	10	03.26798	23	06	29.58	+08	59	32.4		801
1964 VA3	1986	09	01.34684	00	37	30.44	+03	32	55.9		801
1964 VA3	1986	10	03.28709	00	16	14.38	+01	05	14.6		801
1965 UZ	1986	10	06.06444	22	32	06.65	-07	19	13.8		801
1970 QA1	1986	10	05.97874	20	55	32.75	-14	52	00.2		801
1971 UJ	1986	09	01.26877	23	17	17.54	-08	10	35.7		801
1971 UJ	1986	10	06.12403	22	56	04.89	-09	44	47.7		801
1975 TV2	1986	10	07.29848	01	51	50.98	+02	27	33.7		801
1978 SL7	1986	10	08.16101	23	35	27.70	-03	46	05.9		801
1978 UH2	1986	10	06.15421	22	54	08.27	+08	52	57.7		801
1981 EU35	1986	10	07.32330	02	06	28.98	+07	01	23.4		801
1981 QG1	1986	08	04.31154	22	12	41.40	+02	51	51.1		801
1981 QG1	1986	10	05.99661	21	37	23.97	-07	33	37.4		801
1981 TP1	1986	10	07.23737	01	01	03.84	+22	22	55.8		801
1982 TP	1986	09	08.38303	02	05	32.19	+21	22	38.7		801
1982 TP	1986	10	06.30208	01	50	30.40	+20	53	54.6		801
1982 TX	1986	10	03.14320	21	43	00.11	+11	10	43.0		801
1982 TG1	1986	10	06.03830	22	03	59.52	+03	40	13.0		801
1982 TC2	1986	09	01.22773	22	52	16.39	+05	44	23.2		801
1982 TC2	1986	10	08.11186	22	26	53.06	+01	44	35.1		801
1982 UH2	1986	08	06.24480	22	31	18.91	-09	50	33.8		801
1982 UH2	1986	10	03.12243	21	52	23.61	-12	59	02.0	1	801
1982 UH7	1986	09	08.18518	21	05	13.89	-15	38	42.0		801
1982 UH7	1986	10	08.04748	21	01	02.81	-16	27	10.9		801
1982 VT	1986	10	08.34527	02	13	05.43	+04	19	22.3		801
1983 AS2	1986	10	07.28120	01	39	38.28	-00	01	01.8		801
1983 CX2	1986	10	08.30045	01	37	26.32	+14	02	45.9		801
1983 HO	1986	10	03.31109	03	11	45.08	+05	21	52.7		801
1983 HO	1986	10	07.36566	03	10	10.66	+05	08	25.4		801
1984 AC1	1986	10	06.28177	01	11	38.41	-10	27	35.5	2	801
1984 AC1	1986	10	08.25850	01	10	04.55	-10	42	05.0		801
1984 CN	1985	05	24.19284	15	37	34.89	-23	40	35.1		801
1984 CN	1986	09	08.33996	00	31	25.10	-06	53	52.6		801
1984 CN	1986	10	07.17493	00	06	51.23	-08	19	48.7		801

1985 GE1	1986 10 07.21079	00 31 16.13	+07 55 13.2				801
1986 JA1	1986 10 07.98253	18 37 56.39	+05 06 51.5				801
1986 LA	1986 10 01.00532	20 18 35.14	+24 13 37.8				801
1986 RA	1986 10 06.10556	23 21 18.18	-16 45 26.5			2	801
1986 RA	1986 10 29.11164	00 24 38.11	-23 42 37.8				801
1986 TM	1986 10 31.10290	23 40 04.63	+01 31 33.6				801

Note 1: poor sky. 2: poor star distribution.

OBSERVATIONS MADE AT TOYOTA BY K. SUZUKI AND T. URATA.

In part from Nihondaira Obs. Circ. No. 1564 and 1570. Contact: T. Urata, 1-8-303, 1 Chome, Dobayashi, Shimizu, Shizuoka 424, Japan.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1986 UA	*	1986 10 25.61354		02 32 35.43	+11 48 12.1	16	881
1986 UA		1986 10 25.63438		02 32 34.47	+11 48 09.2		881
1986 UA		1986 10 30.52188		02 28 45.69	+11 28 49.5	16	881
1986 UA		1986 10 30.54549		02 28 44.51	+11 28 43.5		881
1986 UE	*	1986 10 30.53368		02 35 51.30	+11 31 23.6	15	881
1986 UE		1986 10 30.55729		02 35 50.01	+11 31 13.0		881
1986 UE		1986 11 02.59479		02 32 57.69	+11 06 03.6	15	881
1986 UE		1986 11 05.61215		02 30 05.86	+10 41 28.7	15	881
1986 UE		1986 11 05.64826		02 30 03.69	+10 41 10.2	15	881
1986 UF	*	1986 10 30.53368		02 36 15.89	+11 50 34.9	16.5	881
1986 UF		1986 10 30.55729		02 36 14.60	+11 50 23.4		881
1986 UF		1986 11 02.59479		02 33 35.21	+11 24 54.8	16	881
1986 UF		1986 11 02.62188		02 33 33.58	+11 24 41.4		881
1986 UF		1986 11 05.61215		02 30 58.13	+11 00 15.5	16.5	881
1986 UF		1986 11 05.64826		02 30 56.10	+10 59 58.3		881
1986 UG	*	1986 10 30.58090		02 38 11.52	+10 09 02.4	16.5	881
1986 UG		1986 10 30.60451		02 38 09.63	+10 08 57.4		881
1986 VG	*	1986 11 05.55104		01 50 59.45	+22 45 18.1	16	881
1986 VG		1986 11 05.58229		01 50 57.72	+22 45 11.7		881
1986 VH	*	1986 11 05.61215		02 29 30.61	+10 52 39.2	17	881
1986 VH		1986 11 05.64826		02 29 28.51	+10 52 28.7		881

OBSERVATIONS MADE AT SHIZUOKA BY M. KIZAWA.

Films measured by T. Urata. From Nihondaira Obs. Circ. No. 1570. Contact: T. Urata, 1-8-303, 1 Chome, Dobayashi, Shimizu, Shizuoka 424, Japan.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1986 UA	1986 10 30.61178		02 28 41.17	+11 28 28.8		883
1986 UA	1986 10 30.64282		02 28 39.68	+11 28 19.7		883
1986 UE	1986 11 02.56928		02 32 59.15	+11 06 17.1	15	883
1986 UE	1986 11 02.60462		02 32 56.85	+11 05 57.6		883

OBSERVATIONS MADE AT OJIMA BY T. NIIJIMA AND T. URATA.

In part from Nihondaira Obs. Circ. No. 15622. Contact: T. Urata, 1-8-303, 1 Chome, Dobayashi, Shimizu, Shizuoka 424, Japan.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1833		1986 09 03.53715		20 57 52.73	-13 05 35.1		887
1833		1986 09 03.58681		20 57 51.21	-13 05 59.6		887
1986 UJ	*	1986 10 30.57014		01 54 22.49	+18 43 31.4	17	887
1986 UJ		1986 10 30.59549		01 54 20.98	+18 43 21.7		887

OBSERVATION MADE AT GEKKO OBSERVATORY BY Y. OSHIMA.

Film taken with a 0.50-m f/4.0 reflector. Measured by T. Urata. Contact: T. Urata, 1-8-303, 1 Chome, Dobayashi, Shimizu, Shizuoka 424, Japan.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
1986 UE	1986 11 04.61424		02 31 02.55	+10 49 31.6	1	888

Note 1: new observatory code 888, Long. and Parallax 139.00, -349, -244 (see MPC 11200). Poor distribution of reference stars.

ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

The orbit computers and authors of double designations are B = C. M. Bardwell, c = N. S. Chernykh, E = E. Bowell, G = D. W. E. Green, M = B. G. Marsden, N = S. Nakano, V = I. Filippova. For further details see MPC 10375.

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1980 GF	13.5	800302	348.28	41.90	144.72	1.85	0.0749	2.4085	56	0	1	M
1982 UQ5	13.0	821107	260.93	162.43	337.30	2.25	0.0539	2.2512	25	5	1	N
1984 CF	12.5	840301	3.50	50.75	93.26	10.16	0.1011	2.7854	40	7		B
1984 CM1	13.0	840301	4.03	359.08	161.81	9.78	0.2063	2.7375	59	0		B
1984 EY	13.5	840301	307.46	197.75	31.40	7.04	0.0740	2.3664	41	0		B
1984 EC1	12.0	840321	71.20	305.68	139.48	14.62	0.1730	3.2008	25	5		B
1984 EN1	14.0	840301	275.77	98.51	150.81	1.98	0.0922	2.3149	13	0		B
1984 FK	13.5	840410	318.96	79.69	166.80	4.78	0.0919	2.2726	35	8		B
1984 FS	12.5	840301	31.91	343.90	144.84	14.07	0.1146	2.6433	39	0		B
1984 FU	14.0	840301	355.06	158.08	22.56	6.13	0.1061	2.2765	39	7		B
1984 GC	13.5	840321	33.04	295.58	203.82	2.66	0.2542	3.0273	6	4	2	B
1984 HE1	12.0	840410	266.80	77.79	222.88	11.06	0.0890	3.1420	33	0		B
1984 HL1	14.0	840410	44.24	122.85	18.94	2.39	0.1536	2.2689	36	0		B
1984 HM1	14.0	840410	12.18	160.21	24.53	2.52	0.1103	2.2780	36	9		B
1984 HC2	13.5	840410	113.16	325.59	113.19	4.97	0.0672	2.3648	37	9		B
1984 JL1	13.5	840430	344.90	2.27	231.15	1.82	0.1289	2.3975	17	6		B
1984 JP1	13.0	840510	300.05	48.94	251.81	5.25	0.2239	2.2640	18	3		V
1984 JA2	12.0	840510	310.05	222.77	55.16	10.75	0.0646	3.0218	23	3		V
1984 MP	12.0	840629	14.13	26.56	226.33	13.15	0.1499	2.7130	7	3		V
1984 MQ	13.5	840629	337.50	163.31	146.15	10.20	0.2490	2.7098	7	3		V
1984 MR	13.5	840629	311.91	189.63	146.18	7.98	0.1520	2.3328	7	3		V
1984 MS	14.0	840629	353.96	116.29	166.94	5.69	0.1707	2.3341	7	3		V
1985 JR	12.0	850515	15.96	137.06	69.29	13.57	0.1110	2.5732	11	4		M
1985 JY	12.5	850515	56.30	99.87	56.54	3.46	0.1184	3.2418	11	4		M
1985 JN1	15.0	850515	347.21	170.72	80.98	6.59	0.1438	2.3229	13	4		M
1985 RU	14.5	850912	3.78	30.54	317.83	16.58	0.3312	2.5647	29	7		M
1985 RZ	13.5	850912	334.02	95.28	331.88	12.40	0.3536	2.8556	29	5		M
1986 AO2	13.5	860130	35.02	87.67	354.66	7.52	0.1404	2.4582	55	6		M
1986 AQ2	13.5	860130	348.99	125.29	17.98	4.26	0.0879	2.2226	55	6		M
1986 CB	14.5	860219	49.30	289.72	131.35	22.24	0.3423	2.3246	30	5		M
1986 EJ	13.5	860311	355.64	200.04	338.67	23.64	0.2068	2.3470	30	5		M
1986 GV	13.5	860420	313.13	124.33	111.29	16.38	0.1514	2.7684	37	9		M
1986 OA	12.5	860818	100.16	306.76	262.31	13.39	0.0492	2.5584	45	0		M
1986 PB	14.0	860729	313.01	228.79	149.60	35.12	0.1596	2.2242	3	8		M
1986 PE	13.5	860818	345.45	90.43	253.35	8.59	0.0895	2.2894	56	5		G
1986 RD	13.5	860907	20.60	100.52	212.75	6.78	0.2329	2.7907	21	4		G
1986 RF	13.0	860907	59.66	78.18	192.75	11.72	0.1597	2.5935	21	4		G
1986 RK	14.0	860907	17.04	88.09	235.23	7.58	0.2033	2.2877	30	8		M
1986 RP	14.5	860907	347.47	112.66	252.78	4.08	0.1705	2.1988	18	4		G
1986 RW	14.0	860907	325.64	93.54	303.24	7.58	0.2377	2.4298	33	0		M
1986 RD1	13.0	860907	339.71	52.98	317.49	8.13	0.2029	2.8082	27	8		G
1986 RH1	15.0	860818	36.79	24.25	262.98	1.27	0.1458	2.2643	8	8		G
1986 RL1	15.0	860818	359.36	107.47	226.22	1.22	0.2500	2.2555	8	8		G
1986 RO1		860818	99.02	301.47	288.56	2.00	0.0471	2.2128	5	5		G
1986 RX1	15.0	860907	13.60	1.99	310.24	7.08	0.3673	2.5619	33	0		M
1986 RD2	13.5	860818	305.92	147.96	290.42	21.86	0.2415	2.2543	5	9		G
1986 RE2	12.0	860907	340.91	95.31	296.27	21.10	0.0752	2.6491	33	7		G
1986 RM2	13.5	860907	299.52	147.11	294.79	20.44	0.1392	2.0021	37	8		M
1986 RO2	11.5	860927	242.94	206.55	261.17	9.00	0.0536	3.0300	29	6		E
1986 RV2	13.9	860927	58.41	98.98	187.06	5.09	0.1601	2.3042	29	6		E
1986 RW2	13.7	860927	8.23	310.17	39.84	1.69	0.1670	2.3503	29	6		E
1986 RX2	13.0	860907	357.91	17.34	343.41	1.60	0.2036	3.1254	26	0		M

1986 RA3	12.0	860907	281.64	162.83	281.38	11.66	0.0987	3.0674	26	5	M
1986 RF3	14.5	860927	24.47	142.22	181.93	2.36	0.2045	2.3856	29	6	E
1986 SC	15.5	860927	12.67	128.61	211.76	3.60	0.2695	2.1730	2	6 2	M
1986 SD	13.0	860927	350.76	35.23	339.75	3.19	0.1320	2.7613	2	6	M
1986 SE	13.5	860927	355.34	51.30	318.70	2.25	0.1861	2.5712	2	6	M
1986 SH	12.5	860927	327.62	52.29	9.08	23.39	0.2542	3.1980	3	6 2	M
1986 SK	15.0	860927	335.36	77.11	327.58	1.25	0.2011	2.1777	3	6 2	M
1986 SU	13.5	860927	67.43	248.35	32.97	2.40	0.1895	2.3145	5	8	M
1986 TB	14.0	860927	5.65	353.62	0.64	14.62	0.2214	2.3413	30	0	M
1986 TC	14.0	860927	10.53	0.81	349.10	5.58	0.1522	2.3153	30	0	M
1986 TF	10.0	860927	276.36	237.82	234.43	6.07	0.2357	3.8910	5	8 2	M
1986 TG	14.0	860927	25.30	333.99	347.61	7.72	0.2450	2.1908	31	0	M
1986 TM	11.5	861017	329.62	56.90	10.46	33.01	0.3246	2.8735	24	4	B
1986 TB1	13.0	860927	290.06	76.34	36.95	9.70	0.2539	2.5257	2	5	M
1986 TL4	14.0	861017	345.36	347.57	61.28	3.32	0.2004	2.3984	21	3	M
1986 UE	12.5	861017	336.65	227.32	195.49	4.44	0.1225	2.1681	6	9	M
1986 UF	14.0	861017	20.61	161.40	200.37	5.20	0.2035	2.3622	6	6	M

Note 1: double designations 1980 GF = 1980 FO10 (M, MPC 9203); 1980 DS5 = 1980 FO10 (c); 1982 UQ5 = 1982 VA6 (N). 2: e assumed.

* * * * *

ORBITAL ELEMENTS BY E. GOFFIN, AGFA-GEVAERT N.V., MORTSEL, BELGIUM.

(162) Laurentia
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 113.74167	(1950.0)	P	Q	
n 0.18821647	Peri. 112.52056	-0.85007040	-0.52294912	
a 3.0155345	Node 36.03481	+0.43568663	-0.76491170	
e 0.1819673	Incl. 6.09741	+0.29590112	-0.37607754	
P 5.24	H 8.84	G 0.25		

From 72 observations at 27 oppositions 1912-1986, mean residual 0".9.

(213) Lilaea
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 71.42822	(1950.0)	P	Q	
n 0.21540817	Peri. 162.58018	+0.25049894	+0.96287776	
a 2.7560977	Node 121.82103	-0.90169092	+0.26986955	
e 0.1445812	Incl. 6.79824	-0.35242554	-0.00606956	
P 4.58	H 8.83	G 0.15		

From 82 observations at 23 oppositions 1914-1985, mean residual 0".9.

(279) Thule
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 291.52801	(1950.0)	P	Q	
n 0.11172201	Peri. 73.52326	-0.83490529	-0.54900618	
a 4.2694986	Node 73.16238	+0.48810482	-0.77134196	
e 0.0113350	Incl. 2.33862	+0.25433608	-0.32190650	
P 8.82	H 8.57	G 0.15		

From 138 observations at 28 oppositions 1902-1985, mean residual 0".9.

(317) Roxane
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 258.40352	(1950.0)	P	Q	
n 0.28500489	Peri. 186.32816	+0.92226136	+0.38627697	
a 2.2868333	Node 150.93456	-0.35328576	+0.85794694	
e 0.0847842	Incl. 1.76576	-0.15691766	+0.33869920	
P 3.46	H 10.18	G 0.40		

From 102 observations at 28 oppositions 1901-1983, mean residual 1".0.

(332) Siri
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	83.62811	(1950.0)	P	Q
n	0.21353812	Peri. 296.36170	+0.84485866	+0.53436264
a	2.7721652	Node 31.35700	-0.47137301	+0.76641263
e	0.0911889	Incl. 2.85210	-0.25302438	+0.35646634
P	4.62	H 9.24	G 0.15	

From 78 observations at 33 oppositions 1906-1985, mean residual 1".0.

(485) Genua
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	347.99048	(1950.0)	P	Q
n	0.21609843	Peri. 271.51362	-0.24879171	-0.96698842
a	2.7502255	Node 193.28907	+0.95630831	-0.23622872
e	0.1888789	Incl. 13.86940	+0.15354840	-0.09554781
P	4.56	H 8.69	G 0.15	

From 78 observations at 23 oppositions 1920-1982, mean residual 0".9.

(753) Tiflis
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	289.02125	(1950.0)	P	Q
n	0.27724515	Peri. 202.17161	-0.12399498	+0.98036022
a	2.3293071	Node 61.00084	-0.88200231	-0.03807818
e	0.2208300	Incl. 10.09860	-0.45463960	-0.19350426
P	3.56	H 10.34	G 0.25	

From 53 observations at 16 oppositions 1909-1984, mean residual 0".8.

(790) Pretoria
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	222.99552	(1950.0)	P	Q
n	0.15671908	Peri. 42.92751	+0.37364226	+0.86570209
a	3.4071256	Node 251.57766	-0.91736735	+0.29176030
e	0.1537372	Incl. 20.55374	-0.13721735	+0.40673802
P	6.29	H 8.05	G 0.15	

From 70 observations at 12 oppositions 1924-1979, mean residual 0".6.

(1015) Christa
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	126.73861	(1950.0)	P	Q
n	0.17137318	Peri. 271.86904	+0.83100352	-0.53801064
a	3.2100181	Node 120.70521	+0.55294353	+0.77119363
e	0.0798694	Incl. 9.46173	+0.06071742	+0.34030123
P	5.75	H 9.10	G 0.15	

From 36 observations at 20 oppositions 1924-1984, mean residual 0".9.

(1092) Lilium
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	168.23990	(1950.0)	P	Q
n	0.19963965	Peri. 314.72791	-0.13224438	+0.98841129
a	2.8993781	Node 307.52863	-0.88074856	-0.15166840
e	0.0834456	Incl. 5.39248	-0.45474542	+0.00631098
P	4.94	H 10.61	G 0.15	

From 44 observations at 15 oppositions 1924-1984, mean residual 1".0.

(1094) Siberia
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	72.27854	(1950.0)	P	Q
n	0.24269236	Peri. 308.97890	-0.14528073	-0.98136867
a	2.5454543	Node 148.68036	+0.96597532	-0.16817645
e	0.1351094	Incl. 13.99774	+0.21397474	+0.09290976
P	4.06	H 12.02	G 0.15	

From 34 observations at 13 oppositions 1935-1983, mean residual 1".0.

(1175) Margo
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	334.36628	(1950.0)	P	Q
n	0.17057407	Peri. 113.10209	+0.95412831	+0.18567708
a	3.2200358	Node 236.96446	-0.24237011	+0.93956244
e	0.0483335	Incl. 16.26984	+0.17577227	+0.28765682
P	5.78	H 10.41	G 0.15	

From 36 observations at 14 oppositions 1907-1982, mean residual 1".0.

(1178) Irmela
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	301.69151	(1950.0)	P	Q
n	0.22514913	Peri. 356.99105	-0.97347162	-0.22778962
a	2.6760191	Node 169.76481	+0.21236969	-0.93458701
e	0.1868643	Incl. 6.96962	+0.08515936	-0.27323802
P	4.38	H 11.82	G 0.15	

From 41 observations at 10 oppositions 1931-1981, mean residual 1".0.

(1207) Ostenia
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	220.03833	(1950.0)	P	Q
n	0.18798329	Peri. 44.64212	+0.43062387	-0.90040778
a	3.0180277	Node 20.10100	+0.76950199	+0.33046079
e	0.0928105	Incl. 10.37256	+0.47162462	+0.28295141
P	5.24	H 11.22	G 0.25	

From 33 observations at 12 oppositions 1931-1983, mean residual 1".0.

(1270) Datura
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	58.61917	(1950.0)	P	Q
n	0.29512025	Peri. 258.24919	+0.99187633	+0.07393552
a	2.2342754	Node 97.44735	-0.02881392	+0.92317712
e	0.2080188	Incl. 5.99222	-0.12389956	+0.37719696
P	3.34	H 12.73	G 0.25	

From 27 observations at 11 oppositions 1930-1985, mean residual 1".1.

