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 The MINOR PLANET CIRCULARS/MINOR PLANETS AND COMETS are published, on behalf  
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 Minor Planet Center  
 Smithsonian Astrophysical Observatory  
 Cambridge, MA 02138, U.S.A.  
 TWX 710-320-6842 ASTROGRAM CAM \*\* Brian G. Marsden, Director  
 Telephone 617-864-5758 \*\* Conrad M. Bardwell, Associate Director  
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CRITICAL LIST OF MINOR PLANETS.

The following list updates and is in the same form as that on MPC 6653:

1. Objects observed at only one opposition:  
 473 719 724 878 1026 1179
2. Objects observed at only two oppositions:  
 1316 1538 1981 2059 2061 2063 2101 2135 2202 2340 2368 2608
3. Objects accurately observed at only three oppositions:  
 1009 1198 1916 1921 2062 2076 2100 2106 2128 2129 2130 2143  
 2146 2148 2183 2189 2198 2201 2204 2210 2212 2218 2223 2229  
 2231 2257 2260 2261 2272 2277 2278 2285 2300 2303 2327 2328  
 2351 2359 2363 2364 2373 2377 2390 2420 2435 2444 2449 2462  
 2472 2482 2489 2495 2500 2503 2514 2518 2526 2537 2539 2546  
 2549 2550 2551 2552 2567 2579 2593 2596 2597 2609 2619 2621  
 2625 2629 2642 2643 2645 2649 2652 2654 2663 2669 2671 2688  
 2693 2695 2703 2706 2710 2722 2733 2736 2737 2744 2745 2758
4. Objects observed at four or more oppositions, last during 1970-1971:  
 942 1836
5. Objects observed at five or more oppositions, last during 1972:  
 1104 1530 1683 1759

\* \* \* \* \*

ERRATA.

MPC	Line	
7026	4	For 800901 read 810901
7158	1	For 1979 MS5 read 1979 MS8
7158	-23	For Samuel Coleridge Taylor read Samuel Taylor Coleridge
7199	- 9 to - 8	For Liege Schmidt read CNRS-Liege 0.62-m Schmidt. Add the names of G. Mathys and A. Henry.
7203	2	Add Helin to the list of measurers.
7240	16	Add The identification 1971 MG = 1941 SB1 (NOC 1297) is invalid.

\* \* \* \* \*

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	N Obs.
97	1981 02	03.83351	08 00 01.29	+08 47 21.0	MPC 7067	057
97	1981 02	03.84427	08 00 00.60	+08 47 26.6	MPC 7067	057
1976 AB *	1976 01	05.41524	13 46 49.40	-04 47 31.7	MPC 4027	1 801

Note 1: 1976 AB = (364).

\* \* \* \* \*

## DELETED OBSERVATIONS.

The following observations are to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Obs.
1937 VL	1937 11	25.85346	03 08 13.95	+18 06 31.9	MPC 3232	020
1940 FF *	1940 03	30.86	11 32.9	+00 50	RI 2118	062
1940 FF	1940 04	04.85	11 30.6	+01 18	RI 2118	062

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## IDENTIFICATION CHANGES.

Continuation to MPC 7167.

Object	Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
1937 WP *	1937 11	25.88445	03 08 10.25	+18 08 59.1	1937 VL		020
1966 DV *	1966 02	25.67745	09 42 18.34	+16 39 29.6	1966 CO		330
1973 ER *	1973 03	07.97708	10 41 44.43	+13 58 36.6	1973 DL		029

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## OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

046 Klet. Observer A. Mrkos.  
 323 Perth Observatory, Bickley. Observer J. Johnston. Measured by M. P. Candy.  
 489 Hemingford Abbots. Observer A. Young. Measured by B. Manning.  
 494 Stakenbridge. Observer B. Manning. Communicated by G. M. Hurst.  
 657 Climenhaga Observatory, University of Victoria. 0.25-m f/2 Schmidt. Observer and measurer J. Tatum. Reduced by F. Yeomans.  
 675 Palomar. 1.2-m Schmidt. Observers E. Helin and E. Shoemaker. Measured by E. Helin and P. D. Wilder.  
 688 Lowell Observatory, Anderson Mesa Station. Observer B. A. Skiff. Measured by E. Bowell.  
 707 Chamberlin Observatory field station. 0.40-m f/5.5 reflector. Observer E. Everhart.  
 801 Oak Ridge Observatory. Observers R. E. McCrosky and G. Schwartz (assisted by C. M. Bardwell and B. G. Marsden).  
 807 Cerro Tololo Interamerican Observatory. Observer A. Gomez. Measured by C. Torres.  
 809 European Southern Observatory. 1.0-m Schmidt telescope. Observer H.-E. Schuster. Measured by R. M. West.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
Periodic Comet Gunn						
/1976 III	1981 12	30.32813	13 32 39.75	+00 12 22.3	17 T	809
/1976 III	1981 12	31.32917	13 33 39.57	+00 08 02.9		809

## Periodic Comet Schwassmann-Wachmann 2

/1979k	1982 05 15.29305	15 25 56.17	-13 30 36.8		675
/1979k	1982 05 16.33819	15 25 05.91	-13 27 56.4	19.2N	675
/1979k	1982 05 16.37292	15 25 04.18	-13 27 49.8	19.2N	675
/1979k	1982 05 17.30764	15 24 20.01	-13 25 29.2	19.2N	675
/1979k	1982 05 18.36597	15 23 29.82	-13 22 48.9	19.2N	675

## Comet Bowell (1980b)

/1980b	1982 05 21.36563	18 19 37.37	-22 16 34.5		688
/1980b	1982 07 12.19340	18 02 47.94	-22 43 41.6		688
/1980b	1982 08 17.14271	18 00 56.19	-23 03 03.0		688
/1980b	1982 09 13.12535	18 13 00.12	-23 12 56.8	13.8T	688
/1980b	1982 09 22.16910	18 19 23.51	-23 13 53.1	1	707

## Periodic Comet d'Arrest

/1982e	1982 09 23.16042	18 11 01.27	-25 59 31.9		707
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## Periodic Comet Churyumov-Gerasimenko

/1982f	1982 09 15.34323	03 36 59.79	+11 02 12.8		801
/1982f	1982 09 22.26806	03 55 39.41	+12 39 43.8		707
/1982f	1982 09 22.42639	03 56 04.82	+12 42 02.1	14.0T	688
/1982f	1982 09 22.45417	03 56 09.29	+12 42 28.5		688
/1982f	1982 09 24.84236	04 02 44.13	+13 17 54.0	12 T	323
/1982f	1982 10 01.52222	04 21 30.54	+15 00 20.5		657

## Comet Austin (1982g)

/1982g	1982 07 27.40495	05 34 21.32	-23 19 11.8		2 807
/1982g	1982 07 27.42483	05 34 27.66	-23 17 39.5		2 807
/1982g	1982 08 18.87338	10 21 23.56	+40 37 05.6		494
/1982g	1982 08 18.87986	10 21 29.29	+40 37 35.6	5 T	3 489
/1982g	1982 08 18.8816	10 21 30.94	+40 37 43.4		3 489
/1982g	1982 08 19.87743	10 35 35.71	+41 47 46.6	5 T	4 489
/1982g	1982 08 19.88715	10 35 43.88	+41 48 21.3		4 489
/1982g	1982 08 25.91574	11 38 29.14	+44 44 04.6		494
/1982g	1982 09 10.17199	12 35 12.00	+42 19 35.2		657
/1982g	1982 09 10.79422	12 36 08.91	+42 09 54.6		046
/1982g	1982 09 10.79561	12 36 08.99	+42 09 53.9		046
/1982g	1982 09 11.78829	12 37 33.78	+41 54 23.7		046
/1982g	1982 09 11.78962	12 37 33.96	+41 54 21.2		046
/1982g	1982 09 12.79992	12 38 53.26	+41 38 31.2		046
/1982g	1982 09 12.80166	12 38 53.47	+41 38 30.4		046
/1982g	1982 09 13.16817	12 39 20.53	+41 32 44.1		657
/1982g	1982 09 14.16262	12 40 30.62	+41 17 11.5		657
/1982g	1982 09 14.79662	12 41 12.50	+41 07 15.3		046
/1982g	1982 09 14.79870	12 41 12.68	+41 07 14.0		046
/1982g	1982 09 15.00859	12 41 26.40	+41 03 58.9		801
/1982g	1982 09 15.17650	12 41 36.82	+41 01 27.3		657
/1982g	1982 09 16.16713	12 42 37.15	+40 45 56.1		657
/1982g	1982 09 17.15637	12 43 32.88	+40 30 39.5		657
/1982g	1982 09 18.16441	12 44 26.78	+40 15 13.5		657
/1982g	1982 09 19.17049	12 45 16.80	+40 00 00.5		657
/1982g	1982 09 22.10208	12 47 27.36	+39 16 38.8		688
/1982g	1982 09 22.10938	12 47 27.71	+39 16 30.6		688
/1982g	1982 09 23.14774	12 48 09.30	+39 01 33.5		657

Note 1: image elongated in p.a. 120 -300 . 2: 2" central condensation, 10" coma, no tail. A 50-s exposure by Torres with a 1-m telescope and image-tube camera showed a faint, narrow tail in p.a. 225 . 3: tails in p.a. 20 and 355 . 4: tail 22' long in p.a. 22 .

OBSERVATIONS MADE AT CAUSSOLS BY K. TOMITA AND C. POLLAS. MEASURED AND REDUCED BY M. T. DUMOULIN AND TOMITA. COMMUNICATED BY J. KOVALEVSKY.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1982 RA	1982 09	18.87681	20 01 25.80	-13 54 11.4		010
1982 RA	1982 09	19.84229	19 59 25.40	-12 32 13.9	16.0	010
1982 RA	1982 09	19.84903	19 59 24.53	-12 31 38.7		010
1982 RA	1982 09	19.85581	19 59 23.70	-12 31 04.9		010

OBSERVATIONS MADE AT ZIMMERWALD BY P. WILD (ASSISTED BY SCHILDKNECHT).

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
2763	1982 09	12.88611	21 38 58.74	-10 24 26.1	15.8		026
2763	1982 09	12.92622	21 38 57.44	-10 24 27.3			026
2763	1982 09	15.92917	21 37 36.65	-10 25 52.2			026
2763	1982 09	16.85278	21 37 15.96	-10 26 06.8			026
2763	1982 09	16.89444	21 37 14.93	-10 26 06.6			026
2763	1982 09	19.84653	21 36 19.41	-10 26 16.9			026
2763	1982 09	19.87292	21 36 18.97	-10 26 16.5			026
2763	1982 09	23.92062	21 35 33.11	-10 24 54.8			026
2763	1982 09	23.94514	21 35 32.78	-10 24 53.7			026
2763	1982 09	25.93125	21 35 23.67	-10 23 29.5			026
2763	1982 09	25.98403	21 35 23.28	-10 23 27.3	16		026
1982 RD1 *	1982 09	12.88611	21 41 38.19	-10 49 56.5	16.5		026
1982 RD1	1982 09	12.92622	21 41 36.61	-10 49 51.1			026
1982 RD1	1982 09	15.92917	21 39 50.43	-10 41 57.8			026
1982 RD1	1982 09	16.85278	21 39 21.89	-10 39 22.6			026
1982 RD1	1982 09	16.89444	21 39 20.58	-10 39 15.3			026
1982 RD1	1982 09	19.84653	21 38 01.47	-10 30 35.8		1	026
1982 RD1	1982 09	19.87292	21 38 00.74	-10 30 33.6		1	026
1982 RD1	1982 09	23.92062	21 36 43.96	-10 17 32.3			026
1982 RD1	1982 09	23.94514	21 36 43.36	-10 17 28.0			026
1982 RD1	1982 09	25.93125	21 36 19.90	-10 10 33.9			026
1982 RD1	1982 09	25.98403	21 36 19.12	-10 10 21.1	16.8		026

Note 1: images very weak.

OBSERVATIONS MADE AT TAUTENBURG BY R. ZIENER AND V. SCHORCHT. REDUCTIONS BY F. BORNGEN AND K. KIRSCH. COMMUNICATED BY S. MARX.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
982	1977 10	18.86979	01 04 00.14	+28 35 24.3	15.3	033
982	1977 10	18.88194	01 03 59.51	+28 35 20.6		033
982	1977 10	18.89688	01 03 58.72	+28 35 15.7		033
982	1977 10	18.90625	01 03 58.22	+28 35 12.7		033
982	1977 10	18.91979	01 03 57.51	+28 35 08.5		033
1977 UL2	1977 10	18.86979	01 01 04.51	+28 32 24.9		033
1977 UL2	1977 10	18.88194	01 01 04.78	+28 31 46.9		033
1977 UL2	1977 10	18.89688	01 01 05.04	+28 30 59.6		033
1977 UL2	1977 10	18.90625	01 01 05.23	+28 30 29.6		033
1977 UM2	1977 10	18.86979	01 00 03.19	+30 21 01.3		033
1977 UM2	1977 10	18.88194	01 00 02.64	+30 20 54.7		033
1977 UM2	1977 10	18.89688	01 00 01.90	+30 20 46.7		033
1977 UM2	1977 10	18.90625	01 00 01.37	+30 20 40.9		033
1977 UP2	1977 10	18.93472	01 02 21.35	+31 38 42.5		033
1977 UP2	1977 10	18.96215	01 02 19.68	+31 38 31.5		033
1977 UP2	1977 10	18.97222	01 02 19.19	+31 38 28.6		033
1977 UQ2	1977 10	18.93472	01 04 04.99	+30 53 26.1		033
1977 UQ2	1977 10	18.96215	01 04 03.16	+30 53 21.1		033
1977 UQ2	1977 10	18.97222	01 04 02.53	+30 53 19.4		033
1977 UR2 *	1977 10	18.93472	00 56 31.00	+32 31 50.6	18.5	033
1977 UR2	1977 10	18.96215	00 56 29.34	+32 31 37.5		033
1977 UR2	1977 10	18.97222	00 56 28.70	+32 31 32.5		033

1977 UR2	1977 10	18.98472	00 56	28.00	+32 31	26.8		033
1977 UR2	1977 10	18.99826	00 56	27.22	+32 31	20.0		033
1977 UR2	1977 10	19.02222	00 56	25.80	+32 31	08.4		033
1977 US2 *	1977 10	18.93472	01 06	17.41	+33 09	16.4	18.0	033
1977 US2	1977 10	18.94688	01 06	16.69	+33 09	13.5		033
1977 US2	1977 10	18.96215	01 06	15.87	+33 09	10.9		033
1977 US2	1977 10	18.97222	01 06	15.31	+33 09	08.7		033
1977 UT2 *	1977 10	18.93472	01 09	29.94	+32 24	48.7	16.9	033
1977 UT2	1977 10	18.94688	01 09	29.57	+32 24	44.7		033
1977 UT2	1977 10	18.96215	01 09	29.03	+32 24	40.5		033
1977 UT2	1977 10	18.97222	01 09	28.69	+32 24	37.4		033
1977 UJ2 *	1977 10	21.03715	00 51	19.51	+28 42	06.0	17.5	033

## OBSERVATIONS MADE AT KLET BY A. MRKOS, Z. VAVROVA AND M. MAHROVA.

Object	Date	UT	R. A. (1950)			Decl.		Mag.	N	Obs.
49	1982 09	16.87093	23 06	36.12	-00 33	52.1			046	
49	1982 09	16.88597	23 06	35.43	-00 33	56.0			046	
49	1982 09	17.87440	23 05	50.25	-00 38	11.4			046	
49	1982 09	17.88852	23 05	49.57	-00 38	15.4			046	
49	1982 09	18.85137	23 05	05.83	-00 42	27.5			046	
49	1982 09	18.86549	23 05	05.19	-00 42	31.0			046	
328	1982 09	10.84012	22 46	30.88	-12 48	25.2			046	
328	1982 09	10.85434	22 46	30.09	-12 48	25.3			046	
328	1982 09	11.83985	22 45	38.32	-12 49	07.4			046	
328	1982 09	11.85547	22 45	37.31	-12 49	07.9			046	
491	1982 09	11.90981	23 36	54.34	-00 54	41.3			046	
491	1982 09	11.92133	23 36	53.92	-00 54	48.7			046	
491	1982 09	14.93134	23 34	59.03	-01 24	51.6			046	
491	1982 09	14.94553	23 34	58.50	-01 25	00.7			046	
491	1982 09	15.90625	23 34	21.56	-01 34	37.2			046	
491	1982 09	15.92083	23 34	21.03	-01 34	45.0			046	
491	1982 09	16.90547	23 33	43.15	-01 44	40.2			046	
491	1982 09	16.92023	23 33	42.57	-01 44	49.2			046	
788	1982 09	15.04384	00 56	14.56	+02 30	49.4			046	
788	1982 09	15.05912	00 56	14.03	+02 30	42.3			046	
788	1982 09	16.01053	00 55	42.22	+02 23	56.4			046	
788	1982 09	16.02465	00 55	41.72	+02 23	50.9			046	
1082	1982 09	11.90981	23 36	48.40	-03 48	48.1			046	
1082	1982 09	11.92133	23 36	47.86	-03 48	52.3			046	
1336	1982 09	10.84012	22 42	03.50	-13 08	03.6			046	
1336	1982 09	10.85434	22 42	02.78	-13 08	08.1			046	
1336	1982 09	11.83985	22 41	17.56	-13 12	41.2			046	
1336	1982 09	11.85547	22 41	16.69	-13 12	45.6			046	
1384	1982 09	10.84012	22 39	16.67	-11 34	01.0			046	
1384	1982 09	10.85434	22 39	16.06	-11 34	08.2			046	
1384	1982 09	11.83985	22 38	31.17	-11 43	26.7			046	
1384	1982 09	11.85547	22 38	30.19	-11 43	37.8			046	
1553	1982 09	11.83985	22 41	38.37	-12 10	56.5			046	
1553	1982 09	11.85547	22 41	37.59	-12 11	00.3			046	
2163	1982 09	15.00218	23 49	49.55	-05 00	12.4			046	
2163	1982 09	15.02093	23 49	48.94	-05 00	16.8			046	
2163	1982 09	15.93993	23 49	09.53	-05 05	12.8			046	
2163	1982 09	15.95417	23 49	08.91	-05 05	17.6			046	
2163	1982 09	16.97255	23 48	25.14	-05 10	41.4			046	
2163	1982 09	16.98672	23 48	24.46	-05 10	46.6			046	
2163	1982 09	17.90669	23 47	44.34	-05 15	39.9			046	
2163	1982 09	17.92087	23 47	43.75	-05 15	43.6			046	
2217	1982 09	10.84012	22 39	18.58	-10 31	46.9			046	
2217	1982 09	10.85434	22 39	17.99	-10 31	50.2			046	

2217		1982	09	11.83985	22	38	36.70	-10	36	22.7		046	
2217		1982	09	11.85547	22	38	36.03	-10	36	28.3		046	
2383		1982	09	15.93993	23	56	40.17	-02	26	47.9	16.4	046	
2383		1982	09	15.95417	23	56	39.35	-02	26	52.2		046	
2391		1982	09	15.00218	23	44	15.08	-02	44	31.7		046	
2391		1982	09	15.02093	23	44	14.51	-02	44	37.8		046	
2391		1982	09	15.93993	23	43	26.85	-02	51	13.3		046	
2391		1982	09	15.95417	23	43	26.04	-02	51	21.4		046	
2391		1982	09	16.97255	23	42	33.07	-02	58	41.5		046	
2391		1982	09	16.98672	23	42	32.27	-02	58	47.9		046	
2391		1982	09	17.90669	23	41	44.06	-03	05	25.8		046	
2391		1982	09	17.92087	23	41	43.45	-03	05	32.2		046	
2415		1982	09	16.97255	23	45	28.38	-05	45	59.2		046	
2415		1982	09	16.98672	23	45	27.63	-05	46	03.4		046	
2415		1982	09	17.90669	23	44	41.13	-05	51	04.2		046	
2415		1982	09	17.92087	23	44	40.38	-05	51	10.2		046	
2504		1982	09	15.00218	23	52	40.11	-02	28	17.2		046	
2504		1982	09	15.93993	23	51	53.74	-02	32	14.5		046	
2504		1982	09	15.95417	23	51	53.03	-02	32	18.0		046	
2504		1982	09	16.97255	23	51	02.00	-02	36	32.1		046	
2504		1982	09	16.98672	23	51	01.15	-02	36	36.4		046	
2504		1982	09	17.90669	23	50	15.17	-02	40	29.2		046	
2504		1982	09	17.92087	23	50	14.69	-02	40	34.2		046	
1982	RE1	*	1982	09	11.87741	23	24	42.49	+01	54	35.9	17.0	046
1982	RE1		1982	09	11.89228	23	24	41.49	+01	54	28.4		046
1982	RE1		1982	09	14.89153	23	21	52.70	+01	32	35.4	1	046
1982	RE1		1982	09	14.90634	23	21	51.88	+01	32	35.2		046
1982	RE1		1982	09	15.87153	23	20	57.40	+01	25	23.6		046
1982	RE1		1982	09	15.88588	23	20	56.57	+01	25	16.5		046
1982	RF1	*	1982	09	14.89153	23	13	00.18	+00	22	55.8	16.6	046
1982	RF1		1982	09	14.90634	23	12	59.44	+00	22	54.0		046
1982	RF1		1982	09	15.87153	23	12	01.06	+00	23	13.1		046
1982	RF1		1982	09	15.88588	23	12	00.17	+00	23	12.9		046
1982	RF1		1982	09	16.87093	23	11	01.02	+00	23	25.0		046
1982	RF1		1982	09	16.88597	23	11	00.22	+00	23	25.4		046
1982	RF1		1982	09	18.85137	23	09	04.45	+00	23	43.4		046
1982	RF1		1982	09	18.86549	23	09	03.68	+00	23	43.6		046
1982	RG1	*	1982	09	14.93134	23	31	52.99	-01	00	24.2	16.6	046
1982	RG1		1982	09	14.94553	23	31	52.41	-01	00	31.2		046
1982	RG1		1982	09	15.90625	23	31	08.04	-01	06	28.9		046
1982	RG1		1982	09	15.92083	23	31	07.36	-01	06	34.8		046
1982	RG1		1982	09	16.90547	23	30	21.92	-01	12	45.1		046
1982	RG1		1982	09	16.92023	23	30	21.33	-01	12	51.1		046
1982	RH1	*	1982	09	14.93134	23	31	58.53	-02	57	24.8	16.8	046
1982	RH1		1982	09	14.94553	23	31	57.87	-02	57	29.6		046
1982	RH1		1982	09	15.90625	23	31	14.07	-03	01	09.8		046
1982	RH1		1982	09	15.92083	23	31	13.27	-03	01	13.8		046
1982	RH1		1982	09	16.90547	23	30	28.63	-03	05	02.0		046
1982	RH1		1982	09	16.92023	23	30	27.91	-03	05	05.9		046
1982	RJ1	*	1982	09	14.96711	23	52	22.64	+03	54	37.5	16.4	046
1982	RJ1		1982	09	14.98377	23	52	21.15	+03	54	44.7	2	046
1982	RJ1		1982	09	15.97465	23	50	46.66	+04	01	50.2		046
1982	RJ1		1982	09	15.98924	23	50	45.35	+04	01	56.2		046
1982	RJ1		1982	09	16.93823	23	49	14.96	+04	08	38.6		046
1982	RJ1		1982	09	16.95218	23	49	13.65	+04	08	46.1		046
1982	RJ1		1982	09	19.90313	23	44	34.03	+04	28	38.2		046
1982	RJ1		1982	09	19.91736	23	44	32.65	+04	28	44.4		046
1982	RK1	*	1982	09	14.96711	23	52	52.70	+06	11	36.8	17.4	046
1982	RK1		1982	09	14.98377	23	52	51.51	+06	11	33.6		046

1982	RK1	1982	09	15.97465	23	51	57.23	+06	07	15.6	046
1982	RK1	1982	09	15.98924	23	51	56.56	+06	07	11.0	046
1982	RK1	1982	09	16.93823	23	51	04.41	+06	02	57.5	046
1982	RK1	1982	09	16.95218	23	51	03.50	+06	02	53.4	046
1982	RL1	* 1982	09	14.96711	23	55	23.49	+06	15	52.8	17.0 046
1982	RL1	1982	09	14.98377	23	55	22.27	+06	15	55.6	046
1982	RL1	1982	09	15.97465	23	54	31.23	+06	16	58.8	046
1982	RL1	1982	09	15.98924	23	54	30.70	+06	16	59.4	046
1982	RL1	1982	09	16.93823	23	53	41.77	+06	17	52.9	046
1982	RL1	1982	09	16.95218	23	53	40.79	+06	17	53.7	046
1982	RM1	* 1982	09	14.96711	23	59	13.23	+06	53	09.7	17.0 046
1982	RM1	1982	09	14.98377	23	59	12.36	+06	53	08.0	046
1982	RM1	1982	09	15.97465	23	58	11.13	+06	49	00.5	046
1982	RM1	1982	09	15.98924	23	58	10.09	+06	48	57.1	046
1982	RM1	1982	09	16.93823	23	57	11.37	+06	44	54.3	046
1982	RM1	1982	09	16.95218	23	57	10.43	+06	44	49.5	046
1982	RN1	* 1982	09	14.96711	23	59	44.51	+06	59	23.2	16.8 046
1982	RN1	1982	09	14.98377	23	59	43.77	+06	59	14.9	046
1982	RN1	1982	09	15.97465	23	59	02.20	+06	47	54.5	046
1982	RN1	1982	09	15.98924	23	59	01.66	+06	47	45.5	046
1982	RN1	1982	09	16.93823	23	58	21.90	+06	36	49.1	046
1982	RN1	1982	09	16.95218	23	58	21.26	+06	36	40.3	046
1982	RG1	* 1982	09	14.96711	23	59	55.96	+05	22	03.7	17.4 046
1982	RG1	1982	09	14.98377	23	59	54.89	+05	21	58.1	046
1982	RG1	1982	09	15.97465	23	59	06.11	+05	16	11.0	046
1982	RG1	1982	09	15.98924	23	59	05.41	+05	16	05.1	046
1982	RG1	1982	09	16.93823	23	58	18.29	+05	10	25.6	046
1982	RG1	1982	09	16.95218	23	58	17.26	+05	10	20.8	046
1982	RP1	* 1982	09	14.96711	00	01	32.56	+05	51	26.7	17.3 046
1982	RP1	1982	09	14.98377	00	01	31.52	+05	51	26.0	046
1982	RP1	1982	09	15.97465	00	00	32.68	+05	48	07.9	046
1982	RP1	1982	09	15.98924	00	00	32.04	+05	48	06.0	046
1982	RP1	1982	09	16.93823	23	59	35.85	+05	44	55.2	046
1982	RP1	1982	09	16.95218	23	59	34.99	+05	44	50.7	046
1982	RQ1	* 1982	09	15.00218	23	44	20.58	-03	33	23.1	17.2 046
1982	RQ1	1982	09	15.02093	23	44	19.72	-03	33	26.3	046
1982	RQ1	1982	09	15.93993	23	43	31.61	-03	36	50.4	046
1982	RQ1	1982	09	15.95417	23	43	30.77	-03	36	54.7	046
1982	RQ1	1982	09	16.97255	23	42	37.26	-03	40	42.2	046
1982	RQ1	1982	09	16.98672	23	42	36.54	-03	40	43.9	046
1982	RQ1	1982	09	17.90669	23	41	47.49	-03	44	09.0	046
1982	RQ1	1982	09	17.92087	23	41	47.01	-03	44	11.9	046
1982	RR1	* 1982	09	15.00218	23	45	55.41	-01	40	57.5	16.8 046
1982	RR1	1982	09	15.02093	23	45	54.55	-01	40	51.8	046
1982	RR1	1982	09	15.93993	23	44	58.53	-01	36	16.6	046
1982	RR1	1982	09	15.95417	23	44	57.33	-01	36	12.5	046
1982	RR1	1982	09	16.97255	23	43	54.68	-01	31	08.6	046
1982	RR1	1982	09	16.98672	23	43	54.14	-01	31	04.5	046
1982	RS1	1982	09	15.00218	23	46	11.83	-04	54	19.4	17.0 046
1982	RS1	1982	09	15.02093	23	46	10.90	-04	54	21.5	046
1982	RS1	1982	09	15.93993	23	45	11.68	-04	55	04.7	046
1982	RS1	1982	09	15.95417	23	45	10.82	-04	55	05.1	046
1982	RS1	1982	09	16.97255	23	44	04.88	-04	55	47.8	046
1982	RS1	1982	09	16.98672	23	44	03.95	-04	55	48.2	046
1982	RS1	1982	09	17.90669	23	43	03.71	-04	56	26.1	046
1982	RS1	1982	09	17.92087	23	43	02.79	-04	56	26.2	046
1982	RT1	* 1982	09	15.00218	23	46	21.33	-05	10	18.2	16.2 046
1982	RT1	1982	09	15.02093	23	46	20.84	-05	10	22.5	046
1982	RT1	1982	09	15.93993	23	45	44.37	-05	18	27.2	046

1982	RT1	1982	09	15.95417	23	45	43.81	-05	18	35.2		046	
1982	RT1	1982	09	16.97255	23	45	03.57	-05	27	28.4		046	
1982	RT1	1982	09	16.98672	23	45	03.02	-05	27	36.0		046	
1982	RT1	1982	09	17.90669	23	44	25.93	-05	35	36.2		046	
1982	RT1	1982	09	17.92087	23	44	25.43	-05	35	43.9		046	
1982	RU1	*	1982	09	15.00218	23	46	26.19	-02	08	52.4	16.8	046
1982	RU1		1982	09	15.02093	23	46	25.78	-02	08	56.6		046
1982	RU1		1982	09	15.93993	23	45	45.42	-02	13	33.8		046
1982	RU1		1982	09	15.95417	23	45	44.78	-02	13	38.4		046
1982	RU1		1982	09	16.97255	23	44	59.80	-02	18	45.6		046
1982	RU1		1982	09	16.98672	23	44	59.07	-02	18	50.1		046
1982	RU1		1982	09	17.90669	23	44	18.48	-02	23	29.9		046
1982	RU1		1982	09	17.92087	23	44	17.69	-02	23	36.2		046
1982	RV1	*	1982	09	15.00218	23	48	50.70	-01	38	52.8	16.7	046
1982	RV1		1982	09	15.02093	23	48	50.14	-01	38	57.5		046
1982	RV1		1982	09	15.93993	23	48	08.04	-01	44	24.2		046
1982	RV1		1982	09	15.95417	23	48	07.43	-01	44	29.4		046
1982	RV1		1982	09	16.97255	23	47	19.95	-01	50	31.3		046
1982	RV1		1982	09	16.98672	23	47	19.31	-01	50	37.6		046
1982	RV1		1982	09	17.90669	23	46	36.99	-01	56	06.7		046
1982	RV1		1982	09	17.92087	23	46	36.27	-01	56	13.3		046
1982	RW1	*	1982	09	15.00218	23	49	51.28	-04	38	39.8	16.8	046
1982	RW1		1982	09	15.02093	23	49	50.28	-04	38	35.7		046
1982	RW1		1982	09	15.93993	23	48	57.55	-04	39	53.6	1	046
1982	RW1		1982	09	15.95417	23	48	56.72	-04	39	55.5		046
1982	RW1		1982	09	16.97255	23	47	58.07	-04	41	18.5		046
1982	RW1		1982	09	16.98672	23	47	57.13	-04	41	20.7		046
1982	RW1		1982	09	17.90669	23	47	03.57	-04	42	35.1		046
1982	RW1		1982	09	17.92087	23	47	02.88	-04	42	36.2		046
1982	RX1	*	1982	09	15.00218	23	51	04.98	-05	10	50.9	17.0	046
1982	RX1		1982	09	15.02093	23	51	04.29	-05	10	53.6		046
1982	RX1		1982	09	15.93993	23	50	24.53	-05	15	17.6		046
1982	RX1		1982	09	15.95417	23	50	23.68	-05	15	25.9		046
1982	RX1		1982	09	16.97255	23	49	39.10	-05	20	21.9		046
1982	RX1		1982	09	16.98672	23	49	38.50	-05	20	26.0		046
1982	RX1		1982	09	17.90669	23	48	57.68	-05	24	51.4		046
1982	RX1		1982	09	17.92087	23	48	57.12	-05	24	56.3		046
1982	RY1	*	1982	09	15.00218	23	53	21.41	-04	18	09.4	17.0	046
1982	RY1		1982	09	15.02093	23	53	20.69	-04	18	18.0		046
1982	RY1		1982	09	15.93993	23	52	26.92	-04	24	06.5		046
1982	RY1		1982	09	16.97255	23	51	25.44	-04	30	38.9		046
1982	RY1		1982	09	16.98672	23	51	24.67	-04	30	45.2		046
1982	RY1		1982	09	17.90669	23	50	29.75	-04	36	31.8		046
1982	RY1		1982	09	17.92087	23	50	28.92	-04	36	38.5		046
1982	RZ1	*	1982	09	15.04384	00	53	04.90	+01	34	06.9	16.8	046
1982	RZ1		1982	09	15.05912	00	53	04.30	+01	34	01.6		046
1982	RZ1		1982	09	16.01053	00	52	30.16	+01	30	13.1		046
1982	RZ1		1982	09	16.02465	00	52	29.80	+01	30	10.1		046
1982	RZ1		1982	09	17.00877	00	51	53.46	+01	26	09.0		046
1982	RZ1		1982	09	17.02347	00	51	52.95	+01	26	06.2		046
1982	RZ1		1982	09	17.94257	00	51	18.57	+01	22	18.0		046
1982	RZ1		1982	09	17.95762	00	51	17.85	+01	22	15.4		046
1982	RZ1		1982	09	18.88707	00	50	42.25	+01	18	20.9		046
1982	RZ1		1982	09	18.90125	00	50	41.51	+01	18	17.4		046
1982	RA2	*	1982	09	15.93993	23	47	19.77	-02	11	11.0	17.2	046
1982	RA2		1982	09	15.95417	23	47	19.07	-02	11	16.2		046
1982	RA2		1982	09	16.97255	23	46	34.12	-02	15	44.7		046
1982	RA2		1982	09	16.98672	23	46	33.63	-02	15	49.8		046
1982	RA2		1982	09	17.90669	23	45	52.96	-02	19	53.6		046



1982 RA2	1982 09 17.92087	23 45 52.30	-02 19 57.4		046
1982 RB2 *	1982 09 15.93993	23 49 29.36	-04 23 58.0	17.0	046
1982 RB2	1982 09 15.95417	23 49 28.75	-04 24 02.6		046
1982 RB2	1982 09 16.97255	23 48 47.61	-04 31 34.2		046
1982 RB2	1982 09 16.98672	23 48 47.14	-04 31 40.0		046
1982 RB2	1982 09 17.90669	23 48 09.96	-04 38 25.5	1	046
1982 RB2	1982 09 17.92087	23 48 08.97	-04 38 33.3		046
1982 SB	1982 09 14.93134	23 29 39.54	-00 22 48.3	16.4	046
1982 SB	1982 09 14.94553	23 29 38.81	-00 22 54.4		046
1982 SB	1982 09 15.90625	23 28 49.76	-00 28 48.5		046
1982 SB	1982 09 15.92083	23 28 49.00	-00 28 54.4		046
1982 SB	1982 09 16.90547	23 27 59.14	-00 34 59.5		046
1982 SB	1982 09 16.92023	23 27 58.40	-00 35 04.4		046
1982 SC	1982 09 11.90981	23 37 38.54	-01 09 22.6	16.8	046
1982 SC	1982 09 11.92133	23 37 37.19	-01 09 21.4	1	046
1982 SC	1982 09 14.93134	23 34 35.65	-01 02 20.6		046
1982 SC	1982 09 14.94553	23 34 34.79	-01 02 19.2		046
1982 SC	1982 09 15.90625	23 33 36.45	-01 00 08.6		046
1982 SC	1982 09 15.92083	23 33 35.42	-01 00 05.9		046
1982 SC	1982 09 16.90547	23 32 35.76	-00 57 55.0		046
1982 SC	1982 09 16.92023	23 32 34.80	-00 57 52.7		046
1982 SL	1982 09 14.96711	23 55 19.67	+03 50 07.3	16.6	046
1982 SL	1982 09 15.97465	23 54 35.30	+03 43 30.5		046
1982 SL	1982 09 15.98924	23 54 34.68	+03 43 24.9		046
1982 SL	1982 09 16.93823	23 53 52.25	+03 37 03.0		046
1982 SL	1982 09 16.95218	23 53 51.68	+03 36 57.7		046
1982 SL	1982 09 19.90313	23 51 37.16	+03 16 19.1		046
1982 SL	1982 09 19.91736	23 51 36.43	+03 16 13.5		046
1982 SJ1 *	1982 09 16.01053	00 45 09.36	+02 28 20.8		046
1982 SJ1	1982 09 16.02465	00 45 08.94	+02 28 14.3	16.8	046
1982 SJ1	1982 09 17.00877	00 44 36.46	+02 19 43.2		046
1982 SJ1	1982 09 17.02347	00 44 36.07	+02 19 38.1		046
1982 SJ1	1982 09 17.94257	00 44 05.02	+02 11 31.9		046
1982 SJ1	1982 09 17.95762	00 44 04.46	+02 11 23.8		046
1982 SJ1	1982 09 18.88707	00 43 31.94	+02 03 07.4		046
1982 SJ1	1982 09 18.90125	00 43 31.50	+02 03 01.9		046
1982 SJ1	1982 09 19.94271	00 42 54.18	+01 53 43.3		046
1982 SJ1	1982 09 19.96042	00 42 53.79	+01 53 36.3		046
1982 SK1 *	1982 09 16.01053	00 50 25.22	+03 24 42.1	17.0	046
1982 SK1	1982 09 16.02465	00 50 24.66	+03 24 40.5		046
1982 SK1	1982 09 17.00877	00 49 38.84	+03 22 52.7		046
1982 SK1	1982 09 17.02347	00 49 38.51	+03 22 53.1		046
1982 SK1	1982 09 17.94257	00 48 55.20	+03 21 07.6		046
1982 SK1	1982 09 17.95762	00 48 54.42	+03 21 05.7		046
1982 SK1	1982 09 18.88707	00 48 10.48	+03 19 20.2		046
1982 SK1	1982 09 18.90125	00 48 10.07	+03 19 24.7		046
1982 SL1 *	1982 09 16.87093	23 07 08.38	-01 29 48.3	16.8	046
1982 SL1	1982 09 16.88597	23 07 07.79	-01 29 55.7		046
1982 SL1	1982 09 17.87440	23 06 23.13	-01 39 25.1		046
1982 SL1	1982 09 17.88852	23 06 22.38	-01 39 33.2		046
1982 SL1	1982 09 18.85137	23 05 39.55	-01 48 47.4		046
1982 SL1	1982 09 18.86549	23 05 38.90	-01 48 55.9		046
1982 SM1 *	1982 09 16.87093	23 07 43.83	-01 07 59.1	16.5	046
1982 SM1	1982 09 16.88597	23 07 43.26	-01 08 03.0		046
1982 SM1	1982 09 17.87440	23 06 48.01	-01 13 14.1		046
1982 SM1	1982 09 17.88852	23 06 47.25	-01 13 19.8		046
1982 SM1	1982 09 18.85137	23 05 54.04	-01 18 26.2		046
1982 SM1	1982 09 18.86549	23 05 53.36	-01 18 30.5		046
1982 SN1 *	1982 09 17.94257	00 42 52.60	-00 02 33.8	16.0	046

1982 SN1	1982 09	17.95762	00 42 52.08	-00 02 36.8		046
1982 SN1	1982 09	18.88707	00 42 15.74	-00 06 46.5		04r
1982 SN1	1982 09	18.90125	00 42 15.18	-00 06 51.4		046
1982 SN1	1982 09	19.94271	00 41 33.33	-00 11 34.1		046
1982 SN1	1982 09	19.96042	00 41 32.94	-00 11 37.5		046
1982 SO1 *	1982 09	17.94257	00 44 21.54	+03 38 36.6	16.8	046
1982 SO1	1982 09	17.95762	00 44 20.93	+03 38 26.8		046
1982 SO1	1982 09	18.88707	00 43 47.81	+03 26 19.2		046
1982 SO1	1982 09	18.90125	00 43 47.36	+03 26 10.7		046
1982 SO1	1982 09	19.94271	00 43 09.32	+03 12 30.3		046
1982 SO1	1982 09	19.96042	00 43 08.80	+03 12 25.4		046
1982 SP1 *	1982 09	19.90313	23 41 17.60	+03 49 51.7	17.0	046
1982 SP1	1982 09	19.91736	23 41 16.96	+03 49 41.4		046
1982 SQ1 *	1982 09	19.94271	00 35 03.92	+00 12 27.6	17.0	046
1982 SQ1	1982 09	19.96042	00 35 03.11	+00 12 32.9		046

Note 1: near edge of plate. 2: image diffuse.

OBSERVATIONS MADE AT THE CRIMEAN ASTROPHYSICAL OBSERVATORY BY N. S. CHERNYKH,  
L. I. CHERNYKH, L. G. KARACHKINA, T. M. SMIRNOVA AND L. V. ZHURAVLEVA  
(50TH AND 51ST REPORTS).

Object	Date	UT	R. A. (1950)		Decl.	Mag.	N	Obs.
1979 SA11*	1979 09	24.03470	01 58 02.99	+17 39 13.5		18.0	1	095
1669	1979 09	24.03470	01 59 20.02	+12 16 51.8			1	095
1979 SB11*	1979 09	24.03470	02 01 25.92	+11 58 11.2		18.0	1	095
1979 SC11*	1979 09	24.03470	02 01 42.82	+14 02 26.4		16.5	1	095
187	1979 09	24.03470	02 02 30.27	+13 00 22.3			1	095
1979 SD11*	1979 09	24.03470	02 05 41.74	+13 08 08.3		18.0	1	095
1979 SE11*	1979 09	24.03470	02 06 01.69	+09 54 29.1		17.5	1	095
711	1979 09	24.03470	02 07 10.51	+17 13 13.4				095
656	1979 09	24.03470	02 08 28.80	+12 43 17.0				095
1979 SF11*	1979 09	24.03470	02 08 36.32	+14 00 42.2		17.0		095
1979 SG11*	1979 09	24.03470	02 08 44.46	+11 08 57.4		17.0		095
1979 SH11*	1979 09	24.03470	02 09 13.25	+11 32 38.8		18.0		095
1979 SJ11*	1979 09	24.03470	02 09 22.94	+18 20 30.4		17.5	1	095
1979 SK11*	1979 09	24.03470	02 09 27.44	+12 32 05.2		16.5		095
828	1979 09	24.03470	02 09 38.17	+13 43 34.6				095
1979 S111*	1979 09	24.03470	02 10 35.23	+09 43 54.2		17.0	1	095
1979 SM11*	1979 09	24.03470	02 11 45.13	+14 56 09.2		16.5		095
1979 SN11*	1979 09	24.03470	02 12 26.29	+16 04 15.9		16.5		095
1979 SO11*	1979 09	24.03470	02 14 42.78	+12 07 18.3		17.0		095
1979 SP11*	1979 09	24.03470	02 15 18.28	+16 04 51.2		17.5		095
1979 SQ11*	1979 09	24.03470	02 16 26.75	+13 08 32.0		17.0		095
1979 SR11*	1979 09	24.03470	02 16 45.60	+18 40 30.0		17.5	1	095
1027	1979 09	24.03470	02 17 17.50	+13 39 51.0				095
2750	1979 09	24.03470	02 17 20.79	+09 53 02.1		17.0	1	095
1126	1979 09	24.03470	02 19 04.80	+18 02 43.8			1	095
1979 SS11*	1979 09	24.03470	02 19 41.77	+13 50 43.7		17.0		095
854	1979 09	24.03470	02 21 05.84	+11 55 54.8				095
1979 ST11*	1979 09	24.03470	02 21 22.52	+09 48 49.4		17.5	1	095
2453	1979 09	24.03470	02 22 23.04	+18 01 17.9			1	095
2386	1979 09	24.03470	02 22 46.33	+19 09 56.0			1	095
1979 SU11*	1979 09	24.03470	02 24 41.21	+10 48 23.7		17.0	1	095
1979 SV11*	1979 09	24.03470	02 25 20.57	+15 32 30.1		16.7		095
1979 SW11*	1979 09	24.03470	02 25 40.31	+14 54 32.1		17.0		095
1979 SX11*	1979 09	24.03470	02 27 18.10	+10 28 31.3		17.5	3	095
1979 SY11*	1979 09	24.03470	02 28 03.71	+12 49 33.8		17.0		095
1769	1979 09	24.03470	02 28 14.31	+17 21 48.4			1	095
2383	1979 09	24.03470	02 29 10.40	+15 47 25.9				095
1979 WO	1979 09	24.03470	02 29 44.20	+13 02 00.6		16.0	1	095

2677		1979	09	24.03470	02	30	49.91	+11	37	30.5	16.5	1	095
1979	SZ11*	1979	09	24.03470	02	31	32.88	+15	06	17.2	16.8	1	095
1979	SA12*	1979	09	24.03470	02	32	18.06	+15	27	02.9	16.0	1	095
255		1979	09	24.03470	02	32	20.50	+18	35	18.4		1	095
1979	SB12*	1979	09	24.03470	02	32	52.71	+14	10	58.0	17.5	1	095
2046		1979	09	24.03470	02	34	39.36	+11	58	42.1		1	095
206		1979	09	24.03470	02	36	49.82	+10	15	01.9		1	095
1651		1979	09	24.03470	02	37	12.61	+12	50	53.0		1	095
136		1979	09	24.03470	02	37	23.93	+10	29	51.0		1	095
1539		1979	09	24.03470	02	37	41.04	+13	00	06.9		1	095
1979	SC12*	1979	09	24.03470	02	38	18.93	+17	08	53.0	17.0	1	095
1979	TS1 *	1979	10	14.90940	01	43	02.76	+14	19	52.3	17.5	1	095
1669		1979	10	14.90940	01	45	42.98	+11	06	32.0		1	095
187		1979	10	14.90940	01	45	58.86	+12	20	18.2		1	095
1979	TT1 *	1979	10	14.90940	01	46	08.11	+10	31	30.8	17.5	1	095
1979	TU1 *	1979	10	14.90940	01	46	37.40	+10	55	03.5	17.5	1	095
711		1979	10	14.90940	01	46	39.34	+16	54	40.7		1	095
1979	TV1 *	1979	10	14.90940	01	46	42.95	+15	10	39.0	17.5	1	095
1979	TW1 *	1979	10	14.90940	01	48	15.58	+13	08	01.1	18.0	1	095
1979	TX1 *	1979	10	14.90940	01	48	58.82	+11	24	57.2	17.0	1	095
1979	TY1 *	1979	10	14.90940	01	49	28.15	+08	41	46.2	17.5	1	095
1979	TZ1 *	1979	10	14.90940	01	49	42.00	+12	45	13.0	17.0	1	095
1979	TA2 *	1979	10	14.90940	01	51	08.72	+10	00	37.6	17.5	1	095
1979	TB2 *	1979	10	14.90940	01	51	45.16	+09	55	16.9	18.0	1	095
1979	TC2 *	1979	10	14.90940	01	51	58.22	+13	07	45.8	17.0	1	095
1979	TD2 *	1979	10	14.90940	01	52	09.29	+08	17	22.1	17.5	1	095
1979	TE2 *	1979	10	14.90940	01	52	40.40	+11	05	41.9	18.0		095
1979	TF2 *	1979	10	14.90940	01	54	04.36	+09	47	07.2	16.5		095
1979	TG2 *	1979	10	14.90940	01	54	13.38	+08	26	43.4	17.0	1	095
1979	SF11	1979	10	14.90940	01	54	19.09	+13	42	00.2	17.0		095
1979	TH2 *	1979	10	14.90940	01	54	57.11	+11	50	09.0	17.5		095
1979	TJ2 *	1979	10	14.90940	01	55	01.09	+12	43	45.3	16.5		095
656		1979	10	14.90940	01	55	33.99	+11	31	08.2			095
828		1979	10	14.90940	01	56	26.44	+12	41	30.1			095
1979	TK2 *	1979	10	14.90940	01	56	44.92	+11	03	44.8	18.0		095
1979	SJ11	1979	10	14.90940	01	56	49.11	+17	21	18.0	17.0	1	095
1979	TL2 *	1979	10	14.90940	01	58	01.52	+09	30	39.7	17.0		095
1979	SN11	1979	10	14.90940	02	00	34.13	+15	05	16.0	17.0		095
2750		1979	10	14.90940	02	00	35.38	+09	03	39.3	17.0	1	095
1979	TM2 *	1979	10	14.90940	02	01	39.98	+13	31	11.2	18.0		095
1126		1979	10	14.90940	02	02	20.27	+18	03	30.3		1	095
1979	TN2 *	1979	10	14.90940	02	02	22.54	+12	08	28.2	17.5		095
1979	T02 *	1979	10	14.90940	02	02	25.55	+15	10	48.9	18.0		095
1979	SO11	1979	10	14.90940	02	02	33.29	+10	51	26.8	17.5		095
1979	SQ11	1979	10	14.90940	02	04	23.20	+12	06	48.0	17.0		095
1027		1979	10	14.90940	02	04	39.90	+12	40	09.7			095
854		1979	10	14.90940	02	05	40.46	+09	31	39.1		1	095
1979	TP2 *	1979	10	14.90940	02	06	05.17	+12	03	10.1	17.5		095
1979	SS11	1979	10	14.90940	02	06	40.22	+12	58	04.8	17.5		095
1979	TQ2 *	1979	10	14.90940	02	08	34.04	+12	52	14.3	18.0		095
1979	TR2 *	1979	10	14.90940	02	11	15.48	+12	40	50.3	17.5		095
1979	TS2 *	1979	10	14.90940	02	11	15.78	+10	33	08.0	17.0		095
1979	SV11	1979	10	14.90940	02	12	23.88	+14	26	31.4	17.5		095
1979	SU11	1979	10	14.90940	02	12	41.74	+09	44	10.5	17.5	1	095
2383		1979	10	14.90940	02	13	00.30	+15	05	06.5			095
565		1979	10	14.90940	02	13	09.59	+18	14	32.0		1	095
1979	SY11	1979	10	14.90940	02	13	13.72	+12	14	52.6	17.0		095
1769		1979	10	14.90940	02	14	17.72	+16	39	55.5			095
1979	SW11	1979	10	14.90940	02	15	13.13	+12	44	40.3	17.0	1	095

1979	WO		1979	10	14.90940	02	16	26.56	+13	17	53.8	16.0	1	095
1979	TT2 *		1979	10	14.90940	02	18	25.40	+11	58	48.1	17.0	1	095
2677			1979	10	14.90940	02	19	37.43	+09	34	04.7	17.0	1	095
1979	TU2 *		1979	10	14.90940	02	20	21.38	+10	07	32.0	17.5	1	095
1979	SZ11		1979	10	14.90940	02	20	50.05	+14	26	10.8	17.0	1	095
1979	SA12		1979	10	14.90940	02	21	58.76	+14	45	42.3	17.0	1	095
1979	TV2 *		1979	10	14.90940	02	22	48.00	+13	00	05.2	18.0	1	095
2046			1979	10	14.90940	02	23	15.12	+11	06	38.5		1	095
1979	UN4 *		1979	10	17.94564	02	20	50.62	+17	21	36.1	17.5	1	095
1979	U04 *		1979	10	17.94564	02	22	49.35	+15	17	58.0	17.0	1	095
1979	UP4 *		1979	10	17.94564	02	24	17.27	+17	11	18.7	17.0	1	095
1979	UQ4 *		1979	10	17.94564	02	25	07.03	+16	08	43.4	17.0	1	095
1539			1979	10	17.94564	02	25	55.89	+11	43	40.6		1	095
523			1979	10	17.94564	02	30	48.39	+20	03	19.2		1	095
1979	UR4 *		1979	10	17.94564	02	31	09.67	+13	40	26.6	17.0		095
222			1979	10	17.94564	02	32	30.14	+12	44	55.1			095
1044			1979	10	17.94564	02	32	33.14	+11	51	46.3		1	095
1031			1979	10	17.94564	02	33	26.88	+16	30	21.6			095
1979	UD2		1979	10	17.94564	02	34	14.78	+19	37	02.8	16.5	1	095
1979	US4 *		1979	10	17.94564	02	36	17.42	+14	40	02.8	17.0		095
1979	UT4 *		1979	10	17.94564	02	37	09.38	+14	11	23.6	16.5		095
1979	UU4 *		1979	10	17.94564	02	37	16.34	+13	51	08.0	17.5		095
1979	UQ		1979	10	17.94564	02	42	02.96	+18	51	46.6	16.5		095
1979	UV4 *		1979	10	17.94564	02	42	42.17	+15	44	56.0	17.0		095
979			1979	10	17.94564	02	45	49.71	+19	48	24.3		1	095
420			1979	10	17.94564	02	45	54.11	+20	14	29.8		1	095
1979	UW4 *		1979	10	17.94564	02	45	56.68	+15	42	56.0	17.0		095
1979	UX4 *		1979	10	17.94564	02	46	35.80	+13	34	48.1	17.0		095
1691			1979	10	17.94564	02	47	38.29	+14	59	30.4			095
2258			1979	10	17.94564	02	48	04.77	+18	36	27.5			095
837			1979	10	17.94564	02	53	21.14	+13	12	09.3			095
2683			1979	10	17.94564	02	53	37.98	+18	33	09.3			095
1979	UY4		1979	10	17.94564	02	56	53.00	+17	14	53.4	17.0	1	095
1650			1979	10	17.94564	02	58	29.78	+15	31	19.8		1	095
2009			1979	10	17.94564	02	59	26.40	+12	57	08.6		1	095
966			1979	10	18.02075	03	22	40.97	+07	28	47.8		1	095
564			1979	10	18.02075	03	23	30.20	+04	36	47.8		1	095
402			1979	10	18.02075	03	30	15.22	+00	09	49.1			095
732			1979	10	18.02075	03	31	22.40	+05	49	56.7			095
1724			1979	10	18.02075	03	36	45.20	+02	59	57.8			095
1979	UZ4 *		1979	10	18.02075	03	40	54.73	+08	05	07.6	16.5	1	095
1979	UA5 *		1979	10	18.02075	03	46	57.83	+01	52	27.0	16.0		095
504			1979	10	18.02075	04	03	23.81	+02	08	03.2		1	095
1979	WR *		1979	11	16.81921	01	25	42.52	+09	17	48.4	17.0	3	095
1979	WS *		1979	11	16.81921	01	26	32.73	+08	45	43.2	17.0	1	095
1979	SF11		1979	11	16.81921	01	27	26.80	+12	14	16.8	16.5	1	095
1979	WT *		1979	11	16.81921	01	31	02.99	+09	49	27.3	17.5	1	095
1979	WU *		1979	11	16.81921	01	31	12.61	+05	42	16.6	18.0	1	095
656			1979	11	16.81921	01	32	18.36	+09	16	56.1			095
828			1979	11	16.81921	01	33	02.19	+10	37	26.2			095
1979	SN11		1979	11	16.81921	01	33	30.77	+12	00	07.8	17.0	1	095
1979	WV *		1979	11	16.81921	01	34	27.30	+11	49	57.2	17.5		095
1979	WW *		1979	11	16.81921	01	34	59.32	+05	57	59.3	17.0	1	095
1979	WX *		1979	11	16.81921	01	35	40.81	+08	58	22.5	18.0		095
1979	WY *		1979	11	16.81921	01	36	01.24	+11	37	21.5	18.0		095
1979	WZ *		1979	11	16.81921	01	36	18.04	+08	23	06.6	17.5		095
1979	WA1 *		1979	11	16.81921	01	37	11.96	+10	24	15.2	18.0		095
854			1979	11	16.81921	01	37	35.74	+05	48	20.7			095
1979	WB1 *		1979	11	16.81921	01	37	55.84	+10	53	53.8	17.0		095

1979	WC1 *	1979	11	16.81921	01	37	58.40	+11	31	37.4	17.5	095
1979	SO11	1979	11	16.81921	01	39	21.30	+08	38	40.0	17.0	095
1979	WD1 *	1979	11	16.81921	01	39	58.24	+08	38	09.7	18.0	095
1979	WE1	1979	11	16.81921	01	40	21.39	+08	23	23.6	18.0	095
1979	SS11	1979	11	16.81921	01	40	37.18	+10	58	12.2	17.0	095
1027		1979	11	16.81921	01	40	43.28	+10	37	57.4		095
1979	SQ11	1979	11	16.81921	01	40	46.57	+10	02	54.0	17.0	095
1979	SY11	1979	11	16.81921	01	41	04.38	+10	40	59.6	16.5	095
1979	WF1 *	1979	11	16.81921	01	42	24.63	+09	53	24.5	18.0	095
1979	WG1 *	1979	11	16.81921	01	42	56.84	+06	47	42.2	18.0	095
1769		1979	11	16.81921	01	43	27.20	+13	55	25.7		095
1979	WH1 *	1979	11	16.81921	01	44	52.70	+11	35	46.4	18.0	095
565		1979	11	16.81921	01	45	08.63	+13	18	50.5		095
1979	WJ1 *	1979	11	16.81921	01	45	54.29	+07	07	58.6	17.0	095
1979	WK1 *	1979	11	16.81921	01	45	56.34	+06	15	23.0	17.5	1 095
1979	SV11	1979	11	16.81921	01	46	18.17	+11	55	39.0	16.5	095
1979	WL1 *	1979	11	16.81921	01	46	20.03	+05	47	51.9	18.0	1 095
1979	WM1 *	1979	11	16.81921	01	47	07.60	+09	33	39.0	17.0	095
1979	SW11	1979	11	16.81921	01	47	48.22	+08	11	52.8	16.5	095
1979	WN1 *	1979	11	16.81921	01	47	58.54	+09	28	26.3	18.0	095
1979	WO	1979	11	16.81921	01	48	12.36	+13	08	14.6	16.0	095
1979	SU11	1979	11	16.81921	01	48	13.01	+07	57	58.3	16.5	095
631		1979	11	16.81921	01	50	04.88	+14	36	23.2		095
1979	WO1 *	1979	11	16.81921	01	50	32.36	+05	29	35.2	17.5	095
1979	WP1 *	1979	11	16.81921	01	50	37.54	+08	41	06.5	17.5	055
1979	WQ1 *	1979	11	16.81921	01	50	37.82	+11	18	08.1	17.0	095
1979	WR1 *	1979	11	16.81921	01	50	43.99	+09	51	46.9	18.0	095
1979	WS1 *	1979	11	16.81921	01	51	07.92	+14	17	38.4	18.0	1 095
1651		1979	11	16.81921	01	53	33.55	+06	43	01.0		095
1979	WT1 *	1979	11	16.81921	01	53	43.70	+08	10	12.0	18.0	095
1979	WU1 *	1979	11	16.81921	01	54	25.77	+11	48	00.5	16.0	095
1979	WV1 *	1979	11	16.81921	01	54	48.11	+08	09	17.6	17.5	1 095
1979	WW1 *	1979	11	16.81921	01	55	06.86	+11	53	11.4	18.0	095
1979	WX1 *	1979	11	16.81921	01	55	20.68	+09	43	34.4	17.5	095
1979	SZ11	1979	11	16.81921	01	55	45.17	+12	32	45.2	16.5	095
2677		1979	11	16.81921	01	56	09.41	+06	09	25.7	17.0	1 095
1979	WY1 *	1979	11	16.81921	01	56	30.62	+07	08	41.5	17.5	095
1979	SA12	1979	11	16.81921	01	57	04.91	+12	45	34.2	16.5	095
1995		1979	11	16.81921	01	57	52.25	+09	36	41.4		095
2046		1979	11	16.81921	01	57	59.39	+09	27	27.6		095
1979	WZ1 *	1979	11	16.81921	01	58	14.21	+12	14	14.1	17.0	095
1979	WA2 *	1979	11	16.81921	01	58	30.49	+06	28	50.8	17.5	1 095
206		1979	11	16.81921	01	58	53.27	+06	11	53.3		095
1979	WB2 *	1979	11	16.81921	01	59	08.19	+10	17	55.5	18.0	1 095
1979	WC2 *	1979	11	16.81921	01	59	44.92	+09	38	44.2	17.0	1 095
1979	WD2 *	1979	11	16.81921	02	02	24.07	+06	44	45.2	18.0	1 095
1539		1979	11	16.81921	02	03	48.54	+09	46	08.2		095
1979	WE2 *	1979	11	16.81921	02	04	56.70	+10	32	53.3	17.0	1 095
1044		1979	11	16.81921	02	04	57.59	+10	20	03.5		1 095
1979	WF2 *	1979	11	16.89005	02	56	42.69	+30	10	12.0	17.5	1 095
1979	WG2 *	1979	11	16.89005	02	57	05.86	+31	31	14.6	17.0	1 095
1979	WH2	1979	11	16.89005	02	58	38.97	+29	20	40.7	17.0	1 095
1979	WJ2 *	1979	11	16.89005	03	01	53.14	+33	05	45.0	17.5	095
1979	WK2 *	1979	11	16.89005	03	03	20.20	+31	31	19.0	16.0	095
1525		1979	11	16.89005	03	03	49.12	+25	15	49.0		1 095
1979	WL2 *	1979	11	16.89005	03	04	02.73	+33	26	38.4	17.0	095
1478		1979	11	16.89005	03	04	12.01	+31	21	42.8		095
1979	WM2 *	1979	11	16.89005	03	07	48.12	+25	18	05.6	17.5	1 095
1979	WN2 *	1979	11	16.89005	03	13	25.01	+33	02	28.4	16.5	095

1979	WO2	*	1979	11	16.89005	03	13	44.03	+33	03	03.5	17.0	095
1979	WP2	*	1979	11	16.89005	03	13	57.64	+34	38	44.0	17.5	1 095
1979	WQ2	*	1979	11	16.89005	03	14	55.35	+31	48	31.7	17.5	095
1979	WR2	*	1979	11	16.89005	03	16	16.35	+27	51	30.0	17.5	095
1979	WS2	*	1979	11	16.89005	03	16	39.88	+26	41	45.9	17.5	095
1979	WT2	*	1979	11	16.89005	03	18	14.94	+27	01	12.6	17.0	095
1979	WU2	*	1979	11	16.89005	03	18	55.65	+27	46	49.0	17.5	095
1979	WV2	*	1979	11	16.89005	03	19	40.19	+33	16	19.4	17.0	095
1979	WW2	*	1979	11	16.89005	03	19	44.34	+29	43	19.3	17.0	095
1254			1979	11	16.89005	03	20	36.04	+26	55	52.1		095
2045			1979	11	16.89005	03	21	54.87	+26	38	22.0		095
844			1979	11	16.89005	03	23	50.39	+30	50	18.3		095
1979	WX2	*	1979	11	16.89005	03	24	08.17	+29	09	27.8	17.5	095
1979	WY2	*	1979	11	16.89005	03	24	30.04	+33	00	06.5	18.0	095
1979	WZ2	*	1979	11	16.89005	03	24	44.76	+32	22	55.4	17.0	095
1979	WA3	*	1979	11	16.89005	03	25	49.12	+32	11	39.1	17.0	095
1979	WB3	*	1979	11	16.89005	03	30	23.20	+27	58	31.6	16.0	095
1859			1979	11	16.89005	03	30	36.19	+29	35	19.8		095
1979	WC3	*	1979	11	16.89005	03	31	18.76	+27	20	51.1	17.5	1 095
1979	WD3	*	1979	11	16.96176	04	16	58.29	+12	03	46.0	16.2	1 095
1979	WE3	*	1979	11	16.96176	04	18	49.04	+13	12	16.6	17.2	1 095
1979	WF3	*	1979	11	16.96176	04	19	08.46	+15	08	38.2	16.8	1 095
1979	WG3	*	1979	11	16.96176	04	19	52.28	+14	44	44.2	17.2	1 095
1979	WH3	*	1979	11	16.96176	04	20	25.39	+14	04	27.4	17.0	1 095
1394			1979	11	16.96176	04	20	54.85	+17	36	16.3		1 095
1979	WJ3	*	1979	11	16.96176	04	21	25.24	+10	48	27.1	17.2	1 095
744			1979	11	16.96176	04	23	16.24	+10	40	05.2		095
1979	WK3	*	1979	11	16.96176	04	23	41.14	+13	12	26.4	17.2	095
1979	WL3	*	1979	11	16.96176	04	28	00.94	+15	41	34.8	17.2	095
1765			1979	11	16.96176	04	29	05.84	+17	55	15.0		1 095
1979	WM3	*	1979	11	16.96176	04	29	27.42	+07	52	17.7	16.8	1 095
1979	WN3	*	1979	11	16.96176	04	30	05.36	+14	18	44.2	17.5	095
1681			1979	11	16.96176	04	31	03.44	+14	52	52.0		095
1979	WO3	*	1979	11	16.96176	04	34	15.46	+11	27	38.5	17.0	095
1979	WP3	*	1979	11	16.96176	04	35	08.12	+11	37	22.0	16.8	095
1979	WQ3	*	1979	11	16.96176	04	35	14.00	+07	54	29.2	17.2	3 095
1435			1979	11	16.96176	04	37	16.42	+15	58	07.0		095
834			1979	11	16.96176	04	40	53.70	+17	25	22.3		1 095
1979	WR3	*	1979	11	16.96176	04	41	41.72	+09	52	18.2	17.2	095
1979	WS3	*	1979	11	16.96176	04	43	09.02	+12	45	27.6	17.2	095
1979	WT3	*	1979	11	16.96176	04	43	46.44	+15	40	27.2	16.8	095
995			1979	11	16.96176	04	46	44.62	+13	49	59.6		095
1979	WU3	*	1979	11	16.96176	04	46	56.82	+12	10	32.4	16.8	095
1979	WV3	*	1979	11	16.96176	04	53	02.57	+11	17	31.4	17.0	1 095
1979	WW3	*	1979	11	16.96176	04	54	41.04	+11	02	51.3	17.0	1 095
1979	WX3	*	1979	11	17.03309	05	25	11.56	+20	19	39.4	17.0	1 095
1979	WY3	*	1979	11	17.03309	05	29	46.30	+18	06	43.4	17.0	1 095
455			1979	11	17.03309	05	30	48.10	+21	27	06.8		1 095
694			1979	11	17.03309	05	32	09.40	+13	55	14.0		1 095
1979	WZ3	*	1979	11	17.03309	05	33	19.03	+18	15	07.1	17.5	095
2138			1979	11	17.03309	05	37	23.58	+18	52	25.6		095
1979	WA4	*	1979	11	17.03309	05	39	41.66	+14	46	00.6	16.5	095
2715			1979	11	17.03309	05	39	42.02	+15	14	58.2		095
1979	WB4	*	1979	11	17.03309	05	41	51.45	+20	48	45.4	17.0	2 095
2093			1979	11	17.03309	05	43	38.59	+14	20	20.4		095
1994			1979	11	17.03309	05	45	41.38	+20	41	39.0		095
755			1979	11	17.03309	05	45	53.50	+19	10	02.1		095
1979	WC4	*	1979	11	17.03309	05	46	05.87	+19	45	15.0	16.5	095
2357			1979	11	17.03309	05	46	08.92	+20	15	22.6		095

1979	WD4	*	1979	11	17.03309	05	47	48.74	+21	43	04.8	17.0	1	095
1979	XO		1979	11	17.03309	05	48	08.62	+21	17	04.1	17.0	1	095
1979	WE4	*	1979	11	17.03309	05	49	39.50	+20	21	00.4	16.0		095
1277			1979	11	17.03309	05	50	15.13	+21	40	30.3		1	095
1979	XL		1979	11	17.03309	05	51	21.56	+18	06	34.4			095
1986			1979	11	17.03309	05	51	25.10	+20	23	35.5			095
48			1979	11	17.03309	05	51	26.12	+14	30	31.4			095
1979	WF4	*	1979	11	17.03309	05	53	41.26	+16	53	37.4	16.5		095
1984			1979	11	17.03309	05	54	18.22	+17	10	47.0			095
27			1979	11	17.03309	05	54	22.76	+22	19	19.1		1	095
1142			1979	11	17.03309	05	54	29.86	+21	01	42.6			095
1979	XP		1979	11	17.03309	05	55	21.42	+20	54	49.8	16.5		095
67			1979	11	17.03309	05	57	35.63	+16	11	30.2			095
1979	WG4	*	1979	11	17.03309	05	58	07.72	+18	59	03.6	17.5	2	095
1056			1979	11	17.03309	05	58	35.80	+19	21	22.3			095
1979	WH4	*	1979	11	17.03309	05	58	35.89	+20	04	00.4	17.2		095
1979	WJ4	*	1979	11	17.03309	05	59	41.88	+19	07	32.1	17.0		095
12			1979	11	17.03309	06	00	58.66	+18	45	25.4			095
1979	YP		1979	11	17.03309	06	01	32.50	+22	37	18.8		1	095
1720			1979	11	17.03309	06	02	01.52	+22	22	03.0		1	095
1979	WK4	*	1979	11	17.03309	06	03	17.54	+16	41	35.1	16.5	1	095
1979	WL4	*	1979	11	17.03309	06	04	59.88	+20	29	11.3	17.0	1	095
1075			1979	11	17.03309	06	06	40.70	+17	34	08.7		1	095
808			1979	11	17.03309	06	07	22.46	+16	19	59.7		1	095
1979	WM4	*	1979	11	17.73306	00	51	30.46	+16	51	26.8	17.0	1	095
1979	WN4	*	1979	11	17.73306	00	53	16.18	+13	44	27.2	16.0	1	095
1979	WO4	*	1979	11	17.73306	00	53	57.36	+11	26	10.9	16.5	1	095
1979	WP4	*	1979	11	17.73306	00	56	15.93	+17	55	33.1	16.5	1	095
1979	WQ4	*	1979	11	17.73306	00	56	34.44	+15	18	52.5	18.0		095
1979	WR4	*	1979	11	17.73306	00	56	34.64	+12	23	38.8	17.0	1	095
1979	WS4	*	1979	11	17.73306	00	58	03.04	+12	03	53.8	17.5		095
1979	WT4	*	1979	11	17.73306	00	58	03.12	+11	41	58.0	17.0		095
1979	WU4	*	1979	11	17.73306	00	58	06.90	+10	22	00.7	17.0	1	095
1979	WV4	*	1979	11	17.73306	00	58	29.83	+14	17	30.6	16.0		095
734			1979	11	17.73306	00	58	35.28	+10	08	01.7		1	095
120			1979	11	17.73306	00	58	40.28	+13	48	33.8			095
1979	WW4	*	1979	11	17.73306	01	00	01.78	+13	17	12.8	16.5		095
1979	WX4	*	1979	11	17.73306	01	01	35.03	+12	46	19.5	16.5		095
1979	WY4	*	1979	11	17.73306	01	02	39.57	+14	37	08.9	16.5		095
1979	WZ4	*	1979	11	17.73306	01	04	21.20	+13	07	20.0	16.5		095
1979	WA5	*	1979	11	17.73306	01	04	36.98	+12	56	58.1	17.0		095
1979	WB5	*	1979	11	17.73306	01	05	36.44	+17	51	37.1	17.5		095
1979	WC5	*	1979	11	17.73306	01	05	56.60	+10	00	46.8	17.0	1	095
1979	WD5	*	1979	11	17.73306	01	06	48.02	+09	23	56.5	17.5	1	095
1979	WE5	*	1979	11	17.73306	01	08	06.82	+16	46	40.9	16.5		095
1979	WF5	*	1979	11	17.73306	01	08	11.83	+16	41	33.0	16.5		095
1979	WG5	*	1979	11	17.73306	01	09	38.78	+13	21	38.3	17.0		095
1979	WH5	*	1979	11	17.73306	01	09	40.30	+11	25	28.5	16.5		095
1979	WJ5	*	1979	11	17.73306	01	10	49.60	+15	56	06.1	16.5		095
1979	WK5	*	1979	11	17.73306	01	10	57.76	+16	45	11.0	16.5		095
1979	WL5	*	1979	11	17.73306	01	12	20.01	+14	47	18.2	17.0		095
711			1979	11	17.73306	01	14	13.00	+14	53	06.9			095
1979	WM5	*	1979	11	17.73306	01	15	08.94	+18	48	30.4	17.0	1	095
322			1979	11	17.73306	01	16	13.26	+16	43	06.2			095
1979	WN5	*	1979	11	17.73306	01	17	11.90	+09	33	20.0	16.5	1	095
1979	WO5	*	1979	11	17.73306	01	17	47.40	+14	38	38.9	16.5		095
187			1979	11	17.73306	01	18	16.53	+10	51	08.0		1	095
1979	WP5	*	1979	11	17.73306	01	19	52.09	+10	14	06.0	17.0	1	095
1979	WQ5	*	1979	11	17.73306	01	20	41.04	+15	41	10.5	16.5		095

1979	WR5 *	1979	11	17.73306	01	22	21.30	+15	05	28.1	17.0	1	095
1979	WS5 *	1979	11	17.73306	01	23	40.34	+11	51	12.1	17.5	1	095
1979	WT5 *	1979	11	17.73306	01	23	45.21	+17	47	42.8	18.0	1	095
1979	WU5 *	1979	11	17.73306	01	24	04.64	+16	09	32.5	18.0	1	095
1979	SF11	1979	11	17.73306	01	27	01.90	+12	12	47.7	16.5	1	095
1126		1979	11	17.73306	01	27	02.28	+16	16	59.9		1	095
1539		1979	11	17.80286	02	03	12.84	+09	43	16.0		1	095
1044		1979	11	17.80286	02	04	11.72	+10	17	54.4		1	095
1979	WE2	1979	11	17.80286	02	04	20.56	+10	29	34.7	16.5	1	095
1979	WV5 *	1979	11	17.80286	02	07	57.04	+11	33	15.3	17.0	1	095
1979	WW5 *	1979	11	17.80286	02	08	10.13	+13	39	42.2	17.5	1	095
2361		1979	11	17.80286	02	08	18.12	+12	52	42.8		1	095
1979	WX5 *	1979	11	17.80286	02	08	42.90	+12	40	08.4	17.5	1	095
222		1979	11	17.80286	02	09	12.40	+11	00	12.6			095
1979	WY5	1979	11	17.80286	02	09	32.71	+12	09	31.2	18.0		095
1979	WZ5 *	1979	11	17.80286	02	09	36.79	+10	14	15.1	17.0	1	095
1979	WA6 *	1979	11	17.80286	02	10	50.18	+13	02	25.5	17.0		095
1031		1979	11	17.80286	02	11	08.83	+12	13	42.2			095
1979	WB6 *	1979	11	17.80286	02	11	24.10	+14	38	10.2	17.0		095
1979	WC6 *	1979	11	17.80286	02	11	39.40	+10	59	18.9	16.0		095
1979	WD6 *	1979	11	17.80286	02	11	56.74	+13	36	40.0	18.0		095
1979	WE6 *	1979	11	17.80286	02	12	19.45	+09	35	48.9	17.0		095
1979	WF6 *	1979	11	17.80286	02	12	41.49	+11	31	10.6	16.5		095
1684		1979	11	17.80286	02	12	58.85	+08	29	04.6			095
1979	WG6 *	1979	11	17.80286	02	13	25.59	+09	28	52.8	17.5		095
1979	WH6 *	1979	11	17.80286	02	13	31.74	+13	48	45.2	17.5		095
1979	UV4	1979	11	17.80286	02	14	01.55	+12	52	49.4	17.0		095
2203		1979	11	17.80286	02	15	11.30	+13	12	35.2			095
1979	WJ6 *	1979	11	17.80286	02	15	14.20	+11	03	23.9	18.0		095
1979	UQ	1979	11	17.80286	02	15	40.20	+15	29	53.7	16.5	1	095
1979	WK6 *	1979	11	17.80286	02	15	57.02	+13	56	54.9	17.0		095
1979	WL6 *	1979	11	17.80286	02	16	16.48	+12	40	28.7	17.0		095
1979	WM6 *	1979	11	17.80286	02	19	05.37	+10	37	06.8	16.0		095
2258		1979	11	17.80286	02	21	00.39	+16	30	44.4		1	095
1979	WN6 *	1979	11	17.80286	02	21	11.76	+12	47	53.0	16.5		095
1979	WO6 *	1979	11	17.80286	02	21	38.81	+08	47	04.4	17.5		095
979		1979	11	17.80286	02	22	54.02	+16	17	35.2			095
1979	WP6 *	1979	11	17.80286	02	23	02.47	+13	23	41.3	18.0		095
1586		1979	11	17.80286	02	23	29.56	+07	21	40.0		1	095
1979	WQ6 *	1979	11	17.80286	02	23	35.88	+08	13	36.0	17.5	1	095
1979	WR6 *	1979	11	17.80286	02	23	50.47	+13	48	27.9	17.0		095
1979	UT	1979	11	17.80286	02	24	08.10	+15	51	15.8	17.5	1	095
1691		1979	11	17.80286	02	24	20.02	+12	59	38.6			095
1979	WS6 *	1979	11	17.80286	02	24	39.18	+16	21	07.4	17.0	1	095
837		1979	11	17.80286	02	25	48.99	+09	07	02.9			095
1979	WT6 *	1979	11	17.80286	02	27	13.27	+11	11	50.1	17.5		095
1979	WU6 *	1979	11	17.80286	02	27	15.95	+12	35	38.9	17.5		095
1979	WV6 *	1979	11	17.80286	02	27	31.58	+08	44	19.7	18.0		095
1979	WW6 *	1979	11	17.80286	02	27	46.30	+15	56	40.2	17.5	1	095
2683		1979	11	17.80286	02	27	55.76	+16	45	46.1	17.0	1	095
1979	WX6 *	1979	11	17.80286	02	28	30.71	+12	37	11.6	18.0		095
1979	WY6 *	1979	11	17.80286	02	28	39.42	+09	15	52.8	16.0		095
1979	WG	1979	11	17.80286	02	28	51.83	+15	17	53.2	17.5	1	095
1979	WZ6 *	1979	11	17.80286	02	29	13.61	+07	53	13.9	18.0	3	095
1979	WA7 *	1979	11	17.80286	02	29	38.53	+09	05	07.6	17.5		095
1979	WB7 *	1979	11	17.80286	02	29	46.18	+13	39	27.7	17.0		095
1650		1979	11	17.80286	02	29	49.50	+12	52	47.8			095
1979	WC7 *	1979	11	17.80286	02	30	10.85	+13	35	58.1	17.0		095
1979	WD7 *	1979	11	17.80286	02	30	52.93	+14	01	43.7	16.5		095



1979	WE7 *	1979	11	17.80286	02	31	38.16	+11	19	44.6	17.0	095
1979	WF7 *	1979	11	17.80286	02	32	46.22	+08	57	45.1	18.0	095
1979	WG7 *	1979	11	17.80286	02	32	53.22	+11	56	25.1	17.0	095
1795		1979	11	17.80286	02	33	55.69	+09	05	52.1		095
1979	WH7 *	1979	11	17.80286	02	33	56.74	+10	56	32.5	17.0	095
1979	WJ7 *	1979	11	17.80286	02	34	18.91	+10	18	02.2	16.5	095
2009		1979	11	17.80286	02	35	28.52	+11	15	11.0		095
1979	WK7 *	1979	11	17.80286	02	38	04.03	+07	42	59.7	17.0	1 095
1667		1979	11	17.80286	02	38	27.22	+10	50	24.5		1 095
1979	WL7 *	1979	11	17.80286	02	38	29.26	+15	50	38.2	17.5	3 095
1979	WM7 *	1979	11	17.80286	02	40	03.45	+13	39	42.4	17.0	1 095
1393		1979	11	17.80286	02	40	31.21	+13	57	05.5		1 095
1979	WN7 *	1979	11	17.80286	02	40	36.68	+15	18	01.8	17.5	1 095
1979	WO7 *	1979	11	17.80286	02	40	40.48	+13	27	58.3	17.0	1 095
1979	WP7 *	1979	11	17.80286	02	41	27.89	+13	17	18.6	16.5	1 095
1979	WQ7 *	1979	11	17.80286	02	43	40.75	+12	39	38.5	17.5	1 095
221		1979	11	17.85510	02	56	38.03	-00	07	04.9		095
402		1979	11	17.85510	03	04	33.26	-02	09	21.2		095
732		1979	11	17.85510	03	05	55.27	+02	12	05.1		095
1979	WR7 *	1979	11	17.85510	03	11	17.04	+01	10	16.5	16.0	095
1724		1979	11	17.85510	03	13	53.39	-00	24	39.4		095
1979	WS7 *	1979	11	17.85510	03	19	02.08	+02	58	04.1	16.5	1 095
1669		1979	11	22.78148	01	20	14.18	+08	45	47.4		1 095
1979	WT7 *	1979	11	22.78148	01	22	03.90	+10	10	45.6	17.5	1 095
1979	WR	1979	11	22.78148	01	23	10.66	+09	03	27.6	17.0	1 095
1979	WS	1979	11	22.78148	01	23	42.65	+08	17	08.9	17.0	1 095
2750		1979	11	22.78148	01	23	55.91	+07	37	53.8	17.0	1 095
1979	SF11	1979	11	22.78148	01	25	13.85	+12	06	46.7	16.5	095
1979	WT	1979	11	22.78148	01	28	13.68	+09	35	08.2	17.5	095
1979	WU7 *	1979	11	22.78148	01	28	37.25	+05	13	33.8	18.0	095
656		1979	11	22.78148	01	29	15.26	+08	58	52.5		095
1979	SJ11	1979	11	22.78148	01	29	57.77	+14	06	33.8	18.0	095
828		1979	11	22.78148	01	30	06.87	+10	20	55.4		095
1979	SN11	1979	11	22.78148	01	30	59.91	+11	35	24.9	16.5	095
1979	WY	1979	11	22.78148	01	32	50.51	+11	19	28.0	17.5	095
1979	WV7 *	1979	11	22.78148	01	33	03.99	+14	52	38.5	18.0	095
1979	WW7 *	1979	11	22.78148	01	33	21.56	+10	42	52.3	18.0	095
1979	WC1	1979	11	22.78148	01	33	35.52	+11	31	48.1	17.0	095
854		1979	11	22.78148	01	34	24.12	+05	24	06.7		1 095
1979	WB1	1979	11	22.78148	01	35	03.76	+10	50	58.5	18.0	095
2383		1979	11	22.78148	01	35	15.11	+12	30	53.8		095
1979	SU11	1979	11	22.78148	01	36	47.68	+08	25	10.4	17.5	095
1979	SY11	1979	11	22.78148	01	36	52.74	+10	31	05.1	16.5	095
1979	SS11	1979	11	22.78148	01	37	12.37	+10	42	10.6	17.0	095
1027		1979	11	22.78148	01	37	24.76	+10	20	35.0		095
1979	SQ11	1979	11	22.78148	01	38	00.41	+09	48	33.8	16.5	095
1769		1979	11	22.78148	01	40	16.88	+13	32	07.5		1 095
1979	WX7 *	1979	11	22.78148	01	41	04.69	+13	26	06.7	17.5	1 095
565		1979	11	22.78148	01	41	29.02	+12	28	53.2		095
1979	SV11	1979	11	22.78148	01	42	50.28	+11	33	21.1	17.0	095
1979	WJ1	1979	11	22.78148	01	42	50.77	+06	43	58.8	17.0	095
1979	WY7 *	1979	11	22.78148	01	42	57.86	+07	41	14.7	17.5	095
1979	WZ7 *	1979	11	22.78148	01	43	58.57	+07	38	35.2	18.0	095
1979	WO	1979	11	22.78148	01	44	17.34	+13	09	05.3	16.0	1 095
1979	SW11	1979	11	22.78148	01	44	41.00	+07	37	06.6	16.5	095
1979	SU11	1979	11	22.78148	01	45	09.38	+07	48	43.0	17.0	095
631		1979	11	22.78148	01	46	45.62	+13	37	26.6		1 095
1979	WQ1	1979	11	22.78148	01	47	44.73	+11	19	26.4	17.0	095
1979	WU1	1979	11	22.78148	01	49	12.72	+11	01	40.5	16.5	095