(1389) Onnie
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	144.51960	(1950.0)	P	Q
n	0.20321250	Peri. 302.35539	-0.45003753	-0.89300286
a	2.8652934	Node 174.38734	+0.83077413	-0.42009957
e	0.0159353	Incl. 2.03892	+0.32753712	-0.16143803
P	4.85	H 11.64	G 0.25	

From 50 observations at 16 oppositions 1935-1984, mean residual 1".0.

(1403) Idelsonia
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 119.82841		(1950.0)	P	Q
n 0.22013897	Peri.	191.14296	+0.97663899	+0.20326061
a 2.7164691	Node	156.77244	-0.18104297	+0.95309259
e 0.2942560	Incl.	10.18293	-0.11575715	+0.22427582
P 4.48	H	11.29	G 0.15	

From 22 observations at 7 oppositions 1936-1983, mean residual 1".1.

(1513) Matra
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 226.21941		(1950.0)	P	Q
n 0.30333564	Peri.	26.35602	-0.95097820	-0.30544941
a 2.1937498	Node	135.76817	+0.27006246	-0.89645766
e 0.0980046	Incl.	3.97740	+0.15068752	-0.32103633
P 3.25	H	13.40	G 0.25	

From 26 observations at 7 oppositions 1950-1983, mean residual 0".9.

(1540) Kevola
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 304.52967		(1950.0)	P	Q
n 0.20500984	Peri.	112.44215	-0.94895412	-0.26932382
a 2.8485220	Node	52.32438	+0.15351143	-0.84904118
e 0.0829349	Incl.	11.97100	+0.27553642	-0.45452585
P 4.81	H	10.7	G 0.25	

From 40 observations at 15 oppositions 1926-1983, mean residual 1".2.

(1550) Tito
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 108.92708		(1950.0)	P	Q
n 0.24244437	Peri.	309.27072	+0.96199788	-0.23508489
a 2.5471898	Node	64.72671	+0.27282294	+0.84856532
e 0.3080599	Incl.	8.83621	-0.01130163	+0.47399577
P 4.07	H	11.80	G 0.15	

From 41 observations at 9 oppositions 1941-1983, mean residual 1".1.

(1600) Vyssotsky
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 207.17431		(1950.0)	P	Q
n 0.39208823	Peri.	50.27930	-0.30306313	-0.90008997
a 1.8487585	Node	60.08929	+0.72580353	-0.43087549
e 0.0376951	Incl.	21.17004	+0.61754511	+0.06468656
P 2.51	H	13.1	G 0.25	

From 33 observations at 11 oppositions 1947-1982, mean residual 1".1.

(1659) Punkaharju
Epoch 1987 July 24.0 ET = JDE 2447000.5

M 72.30345		(1950.0)	P	Q
n 0.21243338	Peri.	34.31491	+0.96765277	-0.22901657
a 2.7817678	Node	338.17758	+0.11472784	+0.77304935
e 0.2594732	Incl.	16.54027	+0.22469012	+0.59156244
P 4.64	H	10.1	G 0.25	

From 42 observations at 15 oppositions 1930-1983, mean residual 0".8.

(1661) Granule
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	2.30908		(1950.0)		P	Q
n	0.30543786	Peri.	327.08606	-0.66333858		+0.74649091
a	2.1836724	Node	261.30136	-0.67459486		-0.62676376
e	0.0909674	Incl.	3.03172	-0.32388841		-0.22342452
P	3.23	H	12.9	G	0.25	

From 25 observations at 9 oppositions 1916-1984, mean residual 1".1.

(1707) Chantal
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	179.96703		(1950.0)		P	Q
n	0.29808964	Peri.	42.30604	+0.66846622		-0.74370897
a	2.2194130	Node	5.75807	+0.66209848		+0.59073320
e	0.1703740	Incl.	4.03664	+0.33878976		+0.31293971
P	3.31	H	12.61	G	0.25	

From 54 observations at 11 oppositions 1932-1985, mean residual 1".0.

(1731) Smuts
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	280.49879		(1950.0)		P	Q
n	0.17398259	Peri.	205.52888	+0.99840784		+0.03071270
a	3.1778412	Node	152.58506	-0.01443249		+0.94994344
e	0.1090555	Incl.	5.89800	-0.05452971		+0.31090864
P	5.67	H	9.9	G	0.25	

From 42 observations at 17 oppositions 1926-1986, mean residual 1".0.

* * * * *

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

(725) Amanda
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	129.83595		(1950.0)		P	Q
n	0.23864405	Peri.	322.62858	+0.85428696		-0.51615276
a	2.5741606	Node	68.55409	+0.49141745		+0.76341704
e	0.2175664	Incl.	3.78750	+0.16941868		+0.38830498
P	4.13	H	11.69	G	0.15	

From 47 observations at 17 oppositions, 1915-1985, mean residual 1".2.

(745) Mauritia
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	292.42352		(1950.0)		P	Q
n	0.16726460	Peri.	351.63769	-0.46238526		-0.86647756
a	3.2623711	Node	125.69590	+0.82629334		-0.49806415
e	0.0481874	Incl.	13.39887	+0.32161964		+0.03389297
P	5.89	H	10.38	G	0.15	

From 54 observations at 12 oppositions, 1918-1985, mean residual 1".1.

(782) Montefiore
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	304.49620		(1950.0)		P	Q
n	0.30632203	Peri.	82.01651	-0.94720822		-0.30763191
a	2.1794683	Node	80.03219	+0.24596193		-0.87793615
e	0.0388150	Incl.	5.26214	+0.20566798		-0.36686609
P	3.22	H	11.53	G	0.25	

From 26 observations at 15 oppositions, 1917-1985, mean residual 1".5.

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

(3030) Vehrenberg
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	68.75606		(1950.0)		P		Q
n	0.28828089	Peri.	109.30919		+0.74373460		-0.66611291
a	2.2694754	Node	292.50197		+0.58820169		+0.69201850
e	0.2451737	Incl.	3.48422		+0.31761238		+0.27821573
P	3.42	H	14.4	G	0.25		

From 28 observations at 6 oppositions 1962-1986, mean residual 1".0.

* * * * *

ORBITAL ELEMENTS BY H. OISHI, NIIZA, JAPAN.

The following orbital elements are from JAM 2021-2022 and 2025-2026. The identifications are by H. Oishi unless otherwise stated.

(3507)* 1982 UX = 1982 VW5 = 1936 LA = 1947 LP = 1965 UL1 = 1969 JN = 1970 PT = 1970 QF = 1974 ER = 1976 SP9

Discovered 1982 Oct. 21 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identifications 1982 UX = 1982 VW5 = 1965 UL1 = 1969 JN = 1970 PT = 1970 QF = 1974 ER = 1976 SP9 are by T. Furuta (MPC 10297).
Epoch 1987 July 24.0 ET = JDE 2447000.5

M	58.36186		(1950.0)		P		Q
n	0.17615646	Peri.	180.23822		-0.02432508		+0.99811223
a	3.1516429	Node	88.36830		-0.91707213		+0.00017789
e	0.1360706	Incl.	3.23415		-0.39797864		-0.06141610
P	5.60	H	11.3	G	0.25		

Residuals in seconds of arc

360614	078(24.9-	31.3+)X	700828	095	1.6+	1.4-	821107	095	2.0-	1.6+
470614	690(11.4-	36.7-)Y	740315	095	0.6+	1.4-	821108	095	1.5-	0.9+
470615	690(10.5-	49.8-)Y	740319	095	0.1-	1.3+	860604	801	1.4+	1.3-
651018	330	1.5-	0.6-	740321	095	1.8-	3.5-	860610	688	1.6-	1.1+
651023	330	0.2+	0.2+	760929	095	(6.0+	4.0-)	860610	688	0.3-	0.7+
690507	095	1.2+	2.3+	821021	688	0.9+	0.0				
700810	095	0.3+	1.6-	821021	688	2.7+	0.6-				

1929 PA = 1929 QJ = 1980 TQ5
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	117.09453		(1950.0)		P		Q
n	0.17689227	Peri.	38.70978		+0.77999015		+0.62191518
a	3.1429032	Node	282.69224		-0.59040435		+0.69448198
e	0.1646142	Incl.	4.08806		-0.20745618		+0.36182356
P	5.57	H	12.2	G	0.25		

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

290804	024	1.5-	1.1+	290813	024	3.0-	0.7+	801009	675	0.6-	1.5-
290806	024	1.6+	0.3+	290814	024	0.0	0.7+	801010	675	0.3-	0.6-
290809	662	0.5+	2.8-	290815	662	0.1-	2.2-	801010	095	0.6-	1.7+
290809	662	3.5+	0.7-	290830	024	1.8-	2.1+	801015	095	2.3+	2.7+
290810	024(0.06+	0.03+)X	801007	675	0.3-	0.2+	801107	675	0.2-	1.8-
290812	024	0.9+	0.8+	801008	675	0.1-	1.0-				

1978 OP = 1982 KR1
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	11.75887	(1950.0)	P	Q
n	0.22226737	Peri. 193.12513	+0.52113872	+0.81826268
a	2.6991050	Node 108.76666	-0.75803414	+0.57438848
e	0.1569582	Incl. 14.84674	-0.39217174	-0.02289231
P	4.43	H 14.1	G 0.25	

Residuals in seconds of arc

780710	675	0.5-	0.6-	780728	323	0.2+	1.8+	820522	381	0.3-	1.2+
780711	675	(7.8-	5.5-)	780731	323	0.2+	0.5-	820523	381	0.4-	0.7+
780713	675	(5.7-	3.6-)	780731	323	0.1-	1.3-	820523	381	0.5+	0.7-
780728	323	0.2+	0.5+	820522	381	0.8+	0.0	820524	381	0.5-	1.2-

2126 P-L = 1972 XT
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	257.17870	(1950.0)	P	Q
n	0.25458420	Peri. 111.76487	-0.05396782	-0.99771935
a	2.4655621	Node 341.19240	+0.86334563	-0.02622283
e	0.0443191	Incl. 7.22411	+0.50171885	-0.06219693
P	3.87	H 13.2	G 0.25	

Residuals in seconds of arc

600924	675	1.0-	0.8-	600929	675	0.9+	0.2-	721202	095	2.9-	2.5-
600926	675	0.8-	1.1+	601025	675	0.1+	1.6+	721206	095	2.9+	2.7+
600928	675	0.2-	0.1+	601026	675	1.1+	1.9-				

2538 P-L = 1981 UB15 = 1981 WU5
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	51.74228	(1950.0)	P	Q
n	0.28540193	Peri. 199.97014	-0.69838353	+0.71295540
a	2.2847165	Node 25.85689	-0.63547995	-0.57726038
e	0.0639040	Incl. 8.29095	-0.32928054	-0.39807669
P	3.45	H 13.9	G 0.25	

Residuals in seconds of arc

600924	675	0.2-	0.4-	601017	675	0.1-	0.0	811023	095	1.1+	0.2+
600926	675	0.0	0.8-	601022	675	0.2-	0.1+	811124	095	1.1-	0.2-
600928	675	0.4-	0.3+	601025	675	0.6+	0.0				
600929	675	0.6-	1.0+	601026	675	1.0+	0.1-				

2820 P-L = 1976 JF6 = 1986 GQ1
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	197.94810	(1950.0)	P	Q
n	0.28883451	Peri. 101.97598	-0.56306692	-0.82569853
a	2.2665790	Node 22.39727	+0.71880558	-0.50981720
e	0.0770816	Incl. 5.16716	+0.40776732	-0.24147124
P	3.41	H 14.2	G 0.25	

Residuals in seconds of arc

600924	675	1.2+	0.4+	600928	675	0.7-	0.1-	760503	809	0.0	0.2+
600924	675	0.1-	0.3-	601022	675	0.4+	1.4-	860402	054	3.7-	0.3+
600926	675	0.6+	0.6-	601025	675	0.4+	2.0-	860404	054	0.4-	2.6-
600927	675	0.2+	0.3+	601026	675	0.6+	1.3-	860410	054	1.7+	2.3-

4020 P-L = 1964 VV1 = 1971 UE2 = 1975 YM = 1982 UM10
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	108.49544	(1950.0)	P	Q
n	0.27088605	Peri. 182.59868	+0.82353681	-0.56687678
a	2.3656246	Node 211.96279	+0.52113837	+0.77062939
e	0.0713835	Incl. 2.26536	+0.22405787	+0.29117189
P	3.64	H 14.2	G 0.25	

Residuals in seconds of arc

600924	675	1.3-	0.2+	601017	675	0.7-	1.1-	641109	330	0.5-	1.6+
600925	675	1.6-	0.0	601022	675	0.8+	0.8+	711021	095	(15.4+	0.0)
600926	675	0.5-	0.4-	601024	675	2.3+	0.4+	751224	330	0.3+	0.8-
600928	675	0.1-	0.0	601026	675	1.7+	0.2+	821024	095	0.1+	0.6-

* * * * *

ORBITAL ELEMENTS BY T. KOBAYASHI, TOKYO.

The identifications are by T. Kobayashi unless otherwise stated.

(3508)* 1980 DO5 = 1980 FC = 1980 FG10 = 1973 YR = 1977 SR3 = 1982 TJ2

Discovered 1980 Feb. 21 by L. G. Karachkina at the Crimean Astrophysical Observatory. The double designations 1980 DO5 = 1980 FC and 1980 DO5 = 1980 FG10 are by B. G. Marsden and N. S. Chernykh (MPC 9203), respectively.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	101.87875	(1950.0)		P	Q
n	0.21519321	Peri.	298.17368	+0.54070342	+0.84116234
a	2.7579327	Node	4.59013	-0.72548771	+0.47186193
e	0.1128924	Incl.	6.64379	-0.42580207	+0.26418220
P	4.58	H	12.5	G 0.25	

Residuals in seconds of arc

731220	095	2.6-	1.0-	800316	095	0.4-	2.1-	821020	095	2.1+	0.9-
770919	095	1.0+	0.5-	800316	046	2.0-	1.3-	821025	095	0.7+	0.1+
771008	095	2.3+	1.4-	800317	046	1.0-	2.1-	860906	688	0.8+	2.0-
800221	095	2.2+	0.3-	800317	046	0.7+	1.2-	860906	688	0.0	1.7-
800316	046	2.8-	0.3-	821014	095	0.8-	1.1+	860908	801	0.3-	0.5-

1955 SF = 1955 TK = 1978 QV

The double designation 1955 SF = 1955 TK is by S. Kanda (MPC 1453).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	246.79813	(1950.0)		P	Q
n	0.29815918	Peri.	2.81094	+0.92352939	+0.38196535
a	2.2190679	Node	334.64695	-0.35341954	+0.81254255
e	0.1960982	Incl.	4.63241	-0.14895666	+0.44031475
P	3.31	H	15.0	G 0.25	

Residuals in seconds of arc

550916	760	0.0	2.0+	551011	760	0.4+	0.2-	780905	095	0.3+	0.1-
550916	760	0.8-	1.1-	551011	760	0.2-	0.1+				
550917	760	0.5+	0.6-	780831	095	0.2-	0.0				

* * * * *

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

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

Periodic Comet Urata-Niijima (1986o)

T 1986 Nov. 23.13199 ET

q	1.4448483	(1950.0)		P	Q
n	0.15340973	Peri.	21.56633	+0.62065650	-0.75502255
a	3.4559500	Node	31.26944	+0.64651335	+0.34018547
e	0.5819244	Incl.	24.04402	+0.44362822	+0.56054866
P	6.42				

From 21 observations 1986 Oct. 29-Nov. 7.

Comet Sorrells (1986n)
T 1987 Mar. 9.62172 ET

q 1.7225291	(1950.0)		P	Q
	Peri.	70.15287	+0.94618232	+0.05004701
	Node	74.08769	-0.04801452	-0.95532937
e 1.0	Incl.	160.58058	+0.32005253	-0.29127493

From 43 observations 1986 Nov. 2-12.

(3509)* 1978 UH2 = 1957 UB1 = 1982 UH3

Discovered 1978 Oct. 28 at the Purple Mountain Observatory. The key identification 1978 UH2 = 1982 UH3 is by P. Wild (MPC 7599). The identification 1978 UH2 = 1957 UB1 was found independently by K. Hurukawa (JAM 1847).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M 68.80459	(1950.0)		P	Q
n 0.23541725	Peri.	138.48423	+0.98887170	+0.04918676
a 2.5976294	Node	219.37206	-0.08103028	+0.96956455
e 0.1544647	Incl.	12.78744	+0.12476720	+0.23984421
P 4.19	H 12.6		G 0.25	

Residuals in seconds of arc

571021 760	0.6-	0.2+	781031 330	0.7+	0.4-	821021 026	1.3+	0.3+
571021 760	0.7+	0.4+	781103 330	1.7+	0.4+	821104 026	0.7-	1.1-
780908 017	0.5+	0.5+	781107 330	0.5-	1.2-	860908 801	0.1-	0.4+
780909 017	0.2-	0.4-	821015 704	1.4-	1.4+	860911 054	0.0	0.4-
781028 330	1.8-	0.2-	821015 704	(4.1-	8.5-)	861006 801	0.2+	0.6-
781029 330	0.2-	0.9+	821020 026	0.7+	0.1+			

(3510)* 1982 TP = 1978 TV5

Discovered 1982 Oct. 13 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory. The identification is by W. Landgraf (MPC 10034).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M 144.74373	(1950.0)		P	Q
n 0.24279293	Peri.	16.13250	+0.43312899	+0.89600697
a 2.5447513	Node	279.61978	-0.83749819	+0.35995669
e 0.1304234	Incl.	5.69459	-0.33316071	+0.26000519
P 4.06	H 12.5		G 0.25	

Residuals in seconds of arc

781008 095	1.4+	1.0+	821021 095	1.2+	1.5+	860908 801	1.6-	0.8-
821013 688	1.8+	1.5-	821022 095	0.3+	1.4+	861002 657	0.9+	0.6-
821013 688	1.1+	2.3-	821024 095	0.9-	0.9-	861002 657	0.9-	0.7+
821014 095	2.3-	0.1+	821112 095	1.0-	1.5+	861004 688	0.3+	1.5+
821015 095	0.6-	4.0-	850511 675	0.3-	1.4-	861004 688	1.3+	1.8+
821020 095	0.7-	2.0-	850514 675	0.2+	0.5+	861006 801	0.0	2.2+

(3511)* 1982 TC2 = 1952 DE3 = 1973 UO4 = 1984 HF1

Discovered 1982 Oct. 14 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M 328.42070	(1950.0)		P	Q
n 0.21640510	Peri.	236.65056	-0.26998896	-0.95599531
a 2.7476267	Node	229.44709	+0.92596173	-0.22509852
e 0.1975201	Incl.	8.69013	+0.26400915	-0.18815851
P 4.55	H 12.5		G 0.25	

Residuals in seconds of arc

520226	711	1.0+	3.9-	Y	840403	095	1.9+	0.0	840430	809	0.9-	0.2-
520226	711	2.6-	5.1+	Y	840405	095	1.4+	1.1-	840504	809	0.1-	0.5+
731029	095	6.2+	8.5-		840423	809	1.0+	0.1+	840504	809	1.4-	0.7+
821014	095	0.3+	3.6+		840423	809	0.4+	0.6+	840507	809	0.5+	0.2+
821020	095	1.8-	3.9+		840423	809	0.6-	0.6+	840507	809	0.6+	0.3+
821022	095	1.0-	1.4+		840424	809	0.2-	0.5+	840507	809	0.4+	0.0
821025	095	1.3-	0.6+		840424	809	0.3-	0.6+	860901	801	0.3-	2.1-
821109	095	1.0-	1.7+		840425	809	0.7-	0.1+	861004	688	0.7+	0.4-
821110	330	0.0	1.0+		840425	809	0.5-	0.0	861004	688	0.0	1.6+
821114	095	0.4-	2.0-		840427	809	1.3-	0.3-	861008	801	1.0+	0.3-
821117	330	2.3-	0.1+		840427	809	0.5-	0.2-				
840330	095	2.4+	1.2-		840430	809	0.4-	0.2-				

(3512)* 1984 AC1

Discovered 1984 Jan. 8 by J. Wagner at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	60.69859	(1950.0)	P	Q	
n	0.29225558	Peri.	300.15002	+0.60047364	-0.79052656
a	2.2488518	Node	112.45647	+0.77113283	+0.53260897
e	0.2479879	Incl.	7.48650	+0.21162600	+0.30231679
P	3.37	H	13.6	G 0.25	

Residuals in seconds of arc

840108	688	1.6+	1.9-		840204	688	0.1-	0.9-	850619	691	0.5-	0.2+
840108	688	1.3+	2.5-		840204	688	0.7+	1.3-	850619	691	0.9-	1.6-
840126	688	0.4+	1.9-		840307	801	0.5-	2.4+	860905	657	0.9-	3.1-
840126	688	0.4+	2.4-		840503	801	0.0	0.3+	860905	657	0.9-	0.3+
840128	704	1.8-	3.0+		850615	691	1.0+	1.1+	860908	801	1.4-	0.1+
840128	704	2.6-	3.6+		850615	691	0.6+	1.4+	861006	801	2.1+	5.9+
840129	704	1.1-	3.4+		850615	691	0.7+	1.4+	861007	657	0.5-	0.9-
840130	704	1.7+	0.5+		850619	691	0.1-	0.1+	861008	801	0.0	0.2-

1969 TR1 = 1986 TA

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

M	100.81895	(1950.0)	P	Q	
n	0.28882281	Peri.	346.22569	+0.93294047	+0.36000469
a	2.2666402	Node	352.66945	-0.32701186	+0.84229383
e	0.2689854	Incl.	1.94215	-0.15061645	+0.40117044
P	3.41	H	14.0	G 0.25	

Residuals in seconds of arc

691008	095	2.2-	1.0+		861001	552	1.0-	0.6-	861010	552	1.3-	0.1-
691013	095	0.1-	3.2+		861002	552	0.3+	0.6+	861011	552	0.8+	1.5+
691016	095	1.6+	0.7+		861002	552	0.7+	1.9+	861011	552	0.1-	0.4-
691104	095	3.7-	1.4-		861003	552	0.2+	0.7+	861024	552	2.2+	2.6-
691111	095	1.1-	1.2-		861003	552	0.6+	1.7+	861024	552	0.9+	2.5-
691113	095	3.1+	3.5+		861004	552	0.1-	0.1+	861029	552	0.3+	2.1-
860930	552	1.3-	0.7-		861004	552	0.5-	0.5-	861029	552	1.8+	2.8-
861001	552	0.3+	0.6-		861010	552	1.0-	0.6+				

1976 GR2 = 1960 FB = 1986 OB

The identification 1976 GR2 = 1986 OB is by E. Bowell.