1651		1979	11	22.78148	01	49	26.67	+06	14	03.9		1	095
1979	WA8 *	1979	11	22.78148	01	50	07.31	+14	48	14.9	17.5		095
1979	WW1	1979	11	22.78148	01	50	12.76	+11	12	39.4	17.0		095
1979	WX1	1979	11	22.78148	01	52	08.84	+09	20	29.3	17.5		095
1979	SZ11	1979	11	22.78148	01	52	17.02	+12	16	08.1	16.5		095
2677		1979	11	22.78148	01	52	50.22	+05	42	19.1	17.5	1	095
1995		1979	11	22.78148	01	53	03.81	+09	37	42.5		1	095
1979	SA12	1979	11	22.78148	01	53	43.79	+12	28	00.8	16.5	1	095
1979	WZ1	1979	11	22.78148	01	54	24.36	+11	35	20.3	18.0	1	095
2046		1979	11	22.78148	01	54	36.58	+09	17	32.8		1	095
1979	WB2	1979	11	22.78148	01	54	54.12	+09	59	02.9	17.5	1	095
206		1979	11	22.78148	01	55	08.88	+05	56	13.8		1	095
1979	WB8 *	1979	11	22.78148	01	56	35.62	+10	32	23.0	18.0		095
1539		1979	11	22.78148	02	00	26.93	+09	30	29.7		1	095
1044		1979	11	22.78148	02	00	35.79	+10	08	24.7		1	095
1979	XA1 *	1979	12	14.89287	04	29	43.55	+18	56	31.8	17.0	1	095
1979	XM	1979	12	14.89287	04	29	48.65	+20	51	53.3	16.8	1	095
1979	XB1 *	1979	12	14.89287	04	29	51.40	+14	13	55.0	16.8	1	095
1950		1979	12	14.89287	04	30	14.23	+22	39	55.4		1	095
1979	XC1 *	1979	12	14.89287	04	30	43.21	+21	43	52.8	17.5	1	095
797		1979	12	14.89287	04	30	44.54	+19	57	11.8		1	095
1979	XD1 *	1979	12	14.89287	04	34	05.50	+18	49	42.0	17.0		095
42		1979	12	14.89287	04	35	29.18	+19	40	58.2			095
596		1979	12	14.89287	04	36	41.64	+23	21	30.4		1	095
1979	XB1 *	1979	12	14.89287	04	36	48.36	+15	04	03.0	17.2	1	095
1979	XF1 *	1979	12	14.89287	04	37	17.57	+17	02	58.5	17.2	2	095
1979	XG1 *	1979	12	14.89287	04	37	23.46	+19	13	22.7	17.5		095
60		1979	12	14.89287	04	38	55.26	+15	42	05.8			095
1979	XH1 *	1979	12	14.89287	04	39	19.04	+15	49	28.8	16.8		095
1979	XJ1	1979	12	14.89287	04	39	20.35	+19	13	48.3	16.8		095
1979	XK1 *	1979	12	14.89287	04	39	22.54	+14	56	49.2	17.2	1	095
1979	XL1 *	1979	12	14.89287	04	39	38.82	+14	12	28.6	17.0	1	095
1979	XM1 *	1979	12	14.89287	04	40	49.07	+17	13	38.0	17.2	2	095
1979	XN1 *	1979	12	14.89287	04	41	41.86	+14	59	08.2	17.2	3	095
1979	XG1 *	1979	12	14.89287	04	43	44.48	+20	20	31.8	17.2		095
1979	XP1 *	1979	12	14.89287	04	46	18.64	+17	46	32.2	17.0		095
1979	XQ1 *	1979	12	14.89287	04	46	35.27	+20	41	13.1	17.0		095
1979	XR1 *	1979	12	14.89287	04	48	28.87	+16	56	58.8	17.0		095
1879		1979	12	14.89287	04	51	51.94	+22	00	21.3			095
2114		1979	12	14.89287	04	52	50.45	+23	18	25.6		1	095
668		1979	12	14.89287	04	53	14.58	+15	33	35.4			095
2411		1979	12	14.89287	04	54	07.54	+20	24	03.0			095
2249		1979	12	14.89287	04	54	39.12	+17	10	32.3			095
1979	XS1 *	1979	12	14.89287	04	55	39.20	+16	56	20.8	16.8		095
1979	XT1 *	1979	12	14.89287	04	55	55.50	+21	26	43.2	17.0		095
1085		1979	12	14.89287	04	56	40.06	+14	14	33.2		1	095
1979	WX3	1979	12	14.89287	04	58	07.73	+20	04	57.6	16.8		095
1979	XU1 *	1979	12	14.89287	04	59	49.89	+20	22	22.7	17.2		095
455		1979	12	14.89287	04	59	57.03	+23	29	23.2		1	095
1666		1979	12	14.89287	05	00	00.37	+23	05	41.8		1	095
1979	XV1 *	1979	12	14.89287	05	00	01.28	+19	25	23.2	17.0		095
1979	XW1 *	1979	12	14.89287	05	04	32.46	+19	42	48.8	17.0	1	095
1914		1979	12	18.79666	02	44	12.98	+08	15	07.0		1	095
1389		1979	12	18.79666	02	44	41.58	+13	18	51.3		1	091
2394		1979	12	18.79666	02	45	49.26	+13	42	42.8			095
1976	GZ2	1979	12	18.79666	02	46	19.18	+13	29	28.4			095
2421		1979	12	18.79666	02	47	13.98	+10	37	38.4			095
627		1979	12	18.79666	02	52	29.22	+07	14	01.2		1	095
1391		1979	12	18.79666	02	54	20.49	+08	34	00.2			095

1409		1979	12	18.79666	02	56	57.53	+07	46	34.5		095
32		1979	12	18.79666	02	58	36.78	+14	11	21.8		095
1975		1979	12	18.79666	03	00	37.18	+08	09	57.8		095
1979	YQ3 *	1979	12	18.79666	03	02	33.10	+11	59	55.0	17.5	095
1979	YR3 *	1979	12	18.79666	03	02	47.57	+09	04	32.0	17.5	095
159		1979	12	18.79666	03	05	49.92	+08	50	04.3		095
1979	YS3 *	1979	12	18.79666	03	06	25.92	+13	44	25.7	17.0	095
1979	YT3 *	1979	12	18.79666	03	06	59.60	+07	18	51.6	17.0	1 095
526		1979	12	18.79666	03	08	35.28	+14	34	17.9		1 095
1979	YU3 *	1979	12	18.79666	03	09	07.15	+09	35	31.2	17.0	095
1096		1979	12	18.79666	03	09	14.68	+12	48	38.6		095
1979	YV3 *	1979	12	18.79666	03	11	12.26	+09	00	48.3	17.0	095
1979	YW3 *	1979	12	18.79666	03	13	57.74	+09	13	35.5	16.5	095
1060		1979	12	18.79666	03	14	24.01	+14	13	37.0		095
113		1979	12	18.79666	03	14	32.48	+11	08	50.8		095
1588		1979	12	18.79666	03	15	18.76	+07	55	06.2		1 095
1435		1979	12	18.86962	04	10	33.52	+14	06	45.0		1 095
1979	YX3 *	1979	12	18.86962	04	11	42.94	+14	32	20.4	17.5	1 095
1979	YY3 *	1979	12	18.86962	04	12	27.56	+14	39	34.4	16.8	095
1979	YZ3 *	1979	12	18.86962	04	12	48.79	+16	51	37.1	17.2	095
834		1979	12	18.86962	04	16	04.28	+16	23	06.2		095
1979	YA4 *	1979	12	18.86962	04	16	14.88	+11	28	14.4	16.8	095
995		1979	12	18.86962	04	17	29.52	+10	24	28.6		095
1979	YB4 *	1979	12	18.86962	04	17	31.70	+17	03	16.4	17.5	095
1979	YC4 *	1979	12	18.86962	04	17	51.54	+10	05	38.2	17.5	1 095
1751		1979	12	18.86962	04	18	31.51	+18	21	03.8		1 095
1979	YD4 *	1979	12	18.86962	04	18	53.68	+17	45	57.6	17.2	1 095
1979	YE4 *	1979	12	18.86962	04	21	57.37	+10	59	00.0	17.0	095
1979	YF4 *	1979	12	18.86962	04	22	02.13	+15	49	34.4	17.5	095
1979	YG4 *	1979	12	18.86962	04	23	55.09	+14	33	13.5	17.2	095
1979	YH4 *	1979	12	18.86962	04	24	51.10	+15	48	49.9	17.2	095
1979	XB1	1979	12	18.86962	04	25	57.98	+14	21	58.4	16.5	095
2199		1979	12	18.86962	04	26	31.53	+09	12	46.6		1 095
1979	YJ4 *	1979	12	18.86962	04	26	44.87	+16	19	35.8	17.5	095
1979	YK4 *	1979	12	18.86962	04	28	32.68	+16	47	51.8	17.5	095
1979	YL4 *	1979	12	18.86962	04	28	38.03	+12	12	41.8	17.0	095
1979	XD1	1979	12	18.86962	04	29	39.06	+18	19	12.4	16.8	1 095
1979	YM4 *	1979	12	18.86962	04	29	39.57	+13	41	25.8	17.5	095
1979	YN4 *	1979	12	18.86962	04	30	10.68	+14	25	38.8	17.2	095
1979	YO4 *	1979	12	18.86962	04	30	46.24	+13	38	41.7	17.2	095
1979	YP4 *	1979	12	18.86962	04	30	51.08	+14	18	32.3	17.2	095
1979	YQ4 *	1979	12	18.86962	04	32	25.66	+18	17	47.8	17.0	1 095
1979	XE1	1979	12	18.86962	04	33	15.67	+15	03	30.6	17.0	095
1979	YD	1979	12	18.86962	04	33	19.95	+10	14	46.3	16.8	095
1979	XF1	1979	12	18.86962	04	33	21.77	+17	03	21.3	17.5	095
670		1979	12	18.86962	04	33	29.63	+09	51	37.0		1 095
1979	YR4 *	1979	12	18.86962	04	34	12.59	+13	11	49.0	17.2	095
60		1979	12	18.86962	04	35	17.88	+15	33	24.4		095
1979	XK1	1979	12	18.86962	04	35	30.10	+14	29	42.5	17.0	095
1979	XL1	1979	12	18.86962	04	35	30.11	+14	07	41.7	16.8	095
1979	YS4 *	1979	12	18.86962	04	35	32.92	+13	36	07.8	17.2	095
824		1979	12	18.86962	04	37	29.26	+11	14	10.8		095
1979	XM1	1979	12	18.86962	04	37	37.19	+16	48	54.0	17.2	2 095
1979	XN1	1979	12	18.86962	04	37	39.76	+15	16	49.2	17.2	095
1979	YT4 *	1979	12	18.86962	04	38	43.95	+11	20	28.4	17.2	095
1979	XP1	1979	12	18.86962	04	42	50.45	+17	27	53.6	17.0	1 095
1979	XR1	1979	12	18.86962	04	44	51.48	+16	30	47.2	17.2	1 095
1979	YU4 *	1979	12	18.86962	04	44	55.36	+11	14	19.1	17.5	1 095
1979	YV4 *	1979	12	18.86962	04	45	31.38	+12	15	40.6	17.0	1 095

1979	YW4	*	1979	12	18.86962	04	45	58.88	+11	17	54.2	17.0	1	095
2411			1979	12	18.94221	04	49	34.28	+20	19	12.9		1	095
668			1979	12	18.94221	04	49	34.46	+15	24	05.4		1	095
1979	YX4	*	1979	12	18.94221	04	50	34.28	+17	09	27.4	17.5	1	095
1979	YY4	*	1979	12	18.94221	04	50	38.65	+21	42	08.8	17.5	1	095
2249			1979	12	18.94221	04	51	23.49	+17	07	40.9		1	095
1979	XS1		1979	12	18.94221	04	51	27.36	+16	53	06.0	16.5	1	095
1979	XT1		1979	12	18.94221	04	52	23.54	+21	21	34.8	17.2	1	095
1085			1979	12	18.94221	04	53	24.14	+14	14	08.1		1	095
1979	YZ4	*	1979	12	18.94221	04	53	55.52	+22	20	44.8	17.5	1	095
1979	WX3		1979	12	18.94221	04	54	02.38	+20	03	44.4	16.8		095
1666			1979	12	18.94221	04	55	18.72	+22	52	00.2		1	095
1979	YA5	*	1979	12	18.94221	04	55	41.97	+18	23	31.1	17.2		095
1979	XV1		1979	12	18.94221	04	55	50.92	+19	07	34.7	16.8		095
1979	XU1		1979	12	18.94221	04	57	02.63	+20	00	36.8	17.0		095
1979	YB5	*	1979	12	18.94221	04	57	28.46	+21	40	40.4	17.5		095
1979	YC5	*	1979	12	18.94221	04	57	53.65	+17	14	36.7	17.0		095
1979	YD5	*	1979	12	18.94221	04	59	39.00	+16	54	28.6	17.5		095
1979	XW1		1979	12	18.94221	05	00	28.60	+19	58	23.6	16.8		095
1979	YE5	*	1979	12	18.94221	05	05	57.68	+20	14	34.6	17.2		095
1944			1979	12	18.94221	05	06	20.96	+15	34	51.9		2	095
1979	YF5	*	1979	12	18.94221	05	06	37.94	+20	30	23.1	17.2		095
1979	YG5	*	1979	12	18.94221	05	07	19.92	+15	47	58.2	17.0		095
1979	YH5	*	1979	12	18.94221	05	07	25.80	+17	38	39.6	17.2		095
2138			1979	12	18.94221	05	08	30.26	+19	06	44.5			095
1979	YJ5	*	1979	12	18.94221	05	08	40.12	+13	07	52.9	17.2	1	095
1979	YK5	*	1979	12	18.94221	05	08	56.66	+22	58	24.6	17.2		095
1979	YL5	*	1979	12	18.94221	05	09	55.38	+22	26	56.5	17.2		095
1979	YM5	*	1979	12	18.94221	05	10	11.99	+13	13	00.7	16.8	1	095
1979	YN5	*	1979	12	18.94221	05	10	57.23	+19	31	03.4	17.0		095
1979	YO5	*	1979	12	18.94221	05	11	23.97	+19	58	52.2	17.5	2	095
2715			1979	12	18.94221	05	11	39.16	+13	50	06.6			095
2093			1979	12	18.94221	05	11	44.16	+13	42	26.2		1	095
1979	YP5	*	1979	12	18.94221	05	13	17.77	+20	34	47.1	17.2		095
1979	YQ5	*	1979	12	18.94221	05	13	28.54	+15	07	00.0	17.2		095
1979	YR5	*	1979	12	18.94221	05	13	36.98	+18	30	02.2	17.2		095
1994			1979	12	18.94221	05	15	38.70	+18	23	44.6			095
1979	YS5	*	1979	12	18.94221	05	17	37.54	+18	59	06.7	16.0		095
1979	XN		1979	12	18.94221	05	17	50.82	+19	23	07.0	17.5		095
1979	YT5	*	1979	12	18.94221	05	21	06.52	+18	34	06.0	17.5	2	095
1979	XO		1979	12	18.94221	05	21	18.86	+22	24	52.6	17.0		095
1979	YU5	*	1979	12	18.94221	05	21	26.02	+21	17	51.8	17.2		095
1277			1979	12	18.94221	05	21	42.60	+20	28	19.5			095
755			1979	12	18.94221	05	21	45.26	+18	40	03.6			095
1979	YV5	*	1979	12	18.94221	05	22	15.57	+21	50	59.4	17.0		095
1979	YW5	*	1979	12	18.94221	05	22	28.75	+15	18	31.8	17.0		095
1979	XP		1979	12	18.94221	05	23	34.44	+21	59	16.6	16.5		095
1979	XL		1979	12	18.94221	05	24	13.28	+19	46	51.0			095
1979	YX5	*	1979	12	18.94221	05	24	27.12	+22	02	02.6	17.2		095
1056			1979	12	18.94221	05	24	51.40	+20	00	52.3		1	095
1986			1979	12	18.94221	05	25	25.98	+20	10	44.8		1	095
1979	YY5	*	1979	12	18.94221	05	26	40.66	+16	29	56.2	17.0	1	095
1979	YZ5	*	1979	12	18.94221	05	26	40.94	+20	16	22.0	17.0	1	095
67			1979	12	18.94221	05	27	28.98	+14	57	44.9		1	095
1979	YA6	*	1979	12	18.94221	05	27	41.67	+14	26	30.5	17.2	3	095
48			1979	12	18.94221	05	27	44.13	+13	32	02.4		1	095
27			1979	12	18.94221	05	27	52.86	+22	40	51.3		1	095
1979	YB6	*	1979	12	18.94221	05	28	41.11	+20	58	08.4	17.5	1	095
1979	YC6	*	1979	12	18.94221	05	28	51.98	+18	00	16.4	16.8	1	095

12		1979	12	18.94221	05	29	13.45	+16	53	01.6		1	095
1984		1979	12	18.94221	05	29	32.24	+16	29	51.2		1	095
2357		1979	12	18.94221	05	29	45.25	+20	00	07.2		1	095
1142		1979	12	18.94221	05	30	31.62	+20	51	36.4		1	095
1979	YD6 *	1979	12	23.86933	03	27	05.28	+12	50	25.8	17.0	1	095
56		1979	12	23.86933	03	27	57.98	+09	41	13.0		1	095
107		1979	12	23.86933	03	29	51.86	+06	14	29.2		1	095
348		1979	12	23.86933	03	30	55.64	+13	08	33.8		1	095
786		1979	12	23.86933	03	33	10.64	+10	21	07.6			095
1979	YE6 *	1979	12	23.86933	03	36	07.52	+12	36	56.9	16.2		095
1979	YF6 *	1979	12	23.86933	03	36	46.90	+07	41	19.2	17.0	2	095
1979	YG6 *	1979	12	23.86933	03	37	35.86	+05	44	10.6	16.5	1	095
1979	YN1	1979	12	23.86933	03	37	44.00	+14	49	15.0	16.5	1	095
1979	YH6 *	1979	12	23.86933	03	37	56.76	+14	23	55.8	16.8	1	095
1979	YJ6	1979	12	23.86933	03	38	03.98	+09	30	25.3	17.0		095
2732		1979	12	23.86933	03	38	15.15	+09	55	55.9	17.0		095
1979	YK6 *	1979	12	23.86933	03	39	30.44	+06	22	38.6	16.8	1	095
1979	YR1	1979	12	23.86933	03	39	53.35	+15	02	03.8	15.5	1	095
1979	YL6 *	1979	12	23.86933	03	39	58.37	+10	00	45.8	16.5		095
1979	YM6 *	1979	12	23.86933	03	42	52.22	+11	08	40.2	16.8		095
1979	YN6 *	1979	12	23.86933	03	44	08.38	+06	06	44.6	16.8	1	095
1979	YO6 *	1979	12	23.86933	03	44	09.67	+09	08	19.2	16.5		095
2518		1979	12	23.86933	03	44	16.37	+13	37	17.2	17.0		095
1979	YP6 *	1979	12	23.86933	03	45	07.76	+14	59	41.0	16.8	1	095
1979	YQ6 *	1979	12	23.86933	03	46	12.42	+13	20	02.8	16.8		095
1979	YR6 *	1979	12	23.86933	03	47	41.14	+09	31	22.6	17.0		095
1979	YS6 *	1979	12	23.86933	03	50	44.06	+12	40	42.6	16.8		095
1979	YT6 *	1979	12	23.86933	03	53	08.48	+07	36	46.4	16.5		095
1979	YU6 *	1979	12	23.86933	03	53	58.50	+14	53	10.9	16.8	1	095
744		1979	12	23.86933	03	55	22.40	+09	59	41.5			095
1979	YV6 *	1979	12	23.86933	03	55	23.23	+08	55	54.7	16.5		095
1979	YW6 *	1979	12	23.86933	04	00	40.16	+10	46	55.1	16.8		095
1979	YX6 *	1979	12	23.86933	04	06	55.72	+11	35	18.1	16.8	1	095
1435		1979	12	23.86933	04	07	30.14	+14	00	20.1		1	095
1979	YY6 *	1979	12	24.86429	04	18	25.28	-13	35	35.4	16	1	095
554		1980	09	04.82219	21	21	48.35	-12	34	04.1		1	095
1980	RA3 *	1980	09	04.82219	21	23	45.78	-09	30	48.2	16.0	1	095
1825		1980	09	04.82219	21	25	23.91	-10	57	22.1		1	095
1721		1980	09	04.82219	21	25	34.53	-10	59	16.3		1	095
2575		1980	09	04.82219	21	27	41.50	-13	42	24.1			095
218		1980	09	04.82219	21	32	19.10	-05	47	32.0			095
1652		1980	09	04.82219	21	33	21.57	-08	15	56.6			095
2111		1980	09	04.82219	21	33	21.91	-09	19	31.0			095
1000		1980	09	04.82219	21	34	54.94	-11	27	44.7			095
1980	RB3 *	1980	09	04.82219	21	37	35.94	-10	28	11.6	16.5		095
2554		1980	09	04.82219	21	39	01.66	-08	15	28.1			095
648		1980	09	04.82219	21	39	46.94	-04	56	48.1		1	095
1604		1980	09	04.82219	21	42	20.28	-07	50	01.3			095
1339		1980	09	04.82219	21	43	15.97	-04	53	47.2		1	095
495		1980	09	04.82219	21	45	42.16	-11	07	25.9			095
1980	RS	1980	09	04.82219	21	46	05.29	-05	47	01.9	16.0		095
1095		1980	09	04.82219	21	50	04.28	-06	08	45.3			095
1494		1980	09	04.82219	21	50	20.84	-09	41	59.1			095
1980	RC3 *	1980	09	04.82219	21	51	32.44	-09	17	44.9	16.0		095
1980	RD3 *	1980	09	04.82219	21	51	41.41	-08	56	19.5	16.5		095
228		1980	09	04.82219	21	55	17.88	-10	01	38.1			095
515		1980	09	04.82219	21	56	32.72	-14	10	27.8		1	095
101		1980	09	04.88955	22	14	14.28	-13	29	08.1		1	095
1510		1980	09	04.88955	22	14	38.10	-09	31	23.9		1	095

2020		1980	09	04.88955	22	17	13.50	-12	32	22.6		1	095
400		1980	09	04.88955	22	18	08.35	-08	00	45.1		1	095
337		1980	09	04.88955	22	19	56.16	-15	06	19.5			095
1980	RP	1980	09	04.88955	22	20	19.91	-09	29	41.4	16.5		095
282		1980	09	04.88955	22	20	50.60	-13	43	15.5			095
1723		1980	09	04.88955	22	21	15.53	-12	05	12.6			095
1784		1980	09	04.88955	22	21	16.85	-12	48	58.3			095
760		1980	09	04.88955	22	22	27.03	-08	54	38.3			095
1578		1980	09	04.88955	22	22	38.63	-11	17	40.4			095
1980	RE3 *	1980	09	04.88955	22	22	44.41	-14	48	10.3	16.5		095
1980	PJ	1980	09	04.88955	22	23	32.72	-12	10	57.4			095
1980	RR	1980	09	04.88955	22	23	59.06	-14	57	17.9			095
2451		1980	09	04.88955	22	24	03.07	-08	17	59.0	16.0		095
1980	RA	1980	09	04.88955	22	24	39.60	-08	32	32.6			095
1980	OE	1980	09	04.88955	22	26	20.94	-07	35	23.7		1	095
1980	RF3 *	1980	09	04.88955	22	28	08.56	-07	41	28.6	16.0	1	095
1980	RG3 *	1980	09	04.88955	22	32	57.00	-14	03	46.5	16.5		095
1980	RH3 *	1980	09	04.88955	22	34	25.20	-15	01	14.3	17.0		095
1980	RJ3	1980	09	04.88955	22	35	13.09	-08	48	41.0	16.5		095
1980	RK3 *	1980	09	04.88955	22	36	11.88	-14	22	26.6	17.0		095
1463		1980	09	04.88955	22	36	16.69	-06	59	41.1		1	095
2022		1980	09	04.88955	22	37	00.91	-12	52	24.4			095
1980	RL3 *	1980	09	04.88955	22	37	08.78	-09	59	27.0	16.5		095
2587		1980	09	04.88955	22	38	37.28	-12	40	37.3			095
1980	PM	1980	09	04.88955	22	40	44.88	-16	26	47.2		1	095
2597		1980	09	04.88955	22	40	53.16	-09	33	16.2	16.5		095
1980	RM3	1980	09	04.88955	22	42	40.94	-14	46	43.6	17.0		095
1980	RN3 *	1980	09	04.88955	22	43	15.06	-13	42	24.0	17.0		095
1980	RU	1980	09	04.88955	22	44	39.97	-10	14	08.9	16.5		095
864		1980	09	04.88955	22	46	39.94	-07	25	26.4		1	095
33		1980	09	04.88955	22	49	46.72	-09	27	08.5			095
1483		1980	09	04.88955	22	50	50.25	-14	25	49.1		3	095
718		1980	09	04.88955	22	50	59.22	-16	33	49.0		1	095
269		1980	09	04.88955	22	51	03.97	-08	15	32.8		1	095
355		1980	09	04.88955	22	51	21.88	-08	40	36.8		1	095
1511		1980	09	04.88955	22	51	41.47	-14	17	52.0		1	095
1512		1980	09	04.88955	22	51	42.35	-12	00	38.8		1	095
1980	RO3 *	1980	09	04.94997	00	02	01.94	+24	35	39.3	17.0		095
1980	RP3 *	1980	09	04.94997	00	05	40.36	+21	23	32.3	17.5		095
1266		1980	09	04.94997	00	08	45.59	+17	49	36.3			095
456		1980	09	04.94997	00	09	20.69	+18	10	06.6			095
1980	RQ3 *	1980	09	04.94997	00	10	18.95	+23	09	09.6	17.5		095
2352		1980	09	04.94997	00	21	33.85	+20	58	14.8			095
1980	RR3 *	1980	09	04.94997	00	22	15.73	+16	53	45.5	16.5		095
1834		1980	09	04.94997	00	27	01.35	+17	30	46.6			095
640		1980	09	06.83160	21	04	24.78	+03	26	22.2		1	095
1980	RS3 *	1980	09	06.83160	21	08	46.07	+02	28	01.3	17.0		095
1213		1980	09	06.83160	21	22	13.72	+02	43	12.2			095
1980	RT3 *	1980	09	06.83160	21	27	21.52	+02	23	31.6	17.5		095
1980	RU3 *	1980	09	06.83160	21	30	05.56	+04	46	34.5	17.0		095
1980	RV3 *	1980	09	06.83160	21	37	07.63	+07	03	44.0	15.5	1	095
1189		1980	09	06.83160	21	38	41.28	-00	00	35.5		1	095
1980	RW3 *	1980	09	06.90587	23	54	57.44	-00	46	07.5	16.5	1	095
748		1980	09	06.90587	23	56	07.91	+02	53	01.7		1	095
2006		1980	09	06.90587	23	59	12.03	-01	54	35.3		1	095
1980	RX3 *	1980	09	06.90587	00	00	50.04	+03	09	03.4	16.5		095
1980	RY3 *	1980	09	06.90587	00	04	53.15	+01	57	12.0	16.0		095
688		1980	09	06.90587	00	06	22.57	-00	26	33.8			095
1980	RO2	1980	09	06.90587	00	09	16.71	+06	07	21.2	15.5	1	095

650		1980	09	06.90587	00	11	58.77	+04	41	33.7		1	095
201		1980	09	06.90587	00	12	56.08	-01	57	07.9			095
2700		1980	09	06.90587	00	13	02.26	+00	57	32.3			095
171		1980	09	06.90587	00	13	16.20	-02	19	03.5			095
1980	RZ3 *	1980	09	06.90587	00	14	30.90	-01	59	41.0	16.0		095
2317		1980	09	06.90587	00	17	12.88	+03	31	49.8			095
2584		1980	09	06.90587	00	17	44.79	-00	25	03.3			095
2351		1980	09	06.90587	00	18	09.24	+04	51	25.8		1	095
34		1980	09	06.90587	00	18	55.09	+02	58	26.4			095
1907		1980	09	06.90587	00	19	04.84	-00	15	27.3			095
551		1980	09	06.90587	00	22	56.21	+02	22	58.5			095
2405		1980	09	06.90587	00	25	28.68	+00	07	57.7	16.5		095
1686		1980	09	06.90587	00	27	34.85	+02	51	06.1		1	095
1980	RA4 *	1980	09	07.81933	20	49	27.25	-20	12	31.2	16.0		095
1935	OK	1980	09	07.81933	20	51	56.69	-16	30	15.2	15.5	1	095
1076		1980	09	07.81933	20	55	19.12	-17	22	35.5			095
1068		1980	09	07.81933	20	56	19.50	-16	45	59.2			095
1397		1980	09	07.81933	20	57	41.79	-23	10	45.3			095
1447		1980	09	07.81933	20	58	52.38	-24	22	52.7		2	095
1055		1980	09	07.81933	21	00	35.28	-17	47	33.1			095
851		1980	09	07.81933	21	00	36.47	-17	19	44.2			095
1980	RB4 *	1980	09	07.81933	21	06	36.19	-21	50	04.7	16.0		095
1980	RC4 *	1980	09	07.81933	21	07	53.06	-21	38	19.2	16.0	2	095
553		1980	09	07.81933	21	13	14.34	-25	18	57.3		1	095
1980	RD4 *	1980	09	07.81933	21	13	23.75	-19	42	16.5	16.0		095
1842		1980	09	07.81933	21	16	39.63	-15	22	12.2		1	095
2188		1980	09	07.81933	21	17	01.28	-16	19	28.8		1	095
1017		1980	09	07.81933	21	18	10.81	-21	27	35.0			095
2271		1980	09	07.81933	21	18	10.94	-16	47	08.2			095
2505		1980	09	07.81933	21	21	51.78	-18	41	39.4		1	095
495		1980	09	07.89050	21	43	24.41	-11	23	42.7		1	095
1980	RS	1980	09	07.89050	21	44	38.94	-06	12	50.1	16.0	1	095
1494		1980	09	07.89050	21	47	57.00	-10	01	09.5			095
1095		1980	09	07.89050	21	48	09.13	-06	29	32.9			095
1980	RE4 *	1980	09	07.89050	21	48	41.75	-07	41	18.9	16.5		095
1980	RC3	1980	09	07.89050	21	50	49.75	-09	51	23.6	16.5		095
228		1980	09	07.89050	21	53	27.91	-10	03	22.4			095
1980	RF4 *	1980	09	07.89050	22	00	16.66	-06	42	41.3	16.5		095
853		1980	09	07.89050	22	01	29.50	-04	37	26.5			095
2311		1980	09	07.89050	22	01	59.41	-11	15	21.7			095
1980	PH	1980	09	07.89050	22	04	27.85	-08	46	55.3	17.0		095
1980	RG4 *	1980	09	07.89050	22	05	33.60	-07	05	42.2	17.0		095
2290		1980	09	07.89050	22	06	14.75	-11	36	02.5			095
1980	RH4 *	1980	09	07.89050	22	06	36.25	-11	30	53.1	16.5	2	095
847		1980	09	07.89050	22	08	27.22	-07	36	37.8			095
2316		1980	09	07.89050	22	09	25.35	-11	55	11.4		1	095
2555		1980	09	07.89050	22	09	37.13	-10	08	58.1			095
1510		1980	09	07.89050	22	11	56.25	-09	36	50.5			095
386		1980	09	07.89050	22	15	02.53	-05	21	12.9			095
400		1980	09	07.89050	22	15	49.19	-08	06	50.0		1	095
1980	RO	1980	09	07.89050	22	16	04.85	-10	34	02.4	16.5	1	095
805		1980	09	07.89050	22	16	13.35	-06	49	11.4		1	095
823		1980	09	07.89050	22	17	07.69	-03	54	55.0		1	095
1980	RP	1980	09	07.89050	22	17	25.28	-09	20	12.4	16.5	1	095
1784		1980	09	07.89050	22	18	45.94	-13	03	29.1		3	095
1723		1980	09	07.89050	22	19	12.25	-12	25	45.2		1	095
1980	RJ4 *	1980	09	07.89050	22	19	32.78	-06	06	54.4	16.0	1	095
1980	RA	1980	09	07.89050	22	19	39.44	-08	03	12.6		3	095
760		1980	09	07.89050	22	20	13.25	-09	01	08.1		1	095

2451		1980	09	07.89050	22	21	20.88	-08	20	25.2	16.0	1	095
551		1980	09	07.95889	00	22	16.56	+02	18	52.3		1	095
2405		1980	09	07.95889	00	24	51.81	+00	03	16.6	17.5	1	095
1686		1980	09	07.95889	00	26	55.68	+02	47	08.7			095
1980	RK4 *	1980	09	07.95889	00	29	17.21	+00	46	27.6	17.5		095
1980	RL4 *	1980	09	07.95889	00	29	20.95	+02	52	36.8	17.5		095
1980	RM4 *	1980	09	07.95889	00	30	33.97	-00	38	38.6	17.5	2	095
1980	TG	1980	09	07.95889	00	31	57.61	+00	19	08.5	17.0		095
996		1980	09	07.95889	00	33	21.06	+03	50	14.0			095
1835		1980	09	07.95889	00	36	26.07	+05	27	03.7		1	095
1980	RW1	1980	09	07.95889	00	36	37.91	-03	16	02.3	17.5	1	095
1980	RX1	1980	09	07.95889	00	38	05.82	-01	11	10.8	17.0		095
1700		1980	09	07.95889	00	39	43.29	+04	20	21.4			095
1980	TS3	1980	09	07.95889	00	40	17.97	+05	40	39.5	17.0	1	095
2656		1980	09	07.95889	00	40	30.06	-01	19	50.4	17.5		095
1462		1980	09	07.95889	00	41	57.63	+03	59	17.0			095
452		1980	09	07.95889	00	43	41.16	-00	31	34.5			095
83		1980	09	07.95889	00	43	43.62	+00	56	23.2			095
1757		1980	09	07.95889	00	45	50.95	+00	48	15.5			095
1809		1980	09	07.95889	00	46	27.48	-00	26	49.7			095
1972	AR	1980	09	07.95889	00	46	42.27	+00	29	15.1			095
2067		1980	09	07.95889	00	47	12.15	+02	33	52.8			095
1980	RN4 *	1980	09	07.95889	00	47	49.48	-02	10	24.7	16.5	1	095
1980	RO4 *	1980	09	07.95889	00	48	43.62	+01	21	39.6	17.5		095
1614		1980	09	07.95889	00	49	03.63	-02	20	16.8		1	095
1980	RP4 *	1980	09	07.95889	00	50	36.16	+02	10	35.0	17.0	2	095
1217		1980	09	07.95889	00	54	32.06	+00	51	16.1			095
1980	RQ4 *	1980	09	07.95889	00	55	08.25	+04	56	36.0	17.0		095
1980	RR4 *	1980	09	07.95889	00	56	35.78	+05	14	26.8	17.0		095
1980	RS4 *	1980	09	07.95889	00	57	06.27	+05	57	55.5	17.5	1	095
1479		1980	09	07.95889	00	57	22.05	+02	59	02.8			095
1861		1980	09	07.95889	00	57	22.23	+00	30	34.3			095
1980	TF4	1980	09	07.95889	00	57	29.17	+01	13	33.4	17.0		095
296		1980	09	07.95889	00	58	57.67	+03	03	49.1		1	095
1781		1980	09	07.95889	01	00	43.30	-02	48	58.2		1	095
1046		1980	09	07.95889	01	00	45.48	+05	19	39.2		1	095
2705		1980	09	07.95889	01	00	49.69	+05	03	22.1		1	095
1076		1980	09	08.82079	20	54	45.66	-17	26	06.8		1	095
470		1980	09	08.82079	20	54	52.69	-11	55	11.7		1	095
76		1980	09	08.82079	20	55	10.56	-14	49	10.3		1	095
1068		1980	09	08.82079	20	55	49.60	-16	46	32.6			095
851		1980	09	08.82079	21	00	01.53	-17	23	08.4			095
1055		1980	09	08.82079	21	00	31.81	-17	53	19.1			095
1980	RT4 *	1980	09	08.82079	21	07	06.88	-15	34	26.7	16.5		095
1668		1980	09	08.82079	21	10	33.25	-14	32	06.8			095
133		1980	09	08.82079	21	13	43.28	-14	37	37.0			095
1842		1980	09	08.82079	21	16	17.91	-15	28	20.2			095
2271		1980	09	08.82079	21	17	38.72	-16	50	43.5			095
554		1980	09	08.82079	21	18	46.66	-12	45	40.1			095
2505		1980	09	08.82079	21	21	20.60	-18	43	21.6			095
1721		1980	09	08.82079	21	22	44.28	-10	58	47.0		1	095
2575		1980	09	08.82079	21	24	47.00	-13	46	26.3			095
937		1980	09	08.92354	23	08	33.38	+03	18	41.8		1	095
1980	RU4 *	1980	09	08.92354	23	08	41.22	-03	19	14.8	17.0	1	095
1980	RV4 *	1980	09	08.92354	23	13	45.63	+00	26	49.4	17.5		095
1980	RW4 *	1980	09	08.92354	23	16	01.56	-01	36	25.1	16.0		095
2562		1980	09	08.92354	23	17	36.53	-02	06	53.4			095
949		1980	09	08.92354	23	19	07.13	+03	41	20.5		1	095
1980	RX4 *	1980	09	08.92354	23	19	19.28	+02	13	02.6	15.0		095



1396		1980	09	08.92354	23	19	53.19	-06	15	00.3		1	095
1980	RQ1	1980	09	08.92354	23	24	10.13	-01	41	53.5	16.0		095
2090		1980	09	08.92354	23	25	03.72	-00	10	28.4			095
112		1980	09	08.92354	23	25	08.41	-01	27	38.6			095
1980	RY4 *	1980	09	08.92354	23	30	10.84	-02	54	57.4	17.0		095
1911		1980	09	08.92354	23	30	26.91	-01	02	27.8			095
2359		1980	09	08.92354	23	35	27.00	+02	04	57.6	16.5		095
1980	RZ4 *	1980	09	08.92354	23	36	53.41	-04	43	02.9	16.0	1	095
2226		1980	09	08.92354	23	42	09.32	-05	27	22.6		1	095
98		1980	09	08.92354	23	43	26.81	-02	29	18.0		1	095
2339		1980	09	08.92354	23	43	52.81	-05	37	50.2		1	095
1061		1980	09	08.92354	23	45	12.10	-06	01	34.8		1	095
440		1980	09	08.92354	23	46	07.60	+01	09	48.4		1	095
495		1980	09	09.86109	21	42	01.91	-11	33	42.7		1	095
1980	RS	1980	09	09.86109	21	43	52.19	-06	29	01.4	16.0	1	095
1494		1980	09	09.86109	21	46	31.50	-10	13	02.0			095
1095		1980	09	09.86109	21	46	58.97	-06	42	44.2			095
1980	RE4	1980	09	09.86109	21	47	15.60	-07	44	53.2	16.5		095
1980	RC3	1980	09	09.86109	21	50	29.82	-10	12	15.9	16.5		095
1980	RA5 *	1980	09	09.86109	21	50	57.06	-05	54	59.3	17.0		095
228		1980	09	09.86109	21	52	25.94	-10	04	06.0			095
1980	RF4	1980	09	09.86109	21	59	16.88	-06	58	35.7	16.5		095
853		1980	09	09.86109	22	00	04.91	-04	56	44.0		1	095
2311		1980	09	09.86109	22	00	52.41	-11	24	38.8			095
1980	PH	1980	09	09.86109	22	02	49.22	-08	51	27.9	17.0		095
1980	RG4	1980	09	09.86109	22	04	15.19	-07	10	01.3	17.0		095
2290		1980	09	09.86109	22	04	44.88	-11	55	13.8			095
1980	RH4	1980	09	09.86109	22	05	28.41	-11	37	58.0	16.5		095
847		1980	09	09.86109	22	06	58.06	-07	44	59.3			095
1980	RB5 *	1980	09	09.86109	22	07	15.25	-09	55	43.9	17.0		095
2316		1980	09	09.86109	22	08	01.41	-12	05	06.7			095
2555		1980	09	09.86109	22	08	10.88	-10	16	49.3			095
101		1980	09	09.86109	22	09	33.41	-13	21	11.7		1	095
1510		1980	09	09.86109	22	10	12.75	-09	40	11.1			095
1980	RK	1980	09	09.86109	22	11	01.44	-12	08	41.8	16.5	2	095
386		1980	09	09.86109	22	13	48.91	-05	47	53.5			095
2020		1980	09	09.86109	22	13	51.54	-13	05	26.3		1	095
400		1980	09	09.86109	22	14	20.13	-08	10	41.0			095
805		1980	09	09.86109	22	15	06.03	-07	09	21.2			095
823		1980	09	09.86109	22	15	18.32	-04	06	27.8		1	095
1980	RP	1980	09	09.86109	22	15	34.56	-09	13	55.8	16.5	2	095
1980	RA	1980	09	09.86109	22	16	23.22	-07	43	14.5		3	095
1784		1980	09	09.86109	22	17	10.50	-13	12	15.6		1	095
1723		1980	09	09.86109	22	17	53.10	-12	38	51.1		1	095
760		1980	09	09.86109	22	18	46.82	-09	05	14.2		1	095
1578		1980	09	09.86109	22	19	34.07	-11	35	00.1		1	095
2451		1980	09	09.86109	22	19	37.69	-08	21	50.0	16.0	1	095
1835		1980	09	09.93372	00	35	13.89	+05	20	19.5		1	095
1700		1980	09	09.93372	00	38	35.57	+04	22	35.4		1	095
1462		1980	09	09.93372	00	40	48.16	+03	52	12.5			095
83		1980	09	09.93372	00	42	15.45	+00	49	09.1			095
452		1980	09	09.93372	00	42	29.09	-00	40	57.9			095
1972	AR	1980	09	09.93372	00	45	21.10	+00	26	10.6		2	095
2067		1980	09	09.93372	00	46	17.39	+02	26	24.9			095
1980	RN4	1980	09	09.93372	00	46	47.53	-02	20	15.2	16.5	1	095
1980	R04	1980	09	09.93372	00	47	30.36	+01	11	08.7	17.5		095
1614		1980	09	09.93372	00	48	03.73	-02	36	09.6		1	095
1217		1980	09	09.93372	00	53	13.09	+00	37	22.6			095
1980	RQ4	1980	09	09.93372	00	54	13.90	+04	49	24.5	17.5		095