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

M	170.89777	(1950.0)	P	Q	
n	0.31009601	Peri.	87.41424	-0.60009001	+0.79928990
a	2.1617533	Node	145.64418	-0.75461727	-0.55234439
e	0.1036389	Incl.	3.25644	-0.26541431	-0.23675163
P	3.18	H	14.0	G 0.25	

Residuals in seconds of arc

600323	760	0.2-	1.7-		760404	095	0.4+	3.4+		860731	688	3.8-	1.1-
600323	760	1.3-	3.1-		760502	095	0.1+	1.0-					
760401	095	1.0+	1.6+		860731	688	4.3+	0.3+					

1986 RQ = 1965 UO2 = 1972 TX2 = 1972 TR6 = 1979 SO2
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	111.94598		(1950.0)	P	Q
n	0.28087956	Peri.	112.94866	+0.79563122	+0.60024326
a	2.3091749	Node	210.34962	-0.59796732	+0.75658988
e	0.1874274	Incl.	9.30813	-0.09698479	+0.25938346
P	3.51	H	14.0	G 0.25	

Residuals in seconds of arc

651020	330	4.0+	1.4-		790922	095	0.2+	0.1+		861004	675	0.1+	0.7-
721005	095	(6.2-	6.9+)		790928	095	1.2-	1.1-		861004	675	2.0+	2.8+
721006	095	(2.8+	10.8-)		860911	054	1.6-	2.1-		861005	675	0.6-	0.4-
721013	095	4.8-	0.8+		861003	054	0.7+	0.0		861005	675	1.1+	2.5+

* * * * *

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

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

(3513)* 1965 UZ = 1969 RH2 = 1980 DR = 1985 JF1

Discovered 1965 Oct. 16 at the Purple Mountain Observatory. The identification 1980 DR = 1985 JF1 is by A. Lowe (MPC 10536).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	100.76810		(1950.0)	P	Q
n	0.23116113	Peri.	351.99087	+0.71322379	+0.70039866
a	2.6294173	Node	323.49973	-0.64047951	+0.63529590
e	0.0111598	Incl.	2.64510	-0.28477681	+0.32533189
P	4.26	H	12.8	G 0.25	

Residuals in seconds of arc

651016	330	0.8-	3.2-		800221	046	1.7-	0.8-		860905	046	1.6+	1.8-
651020	330	1.5-	0.3+		800221	046	0.6-	2.0-		860905	046	0.7-	2.6-
651024	330	2.4+	0.4+		850511	675	1.3-	1.8-		860907	801	3.0-	0.8+
690913	095	1.1+	0.3+		850514	675	0.2-	0.6-		860908	046	1.2-	0.0
800216	801	0.1+	0.6+		860902	046	1.4+	0.7-		860908	046	0.7+	0.7+
800219	046	0.2+	1.6-		860903	046	2.4+	0.6+		861006	801	1.3+	0.0
800219	046	1.1+	2.1-		860905	046	2.8+	2.7-					
800220	095	2.9-	5.7-		860905	046	0.9-	1.8-					

(3514)* 1971 UJ = 1979 WH8 = 1981 AG3

Discovered 1971 Oct. 26 by L. Kohoutek at Bergedorf. The identification 1971 UJ = 1979 WH8 is by E. Bowell and S. J. Bus (MPC 10536). The identification 1971 UJ = 1981 AG3 is by L. D. Schmadel (MPC 10536).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	24.41637		(1950.0)	P	Q
n	0.12591172	Peri.	345.05525	+0.98647001	-0.16199038
a	3.9423811	Node	24.31058	+0.15599206	+0.88014018
e	0.2018838	Incl.	3.51212	+0.05043200	+0.44622011
P	7.83	H	11.8	G 0.25	

Residuals in seconds of arc

711016	029	0.4-	1.4+	711110	029	0.5+	1.0-	810108	381	0.4-	0.6-
711017	029	0.2-	0.7-	711110	029	0.7+	1.7+	810108	381	0.3+	0.0
711026	029	0.7+	1.6-	711110	029	1.1-	0.5-	860901	801	1.1-	0.1-
711026	029	0.1+	0.5-	711119	029	1.0-	0.6-	860911	688	0.3+	0.1+
711027	095	1.9+	0.9-	791122	675	1.4-	1.3+	860911	688	0.4+	0.6+
711030	029	0.0	0.1-	791124	675	0.7-	0.2+	861006	801	0.0	0.1-
711108	029	0.1+	0.4-	791125	675	1.1+	1.6+				

(3515)* 1982 UH2 = 1977 SN1 = 1977 TQ4 = 1979 BV1

Discovered 1982 Oct. 16 by Z. Vavrova at Klet. The double designation 1977 SN1 = 1977 TQ4 is by H. Oishi (MPC 5677).

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	173.12916		(1950.0)	P	Q
n	0.20521344	Peri.	244.25188	-0.69563525	+0.71835414
a	2.8466376	Node	341.66353	-0.65002892	-0.63394860
e	0.0091203	Incl.	1.39823	-0.30586597	-0.28648997
P	4.80	H	12.1	G 0.25	

Residuals in seconds of arc

770919	095	0.0	1.6+	821017	046	0.5+	0.6-	860901	801	0.5-	0.7+
770922	095	1.0+	0.9-	821020	095	0.5-	0.5-	860904	688	0.7+	1.6-
771007	095	1.3-	0.3+	821025	095	0.8-	0.0	860904	688	1.4-	1.7-
790124	095	0.1-	0.2-	821109	095	1.1-	0.2-	861003	801	0.5+	0.2+
821014	095	0.4+	0.6+	821114	095	1.3+	0.0				
821016	046	0.6+	0.1-	860806	801	0.9+	1.9+				

(3516)* 1982 UH7 = 1975 GH1 = 1985 JN2

Discovered 1982 Oct. 21 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	27.00636		(1950.0)	P	Q
n	0.20134721	Peri.	207.08217	+0.98874330	-0.14906909
a	2.8829624	Node	161.47740	+0.14355168	+0.92091287
e	0.0838685	Incl.	2.31806	+0.04218539	+0.36013593
P	4.90	H	12.3	G 0.25	

Residuals in seconds of arc

750415	805	0.7+	0.3+	821023	095	1.7-	0.8+	850515	675	0.7-	0.3+
750420	805	0.4-	0.7+	821112	095	0.8+	0.4+	860908	801	0.2+	0.7+
821021	095	0.4+	1.3+	850513	675	1.1+	1.1+	861008	801	0.5-	0.2-

1953 TH = 1984 FA2

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

M	42.65582		(1950.0)	P	Q
n	0.23836490	Peri.	67.34144	+0.69102828	-0.71990012
a	2.5761751	Node	338.52023	+0.58073287	+0.60647044
e	0.1289142	Incl.	10.22331	+0.43038268	+0.33754617
P	4.13	H	12.0	G 0.25	

Residuals in seconds of arc

531013	062	0.4+	0.7+	531112	062	0.4+	1.4-	840403	095	0.8-	1.0+
531102	062	0.2+	0.3+	531112	062	1.1-	1.8+				
531112	210(15.3+	11.1-)X		840330	095	0.4+	0.5-				

1978 RY5 = 1970 WZ = 1980 DK5 = 1986 RH3

The key identification 1978 RY5 = 1986 RH3 is by E. Bowell.

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

M	13.33366	(1950.0)	P	Q
n	0.23867789	Peri. 54.27415	+0.44005274	-0.89753674
a	2.5739224	Node 9.73900	+0.76121143	+0.35633893
e	0.1542602	Incl. 9.51158	+0.47635149	+0.25971208
P	4.13	H 13.5	G 0.25	

Residuals in seconds of arc

701126 095	0.2-	0.5+	781003 095	0.9+	0.5-	860911 688	1.5-	0.3+
780913 095	1.8-	0.2-	781007 095	2.2+	1.1-	860911 688	1.0+	0.3+
780927 095	1.1-	1.5+	800221 095	0.3+	0.4+			

1978 TQ7 = 1968 DR = 1986 TO1

The key identification 1978 TQ7 = 1986 TO1 is by E. Bowell.

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

M	148.09806	(1950.0)	P	Q
n	0.23749106	Peri. 114.30856	+0.08993724	+0.99208069
a	2.5824905	Node 160.24513	-0.98166567	+0.10315837
e	0.0899647	Incl. 15.03451	-0.16805892	-0.07165365
P	4.15	H 12.0	G 0.25	

Residuals in seconds of arc

680227 095	0.4-	2.9-	781101 095	0.1-	3.0+	861007 688	0.4+	2.0-
781002 095	0.3+	3.7-	861006 688	1.4-	1.4-			
781008 095	0.4-	1.5+	861007 688	1.6+	0.1-			

1981 XH2 = 1954 RL

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

M	50.77257	(1950.0)	P	Q
n	0.18563931	Peri. 136.42809	+0.93166048	-0.33962328
a	3.0433853	Node 243.83824	+0.28124083	+0.89905461
e	0.2504386	Incl. 8.26935	+0.23002684	+0.27632740
P	5.31	H 12.0	G 0.25	

Residuals in seconds of arc

540906 760	0.6+	0.1+	811028 095	0.4-	1.2-	811223 330	0.7+	0.0
540906 760	0.8-	0.4+	811125 095	0.9-	0.3+	811229 330	(14.4-	13.5+)
811023 095	1.7-	1.3+	811203 330	0.6-	0.9+	861008 054	0.2+	0.5-
811025 095	2.3+	0.8-	811220 330	0.7+	0.3-			

1986 JA1

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	107.76848	(1950.0)	P	Q
n	0.27528832	Peri. 41.61191	-0.02096287	+0.94811555
a	2.3403323	Node 229.81188	-0.99137613	-0.06076783
e	0.2332236	Incl. 24.53607	-0.12935971	+0.31206438
P	3.58	H 12.5	G 0.25	

From 12 observations 1986 May 8-Oct. 7, mean residual 0".8.

1986 TO = 1983 UH

Epoch 1987 July 24.0 ET = JDE 2447000.5

M	178.54312	(1950.0)	P	Q
n	0.98908734	Peri. 43.57121	-0.94962977	-0.15016662
a	0.9976532	Node 125.76916	+0.09862193	-0.97632194
e	0.5148465	Incl. 19.81552	+0.29745087	-0.15570954
P	1.00	H 15.0	G 0.25	

Residuals in seconds of arc

831030	809	0.0	1.7-		861023	413	0.9-	1.5-		861025	413	0.2-	1.5+
831030	809	0.3+	0.0		861023	413	0.8-	0.3+		861025	413	0.7+	0.2-
831104	809	1.4-	0.2-		861023	413	0.1-	0.5+		861025	413	0.2+	3.2-
831104	809	1.7+	2.5+		861023	413	0.8-	1.5-		861028	413	0.2-	0.3-
861010	413	0.3+	0.5-		861023	413	0.2+	0.0		861028	413	0.9+	1.4-
861010	413	0.1+	1.0+		861025	413	2.6+	1.7+		861029	474	0.4+	0.2+
861011	413	0.4-	2.3-		861025	413	0.4-	0.2-		861029	474	0.7+	1.1+
861011	413	0.5-	2.1+		861025	413	0.8+	0.0		861031	474	0.5-	0.7+
861021	413	0.6+	0.9+		861025	413	2.2-	1.0+		861031	474	0.3-	0.2+
861021	413	0.6+	0.1+		861025	413	0.2-	0.8+		861104	413	0.3-	0.2-
861023	413	0.3+	0.2+		861025	413	0.7-	0.9+		861104	413	0.2-	0.7-

1986 TJ4 = 1956 RG = 1973 QG1
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	71.09698		(1950.0)	P	Q
n	0.23124129	Peri.	107.55033	+0.99746637	-0.02364971
a	2.6288148	Node	253.84537	-0.00355831	+0.92535745
e	0.2543970	Incl.	4.00546	+0.07105055	+0.37835735
P	4.26	H	13.5	G 0.25	

Residuals in seconds of arc

560905	760	2.3+	0.3+		730902	095	0.1-	0.1-		861029	054	0.1+	0.1+
560905	760	2.4-	0.0		861008	054	0.1-	0.2-		861031	054	0.2-	0.9+
730829	095	0.1+	0.0		861011	054	0.2+	0.9-					

1986 TK4 = 1979 YR
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	80.16722		(1950.0)	P	Q
n	0.27288486	Peri.	341.34692	+0.94121661	-0.32898603
a	2.3540587	Node	38.13528	+0.32356587	+0.81280797
e	0.2372133	Incl.	7.13285	+0.09703821	+0.48074047
P	3.61	H	14.0	G 0.25	

Residuals in seconds of arc

791224	095	0.1+	1.7-		791226	809	1.7-	1.4-		861029	054	0.9+	0.4+
791225	809	0.2+	1.0-		791226	809	0.6-	0.8-		861102	054	0.1-	0.4-
791225	809	0.9+	0.7-		791226	809	1.8+	0.7-					
791225	809	1.0+	0.3-		861013	054	0.4-	0.6-					

* * * * *

ORBITAL ELEMENTS BY S. NAKANO, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by S. Nakano unless otherwise stated.

1968 HP = 1960 DA = 1976 KK
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M	321.26801		(1950.0)	P	Q
n	0.25602392	Peri.	98.93928	-0.32406036	+0.94488888
a	2.4563103	Node	152.01334	-0.90226990	-0.29389006
e	0.1329791	Incl.	5.69690	-0.28441854	-0.14426934
P	3.85	H	13.0	G 0.25	

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

600222	760(0.12+ | 0.04-)X		680426	095	6.1+	1.3+		760525	095	0.0	1.4+
680422	095	3.1-	0.3+		680430	095	3.1-	1.7-		760530	095	0.0	1.3-

1975 YE = 1979 SN5 = 1979 UU2

The double designation 1979 SN5 = 1979 UU2 was independently suggested by N. S. Chernykh.

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

M	157.51353		(1950.0)	P	Q
n	0.20142485	Peri.	254.06417	+0.17762270	-0.98379596
a	2.8822272	Node	185.86990	+0.96926367	+0.17918134
e	0.2335363	Incl.	13.80677	+0.17022958	+0.00628872
P	4.89	H	12.5	G 0.25	

Residuals in seconds of arc

751231 808	0.5+	0.1-	760103 808	0.1+	0.2-	790923 095	0.1-	0.0
751231 808	0.8-	0.1-	760106 808	0.3-	0.2+	791016 095	0.1+	0.0
760103 808	0.2-	0.0	760106 808	0.7+	0.3+			

1982 QO1 = 1929 WN = 1947 BL = 1976 YW1 = 1979 WH5

The identifications 1982 QO1 = 1929 WN = 1947 BL were also suggested by W. Landgraf.

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

M	29.00341		(1950.0)	P	Q
n	0.29418487	Peri.	210.14151	-0.47658400	-0.87780862
a	2.2390134	Node	268.35903	+0.81586643	-0.42121802
e	0.0660835	Incl.	2.76176	+0.32745939	-0.22809515
P	3.35	H	13.0	G 0.25	

Residuals in seconds of arc

291127 690	0.5+	3.2+	791117 095	0.7-	2.4-	820820 809	0.3-	0.2+
291203 690	0.5-	2.3+	820816 809	0.2-	0.7-	820820 809	1.1-	0.5-
470128 754	0.1-	1.1+	820816 809	0.1-	0.8-	820820 809	0.4-	0.1+
470128 754	0.3-	1.7+	820816 809	0.0	0.2-	820822 809	1.4+	1.3+
761216 095	0.2+	3.2-	820818 809	1.5-	0.4-	820822 809	2.6+	2.1+
761218 095	0.2+	1.3-	820818 809	0.1-	0.1-	820822 809	0.3+	0.7+
761220 095	0.6+	1.4-	820818 809	0.6-	0.2-			

1983 BF = A915 FC = 1961 GA = 1966 CC = 1976 YG7 = 1981 TB3 = 1981 VA3

The double designation 1981 TB3 = 1981 VA3 is by C. M. Bardwell (MPC 9952). The identification 1983 BF = 1966 CC was independently suggested by W. Landgraf.

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

M	278.09128		(1950.0)	P	Q
n	0.16957491	Peri.	347.02246	-0.43277407	-0.90128068
a	3.2326785	Node	128.61763	+0.82934125	-0.40672883
e	0.1268848	Incl.	1.46630	+0.35341152	-0.14921392
P	5.81	H	12.0	G 0.25	

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

150320 024	4.5+	7.0-	811027 095	0.1+	0.1+	830116 688	1.0+	0.6-
610414 760(0.04-	0.00+)X		811102 688	4.2+	2.8-	830116 688	0.5-	0.3-
660214 020(99.8-	17.2+)X		811102 688	1.4-	4.2-	830121 688	3.0+	2.3-
660217 020(0.03-	0.01+)X		830110 675	5.4-	0.4+	830210 675	0.4+	0.1-
761220 095	0.1+	0.0	830111 675	1.1-	1.5+	830211 675	1.2+	0.1+
811006 095	1.1-	0.3-	830111 675	0.8-	0.0	830215 675	1.1+	0.7-
811026 095	0.9+	3.0+	830112 675	1.9+	3.9+			

1984 DE = 1971 BL

The double designation 1971 BL = 1971 DG2 (JAM 1814) is invalid.

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

M	343.48009		(1950.0)	P	Q
n	0.22698395	Peri.	122.81824	+0.19350160	-0.97752695
a	2.6615838	Node	315.77733	+0.85522729	+0.20984528
e	0.1001209	Incl.	6.88891	+0.48077376	+0.02015005
P	4.34	H	12.5	G 0.25	

Residuals in seconds of arc

710122 095	0.2+	0.3-	840222 046	0.8+	0.3+	840226 095	0.6+	1.5-
710128 095	0.7-	0.6-	840222 046	1.1-	0.3-	840305 095	3.5+	2.1-
840221 046	0.8+	1.2+	840225 046	3.1-	1.7+			
840221 046	2.3+	1.3+	840225 046	3.3-	0.2+			

1984 DU2 = 1934 GN = 1948 LH = 1957 JH = 1957 JN = 1968 UH3 = 1975 LC = 1976 SE10

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

M	217.63387	(1950.0)		P	Q
n	0.21654841	Peri.	158.14521	-0.65288928	+0.74662094
a	2.7464198	Node	70.85060	-0.71339488	-0.54948410
e	0.1256905	Incl.	7.76554	-0.25456499	-0.37499919
P	4.55	H	11.5	G 0.25	

Residuals in seconds of arc

340406 024	0.1-	3.3-	681022 095	1.8+	0.4-	760917 808	1.5-	1.8+
480601 690(34.3+	3.5+)Y		681026 095	1.6-	3.7-	760919 808	0.5+	1.1+
480605 690(41.5+	3.1-)Y		750612 805	2.4-	0.4-	760919 808	0.4-	0.6-
570502 760	1.1-	0.9-	750612 805	2.8-	0.0	840226 095	2.9+	1.4-
570502 760	0.5-	1.1+	760916 808	2.2+	1.1+	840329 095	2.0+	1.3+
570504 760	0.9+	2.1-	760916 808	0.3+	0.6+	840403 095	0.1+	3.6+
570504 760	2.3-	1.2-	760917 808	0.5-	0.6+	840405 095	1.2+	3.8+

1984 DB3 = 1971 TM = 1973 FD = 1974 OS1 = 1975 XY6

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

M	56.16873	(1950.0)		P	Q
n	0.26589415	Peri.	46.61091	+0.39812078	-0.91533273
a	2.3951409	Node	20.17127	+0.78264513	+0.30449728
e	0.1318987	Incl.	10.11264	+0.47850438	+0.26352874
P	3.71	H	13.0	G 0.25	

Residuals in seconds of arc

711010 095	0.3-	3.4-	740726 808	0.5-	0.5-	840403 095	0.8-	2.8-
711011 095	0.4+	1.7+	751201 330	0.8+	0.3-	840405 095	0.6-	1.0-
730329 805	0.5+	0.7+	840226 095	0.4-	1.2-			
740726 808	1.2+	1.1-	840329 095	0.4-	2.4+			

1984 JJ2 = 1950 HL1 = 1963 KE = 1975 BT1 = 1979 BO1

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

M	265.26896	(1950.0)		P	Q
n	0.23483192	Peri.	118.14116	-0.54350563	+0.81614836
a	2.6019493	Node	117.60207	-0.82666487	-0.47985192
e	0.1212165	Incl.	12.79269	-0.14569427	-0.32193786
P	4.20	H	12.0	G 0.25	

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

500416 760(37.9+	21.6+)X		750122 330	2.0+	6.2-	840519 095	1.0+	1.3-
630523 760(0.06-	0.02+)X		790124 095	0.1-	1.6+	840530 095	1.1-	2.5+
750118 330	2.1-	4.9+	840503 095	0.2+	0.6-			

1984 LJ = 1950 LM = 1971 FU

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

M	281.14581	(1950.0)		P	Q
n	0.23142452	Peri.	34.22929	-0.81606454	+0.57794037
a	2.6274271	Node	181.11238	-0.57028316	-0.80656103
e	0.1094893	Incl.	14.49203	-0.09389242	-0.12427481
P	4.26	H	12.0	G 0.25	

Residuals in seconds of arc

500607 760	0.2-	0.9+	840504 095	0.9-	0.4+	840602 688	2.0+	1.7-
500607 760	0.3+	0.9+	840523 095	1.0-	0.7+	840602 688	1.4+	1.5-
710319 095	0.1+	0.4+	840526 095	1.6-	0.1+			

1986 NF1 = 1936 RM = 1946 QE = 1963 UO = 1963 WA = 1979 HQ5 = 1985 DR
The double designation 1963 UO = 1963 WA was found by R. Mitrinovic (MPC 2505).

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

M 76.65056	(1950.0)	P	Q	
n 0.29463246	Peri. 233.02554	+0.92567560	+0.36045947	
a 2.2367452	Node 105.59189	-0.29799089	+0.88176654	
e 0.2094037	Incl. 6.84894	-0.23307961	+0.30423139	
P 3.35	H 13.0	G 0.25		

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

360915	078(33.0-	0.0)X	790425	095	2.4+	2.2+	860704	675	0.8-	0.3-
460827	078	0.5-	1.5+	790430	095	1.8-	0.1-	860706	413	2.1-	1.8-
631022	760(0.06+	0.02+)X	850216	046	0.7+	0.5+	860706	413	0.3+	0.3+
631119	760(0.03-	0.02-)X	850216	046	0.6-	1.0-	860712	413	2.6+	0.3-

1986 RL = 1980 ND

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

M 90.99137	(1950.0)	P	Q	
n 0.18686639	Peri. 55.89354	+0.67746543	+0.71714158	
a 3.0300477	Node 257.64815	-0.71788916	+0.59620597	
e 0.1070371	Incl. 9.63816	-0.16023652	+0.36089665	
P 5.27	H 12.0	G 0.25		

Residuals in seconds of arc

800711	805	0.6+	0.7-	800713	805	0.5-	0.6+	860911	688	0.1+	0.4-
800712	805	0.4-	0.8+	800713	805	0.0	0.1+	860911	054	1.0-	0.1-
800712	805	0.0	1.2-	860905	688	0.0	0.7-	860911	054	0.9+	0.0
800712	805	0.3+	0.4+	860905	688	0.2+	0.1+	861005	688	0.0	0.3+
800712	805	0.0	0.1+	860911	688	0.6-	0.4-	861005	688	0.5+	1.2+

1986 RG1 = 1936 FZ = 1948 TK1 = 1972 TS1 = 1981 OA = 1982 VE1 = 1984 CO

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

M 66.80907	(1950.0)	P	Q	
n 0.20552522	Peri. 157.29130	+0.94331876	+0.33188167	
a 2.8437636	Node 183.32774	-0.30969776	+0.87799001	
e 0.0760834	Incl. 2.04195	-0.11931897	+0.34494651	
P 4.80	H 12.0	G 0.25		

Residuals in seconds of arc

360319	024	3.3-	5.7+	821115	688	1.5-	1.5-	860905	046	1.4-	0.6-
360320	024	2.4+	1.1+	821115	688	1.1+	0.6-	860905	046	2.2-	0.1+
360324	024	1.4+	0.7+	840128	688	0.1+	1.8-	860905	046	0.0	1.1+
481009	012 (1.0+	95.5+)		840128	688	1.3-	0.9-	860905	046	0.8-	1.3+
721006	095	3.3+	1.1+	840205	688	0.4-	2.3-	860908	046	1.9+	0.1+
721007	095	0.4-	0.4+	840205	688	0.5+	1.4-	860908	046	1.8+	0.2+
810726	688	3.4+	2.0-	860902	046	3.1-	0.9-				
810726	688	1.5+	1.6-	860903	046	2.9-	1.4+				

1986 RQ2 = 1983 CS3

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

M 33.94885	(1950.0)	P	Q	
n 0.17198925	Peri. 224.55294	+0.96256716	-0.22200917	
a 3.2023543	Node 147.31820	+0.24616082	+0.95615257	
e 0.0896047	Incl. 16.73553	-0.11344299	+0.19100834	
P 5.73	H 11.5	G 0.25		

Residuals in seconds of arc

830214	809	0.2+	0.0	830216	809	0.3+	0.3+	860911	688	0.1-	0.1-
830214	809	0.2-	0.3-	830216	809	0.3+	1.0+	860911	688	1.4+	1.9+
830214	809	1.0-	0.6-	860906	688	1.0-	0.0	861004	688	0.0	0.5-
830216	809	0.3+	0.4-	860906	688	0.3-	1.4-	861004	688	0.0	0.1+

1986 RR2 = 1969 TR6 = 1979 QX6
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M 88.61003		(1950.0)	P	Q
n 0.28772799	Peri.	193.64356	+0.99766799	+0.06184943
a 2.2723864	Node	162.73198	-0.04985010	+0.94916635
e 0.2441579	Incl.	5.58042	-0.04662135	+0.30863877
P 3.43	H	14.0	G 0.25	

Residuals in seconds of arc

691015	095	0.1- 1.4+	860906	688	0.6- 2.2-	861005	688	2.8+ 3.2+
691115	095	0.2- 0.8-	860906	688	1.4- 1.6-	861005	688	2.3+ 1.2+
790819	095	0.4- 1.1+	860912	688	1.9- 1.6-			
790821	095	0.3+ 0.6+	860912	688	0.5- 0.6-			

1986 RS2 = 1971 SY1
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M 74.25012		(1950.0)	P	Q
n 0.26154352	Peri.	187.66660	+0.99258493	-0.12154996
a 2.4216290	Node	179.31314	+0.11502333	+0.93691940
e 0.2140654	Incl.	4.17255	+0.03930380	+0.32773106
P 3.77	H	14.0	G 0.25	

Residuals in seconds of arc

710923	095	0.1+ 2.7+	860906	688	2.2- 1.2-	860912	688	0.6+ 1.2+
711010	095	0.2- 3.5-	860906	688	0.8+ 0.8-	861005	688	0.0 0.5+
711011	095	0.0 1.2+	860912	688	1.3+ 0.0	861005	688	0.5- 0.0

1986 RT2 = 1961 TT1 = 1979 VO = 1979 WD5
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M 123.08789		(1950.0)	P	Q
n 0.27481159	Peri.	335.65749	+0.69232944	+0.72150693
a 2.3430428	Node	338.15256	-0.65734808	+0.62470297
e 0.0625163	Incl.	1.59800	-0.29761291	+0.29862009
P 3.59	H	13.5	G 0.25	

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

611013	760(0.14+ 0.08+)X	860906	688	2.8- 1.4-	861005	688	2.5- 1.3-
791111	095 1.1+ 0.2+	860906	688	2.3+ 0.8-	861005	688	1.8+ 2.3+
791116	095 0.1- 1.1+	860912	688	1.2+ 0.5+			
791117	095 1.0- 1.6-	860912	688	0.1- 0.9+			

1986 TE = 1970 HD = 1972 YP = 1973 AV = 1978 NH2 = 1982 OB = 1985 GR1
The double designation 1972 YP = 1973 AV is by C. M. Bardwell (MPC 6840).
Epoch 1987 July 24.0 ET = JDE 2447000.5 (J-P)

M 185.46920		(1950.0)	P	Q
n 0.26270504	Peri.	335.09335	-0.40483177	+0.90978184
a 2.4144857	Node	270.91483	-0.82278062	-0.40618688
e 0.0952570	Incl.	5.26188	-0.39892767	-0.08549395
P 3.75	H	13.0	G 0.25	

Residuals in seconds of arc

700428	095	0.2- 2.9-	820717	688	1.6- 0.9-	860930	046	1.5+ 0.3-
721229	095	1.6+ 0.4-	820724	688	0.2- 0.2+	861001	046	4.2+ 1.1-
730101	095	2.9- 1.9-	820724	688	0.6- 1.4-	861001	046	2.5+ 1.9-
780706	095	1.3+ 0.8+	850415	675	0.8- 0.9-	861003	054	3.5- 0.2-
820717	688	2.2- 1.3-	860930	046	0.3+ 1.7-	861004	054	0.1- 3.2+

1986 TX = 1985 GO1

The identification was found independently by T. Urata (NOC 1563).

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

M	154.93964		(1950.0)	P	Q
n	0.27396236	Peri.	226.06349	+0.47066467	+0.88086145
a	2.3478823	Node	72.07688	-0.79347379	+0.44764553
e	0.0696002	Incl.	3.04700	-0.38584209	+0.15393698
P	3.60	H	14.0	G 0.25	

Residuals in seconds of arc

850415	688	1.0+	1.5+	861003	372	1.5-	2.8-	861011	372	0.9+	1.9+
850415	688	2.9+	1.1+	861003	372	0.4-	1.1-	861011	372	0.1-	1.1+
850424	675	0.2-	0.4+	861008	372	3.0-	1.8-	861013	372	2.5+	1.5+
850425	675	3.2-	1.8-	861008	372	0.2-	1.1-	861013	372	1.2+	3.2+

4575 P-L = 1935 SA1 = 1952 HV3 = 1953 TD2 = 1977 KD1

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

M	193.84848		(1950.0)	P	Q
n	0.27631859	Peri.	185.29066	+0.99794530	+0.06029713
a	2.3345160	Node	171.16468	-0.05238242	+0.96254241
e	0.0982010	Incl.	8.10930	-0.03689525	+0.26434138
P	3.57	H	13.0	G 0.25	

Residuals in seconds of arc

350921	078(93.6+	55.2-)X		600926	675	0.2+	0.2+	601026	675	0.0	1.1-
350929	078(52.8+	8.7-)X		600927	675	0.4+	1.1+	770521	808	1.5-	4.9+
520428	711	0.7+	3.8+ Y	600928	675	0.4+	0.1+	770521	808	1.1+	3.4-
531009	760	0.0	0.7+	601017	675	0.5-	0.1+	770526	808	2.0-	5.1-
531009	760	0.7-	2.3+	601022	675	0.1-	1.4-	770609	808	0.4-	1.0+
600924	675	0.4-	0.1+	601025	675	0.3+	1.2-	770609	808	2.6+	0.1+

* * * * *

ORBITAL ELEMENTS BY K. HURUKAWA, TOKYO ASTRONOMICAL OBSERVATORY.

The following orbital elements are from JAM 2023-2024. The identifications are by K. Hurukawa unless otherwise stated.

1985 PM = 1981 SP7 = 1981 WD5

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

M	166.87213		(1950.0)	P	Q
n	0.21999399	Peri.	338.17849	+0.64875115	+0.75960190
a	2.7176678	Node	332.20507	-0.68272759	+0.55418356
e	0.1915230	Incl.	5.67589	-0.33616214	+0.34041964
P	4.48	H	12.9	G 0.25	

Residuals in seconds of arc

810929	095	0.9+	0.4+	850907	809	1.2+	0.6+	850915	809	1.8-	0.3+
811002	095	0.6+	0.8-	850910	809	0.6-	0.9+	850915	809	1.7-	0.3+
811124	095	0.2-	0.5-	850910	809	0.6-	0.9+	850916	809	1.7-	0.6+
811124	095	0.9-	0.1-	850910	809	0.6-	0.9+	850916	809	1.7-	0.6+
850814	688	0.6+	1.3-	850911	809	0.7+	0.4-	850917	809	1.7-	0.6+
850814	688	0.5+	1.8-	850911	809	0.8+	0.5-	850919	809	2.3-	0.8-
850820	688	1.5-	0.9+	850911	809	1.0+	0.5-	850919	809	2.1-	0.7-
850820	688	0.3+	0.0+	850912	809	1.6+	0.6-	850919	809	2.3-	0.7-
850822	688	1.1+	0.0+	850912	809	1.5+	0.7-	850920	809	0.6-	0.9+
850822	688	0.2+	0.1-	850912	809	1.3+	0.8-	850920	809	0.8-	0.9+
850905	809	0.4+	0.1-	850912	688	2.3+	1.0-	850920	809	0.6-	0.9+
850905	809	0.7+	0.1+	850914	809	0.4+	0.2+	850921	809	0.8+	0.2-
850905	809	1.0+	0.2+	850914	809	0.5+	0.1+	850921	809	1.0+	0.3-
850907	809	1.3+	0.6+	850914	809	0.4+	0.0+	850921	809	1.1+	0.3-
850907	809	1.1+	0.6+	850915	809	2.1-	0.3+				

1985 QH4 = 1956 RD = 1978 SZ4

The identification 1985 QH4 = 1978 SZ4 was independently suggested by L. D. Schmadel.

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

M	149.72745	(1950.0)	P	Q	
n	0.27036537	Peri. 26.20067	+0.95046190	-0.31065328	
a	2.3686608	Node 351.87557	+0.27006216	+0.84248158	
e	0.1384454	Incl. 4.38416	+0.15391103	+0.44013558	
P	3.65	H 13.8	G 0.25		

Residuals in seconds of arc

560909	024	1.1+	1.4+	850912	809	0.5-	0.8+	850917	809	0.2-	0.3-
560914	024	0.9-	1.8-	850912	809	0.2-	0.9+	850918	809	0.9+	0.5-
780927	095	0.3-	0.7+	850912	809	0.4+	0.9+	850918	809	0.2+	0.7-
850824	071	1.1-	0.7-	850914	809	0.4-	0.3+	850918	809	0.5-	0.9-
850824	071	0.5-	0.2+	850914	809	0.4-	0.3+	850919	809	0.8+	0.8+
850905	809	0.6-	0.2-	850914	809	0.4-	0.4+	850919	809	0.0+	0.1-
850905	809	0.0+	0.0+	850915	809	0.0+	0.3-	850919	809	0.7-	0.2-
850905	809	0.6+	0.3+	850915	809	0.5+	0.5-	850920	809	1.4+	0.6-
850906	809	1.0-	0.5+	850915	809	0.3+	0.5-	850920	809	0.6+	0.6-
850906	809	0.3-	0.7+	850916	809	0.0+	0.1+	850920	809	0.1-	0.8-
850906	809	0.1-	0.8+	850916	809	0.2-	0.0+	850921	809	0.1+	0.1-
850911	809	0.6+	0.3+	850916	809	0.6-	0.3-	850921	809	0.5-	0.4-
850911	809	1.2+	0.4+	850917	809	0.7+	0.1+	850921	809	1.5-	0.5-
850911	809	1.5+	0.3+	850917	809	0.2+	0.2-				

* * * * *

ORBITAL ELEMENTS BY T. URATA, SHIMIZU, JAPAN.

1986 UA = 1969 TR5 = 1975 VW1

The identifications are by T. Urata.

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

M	52.12558	(1950.0)	P	Q	
n	0.17484277	Peri. 259.45708	+0.87137113	-0.48998888	
a	3.1674161	Node 129.87789	+0.46188485	+0.80210580	
e	0.1944620	Incl. 1.86426	+0.16545315	+0.34137542	
P	5.64	H 12.0	G 0.25		

Residuals in seconds of arc

691015	095	0.9-	3.8-	861025	881	0.4+	0.5-	861030	881	0.9-	0.1+
691017	095	2.2+	0.3+	861025	881	1.0+	1.5+	861030	883	1.9-	1.0+
751102	095	0.7-	2.4+	861030	881	0.6-	0.6+	861030	883	1.2-	0.8-
751201	095	0.9+	3.8-	861030	399	1.5+	2.6+	861031	399	0.2+	0.1-

* * * * *

EPHEMERIDES.

Periodic Comet Urata-Niijima (1986o) Elements MPC 11339

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1986	11 06	01 48.49	+23 46.1	0.476	1.457	165.2	10.0	16.0
1986	11 16	01 31.05	+30 44.8					
1986	11 26	01 18.27	+36 27.9	0.539	1.445	140.9	25.5	16.3
1986	12 06	01 12.63	+40 54.9					
1986	12 16	01 15.02	+44 23.1	0.664	1.466	124.4	33.6	16.8
1986	12 26	01 25.09	+47 08.8					
1987	01 05	01 42.14	+49 22.3	0.824	1.518	113.9	36.3	17.4
1987	01 15	02 05.24	+51 08.8					
1987	01 25	02 33.32	+52 28.6	1.008	1.595	106.4	36.3	18.0

1986 TO a,e,i = 1.00, 0.51, 20 Elements MPC 11344

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	02 11.79	-63 37.5	0.423	1.147	100.5	58.2	15.3
1986	11 11	01 39.00	-66 02.2					
1986	11 16	00 59.95	-67 44.0	0.406	1.069	90.0	67.7	15.4
1986	11 21	00 15.74	-68 38.2					
1986	11 26	23 28.31	-68 41.7	0.387	0.983	78.1	79.3	15.5
1986	12 01	22 39.83	-67 52.4					
1986	12 06	21 52.05	-66 07.2	0.366	0.889	64.1	94.1	15.7
1986	12 11	21 06.08	-63 19.2					
1986	12 16	20 22.92	-59 17.1	0.348	0.789	47.0	114.2	16.5
1986	12 21	19 43.98	-53 50.6					
1986	12 26	19 10.84	-47 03.3	0.352	0.686	26.2	140.7	18.9

Comet Sorrells (1986n) Elements MPC 11340

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1986	11 06	05 20.76	+27 41.2	1.475	2.332	141.2	15.4	11.5
1986	11 16	04 29.52	+28 53.8					
1986	11 26	03 24.06	+28 26.2	1.200	2.175	168.2	5.3	10.8
1986	12 06	02 17.12	+25 42.2					
1986	12 16	01 22.68	+21 45.5	1.320	2.033	123.2	23.9	10.7
1986	12 26	00 44.44	+18 02.6					
1987	01 05	00 19.22	+15 10.2	1.691	1.911	87.0	30.9	11.0
1987	01 15	00 02.90	+13 08.6					
1987	01 25	23 52.38	+11 47.1	2.099	1.814	59.7	28.0	11.2
1987	02 04	23 45.64	+10 55.4					
1987	02 14	23 41.34	+10 25.4	2.431	1.750	37.2	20.0	11.4

Periodic Comet Grigg-Skjellerup (1986m) Elements MPC 10519

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1986	11 06	06 59.23	+00 35.4	2.080	2.652	114.7	19.9	23.3
1986	11 16	06 59.53	-01 26.6					
1986	11 26	06 57.01	-03 33.9	1.741	2.502	131.0	17.3	22.7
1986	12 06	06 51.34	-05 41.3					
1986	12 16	06 42.48	-07 40.9	1.474	2.346	144.4	14.1	22.0
1986	12 26	06 30.76	-09 23.1					
1987	01 05	06 17.04	-10 36.8	1.303	2.183	145.1	14.9	21.5
1987	01 15	06 02.79	-11 13.7					
1987	01 25	05 49.65	-11 10.6	1.226	2.015	131.1	21.6	21.0
1987	02 04	05 39.17	-10 29.9					
1987	02 14	05 32.46	-09 19.0	1.214	1.841	113.1	29.6	20.6
1987	02 24	05 30.03	-07 46.6					
1987	03 06	05 32.03	-06 00.4	1.226	1.664	96.7	36.3	20.2
1987	03 16	05 38.37	-04 06.9					
1987	03 26	05 48.84	-02 10.4	1.224	1.487	83.3	41.8	19.7
1987	04 05	06 03.32	-00 13.9					
1987	04 15	06 21.71	+01 40.5	1.191	1.316	73.2	46.8	19.1
1987	04 25	06 44.02	+03 32.0					
1987	05 05	07 10.37	+05 19.9	1.120	1.164	66.0	52.4	18.4
1987	05 15	07 40.92	+07 03.6					
1987	05 25	08 15.90	+08 42.5	1.023	1.049	62.0	58.5	17.8
1987	06 04	08 55.49	+10 14.5					
1987	06 14	09 39.68	+11 35.1	0.926	0.995	61.5	63.7	17.3
1987	06 24	10 28.08	+12 36.6					
1987	07 04	11 19.75	+13 08.0	0.868	1.018	64.9	64.7	17.3
1987	07 14	12 13.01	+12 59.9					
1987	07 24	13 05.82	+12 08.6	0.884	1.111	71.2	59.9	17.7
1987	08 03	13 56.28	+10 39.0					
1987	08 13	14 43.10	+08 43.3	0.989	1.251	77.3	52.2	18.5

1987 08 23	15 25.79	+06 35.5					
1987 09 02	16 04.49	+04 27.7	1.175	1.416	80.5	44.6	19.4
1987 09 12	16 39.60	+02 29.1					
1987 09 22	17 11.65	+00 44.8	1.426	1.592	79.8	38.4	20.3

1981 FD a,e,i = 3.23, 0.48, 3 Elements MPC 9687

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1987 01 05		14 04.02	-11 44.5	1.792	1.735	-1.79	+9.3	18.7
1987 01 15		14 25.26	-13 45.1					
1987 01 25		14 45.24	-15 32.2	1.662	1.784	-1.88	+8.4	18.6
1987 02 04		15 03.62	-17 05.4					
1987 02 14		15 20.03	-18 25.0	1.530	1.847	-1.96	+7.5	18.5
1987 02 24		15 34.06	-19 31.6					
1987 03 06		15 45.24	-20 25.9	1.401	1.923	-2.09	+6.9	18.3
1987 03 16		15 53.13	-21 08.9					
1987 03 26		15 57.36	-21 41.1	1.287	2.008	-2.32	+6.8	18.1
1987 04 05		15 57.66	-22 02.4					
1987 04 15		15 54.16	-22 12.5	1.212	2.101	-2.62	+7.4	17.8
1987 04 25		15 47.38	-22 11.1					
1987 05 05		15 38.32	-21 58.6	1.207	2.198	-2.83	+8.6	17.6
1987 05 15		15 28.42	-21 37.5					
1987 05 25		15 19.14	-21 12.1	1.295	2.299	-2.76	+9.2	17.7
1987 06 04		15 11.65	-20 47.6					
1987 06 14		15 06.72	-20 28.7	1.480	2.402	-2.42	+8.6	18.4
1987 06 24		15 04.59	-20 17.9					
1987 07 04		15 05.22	-20 16.6	1.743	2.506	-2.01	+7.3	19.0
1987 07 14		15 08.37	-20 24.4					
1987 07 24		15 13.71	-20 40.1	2.060	2.609	-1.65	+5.8	19.6
1987 08 03		15 20.95	-21 02.2					
1987 08 13		15 29.78	-21 28.9	2.409	2.712	-1.36	+4.4	20.0