1980	RR4	1980	09	09.93372	00	55	27.64	+05	03	12.7	17.5	095
1861		1980	09	09.93372	00	56	06.72	+00	27	01.3		095
1479		1980	09	09.93372	00	56	09.18	+02	55	41.9		095
1980	TF4	1980	09	09.93372	00	56	18.68	+01	07	13.1	17.0	095
1980	RS4	1980	09	09.93372	00	56	43.58	+05	59	08.5	17.5	1 095
296		1980	09	09.93372	00	58	10.01	+02	55	12.1		095
1781		1980	09	09.93372	00	59	31.80	-02	54	33.3		1 095
1046		1980	09	09.93372	00	59	36.94	+05	17	29.0		095
2705		1980	09	09.93372	00	59	40.68	+05	04	01.6		095
1980	RC5 *	1980	09	09.93372	01	03	08.98	+00	13	50.2	17.5	095
1605		1980	09	09.93372	01	06	07.55	+03	16	14.4		095
1980	RD5 *	1980	09	09.93372	01	09	29.43	+02	16	01.4	15.5	095
1980	TU4	1980	09	09.93372	01	09	37.63	+04	46	26.8	17.5	095
640		1980	09	11.82464	21	02	12.38	+02	56	27.9		095
1980	RS3	1980	09	11.82464	21	07	15.69	+01	33	06.0	17.0	095
1213		1980	09	11.82464	21	19	15.50	+02	25	35.7		095
1980	RU3	1980	09	11.82464	21	27	09.91	+04	20	27.8	17.0	095
1980	RV3	1980	09	11.82464	21	33	49.19	+06	49	46.0	15.5	1 095
1189		1980	09	11.82464	21	35	24.44	-00	18	11.7		1 095
495		1980	09	11.88539	21	40	42.32	-11	43	33.1		1 095
1494		1980	09	11.88539	21	45	09.94	-10	24	44.8		1 095
1095		1980	09	11.88539	21	45	50.38	-06	56	07.7		1 095
228		1980	09	11.88539	21	51	29.72	-10	04	28.8		095
1980	RF4	1980	09	11.88539	21	58	20.10	-07	14	30.7	16.5	095
853		1980	09	11.88539	21	58	42.56	-05	16	16.1		095
2311		1980	09	11.88539	21	59	45.93	-11	33	53.8		095
1980	PH	1980	09	11.88539	22	01	12.75	-08	55	53.7	17.0	095
847		1980	09	11.88539	22	05	29.63	-07	53	22.4		095
2316		1980	09	11.88539	22	06	40.19	-12	14	44.9		095
2555		1980	09	11.88539	22	06	45.41	-10	24	32.8		095
101		1980	09	11.88539	22	07	46.94	-13	17	15.7		1 095
1510		1980	09	11.88539	22	08	29.34	-09	43	25.2		095
386		1980	09	11.88539	22	12	36.19	-06	15	05.4		095
400		1980	09	11.88539	22	12	51.13	-08	14	30.4		095
823		1980	09	11.88539	22	13	29.25	-04	18	18.6		1 095
1980	RP	1980	09	11.88539	22	13	44.54	-09	07	12.2	16.5	2 095
805		1980	09	11.88539	22	13	59.75	-07	29	44.2		095
1723		1980	09	11.88539	22	16	34.13	-12	51	54.4		1 095
760		1980	09	11.88539	22	17	19.91	-09	09	19.1		1 095
2451		1980	09	11.88539	22	17	55.81	-08	23	05.6	16.0	1 095
1061		1980	10	10.80766	23	23	26.13	-08	14	54.1		3 095
1980	TF7 *	1980	10	10.80766	23	27	13.81	-02	43	28.8	16.5	1 095
2006		1980	10	10.80766	23	29	02.97	-02	32	38.2		095
1980	TG7 *	1980	10	10.80766	23	32	20.88	-03	27	37.7	17.0	095
1980	TH7 *	1980	10	10.80766	23	33	34.72	-05	19	56.3	17.0	095
748		1980	10	10.80766	23	35	55.44	+00	39	32.6		1 095
688		1980	10	10.80766	23	43	37.10	-05	45	38.7		095
1980	TJ7 *	1980	10	10.80766	23	43	44.88	-04	38	35.3	17.0	095
1980	TK7 *	1980	10	10.80766	23	45	08.28	-01	57	03.9	16.0	095
1980	TL7 *	1980	10	10.80766	23	45	45.44	-01	55	54.0	17.5	2 095
1850		1980	10	10.80766	23	46	30.60	-08	17	23.1		1 095
650		1980	10	10.80766	23	46	50.10	+01	04	08.8		095
2584		1980	10	10.80766	23	46	50.28	-03	22	50.0		095
1980	TM7 *	1980	10	10.80766	23	46	51.90	-04	34	37.8	16.5	2 095
1368		1980	10	10.80766	23	47	32.63	-08	16	07.9		1 095
171		1980	10	10.80766	23	50	03.91	-04	51	55.1		095
201		1980	10	10.80766	23	50	04.60	-06	15	31.0		095
1907		1980	10	10.80766	23	52	08.19	-03	47	55.4		095
34		1980	10	10.80766	23	53	34.41	-00	45	04.5		095

551		1980	10	10.80766	23	57	57.81	-00	13	58.9		095
1980	TC5	1980	10	10.88559	00	24	12.36	+11	50	53.5	17.5	095
1980	TN7 *	1980	10	10.88559	00	27	56.78	+07	06	01.7	17.5	095
2637		1980	10	10.88559	00	28	02.44	+06	45	56.6		095
1980	TY3	1980	10	10.88559	00	29	47.08	+06	42	53.5	18.0	095
1980	TX3	1980	10	10.88559	00	30	09.72	+03	43	56.6	17.5	095
1980	TZ3	1980	10	10.88559	00	30	14.63	+05	46	27.8	16.5	095
1980	TO7 *	1980	10	10.88559	00	30	31.65	+03	44	01.3	17.5	095
2623		1980	10	10.88559	00	30	36.76	+07	47	57.4		095
1726		1980	10	10.88559	00	30	51.09	+07	00	55.7		095
1980	TB4	1980	10	10.88559	00	30	52.56	+06	23	52.5	16.5	095
1980	TK5	1980	10	10.88559	00	30	58.12	+10	42	36.2	17.5	095
2705		1980	10	10.88559	00	31	05.98	+04	20	12.7		095
1980	TE4	1980	10	10.88559	00	31	27.12	+04	03	11.0	17.5	095
1268		1980	10	10.88559	00	32	20.28	+05	37	30.5		095
1980	TP5	1980	10	10.88559	00	34	31.65	+10	41	39.5	18.0	095
2427		1980	10	10.88559	00	34	43.67	+08	08	31.5		095
1046		1980	10	10.88559	00	35	20.20	+04	10	37.9		095
1982	FE1	1980	10	10.88559	00	36	19.62	+12	01	58.0	17.5	095
1980	TP7 *	1980	10	10.88559	00	36	35.84	+07	58	12.2	17.5	095
1980	TQ5	1980	10	10.88559	00	36	36.97	+10	52	32.5	17.0	095
1980	TO4	1980	10	10.88559	00	38	52.95	+05	36	49.2	18.0	095
1980	TQ7 *	1980	10	10.88559	00	41	17.20	+08	48	41.3	18.0	095
1980	TR7 *	1980	10	10.88559	00	41	37.17	+06	45	17.2	18.0	095
2532		1980	10	10.88559	00	42	30.61	+09	23	48.1		095
1980	TW5	1980	10	10.88559	00	44	02.69	+10	53	54.9	17.5	095
1980	TS7 *	1980	10	10.88559	00	44	10.50	+04	31	30.1	17.5	095
1881		1980	10	10.88559	00	45	22.06	+10	56	49.5		2 095
1980	TT7 *	1980	10	10.88559	00	45	41.39	+06	03	24.6	18.0	095
1980	TU7 *	1980	10	10.88559	00	45	54.74	+06	06	15.3	18.0	2 095
1980	TS4	1980	10	10.88559	00	46	20.27	+02	52	42.3	17.5	1 095
1980	TU4	1980	10	10.88559	00	48	49.66	+02	17	39.2	17.0	1 095
1980	TV7 *	1980	10	10.88559	00	49	23.98	+07	43	35.5	18.0	095
1980	TW7 *	1980	10	10.88559	00	49	45.39	+10	44	34.9	17.5	095
1980	TX7 *	1980	10	10.88559	00	50	09.90	+05	14	10.8	16.5	095
1980	TY7 *	1980	10	10.88559	00	50	21.42	+06	45	35.4	18.0	095
1980	TZ7 *	1980	10	10.88559	00	50	58.86	+10	35	10.8	17.5	095
1980	TA8	1980	10	10.88559	00	51	16.43	+05	14	05.0	18.0	095
1980	TB8 *	1980	10	10.88559	00	51	17.51	+08	45	23.0	18.0	095
1980	TC8 *	1980	10	10.88559	00	51	24.66	+05	08	49.6	17.5	095
1980	TV2	1980	10	10.88559	00	52	16.68	+08	22	22.1	17.0	095
1980	TD8 *	1980	10	10.88559	00	53	01.14	+05	52	25.1	18.0	095
1311		1980	10	10.88559	00	53	27.86	+09	34	08.4		095
1980	TE8 *	1980	10	10.88559	00	54	23.30	+07	15	10.4	17.5	095
1980	TY2	1980	10	10.88559	00	54	36.94	+06	11	36.7	16.0	095
1980	TP8 *	1980	10	10.88559	00	55	39.51	+07	47	06.2	17.5	095
1980	TG8 *	1980	10	10.88559	00	55	40.35	+08	18	31.6	18.0	2 095
1980	SG	1980	10	10.88559	00	55	59.84	+04	30	56.9	17.0	095
477		1980	10	10.88559	00	56	22.70	+07	14	52.6		095
1939		1980	10	10.88559	00	57	13.52	+05	32	26.7		1 095
1980	TE3	1980	10	10.88559	00	57	33.31	+09	13	19.6	17.5	1 095
1980	TH8 *	1980	10	10.88559	00	57	38.80	+09	20	17.5	17.5	1 095
2630		1980	10	10.88559	00	59	00.69	+07	04	22.1		1 095
1980	TJ8 *	1980	10	10.88559	01	00	31.10	+08	33	09.6	18.0	1 095
1332		1980	10	10.88559	01	01	13.26	+06	45	21.3		1 095
1980	TH3	1980	10	10.88559	01	01	35.84	+07	59	28.6	17.5	1 095
152		1980	10	12.78404	23	01	33.60	-19	55	37.4		095
1980	TK8 *	1980	10	12.78404	23	03	55.60	-16	59	01.3	16.5	095
807		1980	10	12.78404	23	07	46.25	-16	43	37.4		095

727		1980	10	12.78404	23	10	58.91	-22	42	37.4		1	095
2652		1980	10	12.78404	23	12	41.85	-16	05	14.9			095
155		1980	10	12.78404	23	16	13.57	-18	02	11.9			095
1980	TL8 *	1980	10	12.78404	23	19	28.82	-14	04	30.8	16.5	1	095
1980	TM8 *	1980	10	12.78404	23	21	24.06	-17	25	52.5	16.5		095
1980	TN8 *	1980	10	12.78404	23	23	41.88	-13	36	12.8	17.0	1	095
562		1980	10	12.78404	23	29	23.85	-20	27	23.7			095
1980	TO8 *	1980	10	13.78058	23	16	20.72	+13	59	05.0	15.5		095
1980	TP8 *	1980	10	13.78058	23	24	42.22	+13	00	30.9	16.0		095
778		1980	10	13.78058	23	31	39.03	+11	19	54.4			095
1266		1980	10	13.78058	23	38	50.41	+16	45	03.1			095
456		1980	10	13.78058	23	41	23.57	+13	20	02.2			095
1980	TQ8 *	1980	10	13.78058	23	50	25.97	+13	24	46.0	16.5		095
25		1980	10	13.78058	23	53	36.57	+16	17	36.5		1	095
1980	TR8 *	1980	10	13.78058	23	54	01.32	+13	12	46.0	16.5		095
2352		1980	10	13.78058	23	56	48.85	+16	16	01.1		1	095
562		1980	10	13.84794	23	28	49.81	-20	25	10.3		1	095
1980	TE2	1980	10	13.84794	23	38	06.00	-13	09	42.1	16.0		095
1980	TB	1980	10	13.84794	23	38	34.57	-15	28	46.9	17.0		095
2337		1980	10	13.84794	23	44	45.03	-16	32	35.6			095
752		1980	10	13.84794	23	45	19.91	-11	44	30.0		1	095
1980	TS8 *	1980	10	13.84794	23	45	36.47	-12	30	01.0	16.5		095
196		1980	10	13.84794	23	49	13.16	-11	51	08.9		1	095
850		1980	10	13.84794	00	00	05.19	-20	48	40.2		1	095
2617		1980	10	13.84794	00	07	43.30	-19	50	51.2	15.0	1	095
1980	TT8 *	1980	10	13.91600	00	59	56.88	+10	28	51.8	16.5	1	095
1980	TZ5	1980	10	13.91600	01	04	09.86	+09	34	52.5	15.5	1	095
1980	TU8 *	1980	10	13.91600	01	07	21.43	+07	35	32.1	17.5		095
1980	TV5 *	1980	10	13.91600	01	08	31.47	+06	46	07.8	17.5		095
2642		1980	10	13.91600	01	08	52.69	+07	56	47.5			095
1980	TW8 *	1980	10	13.91600	01	09	34.05	+08	38	39.7	17.5		095
1980	TX8 *	1980	10	13.91600	01	10	11.50	+10	21	35.1	16.5		095
1980	TY8 *	1980	10	13.91600	01	10	30.76	+08	06	09.1	17.0		095
1980	TZ8	1980	10	13.91600	01	10	42.41	+09	09	43.6	16.5		095
1980	TA9 *	1980	10	13.91600	01	11	41.98	+07	11	10.0	17.5		095
1980	TA6	1980	10	13.91600	01	11	45.04	+06	54	17.5	16.5		095
2631		1980	10	13.91600	01	12	02.94	+05	57	27.9			095
1980	TB9 *	1980	10	13.91600	01	13	24.54	+07	13	47.0	17.5	2	095
1980	TC9 *	1980	10	13.91600	01	13	37.31	+05	19	59.3	16.5		095
1980	TD9 *	1980	10	13.91600	01	13	48.77	+10	15	24.1	17.0		095
1739		1980	10	13.91600	01	14	03.30	+08	09	22.8			095
1980	TE9 *	1980	10	13.91600	01	14	31.42	+10	36	27.8	16.5		095
1982	BX1	1980	10	13.91600	01	15	33.98	+06	32	38.1			095
1980	TF9 *	1980	10	13.91600	01	16	23.08	+10	52	44.3	16.0		095
1980	TG9 *	1980	10	13.91600	01	16	48.71	+04	12	32.5	17.0	1	095
1980	TH9 *	1980	10	13.91600	01	17	21.85	+09	10	11.2	17.5		095
1980	TJ9 *	1980	10	13.91600	01	18	37.05	+06	30	30.2	17.0		095
1980	TK9 *	1980	10	13.91600	01	18	40.90	+09	47	40.8	17.0		095
1980	TL9 *	1980	10	13.91600	01	19	09.70	+09	49	56.1	17.0		095
2142		1980	10	13.91600	01	19	16.86	+07	39	03.2			095
1980	TM9 *	1980	10	13.91600	01	19	59.60	+08	24	22.8	17.5		095
1980	TN9 *	1980	10	13.91600	01	20	22.76	+05	53	40.8	17.5		095
1980	TG9 *	1980	10	13.91600	01	21	09.74	+06	00	33.6	17.0		095
190		1980	10	13.91600	01	22	26.61	+04	50	49.5			095
1980	TP9 *	1980	10	13.91600	01	23	57.64	+11	22	18.9	17.5		095
1980	TQ9 *	1980	10	13.91600	01	25	11.75	+09	53	35.4	17.5		095
1980	TR9 *	1980	10	13.91600	01	26	20.18	+04	48	44.1	16.5		095
1980	TS9 *	1980	10	13.91600	01	27	05.46	+12	02	13.2	17.0		095
1203		1980	10	13.91600	01	27	09.65	+13	33	26.7		1	095

1980	TT9 *	1980	10	13.91600	01	27	57.26	+07	51	10.3	17.5	095
1912		1980	10	13.91600	01	29	27.89	+04	54	38.7		095
1980	TU9 *	1980	10	13.91600	01	30	06.74	+11	31	48.6	16.5	095
1980	TV9 *	1980	10	13.91600	01	30	38.86	+07	31	49.6	17.5	095
1275		1980	10	13.91600	01	31	02.14	+03	44	26.1		1 095
1909		1980	10	13.91600	01	31	43.41	+10	45	43.1		095
2592		1980	10	13.91600	01	32	35.90	+09	42	56.0		2 095
2709		1980	10	13.91600	01	33	14.48	+12	48	30.8	17.0	1 095
1980	TW9 *	1980	10	13.91600	01	33	25.82	+11	52	25.7	17.0	095
240		1980	10	13.91600	01	34	39.60	+05	42	05.8		095
710		1980	10	13.91600	01	35	24.55	+07	34	15.5		095
1980	TX9 *	1980	10	13.91600	01	37	05.38	+10	08	13.6	17.0	1 095
904		1980	10	13.91600	01	38	16.03	+07	41	46.4		1 095
1788		1980	10	13.91600	01	39	33.35	+09	36	07.6		1 095
2319		1980	10	13.91600	01	39	41.17	+05	14	23.9		1 095
1980	Ty9 *	1980	10	13.91600	01	40	44.46	+10	23	50.7	17.5	1 095
1911		1980	10	15.82294	23	10	40.54	-03	10	16.8		1 095
98		1980	10	15.82294	23	11	36.75	-03	25	28.1		1 095
440		1980	10	15.82294	23	13	55.66	-02	13	50.1		1 095
2226		1980	10	15.82294	23	16	16.75	-07	32	47.7		1 095
2339		1980	10	15.82294	23	16	22.62	-06	01	30.8		1 095
1980	TZ9 *	1980	10	15.82294	23	20	53.35	-02	31	05.3	17.0	095
1061		1980	10	15.82294	23	21	12.03	-08	24	00.8		1 095
2305		1980	10	15.82294	23	22	53.32	-09	10	36.3		3 095
1980	TA10*	1980	10	15.82294	23	23	40.56	-02	07	27.2	16.5	095
274		1980	10	15.82294	23	23	49.47	-09	19	16.4		1 095
1980	TF7	1980	10	15.82294	23	23	49.47	-02	40	40.4	16.5	095
2006		1980	10	15.82294	23	26	10.94	-02	29	29.7		095
1980	TG7	1980	10	15.82294	23	29	16.38	-03	39	57.4	17.0	095
1980	TH7	1980	10	15.82294	23	31	20.56	-05	51	15.3		095
1980	TB10*	1980	10	15.82294	23	32	14.75	-05	54	15.3	17.0	095
1980	TC10*	1980	10	15.82294	23	33	06.00	+00	20	46.1	17.5	1 095
748		1980	10	15.82294	23	33	27.25	+00	21	13.2		1 095
1980	TD10*	1980	10	15.82294	23	33	30.50	-08	05	08.4	17.5	095
1980	TE10*	1980	10	15.82294	23	39	02.47	-07	27	58.7	17.5	095
1980	TF10*	1980	10	15.82294	23	39	25.28	-00	39	52.7	17.0	1 095
1980	TJ7	1980	10	15.82294	23	41	00.00	-04	39	38.1	17.0	095
688		1980	10	15.82294	23	41	14.10	-06	20	22.5		095
131		1980	10	15.82294	23	41	29.00	-09	24	37.7		1 095
1980	TK7	1980	10	15.82294	23	41	47.28	-01	49	43.8	16.0	095
1980	TL7	1980	10	15.82294	23	42	08.32	-01	46	46.6	17.5	095
1850		1980	10	15.82294	23	42	58.22	-08	26	05.4		1 095
1980	TG10*	1980	10	15.82294	23	43	13.16	-04	04	31.1	17.0	095
1368		1980	10	15.82294	23	43	18.56	-08	03	02.2		095
2584		1980	10	15.82294	23	43	21.22	-03	39	36.9		095
1980	TM7	1980	10	15.82294	23	45	22.16	-05	18	55.9	16.5	095
171		1980	10	15.82294	23	47	05.69	-05	08	46.7		1 095
201		1980	10	15.82294	23	47	38.13	-06	40	18.4		1 095
1907		1980	10	15.82294	23	48	49.47	-04	11	49.2		1 095
1980	TH10*	1980	10	15.82294	23	49	44.25	-02	25	31.2	17.0	1 095
34		1980	10	15.82294	23	50	19.31	-01	14	50.2		1 095
496		1980	10	15.89306	00	15	32.87	+03	32	33.9		1 095
1980	TJ10*	1980	10	15.89306	00	16	30.47	+05	12	25.0	17.5	1 095
1980	TT3	1980	10	15.89306	00	19	36.93	+05	25	22.2	17.5	095
1980	TK10*	1980	10	15.89306	00	19	43.68	+03	48	24.8	17.5	095
1980	TL10*	1980	10	15.89306	00	20	52.36	+10	30	45.1	17.5	095
1980	TC5	1980	10	15.89306	00	20	59.85	+11	04	46.0	17.5	1 095
2637		1980	10	15.89306	00	23	48.82	+06	41	03.7		095
1980	TN7	1980	10	15.89306	00	24	12.11	+06	48	14.0	17.5	095

1980	TM10*	1980	10	15.89306	00	25	54.72	+04	20	51.0	18.0	095
1980	TZ3	1980	10	15.89306	00	26	13.48	+05	13	07.1	16.5	095
2705		1980	10	15.89306	00	26	28.26	+04	11	23.3		095
1980	TX3	1980	10	15.89306	00	26	30.70	+03	16	54.1	17.5	095
2623		1980	10	15.89306	00	26	35.08	+07	41	52.8		095
1980	TB4	1980	10	15.89306	00	26	51.14	+05	44	27.2	16.5	095
1726		1980	10	15.89306	00	27	07.92	+06	29	59.2		095
1980	TO	1980	10	15.89306	00	27	16.63	+03	00	58.6	18.0	1 095
1980	TK5	1980	10	15.89306	00	27	26.91	+10	06	20.7	17.5	095
1980	TE4	1980	10	15.89306	00	27	34.42	+03	44	35.2	17.5	095
1268		1980	10	15.89306	00	29	18.52	+05	21	07.6		095
2427		1980	10	15.89306	00	31	04.12	+07	32	51.7		095
1046		1980	10	15.89306	00	31	13.52	+03	58	34.7		095
1982	FE1	1980	10	15.89306	00	31	34.78	+11	40	01.2	17.5	1 095
1980	TN10*	1980	10	15.89306	00	32	16.44	+02	06	57.8	17.5	1 095
1980	TP7	1980	10	15.89306	00	32	21.12	+07	30	54.1	17.5	095
1980	TQ5	1980	10	15.89306	00	33	00.01	+10	26	23.6	17.0	095
2532		1980	10	15.89306	00	37	56.59	+09	07	54.5		095
1980	TW5	1980	10	15.89306	00	40	21.14	+10	27	18.0	17.5	095
1881		1980	10	15.89306	00	41	58.66	+10	19	49.8		095
1980	TG10*	1980	10	15.89306	00	43	06.18	+02	42	20.0	17.5	3 095
1980	TU4	1980	10	15.89306	00	45	13.04	+01	54	07.9	17.0	1 095
1980	TZ7	1980	10	15.89306	00	46	23.98	+10	23	37.1	17.5	095
1980	TA8	1980	10	15.89306	00	46	33.30	+04	46	14.7	18.0	095
1980	TX7	1980	10	15.89306	00	46	38.62	+04	42	57.0	16.5	095
1980	TC8	1980	10	15.89306	00	46	39.75	+04	42	23.6	17.5	095
1980	TV2	1980	10	15.89306	00	47	18.02	+08	29	14.4	17.0	095
1311		1980	10	15.89306	00	48	59.12	+09	00	46.8		095
1980	TY2	1980	10	15.89306	00	50	16.45	+05	38	28.4	16.0	1 095
1980	SG	1980	10	15.89306	00	51	00.94	+04	27	45.6	17.0	1 095
477		1980	10	15.89306	00	51	29.05	+07	04	17.7		1 095
1980	TF8	1980	10	15.89306	00	51	59.48	+07	31	24.6	17.5	1 095
1980	TH8	1980	10	15.89306	00	52	57.55	+09	05	18.2	17.5	3 095
1939		1980	10	15.89306	00	53	33.12	+05	10	36.0		1 095
2374		1980	11	30.95698	04	11	47.73	+44	37	27.6		095
1206		1980	11	30.95698	04	34	11.04	+40	32	06.8		095
842		1980	11	30.95698	04	34	56.20	+41	51	18.8		095
1980	WK *	1980	11	30.95698	04	39	16.40	+47	11	45.0	16.5	1 095
1980	WL *	1980	11	30.95698	04	43	37.67	+39	20	58.2	17.0	3 095
1981	RX1 *	1981	09	07.90876	22	37	25.40	+14	39	57.1	17.0	095
1981	RY1 *	1981	09	07.90876	22	39	50.94	+11	33	34.5	17.5	2 095
1981	RZ1 *	1981	09	07.90876	22	41	07.47	+10	11	33.6	17.0	1 095
1981	RA2 *	1981	09	07.90876	22	42	31.97	+15	48	12.8	16.5	095
1981	RB2 *	1981	09	07.90876	22	43	38.72	+17	34	02.6	16.5	095
1981	RC2 *	1981	09	07.90876	22	45	25.16	+15	44	38.4	17.5	095
409		1981	09	07.90876	22	46	23.75	+11	11	07.2		1 095
1981	RD2 *	1981	09	07.90876	22	48	12.72	+10	38	42.8	17.0	1 095
1981	RE2 *	1981	09	07.90876	22	48	38.00	+17	48	46.4	17.5	1 095
1981	RF2 *	1981	09	07.90876	22	51	04.60	+15	31	08.2	17.0	095
1981	RG2 *	1981	09	07.90876	22	52	10.44	+14	57	00.7	17.5	095
1981	RH2 *	1981	09	07.90876	22	52	21.41	+14	35	23.5	17.5	2 095
1981	RJ2 *	1981	09	07.90876	22	52	22.69	+14	22	49.0	17.5	095
1981	RK2 *	1981	09	07.90876	22	54	47.22	+17	32	25.9	16.5	095
1981	RL2 *	1981	09	07.90876	23	02	07.66	+13	10	17.8	17.0	095
1981	RM2 *	1981	09	07.90876	23	02	07.97	+13	18	06.9	17.5	095
1981	RN2 *	1981	09	07.90876	23	06	02.19	+16	10	08.4	17.0	3 095
1981	RO2 *	1981	09	07.90876	23	09	34.25	+12	56	38.4	16.5	1 095
1981	RP2 *	1981	09	07.90876	23	09	37.28	+13	06	53.4	16.5	1 095
1981	RQ2 *	1981	09	07.98858	00	42	10.59	+18	37	22.7	17.0	2 095

1981	RR2	*	1981	09	07.98858	00	48	24.82	+15	55	17.2	16.5	1	095
1981	RS2	*	1981	09	07.98858	00	49	44.76	+16	46	31.6	16.5	1	095
1981	RT2	*	1981	09	07.98858	00	55	48.20	+23	08	03.8	16.5		095
1112			1981	09	07.98858	00	56	34.81	+19	09	28.5			095
1110			1981	09	07.98858	00	56	50.00	+17	36	52.1			095
1106			1981	09	07.98858	00	57	02.94	+19	30	30.8		2	095
1981	RU2	*	1981	09	07.98858	00	59	44.88	+20	40	05.4	17.0		095
1981	RV2	*	1981	09	07.98858	01	06	28.45	+22	58	24.6	17.0	2	095
	733		1981	09	07.98858	01	10	35.24	+23	37	22.0			095
	639		1981	09	07.98858	01	17	30.24	+21	34	50.6		1	095
	957		1981	09	07.98858	01	19	17.14	+22	50	08.2		1	095
1981	SW2	*	1981	09	27.82111	22	16	56.22	+13	31	40.6	17.5	1	095
1981	RX1		1981	09	27.82111	22	22	53.85	+13	02	10.6	17.0		095
1981	RZ1		1981	09	27.82111	22	26	22.25	+07	50	26.6	17.0	2	095
1981	RB2		1981	09	27.82111	22	30	03.37	+14	55	33.1	16.5		095
1981	RA2		1981	09	27.82111	22	30	48.93	+13	18	19.0	16.5		095
	409		1981	09	27.82111	22	31	49.50	+08	40	08.0			095
1981	RD2		1981	09	27.82111	22	34	22.81	+09	03	04.7	17.0		095
1981	SX2	*	1981	09	27.82111	22	36	48.06	+13	37	02.1	17.5		095
1981	RF2		1981	09	27.82111	22	37	59.12	+13	32	28.3	17.0	2	095
1981	RK2		1981	09	27.82111	22	39	28.60	+15	01	43.9	16.5		095
1981	RL2		1981	09	27.82111	22	45	32.25	+12	31	10.5	17.0		095
1981	SY2	*	1981	09	27.82111	22	46	29.19	+13	20	53.7	17.5		095
1981	RP2		1981	09	27.82111	22	51	47.25	+11	52	25.5	16.5	1	095
1981	SZ2	*	1981	09	27.82111	22	52	52.63	+12	41	07.2	17.5	1	095
1981	R02		1981	09	27.82111	22	54	57.19	+11	29	01.6	16.5	1	095
1981	SA3	*	1981	09	27.87878	00	21	37.32	+17	37	51.7	17.0	1	095
1971			1981	09	27.87878	00	33	17.50	+17	22	52.8			095
1981	RR2		1981	09	27.87878	00	33	21.08	+15	56	20.2	16.5		095
1981	SB3	*	1981	09	27.87878	00	34	12.54	+17	19	09.2	16.5		095
1981	RS2		1981	09	27.87878	00	34	37.91	+16	08	49.0	16.5		095
2546			1981	09	27.87878	00	36	14.62	+17	47	21.5	17.0	2	095
1981	SC3	*	1981	09	27.87878	00	39	21.14	+14	50	32.6	17.5		095
1106			1981	09	27.87878	00	40	08.54	+19	31	14.9			095
1981	SD3	*	1981	09	27.87878	00	40	49.82	+18	32	33.2	17.5		095
1981	SE3	*	1981	09	27.87878	00	42	09.46	+12	56	08.0	17.0	1	095
1112			1981	09	27.87878	00	42	54.63	+19	01	23.0			095
1110			1981	09	27.87878	00	43	41.36	+15	45	14.7			095
1981	SF3	*	1981	09	27.87878	00	44	58.24	+21	07	40.4	17.0	1	095
1981	RU2		1981	09	27.87878	00	47	13.80	+20	07	42.3	16.5		095
1981	RV2		1981	09	27.87878	00	51	06.57	+22	13	31.4	17.0	3	095
1981	SG3	*	1981	09	27.87878	00	52	21.70	+14	15	46.2	16.5		095
2097			1981	09	27.87878	00	57	00.47	+12	39	20.8		1	095
1981	SH3	*	1981	09	27.87878	00	59	23.55	+19	31	44.4	17.0	3	095
1981	TC1	*	1981	10	03.79618	22	15	28.03	+08	46	44.0	17.5		095
1981	RX1		1981	10	03.79618	22	20	17.16	+12	21	36.0	17.0		095
1981	RB2		1981	10	03.79618	22	27	44.03	+13	58	01.5	16.5	2	095
	409		1981	10	03.79618	22	28	46.66	+07	50	49.9		1	095
1981	RA2		1981	10	03.79618	22	29	05.69	+12	22	40.0	16.5		095
1981	SX2		1981	10	03.79618	22	30	55.88	+13	06	18.1	17.0		095
1981	RD2		1981	10	03.79618	22	31	19.16	+08	28	39.2	17.0		095
1981	RF2		1981	10	03.79618	22	35	05.25	+12	50	08.9	17.0		095
1981	RK2		1981	10	03.79618	22	36	05.53	+14	05	10.1	16.5		095
1981	TD1	*	1981	10	03.79618	22	41	42.40	+15	16	47.8	15.5		095
1981	RL2		1981	10	03.79618	22	42	00.01	+12	05	48.3	17.0		095
1981	RP2		1981	10	03.79618	22	47	43.19	+11	21	14.9	16.5	1	095
1981	TE1	*	1981	10	03.87113	00	24	11.77	+15	25	09.2	17.0	1	095
1981	RR2		1981	10	03.87113	00	28	05.91	+15	41	33.4	16.5		095
1971			1981	10	03.87113	00	28	20.61	+17	01	55.9			095

1981 SB3	1981 10 03.87113	00 29 01.01	+16 52 46.0	17.0	2 095
1981 RS2	1981 10 03.87113	00 29 08.46	+15 34 02.1	16.5	095
1106	1981 10 03.87113	00 34 17.72	+19 17 25.8		095
1981 TF1 *	1981 10 03.87113	00 37 25.80	+16 03 05.9	16.5	2 095
1112	1981 10 03.87113	00 37 57.39	+18 44 03.4		095
1110	1981 10 03.87113	00 38 38.01	+14 49 08.8		095
1981 SF3	1981 10 03.87113	00 40 15.65	+20 44 48.2	17.0	095
1981 RU2	1981 10 03.87113	00 42 33.76	+19 41 43.1	16.5	095
1981 SG3	1981 10 03.87113	00 47 34.68	+13 48 37.3	16.5	1 095

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

OBSERVATIONS MADE WITH THE 6-M REFLECTOR AT THE SPECIAL ASTROPHYSICAL OBSERVATORY BY I. D. KARACHENTSOV AND A. N. SHCHERBANOVSKIJ. FROM KIEV KOMET. TSIRK. NO. 291.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
1982 BX7 *	1982 01 24.90486	06 51 22.4	+08 49 44.9	18.5	1 115	
1982 BX7	1982 01 25.87222	06 50 44.0	+08 48 01.0		1 115	
1982 BX7	1982 01 25.89826	06 50 41.8	+08 47 55.2		1 115	

Note 1: observatory code 115, Long. and Parallax 41.44, -309, -293 (see MPC 4766).

OBSERVATIONS MADE AT THE PERTH OBSERVATORY, BICKLEY, BY J. JOHNSTON, P. JEKABSONS AND M. P. CANDY.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1982 TA	1982 10 18.57500	23 20 21.88	-01 25 05.8	15.0	323	
1982 TA	1982 10 19.58993	23 15 37.40	-01 31 56.1	15.0	323	
1982 TA	1982 10 20.56771	23 10 59.20	-01 38 25.9	15.0	323	

OBSERVATIONS MADE AT GEISEI BY T. SEKI. FROM NIHONDAIRA OBS. CIRC. NO. 1361.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1978 UQ2	1982 09 26.73385	04 40 07.37	+21 17 44.3	17	372	
1978 UQ2	1982 09 26.74514	04 40 07.77	+21 17 50.3		372	
1982 SR1 *	1982 09 26.70573	23 26 43.96	+02 36 40.9	18	372	
1982 SR1	1982 09 26.71771	23 26 43.67	+02 36 33.8		372	

OBSERVATIONS MADE AT THE TOKYO ASTRONOMICAL OBSERVATORY'S KISO STATION BY H. KOSAI AND K. HURUKAWA.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
104	1977 03 15.64872	12 32 03.28	-00 43 48.0	15	381	
104	1977 03 15.67229	12 32 02.25	-00 43 42.1	15	381	
104	1977 04 10.63485	12 13 05.81	+01 03 00.4	14	381	
104	1977 04 10.65017	12 13 05.22	+01 03 04.1	14	381	
315	1977 03 12.54736	09 50 21.30	+12 39 05.7	18.0	381	
315	1977 03 12.57583	09 50 19.84	+12 39 13.3	18.0	381	
315	1977 03 15.54451	09 48 06.30	+12 53 40.2	18.0	381	
315	1977 03 15.56821	09 48 05.21	+12 53 47.2	18.0	381	
615	1977 04 10.63485	12 24 07.15	-02 28 35.0	15	381	
615	1977 04 10.65017	12 24 06.37	-02 28 30.5	15	381	
738	1977 03 12.54736	09 59 00.36	+14 30 10.8	16.8	381	
738	1977 03 12.57583	09 58 59.22	+14 30 17.8	16.8	381	
738	1977 03 15.54451	09 57 12.58	+14 41 49.6	17.5	381	
738	1977 03 15.56821	09 57 11.72	+14 41 55.1	17.5	381	
842	1977 03 15.64872	12 28 30.71	-02 20 55.1	17.2	381	
842	1977 03 15.67229	12 28 29.61	-02 20 52.7	17.2	381	
842	1977 04 10.63485	12 08 20.12	-01 26 24.2	17.8	381	
842	1977 04 10.65017	12 08 19.58	-01 26 22.6	17.8	381	
1002	1977 03 12.54736	10 01 46.19	+14 41 18.5	17.6	381	
1002	1977 03 12.57583	10 01 44.82	+14 41 19.9	17.6	381	
1002	1977 03 15.54451	09 59 30.58	+14 44 19.9	17.9	381	



1002	1977 03 15.56821	09 59 29.51	+14 44 21.0	17.9	381
1002	1977 04 10.53416	09 47 18.29	+14 32 46.3	17.5	381
1002	1977 04 10.55839	09 47 18.01	+14 32 43.9	17.5	381
1073	1977 03 12.54736	09 59 00.52	+14 24 13.0	18.4	381
1073	1977 03 12.57583	09 58 59.40	+14 24 17.6	18.4	381
1073	1977 03 15.54451	09 57 10.69	+14 32 44.3	18.7	381
1073	1977 03 15.56821	09 57 09.87	+14 32 47.9	18.7	381
1171	1977 03 15.54451	10 11 08.37	+13 48 28.9	16.8	381
1171	1977 03 15.56821	10 11 07.46	+13 48 34.3	16.8	381
1259	1977 03 12.54736	09 48 21.29	+16 51 06.5	16.8	381
1259	1977 03 12.57583	09 48 20.15	+16 51 11.1	16.8	381
1394	1977 04 10.53416	09 37 00.57	+13 12 01.2	17.5	381
1394	1977 04 10.55839	09 37 00.52	+13 12 02.3	17.5	381
1637	1977 03 15.64872	12 51 21.57	+00 35 14.1	15	381
1637	1977 03 15.67229	12 51 20.39	+00 35 16.6	15	381
1637	1977 04 10.63485	12 28 52.00	+01 07 56.1	16.5	381
1637	1977 04 10.65017	12 28 51.20	+01 07 58.1	16.5	381
1734	1977 04 10.63485	12 21 04.63	-00 36 49.7	17.6	381
1734	1977 04 10.65017	12 21 04.08	-00 36 42.4	17.6	381
1976	1977 03 12.54736	10 05 33.00	+15 45 02.5	17.9	381
1976	1977 03 12.57583	10 05 31.61	+15 45 08.9	17.9	381
1976	1977 03 15.54451	10 03 18.69	+15 56 01.8	18.1	381
1976	1977 03 15.56821	10 03 17.60	+15 56 06.5	18.1	381
2225	1977 03 12.54736	10 09 13.12	+16 16 35.7	17.5	381
2225	1977 03 12.57583	10 09 11.85	+16 16 40.3	17.5	381
2225	1977 03 15.54451	10 07 11.92	+16 26 10.8	18.0	381
2225	1977 03 15.56821	10 07 10.97	+16 26 15.6	18.0	381
2250	1977 03 15.64872	12 32 14.50	-02 27 59.2	17.5	381
2250	1977 03 15.67229	12 32 13.48	-02 27 51.5	17.5	381
2250	1977 04 10.63485	12 14 13.58	-00 24 35.5	17.8	381
2250	1977 04 10.65017	12 14 13.03	-00 24 30.9	17.8	381
2293	1977 04 10.63485	12 11 40.93	-01 00 48.2	17.0	381
2293	1977 04 10.65017	12 11 40.31	-01 00 43.6	17.0	381
2311	1977 03 12.54736	09 48 22.01	+12 16 09.8	17.8	381
2311	1977 03 12.57583	09 48 21.10	+12 16 15.9	17.8	381
2311	1977 04 10.53416	09 39 47.69	+13 38 49.6	17.5	381
2311	1977 04 10.55839	09 39 47.59	+13 38 53.0	17.5	381
2326	1977 03 12.54736	10 05 22.07	+12 01 00.5	17.9	381
2326	1977 03 12.57583	10 05 20.94	+12 01 13.7	17.9	381
2326	1977 03 15.54451	10 03 36.04	+12 24 54.0	17.6	381
2326	1977 03 15.56821	10 03 35.14	+12 25 06.7	17.6	381
2344	1977 03 12.54736	10 08 59.95	+16 15 57.9	18.0	381
2344	1977 03 12.57583	10 08 58.71	+16 16 04.1	18.0	381
2344	1977 03 15.54451	10 06 53.45	+16 26 41.3	18.1	381
2344	1977 03 15.56821	10 06 52.47	+16 26 46.0	18.1	381
2395	1977 03 12.54736	09 49 03.57	+13 34 06.8	18.5	381
2395	1977 03 12.57583	09 49 02.39	+13 34 11.8	18.5	381
2446	1977 03 12.54736	09 52 06.48	+17 03 12.0	18.1	381
2446	1977 03 12.57583	09 52 04.98	+17 03 15.9	18.1	381
2446	1977 03 15.54451	09 49 41.59	+17 10 04.3	18.3	381
2446	1977 03 15.56821	09 49 40.41	+17 10 07.7	18.3	381
2508	1977 04 10.63485	12 26 06.49	-02 37 17.5	17.8	381
2508	1977 04 10.65017	12 26 05.87	-02 37 10.8	17.8	381
2517	1977 03 15.64872	12 48 33.97	-01 44 17.2	18.0	381
2517	1977 03 15.67229	12 48 33.07	-01 44 11.7	18.0	381
2547	1977 03 12.54736	10 00 55.64	+14 16 39.3	18.7	381
2547	1977 03 12.57583	10 00 54.05	+14 16 42.2	18.7	381
2589	1977 03 12.54736	10 01 18.28	+12 34 22.7	18.6	381
2589	1977 03 12.57583	10 01 17.07	+12 34 29.1	18.6	381