Periodic Comet Russell 2 (1980 III) Elements MPC 10520

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		m2
1987 01 05		16 10.25	-22 07.8	3.202	2.514	-1.17	+5.0	20.5
1987 01 15		16 29.65	-23 24.3					
1987 01 25		16 49.34	-24 34.6	2.959	2.445	-1.29	+4.6	20.2
1987 02 04		17 09.25	-25 38.8					
1987 02 14		17 29.25	-26 36.9	2.695	2.382	-1.41	+3.8	19.9
1987 02 24		17 49.24	-27 29.4					
1987 03 06		18 09.05	-28 17.0	2.422	2.324	-1.52	+2.7	19.6
1987 03 16		18 28.53	-29 00.9					
1987 03 26		18 47.50	-29 42.3	2.150	2.273	-1.65	+1.2	19.2
1987 04 05		19 05.73	-30 23.3					
1987 04 15		19 22.98	-31 05.8	1.889	2.230	-1.79	-0.8	18.9
1987 04 25		19 38.99	-31 52.3					
1987 05 05		19 53.41	-32 45.2	1.650	2.196	-1.98	-3.2	18.5
1987 05 15		20 05.87	-33 46.6					
1987 05 25		20 15.99	-34 58.2	1.444	2.171	-2.23	-5.8	18.2
1987 06 04		20 23.28	-36 20.0					
1987 06 14		20 27.39	-37 49.9	1.288	2.156	-2.57	-8.1	17.9
1987 06 24		20 28.06	-39 22.7					
1987 07 04		20 25.35	-40 50.3	1.197	2.152	-2.94	-8.6	17.7
1987 07 14		20 19.89	-42 02.2					
1987 07 24		20 12.82	-42 49.1	1.185	2.159	-3.20	-6.8	17.7
1987 08 03		20 05.69	-43 05.2					
1987 08 13		20 00.12	-42 49.8	1.257	2.176	-3.12	-4.4	17.9
1987 08 23		19 57.22	-42 06.9					
1987 09 02		19 57.59	-41 02.4	1.401	2.203	-2.70	-3.3	18.2
1987 09 12		20 01.29	-39 42.2					

1987 09 22	20 07.98	-38 10.9	1.602	2.239	-2.18	-3.6	18.5
1987 10 02	20 17.23	-36 31.7					
1987 10 12	20 28.55	-34 46.6	1.844	2.284	-1.73	-4.5	18.9
1987 10 22	20 41.44	-32 56.7					
1987 11 01	20 55.54	-31 02.6	2.114	2.336	-1.40	-5.3	19.3
1987 11 11	21 10.49	-29 05.0					
1987 11 21	21 26.02	-27 04.1	2.398	2.396	-1.16	-5.9	19.7
1987 12 01	21 41.94	-25 00.4					
1987 12 11	21 58.07	-22 54.4	2.687	2.460	-0.98	-6.2	20.1
1987 12 21	22 14.29	-20 46.7					
1987 12 31	22 30.52	-18 37.7	2.969	2.530	-0.85	-6.2	20.4

Periodic Comet Howell (1981 X) Elements MPC 10519

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		m2
1987 01 05	16 45.22	-21 04.2	2.638	1.865	-1.58	+4.4	18.8
1987 01 15	17 13.31	-22 02.5					
1987 01 25	17 42.44	-22 43.8	2.451	1.781	-1.69	+2.8	18.5
1987 02 04	18 12.45	-23 06.1					
1987 02 14	18 43.11	-23 08.0	2.271	1.711	-1.73	+0.5	18.1
1987 02 24	19 14.18	-22 48.7					
1987 03 06	19 45.36	-22 08.2	2.108	1.657	-1.74	-2.1	17.8
1987 03 16	20 16.33	-21 07.6					
1987 03 26	20 46.84	-19 48.7	1.964	1.624	-1.71	-4.8	17.6
1987 04 05	21 16.62	-18 14.3					
1987 04 15	21 45.44	-16 27.9	1.840	1.612	-1.67	-7.1	17.4
1987 04 25	22 13.15	-14 33.3					
1987 05 05	22 39.59	-12 34.4	1.731	1.624	-1.60	-8.7	17.3
1987 05 15	23 04.63	-10 35.5					
1987 05 25	23 28.19	-08 39.9	1.631	1.658	-1.53	-9.7	17.3
1987 06 04	23 50.12	-06 51.5					
1987 06 14	00 10.28	-05 13.0	1.533	1.712	-1.47	-10.4	17.3
1987 06 24	00 28.52	-03 47.1					
1987 07 04	00 44.59	-02 36.2	1.434	1.783	-1.45	-11.2	17.3
1987 07 14	00 58.24	-01 42.0					
1987 07 24	01 09.17	-01 05.7	1.334	1.867	-1.49	-12.3	17.3
1987 08 03	01 17.03	-00 48.5					
1987 08 13	01 21.51	-00 50.2	1.245	1.962	-1.63	-13.7	17.4
1987 08 23	01 22.41	-01 09.8					
1987 09 02	01 19.72	-01 44.4	1.188	2.064	-1.83	-15.2	17.5
1987 09 12	01 13.82	-02 28.9					
1987 09 22	01 05.52	-03 16.2	1.196	2.171	-1.98	-15.7	17.8
1987 10 02	00 56.01	-03 58.4					
1987 10 12	00 46.67	-04 28.1	1.296	2.282	-1.93	-14.5	18.1
1987 10 22	00 38.68	-04 41.0					
1987 11 01	00 32.91	-04 35.5	1.496	2.393	-1.69	-12.2	18.7
1987 11 11	00 29.73	-04 12.4					
1987 11 21	00 29.17	-03 34.1	1.779	2.505	-1.39	-9.9	19.2
1987 12 01	00 31.06	-02 43.2					
1987 12 11	00 35.09	-01 42.2	2.119	2.617	-1.13	-8.0	19.8
1987 12 21	00 40.93	-00 33.6					
1987 12 31	00 48.29	+00 40.8	2.491	2.727	-0.93	-6.6	20.3

Periodic Comet Reinmuth 2 Elements MPC 10522

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1987 01 25	17 32.40	-27 17.6	3.517	2.838	40.3	13.0	20.4
1987 02 04	17 50.24	-27 22.1					
1987 02 14	18 07.98	-27 19.2	3.230	2.744	52.6	16.6	20.2
1987 02 24	18 25.52	-27 09.0					
1987 03 06	18 42.71	-26 51.7	2.915	2.651	64.9	19.8	20.0

1987 03 16	18 59.43	-26 27.7					
1987 03 26	19 15.53	-25 57.5	2.585	2.559	77.4	22.4	19.8
1987 04 05	19 30.85	-25 21.9					
1987 04 15	19 45.19	-24 41.7	2.252	2.469	90.2	24.0	19.4
1987 04 25	19 58.39	-23 58.1					
1987 05 05	20 10.18	-23 12.1	1.931	2.382	103.8	24.3	19.0
1987 05 15	20 20.32	-22 25.1					
1987 05 25	20 28.50	-21 38.4	1.635	2.298	118.6	22.8	18.6
1987 06 04	20 34.40	-20 53.3					
1987 06 14	20 37.71	-20 10.9	1.380	2.220	135.3	18.8	18.0
1987 06 24	20 38.20	-19 31.8					
1987 07 04	20 35.78	-18 56.2	1.185	2.148	154.5	11.8	17.4
1987 07 14	20 30.75	-18 23.3					
1987 07 24	20 23.79	-17 51.9	1.070	2.084	175.8	2.0	16.8
1987 08 03	20 16.04	-17 20.7					
1987 08 13	20 08.93	-16 48.6	1.044	2.030	161.3	9.2	16.9
1987 08 23	20 03.78	-16 15.2					
1987 09 02	20 01.60	-15 40.3	1.101	1.987	140.5	18.8	17.3
1987 09 12	20 02.88	-15 03.0					
1987 09 22	20 07.66	-14 22.7	1.221	1.956	122.9	25.5	17.7
1987 10 02	20 15.73	-13 37.7					
1987 10 12	20 26.68	-12 46.6	1.381	1.939	108.1	29.3	18.0
1987 10 22	20 40.04	-11 48.0					
1987 11 01	20 55.38	-10 40.7	1.567	1.937	95.7	30.7	18.3
1987 11 11	21 12.28	-09 24.3					
1987 11 21	21 30.36	-07 58.6	1.772	1.948	84.8	30.3	18.6
1987 12 01	21 49.34	-06 23.8					
1987 12 11	22 08.95	-04 40.9	1.989	1.974	74.8	28.8	18.8
1987 12 21	22 29.01	-02 50.7					
1987 12 31	22 49.35	-00 54.6	2.215	2.013	65.3	26.3	19.0
1988 01 10	23 09.87	+01 05.9					
1988 01 20	23 30.47	+03 09.3	2.444	2.063	56.1	23.3	19.2
1988 01 30	23 51.12	+05 14.2					
1988 02 09	00 11.77	+07 18.9	2.671	2.123	46.9	19.8	19.4
1988 02 19	00 32.39	+09 22.1					
1988 02 29	00 52.99	+11 22.5	2.889	2.192	37.8	16.1	19.5

1981 XH2 a,e,i = 3.04, 0.25, 8 Elements MPC 11344

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986 11 06	00 30.20	+12 41.7	1.380	2.282	148.1	13.3	15.2	
1986 11 16	00 29.49	+11 31.3						
1986 11 26	00 31.55	+10 39.0	1.543	2.289	128.2	19.8	15.6	
1986 12 06	00 36.31	+10 06.9						
1986 12 16	00 43.50	+09 54.8	1.763	2.301	110.6	23.6	16.0	
1986 12 26	00 52.79	+10 00.9						
1987 01 05	01 03.89	+10 22.5	2.015	2.319	95.1	25.0	16.4	

1986 TX a,e,i = 2.35, 0.07, 3 Elements MPC 11350

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986 11 06	01 21.70	+04 54.0	1.394	2.341	157.7	9.3	17.1	
1986 11 16	01 15.12	+04 35.4						
1986 11 26	01 11.26	+04 34.0	1.552	2.357	135.2	17.2	17.6	
1986 12 06	01 10.34	+04 50.1						
1986 12 16	01 12.28	+05 22.5	1.776	2.372	115.5	22.0	18.1	
1986 12 26	01 16.80	+06 08.7						
1987 01 05	01 23.61	+07 06.4	2.037	2.387	98.4	24.0	18.4	
1987 01 15	01 32.38	+08 13.3						
1987 01 25	01 42.81	+09 26.8	2.309	2.402	83.3	24.0	18.7	

1986 TK4 a,e,i = 2.35, 0.24, 7 Elements MPC 11345

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	01 35.50	+09 00.0	0.837	1.808	162.6	9.4	15.4
1986	11 16	01 28.78	+09 37.3					
1986	11 26	01 25.62	+10 25.5	0.952	1.826	140.7	20.0	16.1
1986	12 06	01 26.32	+11 25.1					
1986	12 16	01 30.72	+12 35.4	1.129	1.853	122.4	26.7	16.7
1986	12 26	01 38.38	+13 54.4					
1987	01 05	01 48.82	+15 19.8	1.346	1.886	107.1	29.9	17.2
1987	01 15	02 01.62	+16 49.4					
1987	01 25	02 16.35	+18 20.7	1.587	1.925	94.0	30.7	17.6

1984 DU2 a,e,i = 2.75, 0.13, 8 Elements MPC 11347

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	02 03.82	+05 23.7	2.105	3.077	166.2	4.4	15.9
1986	11 16	01 55.85	+05 06.4					
1986	11 26	01 49.36	+05 00.5	2.231	3.083	143.9	10.9	16.3
1986	12 06	01 44.86	+05 07.1					
1986	12 16	01 42.58	+05 26.4	2.446	3.087	122.4	15.6	16.6
1986	12 26	01 42.54	+05 57.3					
1987	01 05	01 44.64	+06 38.6	2.716	3.090	103.1	18.1	16.9
1987	01 15	01 48.70	+07 28.7					
1987	01 25	01 54.49	+08 25.7	3.006	3.092	85.6	18.5	17.2

1986 UA a,e,i = 3.17, 0.19, 2 Elements MPC 11351

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	02 23.67	+11 04.1	1.570	2.558	173.7	2.4	15.3
1986	11 16	02 16.33	+10 30.4					
1986	11 26	02 10.46	+10 06.5	1.659	2.566	150.8	10.8	15.7
1986	12 06	02 06.75	+09 55.8					
1986	12 16	02 05.57	+09 59.7	1.838	2.578	129.4	17.1	16.2
1986	12 26	02 06.97	+10 17.7					
1987	01 05	02 10.83	+10 48.5	2.078	2.593	110.6	20.8	16.6
1987	01 15	02 16.94	+11 30.1					
1987	01 25	02 25.02	+12 20.0	2.350	2.611	94.0	22.1	16.9

1984 DB3 a,e,i = 2.40, 0.13, 10 Elements MPC 11347

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	03 21.97	+28 09.3	1.118	2.090	164.4	7.3	15.3
1986	11 16	03 09.91	+28 33.0					
1986	11 26	02 58.11	+28 38.5	1.118	2.083	163.2	7.9	15.3
1986	12 06	02 48.41	+28 30.8					
1986	12 16	02 42.18	+28 18.3	1.214	2.080	142.0	16.9	15.8
1986	12 26	02 39.99	+28 08.3					
1987	01 05	02 41.86	+28 05.7	1.381	2.080	122.3	23.5	16.3
1987	01 15	02 47.48	+28 12.8					
1987	01 25	02 56.37	+28 29.1	1.590	2.084	105.7	27.1	16.7

1929 PA a,e,i = 3.14, 0.16, 4 Elements MPC 11337

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	03 27.46	+23 40.5	2.084	3.057	166.5	4.3	16.6
1986	11 16	03 18.86	+23 03.2					
1986	11 26	03 10.52	+22 21.1	2.118	3.089	167.6	3.9	16.6
1986	12 06	03 03.31	+21 38.5					
1986	12 16	02 57.93	+21 00.0	2.266	3.121	144.7	10.5	17.0
1986	12 26	02 54.76	+20 28.9					
1987	01 05	02 53.93	+20 07.4	2.504	3.153	123.3	15.1	17.4
1987	01 15	02 55.40	+19 56.2					
1987	01 25	02 58.98	+19 54.8	2.799	3.185	104.1	17.4	17.8

1982 QO1 a,e,i = 2.24, 0.07, 3 Elements MPC 11346

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	05 25.65	+25 02.2	1.285	2.145	140.5	17.1	16.0
1986	11 16	05 20.01	+24 48.0					
1986	11 26	05 11.08	+24 26.3	1.167	2.133	164.0	7.3	15.4
1986	12 06	05 00.01	+23 56.7					
1986	12 16	04 48.53	+23 21.3	1.146	2.123	170.4	4.4	15.3
1986	12 26	04 38.41	+22 44.5					
1987	01 05	04 31.10	+22 11.5	1.226	2.113	145.9	15.1	15.8
1987	01 15	04 27.44	+21 46.9					
1987	01 25	04 27.63	+21 32.3	1.384	2.106	124.6	22.6	16.3
1987	02 04	04 31.47	+21 27.7					
1987	02 14	04 38.61	+21 31.2	1.588	2.099	106.9	26.7	16.7

1984 LJ a,e,i = 2.63, 0.11, 14 Elements MPC 11347

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	05 25.75	+04 16.0	2.042	2.857	138.0	13.4	16.5
1986	11 16	05 20.16	+03 12.4					
1986	11 26	05 12.61	+02 18.4	1.918	2.843	155.0	8.4	16.2
1986	12 06	05 03.79	+01 38.9					
1986	12 16	04 54.65	+01 17.6	1.899	2.828	156.4	8.0	16.1
1986	12 26	04 46.18	+01 16.0					
1987	01 05	04 39.24	+01 33.5	1.987	2.812	140.0	13.0	16.4
1987	01 15	04 34.47	+02 07.6					
1987	01 25	04 32.19	+02 54.7	2.159	2.795	120.9	17.6	16.7
1987	02 04	04 32.47	+03 51.1					
1987	02 14	04 35.24	+04 53.2	2.382	2.777	103.0	20.3	17.0

1984 JJ2 a,e,i = 2.60, 0.12, 13 Elements MPC 11347

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	06 02.13	+11 45.8	2.145	2.895	131.2	14.9	16.7
1986	11 16	05 57.85	+11 40.5					
1986	11 26	05 51.16	+11 42.4	1.973	2.886	152.7	9.0	16.3
1986	12 06	05 42.52	+11 52.8					
1986	12 16	05 32.75	+12 12.5	1.903	2.875	168.9	3.8	16.0
1986	12 26	05 22.85	+12 40.9					
1987	01 05	05 13.87	+13 17.4	1.949	2.862	153.3	8.9	16.3
1987	01 15	05 06.71	+14 00.4					
1987	01 25	05 01.94	+14 48.2	2.100	2.848	131.4	15.0	16.6
1987	02 04	04 59.86	+15 39.4					
1987	02 14	05 00.50	+16 32.2	2.321	2.833	111.3	19.0	16.9
1987	02 24	05 03.70	+17 25.1					
1987	03 06	05 09.23	+18 16.9	2.575	2.816	93.5	20.6	17.2

1985 PM a,e,i = 2.72, 0.19, 6 Elements MPC 11350

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986	11 06	06 18.79	+30 33.6	2.254	2.972	128.3	15.2	17.8
1986	11 16	06 14.51	+30 50.0					
1986	11 26	06 07.53	+31 02.7	2.105	3.003	150.4	9.3	17.4
1986	12 06	05 58.33	+31 08.8					
1986	12 16	05 47.83	+31 05.7	2.056	3.032	171.3	2.8	17.1
1986	12 26	05 37.14	+30 52.9					
1987	01 05	05 27.40	+30 31.6	2.125	3.060	158.1	6.9	17.4
1987	01 15	05 19.59	+30 04.9					
1987	01 25	05 14.29	+29 36.2	2.304	3.086	135.7	12.9	17.8
1987	02 04	05 11.73	+29 08.6					
1987	02 14	05 11.92	+28 44.0	2.560	3.110	115.1	16.7	18.2
1987	02 24	05 14.63	+28 23.0					
1987	03 06	05 19.60	+28 05.5	2.858	3.132	96.7	18.3	18.5

4020 P-L a,e,i = 2.37, 0.07, 2 Elements MPC 11338

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986 11 06	06 42.16	+20 42.9	1.539	2.238	122.9	21.8	17.8
1986 11 16	06 42.07	+20 26.4					
1986 11 26	06 38.42	+20 13.6	1.376	2.249	143.8	15.0	17.4
1986 12 06	06 31.41	+20 04.7					
1986 12 16	06 21.80	+19 59.0	1.291	2.262	167.6	5.4	16.9
1986 12 26	06 10.86	+19 55.8					
1987 01 05	06 00.15	+19 54.7	1.309	2.276	166.0	6.0	17.0
1987 01 15	05 51.20	+19 55.9					
1987 01 25	05 45.07	+19 59.9	1.430	2.290	142.4	15.2	17.5
1987 02 04	05 42.32	+20 07.1					
1987 02 14	05 43.04	+20 16.9	1.627	2.305	121.7	21.4	18.0
1987 02 24	05 46.98	+20 28.3					
1987 03 06	05 53.78	+20 39.6	1.869	2.321	104.2	24.5	18.4
1987 03 16	06 03.02	+20 49.1					
1987 03 26	06 14.29	+20 55.3	2.129	2.336	89.1	25.3	18.7
1987 04 05	06 27.24	+20 56.7					
1987 04 15	06 41.55	+20 52.0	2.389	2.352	75.7	24.4	18.9

1984 HL1 a,e,i = 2.27, 0.15, 2 Elements MPC 11331

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1986 11 06	07 25.20	+25 05.3	1.445	2.052	-2.31	+4.2	17.4
1986 11 16	07 32.00	+25 11.0					
1986 11 26	07 35.39	+25 24.3	1.231	2.023	-2.86	+5.8	16.9
1986 12 06	07 34.89	+25 46.1					
1986 12 16	07 30.35	+26 14.7	1.071	1.997	-3.43	+6.5	16.3
1986 12 26	07 22.14	+26 45.7					
1987 01 05	07 11.32	+27 13.0	0.992	1.974	-3.69	+5.3	15.7
1987 01 15	06 59.78	+27 30.4					
1987 01 25	06 49.59	+27 35.4	1.011	1.954	-3.42	+3.0	16.1
1987 02 04	06 42.49	+27 28.7					
1987 02 14	06 39.54	+27 13.5	1.115	1.939	-2.89	+1.8	16.6
1987 02 24	06 40.93	+26 52.3					
1987 03 06	06 46.42	+26 26.7	1.275	1.928	-2.44	+2.0	17.0
1987 03 16	06 55.48	+25 56.6					
1987 03 26	07 07.49	+25 21.2	1.465	1.922	-2.13	+2.9	17.4
1987 04 05	07 21.88	+24 39.1					
1987 04 15	07 38.15	+23 49.1	1.667	1.921	-1.92	+4.0	17.7

1984 HC2 a,e,i = 2.36, 0.07, 5 Elements MPC 11331

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1986 11 06	07 37.14	+18 43.1	1.665	2.208	-1.62	+1.2	17.3
1986 11 16	07 42.39	+18 39.7					
1986 11 26	07 44.47	+18 46.6	1.460	2.211	-1.93	+1.9	16.9
1986 12 06	07 43.08	+19 05.7					
1986 12 16	07 38.21	+19 37.2	1.307	2.216	-2.25	+2.2	16.5
1986 12 26	07 30.25	+20 18.9					
1987 01 05	07 20.12	+21 06.5	1.241	2.222	-2.43	+1.6	15.9
1987 01 15	07 09.32	+21 54.6					
1987 01 25	06 59.45	+22 38.3	1.280	2.230	-2.31	+0.5	16.3
1987 02 04	06 51.94	+23 15.0					
1987 02 14	06 47.71	+23 43.8	1.415	2.239	-2.00	-0.3	16.8
1987 02 24	06 47.08	+24 05.0					
1987 03 06	06 49.95	+24 18.9	1.618	2.249	-1.69	-0.3	17.3
1987 03 16	06 55.99	+24 25.7					
1987 03 26	07 04.75	+24 25.3	1.856	2.260	-1.47	+0.1	17.6
1987 04 05	07 15.78	+24 17.2					
1987 04 15	07 28.64	+24 01.0	2.107	2.272	-1.32	+0.8	17.9

1985 QH4 a,e,i = 2.37, 0.14, 4 Elements MPC 11351

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986 11 26	09 46.88	+17 48.4	2.007	2.384	99.9	24.1	18.2
1986 12 06	09 52.79	+17 25.5					
1986 12 16	09 55.98	+17 15.6	1.792	2.415	117.9	21.1	17.9
1986 12 26	09 56.17	+17 19.8					
1987 01 05	09 53.17	+17 38.0	1.616	2.444	139.0	15.3	17.5
1987 01 15	09 47.08	+18 07.9					
1987 01 25	09 38.35	+18 44.9	1.516	2.473	162.7	6.8	17.1
1987 02 04	09 27.88	+19 23.0					
1987 02 14	09 16.97	+19 55.4	1.522	2.501	170.5	3.7	17.0
1987 02 24	09 06.98	+20 17.5					
1987 03 06	08 59.05	+20 26.9	1.637	2.527	146.9	12.4	17.5
1987 03 16	08 53.90	+20 23.4					
1987 03 26	08 51.78	+20 08.2	1.840	2.551	125.5	18.6	18.0
1987 04 05	08 52.60	+19 42.8					
1987 04 15	08 56.09	+19 08.5	2.095	2.574	107.1	21.9	18.4
1987 04 25	09 01.86	+18 26.4					
1987 05 05	09 09.55	+17 37.0	2.373	2.596	91.1	22.9	18.7

4575 P-L a,e,i = 2.33, 0.10, 8 Elements MPC 11350

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986 11 26	10 23.07	+04 17.1	2.336	2.487	86.9	23.3	17.8
1986 12 06	10 31.33	+03 27.1					
1986 12 16	10 37.65	+02 48.5	2.086	2.502	103.2	22.5	17.5
1986 12 26	10 41.78	+02 24.2					
1987 01 05	10 43.43	+02 17.2	1.852	2.515	122.0	19.4	17.2
1987 01 15	10 42.40	+02 29.9					
1987 01 25	10 38.67	+03 03.7	1.666	2.527	143.6	13.4	16.8
1987 02 04	10 32.43	+03 58.4					
1987 02 14	10 24.30	+05 10.3	1.564	2.537	167.5	4.8	16.4
1987 02 24	10 15.20	+06 33.2					
1987 03 06	10 06.26	+07 58.8	1.572	2.546	166.0	5.4	16.4
1987 03 16	09 58.60	+09 18.6					
1987 03 26	09 53.06	+10 26.4	1.689	2.553	142.5	13.8	16.9
1987 04 05	09 50.12	+11 18.4					
1987 04 15	09 49.93	+11 53.1	1.886	2.558	121.6	19.5	17.3
1987 04 25	09 52.34	+12 10.9					
1987 05 05	09 57.13	+12 12.8	2.128	2.562	103.7	22.5	17.6

1968 HP a,e,i = 2.46, 0.13, 6 Elements MPC 11345

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1986 12 16	10 58.17	+05 14.3	2.171	2.527	99.5	22.6	17.6
1986 12 26	11 04.65	+04 47.7					
1987 01 05	11 09.02	+04 36.4	1.893	2.499	117.1	20.5	17.3
1987 01 15	11 10.98	+04 43.0					
1987 01 25	11 10.31	+05 09.2	1.654	2.470	137.4	15.7	16.8
1987 02 04	11 06.92	+05 55.7					
1987 02 14	11 01.01	+07 00.1	1.488	2.441	160.5	7.8	16.3
1987 02 24	10 53.18	+08 17.4					
1987 03 06	10 44.35	+09 39.7	1.422	2.412	174.3	2.3	15.9
1987 03 16	10 35.76	+10 57.6					
1987 03 26	10 28.56	+12 03.2	1.465	2.382	150.0	12.1	16.4
1987 04 05	10 23.65	+12 51.0					
1987 04 15	10 21.54	+13 18.7	1.596	2.353	128.3	19.5	16.7
1987 04 25	10 22.35	+13 26.5					
1987 05 05	10 25.95	+13 15.6	1.779	2.324	109.9	24.1	17.1
1987 05 15	10 32.05	+12 47.9					
1987 05 25	10 40.31	+12 05.4	1.987	2.297	94.3	26.1	17.3

1955 SF a,e,i = 2.22, 0.20, 5 Elements MPC 11339

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	01 05	12 12.73	-02 09.5	2.301	2.652	99.8	21.4	19.8
1987	01 15	12 16.69	-02 51.2					
1987	01 25	12 18.37	-03 19.9	2.032	2.646	118.4	19.1	19.5
1987	02 04	12 17.46	-03 33.7					
1987	02 14	12 13.85	-03 31.3	1.806	2.637	139.6	14.0	19.1
1987	02 24	12 07.61	-03 12.7					
1987	03 06	11 59.13	-02 38.9	1.660	2.625	163.3	6.2	18.6
1987	03 16	11 49.18	-01 53.9					
1987	03 26	11 38.84	-01 03.2	1.621	2.610	170.8	3.5	18.4
1987	04 05	11 29.23	-00 13.6					
1987	04 15	11 21.37	+00 28.5	1.693	2.591	146.8	12.2	18.9
1987	04 25	11 15.91	+00 58.7					
1987	05 05	11 13.16	+01 14.5	1.853	2.570	125.2	18.7	19.2
1987	05 15	11 13.13	+01 14.9					
1987	05 25	11 15.63	+01 00.5	2.063	2.545	106.6	22.4	19.5
1987	06 04	11 20.39	+00 32.3					
1987	06 14	11 27.14	-00 08.5	2.293	2.518	90.6	23.8	19.8

(3476) 1978 UF2 a,e,i = 3.17, 0.19, 22 Elements MPC 10947

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 04.01	-22 52.4	3.384	3.703	100.9	15.3	18.2
1987	03 16	16 05.50	-23 34.3					
1987	03 26	16 04.98	-24 13.6	3.112	3.716	120.3	13.4	18.0
1987	04 05	16 02.33	-24 49.5					
1987	04 15	15 57.60	-25 21.1	2.893	3.728	141.2	9.7	17.7
1987	04 25	15 50.98	-25 47.1					
1987	05 05	15 42.86	-26 06.5	2.763	3.739	162.9	4.5	17.4
1987	05 15	15 33.83	-26 18.6					
1987	05 25	15 24.61	-26 23.9	2.748	3.748	169.6	2.8	17.3
1987	06 04	15 15.93	-26 23.8					
1987	06 14	15 08.44	-26 20.5	2.849	3.756	149.0	8.0	17.6
1987	06 24	15 02.60	-26 16.8					
1987	07 04	14 58.69	-26 15.1	3.047	3.762	128.2	12.3	17.9
1987	07 14	14 56.82	-26 17.2					
1987	07 24	14 56.96	-26 24.3	3.309	3.766	109.1	14.8	18.2
1987	08 03	14 59.00	-26 37.0					
1987	08 13	15 02.79	-26 55.2	3.601	3.769	91.6	15.6	18.4

1984 WX a,e,i = 3.02, 0.07, 11 Elements MPC 10767

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	15 52.15	-07 14.4	2.443	2.886	106.5	19.2	17.1
1987	03 16	15 56.22	-06 55.1					
1987	03 26	15 58.06	-06 29.5	2.191	2.874	124.4	16.6	16.8
1987	04 05	15 57.49	-05 59.3					
1987	04 15	15 54.51	-05 27.4	1.993	2.863	143.7	12.0	16.4
1987	04 25	15 49.34	-04 56.9					
1987	05 05	15 42.39	-04 31.8	1.878	2.853	161.7	6.4	16.1
1987	05 15	15 34.38	-04 15.8					
1987	05 25	15 26.16	-04 11.8	1.866	2.844	161.2	6.6	16.1
1987	06 04	15 18.61	-04 21.8					
1987	06 14	15 12.48	-04 46.2	1.956	2.835	143.2	12.4	16.4
1987	06 24	15 08.29	-05 24.0					
1987	07 04	15 06.34	-06 13.4	2.127	2.827	124.2	17.3	16.7
1987	07 14	15 06.69	-07 12.2					
1987	07 24	15 09.27	-08 18.2	2.352	2.820	106.9	20.2	17.0
1987	08 03	15 13.93	-09 29.2					
1987	08 13	15 20.50	-10 43.4	2.602	2.814	91.3	21.1	17.2

1941 WA a,e,i = 3.05, 0.29, 3 Elements MPC 9464

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 02.56	-18 21.3	3.599	3.929	102.1	14.3	18.5
1987	03 16	16 04.21	-18 23.2					
1987	03 26	16 04.05	-18 20.2	3.303	3.920	121.7	12.5	18.2
1987	04 05	16 02.01	-18 12.4					
1987	04 15	15 58.14	-17 59.9	3.062	3.908	142.8	8.9	17.9
1987	04 25	15 52.63	-17 43.3					
1987	05 05	15 45.81	-17 23.1	2.911	3.895	165.1	3.8	17.6
1987	05 15	15 38.19	-17 00.8					
1987	05 25	15 30.36	-16 38.0	2.875	3.879	171.3	2.3	17.5
1987	06 04	15 22.91	-16 16.8					
1987	06 14	15 16.43	-15 59.3	2.955	3.861	149.0	7.8	17.8
1987	06 24	15 11.31	-15 47.2					
1987	07 04	15 07.84	-15 41.7	3.131	3.840	127.9	12.1	18.0
1987	07 14	15 06.16	-15 43.4					
1987	07 24	15 06.27	-15 52.2	3.372	3.818	108.5	14.6	18.3
1987	08 03	15 08.11	-16 07.7					
1987	08 13	15 11.56	-16 29.1	3.642	3.793	90.8	15.5	18.4

1936 QV a,e,i = 2.28, 0.11, 3 Elements MPC 10153

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	15 55.71	-18 40.5	2.043	2.473	103.6	22.9	18.4
1987	03 16	16 01.76	-18 42.7					
1987	03 26	16 05.26	-18 35.5	1.786	2.457	121.3	20.3	18.0
1987	04 05	16 05.87	-18 19.0					
1987	04 15	16 03.44	-17 53.2	1.573	2.439	141.5	14.8	17.5
1987	04 25	15 58.02	-17 18.8					
1987	05 05	15 50.04	-16 37.3	1.434	2.420	164.2	6.5	17.0
1987	05 15	15 40.36	-15 51.5					
1987	05 25	15 30.16	-15 05.8	1.395	2.400	170.4	4.0	16.8
1987	06 04	15 20.70	-14 25.5					
1987	06 14	15 13.11	-13 55.3	1.458	2.378	147.5	13.3	17.3
1987	06 24	15 08.12	-13 38.2					
1987	07 04	15 06.07	-13 35.7	1.601	2.355	126.8	20.2	17.7
1987	07 14	15 07.01	-13 47.0					
1987	07 24	15 10.76	-14 10.6	1.793	2.332	109.1	24.3	18.0
1987	08 03	15 17.09	-14 44.2					
1987	08 13	15 25.72	-15 25.3	2.007	2.307	93.8	26.0	18.3

1966 BO a,e,i = 2.55, 0.19, 8 Elements MPC 9471

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	15 48.03	-09 28.7	1.561	2.082	107.2	27.1	17.1
1987	03 16	15 56.75	-08 57.4					
1987	03 26	16 02.58	-08 14.3	1.376	2.096	123.2	23.5	16.8
1987	04 05	16 05.18	-07 22.0					
1987	04 15	16 04.42	-06 24.6	1.235	2.114	141.4	17.2	16.4
1987	04 25	16 00.46	-05 27.4					
1987	05 05	15 53.83	-04 37.1	1.163	2.137	159.5	9.5	16.0
1987	05 15	15 45.58	-04 00.7					
1987	05 25	15 36.96	-03 43.3	1.178	2.163	161.9	8.4	16.0
1987	06 04	15 29.28	-03 47.8					
1987	06 14	15 23.59	-04 14.0	1.282	2.194	145.1	15.3	16.5
1987	06 24	15 20.50	-04 58.9					
1987	07 04	15 20.26	-05 58.9	1.459	2.227	127.3	21.3	17.0
1987	07 14	15 22.81	-07 09.7					
1987	07 24	15 27.93	-08 27.4	1.685	2.262	111.3	24.7	17.4
1987	08 03	15 35.35	-09 48.9					
1987	08 13	15 44.78	-11 11.3	1.942	2.300	97.2	25.9	17.8

1986 CH a,e,i = 2.99, 0.06, 9 Elements MPC 10817

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1987	03 06	15 59.74	-28 01.8	2.509	2.865	-1.04	+0.5	17.2
1987	03 16	16 05.10	-28 24.0					
1987	03 26	16 08.08	-28 38.3	2.258	2.872	-1.15	+0.3	16.9
1987	04 05	16 08.44	-28 43.8					
1987	04 15	16 06.14	-28 38.9	2.052	2.880	-1.31	+0.5	16.5
1987	04 25	16 01.33	-28 22.2					
1987	05 05	15 54.44	-27 52.9	1.921	2.889	-1.46	+1.1	16.2
1987	05 15	15 46.25	-27 11.2					
1987	05 25	15 37.67	-26 19.6	1.891	2.898	-1.52	+1.9	16.0
1987	06 04	15 29.70	-25 22.1					
1987	06 14	15 23.21	-24 24.0	1.970	2.907	-1.44	+2.3	16.3
1987	06 24	15 18.77	-23 30.3					
1987	07 04	15 16.67	-22 44.6	2.141	2.917	-1.28	+2.2	16.7
1987	07 14	15 17.00	-22 09.2					
1987	07 24	15 19.63	-21 44.5	2.376	2.927	-1.11	+1.7	17.0
1987	08 03	15 24.40	-21 30.0					
1987	08 13	15 31.08	-21 24.6	2.645	2.937	-0.97	+1.2	17.3

(3407) 1973 DT a,e,i = 2.69, 0.16, 13 Elements MPC 10532

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 09.94	-07 42.9	2.580	2.952	102.1	19.2	17.7
1987	03 16	16 13.53	-07 25.1					
1987	03 26	16 14.85	-07 01.8	2.345	2.974	120.2	16.8	17.4
1987	04 05	16 13.74	-06 34.8					
1987	04 15	16 10.22	-06 06.6	2.158	2.996	139.9	12.5	17.1
1987	04 25	16 04.48	-05 39.8					
1987	05 05	15 56.91	-05 17.8	2.051	3.015	159.2	6.8	16.8
1987	05 15	15 48.19	-05 03.7					
1987	05 25	15 39.15	-05 00.0	2.049	3.033	163.3	5.5	16.8
1987	06 04	15 30.62	-05 08.3					
1987	06 14	15 23.37	-05 29.1	2.155	3.049	145.8	10.8	17.1
1987	06 24	15 17.92	-06 01.5					
1987	07 04	15 14.57	-06 44.1	2.350	3.063	126.3	15.5	17.4
1987	07 14	15 13.42	-07 35.2					
1987	07 24	15 14.42	-08 32.7	2.603	3.076	108.2	18.3	17.7
1987	08 03	15 17.43	-09 35.0					
1987	08 13	15 22.28	-10 40.2	2.884	3.086	91.7	19.2	18.0

1986 EQ2 a,e,i = 2.90, 0.08, 2 Elements MPC 11143

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 04.52	-19 22.5	2.753	3.106	101.5	18.2	18.8
1987	03 16	16 08.69	-19 26.6					
1987	03 26	16 10.71	-19 24.2	2.477	3.098	119.9	16.2	18.5
1987	04 05	16 10.42	-19 15.5					
1987	04 15	16 07.78	-19 00.6	2.249	3.089	140.4	12.0	18.1
1987	04 25	16 02.91	-18 39.8					
1987	05 05	15 56.18	-18 13.9	2.101	3.079	162.6	5.6	17.8
1987	05 15	15 48.21	-17 44.5					
1987	05 25	15 39.77	-17 14.0	2.059	3.068	173.5	2.1	17.5
1987	06 04	15 31.73	-16 45.2					
1987	06 14	15 24.89	-16 21.3	2.128	3.056	151.0	9.3	17.9
1987	06 24	15 19.80	-16 04.7					
1987	07 04	15 16.82	-15 56.9	2.289	3.044	130.0	14.8	18.2
1987	07 14	15 16.10	-15 58.4					
1987	07 24	15 17.60	-16 08.9	2.512	3.031	111.2	18.2	18.5
1987	08 03	15 21.21	-16 27.4					
1987	08 13	15 26.75	-16 52.6	2.766	3.018	94.4	19.6	18.8

1975 YE a,e,i = 2.88, 0.23, 14 Elements MPC 11346

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 09.64	-10 54.1	3.041	3.384	101.7	16.7	18.3
1987	03 16	16 12.47	-10 14.2					
1987	03 26	16 13.30	-09 26.9	2.794	3.410	120.5	14.6	18.1
1987	04 05	16 12.04	-08 33.7					
1987	04 15	16 08.75	-07 36.5	2.601	3.434	140.4	10.7	17.8
1987	04 25	16 03.63	-06 38.0					
1987	05 05	15 57.03	-05 41.5	2.493	3.456	159.4	5.9	17.6
1987	05 15	15 49.53	-04 50.6					
1987	05 25	15 41.77	-04 08.5	2.495	3.475	162.7	5.0	17.6
1987	06 04	15 34.41	-03 38.1					
1987	06 14	15 28.06	-03 20.7	2.608	3.493	145.5	9.5	17.8
1987	06 24	15 23.15	-03 16.4					
1987	07 04	15 19.96	-03 24.7	2.811	3.508	126.1	13.5	18.2
1987	07 14	15 18.61	-03 43.8					
1987	07 24	15 19.08	-04 12.0	3.074	3.521	107.9	15.9	18.4
1987	08 03	15 21.31	-04 47.4					
1987	08 13	15 25.15	-05 28.1	3.365	3.532	91.1	16.7	18.7

1971 SC a,e,i = 2.20, 0.39, 12 Elements MPC 9157

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	15 59.62	-09 36.2	1.981	2.425	104.3	23.4	19.9
1987	03 16	16 06.81	-08 44.7					
1987	03 26	16 11.79	-07 37.6	1.669	2.344	120.9	21.4	19.4
1987	04 05	16 14.12	-06 15.1					
1987	04 15	16 13.48	-04 39.0	1.404	2.258	138.9	17.0	18.8
1987	04 25	16 09.66	-02 52.5					
1987	05 05	16 02.71	-01 02.3	1.210	2.168	155.6	11.1	18.2
1987	05 15	15 53.19	+00 42.1					
1987	05 25	15 42.09	+02 10.0	1.106	2.075	156.6	11.2	17.9
1987	06 04	15 30.85	+03 10.8					
1987	06 14	15 20.99	+03 38.2	1.093	1.979	139.6	19.4	18.0
1987	06 24	15 13.72	+03 31.0					
1987	07 04	15 09.87	+02 51.7	1.144	1.881	121.0	27.6	18.3
1987	07 14	15 09.75	+01 45.7					
1987	07 24	15 13.33	+00 18.7	1.227	1.783	105.0	33.4	18.4
1987	08 03	15 20.47	-01 24.2					
1987	08 13	15 30.91	-03 18.1	1.316	1.687	91.9	36.9	18.6

(3461) 1977 SA1 a,e,i = 2.38, 0.13, 3 Elements MPC 10838

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 10.93	-20 08.9	2.346	2.699	99.8	21.2	18.2
1987	03 16	16 16.28	-20 27.7					
1987	03 26	16 19.23	-20 40.9	2.083	2.696	117.8	19.1	17.9
1987	04 05	16 19.46	-20 48.5					
1987	04 15	16 16.85	-20 50.4	1.862	2.692	138.0	14.4	17.5
1987	04 25	16 11.42	-20 46.1					
1987	05 05	16 03.52	-20 35.5	1.713	2.685	160.6	7.2	17.1
1987	05 15	15 53.87	-20 19.2					
1987	05 25	15 43.47	-19 58.5	1.666	2.676	175.4	1.7	16.7
1987	06 04	15 33.46	-19 36.6					
1987	06 14	15 24.92	-19 17.0	1.727	2.666	151.8	10.4	17.2
1987	06 24	15 18.60	-19 03.1					
1987	07 04	15 14.94	-18 57.3	1.878	2.653	130.4	17.0	17.6
1987	07 14	15 14.07	-19 01.0					
1987	07 24	15 15.87	-19 13.8	2.088	2.638	111.6	21.0	17.9
1987	08 03	15 20.18	-19 35.1					
1987	08 13	15 26.74	-20 03.3	2.327	2.621	95.2	22.6	18.2

1983 WF1 a,e,i = 3.18, 0.31, 21 Elements MPC 9687

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 14.59	-03 19.7	3.548	3.870	101.5	14.5	18.4
1987	03 16	16 16.64	-02 57.6					
1987	03 26	16 16.95	-02 31.7	3.240	3.834	119.7	13.1	18.1
1987	04 05	16 15.41	-02 03.6					
1987	04 15	16 12.02	-01 35.6	2.983	3.795	138.7	10.0	17.8
1987	04 25	16 06.91	-01 10.2					
1987	05 05	16 00.33	-00 50.4	2.811	3.755	155.9	6.3	17.5
1987	05 15	15 52.73	-00 38.9					
1987	05 25	15 44.66	-00 37.9	2.747	3.712	159.4	5.5	17.4
1987	06 04	15 36.73	-00 49.0					
1987	06 14	15 29.56	-01 12.6	2.794	3.668	144.4	9.3	17.6
1987	06 24	15 23.62	-01 47.9					
1987	07 04	15 19.27	-02 33.9	2.934	3.621	125.6	13.2	17.8
1987	07 14	15 16.71	-03 28.7					
1987	07 24	15 15.99	-04 30.4	3.138	3.573	107.3	15.8	18.0
1987	08 03	15 17.11	-05 37.6					
1987	08 13	15 19.96	-06 48.3	3.371	3.523	90.2	16.7	18.2