2589	1977 03 15.54451	09 59 23.03	+12 46 35.9	18.4	381
2589	1977 03 15.56821	09 59 22.15	+12 46 42.1	18.4	381
2662	1977 03 12.54736	09 52 12.88	+13 09 36.9	18.3	381
2662	1977 03 12.57583	09 52 11.63	+13 09 39.2	18.3	381
1975 XB	1977 03 12.54736	10 10 58.73	+16 39 10.1	18.4	381
1975 XB	1977 03 12.57583	10 10 57.23	+16 39 19.5	18.4	381
1975 XB	1977 03 15.54451	10 08 28.14	+16 56 16.0	18.9	381
1975 XB	1977 03 15.56821	10 08 26.84	+16 56 24.2	18.5	381
1977 DA	1977 03 12.54736	09 54 42.31	+13 54 54.5	17.6	381
1977 DA	1977 03 12.57583	09 54 40.99	+13 54 55.5	17.6	381
1977 DA	1977 03 15.54451	09 52 43.86	+13 58 45.5	17.8	381
1977 DA	1977 03 15.56821	09 52 42.92	+13 58 46.4	17.8	381
1977 DF2	1977 03 12.54736	09 47 42.99	+17 35 29.5	18.5	381
1977 DF2	1977 03 12.57583	09 47 41.81	+17 35 30.7	18.5	381
1977 DJ2	1977 03 12.54736	09 49 55.04	+16 20 48.4	18.0	381
1977 DJ2	1977 03 12.57583	09 49 53.91	+16 20 53.0	18.0	381
1977 DJ2	1977 03 15.54451	09 48 04.96	+16 30 24.0	18.3	381
1977 DJ2	1977 03 15.56821	09 48 04.08	+16 30 28.4	18.3	381
1977 DL2	1977 03 12.54736	09 50 24.52	+15 56 49.9	18.7	381
1977 DL2	1977 03 12.57583	09 50 23.48	+15 56 58.8	18.7	381
1977 DL2	1977 03 15.54451	09 48 54.25	+16 11 49.8	18.3	381
1977 DL2	1977 03 15.56821	09 48 53.51	+16 11 56.8	18.3	381
1977 DP2	1977 03 12.54736	09 52 46.18	+14 41 36.9	18.9	381
1977 DP2	1977 03 12.57583	09 52 45.13	+14 41 40.4	18.9	381
1977 DR2	1977 03 12.54736	09 48 24.43	+15 01 51.0	18.2	381
1977 DR2	1977 03 12.57583	09 48 22.95	+15 01 50.7	18.2	381
1977 DS2	1977 03 12.54736	09 56 17.77	+17 27 23.0	17.9	381
1977 DS2	1977 03 12.57583	09 56 16.72	+17 27 33.3	17.9	381
1977 DS2	1977 03 15.54451	09 54 38.27	+17 44 52.0	18.5	381
1977 DS2	1977 03 15.56821	09 54 37.47	+17 45 00.4	18.5	381
1977 DT2	1977 03 12.54736	09 53 13.70	+15 08 50.1	18.9	381
1977 DT2	1977 03 12.57583	09 53 12.48	+15 08 54.4	18.9	381
1977 DD3	1977 03 12.54736	10 01 34.41	+15 03 07.5	18.2	381
1977 DD3	1977 03 12.57583	10 01 33.55	+15 03 07.4	18.2	381
1977 DD3	1977 03 15.54451	10 00 07.26	+15 04 42.7	18.3	381
1977 DD3	1977 03 15.56821	10 00 06.54	+15 04 43.4	18.3	381
1977 DD3	1977 04 10.53416	09 51 31.52	+14 56 40.6		381
1977 DD3	1977 04 10.55839	09 51 31.24	+14 56 40.6		381
1977 DG3	1977 03 12.54736	09 56 29.00	+14 54 43.8	18.7	381
1977 DG3	1977 03 12.57583	09 56 27.78	+14 54 54.2	18.7	381
1977 DG3	1977 03 15.54451	09 54 37.68	+15 13 03.2	18.5	381
1977 DG3	1977 03 15.56821	09 54 36.81	+15 13 12.3	18.5	381
1977 DK3	1977 03 12.54736	09 56 12.33	+16 37 27.7	18.0	381
1977 DK3	1977 03 12.57583	09 56 11.14	+16 37 36.1	18.0	381
1977 DK3	1977 03 15.54451	09 54 24.69	+16 51 33.9	17.9	381
1977 DK3	1977 03 15.56821	09 54 23.87	+16 51 40.3	17.9	381
1977 DL3	1977 03 12.54736	09 54 03.25	+16 41 52.5	18.2	381
1977 DL3	1977 03 12.57583	09 54 01.98	+16 41 52.6	18.2	381
1977 DL3	1977 03 15.54451	09 52 01.37	+16 41 27.6	18.8	381
1977 DL3	1977 03 15.56821	09 52 00.50	+16 41 28.2	18.8	381
1977 DQ3	1977 03 12.54736	10 00 37.84	+15 32 17.6	18.5	381
1977 DQ3	1977 03 12.57583	10 00 36.78	+15 32 22.2	18.5	381
1977 DR3	1977 03 12.54736	10 00 04.25	+15 54 46.5	18.8	381
1977 DR3	1977 03 12.57583	10 00 03.07	+15 54 52.6	18.8	381
1977 DX3	1977 03 12.54736	10 02 52.99	+15 05 59.7	18.3	381
1977 DX3	1977 03 12.57583	10 02 51.86	+15 06 04.7	18.3	381
1977 DX3	1977 03 15.54451	10 00 56.99	+15 15 41.8	18.4	381
1977 DX3	1977 03 15.56821	10 00 56.02	+15 15 46.7	18.4	381
1977 DY3	1977 03 12.54736	10 02 52.34	+14 30 43.5	18.8	381

1977	DY3	1977	03	12.57583	10	02	51.14	+14	30	48.2	18.8	381	
1977	DY3	1977	03	15.54451	10	00	52.58	+14	39	44.0	18.6	381	
1977	DY3	1977	03	15.56821	10	00	51.70	+14	39	47.5	18.6	381	
1977	DA4	1977	03	12.54736	10	03	17.21	+17	00	38.3	18.9	381	
1977	DA4	1977	03	12.57583	10	03	16.06	+17	00	40.4	18.9	381	
1977	DC4	1977	03	12.54736	10	05	44.96	+15	21	52.8	18.2	381	
1977	DC4	1977	03	12.57583	10	05	43.85	+15	21	57.2	18.2	381	
1977	DC4	1977	03	15.54451	10	03	56.89	+15	30	53.8	18.3	381	
1977	DC4	1977	03	15.56821	10	03	56.08	+15	30	57.7	18.3	381	
1977	DH4	1977	03	12.54736	10	03	58.32	+16	06	14.3	18.6	381	
1977	DH4	1977	03	12.57583	10	03	56.80	+16	06	12.1	18.6	381	
1977	DL4	1977	03	12.54736	10	05	58.55	+14	15	10.9	18.2	381	
1977	DL4	1977	03	12.57583	10	05	57.08	+14	15	11.7	18.2	381	
1977	DN4	1977	03	12.54736	10	11	38.35	+15	02	18.7	18.3	381	
1977	DN4	1977	03	12.57583	10	11	37.20	+15	02	24.5	18.3	381	
1977	DN4	1977	03	15.54451	10	09	45.92	+15	12	35.0	18.7	381	
1977	DN4	1977	03	15.56821	10	09	45.02	+15	12	38.5	18.7	381	
1977	DO4	1977	03	12.54736	10	06	21.59	+13	45	13.9	18.6	381	
1977	DO4	1977	03	12.57583	10	06	20.08	+13	45	17.2	18.6	381	
1977	DO4	1977	03	15.54451	10	04	01.49	+13	51	08.6	18.3	381	
1977	DO4	1977	03	15.56821	10	04	00.44	+13	51	10.3	18.3	381	
1977	DS4	1977	03	12.54736	10	11	02.76	+16	25	17.2	18.8	381	
1977	DS4	1977	03	12.57583	10	11	01.43	+16	25	21.2	18.8	381	
1977	DX8	1977	03	12.54736	10	11	22.59	+14	21	28.6	18.2	381	
1977	DX8	1977	03	12.57583	10	11	21.15	+14	21	35.2	18.2	381	
1977	DX8	1977	03	15.54451	10	08	55.27	+14	34	03.2	18.2	381	
1977	DX8	1977	03	15.56821	10	08	53.85	+14	34	15.4	18.2	381	
1977	DY8	1977	03	12.54736	10	10	12.60	+16	15	45.0	17.5	381	
1977	DY8	1977	03	12.57583	10	10	10.93	+16	15	49.2	18.3	381	
1977	DY8	1977	03	15.54451	10	07	37.57	+16	22	51.4	18.0	381	
1977	DY8	1977	03	15.56821	10	07	36.17	+16	22	55.3	18.0	381	
1977	EF1	1977	04	10.63485	12	10	07.22	+00	26	39.8	17.7	381	
1977	EF1	1977	04	10.65017	12	10	06.62	+00	26	50.6	17.7	381	
1977	EK1	1977	04	10.63485	12	18	18.38	-02	03	23.2	17.3	381	
1977	EK1	1977	04	10.65017	12	18	17.68	-02	03	13.8	17.3	381	
1977	EN1	1977	03	15.64872	12	42	15.66	-01	05	37.7	17.3	381	
1977	EN1	1977	03	15.67229	12	42	14.66	-01	05	31.4	17.3	381	
1977	EN1	1977	04	10.63485	12	23	01.07	+00	51	14.2	17.8	381	
1977	EN1	1977	04	10.65017	12	23	00.48	+00	51	19.3	17.8	381	
1977	EQ1	1977	03	15.64872	12	44	57.45	-02	38	30.3	17.5	381	
1977	EQ1	1977	03	15.67229	12	44	56.13	-02	38	24.0	17.5	381	
1977	EQ1	1977	04	10.63485	12	19	49.14	-00	42	05.6	17.7	381	
1977	EQ1	1977	04	10.65017	12	19	48.45	-00	42	01.6	17.7	381	
1977	EY1	1977	03	15.64872	12	51	32.73	-01	56	21.6	17.3	381	
1977	EY1	1977	03	15.67229	12	51	31.28	-01	56	19.4	18.3	381	
1977	EY1	1977	04	10.63485	12	23	19.05	-01	08	14.0	17.5	381	
1977	EY1	1977	04	10.65017	12	23	18.12	-01	08	11.9	17.5	381	
1977	EH2	*	1977	03	12.54736	09	48	52.74	+12	10	30.3	18.0	381
1977	EH2		1977	03	12.57583	09	48	51.90	+12	10	30.4	18.0	381
1977	EJ2	*	1977	03	12.54736	09	48	55.21	+16	55	34.7	18.9	381
1977	EJ2		1977	03	12.57583	09	48	54.10	+16	55	40.2	18.9	381
1977	EK2	*	1977	03	12.54736	09	49	09.75	+13	33	50.7	18.2	381
1977	EK2		1977	03	12.57583	09	49	08.71	+13	34	00.7	18.2	381
1977	EL2	*	1977	03	12.54736	09	50	33.38	+12	12	45.3	18.8	381
1977	EL2		1977	03	12.57583	09	50	32.24	+12	12	54.0	18.8	381
1977	EM2	*	1977	03	12.54736	09	50	50.15	+14	58	19.8	19.0	381
1977	EM2		1977	03	12.57583	09	50	49.07	+14	58	17.3	19.0	381
1977	EN2	*	1977	03	12.54736	09	51	52.62	+13	08	15.7	18	381
1977	EN2		1977	03	12.57583	09	51	51.58	+13	08	25.7	18.5	381

1977	EN2		1977	03	15.54451	09	50	19.83	+13	25	34.8	18.8	381
1977	EN2		1977	03	15.56821	09	50	18.98	+13	25	42.6	18.8	381
1977	E02	*	1977	03	12.54736	09	53	06.50	+13	47	59.1	18.8	381
1977	E02		1977	03	12.57583	09	53	05.50	+13	48	10.8	18.8	381
1977	EP2	*	1977	03	12.54736	09	53	28.83	+14	33	01.1	18.2	381
1977	EP2		1977	03	12.57583	09	53	27.85	+14	33	38.3	18.2	381
1977	EP2		1977	03	15.54451	09	52	05.55	+15	37	32.3	18.3	381
1977	EP2		1977	03	15.56821	09	52	04.77	+15	38	03.2	18.3	381
1977	EQ2	*	1977	03	12.54736	09	54	04.32	+14	17	44.0	18.4	381
1977	EQ2		1977	03	12.57583	09	54	03.03	+14	17	52.7	18.4	381
1977	EQ2		1977	03	15.54451	09	51	58.31	+14	34	08.1	18.6	381
1977	EQ2		1977	03	15.56821	09	51	57.27	+14	34	14.1	18.6	381
1977	ER2	*	1977	03	12.54736	09	54	54.53	+14	59	25.4	18.9	381
1977	ER2		1977	03	12.57583	09	54	53.25	+14	59	33.5	18.9	381
1977	ES2	*	1977	03	12.54736	09	56	13.20	+14	03	25.7	18.9	381
1977	ES2		1977	03	12.57583	09	56	11.66	+14	03	34.7	18.9	381
1977	ET2	*	1977	03	12.54736	09	58	31.34	+15	02	07.5	18.8	381
1977	ET2		1977	03	12.57583	09	58	29.92	+15	02	11.1	18.8	381
1977	EU2	*	1977	03	12.54736	09	59	40.29	+12	30	38.5	18.8	381
1977	EU2		1977	03	12.57583	09	59	38.70	+12	30	38.0	18.8	381
1977	EU2		1977	03	15.54451	09	57	38.77	+12	29	10.3	18.6	381
1977	EU2		1977	03	15.56821	09	57	37.74	+12	29	16.1	18.6	381
1977	EV2	*	1977	03	12.54736	09	59	55.65	+17	36	36.3	18.3	381
1977	EV2		1977	03	12.57583	09	59	54.38	+17	36	40.5	18.3	381
1977	EV2		1977	03	15.54451	09	57	47.50	+17	44	33.9	18.5	381
1977	EV2		1977	03	15.56821	09	57	46.53	+17	44	33.6	18.5	381
1977	EV2		1977	04	10.53416	09	52	04.39	+17	29	18.6	17.5	381
1977	EV2		1977	04	10.55839	09	52	04.15	+17	29	16.7	17.5	381
1977	EW2		1977	03	12.54736	09	59	56.97	+12	16	42.2	18.6	381
1977	EW2		1977	03	12.57583	09	59	55.57	+12	16	49.0	18.6	381
1977	EX2	*	1977	03	12.54736	10	00	05.52	+16	59	45.1	19.0	381
1977	EX2		1977	03	12.57583	10	00	03.96	+16	59	49.9	19.0	381
1977	EY2	*	1977	03	12.54736	10	00	48.28	+13	30	04.9	18.8	381
1977	EY2		1977	03	12.57583	10	00	46.84	+13	30	10.9	18.8	381
1977	EZ2	*	1977	03	12.54736	10	01	50.94	+14	03	13.9	18.8	381
1977	EZ2		1977	03	12.57583	10	01	50.16	+14	03	15.1	18.8	381
1977	EA3	*	1977	03	12.54736	10	02	24.04	+13	11	48.6	18.9	381
1977	EA3		1977	03	12.57583	10	02	22.39	+13	11	50.7	18.9	381
1977	EB3	*	1977	03	12.54736	10	03	20.57	+15	49	22.0	19.0	381
1977	EB3		1977	03	12.57583	10	03	19.04	+15	49	29.9	19.0	381
1977	EC3	*	1977	03	12.54736	10	05	47.36	+12	55	10.8	18.6	381
1977	EC3		1977	03	12.57583	10	05	46.08	+12	55	20.6	18.6	381
1977	EC3		1977	03	15.54451	10	03	45.15	+13	12	52.3	18.8	381
1977	EC3		1977	03	15.56821	10	03	44.27	+13	13	01.4	18.8	381
1977	ED3	*	1977	03	12.54736	10	07	43.15	+12	11	52.9	18.4	381
1977	ED3		1977	03	12.57583	10	07	41.84	+12	11	57.7	18.4	381
1977	ED3		1977	03	15.54451	10	05	31.53	+12	20	43.8	18.2	381
1977	ED3		1977	03	15.56821	10	05	30.31	+12	20	48.2	18.2	381
1977	EE3	*	1977	03	12.54736	10	09	42.17	+17	17	54.4	18.9	381
1977	EE3		1977	03	12.57583	10	09	40.81	+17	17	58.5	18.9	381
1977	EE3		1977	03	15.54451	10	07	27.47	+17	24	52.9	18.9	381
1977	EE3		1977	03	15.56821	10	07	26.42	+17	24	54.9	18.9	381
1977	EF3	*	1977	03	12.54736	10	09	42.22	+14	42	48.9	18.3	381
1977	EF3		1977	03	12.57583	10	09	40.20	+14	42	23.0	18.3	381
1977	EF3		1977	03	15.54451	10	06	31.06	+13	59	49.8	18.2	381
1977	EF3		1977	03	15.56821	10	06	29.57	+13	59	30.0	18.2	381
1977	EG3	*	1977	03	12.54736	10	10	06.74	+14	35	39.7	18.9	381
1977	EG3		1977	03	12.57583	10	10	05.54	+14	35	42.6	18.9	381
1977	EH3	*	1977	03	12.54736	10	10	25.20	+14	09	58.2	19.0	381

1977	EH3		1977	03	12.57583	10	10	23.82	+14	10	04.0	19.0	381
1977	EJ3	*	1977	03	15.54451	09	52	10.34	+12	13	05.5	18.8	381
1977	EJ3		1977	03	15.56821	09	52	09.25	+12	13	12.3	18.8	381
1977	EK3	*	1977	03	15.54451	10	07	14.19	+13	08	19.8	18.8	381
1977	EK3		1977	03	15.56821	10	07	13.37	+13	08	28.8	18.8	381
1977	EL3	*	1977	03	15.64872	12	29	35.59	-00	55	43.6	17.8	381
1977	EL3		1977	03	15.67229	12	29	34.51	-00	55	33.3	17.8	381
1977	EM3	*	1977	03	15.64872	12	29	53.56	+00	25	22.5	17.8	381
1977	EM3		1977	03	15.67229	12	29	52.53	+00	25	29.9	17.8	381
1977	EN3	*	1977	03	15.64872	12	31	10.01	-01	42	02.0	17.8	381
1977	EN3		1977	03	15.67229	12	31	08.68	-01	41	49.4	17.8	381
1977	EO3	*	1977	03	15.64872	12	31	18.62	-01	03	29.5	17.5	381
1977	EO3		1977	03	15.67229	12	31	17.18	-01	03	25.6	17.5	381
1977	EP3	*	1977	03	15.64872	12	32	30.56	+00	41	35.8	17.3	381
1977	EP3		1977	03	15.67229	12	32	29.11	+00	41	37.6	17.3	381
1977	EQ3	*	1977	03	15.64872	12	33	04.50	+00	58	07.5	17.9	381
1977	EQ3		1977	03	15.67229	12	33	03.43	+00	58	13.3	17.9	381
1977	ER3	*	1977	03	15.64872	12	33	19.18	+02	49	13.8	18.0	381
1977	ER3		1977	03	15.67229	12	33	17.75	+02	49	15.3	18.0	381
1977	ES3	*	1977	03	15.64872	12	33	23.63	-02	42	34.4	17.8	381
1977	ES3		1977	03	15.67229	12	33	22.46	-02	42	27.3	17.8	381
1977	ET3	*	1977	03	15.64872	12	33	25.98	+00	17	34.6	18.1	381
1977	ET3		1977	03	15.67229	12	33	24.78	+00	17	41.8	18.1	381
1977	EU3	*	1977	03	15.64872	12	34	07.88	+02	58	54.1	18.0	381
1977	EU3		1977	03	15.67229	12	34	06.33	+02	59	02.9	18.0	381
1977	EV3	*	1977	03	15.64872	12	35	04.24	-01	25	28.3	18.0	381
1977	EV3		1977	03	15.67229	12	35	03.32	-01	25	22.9	18.0	381
1977	EW3	*	1977	03	15.64872	12	36	11.22	-01	24	12.4	18.2	381
1977	EW3		1977	03	15.67229	12	36	10.42	-01	24	07.3	18.2	381
1977	EX3	*	1977	03	15.64872	12	36	19.92	-00	01	44.3	18.0	381
1977	EX3		1977	03	15.67229	12	36	19.08	-00	01	28.7	18.0	381
1977	EY3	*	1977	03	15.64872	12	38	22.64	+01	00	22.6	18.0	381
1977	EY3		1977	03	15.67229	12	38	21.39	+01	00	32.9	18.0	381
1977	EZ3	*	1977	03	15.64872	12	38	49.39	+02	35	47.7	17.8	381
1977	EZ3		1977	03	15.67229	12	38	48.40	+02	36	04.0	17.8	381
1977	EA4	*	1977	03	15.64872	12	38	59.14	-00	13	28.7	18.1	381
1977	EA4		1977	03	15.67229	12	38	57.93	-00	13	19.9	18.1	381
1977	EB4	*	1977	03	15.64872	12	39	10.16	+01	50	03.3	17.8	381
1977	EB4		1977	03	15.67229	12	39	09.08	+01	50	11.8	17.8	381
1977	EC4	*	1977	03	15.64872	12	39	41.22	+02	53	03.0	17.3	381
1977	EC4		1977	03	15.67229	12	39	40.27	+02	53	19.7	17.3	381
1977	ED4	*	1977	03	15.64872	12	40	20.42	+00	31	26.4	18.0	381
1977	ED4		1977	03	15.67229	12	40	19.27	+00	31	30.8	18.0	381
1977	EE4	*	1977	03	15.64872	12	40	25.92	-00	42	00.8	17.8	381
1977	EE4		1977	03	15.67229	12	40	24.70	-00	41	54.0	17.8	381
1977	EF4	*	1977	03	15.64872	12	41	08.16	-00	59	57.4	18.2	381
1977	EF4		1977	03	15.67229	12	41	06.92	-00	59	52.9	18.2	381
1977	EG4	*	1977	03	15.64872	12	41	53.48	+01	39	22.6	17.2	381
1977	EG4		1977	03	15.67229	12	41	52.60	+01	39	35.3	17.2	381
1977	EH4	*	1977	03	15.64872	12	41	55.34	+00	46	13.1	18.0	381
1977	EH4		1977	03	15.67229	12	41	54.16	+00	46	24.2	18.0	381
1977	EJ4	*	1977	03	15.64872	12	42	06.84	-01	20	28.9	18.2	381
1977	EJ4		1977	03	15.67229	12	42	05.60	-01	20	16.4	18.2	381
1977	EK4	*	1977	03	15.64872	12	42	50.40	+00	41	31.5	17.8	381
1977	EK4		1977	03	15.67229	12	42	48.95	+00	41	40.3	17.8	381
1977	EL4	*	1977	03	15.64872	12	43	06.41	+01	02	55.5	18.2	381
1977	EL4		1977	03	15.67229	12	43	05.28	+01	03	05.6	18.2	381
1977	EM4	*	1977	03	15.64872	12	43	09.06	+02	22	18.4	18.1	381
1977	EM4		1977	03	15.67229	12	43	07.87	+02	22	26.9	18.1	381

1977	EN4	*	1977	03	15.64872	12	44	38.18	+01	01	03.5	17.8	381
1977	EN4		1977	03	15.67229	12	44	37.23	+01	01	14.8	17.8	381
1977	E04	*	1977	03	15.64872	12	45	29.39	-02	19	55.5	18.0	381
1977	E04		1977	03	15.67229	12	45	28.13	-02	19	48.9	18.0	381
1977	EP4	*	1977	03	15.64872	12	45	39.21	+01	30	38.4	17.6	381
1977	EP4		1977	03	15.67229	12	45	37.99	+01	30	48.5	17.6	381
1977	EQ4	*	1977	03	15.64872	12	45	39.92	+00	03	56.6	18.0	381
1977	EQ4		1977	03	15.67229	12	45	38.96	+00	04	07.4	18.0	381
1977	ER4	*	1977	03	15.64872	12	46	15.04	+02	01	47.4	17.8	381
1977	ER4		1977	03	15.67229	12	46	13.80	+02	01	58.1	17.8	381
1977	ES4	*	1977	03	15.64872	12	46	49.85	+00	40	18.0	17.0	381
1977	ES4		1977	03	15.67229	12	46	49.42	+00	39	51.2	17.0	381
1977	ET4	*	1977	03	15.64872	12	47	08.79	+01	33	00.9	17.6	381
1977	ET4		1977	03	15.67229	12	47	07.55	+01	33	10.3	18.0	381
1977	EU4	*	1977	03	15.64872	12	47	55.11	+00	48	56.9	17.8	381
1977	EU4		1977	03	15.67229	12	47	53.96	+00	49	05.2	17.8	381
1977	EV4	*	1977	03	15.64872	12	48	27.47	-02	22	19.4	17.9	381
1977	EV4		1977	03	15.67229	12	48	26.60	-02	22	13.4	17.9	381
1977	EW4	*	1977	03	15.64872	12	48	42.02	-00	37	07.2	17.8	381
1977	EW4		1977	03	15.67229	12	48	40.76	-00	37	03.8	17.8	381
1977	GC	*	1977	04	10.53416	09	29	05.67	+12	08	00.8	17.8	381
1977	GC		1977	04	10.55839	09	29	05.59	+12	08	04.2	17.8	381
1977	GD	*	1977	04	10.53416	09	30	32.52	+12	01	01.2	17.5	381
1977	GD		1977	04	10.55839	09	30	32.86	+12	00	55.6	17.5	381
1977	GE	*	1977	04	10.53416	09	31	15.39	+13	52	03.1	18.0	381
1977	GE		1977	04	10.55839	09	31	15.27	+13	52	05.2	18.0	381
1977	GF	*	1977	04	10.53416	09	33	21.32	+14	25	22.5	17.8	381
1977	GF		1977	04	10.55839	09	33	21.26	+14	25	23.7	17.8	381
1977	GG	*	1977	04	10.53416	09	33	25.84	+16	42	50.6	17.8	381
1977	GG		1977	04	10.55839	09	33	25.70	+16	42	50.1	17.8	381
1977	GH	*	1977	04	10.53416	09	36	08.95	+17	52	13.3	17.2	381
1977	GH		1977	04	10.55839	09	36	09.56	+17	52	18.3	17.2	381
1977	GJ	*	1977	04	10.53416	09	38	02.78	+17	48	31.7	17.7	381
1977	GJ		1977	04	10.55839	09	38	02.70	+17	48	33.0	17.7	381
1977	GK	*	1977	04	10.53416	09	40	34.19	+12	25	18.7	17.8	381
1977	GK		1977	04	10.55839	09	40	34.17	+12	25	18.6	17.8	381
1977	GL	*	1977	04	10.53416	09	40	44.01	+13	27	45.1	17.7	381
1977	GL		1977	04	10.55839	09	40	44.47	+13	27	45.8	17.7	381
1977	GM	*	1977	04	10.53416	09	41	03.92	+12	06	19.2	17.8	381
1977	GM		1977	04	10.55839	09	41	03.91	+12	06	18.6	17.8	381
1977	GN	*	1977	04	10.53416	09	43	11.06	+12	59	46.0	17.8	381
1977	GN		1977	04	10.55839	09	43	10.90	+12	59	47.5	17.8	381
1977	GO	*	1977	04	10.63485	12	08	17.31	-01	08	28.2	18.0	381
1977	GO		1977	04	10.65017	12	08	16.79	-01	08	23.0	18.0	381
1977	GP		1977	04	10.63485	12	09	31.13	+00	00	05.6	17.8	381
1977	GP		1977	04	10.65017	12	09	30.62	+00	00	12.7	17.8	381
1977	GQ	*	1977	04	10.63485	12	09	43.97	-02	55	23.8	17.8	381
1977	GQ		1977	04	10.65017	12	09	44.12	-02	55	23.2	17.8	381
1977	GR	*	1977	04	10.63485	12	12	47.90	-00	44	12.2	17.8	381
1977	GR		1977	04	10.65017	12	12	47.23	-00	44	06.4	17.8	381
1977	GS	*	1977	04	10.63485	12	16	39.11	-00	08	26.1	18.0	381
1977	GS		1977	04	10.65017	12	16	38.46	-00	08	18.4	18.0	381
1977	GT	*	1977	04	10.63485	12	18	26.42	+01	45	00.6	17.9	381
1977	GT		1977	04	10.65017	12	18	26.27	+01	45	02.4	17.9	381
1977	GU	*	1977	04	10.63485	12	24	40.45	-00	27	09.6	17.8	381
1977	GU		1977	04	10.65017	12	24	39.81	-00	27	04.8	17.8	381
1977	GV	*	1977	04	10.63485	12	26	59.42	-00	51	27.3	18.0	381
1977	GV		1977	04	10.65017	12	26	58.63	-00	51	23.3	18.0	381
1982	BM1		1977	03	12.54736	09	55	43.30	+16	13	01.4	17.8	381

1982 BM1	1977 03 12.57583	09 55 42.09	+16 13 05.4	17.8	381
1982 BM1	1977 03 15.54451	09 53 48.84	+16 20 03.9	17.9	381
1982 BM1	1977 03 15.56821	09 53 47.94	+16 20 07.5	17.9	381

OBSERVATIONS MADE WITH THE 1.2-M U.K. SCHMIDT TELESCOPE AT SIDING SPRING BY  
 J. DAWE, J. BARROW, M. HARTLEY, D. MORGAN, K. RUSSELL AND A. SAVAGE IN THE  
 COURSE OF THE U.K.-CALTECH ASTEROID SURVEY UNDER THE DIRECTION OF E. HELIN  
 AND E. SHOEMAKER. SCANNED AND MEASURED BY S. J. BUS (WITH ASSISTANCE FROM  
 R. S. DUNBAR).

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1981 DJ	* 1981 02 28.55482	12 06 35.48	-11 52 42.1	18.0V	413	
1981 DJ	1981 02 28.59996	12 06 34.09	-11 52 34.8		413	
1981 DJ	1981 03 06.54930	12 03 02.68	-11 30 41.2		413	
1981 DJ	1981 03 06.59096	12 03 01.11	-11 30 33.2		413	
1981 DJ	1981 03 08.60836	12 01 43.67	-11 21 44.8		413	
1981 DJ	1981 03 12.63230	11 59 02.67	-11 02 13.2		413	
1981 DJ	1981 03 12.67049	11 59 01.17	-11 02 03.1		413	
1981 DJ	1981 04 08.60186	11 41 00.20	-08 08 52.2		413	
1981 DJ	1981 04 08.63658	11 40 59.10	-08 08 39.2		413	
1981 DJ	1981 04 09.55619	11 40 28.46	-08 02 14.2		413	
1981 DJ	1981 04 09.59091	11 40 27.40	-08 02 00.9		413	
1981 DK	* 1981 02 28.55482	12 06 48.77	-14 27 06.6	18.5V	413	
1981 DK	1981 02 28.59996	12 06 47.31	-14 27 04.4		413	
1981 DK	1981 03 06.54930	12 02 51.41	-14 15 28.3		413	
1981 DK	1981 03 06.59096	12 02 49.72	-14 15 25.3		413	
1981 DK	1981 03 08.56669	12 01 26.95	-14 10 19.8		413	
1981 DK	1981 03 08.60836	12 01 25.23	-14 10 14.6		413	
1981 DK	1981 03 12.63230	11 58 31.57	-13 58 16.7		413	
1981 DK	1981 03 12.67049	11 58 30.02	-13 58 09.9		413	
1981 DK	1981 04 07.64623	11 39 57.63	-12 01 22.2		413	
1981 DK	1981 04 08.60186	11 39 22.06	-11 56 19.5		413	
1981 DK	1981 04 08.63658	11 39 20.84	-11 56 09.7		413	
1981 DK	1981 04 09.55619	11 38 47.28	-11 51 18.0		413	
1981 DK	1981 04 09.59091	11 38 46.15	-11 51 08.3		413	
1981 DL	* 1981 02 28.55482	12 08 27.54	-12 53 11.6	19.0V	413	
1981 DL	1981 02 28.59996	12 08 26.01	-12 53 04.0		413	
1981 DL	1981 03 08.56669	12 03 31.71	-12 22 14.1		413	
1981 DL	1981 03 08.60836	12 03 30.03	-12 22 04.4		413	
1981 DL	1981 03 12.63230	12 00 45.97	-12 02 15.1		413	
1981 DL	1981 03 12.67049	12 00 44.49	-12 02 04.1		413	
1981 DL	1981 04 08.63658	11 42 30.80	-09 03 59.5		413	
1981 DL	1981 04 09.55619	11 42 00.03	-08 57 21.5		413	
1981 DL	1981 04 09.59091	11 41 58.94	-08 57 07.6		413	
1981 DM	* 1981 02 28.55482	12 08 47.33	-13 06 03.9	18.0V	413	
1981 DM	1981 02 28.59996	12 08 45.63	-13 06 01.9		413	
1981 DM	1981 03 06.54930	12 04 23.27	-12 54 25.2		413	
1981 DM	1981 03 06.59096	12 04 21.08	-12 54 20.1		413	
1981 DM	1981 03 08.56669	12 02 44.85	-12 48 26.2		413	
1981 DM	1981 03 08.60836	12 02 42.77	-12 48 19.2		413	
1981 DM	1981 03 12.63230	11 59 14.95	-12 33 14.1		413	
1981 DM	1981 03 12.67049	11 59 13.00	-12 33 04.8		413	
1981 DM	1981 04 07.61151	11 36 19.78	-09 45 44.8		413	
1981 DM	1981 04 07.64623	11 36 18.33	-09 45 30.9		413	
1981 DM	1981 04 08.60186	11 35 37.05	-09 38 10.9		413	
1981 DM	1981 04 08.63658	11 35 35.66	-09 37 56.7		413	
1981 DM	1981 04 09.55619	11 34 57.09	-09 30 53.9		413	
1981 DM	1981 04 09.59091	11 34 55.71	-09 30 39.3		413	
1981 DN	* 1981 02 28.55482	12 08 49.12	-11 51 10.4	18.0V	413	
1981 DN	1981 02 28.59996	12 08 47.54	-11 51 17.6		413	

1981 DN		1981 03 06.54930	12 04 19.51	-12 03 44.5		413
1981 DN		1981 03 06.59096	12 04 17.56	-12 03 48.8		413
1981 DN		1981 03 08.56669	12 02 38.04	-12 05 45.3		413
1981 DN		1981 03 08.60836	12 02 35.92	-12 05 47.6		413
1981 DN		1981 03 12.63230	11 59 01.27	-12 06 29.3		413
1981 DN		1981 03 12.67049	11 58 59.25	-12 06 28.7		413
1981 DN		1981 04 07.61151	11 36 24.69	-10 53 07.4		413
1981 DN		1981 04 07.64623	11 36 23.21	-10 52 59.1		413
1981 DN		1981 04 08.60186	11 35 46.61	-10 48 53.0		413
1981 DN		1981 04 08.63658	11 35 45.40	-10 48 44.7		413
1981 DN		1981 04 09.55619	11 35 11.64	-10 44 48.7		413
1981 DN		1981 04 09.59091	11 35 10.41	-10 44 39.7		413
1981 DO	*	1981 02 28.55482	12 09 00.96	-15 12 27.3	19.0V	413
1981 DO		1981 02 28.59996	12 08 59.40	-15 12 16.9		413
1981 DO		1981 03 06.54930	12 05 11.17	-14 41 14.3		413
1981 DO		1981 03 06.59096	12 05 09.46	-14 41 01.3		413
1981 DO		1981 03 08.56669	12 03 45.67	-14 28 31.3		413
1981 DO		1981 03 08.60836	12 03 43.92	-14 28 16.2		413
1981 DO		1981 03 12.63230	12 00 43.53	-13 59 44.4		413
1981 DO		1981 03 12.67049	12 00 41.97	-13 59 29.4		413
1981 DO		1981 04 08.60186	11 39 57.63	-09 33 01.1		413
1981 DO		1981 04 08.63658	11 39 56.30	-09 32 39.6		413
1981 DO		1981 04 09.55619	11 39 21.46	-09 22 28.7		413
1981 DO		1981 04 09.59091	11 39 20.21	-09 22 08.5		413
1981 DP	*	1981 02 28.55482	12 09 39.89	-13 52 16.8	18.5V	413
1981 DP		1981 02 28.59996	12 09 38.25	-13 52 11.1		413
1981 DP		1981 03 06.54930	12 05 46.86	-13 31 33.4		413
1981 DP		1981 03 06.59096	12 05 45.05	-13 31 25.0		413
1981 DP		1981 03 08.56669	12 04 18.14	-13 22 04.6		413
1981 DP		1981 03 08.60836	12 04 16.28	-13 21 53.6		413
1981 DP		1981 03 12.63230	12 01 06.58	-12 59 21.1		413
1981 DP		1981 03 12.67049	12 01 04.87	-12 59 08.2		413
1981 DP		1981 04 07.61151	11 39 51.66	-09 11 49.8		413
1981 DP		1981 04 07.64623	11 39 50.34	-09 11 30.6		413
1981 DP		1981 04 08.60186	11 39 12.88	-09 01 53.8		413
1981 DP		1981 04 08.63658	11 39 11.52	-09 01 33.3		413
1981 DP		1981 04 09.55619	11 38 36.83	-08 52 17.8		413
1981 DP		1981 04 09.59091	11 38 35.62	-08 51 59.9		413
1981 DQ	*	1981 02 28.55482	12 09 43.11	-16 15 55.8	17.5V	413
1981 DQ		1981 02 28.59996	12 09 41.47	-16 15 45.6		413
1981 DQ		1981 03 06.54930	12 05 40.59	-15 45 39.3		413
1981 DQ		1981 03 06.59096	12 05 38.74	-15 45 27.3		413
1981 DQ		1981 03 08.56669	12 04 11.90	-15 33 26.5		413
1981 DQ		1981 03 08.60836	12 04 10.06	-15 33 12.5		413
1981 DQ		1981 03 12.63230	12 01 05.36	-15 06 02.1		413
1981 DQ		1981 03 12.67049	12 01 03.61	-15 05 46.6		413
1981 DQ		1981 04 07.61151	11 41 11.26	-11 08 10.8		413
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1981 DQ		1981 04 08.63658	11 40 32.33	-10 57 49.4		413
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1981 DR		1981 03 08.56669	12 04 30.12	-15 04 16.9		413
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1981 DX		1981 04 08.60186	11 46 03.80	-09 24 00.1		413
1981 DX		1981 04 08.63658	11 46 02.60	-09 23 49.4		413
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1981 DX		1981 04 09.59091	11 45 27.80	-09 18 33.4		413
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1981 DB1		1981 03 06.59096	12 11 15.02	-11 18 45.6		413

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1981 DB1	1981 03	08.60836	12 10	00.52	-11 08	48.9		413
1981 DB1	1981 03	12.63230	12 07	26.28	-10 47	26.2		413
1981 DB1	1981 03	12.67049	12 07	24.84	-10 47	14.5		413
1981 DB1	1981 04	08.63658	11 49	34.05	-07 50	12.2		413
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1981 DC1	1981 03	06.59096	12 11	30.17	-12 15	16.5		413
1981 DC1	1981 03	08.56669	12 10	11.83	-12 02	10.1		413
1981 DC1	1981 03	08.60836	12 10	10.18	-12 01	53.8		413
1981 DC1	1981 03	12.63230	12 07	19.51	-11 32	13.8		413
1981 DC1	1981 03	12.67049	12 07	17.71	-11 31	56.9		413
1981 DC1	1981 04	09.50909	11 46	12.86	-06 53	51.4		413
1981 DC1	1981 04	09.54382	11 46	11.49	-06 53	30.1		413
1981 DD1 *	1981 02	28.55482	12 15	36.34	-12 41	27.7	18.5V	413
1981 DD1	1981 02	28.59996	12 15	34.17	-12 41	36.1		413
1981 DD1	1981 03	06.54930	12 10	01.77	-12 57	16.5		413
1981 DD1	1981 03	06.59096	12 09	59.46	-12 57	23.6		413
1981 DD1	1981 03	08.56669	12 08	00.43	-13 00	57.3		413
1981 DD1	1981 03	12.63230	12 03	45.27	-13 05	51.0		413
1981 DD1	1981 04	08.60186	11 35	45.57	-12 30	43.2		413
1981 DD1	1981 04	08.63658	11 35	43.84	-12 30	39.7		413
1981 DD1	1981 04	09.55619	11 34	56.80	-12 28	10.4		413
1981 DD1	1981 04	09.59091	11 34	55.20	-12 28	05.0		413
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1981 DE1	1981 03	06.59096	12 11	56.35	-12 43	50.5		413
1981 DE1	1981 03	08.56669	12 10	13.08	-12 36	18.8		413
1981 DE1	1981 03	08.60836	12 10	10.88	-12 36	10.0		413
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1981 DE1	1981 03	12.67049	12 06	27.77	-12 17	53.9		413
1981 DE1	1981 04	07.61151	11 42	19.71	-09 21	36.2		413
1981 DE1	1981 04	07.64623	11 42	18.20	-09 21	21.9		413
1981 DE1	1981 04	08.60186	11 41	33.60	-09 14	01.5		413
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1981 DE1	1981 04	09.59091	11 40	48.90	-09 06	28.7		413
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1981 DP1	1981 02	28.59996	12 16	52.68	-13 53	01.3		413
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1981 DF1	1981 03	12.63230	12 07	47.28	-13 51	02.1		413
1981 DF1	1981 03	12.67049	12 07	45.53	-13 50	59.9		413
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1981 DF1	1981 04	08.63658	11 45	02.07	-12 34	04.5		413
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1981 DG1	1981 03	08.56669	12 10	41.10	-15 47	37.5		413
1981 DG1	1981 03	08.60836	12 10	38.95	-15 47	35.4		413
1981 DG1	1981 03	12.63230	12 07	03.22	-15 41	16.1		413
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1981 DG1	1981 04	07.64623	11 43	20.66	-14 04	08.2		413

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1981 DG1	1981 04 08.63658	11 42 32.78	-13 59 10.3	413
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1981 DG1	1981 04 09.59091	11 41 47.73	-13 54 22.7	413
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1981 DH1	1981 03 08.56669	12 12 11.60	-11 53 28.3	413
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1981 DH1	1981 03 12.67049	12 09 18.39	-11 40 13.9	413
1981 DH1	1981 04 09.55619	11 49 17.57	-09 32 41.1	413
1981 DH1	1981 04 09.59091	11 49 16.30	-09 32 31.1	413
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1981 DJ1	1981 03 06.54930	12 13 14.24	-12 34 30.6	413
1981 DJ1	1981 03 06.59096	12 13 12.36	-12 34 27.3	413
1981 DJ1	1981 03 08.56669	12 11 38.09	-12 30 08.0	413
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1981 DJ1	1981 03 12.67049	12 08 08.89	-12 18 00.3	413
1981 DJ1	1981 04 08.60186	11 44 06.83	-09 42 16.3	413
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1981 DK1	1981 04 08.63658	11 44 23.36	-07 50 35.1	413
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1981 DL1	1981 03 08.56669	12 12 17.90	-14 46 52.0	413
1981 DL1	1981 03 08.60836	12 12 16.18	-14 46 50.0	413
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1981 DL1	1981 03 12.67049	12 09 12.48	-14 42 37.2	413
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1981 DM1 *	1981 02 28.55482	12 17 53.13	-12 53 02.5	15.5V 413
1981 DM1	1981 02 28.59996	12 17 51.82	-12 52 49.1	413
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1981 DM1	1981 03 06.59096	12 14 42.83	-12 16 14.4	413
1981 DM1	1981 03 08.56669	12 13 31.84	-12 02 02.9	413
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1981 DM1	1981 03 12.63230	12 10 54.58	-11 29 53.5	413
1981 DM1	1981 03 12.67049	12 10 52.99	-11 29 35.1	413
1981 DM1	1981 04 06.61147	11 53 40.61	-07 15 16.6	413
1981 DM1	1981 04 06.64619	11 53 39.31	-07 14 54.6	413
1981 DM1	1981 04 08.55338	11 52 33.58	-06 54 14.5	413
1981 DM1	1981 04 08.58810	11 52 32.36	-06 53 52.7	413
1981 DM1	1981 04 09.50909	11 52 02.14	-06 43 59.2	413
1981 DM1	1981 04 09.54382	11 52 00.93	-06 43 37.6	413
1981 DN1 *	1981 02 28.55482	12 18 26.85	-14 15 36.3	18.5V 413
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1981 DN1	1981 03 06.59096	12 13 49.71	-14 09 14.0	413