(3421) 1975 WK1 a,e,i = 2.23, 0.09, 2 Elements MPC 10626

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 08.87	-22 10.3	1.978	2.361	99.9	24.5	18.0
1987	03 16	16 16.02	-22 25.1					
1987	03 26	16 20.49	-22 31.7	1.749	2.376	117.2	21.9	17.7
1987	04 05	16 21.89	-22 29.7					
1987	04 15	16 20.04	-22 18.9	1.556	2.390	137.0	16.6	17.3
1987	04 25	16 14.97	-21 58.7					
1987	05 05	16 07.05	-21 28.9	1.431	2.402	159.6	8.4	16.9
1987	05 15	15 57.16	-20 50.7					
1987	05 25	15 46.48	-20 06.9	1.401	2.413	176.1	1.6	16.5
1987	06 04	15 36.37	-19 22.3					
1987	06 14	15 28.03	-18 42.3	1.476	2.422	152.4	11.2	17.1
1987	06 24	15 22.23	-18 11.1					
1987	07 04	15 19.38	-17 51.7	1.637	2.429	131.1	18.4	17.5
1987	07 14	15 19.52	-17 44.7					
1987	07 24	15 22.46	-17 49.4	1.854	2.435	112.8	22.6	17.9
1987	08 03	15 27.94	-18 04.2					
1987	08 13	15 35.67	-18 26.8	2.101	2.439	96.8	24.4	18.2

(3475) 1972 TD a,e,i = 3.17, 0.13, 15 Elements MPC 10946

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 12.23	-25 06.9	2.968	3.267	98.6	17.5	17.1
1987	03 16	16 16.32	-24 59.9					
1987	03 26	16 18.27	-24 45.2	2.712	3.290	117.2	15.6	16.9
1987	04 05	16 17.94	-24 22.2					
1987	04 15	16 15.36	-23 50.7	2.501	3.312	137.7	11.8	16.6
1987	04 25	16 10.69	-23 10.4					
1987	05 05	16 04.31	-22 21.9	2.369	3.334	160.0	5.9	16.3
1987	05 15	15 56.81	-21 26.9					
1987	05 25	15 48.93	-20 28.0	2.344	3.355	176.7	1.0	16.0
1987	06 04	15 41.40	-19 28.9					
1987	06 14	15 34.94	-18 33.4	2.434	3.376	154.0	7.6	16.5
1987	06 24	15 30.02	-17 44.7					
1987	07 04	15 26.97	-17 05.1	2.623	3.395	132.7	12.7	16.8
1987	07 14	15 25.91	-16 35.7					
1987	07 24	15 26.81	-16 16.4	2.881	3.414	113.4	15.9	17.1
1987	08 03	15 29.57	-16 06.6					
1987	08 13	15 34.03	-16 04.9	3.177	3.432	95.9	17.1	17.4

1969 TP2 a,e,i = 2.44, 0.20, 3 Elements MPC 11142

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 17.70	-18 01.3	2.585	2.904	98.6	19.7	18.9
1987	03 16	16 22.58	-18 05.1					
1987	03 26	16 25.23	-18 03.2	2.305	2.894	116.7	17.9	18.6
1987	04 05	16 25.41	-17 55.8					
1987	04 15	16 22.98	-17 43.2	2.065	2.881	136.9	13.8	18.3
1987	04 25	16 17.98	-17 25.9					
1987	05 05	16 10.68	-17 04.6	1.900	2.865	159.2	7.2	17.8
1987	05 15	16 01.69	-16 40.6					
1987	05 25	15 51.85	-16 16.1	1.836	2.847	174.9	1.8	17.5
1987	06 04	15 42.17	-15 53.7					
1987	06 14	15 33.61	-15 36.6	1.884	2.826	152.8	9.5	17.9
1987	06 24	15 26.93	-15 27.0					
1987	07 04	15 22.60	-15 26.7	2.026	2.802	131.2	15.8	18.2
1987	07 14	15 20.83	-15 36.1					
1987	07 24	15 21.59	-15 54.6	2.230	2.776	112.1	19.8	18.5
1987	08 03	15 24.75	-16 21.4					
1987	08 13	15 30.12	-16 54.8	2.465	2.748	95.2	21.5	18.8

(3419) 1981 JZ a,e,i = 3.20, 0.07, 18 Elements MPC 10611

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 17.81	-17 01.4	2.708	3.022	98.8	18.9	16.5
1987	03 16	16 22.52	-17 40.0					
1987	03 26	16 25.12	-18 17.1	2.430	3.013	116.7	17.2	16.2
1987	04 05	16 25.35	-18 53.2					
1987	04 15	16 23.11	-19 28.8	2.195	3.005	136.7	13.2	15.9
1987	04 25	16 18.41	-20 03.4					
1987	05 05	16 11.50	-20 36.6	2.036	2.998	158.7	7.0	15.5
1987	05 15	16 02.93	-21 07.5					
1987	05 25	15 53.48	-21 35.5	1.980	2.992	177.7	0.8	15.1
1987	06 04	15 44.10	-22 00.8					
1987	06 14	15 35.73	-22 24.5	2.035	2.986	154.9	8.3	15.5
1987	06 24	15 29.11	-22 48.0					
1987	07 04	15 24.73	-23 13.0	2.189	2.982	133.5	14.3	15.9
1987	07 14	15 22.83	-23 41.1					
1987	07 24	15 23.42	-24 13.0	2.410	2.978	114.5	18.1	16.2
1987	08 03	15 26.40	-24 48.8					
1987	08 13	15 31.57	-25 28.2	2.668	2.975	97.5	19.7	16.5

1981 DP2 a,e,i = 3.02, 0.07, 9 Elements MPC 10295

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 19.89	-31 13.4	2.962	3.217	95.8	17.9	17.7
1987	03 16	16 24.95	-31 48.9					
1987	03 26	16 27.84	-32 20.0	2.693	3.223	113.5	16.5	17.5
1987	04 05	16 28.31	-32 45.6					
1987	04 15	16 26.27	-33 04.2	2.462	3.228	132.8	13.2	17.2
1987	04 25	16 21.78	-33 13.8					
1987	05 05	16 15.13	-33 12.0	2.301	3.233	153.1	8.1	16.9
1987	05 15	16 06.90	-32 57.4					
1987	05 25	15 57.89	-32 30.0	2.238	3.236	168.2	3.7	16.6
1987	06 04	15 49.01	-31 51.2					
1987	06 14	15 41.18	-31 05.0	2.286	3.239	155.7	7.4	16.8
1987	06 24	15 35.06	-30 15.6					
1987	07 04	15 31.09	-29 27.7	2.434	3.241	135.7	12.7	17.1
1987	07 14	15 29.46	-28 44.8					
1987	07 24	15 30.16	-28 09.1	2.656	3.242	116.7	16.3	17.4
1987	08 03	15 33.06	-27 41.5					
1987	08 13	15 37.97	-27 22.1	2.920	3.242	99.3	18.0	17.7

(3468) 1975 AM a,e,i = 3.02, 0.08, 11 Elements MPC 10843

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 28.05	-15 28.8	2.983	3.249	96.6	17.7	17.5
1987	03 16	16 32.59	-15 38.5					
1987	03 26	16 35.18	-15 44.8	2.698	3.243	114.6	16.2	17.3
1987	04 05	16 35.61	-15 48.3					
1987	04 15	16 33.79	-15 49.9	2.453	3.236	134.5	12.8	17.0
1987	04 25	16 29.77	-15 50.1					
1987	05 05	16 23.73	-15 49.7	2.281	3.228	156.0	7.3	16.6
1987	05 15	16 16.16	-15 49.6					
1987	05 25	16 07.67	-15 50.7	2.210	3.220	175.0	1.6	16.2
1987	06 04	15 59.06	-15 54.2					
1987	06 14	15 51.14	-16 01.5	2.252	3.211	156.8	7.1	16.6
1987	06 24	15 44.57	-16 13.5					
1987	07 04	15 39.85	-16 31.1	2.395	3.200	135.5	12.9	16.9
1987	07 14	15 37.26	-16 54.7					
1987	07 24	15 36.85	-17 23.9	2.611	3.190	116.0	16.6	17.2
1987	08 03	15 38.61	-17 58.4					
1987	08 13	15 42.40	-18 37.2	2.868	3.178	98.4	18.4	17.4

(3463) 1981 XJ2 a,e,i = 2.45, 0.13, 3 Elements MPC 10838

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 35.14	-21 52.9	2.358	2.621	94.0	22.2	18.1
1987	03 16	16 42.30	-22 14.7					
1987	03 26	16 47.13	-22 32.2	2.116	2.644	111.1	20.6	17.8
1987	04 05	16 49.30	-22 45.6					
1987	04 15	16 48.60	-22 55.2	1.903	2.664	130.4	16.7	17.5
1987	04 25	16 44.96	-23 00.4					
1987	05 05	16 38.53	-23 00.5	1.750	2.684	152.1	10.1	17.1
1987	05 15	16 29.86	-22 54.9					
1987	05 25	16 19.79	-22 43.6	1.690	2.701	175.6	1.7	16.7
1987	06 04	16 09.44	-22 27.9					
1987	06 14	15 59.96	-22 10.5	1.738	2.717	160.4	7.2	17.0
1987	06 24	15 52.27	-21 54.5					
1987	07 04	15 47.00	-21 43.0	1.886	2.730	138.3	14.3	17.5
1987	07 14	15 44.44	-21 38.0					
1987	07 24	15 44.58	-21 40.3	2.105	2.742	118.7	19.0	17.9
1987	08 03	15 47.29	-21 49.8					
1987	08 13	15 52.34	-22 05.5	2.366	2.752	101.4	21.2	18.2

(3424) 1982 CD a,e,i = 2.55, 0.07, 7 Elements MPC 10627

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 31.00	-14 24.8	2.438	2.726	96.0	21.2	17.7
1987	03 16	16 37.84	-14 09.9					
1987	03 26	16 42.52	-13 48.0	2.173	2.722	113.0	19.7	17.4
1987	04 05	16 44.77	-13 20.0					
1987	04 15	16 44.42	-12 47.4	1.942	2.717	131.9	15.9	17.1
1987	04 25	16 41.41	-12 11.8					
1987	05 05	16 35.89	-11 35.7	1.776	2.711	152.5	9.9	16.7
1987	05 15	16 28.33	-11 01.7					
1987	05 25	16 19.47	-10 33.1	1.703	2.704	169.1	4.1	16.3
1987	06 04	16 10.26	-10 12.8					
1987	06 14	16 01.74	-10 03.4	1.735	2.696	156.2	8.7	16.6
1987	06 24	15 54.76	-10 06.1					
1987	07 04	15 49.93	-10 21.1	1.863	2.687	135.8	15.3	16.9
1987	07 14	15 47.60	-10 47.3					
1987	07 24	15 47.81	-11 23.0	2.059	2.677	116.9	19.8	17.3
1987	08 03	15 50.49	-12 06.2					
1987	08 13	15 55.46	-12 54.7	2.294	2.666	100.2	22.0	17.6

1984 QE1 a,e,i = 2.33, 0.23, 8 Elements MPC 9590

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 06	16 36.18	-29 51.5	2.516	2.746	92.6	21.2	19.1
1987 03 16	16 43.82	-30 40.9					
1987 03 26	16 49.29	-31 28.8	2.221	2.718	109.2	20.3	18.8
1987 04 05	16 52.20	-32 14.8					
1987 04 15	16 52.18	-32 57.9	1.954	2.687	127.7	17.2	18.4
1987 04 25	16 48.99	-33 35.9					
1987 05 05	16 42.57	-34 05.5	1.745	2.653	147.8	11.7	18.0
1987 05 15	16 33.27	-34 22.4					
1987 05 25	16 21.90	-34 22.9	1.622	2.616	165.7	5.5	17.5
1987 06 04	16 09.69	-34 05.4					
1987 06 14	15 58.11	-33 31.9	1.605	2.576	158.4	8.4	17.6
1987 06 24	15 48.45	-32 47.6					
1987 07 04	15 41.64	-31 59.3	1.685	2.534	138.1	15.6	17.9
1987 07 14	15 38.14	-31 13.2					
1987 07 24	15 38.00	-30 33.9	1.836	2.490	118.8	21.0	18.2
1987 08 03	15 41.06	-30 03.4					
1987 08 13	15 47.03	-29 42.3	2.026	2.443	101.7	24.0	18.5

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

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 06	16 22.22	-21 43.2	2.019	2.355	97.0	24.7	17.9
1987 03 16	16 32.09	-21 53.6					
1987 03 26	16 39.68	-21 56.0	1.773	2.348	112.9	23.0	17.6
1987 04 05	16 44.60	-21 50.5					
1987 04 15	16 46.55	-21 37.7	1.558	2.342	131.0	18.9	17.2
1987 04 25	16 45.36	-21 17.7					
1987 05 05	16 41.09	-20 50.8	1.401	2.339	151.8	11.7	16.7
1987 05 15	16 34.22	-20 18.0					
1987 05 25	16 25.61	-19 41.1	1.328	2.338	174.6	2.4	16.2
1987 06 04	16 16.45	-19 03.1					
1987 06 14	16 08.06	-18 28.2	1.354	2.339	161.5	7.9	16.5
1987 06 24	16 01.51	-18 00.4					
1987 07 04	15 57.56	-17 42.7	1.471	2.342	139.9	16.2	17.0
1987 07 14	15 56.53	-17 36.1					
1987 07 24	15 58.44	-17 40.4	1.656	2.347	121.0	21.8	17.4
1987 08 03	16 03.12	-17 54.0					
1987 08 13	16 10.30	-18 14.9	1.882	2.354	104.8	24.6	17.7

1984 SA a,e,i = 2.29, 0.22, 6 Elements MPC 9580

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1987 03 06	16 20.80	-25 05.0	2.006	2.340	-1.43	+1.0	18.4
1987 03 16	16 31.14	-25 24.2					
1987 03 26	16 39.40	-25 35.4	1.717	2.290	-1.69	+0.6	18.0
1987 04 05	16 45.12	-25 38.2					
1987 04 15	16 47.88	-25 32.2	1.457	2.239	-2.03	+0.4	17.4
1987 04 25	16 47.34	-25 16.1					
1987 05 05	16 43.32	-24 48.7	1.251	2.187	-2.45	+0.9	16.9
1987 05 15	16 36.12	-24 08.7					
1987 05 25	16 26.49	-23 16.3	1.126	2.136	-2.77	+2.2	16.2
1987 06 04	16 15.75	-22 14.0					
1987 06 14	16 05.54	-21 07.9	1.096	2.084	-2.76	+3.1	16.3
1987 06 24	15 57.33	-20 05.1					
1987 07 04	15 52.23	-19 12.6	1.154	2.034	-2.44	+2.9	16.7
1987 07 14	15 50.76	-18 34.6					
1987 07 24	15 52.98	-18 12.2	1.273	1.986	-2.06	+1.9	17.1
1987 08 03	15 58.72	-18 04.4					
1987 08 13	16 07.65	-18 08.4	1.425	1.940	-1.76	+0.8	17.4

1953 PR a,e,i = 2.44, 0.33, 5 Elements MPC 9360

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 22.63	-17 29.9	2.132	2.467	97.6	23.5	19.1
1987	03 16	16 31.89	-17 23.7					
1987	03 26	16 39.24	-17 08.4	1.814	2.394	113.5	22.5	18.6
1987	04 05	16 44.29	-16 44.2					
1987	04 15	16 46.65	-16 11.6	1.531	2.319	131.4	18.9	18.1
1987	04 25	16 46.03	-15 31.5					
1987	05 05	16 42.24	-14 45.2	1.305	2.243	151.5	12.4	17.5
1987	05 15	16 35.50	-13 55.2					
1987	05 25	16 26.42	-13 05.0	1.161	2.167	170.5	4.4	16.8
1987	06 04	16 16.09	-12 19.7					
1987	06 14	16 05.99	-11 44.8	1.113	2.090	158.0	10.5	16.9
1987	06 24	15 57.52	-11 24.8					
1987	07 04	15 51.82	-11 22.6	1.151	2.015	136.6	20.3	17.2
1987	07 14	15 49.60	-11 38.4					
1987	07 24	15 51.04	-12 10.4	1.246	1.942	117.9	27.5	17.5
1987	08 03	15 56.11	-12 55.7					
1987	08 13	16 04.58	-13 50.7	1.370	1.872	102.5	31.9	17.7

1986 CK1 a,e,i = 2.34, 0.17, 5 Elements MPC 10953

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 43.06	-25 56.4	2.523	2.737	91.6	21.2	18.1
1987	03 16	16 50.46	-26 11.5					
1987	03 26	16 55.62	-26 21.6	2.255	2.742	108.7	20.2	17.8
1987	04 05	16 58.22	-26 26.8					
1987	04 15	16 58.01	-26 26.5	2.014	2.745	127.8	16.8	17.5
1987	04 25	16 54.88	-26 19.9					
1987	05 05	16 48.89	-26 05.6	1.830	2.745	149.2	10.8	17.1
1987	05 15	16 40.49	-25 42.5					
1987	05 25	16 30.43	-25 10.4	1.735	2.742	172.2	2.9	16.6
1987	06 04	16 19.78	-24 30.7					
1987	06 14	16 09.73	-23 46.8	1.750	2.737	162.8	6.3	16.8
1987	06 24	16 01.27	-23 03.0					
1987	07 04	15 55.13	-22 23.7	1.868	2.729	140.3	13.8	17.2
1987	07 14	15 51.71	-21 52.1					
1987	07 24	15 51.06	-21 29.8	2.062	2.718	120.2	18.9	17.6
1987	08 03	15 53.07	-21 17.1					
1987	08 13	15 57.54	-21 13.1	2.299	2.705	102.4	21.5	17.9

1984 QJ1 a,e,i = 2.27, 0.20, 4 Elements MPC 9292

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 23.93	-20 08.1	1.980	2.318	96.8	25.1	18.3
1987	03 16	16 34.22	-20 10.0					
1987	03 26	16 42.45	-20 02.7	1.697	2.273	112.5	23.9	17.9
1987	04 05	16 48.18	-19 46.4					
1987	04 15	16 51.04	-19 21.7	1.444	2.227	130.2	20.1	17.4
1987	04 25	16 50.69	-18 48.8					
1987	05 05	16 46.98	-18 08.5	1.245	2.180	150.6	13.1	16.8
1987	05 15	16 40.18	-17 22.3					
1987	05 25	16 31.00	-16 32.7	1.126	2.134	172.1	3.7	16.2
1987	06 04	16 20.65	-15 44.2					
1987	06 14	16 10.67	-15 02.0	1.102	2.088	160.7	9.3	16.3
1987	06 24	16 02.49	-14 31.2					
1987	07 04	15 57.19	-14 15.3	1.165	2.043	138.8	19.1	16.7
1987	07 14	15 55.36	-14 15.3					
1987	07 24	15 57.09	-14 30.2	1.288	1.999	119.9	26.1	17.1
1987	08 03	16 02.27	-14 57.6					
1987	08 13	16 10.61	-15 34.1	1.444	1.959	104.3	30.1	17.4

4016 P-L a,e,i = 2.80, 0.02, 5 Elements MPC 9299

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 40.77	-27 15.2	2.634	2.846	92.0	20.4	18.1
1987	03 16	16 48.54	-27 48.7					
1987	03 26	16 54.24	-28 19.0	2.362	2.843	108.7	19.4	17.8
1987	04 05	16 57.53	-28 46.2					
1987	04 15	16 58.18	-29 09.7	2.118	2.840	127.3	16.3	17.5
1987	04 25	16 56.05	-29 28.4					
1987	05 05	16 51.19	-29 40.5	1.932	2.837	147.8	10.9	17.1
1987	05 15	16 43.96	-29 43.9					
1987	05 25	16 35.04	-29 37.1	1.833	2.833	168.5	4.1	16.7
1987	06 04	16 25.39	-29 19.9					
1987	06 14	16 16.16	-28 54.1	1.841	2.829	163.6	5.8	16.8
1987	06 24	16 08.31	-28 23.1					
1987	07 04	16 02.61	-27 51.1	1.950	2.826	142.5	12.6	17.2
1987	07 14	15 59.49	-27 22.1					
1987	07 24	15 59.07	-26 58.6	2.138	2.822	122.9	17.6	17.5
1987	08 03	16 01.28	-26 41.8					
1987	08 13	16 05.93	-26 31.9	2.375	2.817	105.3	20.3	17.8

1976 EC a,e,i = 2.91, 0.07, 2 Elements MPC 10940

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 42.13	-20 41.6	2.660	2.880	92.5	20.1	17.8
1987	03 16	16 49.26	-20 46.7					
1987	03 26	16 54.32	-20 46.9	2.403	2.895	109.6	18.9	17.6
1987	04 05	16 57.05	-20 42.6					
1987	04 15	16 57.28	-20 34.3	2.176	2.909	128.6	15.6	17.3
1987	04 25	16 54.98	-20 22.2					
1987	05 05	16 50.24	-20 06.7	2.008	2.924	149.7	10.0	16.9
1987	05 15	16 43.49	-19 48.3					
1987	05 25	16 35.35	-19 27.9	1.931	2.938	172.3	2.7	16.5
1987	06 04	16 26.69	-19 06.9					
1987	06 14	16 18.44	-18 47.6	1.963	2.952	163.9	5.5	16.7
1987	06 24	16 11.42	-18 32.0					
1987	07 04	16 06.26	-18 22.3	2.098	2.966	142.0	12.2	17.1
1987	07 14	16 03.33	-18 19.4					
1987	07 24	16 02.74	-18 23.7	2.312	2.980	122.2	16.8	17.5
1987	08 03	16 04.46	-18 34.7					
1987	08 13	16 08.34	-18 51.5	2.575	2.993	104.5	19.1	17.8