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1981 DN1	1981 04 09.55619	11 44 02.63	-11 56 58.4	413
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1981 DO1	1981 03 08.56669	12 13 42.64	-14 28 57.8	413
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1981 DO1	1981 03 12.63230	12 10 40.49	-14 26 56.2	413
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1981 DO1	1981 04 08.60186	11 48 24.07	-12 27 50.2	413
1981 DO1	1981 04 08.63658	11 48 22.70	-12 27 37.4	413
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1981 DP1	1981 03 06.59096	12 14 25.76	-12 41 26.1	413
1981 DP1	1981 03 08.56669	12 12 51.62	-12 33 55.3	413
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1981 DP1	1981 03 12.67049	12 09 23.53	-12 15 25.2	413
1981 DP1	1981 04 08.60186	11 44 53.42	-09 02 44.9	413
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1981 DP1	1981 04 09.59091	11 44 06.76	-08 54 31.7	413
1981 DQ1 *	1981 02 28.55482	12 19 25.06	-14 50 18.9	18.5V 413
1981 DQ1	1981 02 28.59996	12 19 23.49	-14 50 19.0	413
1981 DQ1	1981 03 06.54930	12 15 04.66	-14 44 50.9	413
1981 DQ1	1981 03 06.59096	12 15 02.70	-14 44 49.4	413
1981 DQ1	1981 03 08.60836	12 13 27.47	-14 41 16.8	413
1981 DQ1	1981 03 12.63230	12 10 08.51	-14 31 47.5	413
1981 DQ1	1981 03 12.67049	12 10 06.65	-14 31 41.7	413
1981 DQ1	1981 04 07.61151	11 48 17.69	-12 32 11.4	413
1981 DQ1	1981 04 07.64623	11 48 16.05	-12 31 58.8	413
1981 DQ1	1981 04 08.60186	11 47 34.84	-12 26 28.9	413
1981 DQ1	1981 04 08.63658	11 47 33.39	-12 26 17.8	413
1981 DQ1	1981 04 09.55619	11 46 54.64	-12 20 58.9	413
1981 DQ1	1981 04 09.59091	11 46 53.24	-12 20 47.4	413
1981 DR1 *	1981 02 28.55482	12 19 27.85	-16 41 41.3	18.0V 413
1981 DR1	1981 02 28.59996	12 19 26.56	-16 41 33.6	413
1981 DR1	1981 03 06.54930	12 15 58.73	-16 16 35.9	413
1981 DR1	1981 03 06.59096	12 15 57.18	-16 16 25.7	413
1981 DR1	1981 03 08.56669	12 14 38.80	-16 05 53.0	413
1981 DR1	1981 03 08.60836	12 14 37.15	-16 05 40.5	413
1981 DR1	1981 03 12.63230	12 11 45.85	-15 40 49.5	413
1981 DR1	1981 03 12.67049	12 11 44.16	-15 40 34.2	413
1981 DR1	1981 04 07.64623	11 51 24.74	-11 35 24.8	413
1981 DR1	1981 04 08.60186	11 50 45.24	-11 24 46.3	413
1981 DR1	1981 04 08.63658	11 50 43.80	-11 24 23.4	413
1981 DR1	1981 04 09.59091	11 50 05.23	-11 13 43.3	413
1981 DS1 *	1981 02 28.55482	12 19 34.31	-14 35 42.8	19.0V 413
1981 DS1	1981 03 06.54930	12 15 05.17	-14 29 15.2	413
1981 DS1	1981 03 06.59096	12 15 03.25	-14 29 13.2	413

1981 DS1	1981 03	08.56669	12 13	26.87	-14 25	30.9		413
1981 DS1	1981 03	08.60836	12 13	24.87	-14 25	26.9		413
1981 DS1	1981 03	12.63230	12 09	59.58	-14 15	36.8		413
1981 DS1	1981 03	12.67049	12 09	57.67	-14 15	31.0		413
1981 DS1	1981 04	08.60186	11 46	16.74	-12 09	47.0		413
1981 DS1	1981 04	08.63658	11 46	15.17	-12 09	34.5		413
1981 DS1	1981 04	09.55619	11 45	32.98	-12 04	12.4		413
1981 DS1	1981 04	09.59091	11 45	31.58	-12 04	01.7		413
1981 DT1 *	1981 02	28.55482	12 20	19.84	-15 11	15.2	18.0V	413
1981 DT1	1981 02	28.59996	12 20	18.78	-15 11	13.9		413
1981 DT1	1981 03	06.54930	12 17	18.91	-15 01	49.8		413
1981 DT1	1981 03	06.59096	12 17	17.45	-15 01	45.7		413
1981 DT1	1981 03	08.56669	12 16	07.63	-14 56	26.2		413
1981 DT1	1981 03	08.60836	12 16	06.16	-14 56	20.0		413
1981 DT1	1981 03	12.63230	12 13	30.86	-14 42	15.3		413
1981 DT1	1981 03	12.67049	12 13	29.35	-14 42	06.5		413
1981 DT1	1981 04	07.61151	11 54	39.93	-11 47	34.8		413
1981 DT1	1981 04	07.64623	11 54	38.69	-11 47	18.8		413
1981 DT1	1981 04	08.60186	11 54	02.64	-11 39	11.9		413
1981 DT1	1981 04	08.63658	11 54	01.36	-11 38	54.7		413
1981 DT1	1981 04	09.55619	11 53	27.74	-11 31	04.1		413
1981 DT1	1981 04	09.59091	11 53	26.46	-11 30	46.6		413
1981 DU1 *	1981 02	28.55482	12 20	42.88	-16 44	58.2	18.5V	413
1981 DU1	1981 02	28.59996	12 20	41.48	-16 44	52.1		413
1981 DU1	1981 03	06.54930	12 16	54.51	-16 24	25.1		413
1981 DU1	1981 03	06.59096	12 16	52.88	-16 24	16.8		413
1981 DU1	1981 03	08.56669	12 15	31.18	-16 15	54.3		413
1981 DU1	1981 03	08.60836	12 15	29.43	-16 15	43.8		413
1981 DU1	1981 03	12.63230	12 12	35.46	-15 56	22.5		413
1981 DU1	1981 04	08.60186	11 52	38.89	-12 49	15.6		413
1981 DU1	1981 04	08.63658	11 52	37.50	-12 48	59.1		413
1981 DU1	1981 04	09.55619	11 52	02.41	-12 41	40.7		413
1981 DU1	1981 04	09.59091	11 52	01.16	-12 41	25.0		413
1981 DV1 *	1981 02	28.59996	12 20	43.46	-13 10	52.4	19.0V	413
1981 DV1	1981 03	06.54930	12 16	46.44	-13 12	19.0		413
1981 DV1	1981 03	06.59096	12 16	44.75	-13 12	20.3		413
1981 DV1	1981 03	08.56669	12 15	18.86	-13 11	32.2		413
1981 DV1	1981 03	08.60836	12 15	17.16	-13 11	31.6		413
1981 DV1	1981 03	12.63230	12 12	13.29	-13 08	01.5		413
1981 DV1	1981 03	12.67049	12 12	11.66	-13 07	59.1		413
1981 DV1	1981 04	08.60186	11 50	27.97	-11 53	11.8		413
1981 DV1	1981 04	08.63658	11 50	26.49	-11 53	04.5		413
1981 DV1	1981 04	09.55619	11 49	46.55	-11 49	32.9		413
1981 DV1	1981 04	09.59091	11 49	45.08	-11 49	23.9		413
1981 DW1 *	1981 02	28.55482	12 21	09.21	-13 26	16.2	19.5V	413
1981 DW1	1981 02	28.59996	12 21	07.82	-13 26	15.9		413
1981 DW1	1981 03	06.54930	12 17	45.05	-13 22	37.5		413
1981 DW1	1981 03	08.56669	12 16	25.12	-13 19	23.2		413
1981 DW1	1981 03	08.60836	12 16	23.43	-13 19	19.7		413
1981 DW1	1981 03	12.63230	12 13	30.91	-13 09	50.8		413
1981 DW1	1981 03	12.67049	12 13	29.18	-13 09	42.7		413
1981 DW1	1981 04	09.55619	11 51	21.14	-10 39	41.8		413
1981 DW1	1981 04	09.59091	11 51	19.58	-10 39	26.8		413
1981 DX1 *	1981 02	28.55482	12 21	29.25	-15 50	30.0	19.0V	413
1981 DX1	1981 02	28.59996	12 21	27.07	-15 50	33.9		413
1981 DX1	1981 03	06.54930	12 16	39.78	-15 51	08.7		413
1981 DX1	1981 03	06.59096	12 16	37.94	-15 51	09.8		413
1981 DX1	1981 03	08.56669	12 14	55.07	-15 49	49.5		413
1981 DX1	1981 03	08.60836	12 14	52.99	-15 49	48.7		413

1981 DX1	1981 03	12.63230	12 11	14.81	-15 44	52.6	413
1981 DX1	1981 03	12.67049	12 11	12.83	-15 44	48.9	413
1981 DX1	1981 04	09.55619	11 45	26.73	-14 04	56.3	413
1981 DX1	1981 04	09.59091	11 45	25.16	-14 04	46.7	413
1981 DY1 *	1981 02	28.55482	12 22	03.47	-13 50	31.1	19.0V 413
1981 DY1	1981 02	28.59996	12 22	01.94	-13 50	37.4	413
1981 DY1	1981 03	06.54930	12 17	58.53	-14 02	32.0	413
1981 DY1	1981 03	06.59096	12 17	56.73	-14 02	36.9	413
1981 DY1	1981 03	08.60836	12 16	25.63	-14 05	20.4	413
1981 DY1	1981 03	12.63230	12 13	13.45	-14 08	46.6	413
1981 DY1	1981 03	12.67049	12 13	11.67	-14 08	47.1	413
1981 DY1	1981 04	08.60186	11 49	46.36	-13 32	53.7	413
1981 DY1	1981 04	08.63658	11 49	44.81	-13 32	48.1	413
1981 DY1	1981 04	09.55619	11 49	00.96	-13 30	16.9	413
1981 DY1	1981 04	09.59091	11 48	59.48	-13 30	11.6	413
1981 DZ1 *	1981 02	28.55482	12 22	12.16	-16 51	55.7	18.0V 413
1981 DZ1	1981 02	28.59996	12 22	10.94	-16 51	40.7	413
1981 DZ1	1981 03	06.54930	12 19	12.49	-16 12	26.6	413
1981 DZ1	1981 03	06.59096	12 19	11.14	-16 12	11.0	413
1981 DZ1	1981 03	08.56669	12 18	05.40	-15 57	23.2	413
1981 DZ1	1981 03	08.60836	12 18	04.01	-15 57	05.6	413
1981 DZ1	1981 03	12.63230	12 15	42.13	-15 24	25.0	413
1981 DZ1	1981 03	12.67049	12 15	40.81	-15 24	06.6	413
1981 DZ1	1981 04	07.61151	11 59	22.23	-10 55	55.5	413
1981 DZ1	1981 04	07.64623	11 59	21.27	-10 55	36.7	413
1981 DZ1	1981 04	08.63658	11 58	47.90	-10 44	20.6	413
1981 DZ1	1981 04	09.55619	11 58	17.84	-10 33	57.3	413
1981 DZ1	1981 04	09.59091	11 58	16.74	-10 33	35.2	413
1981 DA2 *	1981 02	28.55482	12 22	50.02	-11 28	28.1	19.5V 413
1981 DA2	1981 03	06.54930	12 19	09.72	-11 17	23.5	413
1981 DA2	1981 03	06.59096	12 19	08.16	-11 17	19.1	413
1981 DA2	1981 03	08.56669	12 17	49.69	-11 12	36.1	413
1981 DA2	1981 03	08.60836	12 17	48.03	-11 12	30.8	413
1981 DA2	1981 03	12.63230	12 15	01.46	-11 01	27.2	413
1981 DA2	1981 03	12.67049	12 14	59.88	-11 01	19.4	413
1981 DA2	1981 04	09.55619	11 54	55.48	-09 07	15.9	413
1981 DA2	1981 04	09.59091	11 54	54.11	-09 07	06.2	413
1981 DB2 *	1981 02	28.55482	12 24	19.42	-13 22	11.7	18.0V 413
1981 DB2	1981 02	28.59996	12 24	17.96	-13 22	11.9	413
1981 DB2	1981 03	06.54930	12 20	12.41	-13 17	53.6	413
1981 DB2	1981 03	06.59096	12 20	10.63	-13 17	52.2	413
1981 DB2	1981 03	08.56669	12 18	39.62	-13 14	32.4	413
1981 DB2	1981 03	08.60836	12 18	37.66	-13 14	29.1	413
1981 DB2	1981 03	12.63230	12 15	20.86	-13 05	00.2	413
1981 DB2	1981 03	12.67049	12 15	18.96	-13 04	54.2	413
1981 DB2	1981 04	08.60186	11 52	33.02	-10 53	53.6	413
1981 DB2	1981 04	08.63658	11 52	31.50	-10 53	40.1	413
1981 DB2	1981 04	09.55619	11 51	53.30	-10 48	12.0	413
1981 DB2	1981 04	09.59091	11 51	51.93	-10 48	00.6	413
1981 DC2 *	1981 02	28.55482	12 24	23.23	-15 09	28.4	18.5V 413
1981 DC2	1981 02	28.59996	12 24	21.83	-15 09	20.0	413
1981 DC2	1981 03	06.54930	12 20	39.96	-14 47	04.5	413
1981 DC2	1981 03	06.59096	12 20	38.48	-14 46	56.1	413
1981 DC2	1981 03	08.56669	12 19	17.06	-14 37	54.8	413
1981 DC2	1981 03	08.60836	12 19	15.38	-14 37	44.1	413
1981 DC2	1981 03	12.63230	12 16	20.73	-14 17	06.4	413
1981 DC2	1981 03	12.67049	12 16	19.14	-14 16	54.7	413
1981 DC2	1981 04	07.61151	11 55	52.51	-11 06	33.0	413
1981 DC2	1981 04	08.60186	11 55	09.20	-10 58	07.4	413

1981 DC2	1981 04	08.63658	11 55	07.73	-10 57	50.2	413
1981 DC2	1981 04	09.55619	11 54	28.20	-10 50	00.7	413
1981 DC2	1981 04	09.59091	11 54	26.77	-10 49	44.0	413
1981 DD2 *	1981 02	28.55482	12 24	39.78	-14 55	04.3	19.0V 413
1981 DD2	1981 02	28.59996	12 24	38.45	-14 55	02.2	413
1981 DD2	1981 03	06.54930	12 21	08.03	-14 46	57.7	413
1981 DD2	1981 03	08.56669	12 19	48.74	-14 42	37.4	413
1981 DD2	1981 03	08.60836	12 19	47.19	-14 42	31.9	413
1981 DD2	1981 03	12.63230	12 16	59.46	-14 31	32.2	413
1981 DD2	1981 04	09.55619	11 56	15.54	-12 10	55.0	413
1981 DD2	1981 04	09.59091	11 56	14.25	-12 10	43.4	413
1981 DE2 *	1981 02	28.55482	12 25	13.53	-11 47	10.6	17.5V 413
1981 DE2	1981 02	28.59996	12 25	12.02	-11 47	10.8	413
1981 DE2	1981 03	06.54930	12 21	16.76	-11 45	47.2	413
1981 DE2	1981 03	06.59096	12 21	15.05	-11 45	46.1	413
1981 DE2	1981 03	08.56669	12 19	49.45	-11 44	02.3	413
1981 DE2	1981 03	08.60836	12 19	47.68	-11 44	00.1	413
1981 DE2	1981 03	12.63230	12 16	44.04	-11 38	41.7	413
1981 DE2	1981 03	12.67049	12 16	42.26	-11 38	37.8	413
1981 DE2	1981 04	07.61151	11 55	37.66	-10 20	03.8	413
1981 DE2	1981 04	07.64623	11 55	36.25	-10 19	56.4	413
1981 DE2	1981 04	08.60186	11 54	53.92	-10 16	11.9	413
1981 DE2	1981 04	08.63658	11 54	52.39	-10 16	03.3	413
1981 DE2	1981 04	09.55619	11 54	12.52	-10 12	27.1	413
1981 DE2	1981 04	09.59091	11 54	11.09	-10 12	19.0	413
1981 DF2 *	1981 02	28.55482	12 25	16.01	-14 06	59.1	18.5V 413
1981 DF2	1981 02	28.59996	12 25	14.06	-14 06	52.3	413
1981 DF2	1981 03	06.54930	12 20	42.53	-13 48	42.4	413
1981 DF2	1981 03	08.56669	12 19	02.35	-13 40	54.3	413
1981 DF2	1981 03	08.60836	12 19	00.34	-13 40	44.9	413
1981 DF2	1981 03	12.63230	12 15	30.09	-13 22	41.3	413
1981 DF2	1981 03	12.67049	12 15	28.13	-13 22	31.1	413
1981 DF2	1981 04	08.60186	11 50	56.55	-10 22	50.7	413
1981 DF2	1981 04	08.63658	11 50	54.95	-10 22	36.3	413
1981 DF2	1981 04	09.55619	11 50	10.81	-10 15	35.2	413
1981 DF2	1981 04	09.59091	11 50	09.31	-10 15	20.2	413
1981 DG2 *	1981 02	28.55482	12 25	16.64	-12 06	12.9	18.5V 413
1981 DG2	1981 02	28.59996	12 25	15.40	-12 06	04.8	413
1981 DG2	1981 03	06.54930	12 21	55.22	-11 43	59.7	413
1981 DG2	1981 03	06.59096	12 21	53.90	-11 43	52.2	413
1981 DG2	1981 03	08.56669	12 20	41.25	-11 35	18.3	413
1981 DG2	1981 03	08.60836	12 20	39.78	-11 35	08.7	413
1981 DG2	1981 03	12.63230	12 18	04.30	-11 16	07.4	413
1981 DG2	1981 03	12.67049	12 18	02.78	-11 15	55.5	413
1981 DG2	1981 04	08.60186	11 59	19.46	-08 28	11.3	413
1981 DG2	1981 04	09.55619	11 58	42.99	-08 21	40.4	413
1981 DG2	1981 04	09.59091	11 58	41.61	-08 21	26.0	413
1981 DH2 *	1981 02	28.59996	12 25	23.37	-16 47	34.0	19.5V 413
1981 DH2	1981 03	06.54930	12 21	43.82	-16 22	45.2	413
1981 DH2	1981 03	06.59096	12 21	42.32	-16 22	35.4	413
1981 DH2	1981 03	08.56669	12 20	21.94	-16 12	33.8	413
1981 DH2	1981 03	08.60836	12 20	20.30	-16 12	21.9	413
1981 DH2	1981 03	12.63230	12 17	27.95	-15 49	23.8	413
1981 DH2	1981 03	12.67049	12 17	26.27	-15 49	09.8	413
1981 DH2	1981 04	09.55619	11 56	37.71	-12 03	12.7	413
1981 DH2	1981 04	09.59091	11 56	36.56	-12 02	57.2	413
1981 DJ2 *	1981 02	28.55482	12 25	41.45	-14 30	01.1	18.5V 413
1981 DJ2	1981 02	28.59996	12 25	40.19	-14 29	51.0	413
1981 DJ2	1981 03	06.54930	12 22	08.94	-14 01	29.6	413



1981 DJ2	1981 03 06.59096	12 22 07.47	-14 01 18.7	413
1981 DJ2	1981 03 08.56669	12 20 50.44	-13 50 24.8	413
1981 DJ2	1981 03 08.60836	12 20 48.88	-13 50 12.1	413
1981 DJ2	1981 03 12.63230	12 18 04.42	-13 25 57.6	413
1981 DJ2	1981 03 12.67049	12 18 02.85	-13 25 43.7	413
1981 DJ2	1981 04 08.60186	11 58 28.04	-09 53 12.7	413
1981 DJ2	1981 04 08.63658	11 58 26.78	-09 52 56.0	413
1981 DJ2	1981 04 09.55619	11 57 50.47	-09 44 54.9	413
1981 DJ2	1981 04 09.59091	11 57 49.18	-09 44 38.2	413
1981 DK2 *	1981 02 28.55482	12 25 53.40	-11 49 46.3	18.0V 413
1981 DK2	1981 02 28.59996	12 25 52.27	-11 49 57.1	413
1981 DK2	1981 03 06.54930	12 22 40.35	-12 12 29.6	413
1981 DK2	1981 03 06.59096	12 22 38.79	-12 12 38.2	413
1981 DK2	1981 03 08.56669	12 21 22.08	-12 18 07.7	413
1981 DK2	1981 03 08.60836	12 21 20.40	-12 18 14.0	413
1981 DK2	1981 03 12.63230	12 18 27.40	-12 26 22.9	413
1981 DK2	1981 03 12.67049	12 18 25.70	-12 26 25.9	413
1981 DK2	1981 04 07.61151	11 57 14.47	-11 56 41.0	413
1981 DK2	1981 04 07.64623	11 57 12.99	-11 56 33.7	413
1981 DK2	1981 04 08.60186	11 56 33.63	-11 53 39.8	413
1981 DK2	1981 04 08.63658	11 56 32.26	-11 53 32.9	413
1981 DK2	1981 04 09.55619	11 55 55.76	-11 50 42.3	413
1981 DK2	1981 04 09.59091	11 55 54.38	-11 50 35.2	413
1981 DL2 *	1981 02 28.55482	12 27 04.00	-12 03 26.0	19.0V 413
1981 DL2	1981 03 06.59096	12 22 30.00	-12 16 25.4	413
1981 DL2	1981 03 08.56669	12 20 47.39	-12 18 55.0	413
1981 DL2	1981 03 08.60836	12 20 45.35	-12 18 57.6	413
1981 DL2	1981 03 12.63230	12 16 59.61	-12 21 23.3	413
1981 DL2	1981 03 12.67049	12 16 57.50	-12 21 23.0	413
1981 DL2	1981 04 09.55619	11 47 41.45	-11 15 57.7	413
1981 DL2	1981 04 09.59091	11 47 39.54	-11 15 49.0	413
1981 DM2 *	1981 02 28.55482	12 27 30.84	-13 12 31.6	19.0V 413
1981 DM2	1981 02 28.59996	12 27 29.18	-13 12 31.2	413
1981 DM2	1981 03 06.54930	12 23 26.92	-13 10 16.8	413
1981 DM2	1981 03 06.59096	12 23 25.37	-13 10 15.4	413
1981 DM2	1981 03 08.56669	12 21 57.76	-13 08 15.6	413
1981 DM2	1981 03 08.60836	12 21 55.99	-13 08 14.2	413
1981 DM2	1981 03 12.63230	12 18 49.21	-13 02 26.1	413
1981 DM2	1981 03 12.67049	12 18 47.44	-13 02 22.6	413
1981 DM2	1981 04 09.55619	11 55 59.18	-11 32 21.2	413
1981 DN2 *	1981 02 28.55482	12 27 39.17	-15 34 25.5	19.0V 413
1981 DN2	1981 02 28.59996	12 27 37.93	-15 34 20.7	413
1981 DN2	1981 03 06.54930	12 24 10.87	-15 18 17.5	413
1981 DN2	1981 03 06.59096	12 24 09.38	-15 18 09.7	413
1981 DN2	1981 03 08.56669	12 22 54.14	-15 11 28.1	413
1981 DN2	1981 04 09.55619	12 00 19.35	-12 13 43.0	413
1981 DN2	1981 04 09.59091	12 00 18.17	-12 13 30.1	413
1981 DO2 *	1981 02 28.55482	12 28 13.32	-13 44 31.4	15.5V 413
1981 DO2	1981 02 28.59996	12 28 11.94	-13 44 34.2	413
1981 DO2	1981 03 06.54930	12 24 33.70	-13 45 49.8	413
1981 DO2	1981 03 06.59096	12 24 31.98	-13 45 49.3	413
1981 DO2	1981 03 08.56669	12 23 05.89	-13 43 57.4	413
1981 DO2	1981 03 08.60836	12 23 03.98	-13 43 55.0	413
1981 DO2	1981 03 12.63230	12 19 51.18	-13 36 41.8	413
1981 DO2	1981 03 12.67049	12 19 49.17	-13 36 36.5	413
1981 DO2	1981 04 07.61151	11 55 37.02	-11 18 29.7	413
1981 DO2	1981 04 07.64623	11 55 35.14	-11 18 14.4	413
1981 DO2	1981 04 08.60186	11 54 47.52	-11 11 16.9	413
1981 DO2	1981 04 08.63658	11 54 45.78	-11 11 01.2	413

1981 DO2	1981 04 09.55619	11 54 01.18	-11 04 17.4	413
1981 DO2	1981 04 09.59091	11 53 59.47	-11 04 02.0	413
1981 DP2 *	1981 02 28.55482	12 28 57.45	-14 45 20.6	17.0V 413
1981 DP2	1981 02 28.59996	12 28 55.96	-14 45 21.2	413
1981 DP2	1981 03 06.54930	12 25 07.67	-14 43 17.9	413
1981 DP2	1981 03 06.59096	12 25 06.06	-14 43 17.7	413
1981 DP2	1981 03 08.56669	12 23 42.83	-14 41 15.1	413
1981 DP2	1981 03 08.60836	12 23 41.10	-14 41 12.5	413
1981 DP2	1981 03 12.63230	12 20 42.97	-14 35 05.8	413
1981 DP2	1981 03 12.67049	12 20 41.27	-14 35 01.3	413
1981 DP2	1981 04 07.61151	12 00 04.71	-13 04 46.6	413
1981 DP2	1981 04 07.64623	12 00 03.28	-13 04 36.6	413
1981 DP2	1981 04 08.60186	11 59 21.30	-13 00 12.1	413
1981 DP2	1981 04 08.63658	11 59 19.80	-13 00 01.6	413
1981 DP2	1981 04 09.55619	11 58 40.16	-12 55 44.6	413
1981 DP2	1981 04 09.59091	11 58 38.72	-12 55 34.9	413
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1981 DQ2	1981 03 06.54930	12 25 16.96	-12 26 26.7	413
1981 DQ2	1981 03 06.59096	12 25 15.20	-12 26 18.1	413
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1981 DQ2	1981 03 12.67049	12 20 23.43	-11 55 59.6	413
1981 DQ2	1981 04 07.61151	11 57 26.39	-08 33 06.5	413
1981 DQ2	1981 04 07.64623	11 57 24.87	-08 32 49.7	413
1981 DQ2	1981 04 08.60186	11 56 41.78	-08 24 30.8	413
1981 DQ2	1981 04 08.63658	11 56 40.25	-08 24 13.6	413
1981 DQ2	1981 04 09.55619	11 56 00.23	-08 16 17.1	413
1981 DQ2	1981 04 09.59091	11 55 58.70	-08 15 59.2	413
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1981 EH6	1981 03 02.56588	12 01 55.61	-09 16 05.7	413
1981 EH6	1981 03 07.55280	11 58 41.00	-09 02 28.3	413
1981 EH6	1981 03 07.59447	11 58 39.32	-09 02 20.2	413
1981 EH6	1981 03 10.53941	11 56 33.97	-08 51 26.2	413
1981 EH6	1981 03 10.58108	11 56 32.29	-08 51 16.7	413
1981 EH6	1981 03 12.52945	11 55 06.41	-08 42 59.8	413
1981 EH6	1981 03 12.56765	11 55 04.80	-08 42 50.2	413
1981 EH6	1981 04 09.50909	11 37 16.86	-06 01 57.3	413
1981 EH6	1981 04 09.54382	11 37 16.05	-06 01 46.9	413
1981 EJ6 *	1981 03 02.52074	12 03 53.96	-12 46 59.8	19.0V 413
1981 EJ6	1981 03 02.56588	12 03 52.43	-12 46 44.9	413
1981 EJ6	1981 03 07.55280	12 00 39.91	-12 13 51.5	413
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1981 EJ6	1981 03 10.53941	11 58 38.36	-11 52 08.7	413
1981 EJ6	1981 03 12.52945	11 57 15.69	-11 36 56.7	413
1981 EJ6	1981 03 12.56765	11 57 14.16	-11 36 39.1	413
1981 EJ6	1981 04 09.54382	11 38 50.65	-07 28 35.7	413
1981 EK6 *	1981 03 02.52074	12 03 57.00	-11 12 17.9	16.5V 413
1981 EK6	1981 03 02.56588	12 03 55.36	-11 12 03.8	413
1981 EK6	1981 03 07.55280	12 00 28.72	-10 42 27.0	413
1981 EK6	1981 03 07.59447	12 00 26.98	-10 42 12.0	413
1981 EK6	1981 03 10.53941	11 58 17.33	-10 22 42.2	413
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1981 EK6	1981 03 12.52945	11 56 47.28	-10 08 45.4	413
1981 EK6	1981 04 06.61147	11 37 43.98	-06 39 06.2	413
1981 EK6	1981 04 06.64619	11 37 42.75	-06 38 51.0	413
1981 EK6	1981 04 08.55338	11 36 26.90	-06 21 58.3	413
1981 EK6	1981 04 08.58810	11 36 25.62	-06 21 41.6	413

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1981	EK6	1981	04	09.54382	11	35	48.86	-06	13	17.2		413	
1981	EL6	*	1981	03	06.54930	12	02	15.96	-13	55	06.8	19.5V	413
1981	EL6		1981	03	08.56669	12	00	56.42	-13	47	04.8		413
1981	EL6		1981	03	08.60836	12	00	54.89	-13	46	55.7		413
1981	EL6		1981	03	12.63230	11	58	08.58	-13	28	34.6		413
1981	EL6		1981	03	12.67049	11	58	07.14	-13	28	24.0		413
1981	EL6		1981	04	09.55619	11	38	55.33	-10	24	30.2		413
1981	EL6		1981	04	09.59091	11	38	53.95	-10	24	13.1		413
1981	EM6	*	1981	03	06.54930	12	05	51.65	-12	47	27.0	19.5V	413
1981	EM6		1981	03	06.59096	12	05	49.81	-12	47	13.2		413
1981	EM6		1981	03	08.56669	12	04	23.73	-12	35	02.2		413
1981	EM6		1981	03	08.60836	12	04	21.93	-12	34	47.8		413
1981	EM6		1981	03	12.67049	12	01	17.17	-12	07	25.0		413
1981	EM6		1981	04	09.55619	11	40	04.20	-08	06	53.4		413
1981	EM6		1981	04	09.59091	11	40	03.05	-08	06	37.6		413
1981	EN6	*	1981	03	06.54930	12	05	56.15	-12	16	15.8	19.0V	413
1981	EN6		1981	03	08.56669	12	04	12.00	-12	10	42.3		413
1981	EN6		1981	03	12.63230	12	00	29.04	-11	56	30.1		413
1981	EN6		1981	03	12.67049	12	00	27.13	-11	56	22.8		413
1981	EN6		1981	04	07.41760	11	35	22.22	-09	16	40.9		413
1981	EN6		1981	04	07.45232	11	35	20.73	-09	16	29.6		413
1981	EN6		1981	04	09.60259	11	33	32.89	-09	00	17.7		413
1981	EN6		1981	04	09.63731	11	33	31.12	-09	00	00.4		413
1981	EO6	*	1981	03	06.54930	12	09	23.63	-13	09	56.0	19.5V	413
1981	EO6		1981	03	06.59096	12	09	21.69	-13	09	46.4		413
1981	EO6		1981	03	08.56669	12	07	48.47	-13	01	17.7		413
1981	EO6		1981	03	08.60836	12	07	46.46	-13	01	07.5		413
1981	EO6		1981	03	12.63230	12	04	29.11	-12	41	36.9		413
1981	EO6		1981	03	12.67049	12	04	27.04	-12	41	24.5		413
1981	EO6		1981	04	09.55619	11	42	00.87	-09	32	35.7		413
1981	EP6	*	1981	03	06.54930	12	09	29.04	-13	27	41.2	19.0V	413
1981	EP6		1981	03	06.59096	12	09	27.18	-13	27	48.8		413
1981	EP6		1981	03	08.56669	12	07	45.58	-13	32	50.4		413
1981	EP6		1981	03	08.60836	12	07	43.46	-13	32	56.4		413
1981	EP6		1981	03	12.63230	12	04	07.18	-13	41	07.1		413
1981	EP6		1981	03	12.67049	12	04	05.29	-13	41	11.1		413
1981	EP6		1981	04	08.60186	11	39	17.26	-13	37	05.2		413
1981	EP6		1981	04	08.63658	11	39	15.65	-13	37	02.3		413
1981	EP6		1981	04	09.55619	11	38	31.91	-13	35	37.3		413
1981	EP6		1981	04	09.59091	11	38	30.28	-13	35	33.7		413
1981	EQ6	*	1981	03	06.54930	12	09	31.58	-11	41	57.6	19.5V	413
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1981	EQ6		1981	03	08.56669	12	07	42.69	-11	46	35.0		413
1981	EQ6		1981	03	08.60836	12	07	40.39	-11	46	41.2		413
1981	EQ6		1981	03	12.63230	12	03	50.45	-11	53	37.9		413
1981	EQ6		1981	03	12.67049	12	03	48.35	-11	53	40.3		413
1981	EQ6		1981	04	08.60186	11	36	59.28	-11	36	37.5		413
1981	EQ6		1981	04	08.63658	11	36	57.54	-11	36	34.2		413
1981	EQ6		1981	04	09.59091	11	36	09.22	-11	34	39.5		413
1981	ER6	*	1981	03	06.54930	12	09	39.93	-10	55	18.9	17.0V	413
1981	ER6		1981	03	06.59096	12	09	38.17	-10	55	14.4		413
1981	ER6		1981	03	08.56669	12	08	10.02	-10	49	43.3		413
1981	ER6		1981	03	08.60836	12	08	08.11	-10	49	36.3		413
1981	ER6		1981	03	12.63230	12	04	58.27	-10	35	41.4		413
1981	ER6		1981	03	12.67049	12	04	56.42	-10	35	33.0		413
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1981	ER6		1981	04	07.64623	11	44	22.72	-08	10	22.7		413
1981	ER6		1981	04	08.60186	11	43	46.99	-08	04	22.9		413

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1981	ER6	1981	04	09.55619	11	43	12.62	-07	58	26.4	413		
1981	ER6	1981	04	09.59091	11	43	11.39	-07	58	13.8	413		
1981	ES6	*	1981	03	06.54930	12	10	29.87	-14	47	36.1	19.0V	413
1981	ES6		1981	03	08.56669	12	09	08.72	-14	39	33.6	413	
1981	ES6		1981	03	08.60836	12	09	07.04	-14	39	24.1	413	
1981	ES6		1981	03	12.63230	12	06	17.60	-14	21	05.2	413	
1981	ES6		1981	03	12.67049	12	06	16.33	-14	20	56.2	413	
1981	ES6		1981	04	09.55619	11	46	25.14	-11	15	13.4	413	
1981	ES6		1981	04	09.59091	11	46	24.01	-11	14	59.4	413	
1981	ET6	*	1981	03	06.54930	12	12	49.80	-10	51	13.7	18.5V	413
1981	ET6		1981	03	06.59096	12	12	48.26	-10	51	13.0	413	
1981	ET6		1981	03	08.56669	12	11	34.34	-10	49	34.7	413	
1981	ET6		1981	03	08.60836	12	11	32.83	-10	49	32.4	413	
1981	ET6		1981	03	12.63230	12	08	55.46	-10	44	45.2	413	
1981	ET6		1981	03	12.67049	12	08	53.98	-10	44	41.7	413	
1981	ET6		1981	04	08.60186	11	50	36.18	-09	36	49.4	413	
1981	ET6		1981	04	08.63658	11	50	35.09	-09	36	43.8	413	
1981	ET6		1981	04	09.55619	11	50	01.67	-09	33	48.5	413	
1981	ET6		1981	04	09.59091	11	50	00.51	-09	33	42.0	413	
1981	EU6	*	1981	03	06.54930	12	15	02.27	-13	45	50.2	19.5V	413
1981	EU6		1981	03	06.59096	12	15	00.27	-13	45	43.1	413	
1981	EU6		1981	03	08.56669	12	13	22.47	-13	38	03.0	413	
1981	EU6		1981	03	12.63230	12	09	49.48	-13	19	41.0	413	
1981	EU6		1981	04	09.55619	11	43	24.07	-09	58	48.1	413	
1981	EV6	*	1981	03	06.59096	12	16	18.37	-13	01	16.2	19.5V	413
1981	EV6		1981	03	08.56669	12	14	58.95	-12	56	29.5	413	
1981	EV6		1981	03	12.63230	12	12	07.92	-12	44	54.3	413	
1981	EV6		1981	03	12.67049	12	12	06.42	-12	44	47.9	413	
1981	EV6		1981	04	09.55619	11	51	46.27	-10	40	23.8	413	
1981	EV6		1981	04	09.59091	11	51	44.91	-10	40	12.6	413	
1981	EW6	*	1981	03	06.54930	12	16	33.93	-13	18	23.0	19.5V	413
1981	EW6		1981	03	06.59096	12	16	32.15	-13	18	22.7	413	
1981	EW6		1981	03	08.56669	12	14	55.87	-13	14	50.8	413	
1981	EW6		1981	03	12.63230	12	11	24.36	-13	04	21.0	413	
1981	EW6		1981	03	12.67049	12	11	22.28	-13	04	14.2	413	
1981	EW6		1981	04	09.55619	11	46	11.66	-10	25	14.5	413	
1981	EW6		1981	04	09.59091	11	46	10.22	-10	25	01.0	413	
1981	EX6	*	1981	03	06.54930	12	18	14.83	-10	49	29.0	18.5V	413
1981	EX6		1981	03	06.59096	12	18	12.93	-10	49	29.4	413	
1981	EX6		1981	03	08.56669	12	16	46.90	-10	48	28.0	413	
1981	EX6		1981	03	08.60836	12	16	45.20	-10	48	27.3	413	
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1981	EX6		1981	03	12.67049	12	13	41.48	-10	45	04.4	413	
1981	EX6		1981	04	08.60186	11	52	26.47	-09	50	11.3	413	
1981	EX6		1981	04	08.63658	11	52	24.81	-09	50	05.5	413	
1981	EX6		1981	04	09.55619	11	51	44.91	-09	47	38.7	413	
1981	EX6		1981	04	09.59091	11	51	43.51	-09	47	33.9	413	
1981	EY6	*	1981	03	06.54930	12	18	40.78	-15	00	52.3	19.5V	413
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1981	EY6		1981	03	08.56669	12	17	13.60	-14	58	05.6	413	
1981	EY6		1981	03	08.60836	12	17	11.94	-14	58	03.1	413	
1981	EY6		1981	03	12.63230	12	14	10.26	-14	50	41.4	413	
1981	EY6		1981	03	12.67049	12	14	08.48	-14	50	35.4	413	
1981	EY6		1981	04	09.59091	11	52	20.76	-13	07	54.0	413	
1981	EZ6	*	1981	03	06.54930	12	18	58.57	-12	35	37.1	19.5V	413
1981	EZ6		1981	03	08.56669	12	17	13.20	-12	26	38.4	413	
1981	EZ6		1981	03	08.60836	12	17	11.03	-12	26	27.7	413	
1981	EZ6		1981	03	12.63230	12	13	30.37	-12	05	55.9	413	

1981	EZ6	1981	03	12.67049	12	13	28.27	-12	05	44.9	413		
1981	EZ6	1981	04	09.55619	11	48	11.98	-08	46	55.8	413		
1981	EZ6	1981	04	09.59091	11	48	10.14	-08	46	37.0	413		
1981	EA7	*	1981	03	06.59096	12	19	09.20	-11	26	51.8	19.5V	413
1981	EA7		1981	03	08.56669	12	17	27.99	-11	19	28.9	413	
1981	EA7		1981	03	08.60836	12	17	25.83	-11	19	18.5	413	
1981	EA7		1981	03	12.63230	12	13	49.52	-11	02	08.3	413	
1981	EA7		1981	03	12.67049	12	13	47.37	-11	01	56.5	413	
1981	EA7		1981	04	09.55619	11	47	37.23	-08	09	42.2	413	
1981	EA7		1981	04	09.59091	11	47	35.54	-08	09	28.2	413	
1981	EB7	*	1981	03	06.54930	12	19	46.95	-11	31	43.2	19.5V	413
1981	EB7		1981	03	08.60836	12	18	21.66	-11	29	17.8	413	
1981	EB7		1981	03	12.67049	12	15	23.82	-11	22	45.5	413	
1981	EB7		1981	04	09.55619	11	53	45.43	-09	52	20.0	413	
1981	EB7		1981	04	09.59091	11	53	43.42	-09	52	09.2	413	
1981	EC7	*	1981	03	06.54930	12	20	11.62	-11	43	53.8	19.0V	413
1981	EC7		1981	03	08.56669	12	19	00.96	-11	41	03.8	413	
1981	EC7		1981	03	08.60836	12	18	59.53	-11	40	60.0	413	
1981	EC7		1981	03	12.67049	12	16	30.29	-11	33	49.7	413	
1981	EC7		1981	04	08.63658	11	59	01.53	-10	10	30.4	413	
1981	EC7		1981	04	09.55619	11	58	29.18	-10	07	05.0	413	
1981	EC7		1981	04	09.59091	11	58	27.93	-10	06	56.5	413	
1981	ED7	*	1981	03	06.54930	12	20	50.11	-14	40	06.1	19.5V	413
1981	ED7		1981	03	06.59096	12	20	48.59	-14	39	56.4	413	
1981	ED7		1981	03	08.56669	12	19	40.42	-14	30	19.4	413	
1981	ED7		1981	03	08.60836	12	19	38.99	-14	30	07.6	413	
1981	ED7		1981	03	12.63230	12	17	11.80	-14	08	23.8	413	
1981	ED7		1981	03	12.67049	12	17	10.08	-14	08	08.6	413	
1981	ED7		1981	04	09.55619	11	58	36.22	-10	36	45.2	413	
1981	ED7		1981	04	09.59091	11	58	35.11	-10	36	29.3	413	
1981	EE7	*	1981	03	06.54930	12	22	59.00	-11	43	40.6	19.0V	413
1981	EE7		1981	03	06.59096	12	22	57.15	-11	43	44.5	413	
1981	EE7		1981	03	08.56669	12	21	23.60	-11	45	08.0	413	
1981	EE7		1981	03	08.60836	12	21	21.65	-11	45	09.6	413	
1981	EE7		1981	03	12.63230	12	17	52.52	-11	45	15.1	413	
1981	EE7		1981	03	12.67049	12	17	50.43	-11	45	14.0	413	
1981	EE7		1981	04	08.60186	11	50	23.54	-10	23	49.9	413	
1981	EE7		1981	04	08.63658	11	50	21.56	-10	23	39.5	413	
1981	EE7		1981	04	09.55619	11	49	30.90	-10	19	16.9	413	
1981	EE7		1981	04	09.59091	11	49	29.05	-10	19	07.1	413	
1981	EF7	*	1981	03	06.54930	12	27	40.51	-12	10	36.7	19.0V	413
1981	EF7		1981	03	06.59096	12	27	38.93	-12	10	28.0	413	
1981	EF7		1981	03	08.56669	12	26	11.21	-12	02	33.7	413	
1981	EF7		1981	03	08.60836	12	26	09.46	-12	02	24.7	413	
1981	EF7		1981	03	12.63230	12	22	57.40	-11	43	33.6	413	
1981	EF7		1981	04	08.60186	11	59	28.74	-08	34	13.8	413	
1981	EF7		1981	04	08.63658	11	59	27.03	-08	33	57.1	413	
1981	EF7		1981	04	09.55619	11	58	45.36	-08	26	44.4	413	
1981	EF7		1981	04	09.59091	11	58	43.91	-08	26	29.0	413	
1981	EG7	*	1981	03	06.54930	12	28	00.10	-12	58	54.1	19.0V	413
1981	EG7		1981	03	06.59096	12	27	58.30	-12	58	55.7	413	
1981	EG7		1981	03	08.56669	12	26	27.10	-12	57	45.2	413	
1981	EG7		1981	03	08.60836	12	26	25.31	-12	57	43.7	413	
1981	EG7		1981	03	12.63230	12	23	03.81	-12	52	30.8	413	
1981	EG7		1981	03	12.67049	12	23	01.92	-12	52	26.5	413	
1981	EG7		1981	04	08.63658	11	57	32.00	-11	00	09.3	413	
1981	EG7		1981	04	09.55619	11	56	45.64	-10	54	58.4	413	
1981	EG7		1981	04	09.59091	11	56	43.93	-10	54	46.2	413	
1981	EH7	*	1981	03	07.55280	11	59	03.43	-10	25	00.7	19.5V	413

1981	EH7	1981	03	07.59447	11	59	01.61	-10	24	39.5	413
1981	EH7	1981	03	10.53941	11	56	54.50	-09	59	29.6	413
1981	EH7	1981	03	10.58108	11	56	52.88	-09	59	09.8	413
1981	EH7	1981	03	12.52945	11	55	26.10	-09	41	32.5	413
1981	EH7	1981	04	09.50909	11	35	52.04	-04	55	51.6	413
1981	EH7	1981	04	09.54382	11	35	51.12	-04	55	34.3	413

OBSERVATIONS MADE WITH THE 1.2-M U.K. SCHMIDT TELESCOPE AT SIDING SPRING BY  
K. S. RUSSELL.