1971 QN a,e,i = 2.19, 0.20, 3 Elements MPC 9472

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 20.32	-23 50.2	1.816	2.173	97.0	26.9	18.5
1987	03 16	16 32.26	-24 17.5					
1987	03 26	16 42.22	-24 37.2	1.541	2.125	111.9	25.8	18.1
1987	04 05	16 49.70	-24 49.5					
1987	04 15	16 54.22	-24 54.3	1.296	2.077	128.8	22.1	17.6
1987	04 25	16 55.34	-24 51.2					
1987	05 05	16 52.76	-24 39.1	1.099	2.030	148.7	15.0	17.0
1987	05 15	16 46.61	-24 16.9					
1987	05 25	16 37.54	-23 43.7	0.976	1.983	171.4	4.4	16.3
1987	06 04	16 26.85	-23 00.9					
1987	06 14	16 16.35	-22 12.8	0.941	1.938	164.2	8.2	16.3
1987	06 24	16 07.75	-21 25.8					
1987	07 04	16 02.40	-20 46.8	0.990	1.896	141.7	19.4	16.7
1987	07 14	16 00.98	-20 20.2					
1987	07 24	16 03.59	-20 07.4	1.100	1.857	122.7	27.4	17.1
1987	08 03	16 10.03	-20 07.4					
1987	08 13	16 19.92	-20 17.4	1.243	1.824	107.4	32.0	17.5

(3444) 1980 RJ2 a,e,i = 2.55, 0.27, 6 Elements MPC 10765

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 57.87	-29 11.9	3.109	3.230	88.0	17.9	18.6
1987	03 16	17 03.99	-29 42.1					
1987	03 26	17 08.12	-30 10.7	2.823	3.235	105.4	17.3	18.4
1987	04 05	17 09.98	-30 37.5					
1987	04 15	17 09.36	-31 01.8	2.561	3.236	124.5	14.8	18.1
1987	04 25	17 06.16	-31 22.3					
1987	05 05	17 00.41	-31 36.8	2.355	3.235	145.3	10.2	17.8
1987	05 15	16 52.44	-31 43.2					
1987	05 25	16 42.84	-31 39.3	2.239	3.231	165.9	4.4	17.4
1987	06 04	16 32.45	-31 24.5					
1987	06 14	16 22.27	-30 59.9	2.234	3.223	164.1	5.0	17.5
1987	06 24	16 13.21	-30 28.1					
1987	07 04	16 06.02	-29 53.3	2.339	3.213	143.3	10.9	17.8
1987	07 14	16 01.16	-29 19.2					
1987	07 24	15 58.79	-28 48.9	2.530	3.199	123.0	15.4	18.1
1987	08 03	15 58.91	-28 24.5					
1987	08 13	16 01.38	-28 06.6	2.773	3.183	104.6	17.9	18.3

1970 WC a,e,i = 2.36, 0.02, 4 Elements MPC 10630

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 38.38	-25 37.8	2.057	2.326	92.7	25.2	17.4
1987	03 16	16 49.03	-26 17.9					
1987	03 26	16 57.44	-26 53.9	1.815	2.328	108.2	24.0	17.1
1987	04 05	17 03.18	-27 26.5					
1987	04 15	17 05.86	-27 55.6	1.596	2.330	125.8	20.4	16.7
1987	04 25	17 05.19	-28 20.6					
1987	05 05	17 01.04	-28 39.7	1.427	2.333	146.0	14.0	16.3
1987	05 15	16 53.71	-28 50.2					
1987	05 25	16 43.98	-28 49.5	1.336	2.335	167.6	5.3	15.9
1987	06 04	16 33.05	-28 36.6					
1987	06 14	16 22.48	-28 13.3	1.342	2.339	165.1	6.4	15.9
1987	06 24	16 13.62	-27 43.6					
1987	07 04	16 07.49	-27 13.0	1.445	2.342	143.6	14.9	16.4
1987	07 14	16 04.61	-26 46.3					
1987	07 24	16 05.03	-26 26.1	1.620	2.346	124.1	21.0	16.8
1987	08 03	16 08.61	-26 13.7					
1987	08 13	16 15.02	-26 08.6	1.840	2.349	107.2	24.3	17.2

1977 QD2 a,e,i = 2.30, 0.19, 6 Elements MPC 9213

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 06	16 38.89	-27 30.9	2.214	2.462	92.3	23.7	19.2
1987	03 16	16 49.09	-28 17.6					
1987	03 26	16 57.32	-29 02.0	1.923	2.424	107.9	23.1	18.8
1987	04 05	17 03.11	-29 44.6					
1987	04 15	17 06.05	-30 25.2	1.658	2.383	125.3	20.1	18.4
1987	04 25	17 05.74	-31 02.9					
1987	05 05	17 01.89	-31 35.3	1.443	2.341	145.0	14.3	17.9
1987	05 15	16 54.63	-31 58.7					
1987	05 25	16 44.51	-32 08.8	1.304	2.298	165.3	6.4	17.3
1987	06 04	16 32.68	-32 02.4					
1987	06 14	16 20.79	-31 39.5	1.262	2.254	163.5	7.4	17.2
1987	06 24	16 10.45	-31 04.1					
1987	07 04	16 02.98	-30 22.9	1.314	2.210	142.6	16.2	17.6
1987	07 14	15 59.13	-29 42.6					
1987	07 24	15 59.09	-29 08.1	1.437	2.166	123.1	23.1	17.9
1987	08 03	16 02.75	-28 42.1					
1987	08 13	16 09.78	-28 24.6	1.600	2.122	106.4	27.3	18.2

1981 EY20 a,e,i = 2.94, 0.11, 1 Elements MPC 10384

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 06	16 46.97	-23 37.0	2.822	3.008	91.0	19.2	19.0
1987 03 16	16 54.41	-23 52.9					
1987 03 26	16 59.96	-24 05.1	2.526	2.988	108.0	18.5	18.7
1987 04 05	17 03.33	-24 13.9					
1987 04 15	17 04.32	-24 19.3	2.257	2.967	126.6	15.7	18.4
1987 04 25	17 02.78	-24 21.1					
1987 05 05	16 58.73	-24 18.7	2.046	2.946	147.4	10.6	18.0
1987 05 15	16 52.46	-24 11.6					
1987 05 25	16 44.49	-23 59.3	1.923	2.925	169.8	3.5	17.5
1987 06 04	16 35.63	-23 42.2					
1987 06 14	16 26.86	-23 21.9	1.906	2.904	166.7	4.6	17.6
1987 06 24	16 19.10	-23 00.7					
1987 07 04	16 13.13	-22 41.6	1.994	2.883	144.5	11.8	17.9
1987 07 14	16 09.46	-22 26.9					
1987 07 24	16 08.29	-22 18.2	2.164	2.862	124.2	17.1	18.3
1987 08 03	16 09.66	-22 16.1					
1987 08 13	16 13.45	-22 20.3	2.385	2.841	106.3	20.0	18.5

1979 YV8 a,e,i = 3.15, 0.14, 2 Elements MPC 10632

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 06	16 53.66	-23 09.1	3.070	3.219	89.6	17.9	18.3
1987 03 16	16 59.90	-23 23.3					
1987 03 26	17 04.20	-23 34.5	2.810	3.246	107.1	17.1	18.1
1987 04 05	17 06.36	-23 42.9					
1987 04 15	17 06.24	-23 48.6	2.577	3.272	126.3	14.3	17.8
1987 04 25	17 03.81	-23 51.4					
1987 05 05	16 59.17	-23 50.8	2.404	3.298	147.3	9.5	17.5
1987 05 15	16 52.67	-23 46.3					
1987 05 25	16 44.86	-23 37.9	2.321	3.323	169.8	3.1	17.2
1987 06 04	16 36.45	-23 25.9					
1987 06 14	16 28.27	-23 11.7	2.350	3.347	167.0	3.9	17.3
1987 06 24	16 21.04	-22 57.0					
1987 07 04	16 15.36	-22 43.8	2.487	3.371	145.0	10.0	17.7
1987 07 14	16 11.63	-22 34.1					
1987 07 24	16 09.99	-22 28.9	2.711	3.393	124.6	14.3	18.0
1987 08 03	16 10.46	-22 28.8					
1987 08 13	16 12.97	-22 33.6	2.991	3.415	106.2	16.6	18.3

1981 GQ a,e,i = 3.12, 0.28, 14 Elements MPC 9965

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 06	16 52.69	-32 04.6	2.422	2.597	88.8	22.4	18.4
1987 03 16	17 02.16	-33 20.0					
1987 03 26	17 09.33	-34 34.9	2.216	2.649	104.6	21.4	18.3
1987 04 05	17 13.81	-35 49.4					
1987 04 15	17 15.28	-37 02.4	2.033	2.703	122.1	18.3	18.0
1987 04 25	17 13.50	-38 11.7					
1987 05 05	17 08.47	-39 13.4	1.901	2.758	140.8	13.4	17.8
1987 05 15	17 00.53	-40 02.5					
1987 05 25	16 50.44	-40 34.5	1.850	2.813	157.7	7.9	17.6
1987 06 04	16 39.36	-40 46.2					
1987 06 14	16 28.64	-40 38.1	1.898	2.869	158.9	7.3	17.6
1987 06 24	16 19.46	-40 13.8					
1987 07 04	16 12.71	-39 38.9	2.046	2.925	143.3	12.0	18.0
1987 07 14	16 08.85	-38 59.3					
1987 07 24	16 07.93	-38 20.0	2.275	2.980	125.4	16.1	18.4
1987 08 03	16 09.82	-37 44.0					
1987 08 13	16 14.25	-37 13.2	2.559	3.036	108.4	18.5	18.8

1984 QO a,e,i = 2.56, 0.26, 14 Elements MPC 10767

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 26	17 18.21	-38 54.6	2.847	3.210	102.2	17.7	18.1
1987	04 05	17 20.99	-39 49.3					
1987	04 15	17 21.06	-40 42.5	2.595	3.217	120.1	15.7	17.9
1987	04 25	17 18.22	-41 32.0					
1987	05 05	17 12.40	-42 14.1	2.394	3.222	138.8	11.9	17.6
1987	05 15	17 03.86	-42 44.4					
1987	05 25	16 53.21	-42 58.4	2.275	3.223	155.4	7.5	17.3
1987	06 04	16 41.40	-42 53.1					
1987	06 14	16 29.66	-42 28.5	2.260	3.222	157.6	6.9	17.3
1987	06 24	16 19.12	-41 47.2					
1987	07 04	16 10.72	-40 54.5	2.350	3.218	142.6	11.1	17.5
1987	07 14	16 04.99	-39 56.5					
1987	07 24	16 02.14	-38 58.6	2.527	3.210	124.2	15.2	17.8
1987	08 03	16 02.11	-38 04.7					
1987	08 13	16 04.70	-37 17.2	2.761	3.200	106.5	17.7	18.0
1987	08 23	16 09.63	-36 36.9					
1987	09 02	16 16.64	-36 03.8	3.020	3.187	90.2	18.5	18.3

1949 PQ a,e,i = 2.17, 0.14, 1 Elements MPC 9583

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 26	16 47.00	-21 49.7	1.349	1.946	111.2	28.5	17.7
1987	04 05	16 56.48	-22 07.8					
1987	04 15	17 02.92	-22 20.6	1.141	1.921	127.2	24.6	17.2
1987	04 25	17 05.85	-22 29.0					
1987	05 05	17 04.88	-22 33.4	0.977	1.900	146.2	17.2	16.6
1987	05 15	17 00.09	-22 33.7					
1987	05 25	16 52.07	-22 29.4	0.879	1.882	168.4	6.2	16.0
1987	06 04	16 42.10	-22 20.6					
1987	06 14	16 32.05	-22 09.2	0.864	1.869	167.8	6.6	16.0
1987	06 24	16 23.72	-21 58.8					
1987	07 04	16 18.52	-21 53.3	0.930	1.860	145.6	18.0	16.5
1987	07 14	16 17.20	-21 55.6					
1987	07 24	16 19.87	-22 06.2	1.059	1.856	126.8	26.0	17.0
1987	08 03	16 26.30	-22 24.1					
1987	08 13	16 36.09	-22 47.0	1.228	1.857	111.5	30.5	17.5
1987	08 23	16 48.75	-23 11.8					
1987	09 02	17 03.87	-23 35.7	1.421	1.863	98.7	32.4	17.8

(3439) 1983 RL2 a,e,i = 2.74, 0.14, 5 Elements MPC 10760

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 26	17 01.62	-27 04.7	2.017	2.501	107.2	22.4	17.1
1987	04 05	17 07.85	-27 40.5					
1987	04 15	17 11.40	-28 14.4	1.768	2.478	124.6	19.5	16.7
1987	04 25	17 11.98	-28 45.9					
1987	05 05	17 09.39	-29 13.5	1.568	2.457	144.1	13.9	16.2
1987	05 15	17 03.80	-29 35.0					
1987	05 25	16 55.72	-29 47.5	1.446	2.438	165.0	6.2	15.8
1987	06 04	16 46.11	-29 49.0					
1987	06 14	16 36.31	-29 39.5	1.420	2.421	167.4	5.3	15.7
1987	06 24	16 27.63	-29 21.2					
1987	07 04	16 21.20	-28 58.4	1.492	2.407	146.6	13.4	16.1
1987	07 14	16 17.73	-28 35.7					
1987	07 24	16 17.46	-28 16.4	1.641	2.394	127.1	19.8	16.4
1987	08 03	16 20.37	-28 02.6					
1987	08 13	16 26.22	-27 54.3	1.840	2.385	110.0	23.5	16.8
1987	08 23	16 34.70	-27 50.9					
1987	09 02	16 45.50	-27 50.8	2.067	2.378	95.0	25.0	17.1

1984 UC2 a,e,i = 2.40, 0.19, 6 Elements MPC 9356

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 26	17 01.16	-17 46.9	1.841	2.352	108.3	23.7	17.2
1987	04 05	17 07.58	-17 51.8					
1987	04 15	17 11.36	-17 54.5	1.579	2.310	125.4	20.7	16.7
1987	04 25	17 12.17	-17 56.3					
1987	05 05	17 09.75	-17 58.6	1.366	2.268	145.1	14.7	16.2
1987	05 15	17 04.18	-18 02.5					
1987	05 25	16 55.87	-18 08.4	1.227	2.226	167.2	5.8	15.6
1987	06 04	16 45.75	-18 17.1					
1987	06 14	16 35.20	-18 29.2	1.183	2.185	167.5	5.8	15.5
1987	06 24	16 25.68	-18 45.8					
1987	07 04	16 18.47	-19 08.2	1.232	2.146	145.0	15.8	15.9
1987	07 14	16 14.43	-19 37.3					
1987	07 24	16 13.91	-20 12.9	1.353	2.109	125.1	23.2	16.2
1987	08 03	16 16.94	-20 54.2					
1987	08 13	16 23.32	-21 39.6	1.517	2.074	108.4	27.6	16.6
1987	08 23	16 32.71	-22 27.0					
1987	09 02	16 44.81	-23 14.1	1.702	2.042	94.3	29.5	16.8

(3471) 1977 QK2 a,e,i = 3.19, 0.06, 15 Elements MPC 10939

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 26	17 17.84	-40 29.6	2.838	3.199	102.1	17.8	16.9
1987	04 05	17 22.02	-41 24.6					
1987	04 15	17 23.58	-42 17.6	2.599	3.211	119.2	15.8	16.7
1987	04 25	17 22.32	-43 06.3					
1987	05 05	17 18.16	-43 47.4	2.409	3.222	137.1	12.3	16.4
1987	05 15	17 11.34	-44 16.8					
1987	05 25	17 02.41	-44 30.4	2.297	3.233	153.2	8.1	16.2
1987	06 04	16 52.25	-44 25.3					
1987	06 14	16 41.98	-44 00.9	2.283	3.244	157.4	6.9	16.1
1987	06 24	16 32.70	-43 19.7					
1987	07 04	16 25.33	-42 26.2	2.372	3.255	144.7	10.4	16.3
1987	07 14	16 20.43	-41 26.1					
1987	07 24	16 18.22	-40 24.4	2.549	3.266	127.2	14.3	16.6
1987	08 03	16 18.71	-39 25.4					
1987	08 13	16 21.72	-38 31.4	2.788	3.276	110.0	16.9	16.9
1987	08 23	16 26.98	-37 43.5					
1987	09 02	16 34.25	-37 02.0	3.061	3.286	93.8	17.8	17.1

1980 FR1 a,e,i = 3.16, 0.13, 4 Elements MPC 10757

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987	03 26	17 23.31	-27 12.9	3.162	3.514	102.4	16.1	18.5
1987	04 05	17 26.35	-27 25.7					
1987	04 15	17 27.31	-27 36.8	2.876	3.501	121.1	14.2	18.2
1987	04 25	17 26.07	-27 45.8					
1987	05 05	17 22.61	-27 51.8	2.641	3.488	141.5	10.4	17.9
1987	05 15	17 17.13	-27 53.8					
1987	05 25	17 09.99	-27 50.5	2.491	3.473	163.1	4.9	17.5
1987	06 04	17 01.77	-27 41.3					
1987	06 14	16 53.23	-27 26.4	2.449	3.457	171.7	2.4	17.4
1987	06 24	16 45.14	-27 07.0					
1987	07 04	16 38.23	-26 45.3	2.519	3.440	150.4	8.4	17.7
1987	07 14	16 33.05	-26 23.5					
1987	07 24	16 29.91	-26 03.9	2.684	3.422	129.6	13.2	18.0
1987	08 03	16 28.96	-25 48.1					
1987	08 13	16 30.20	-25 36.8	2.913	3.403	110.6	16.2	18.2
1987	08 23	16 33.49	-25 30.0					
1987	09 02	16 38.69	-25 27.3	3.174	3.384	93.2	17.3	18.5

1971 SN2 a,e,i = 3.18, 0.16, 2 Elements MPC 9472

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 26	17 22.44	-22 17.1	2.817	3.192	103.0	17.7	17.6
1987 04 05	17 26.63	-22 22.7					
1987 04 15	17 28.70	-22 26.9	2.522	3.160	121.2	15.8	17.3
1987 04 25	17 28.51	-22 30.0					
1987 05 05	17 25.96	-22 31.8	2.277	3.128	141.3	11.6	16.9
1987 05 15	17 21.19	-22 32.3					
1987 05 25	17 14.51	-22 31.0	2.113	3.096	163.3	5.4	16.5
1987 06 04	17 06.50	-22 27.8					
1987 06 14	16 57.96	-22 22.7	2.053	3.064	173.8	2.1	16.2
1987 06 24	16 49.76	-22 16.8					
1987 07 04	16 42.74	-22 11.4	2.101	3.032	151.2	9.3	16.6
1987 07 14	16 37.56	-22 08.3					
1987 07 24	16 34.61	-22 08.7	2.242	3.000	130.2	15.0	16.9
1987 08 03	16 34.08	-22 13.4					
1987 08 13	16 35.98	-22 22.5	2.445	2.969	111.4	18.5	17.1
1987 08 23	16 40.17	-22 35.3					
1987 09 02	16 46.51	-22 51.1	2.679	2.938	94.6	20.0	17.4

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

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 26	17 26.89	-23 20.0	2.254	2.646	101.9	21.6	17.8
1987 04 05	17 32.59	-23 41.9					
1987 04 15	17 35.74	-24 03.5	2.024	2.665	119.5	19.1	17.5
1987 04 25	17 36.10	-24 25.2					
1987 05 05	17 33.56	-24 46.7	1.838	2.685	139.5	14.1	17.2
1987 05 15	17 28.23	-25 07.1					
1987 05 25	17 20.55	-25 24.6	1.725	2.705	161.5	6.8	16.8
1987 06 04	17 11.27	-25 37.7					
1987 06 14	17 01.45	-25 45.5	1.713	2.725	174.1	2.2	16.6
1987 06 24	16 52.22	-25 48.5					
1987 07 04	16 44.57	-25 48.5	1.807	2.746	151.9	10.1	17.0
1987 07 14	16 39.23	-25 47.8					
1987 07 24	16 36.54	-25 48.5	1.990	2.766	131.1	16.1	17.5
1987 08 03	16 36.61	-25 51.9					
1987 08 13	16 39.30	-25 58.5	2.234	2.785	112.6	19.6	17.8
1987 08 23	16 44.40	-26 08.0					
1987 09 02	16 51.66	-26 19.5	2.510	2.805	96.2	21.0	18.1

1984 SM a,e,i = 2.29, 0.14, 6 Elements MPC 10513

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1987 03 26	17 13.46	-27 23.6	1.746	2.218	104.6	25.8	17.1
1987 04 05	17 22.62	-27 30.3					
1987 04 15	17 29.08	-27 31.0	1.496	2.186	120.8	23.2	16.6
1987 04 25	17 32.39	-27 25.3					
1987 05 05	17 32.20	-27 12.8	1.286	2.154	139.5	17.7	16.1
1987 05 15	17 28.40	-26 52.0					
1987 05 25	17 21.30	-26 21.3	1.140	2.124	161.2	8.9	15.5
1987 06 04	17 11.72	-25 39.8					
1987 06 14	17 01.09	-24 48.8	1.082	2.095	174.3	2.7	15.1
1987 06 24	16 51.06	-23 52.6					
1987 07 04	16 43.15	-22 57.2	1.118	2.068	151.4	13.6	15.6
1987 07 14	16 38.42	-22 08.4					
1987 07 24	16 37.31	-21 30.0	1.230	2.044	130.7	22.1	16.0
1987 08 03	16 39.87	-21 03.1					
1987 08 13	16 45.84	-20 46.6	1.392	2.022	113.5	27.4	16.4
1987 08 23	16 54.83	-20 38.3					
1987 09 02	17 06.48	-20 35.2	1.581	2.004	99.0	29.8	16.7