Object	Date	UT	R. A. (1950)		Decl.		Mag.	Obs.
1982 SX	* 1982 09	24.60023	22 26	24.31	-39 43	39.8	17.5	413
1982 SX	1982 09	24.61412	22 26	25.21	-39 44	02.5		413

OBSERVATIONS MADE AT MT. JOHN UNIVERSITY OBSERVATORY BY A. C. GILMORE AND  
MEASURED BY P. M. KILMARTIN. ASSISTANCE FROM R. MC INTOSH.

Object	Date	UT	R. A. (1950)		Decl.		Mag.	Obs.
1982 RA	1982 09	23.39814	19 53	04.73	-07 42	41.5	15.5	474
1982 RA	1982 09	23.42221	19 53	02.37	-07 40	48.9		474
1982 TA	1982 10	16.43297	23 30	05.30	-01 10	12.0	15.7	474
1982 TA	1982 10	16.45612	23 29	59.10	-01 10	21.4		474

OBSERVATIONS MADE AT THE LICK OBSERVATORY BY A. R. KLEMOLA AND E. A. HARLAN.  
FROM ASTRON. J. 87, 1242, 1982.

Object	Date	UT	R. A. (1950)		Decl.		Obs.
1	1981 01	08.29097	07 35	50.21	+30 09	16.0	662
1	1981 01	08.29375	07 35	50.04	+30 09	17.3	662
1	1981 01	08.29583	07 35	49.91	+30 09	17.9	662
2	1982 02	25.45382	13 30	50.43	+02 11	48.0	662
2	1982 02	25.45521	13 30	50.44	+02 11	49.6	662
2	1982 02	25.45660	13 30	50.43	+02 11	51.3	662
9	1981 02	04.57604	16 22	27.09	-19 35	49.3	662
9	1981 02	04.57882	16 22	27.31	-19 35	49.7	662
9	1981 02	04.58160	16 22	27.52	-19 35	50.6	662
9	1981 06	06.29375	16 37	28.06	-22 43	33.4	662
14	1981 09	12.30382	22 52	03.88	-21 24	34.4	662
14	1981 09	12.30521	22 52	03.78	-21 24	34.7	662
18	1981 06	30.39514	22 13	05.03	-04 44	35.6	662
18	1981 06	30.39722	22 13	05.09	-04 44	35.8	662
18	1981 07	29.39826	22 16	23.03	-06 47	40.7	662
18	1981 07	29.40243	22 16	22.95	-06 47	42.7	662
18	1981 07	29.40660	22 16	22.85	-06 47	44.9	662
48	1981 03	10.40174	11 28	16.94	+01 12	20.5	662
48	1981 03	10.40451	11 26	16.83	+01 12	21.3	662
48	1981 03	10.40729	11 28	16.72	+01 12	22.5	662
70	1981 08	15.47326	05 21	48.55	+25 54	23.8	662
70	1981 08	15.48160	05 21	49.17	+25 54	25.4	662
88	1981 09	26.12847	18 23	35.52	-20 51	35.3	662
88	1981 09	26.13194	18 23	35.74	-20 51	35.0	662
88	1981 09	26.13542	18 23	36.00	-20 51	34.7	662
88	1981 10	04.13507	18 33	51.32	-20 38	14.3	662
88	1981 10	04.13785	18 33	51.56	-20 38	13.9	662
88	1981 10	04.14062	18 33	51.79	-20 38	13.5	662
89	1981 08	04.48021	05 11	07.05	+35 45	40.9	662
89	1981 08	04.48299	05 11	07.38	+35 45	41.7	662
89	1981 08	04.48576	05 11	07.74	+35 45	42.3	662
91	1981 03	27.40451	14 53	37.47	-17 48	17.3	662
91	1981 03	27.40729	14 53	37.39	-17 48	17.0	662
91	1981 03	27.41007	14 53	37.31	-17 48	17.1	662
91	1981 03	28.40451	14 53	10.41	-17 47	19.5	662

91	1981	03	28.41562	14	53	10.09	-17	47	18.9	662
94	1981	04	09.14792	05	38	45.87	+30	38	50.1	662
94	1981	04	09.15278	05	38	46.28	+30	38	49.8	662
94	1981	04	09.16042	05	38	46.88	+30	38	49.6	662
129	1981	05	08.47188	18	51	47.84	-08	11	12.9	662
129	1981	05	08.48090	18	51	47.97	-08	11	11.8	662
344	1982	02	01.25347	08	04	49.23	+45	07	50.8	662
344	1982	02	01.25694	08	04	49.00	+45	07	51.1	662
344	1982	02	01.26042	08	04	48.75	+45	07	51.7	662
365	1981	01	20.17500	04	05	26.79	+03	38	42.0	662
365	1981	01	20.19792	04	05	27.08	+03	38	49.5	662
365	1981	01	20.22431	04	05	27.37	+03	38	58.4	662
386	1982	02	25.16042	06	48	18.72	+02	49	51.3	662
386	1982	02	25.16528	06	48	18.72	+02	49	54.3	662
386	1982	02	25.17014	06	48	18.72	+02	49	57.3	662
433	1982	02	24.16181	05	09	34.04	+16	12	09.1	662
433	1982	02	24.16667	05	09	35.06	+16	12	02.6	662
433	1982	02	24.17153	05	09	36.10	+16	11	56.5	662
433	1982	02	25.14340	05	13	10.63	+15	50	27.6	662
433	1982	02	25.14549	05	13	11.08	+15	50	24.8	662
433	1982	02	25.14757	05	13	11.52	+15	50	21.7	662
532	1982	01	16.27431	08	59	19.32	+25	22	11.3	662
532	1982	01	16.27639	08	59	19.22	+25	22	12.7	662
532	1982	01	16.27847	08	59	19.13	+25	22	14.2	662
532	1982	01	16.29028	08	59	18.58	+25	22	22.6	662
532	1982	01	16.29236	08	59	18.48	+25	22	24.1	662
532	1982	01	16.29514	08	59	18.35	+25	22	26.2	662

OBSERVATIONS MADE WITH THE 1.2-M SCHMIDT TELESCOPE AT PALOMAR BY E. HELIN  
AND E. SHOEMAKER. SCANNED BY HELIN, SHOEMAKER AND P. WILDER. MEASURED  
BY WILDER.

Object	Date	UT	R. A. (1950)			Decl.	Mag.	Obs.	
548	1982	05	15.27569	15	14	13.68	-12 36 55.2	16.0	675
548	1982	05	16.33819	15	13	08.30	-12 33 33.6	16.0	675
548	1982	05	16.37292	15	13	05.98	-12 33 26.4	16.0	675
548	1982	05	17.30764	15	12	09.05	-12 30 34.5	16.0	675
548	1982	05	18.36597	15	11	04.83	-12 27 20.4	16.0	675
1269	1982	05	15.27569	15	10	09.32	-13 51 12.4	14.9	675
1269	1982	05	16.33819	15	09	27.18	-13 48 31.7	14.9	675
1269	1982	05	16.37292	15	09	25.84	-13 48 25.2	14.9	675
1269	1982	05	17.30764	15	08	49.30	-13 46 07.4	14.9	675
1269	1982	05	18.36597	15	08	07.86	-13 43 30.8	14.9	675
1789	1982	05	15.27569	15	12	50.98	-14 53 35.0	16.2	675
1789	1982	05	16.33819	15	11	41.80	-14 49 50.6	16.2	675
1789	1982	05	16.37292	15	11	39.40	-14 49 41.9	16.2	675
1789	1982	05	18.36597	15	09	30.56	-14 42 48.0	16.2	675
1953	1982	05	15.27569	15	13	21.21	-16 35 08.6	17.9	675
1953	1982	05	16.33819	15	12	31.44	-16 32 23.6	17.9	675
1953	1982	05	16.37292	15	12	29.95	-16 32 16.8	17.9	675
1953	1982	05	17.30764	15	11	46.58	-16 29 51.2	17.9	675
1953	1982	05	18.36597	15	10	57.63	-16 27 05.7	17.9	675
1984	1982	05	15.27569	15	20	46.14	-12 59 34.8	16.2	675
1984	1982	05	16.33819	15	19	55.24	-12 55 13.3	16.2	675
1984	1982	05	16.37292	15	19	53.45	-12 55 02.8	16.2	675
1984	1982	05	17.30764	15	19	09.16	-12 51 16.7	16.2	675
1984	1982	05	18.36597	15	18	18.81	-12 47 00.9	16.2	675
1990	1982	05	16.33819	15	33	32.15	-15 02 09.1	15.8	675
1990	1982	05	16.37292	15	33	29.77	-15 01 55.9	15.8	675
1990	1982	05	17.30764	15	32	33.22	-14 57 03.3	15.8	675

1990		1982	05	18.36597	15	31	28.66	-14	51	31.6	15.8	675	
2018		1982	05	16.33819	15	08	50.38	-14	13	53.7	18.0	675	
2018		1982	05	16.37292	15	08	47.90	-14	13	39.0	18.0	675	
2018		1982	05	17.30764	15	07	48.11	-14	08	41.2	18.0	675	
2066		1982	05	15.27569	15	12	14.72	-11	01	47.9	16.0	675	
2066		1982	05	16.33819	15	11	15.61	-10	59	19.2	16.0	675	
2066		1982	05	16.37292	15	11	13.41	-10	59	13.6	16.0	675	
2066		1982	05	18.36597	15	09	24.28	-10	54	55.2	16.0	675	
2688		1982	05	15.27569	15	17	40.84	-14	19	45.9	16.0	675	
2688		1982	05	16.33819	15	16	48.81	-14	17	27.0	16.0	675	
2688		1982	05	16.37292	15	16	47.03	-14	17	21.8	16.0	675	
2688		1982	05	17.30764	15	16	01.75	-14	15	23.1	16.0	675	
2688		1982	05	18.36597	15	15	10.32	-14	13	08.8	16.0	675	
2695		1982	05	15.27569	15	21	38.96	-14	03	07.6	17.0	675	
2695		1982	05	16.33819	15	20	34.31	-14	04	24.6	17.0	675	
2695		1982	05	16.37292	15	20	32.08	-14	04	26.6	17.0	675	
2695		1982	05	17.30764	15	19	35.58	-14	05	36.9	17.0	675	
2695		1982	05	18.36597	15	18	31.34	-14	06	56.2	17.0	675	
2720		1982	05	15.27569	15	11	41.78	-12	44	38.7	18.0	675	
2720		1982	05	16.33819	15	10	35.26	-12	40	53.8	18.0	675	
2720		1982	05	16.37292	15	10	33.02	-12	40	45.7	18.0	675	
2720		1982	05	17.30764	15	09	35.01	-12	37	30.3	18.0	675	
2720		1982	05	18.36597	15	08	29.41	-12	33	52.2	18.0	675	
2722		1982	05	16.33819	15	24	54.11	-15	57	45.2	16.5	675	
2722		1982	05	16.37292	15	24	52.43	-15	57	38.4	16.5	675	
2722		1982	05	17.30764	15	24	08.30	-15	55	03.0	16.5	675	
2722		1982	05	18.36597	15	23	18.13	-15	52	05.4	16.5	675	
1953	TX2	1982	05	15.27569	15	31	02.94	-14	37	59.5	18.0	675	
1953	TX2	1982	05	16.33819	15	30	00.10	-14	34	59.3	18.0	675	
1953	TX2	1982	05	16.37292	15	29	57.92	-14	34	52.1	18.0	675	
1953	TX2	1982	05	17.30764	15	29	03.08	-14	32	16.7	18.0	675	
1953	TX2	1982	05	18.36597	15	28	00.63	-14	29	18.2	18.0	675	
1982	HF1	1982	05	15.27569	15	09	59.64	-13	29	15.0	17.0	675	
1982	HF1	1982	05	16.33819	15	09	10.40	-13	19	15.2	17.0	675	
1982	HF1	1982	05	16.37292	15	09	08.71	-13	18	52.9	17.0	675	
1982	HF1	1982	05	17.30764	15	08	26.18	-13	10	14.2	17.0	675	
1982	HH1	1982	05	15.27569	15	18	27.11	-12	00	44.6	16.0	675	
1982	HH1	1982	05	16.33819	15	17	26.09	-11	55	08.3	16.0	675	
1982	HH1	1982	05	16.37292	15	17	23.87	-11	54	55.9	16.0	675	
1982	HH1	1982	05	17.30764	15	16	31.08	-11	50	08.3	16.0	675	
1982	HH1	1982	05	18.36597	15	15	31.40	-11	44	47.4	16.0	675	
1982	JD	1982	05	15.27569	15	21	21.49	-12	30	51.3		675	
1982	JD	1982	05	16.37292	15	20	13.29	-12	11	52.6		675	
1982	JN	*	1982	05	15.27569	15	09	45.63	-15	36	02.9	18.0	675
1982	JN		1982	05	16.33819	15	08	48.99	-15	36	42.8	18.0	675
1982	JN		1982	05	16.37292	15	08	47.17	-15	36	42.4	18.0	675
1982	JO	*	1982	05	15.27569	15	09	56.45	-14	31	31.0	19.0	675
1982	JO		1982	05	16.37292	15	08	49.74	-14	26	51.7	19.0	675
1982	JO		1982	05	17.30764	15	08	00.49	-14	24	36.7	19.0	675
1982	JP	*	1982	05	15.27569	15	09	57.46	-14	21	07.2	18.0	675
1982	JP		1982	05	16.33819	15	08	58.04	-14	15	35.5	18.0	675
1982	JP		1982	05	17.30764	15	08	04.79	-14	10	34.7	18.0	675
1982	JQ	*	1982	05	15.27569	15	09	57.49	-12	40	03.6	18.5	675
1982	JQ		1982	05	16.37292	15	09	06.83	-12	28	37.7	18.5	675
1982	JQ		1982	05	17.30764	15	08	24.81	-12	19	04.2	18.5	675
1982	JR	*	1982	05	15.27569	15	10	11.01	-12	55	47.6	18.0	675
1982	JR		1982	05	16.33819	15	09	21.06	-12	52	51.5	18.0	675
1982	JR		1982	05	16.37292	15	09	19.40	-12	52	43.8	18.0	675
1982	JR		1982	05	17.30764	15	08	36.08	-12	50	12.0	18.0	675



1982 JS *	1982 05 15.27569	15 10 24.50	-12 59 18.3	18.0	675
1982 JS	1982 05 16.33819	15 09 27.65	-12 57 32.9	18.0	675
1982 JS	1982 05 16.37292	15 09 25.75	-12 57 28.6	18.0	675
1982 JS	1982 05 17.30764	15 08 36.30	-12 55 59.6	18.0	675
1982 JT *	1982 05 15.27569	15 10 24.87	-14 57 31.4	18.5	675
1982 JT	1982 05 16.33819	15 09 35.69	-14 54 39.3	18.5	675
1982 JT	1982 05 16.37292	15 09 34.08	-14 54 31.4	18.5	675
1982 JT	1982 05 17.30764	15 08 51.73	-14 51 59.9	18.5	675
1982 JT	1982 05 18.36597	15 08 03.03	-14 49 08.1	18.5	675
1982 JU *	1982 05 15.27569	15 10 35.79	-15 18 37.1	18.5	675
1982 JU	1982 05 16.33819	15 09 35.82	-15 18 45.8	18.5	675
1982 JU	1982 05 16.37292	15 09 33.99	-15 18 44.7	18.5	675
1982 JU	1982 05 17.30764	15 08 42.70	-15 18 54.2	18.5	675
1982 JV *	1982 05 15.27569	15 10 36.35	-14 46 19.6	18.0	675
1982 JV	1982 05 16.33819	15 09 41.69	-14 37 53.0	18.0	675
1982 JV	1982 05 16.37292	15 09 39.83	-14 37 34.1	18.0	675
1982 JV	1982 05 17.30764	15 08 53.00	-14 30 14.4	18.0	675
1982 JV	1982 05 18.36597	15 07 59.48	-14 21 59.8	18.0	675
1982 JW *	1982 05 15.27569	15 10 41.83	-10 54 13.3	18.0	675
1982 JW	1982 05 16.33819	15 09 50.62	-10 51 22.1	18.0	675
1982 JW	1982 05 16.37292	15 09 48.82	-10 51 15.3	18.0	675
1982 JW	1982 05 17.30764	15 09 04.45	-10 48 49.3	18.0	675
1982 JW	1982 05 18.36597	15 08 14.31	-10 46 04.2	18.0	675
1982 JX *	1982 05 15.27569	15 11 04.14	-14 17 32.2	18.5	675
1982 JX	1982 05 16.37292	15 10 06.43	-14 11 07.8	18.5	675
1982 JX	1982 05 17.30764	15 09 18.14	-14 05 42.5	18.5	675
1982 JX	1982 05 18.36597	15 08 09.51	-13 58 18.9	18.5	675
1982 JY *	1982 05 15.27569	15 11 22.30	-15 13 55.1	19.0	675
1982 JY	1982 05 16.33819	15 10 27.27	-15 09 48.2	19.0	675
1982 JY	1982 05 17.30764	15 09 38.15	-15 06 00.9	19.0	675
1982 JY	1982 05 18.36597	15 08 43.64	-15 01 56.6	19.0	675
1982 JZ *	1982 05 15.27569	15 11 44.36	-14 28 59.3	18.5	675
1982 JZ	1982 05 16.37292	15 10 47.99	-14 26 13.5	18.5	675
1982 JZ	1982 05 17.30764	15 10 00.77	-14 23 54.9	18.5	675
1982 JZ	1982 05 18.36597	15 09 06.85	-14 21 20.2	18.5	675
1982 JA1 *	1982 05 15.27569	15 12 03.54	-14 30 04.3	18.0	675
1982 JA1	1982 05 16.33819	15 11 10.78	-14 25 41.8	18.0	675
1982 JA1	1982 05 16.37292	15 11 09.07	-14 25 32.3	18.0	675
1982 JA1	1982 05 17.30764	15 10 23.38	-14 21 43.0	18.0	675
1982 JA1	1982 05 18.36597	15 09 31.33	-14 17 25.6	18.0	675
1982 JB1 *	1982 05 15.27569	15 12 31.42	-11 41 27.8	18.5	675
1982 JB1	1982 05 16.33819	15 11 44.00	-11 35 58.2	18.5	675
1982 JB1	1982 05 16.37292	15 11 42.41	-11 35 46.1	18.5	675
1982 JB1	1982 05 17.30764	15 11 01.17	-11 31 01.5	18.5	675
1982 JB1	1982 05 18.36597	15 10 14.71	-11 25 42.3	18.5	675
1982 JC1 *	1982 05 15.27569	15 13 31.27	-13 18 15.2	18.0	675
1982 JC1	1982 05 16.33819	15 12 35.85	-13 15 08.9	18.0	675
1982 JC1	1982 05 16.37292	15 12 33.90	-13 15 00.6	18.0	675
1982 JC1	1982 05 17.30764	15 11 45.66	-13 12 19.4	18.0	675
1982 JC1	1982 05 18.36597	15 10 51.09	-13 09 17.4	18.0	675
1982 JD1 *	1982 05 15.27569	15 13 37.80	-12 51 17.6	17.0	675
1982 JD1	1982 05 16.33819	15 12 46.01	-12 40 51.3	17.0	675
1982 JD1	1982 05 16.37292	15 12 44.21	-12 40 29.2	17.0	675
1982 JD1	1982 05 17.30764	15 11 59.41	-12 31 25.8	17.0	675
1982 JD1	1982 05 18.36597	15 11 08.88	-12 21 18.6	17.0	675
1982 JE1 *	1982 05 15.27569	15 13 50.17	-14 41 28.5	18.0	675
1982 JE1	1982 05 16.33819	15 12 40.10	-14 39 05.3	18.0	675
1982 JE1	1982 05 16.37292	15 12 37.85	-14 38 59.4	18.0	675
1982 JE1	1982 05 17.30764	15 11 36.56	-14 36 55.5	18.0	675

1982	JE1		1982	05	18.36597	15	10	27.19	-14	34	35.3	18.0	675
1982	JF1	*	1982	05	15.27569	15	15	10.93	-15	06	13.6	18.5	675
1982	JF1		1982	05	16.33819	15	14	03.61	-15	03	14.9	18.5	675
1982	JF1		1982	05	16.37292	15	14	01.46	-15	03	06.8	18.5	675
1982	JF1		1982	05	17.30764	15	13	02.64	-15	00	31.2	18.5	675
1982	JF1		1982	05	18.36597	15	11	56.02	-14	57	35.9	18.5	675
1982	JG1	*	1982	05	15.27569	15	15	40.47	-16	37	36.4	18.0	675
1982	JG1		1982	05	16.33819	15	14	25.52	-16	39	40.3	18.0	675
1982	JG1		1982	05	16.37292	15	14	23.03	-16	39	43.7	18.0	675
1982	JG1		1982	05	17.30764	15	13	17.23	-16	41	33.5	18.0	675
1982	JH1	*	1982	05	15.27569	15	15	44.57	-12	02	36.9	18.5	675
1982	JH1		1982	05	16.33819	15	14	46.89	-12	03	44.8	18.5	675
1982	JH1		1982	05	16.37292	15	14	44.83	-12	03	46.2	18.5	675
1982	JH1		1982	05	17.30764	15	14	05.71	-12	04	29.2	18.5	675
1982	JH1		1982	05	18.36597	15	12	58.50	-12	06	11.0	18.5	675
1982	JJ1	*	1982	05	15.27569	15	15	57.85	-11	00	47.2	18.5	675
1982	JJ1		1982	05	16.33819	15	14	48.41	-10	59	11.4	18.5	675
1982	JJ1		1982	05	16.37292	15	14	46.02	-10	59	08.0	18.5	675
1982	JJ1		1982	05	17.30764	15	13	45.49	-10	57	50.5	18.5	675
1982	JJ1		1982	05	18.36597	15	12	36.71	-10	56	26.2	18.5	675
1982	JK1	*	1982	05	15.27569	15	16	24.11	-15	57	40.2	18.0	675
1982	JK1		1982	05	16.33819	15	15	32.67	-15	54	26.9	18.0	675
1982	JK1		1982	05	16.37292	15	15	31.06	-15	54	18.8	18.0	675
1982	JK1		1982	05	17.30764	15	14	46.31	-15	51	30.5	18.0	675
1982	JK1		1982	05	18.36597	15	13	55.59	-15	48	19.2	18.0	675
1982	JL1	*	1982	05	15.27569	15	16	24.30	-16	16	19.2	18.5	675
1982	JL1		1982	05	16.37292	15	15	20.89	-16	13	49.7	18.5	675
1982	JL1		1982	05	17.30764	15	14	27.43	-16	11	43.1	18.5	675
1982	JL1		1982	05	18.36597	15	13	26.89	-16	09	18.4	18.5	675
1982	JM1	*	1982	05	15.27569	15	16	41.57	-15	39	49.5	17.5	675
1982	JM1		1982	05	16.37292	15	15	45.54	-15	37	39.3	17.5	675
1982	JM1		1982	05	17.30764	15	14	58.21	-15	35	50.4	17.5	675
1982	JM1		1982	05	18.36597	15	14	04.57	-15	33	46.1	17.5	675
1982	JN1	*	1982	05	15.27569	15	16	43.80	-10	39	11.5	19.0	675
1982	JN1		1982	05	17.30764	15	14	40.83	-10	42	29.0	19.0	675
1982	JN1		1982	05	18.36597	15	13	37.48	-10	44	21.3	19.0	675
1982	JG1	*	1982	05	15.27569	15	17	05.86	-14	16	54.0	18.5	675
1982	JO1		1982	05	16.33819	15	15	58.55	-14	13	15.6	18.5	675
1982	JG1		1982	05	16.37292	15	15	56.28	-14	13	06.8	18.5	675
1982	JG1		1982	05	17.30764	15	14	57.42	-14	09	55.7	18.5	675
1982	JG1		1982	05	18.36597	15	13	50.69	-14	06	18.9	18.5	675
1982	JP1	*	1982	05	15.27569	15	19	28.90	-15	41	51.7	18.5	675
1982	JP1		1982	05	16.37292	15	18	28.21	-15	34	23.0	18.5	675
1982	JP1		1982	05	17.30764	15	17	37.47	-15	28	07.7	18.5	675
1982	JP1		1982	05	18.36597	15	16	39.99	-15	21	04.2	18.5	675
1982	JQ1	*	1982	05	15.27569	15	20	33.17	-15	16	18.8	18.5	675
1982	JQ1		1982	05	16.33819	15	19	43.80	-15	13	28.8	18.5	675
1982	JQ1		1982	05	16.37292	15	19	42.20	-15	13	21.5	18.5	675
1982	JQ1		1982	05	17.30764	15	18	59.28	-15	10	52.3	18.5	675
1982	JQ1		1982	05	18.36597	15	18	10.50	-15	08	01.6	18.5	675
1982	JR1	*	1982	05	15.27569	15	20	39.23	-10	36	49.0	18.0	675
1982	JR1		1982	05	16.33819	15	19	37.71	-10	35	25.3	18.0	675
1982	JR1		1982	05	16.37292	15	19	35.48	-10	35	21.3	18.0	675
1982	JR1		1982	05	17.30764	15	18	41.50	-10	34	10.9	18.0	675
1982	JR1		1982	05	18.36597	15	17	40.23	-10	32	53.0	18.0	675
1982	JS1	*	1982	05	15.27569	15	20	42.75	-14	19	07.5	17.5	675
1982	JS1		1982	05	16.33819	15	19	53.13	-14	16	15.4	17.5	675
1982	JS1		1982	05	16.37292	15	19	51.61	-14	16	09.2	17.5	675
1982	JS1		1982	05	17.30764	15	19	08.54	-14	13	40.5	17.5	675

1982 JS1		1982 05 18.36597	15 18 19.68	-14 10 52.0	17.5	675
1982 JT1	*	1982 05 15.27569	15 20 43.91	-12 54 35.0	18.0	675
1982 JT1		1982 05 16.33819	15 19 39.03	-12 54 06.6	18.0	675
1982 JT1		1982 05 17.30764	15 18 40.33	-12 53 45.3	18.0	675
1982 JT1		1982 05 18.36597	15 17 36.37	-12 53 23.7	18.0	675
1982 JU1	*	1982 05 15.27569	15 21 33.78	-16 31 53.3	18.0	675
1982 JU1		1982 05 16.33819	15 20 42.10	-16 28 31.8	18.0	675
1982 JU1		1982 05 16.37292	15 20 40.60	-16 28 24.8	18.0	675
1982 JU1		1982 05 17.30764	15 19 55.51	-16 25 29.0	18.0	675
1982 JU1		1982 05 18.36597	15 19 04.53	-16 22 08.5	18.0	675
1982 JV1	*	1982 05 15.27569	15 21 34.40	-12 50 20.1	17.5	675
1982 JV1		1982 05 16.33819	15 20 32.44	-12 49 11.9	17.5	675
1982 JV1		1982 05 16.37292	15 20 30.18	-12 49 08.1	17.5	675
1982 JV1		1982 05 17.30764	15 19 36.49	-12 48 14.5	17.5	675
1982 JV1		1982 05 18.36597	15 18 35.42	-12 47 16.2	17.5	675
1982 JW1	*	1982 05 15.27569	15 22 16.55	-12 18 42.6	18.5	675
1982 JW1		1982 05 16.33819	15 21 22.75	-12 14 36.7	18.5	675
1982 JW1		1982 05 17.30764	15 20 34.12	-12 10 53.5	18.5	675
1982 JW1		1982 05 18.36597	15 19 40.97	-12 06 53.9	18.5	675
1982 JX1	*	1982 05 15.27569	15 22 25.30	-16 09 37.8	18.0	675
1982 JX1		1982 05 16.33819	15 21 34.19	-16 07 20.3	18.0	675
1982 JX1		1982 05 16.37292	15 21 32.55	-16 07 14.1	18.0	675
1982 JX1		1982 05 17.30764	15 20 47.88	-16 05 13.9	18.0	675
1982 JX1		1982 05 18.36597	15 19 57.30	-16 02 55.8	18.0	675
1982 JY1		1982 05 15.27569	15 22 28.05	-12 28 20.3	18.5	675
1982 JY1		1982 05 16.33819	15 21 34.40	-12 26 52.9	18.5	675
1982 JY1		1982 05 17.30764	15 20 45.76	-12 25 36.3	18.5	675
1982 JY1		1982 05 18.36597	15 19 52.67	-12 24 15.5	18.5	675
1982 JZ1	*	1982 05 15.27569	15 22 49.85	-12 35 16.7	18.5	675
1982 JZ1		1982 05 16.33819	15 21 53.89	-12 32 46.0	18.5	675
1982 JZ1		1982 05 16.37292	15 21 51.98	-12 32 40.9	18.5	675
1982 JZ1		1982 05 17.30764	15 21 03.25	-12 30 32.3	18.5	675
1982 JZ1		1982 05 18.36597	15 20 07.78	-12 28 08.4	18.5	675
1982 JA2	*	1982 05 15.27569	15 23 10.18	-15 00 09.7	18.5	675
1982 JA2		1982 05 16.33819	15 22 09.14	-14 48 01.4	18.5	675
1982 JA2		1982 05 16.37292	15 22 06.99	-14 47 35.5	18.5	675
1982 JA2		1982 05 17.30764	15 21 13.83	-14 36 60.0	18.5	675
1982 JA2		1982 05 18.36597	15 20 13.17	-14 24 56.0	18.5	675
1982 JB2	*	1982 05 15.27569	15 24 04.60	-14 49 57.2	18.5	675
1982 JB2		1982 05 16.37292	15 22 55.56	-14 46 31.4	18.5	675
1982 JB2		1982 05 17.30764	15 21 57.35	-14 43 39.2	18.5	675
1982 JB2		1982 05 18.36597	15 20 51.25	-14 40 23.6	18.5	675
1982 JC2	*	1982 05 15.27569	15 24 25.21	-15 40 06.2	18.5	675
1982 JC2		1982 05 16.33819	15 23 21.46	-15 34 21.7	18.5	675
1982 JC2		1982 05 17.30764	15 22 23.66	-15 29 05.4	18.5	675
1982 JD2	*	1982 05 15.27569	15 24 46.09	-11 57 00.2	18.0	675
1982 JD2		1982 05 16.33819	15 23 39.24	-11 54 51.7	18.0	675
1982 JD2		1982 05 16.37292	15 23 36.82	-11 54 47.0	18.0	675
1982 JD2		1982 05 17.30764	15 22 38.64	-11 52 58.4	18.0	675
1982 JD2		1982 05 18.36597	15 21 32.56	-11 51 01.5	18.0	675
1982 JE2	*	1982 05 15.27569	15 24 52.05	-13 28 21.7	19.0	675
1982 JE2		1982 05 16.33819	15 23 58.48	-13 25 08.3	19.0	675
1982 JE2		1982 05 16.37292	15 23 56.47	-13 24 58.5	19.0	675
1982 JE2		1982 05 17.30764	15 23 09.85	-13 22 09.0	19.0	675
1982 JF2	*	1982 05 15.27569	15 25 01.73	-15 31 41.3	18.0	675
1982 JF2		1982 05 16.33819	15 24 11.11	-15 28 43.1	18.0	675
1982 JF2		1982 05 16.37292	15 24 09.53	-15 28 36.3	18.0	675
1982 JF2		1982 05 17.30764	15 23 25.44	-15 26 00.4	18.0	675
1982 JF2		1982 05 18.36597	15 22 35.26	-15 23 01.5	18.0	675

1982	JG2	*	1982	05	15.27569	15	25	09.81	-15	20	40.6	18.5	675
1982	JG2		1982	05	16.37292	15	24	03.79	-15	23	23.8	18.5	675
1982	JG2		1982	05	17.30764	15	23	07.88	-15	25	48.4	18.5	675
1982	JG2		1982	05	18.36597	15	22	24.61	-15	27	12.2	18.5	675
1982	JH2	*	1982	05	15.27569	15	25	49.75	-13	07	10.7	18.0	675
1982	JH2		1982	05	16.33819	15	24	51.28	-13	04	49.4	18.0	675
1982	JH2		1982	05	16.37292	15	24	49.18	-13	04	43.6	18.0	675
1982	JH2		1982	05	17.30764	15	23	58.31	-13	02	41.7	18.0	675
1982	JH2		1982	05	18.36597	15	23	00.31	-13	00	26.7	18.0	675
1982	JJ2	*	1982	05	15.27569	15	26	26.28	-13	35	02.1	18.5	675
1982	JJ2		1982	05	16.33819	15	25	20.08	-13	36	01.1	18.5	675
1982	JJ2		1982	05	16.37292	15	25	17.65	-13	36	03.7	18.5	675
1982	JJ2		1982	05	17.30764	15	24	20.06	-13	37	00.6	18.5	675
1982	JJ2		1982	05	18.36597	15	23	14.29	-13	38	07.5	18.5	675
1982	JK2	*	1982	05	15.27569	15	26	56.01	-14	46	10.7	17.5	675
1982	JK2		1982	05	16.33819	15	25	56.54	-14	40	11.1	17.5	675
1982	JK2		1982	05	16.37292	15	25	54.44	-14	39	58.3	17.5	675
1982	JK2		1982	05	18.36597	15	24	03.48	-14	28	52.4	17.5	675
1982	JL2	*	1982	05	15.27569	15	27	19.51	-12	25	58.5	18.5	675
1982	JL2		1982	05	16.33819	15	26	21.82	-12	19	32.6	18.5	675
1982	JL2		1982	05	17.30764	15	25	29.17	-12	13	39.8	18.5	675
1982	JL2		1982	05	18.36597	15	24	31.41	-12	07	19.8	18.5	675
1982	JM2	*	1982	05	15.27569	15	27	36.18	-11	49	44.9	19.0	675
1982	JM2		1982	05	16.33819	15	26	35.25	-11	49	31.9	19.0	675
1982	JM2		1982	05	17.30764	15	25	39.14	-11	49	24.6	19.0	675
1982	JM2		1982	05	18.36597	15	24	38.43	-11	49	20.3	19.0	675
1982	JN2	*	1982	05	15.27569	15	28	06.41	-15	52	44.6	18.0	675
1982	JN2		1982	05	16.33819	15	27	08.75	-15	43	07.2	18.0	675
1982	JN2		1982	05	16.37292	15	27	06.84	-15	42	45.8	18.0	675
1982	JN2		1982	05	17.30764	15	26	16.62	-15	34	20.4	18.0	675
1982	JO2	*	1982	05	15.27569	15	28	26.93	-14	44	00.5	18.5	675
1982	JO2		1982	05	16.37292	15	27	31.15	-14	41	21.8	18.5	675
1982	JO2		1982	05	17.30764	15	26	31.41	-14	41	51.8	18.5	675
1982	JO2		1982	05	18.36597	15	25	23.53	-14	42	24.9	18.5	675
1982	JP2	*	1982	05	15.27569	15	29	54.39	-13	05	46.3	19.5	675
1982	JP2		1982	05	16.33819	15	29	43.64	-13	02	37.0	19.5	675
1982	JP2		1982	05	16.37292	15	29	43.42	-13	02	34.1	19.5	675
1982	JP2		1982	05	17.30764	15	29	42.25	-13	01	21.6	19.5	675
1982	JP2		1982	05	18.36597	15	29	27.93	-12	55	30.9	19.5	675
1982	JQ2	*	1982	05	15.27569	15	30	02.26	-13	12	25.8	18.5	675
1982	JQ2		1982	05	16.33819	15	28	55.91	-13	11	46.7	18.5	675
1982	JQ2		1982	05	16.37292	15	28	53.61	-13	11	44.5	18.5	675
1982	JQ2		1982	05	17.30764	15	27	55.83	-13	11	15.8	18.5	675
1982	JQ2		1982	05	18.36597	15	26	50.18	-13	10	47.1	18.5	675
1982	JR2	*	1982	05	15.27569	15	30	27.64	-11	33	42.3	18.5	675
1982	JR2		1982	05	16.37292	15	29	29.80	-11	31	23.2	18.5	675
1982	JR2		1982	05	17.30764	15	28	40.88	-11	29	26.6	18.5	675
1982	JR2		1982	05	18.36597	15	27	45.33	-11	27	20.4	18.5	675
1982	JS2	*	1982	05	15.27569	15	30	27.67	-15	34	32.7	18.5	675
1982	JS2		1982	05	16.33819	15	29	23.43	-15	28	43.9	18.5	675
1982	JS2		1982	05	17.30764	15	28	25.21	-15	23	24.7	18.5	675
1982	JS2		1982	05	18.36597	15	27	21.54	-15	17	40.2	18.5	675
1982	JT2	*	1982	05	15.27569	15	30	54.31	-16	42	49.6	18.5	675
1982	JT2		1982	05	16.33819	15	30	03.66	-16	36	55.8	18.5	675
1982	JT2		1982	05	16.37292	15	30	01.92	-16	36	42.6	18.5	675
1982	JT2		1982	05	17.30764	15	29	17.74	-16	31	32.5	18.5	675
1982	JT2		1982	05	18.36597	15	28	27.54	-16	25	35.3	18.5	675
1982	JU2	*	1982	05	15.27569	15	31	36.78	-13	08	31.0	18.5	675
1982	JU2		1982	05	16.37292	15	30	34.58	-13	04	37.1	18.5	675

1982 JU2	1982 05 18.36597	15 28 42.75	-12 57 44.4	18.5	675
1982 JV2 *	1982 05 15.27569	15 31 46.70	-13 55 58.5	18.0	675
1982 JV2	1982 05 16.33819	15 30 40.42	-13 59 05.7	18.0	675
1982 JV2	1982 05 16.37292	15 30 38.18	-13 59 11.8	18.0	675
1982 JV2	1982 05 17.30764	15 29 40.08	-14 02 00.7	18.0	675
1982 JV2	1982 05 18.36597	15 28 33.81	-14 05 13.6	18.0	675
1982 JW2 *	1982 05 15.27569	15 31 55.61	-13 54 55.8	18.0	675
1982 JW2	1982 05 16.37292	15 30 56.30	-13 50 14.9	18.0	675
1982 JW2	1982 05 17.30764	15 30 06.26	-13 46 19.7	18.0	675
1982 JW2	1982 05 18.36597	15 29 09.30	-13 41 52.5	18.0	675
1982 JX2 *	1982 05 15.27569	15 31 55.83	-12 49 10.8	19.0	675
1982 JX2	1982 05 16.33819	15 30 53.19	-12 46 07.1	19.0	675
1982 JX2	1982 05 17.30764	15 29 56.47	-12 43 22.7	19.0	675
1982 JY2 *	1982 05 15.27569	15 31 58.01	-13 57 03.8	18.5	675
1982 JY2	1982 05 16.33819	15 31 09.75	-13 53 24.8	18.5	675
1982 JY2	1982 05 16.37292	15 31 08.16	-13 53 16.8	18.5	675
1982 JY2	1982 05 17.30764	15 30 26.04	-13 50 03.9	18.5	675
1982 JY2	1982 05 18.36597	15 29 38.16	-13 46 26.8	18.5	675
1982 JZ2 *	1982 05 15.27569	15 32 09.07	-15 12 29.2	18.0	675
1982 JZ2	1982 05 16.33819	15 31 18.33	-15 06 42.4	18.0	675
1982 JZ2	1982 05 16.37292	15 31 16.68	-15 06 29.1	18.0	675
1982 JZ2	1982 05 18.36597	15 29 42.17	-14 55 40.6	18.0	675
1982 JA3 *	1982 05 15.27569	15 32 13.56	-12 48 39.0	18.5	675
1982 JA3	1982 05 16.33819	15 31 24.63	-12 43 32.4	18,5	675
1982 JA3	1982 05 16.37292	15 31 23.03	-12 43 21.8	18.5	675
1982 JA3	1982 05 17.30764	15 30 40.33	-12 38 55.1	18.5	675
1982 JA3	1982 05 18.36597	15 29 51.87	-12 33 55.9	18.5	675
1982 JB3 *	1982 05 15.27569	15 32 13.63	-12 01 22.1	18.0	675
1982 JB3	1982 05 16.33819	15 31 08.31	-12 01 51.4	18.0	675
1982 JB3	1982 05 16.37292	15 31 06.02	-12 01 52.3	18.0	675
1982 JB3	1982 05 17.30764	15 30 08.82	-12 02 21.4	18.0	675
1982 JB3	1982 05 18.36597	15 29 04.05	-12 02 57.2	18.0	675
1982 JC3	1982 05 15.27569	15 32 16.29	-15 10 10.6	18.5	675
1982 JC3	1982 05 16.33819	15 31 06.71	-15 10 19.3	18.5	675
1982 JC3	1982 05 16.37292	15 31 04.31	-15 10 19.3	18.5	675
1982 JC3	1982 05 17.30764	15 30 03.50	-15 10 29.0	18.5	675
1982 JC3	1982 05 18.36597	15 28 54.23	-15 10 40.4	18.5	675
1982 JD3 *	1982 05 15.27569	15 32 31.36	-13 19 39.5	18.5	675
1982 JD3	1982 05 16.33819	15 31 23.50	-13 18 27.4	18.5	675
1982 JD3	1982 05 16.37292	15 31 21.12	-13 18 23.7	18.5	675
1982 JD3	1982 05 17.30764	15 30 21.85	-13 17 22.1	18.5	675
1982 JD3	1982 05 18.36597	15 29 14.27	-13 16 13.0	18.5	675
1982 JE3 *	1982 05 15.27569	15 32 32.46	-11 02 42.5	19.0	675
1982 JE3	1982 05 16.33819	15 31 16.79	-10 58 09.7	19.0	675
1982 JE3	1982 05 17.30764	15 30 33.60	-10 55 14.7	19.0	675
1982 JE3	1982 05 18.36597	15 29 46.47	-10 52 07.1	19.0	675
1982 JF3 *	1982 05 15.27569	15 33 06.63	-12 05 31.7	18.5	675
1982 JF3	1982 05 16.37292	15 32 02.37	-12 05 41.8	18.5	675
1982 JF3	1982 05 17.30764	15 31 08.04	-12 05 53.5	18.5	675
1982 JF3	1982 05 18.36597	15 30 06.22	-12 06 13.3	18.5	675
1982 JG3 *	1982 05 15.27569	15 33 42.16	-15 32 11.6	18.5	675
1982 JG3	1982 05 16.33819	15 32 32.34	-15 29 24.2	18.5	675
1982 JG3	1982 05 16.37292	15 32 29.94	-15 29 17.7	18.5	675
1982 JG3	1982 05 17.30764	15 31 28.70	-15 26 51.3	18.5	675
1982 JG3	1982 05 18.36597	15 30 18.70	-15 24 05.0	18.5	675
1982 JH3 *	1982 05 15.27569	15 33 57.46	-16 47 46.2	18.0	675
1982 JH3	1982 05 16.33819	15 32 52.82	-16 41 31.6	18.0	675
1982 JH3	1982 05 16.37292	15 32 50.82	-16 41 18.8	18.0	675
1982 JH3	1982 05 17.30764	15 31 54.58	-16 35 52.7	18.0	675

1982 JH3	1982 05	18.36597	15 30	50.67	-16 29	41.1	18.0	675
1982 JJ3 *	1982 05	15.27569	15 34	19.07	-15 04	46.0	17.5	675
1982 JJ3	1982 05	16.33819	15 33	13.10	-14 59	40.4	17.5	675
1982 JJ3	1982 05	16.37292	15 33	10.87	-14 59	29.5	17.5	675
1982 JJ3	1982 05	17.30764	15 32	13.22	-14 55	02.3	17.5	675
1982 JJ3	1982 05	18.36597	15 31	07.42	-14 49	58.5	17.5	675
1982 KB1	1982 05	16.33819	15 14	37.29	-16 20	27.5	17.0	675
1982 KB1	1982 05	16.37292	15 14	34.99	-16 20	30.5	17.0	675
1982 KB1	1982 05	17.30764	15 13	34.79	-16 22	10.4	17.0	675
1982 KB1	1982 05	18.36597	15 12	26.55	-16 24	03.7	17.0	675
1982 KC1	1982 05	15.27569	15 24	48.66	-15 18	25.0	16.5	675
1982 KC1	1982 05	16.33819	15 23	53.60	-15 11	29.8	16.5	675
1982 KC1	1982 05	16.37292	15 23	51.69	-15 11	14.3	16.5	675
1982 KC1	1982 05	17.30764	15 23	03.90	-15 05	14.1	16.5	675
1982 KC1	1982 05	18.36597	15 22	09.55	-14 58	24.8	16.5	675
1982 KD1	1982 05	15.27569	15 14	35.78	-14 06	39.0	17.0	675
1982 KD1	1982 05	16.33819	15 13	38.72	-14 06	28.6	17.0	675
1982 KD1	1982 05	16.37292	15 13	36.82	-14 06	27.5	17.0	675
1982 KD1	1982 05	17.30764	15 12	47.01	-14 06	21.4	17.0	675
1982 KD1	1982 05	18.36597	15 11	50.64	-14 06	14.2	17.0	675
1982 KG1	1982 05	15.27569	15 27	21.98	-12 54	08.2	17.5	675
1982 KG1	1982 05	16.33819	15 26	16.92	-12 51	30.5	17.5	675
1982 KG1	1982 05	16.37292	15 26	14.59	-12 51	24.3	17.5	675
1982 KG1	1982 05	17.30764	15 25	17.95	-12 49	09.9	17.5	675
1982 KG1	1982 05	18.36597	15 24	13.69	-12 46	40.2	17.5	675
1982 KH1	1982 05	15.27569	15 27	13.43	-11 36	59.9	17.0	675
1982 KH1	1982 05	16.33819	15 26	12.47	-11 38	08.5	17.0	675
1982 KH1	1982 05	16.37292	15 26	10.29	-11 38	10.5	17.0	675
1982 KH1	1982 05	17.30764	15 25	16.97	-11 39	14.4	17.0	675
1982 KH1	1982 05	18.36597	15 24	16.37	-11 40	31.8	17.0	675
1982 KJ1	1982 05	15.27569	15 32	06.07	-11 08	03.5	17.0	675
1982 KJ1	1982 05	16.33819	15 30	58.74	-11 04	31.9	17.0	675
1982 KJ1	1982 05	16.37292	15 30	56.20	-11 04	24.5	17.0	675
1982 KJ1	1982 05	17.30764	15 29	57.11	-11 01	23.4	17.0	675
1982 KJ1	1982 05	18.36597	15 28	49.81	-10 58	04.2	17.0	675
1982 KK1	1982 05	15.27569	15 34	21.63	-12 48	35.9	17.5	675
1982 KK1	1982 05	16.33819	15 33	15.05	-12 46	52.0	17.5	675
1982 KK1	1982 05	16.37292	15 33	12.61	-12 46	48.6	17.5	675
1982 KK1	1982 05	17.30764	15 32	14.29	-12 45	21.5	17.5	675
1982 KK1	1982 05	18.36597	15 31	07.68	-12 43	46.0	17.5	675
1982 KC2 *	1982 05	16.33819	15 12	05.30	-14 19	02.0	18.0	675
1982 KC2	1982 05	16.37292	15 12	03.03	-14 19	02.1	18.0	675
1982 KC2	1982 05	17.30764	15 11	05.98	-14 19	02.3	18.0	675
1982 KC2	1982 05	18.36597	15 10	01.14	-14 19	06.7	18.0	675
1982 KD2 *	1982 05	16.33819	15 15	46.49	-16 47	30.6	18.5	675
1982 KD2	1982 05	16.37292	15 15	45.04	-16 47	16.0	18.5	675
1982 KD2	1982 05	17.30764	15 15	01.65	-16 41	30.7	18.5	675
1982 KE2 *	1982 05	16.33819	15 15	59.31	-10 54	31.9	18.5	675
1982 KE2	1982 05	16.37292	15 15	57.45	-10 54	32.0	18.5	675
1982 KE2	1982 05	17.30764	15 15	11.26	-10 54	41.1	18.5	675
1982 KE2	1982 05	18.36597	15 14	19.04	-10 54	51.8	18.5	675
1982 KF2 *	1982 05	16.33819	15 16	05.83	-13 50	06.5	17.5	675
1982 KF2	1982 05	16.37292	15 16	04.05	-13 50	00.1	17.5	675
1982 KF2	1982 05	17.30764	15 15	17.68	-13 47	22.7	17.5	675
1982 KF2	1982 05	18.36597	15 14	25.10	-13 44	25.4	17.5	675
1982 KG2 *	1982 05	16.33819	15 16	40.15	-14 37	36.8	18.5	675
1982 KG2	1982 05	16.37292	15 16	38.22	-14 37	24.7	18.5	675
1982 KG2	1982 05	17.30764	15 15	48.73	-14 32	30.0	18.5	675
1982 KG2	1982 05	18.36597	15 14	52.44	-14 26	56.2	18.5	675

1982 KH2	*	1982 05 16.33819	15 17 39.43	-12 52 56.6	18.5	675
1982 KH2		1982 05 16.37292	15 17 37.64	-12 52 43.2	18.5	675
1982 KH2		1982 05 17.30764	15 16 51.35	-12 47 07.1	18.5	675
1982 KH2		1982 05 18.36597	15 15 39.70	-12 41 46.3	18.5	675
1982 KJ2	*	1982 05 16.33819	15 18 08.18	-11 49 16.6	17.5	675
1982 KJ2		1982 05 16.37292	15 18 05.89	-11 49 21.3	17.5	675
1982 KJ2		1982 05 17.30764	15 17 09.88	-11 51 44.6	17.5	675
1982 KJ2		1982 05 18.36597	15 16 06.49	-11 54 30.0	17.5	675
1982 KK2	*	1982 05 16.33819	15 25 06.53	-14 02 48.6	18.5	675
1982 KK2		1982 05 16.37292	15 25 04.23	-14 02 55.1	18.5	675
1982 KK2		1982 05 17.30764	15 24 08.04	-14 05 43.6	18.5	675
1982 KK2		1982 05 18.36597	15 23 04.15	-14 08 53.3	18.5	675
1982 KL2	*	1982 05 16.33819	15 25 47.29	-16 49 57.6	18.0	675
1982 KL2		1982 05 16.37292	15 25 45.73	-16 49 50.1	18.0	675
1982 KL2		1982 05 17.30764	15 25 00.61	-16 46 55.9	18.0	675
1982 KL2		1982 05 18.36597	15 24 09.31	-16 43 33.7	18.0	675
1982 KM2	*	1982 05 16.33819	15 26 02.40	-16 33 52.9	18.5	675
1982 KM2		1982 05 16.37292	15 26 00.60	-16 33 44.0	18.5	675
1982 KM2		1982 05 17.30764	15 25 13.86	-16 30 35.3	18.5	675
1982 KM2		1982 05 18.36597	15 24 20.74	-16 26 59.1	18.5	675
1982 KN2	*	1982 05 16.33819	15 27 56.72	-16 42 27.5	18.5	675
1982 KN2		1982 05 17.30764	15 27 11.06	-16 39 36.7	18.5	675
1982 KN2		1982 05 18.36597	15 26 20.90	-16 36 30.7	18.5	675
1982 KG2	*	1982 05 16.33819	15 29 34.11	-11 59 37.3	18.5	675
1982 KG2		1982 05 16.37292	15 29 32.24	-11 59 37.1	18.5	675
1982 KG2		1982 05 18.36597	15 27 48.50	-11 59 36.3	18.5	675
1982 KP2	*	1982 05 16.33819	15 31 10.32	-11 04 54.4	18.5	675
1982 KP2		1982 05 16.37292	15 31 08.24	-11 04 49.4	18.5	675
1982 KP2		1982 05 17.30764	15 30 16.36	-11 02 53.0	18.5	675
1982 KP2		1982 05 18.36597	15 29 17.52	-11 00 44.5	18.5	675
1982 KQ2	*	1982 05 16.33819	15 33 24.91	-14 49 10.8	17.5	675
1982 KQ2		1982 05 16.37292	15 33 22.49	-14 49 07.4	17.5	675
1982 KQ2		1982 05 17.30764	15 32 21.12	-14 48 04.1	17.5	675
1982 KQ2		1982 05 18.36597	15 31 11.15	-14 46 51.4	17.5	675
1982 KR2	*	1982 05 16.33819	15 33 36.66	-11 48 10.6	19.0	675
1982 KR2		1982 05 17.30764	15 32 43.64	-11 44 29.8	19.0	675
1982 KR2		1982 05 18.36597	15 31 45.41	-11 40 32.9	19.0	675
1982 KS2	*	1982 05 17.30764	15 32 12.78	-13 13 19.8	19.0	675
1982 KS2		1982 05 18.36597	15 31 12.11	-13 07 10.4	19.0	675

OBSERVATIONS MADE WITH THE 1.2-M SCHMIDT TELESCOPE AT PALOMAR BY E. HELIN,  
E. SHOEMAKER AND R. S. DUNBAR. MEASURED BY HELIN, DUNBAR, S. SWANSON,  
C. SHOEMAKER AND J. GIBSON.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1863	1982 09	20.35833	23 59 49.23	+10 53 30.1			675
1863	1982 09	20.39306	23 59 45.07	+10 53 38.3			675
1982 RA	1982 09	18.27569	20 02 44.76	-14 45 53.1			675
1982 RA	1982 09	18.28611	20 02 43.32	-14 44 58.3			675
1982 RA	1982 09	20.13472	19 58 50.59	-12 07 41.2			675
1982 RA	1982 09	20.14514	19 58 49.42	-12 06 48.9			675
1982 RA	1982 09	20.26667	19 58 34.02	-11 56 39.0			675
1982 RA	1982 09	24.24965	19 51 47.35	-06 37 11.7			675
1982 SA	*	1982 09	20.35833	23 54 52.78	+07 54 38.6	15	1 675
1982 SA		1982 09	20.39306	23 54 49.02	+07 55 12.3		675
1982 SA		1982 09	24.32083	23 47 20.58	+08 48 08.4		675
1982 SA		1982 09	24.35556	23 47 16.62	+08 48 35.3		675
1982 ST	*	1982 09	19.45556	00 12 11.30	+18 10 00.8	16	1 675
1982 ST		1982 09	19.49028	00 12 07.95	+18 10 43.0		675
1982 ST		1982 09	20.18542	00 10 56.31	+18 19 59.3		675

1982 ST	1982 09 20.20972	00 10 53.68	+18 20 18.4		675
1982 ST	1982 09 20.41250	00 10 32.10	+18 23 19.7		675
1982 ST	1982 09 20.42639	00 10 30.82	+18 23 34.2		675
1982 SU *	1982 09 20.35833	00 04 30.16	+05 08 34.5	16.5 1	675
1982 SU	1982 09 20.39306	00 04 28.78	+05 08 04.1		675
1982 SU	1982 09 24.37500	00 00 49.90	+03 32 53.8		675
1982 SU	1982 09 24.40278	00 00 48.42	+03 32 16.3		675
1982 SV *	1982 09 20.35833	23 51 20.10	+08 33 20.0	17 1	675
1982 SV	1982 09 20.39306	23 51 18.98	+08 32 48.3		675
1982 SV	1982 09 24.32083	23 48 38.64	+07 01 04.0		675
1982 SV	1982 09 24.35556	23 48 37.22	+07 00 16.4		675
1982 SW	1982 09 20.35833	23 56 12.70	+08 46 55.6		675
1982 SW	1982 09 20.39306	23 56 09.46	+08 47 16.1		675
1982 SW *	1982 09 24.32083	23 49 44.82	+09 12 57.9	17 1	675
1982 SW	1982 09 24.35556	23 49 42.06	+09 13 08.2		675
1982 SH1	1982 09 24.37500	00 01 37.39	+04 53 30.6	17.5	675
1982 SH1	1982 09 20.39314	00 04 20.64	+06 46 19.8		675
1982 TA *	1982 10 11.12708	23 52 20.03	-00 33 06.5		2 675
1982 TA	1982 10 11.15486	23 52 13.87	-00 33 17.4		675
1982 TA	1982 10 11.16875	23 52 10.72	-00 33 22.9		675
1982 TA	1982 10 12.13125	23 48 20.60	-00 40 09.8	15.7	675
1982 TA	1982 10 12.17292	23 48 10.65	-00 40 27.2		675
1982 TA	1982 10 12.30556	23 47 37.30	-00 41 24.2		675
1982 TA	1982 10 12.32638	23 47 32.48	-00 41 31.3		675
1982 TA	1982 10 13.11875	23 44 19.12	-00 47 09.5		675
1982 TA	1982 10 13.13958	23 44 14.15	-00 47 17.2		675
1982 TA	1982 10 13.35000	23 43 20.18	-00 48 49.4		675
1982 TA	1982 10 13.36389	23 43 17.26	-00 48 53.6		675

Note 1: discoverer Helin. 2: discoverers Helin and E. Shoemaker.

## OBSERVATIONS MADE WITH THE 1.2-M SCHMIDT TELESCOPE AT PALOMAR BY J. GIBSON.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1944	1982 09 28.44106	23 44 54.92	+05 23 58.0		16	675
1944	1982 09 29.44315	23 44 19.89	+05 13 07.3			675
1980 DC	1982 09 28.44106	23 56 17.42	+02 52 44.6		17	675
1980 DC	1982 09 29.44315	23 55 27.52	+02 50 10.3			675
1980 MD	1982 09 12.47646	04 14 11.47	+10 56 36.7			675
1980 MD	1982 09 14.47161	04 14 59.86	+10 54 14.0			675
1981 RF	1982 01 15.13613	00 51 25.16	+01 49 53.1			675
1981 RF	1982 01 16.11530	00 52 58.13	+02 01 09.6			675
1982 RM1	1982 09 28.44106	23 45 14.23	+05 48 19.2		17	675
1982 RM1	1982 09 29.44315	23 44 14.06	+05 42 59.9			675
1982 SU	1982 09 28.44106	23 57 06.86	+01 54 43.0			675
1982 SU	1982 09 29.44315	23 56 12.66	+01 30 31.2			675
1982 SV	1982 09 28.44106	23 45 49.02	+05 19 13.2			675
1982 SV	1982 09 29.44315	23 45 08.43	+04 53 45.6			675
1982 SH1 *	1982 09 28.44106	23 58 50.94	+02 56 10.8		18	675
1982 SH1	1982 09 29.44315	23 58 10.90	+02 27 12.6			675

## OBSERVATIONS MADE AT THE LOWELL OBSERVATORY'S ANDERSON MESA STATION BY B. A. SKIFF. MEASURED BY E. BOWELL.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
13	1982 10 11.17986	00 02 32.87	-18 06 53.4			688
13	1982 10 11.24236	00 02 29.15	-18 06 46.8			688
24	1982 08 17.14271	18 00 43.04	-24 20 10.6			688
24	1982 09 13.12535	18 05 27.21	-24 14 45.0			688
27	1982 09 13.18681	22 28 14.78	-12 13 45.4			688
27	1982 09 15.16042	22 26 28.31	-12 23 52.7			688
27	1982 09 15.19444	22 26 26.48	-12 24 03.0			688



29	1982 09 15.22708	23 07 38.87	-07 12 15.4	688
29	1982 09 15.26597	23 07 36.61	-07 12 21.8	688
35	1982 10 13.37639	02 34 44.34	+22 56 00.0	688
35	1982 10 13.40833	02 34 42.82	+22 55 57.6	688
42	1982 05 21.36563	18 17 14.41	-21 47 10.9	688
43	1982 09 22.32917	01 02 54.06	+13 18 09.7	688
43	1982 09 22.38264	01 02 50.95	+13 17 53.8	688
43	1982 10 11.20000	00 44 14.97	+11 13 59.7	688
43	1982 10 11.26181	00 44 11.18	+11 13 31.7	688
50	1982 09 13.18681	22 20 46.19	-09 05 32.6	688
50	1982 09 15.16042	22 19 35.60	-09 17 43.1	688
50	1982 09 15.19444	22 19 34.32	-09 17 55.6	688
55	1982 10 13.37639	02 30 01.94	+19 34 42.2	688
55	1982 10 13.40833	02 30 00.30	+19 34 43.1	688
56	1982 05 28.23333	14 09 19.34	-05 10 46.2	688
56	1982 05 28.23542	14 09 19.28	-05 10 45.3	688
56	1982 05 28.23750	14 09 19.20	-05 10 45.0	688
65	1982 05 20.20694	14 05 47.26	-07 53 43.6	688
65	1982 05 20.28194	14 05 44.68	-07 53 32.0	688
65	1982 05 28.23333	14 01 54.58	-07 36 17.0	688
65	1982 05 28.23542	14 01 54.53	-07 36 16.7	688
65	1982 05 28.23750	14 01 54.48	-07 36 16.2	688
69	1982 09 22.24861	23 33 51.51	-00 25 41.8	688
69	1982 09 22.27986	23 33 50.13	-00 25 55.3	688
69	1982 10 09.17639	23 22 41.83	-02 21 16.8	688
100	1982 09 13.12535	18 15 14.34	-21 49 01.1	688
122	1982 09 15.22708	23 23 11.40	-03 37 17.5	688
122	1982 09 15.26597	23 23 09.70	-03 37 29.0	688
122	1982 09 21.23542	23 19 01.25	-04 06 23.0	688
122	1982 09 21.28194	23 18 59.31	-04 06 36.4	688
122	1982 09 22.16736	23 18 23.22	-04 10 48.5	688
122	1982 09 22.21806	23 18 21.10	-04 11 03.5	688
124	1982 05 20.20694	14 03 31.19	-09 36 41.7	688
124	1982 05 20.28194	14 03 28.32	-09 36 24.8	688
138	1982 09 22.34861	02 09 08.37	+09 39 57.9	688
142	1982 09 22.32917	01 04 13.48	+10 34 22.1	688
142	1982 09 22.38264	01 04 10.71	+10 34 08.4	688
193	1982 09 15.17639	22 45 31.04	-10 00 26.4	688
193	1982 09 15.21042	22 45 28.72	-10 00 26.2	688
193	1982 09 21.20972	22 39 04.03	-09 58 29.1	688
193	1982 09 21.26667	22 39 00.42	-09 58 27.0	688
206	1982 07 10.17500	15 41 13.82	-14 36 03.3	688
212	1982 09 22.32917	01 09 22.67	+13 23 29.9	688
212	1982 09 22.38264	01 09 20.45	+13 23 23.7	688
212	1982 10 11.20000	00 55 13.74	+12 21 38.6	688
212	1982 10 11.26181	00 55 10.70	+12 21 23.1	688
217	1982 08 26.25833	20 37 22.16	-10 33 37.9	688
220	1982 05 21.36563	18 20 24.09	-23 12 31.5	688
231	1982 09 22.31389	00 35 51.45	+06 05 48.0	688
231	1982 09 22.36736	00 35 48.75	+06 05 36.5	688
260	1982 09 15.22708	23 23 23.60	-04 48 13.6	688
260	1982 09 15.26597	23 23 22.02	-04 48 28.0	688
260	1982 09 21.23542	23 19 32.58	-05 25 24.4	688
260	1982 09 21.28194	23 19 30.77	-05 25 40.8	688
260	1982 09 22.16736	23 18 57.67	-05 31 01.3	688
260	1982 09 22.21806	23 18 55.73	-05 31 20.0	688
275	1982 09 22.18472	23 37 22.20	-07 17 12.5	688
275	1982 09 22.23333	23 37 19.87	-07 17 28.2	688
275	1982 10 09.13264	23 25 21.37	-08 40 03.4	688

275	1982	10	09.19861	23	25	18.78	-08	40	19.0	688
298	1982	09	22.31389	00	44	48.09	+04	31	14.3	688
298	1982	09	22.36736	00	44	44.85	+04	31	04.5	688
300	1982	09	15.30347	23	53	53.04	-01	32	42.8	688
300	1982	09	15.35833	23	53	50.62	-01	32	57.7	688
300	1982	09	22.24861	23	48	51.24	-02	04	17.5	688
300	1982	09	22.27986	23	48	49.94	-02	04	25.4	688
300	1982	10	09.10972	23	37	22.68	-03	14	35.3	688
300	1982	10	09.17639	23	37	20.21	-03	14	50.5	688
303	1982	09	15.17639	22	54	39.29	-06	40	39.6	688
303	1982	09	15.21042	22	54	37.58	-06	40	44.0	688
303	1982	09	21.20972	22	50	04.67	-06	55	53.7	688
303	1982	09	21.26667	22	50	02.13	-06	56	01.1	688
307	1982	07	12.19340	17	58	29.82	-22	39	10.9	688
316	1982	09	22.34861	01	53	04.74	+08	04	24.4	688
316	1982	09	22.40139	01	53	03.22	+08	04	12.8	688
334	1982	05	20.20694	13	48	32.06	-04	42	10.5	688
334	1982	05	20.28194	13	48	29.93	-04	42	02.9	688
351	1982	07	12.19340	18	00	46.33	-22	48	27.7	688
370	1982	09	15.38889	01	07	47.38	+21	53	58.6	688
370	1982	09	15.42708	01	07	45.67	+21	53	58.8	688
395	1982	10	13.37639	02	31	10.94	+18	37	32.2	688
395	1982	10	13.40833	02	31	09.44	+18	37	25.0	688
417	1982	09	22.32917	01	01	38.99	+08	00	27.1	688
417	1982	09	22.38264	01	01	36.76	+08	00	08.0	688
423	1982	09	22.42639	03	51	22.13	+13	34	02.2	688
423	1982	09	22.45417	03	51	22.14	+13	34	04.2	688
434	1982	09	21.20972	22	48	29.71	-03	20	47.6	688
434	1982	09	21.26667	22	48	27.46	-03	22	14.5	688
441	1982	09	15.31944	23	57	56.24	+12	52	34.2	688
441	1982	09	15.37361	23	57	53.64	+12	52	19.1	688
461	1982	09	15.22708	23	27	06.88	-04	06	20.8	688
461	1982	09	15.26597	23	27	05.11	-04	06	32.9	688
461	1982	09	21.23542	23	22	42.03	-04	36	48.8	688
461	1982	09	21.28194	23	22	39.99	-04	37	02.5	688
461	1982	09	22.16736	23	22	01.56	-04	41	27.6	688
461	1982	09	22.21806	23	21	59.34	-04	41	43.0	688
468	1982	09	13.18681	22	26	33.20	-10	16	09.0	688
468	1982	09	15.16042	22	25	14.22	-10	23	18.0	688
468	1982	09	15.19444	22	25	12.84	-10	23	25.5	688
469	1982	09	13.18681	22	22	01.37	-08	58	50.2	688
469	1982	09	15.16042	22	20	36.68	-09	02	42.1	688
469	1982	09	15.19444	22	20	35.21	-09	02	46.0	688
482	1982	09	15.33889	01	39	53.87	+04	32	26.5	688
482	1982	09	15.40833	01	39	52.01	+04	31	55.0	688
482	1982	10	13.31389	01	23	00.18	+00	41	40.2	688
482	1982	10	13.34583	01	22	58.66	+00	41	24.2	688
491	1982	09	21.23542	23	30	57.03	-02	28	16.8	688
491	1982	09	21.28194	23	30	55.22	-02	28	43.8	688
491	1982	09	22.16736	23	30	21.64	-02	37	38.1	688
491	1982	09	22.21806	23	30	19.76	-02	38	07.8	688
491	1982	09	22.24861	23	30	18.65	-02	38	25.2	688
491	1982	09	22.27986	23	30	17.42	-02	38	44.3	688
514	1982	08	17.14271	17	57	35.46	-22	02	03.0	688
514	1982	09	13.12535	18	04	30.98	-21	50	57.7	688
516	1982	09	15.38889	00	55	25.75	+19	22	12.1	688
516	1982	09	15.42708	00	55	23.75	+19	22	07.5	688
519	1982	09	22.26458	00	24	16.64	-12	31	53.9	688
519	1982	09	22.29514	00	24	14.86	-12	31	56.2	688

15.8

519	1982	10	11.17986	00	07	01.01	-12	21	34.3	688
519	1982	10	11.24236	00	06	57.71	-12	21	25.8	688
528	1982	09	22.34861	02	01	42.17	+03	15	54.3	688
528	1982	09	22.40139	02	01	40.43	+03	15	48.4	688
549	1982	07	17.25694	19	53	52.51	-20	25	33.8	688
549	1982	07	17.28958	19	53	50.75	-20	25	36.8	688
591	1982	09	21.20972	22	47	57.87	-03	16	26.1	688
591	1982	09	21.26667	22	47	55.02	-03	16	33.5	688
592	1982	09	13.18681	22	32	46.31	-07	13	20.3	688
592	1982	09	15.17639	22	31	26.87	-07	28	23.9	688
592	1982	09	15.21042	22	31	25.49	-07	28	40.6	688
592	1982	09	21.20972	22	27	42.39	-08	12	18.0	688
592	1982	09	21.26667	22	27	40.28	-08	12	42.6	688
604	1982	09	15.17639	22	54	50.03	-10	21	22.9	688
604	1982	09	15.21042	22	54	48.44	-10	21	27.1	688
604	1982	09	21.20972	22	50	13.46	-10	37	37.2	688
604	1982	09	21.26667	22	50	10.85	-10	37	45.3	688
609	1982	09	22.31389	01	00	23.29	+03	41	32.3	688
609	1982	09	22.36736	01	00	21.14	+03	41	15.8	688
610	1982	10	13.37639	02	23	16.37	+18	39	00.0	688
610	1982	10	13.40833	02	23	14.68	+18	39	07.3	688
629	1982	10	11.15694	23	50	01.16	-15	11	48.0	688
629	1982	10	11.22014	23	49	58.51	-15	11	56.5	688
656	1982	05	20.20694	13	49	06.81	-10	46	45.3	688
656	1982	05	20.28194	13	49	04.51	-10	46	32.7	688
657	1982	09	15.38889	01	13	17.86	+23	16	32.3	688
657	1982	09	15.42708	01	13	16.36	+23	16	32.1	688
666	1982	05	20.20694	13	49	15.19	-10	40	21.2	688
666	1982	05	20.28194	13	49	12.31	-10	39	57.4	688
696	1982	08	26.25833	20	41	06.44	-12	01	55.6	688
713	1982	07	17.33681	21	50	32.35	+02	16	54.9	688
713	1982	07	17.36806	21	50	31.58	+02	16	56.5	688
716	1982	09	15.22708	23	11	01.14	-10	13	31.3	688
716	1982	09	15.26597	23	10	59.31	-10	13	48.5	688
765	1982	09	15.16042	22	16	40.20	-07	32	15.6	688
765	1982	09	15.19444	22	16	38.32	-07	32	17.8	688
788	1982	09	22.31389	00	51	57.32	+01	37	56.2	688
788	1982	09	22.36736	00	51	55.32	+01	37	30.2	688
846	1982	09	22.24861	23	40	59.19	-01	35	52.0	688
846	1982	09	22.27986	23	40	57.74	-01	36	00.8	688
846	1982	10	09.10972	23	29	31.03	-02	50	53.3	688
846	1982	10	09.17639	23	29	28.61	-02	51	08.5	688
873	1982	09	22.34861	01	50	05.01	+05	07	30.1	688
873	1982	09	22.40139	01	50	03.08	+05	07	12.4	688
873	1982	10	13.31389	01	34	19.28	+02	57	25.2	688
873	1982	10	13.34583	01	34	17.42	+02	57	13.3	688
932	1982	10	13.37639	02	37	19.73	+19	56	45.8	688
932	1982	10	13.40833	02	37	18.01	+19	56	49.2	688
938	1982	09	15.22708	23	21	12.93	-07	49	37.1	688
938	1982	09	15.26597	23	21	11.18	-07	49	49.2	688
938	1982	09	21.23542	23	16	59.66	-08	19	29.0	688
938	1982	09	21.28194	23	16	57.70	-08	19	41.3	688
938	1982	09	22.16736	23	16	21.70	-08	23	50.2	688
938	1982	09	22.21806	23	16	19.64	-08	24	04.7	688
1011	1982	09	22.34861	02	03	14.29	+03	54	54.9	688
1011	1982	09	22.40139	02	03	12.78	+03	54	33.2	688
1016	1982	10	13.37639	02	43	43.17	+20	46	40.2	688
1016	1982	10	13.40833	02	43	41.54	+20	46	44.5	688
1027	1982	05	20.20694	13	42	01.09	-10	53	08.8	688

16.8

1027	1982 05 20.28194	13 41 58.88	-10 52 58.3	688
1082	1982 09 21.23542	23 30 06.81	-04 38 47.1	688
1082	1982 09 21.28194	23 30 04.79	-04 39 01.2	688
1082	1982 09 22.16736	23 29 27.51	-04 43 37.2	688
1082	1982 09 22.21806	23 29 25.34	-04 43 52.8	688
1109	1982 08 26.25833	20 40 45.33	-13 35 38.7	688
1114	1982 09 22.34861	01 51 57.11	+10 24 00.3	688
1114	1982 09 22.40139	01 51 55.74	+10 23 41.7	688
1126	1982 09 15.17639	22 45 30.59	-11 16 17.9	688
1126	1982 09 15.21042	22 45 28.70	-11 16 23.5	688
1129	1982 09 15.38889	01 11 54.12	+20 54 51.3	688
1129	1982 09 15.42708	01 11 52.86	+20 54 46.5	688
1136	1982 07 17.33681	21 46 04.97	+03 17 51.2	688
1136	1982 07 17.36806	21 46 04.47	+03 17 57.0	688
1181	1982 10 13.37639	02 37 07.26	+23 02 22.7	688
1181	1982 10 13.40833	02 37 06.02	+23 02 16.3	688
1186	1982 10 11.15694	23 42 46.19	-14 02 03.2	688
1186	1982 10 11.22014	23 42 43.51	-14 01 58.7	688
1195	1982 07 12.19340	17 58 50.44	-23 39 03.8	688
1204	1982 09 15.17639	22 45 52.07	-09 40 15.0	688
1204	1982 09 15.21042	22 45 50.81	-09 40 15.8	688
1204	1982 09 21.20972	22 42 49.03	-09 39 31.2	688
1204	1982 09 21.26667	22 42 47.34	-09 39 29.4	688
1228	1982 10 13.37639	02 20 15.34	+19 14 07.2	688
1228	1982 10 13.40833	02 20 13.90	+19 14 00.9	688
1247	1982 09 15.17639	22 56 06.01	-06 59 00.5	688
1247	1982 09 15.21042	22 56 04.58	-06 59 08.5	688
1262	1982 09 22.26458	00 22 16.47	-15 08 38.6	688
1262	1982 09 22.29514	00 22 15.09	-15 08 52.0	688
1262	1982 10 11.17986	00 08 47.97	-16 52 32.8	688
1262	1982 10 11.24236	00 08 45.35	-16 52 47.0	688
1272	1982 09 15.31944	23 58 00.79	+09 13 15.0	688
1272	1982 09 15.37361	23 57 57.91	+09 13 09.2	688
1272	1982 09 26.29444	23 48 06.43	+08 49 09.3	3 688
1272	1982 09 26.31458	23 48 05.28	+08 48 56.5	3 688
1295	1982 09 22.31389	00 53 59.25	+05 24 08.1	688
1295	1982 09 22.36736	00 53 57.23	+05 23 53.4	688
1319	1982 09 22.24861	23 32 41.36	+01 16 10.8	688
1319	1982 09 22.27986	23 32 40.03	+01 16 01.7	688
1319	1982 10 09.10972	23 21 23.83	-00 05 25.5	688
1319	1982 10 09.17639	23 21 21.52	-00 05 43.1	688
1349	1982 09 15.31944	00 00 35.02	+12 53 52.0	688
1349	1982 09 15.37361	00 00 32.31	+12 53 43.2	688
1358	1982 09 15.30347	00 03 24.89	-01 30 04.8	688
1358	1982 09 15.35833	00 03 21.77	-01 30 20.1	688
1384	1982 09 15.17639	22 36 02.31	-12 14 17.1	688
1384	1982 09 15.21042	22 36 00.99	-12 14 36.8	688
1413	1982 10 13.31389	01 22 01.72	+02 43 03.8	688
1413	1982 10 13.34583	01 22 00.22	+02 42 49.4	688
1421	1982 09 22.34861	02 05 09.61	+07 39 59.6	688
1421	1982 09 22.40139	02 05 07.86	+07 39 54.6	688
1429	1982 07 24.40278	23 26 16.84	-20 52 55.9	688
1457	1982 10 13.32986	01 55 47.83	+21 19 36.0	688
1457	1982 10 13.36111	01 55 46.16	+21 19 28.6	688
1481	1982 09 15.22708	23 21 29.47	-04 32 05.3	688
1481	1982 09 15.26597	23 21 27.57	-04 32 14.3	688
1481	1982 09 21.23542	23 16 48.78	-04 54 23.4	688
1481	1982 09 21.28194	23 16 46.52	-04 54 33.1	688
1481	1982 09 22.16736	23 16 06.33	-04 57 42.9	688

1481	1982 09 22.21806	23 16 04.05	-04 57 54.1	688
1497	1982 09 13.18681	22 10 31.90	-10 12 04.7	688
1497	1982 09 15.16042	22 09 13.06	-10 19 01.1	688
1497	1982 09 15.19444	22 09 11.72	-10 19 09.5	688
1530	1982 10 13.39236	02 42 15.42	+25 00 29.4	688
1530	1982 10 13.42361	02 42 14.33	+25 00 25.8	1 688
1568	1982 08 26.25833	20 33 08.17	-13 20 36.1	688
1572	1982 09 22.18472	23 42 17.84	-06 21 19.0	688
1572	1982 09 22.23333	23 42 14.97	-06 21 16.3	688
1624	1982 09 22.34861	01 53 49.85	+09 00 19.7	688
1624	1982 09 22.40139	01 53 48.16	+09 00 08.1	688
1625	1982 09 15.38889	00 56 45.15	+23 22 46.3	688
1625	1982 09 15.42708	00 56 43.49	+23 22 46.0	688
1633	1982 09 15.30347	00 02 12.93	-03 19 06.8	688
1633	1982 09 15.35833	00 02 10.75	-03 19 24.3	688
1648	1982 09 15.33889	01 53 47.14	+04 35 26.1	688
1648	1982 09 15.40833	01 53 44.66	+04 35 00.9	688
1648	1982 09 22.34861	01 49 19.27	+03 51 04.6	688
1648	1982 09 22.40139	01 49 16.79	+03 50 44.9	688
1648	1982 10 13.31389	01 30 07.27	+01 25 39.6	688
1648	1982 10 13.34583	01 30 05.12	+01 25 26.7	688
1658	1982 09 22.26458	00 30 47.89	-13 35 53.0	688
1658	1982 09 22.29514	00 30 46.24	-13 36 04.2	688
1658	1982 10 11.17986	00 14 19.11	-14 49 39.7	688
1658	1982 10 11.24236	00 14 16.06	-14 49 46.1	688
1662	1982 09 21.23542	23 11 56.62	-02 14 23.3	688
1662	1982 09 21.28194	23 11 54.08	-02 14 31.7	688
1662	1982 09 22.16736	23 11 10.03	-02 17 25.5	688
1662	1982 09 22.21806	23 11 07.51	-02 17 35.7	688
1666	1982 10 13.32986	01 50 26.67	+16 34 23.7	15.2 688
1666	1982 10 13.36111	01 50 24.81	+16 34 12.0	688
1712	1982 10 13.39236	02 52 38.66	+24 57 41.8	688
1712	1982 10 13.42361	02 52 37.46	+24 57 31.2	688
1741	1982 09 15.30347	00 12 39.53	-02 48 51.0	688
1741	1982 09 15.35833	00 12 37.02	-02 49 07.8	688
1743	1982 05 20.20694	13 41 39.59	-04 28 36.5	688
1743	1982 05 20.28194	13 41 37.80	-04 28 20.0	688
1762	1982 09 15.22708	23 11 26.06	-05 45 34.2	688
1762	1982 09 15.26597	23 11 24.22	-05 45 48.2	688
1762	1982 09 21.23542	23 06 56.08	-06 19 03.9	688
1762	1982 09 21.28194	23 06 53.87	-06 19 17.4	688
1762	1982 09 22.16736	23 06 15.74	-06 24 03.3	688
1762	1982 09 22.21806	23 06 13.50	-06 24 20.0	688
1769	1982 09 15.17639	22 34 36.17	-07 22 30.5	688
1769	1982 09 15.21042	22 34 34.38	-07 22 37.4	688
1769	1982 09 21.20972	22 30 08.05	-07 42 45.1	688
1769	1982 09 21.26667	22 30 05.64	-07 42 55.2	688
1772	1982 10 13.31389	01 39 19.92	+01 29 18.6	688
1772	1982 10 13.34583	01 39 18.01	+01 29 11.7	688
1776	1982 10 13.31389	01 22 46.92	+02 45 07.3	688
1776	1982 10 13.34583	01 22 45.36	+02 44 54.0	688
1778	1982 09 15.22708	23 22 07.57	-07 29 55.2	688
1778	1982 09 15.26597	23 22 05.70	-07 30 05.2	688
1778	1982 09 22.16736	23 17 10.38	-08 01 44.7	688
1778	1982 09 22.21806	23 17 08.39	-08 01 57.2	688
1785	1982 07 17.25694	19 53 19.49	-19 25 24.6	688
1785	1982 07 17.28958	19 53 17.33	-19 25 25.1	688
1790	1982 10 13.37639	02 33 33.19	+19 45 35.4	16.5 688
1790	1982 10 13.40833	02 33 31.17	+19 45 34.0	688

1793	1982 08 26.25833	20 34 31.50	-16 06 06.6	688
1811	1982 09 15.16042	22 16 06.01	-08 33 15.4	688
1811	1982 09 15.19444	22 16 04.77	-08 33 28.9	688
1830	1982 09 15.22708	23 13 23.87	-07 50 18.6	688
1830	1982 09 15.26597	23 13 21.59	-07 50 37.0	688
1830	1982 09 21.23542	23 07 52.59	-08 35 51.5	688
1830	1982 09 22.16736	23 07 03.15	-08 42 32.4	688
1830	1982 09 22.21806	23 07 00.45	-08 42 54.1	688
1833	1982 10 11.15694	23 46 39.44	-09 00 37.2	688
1833	1982 10 11.22014	23 46 37.18	-09 01 00.8	688
1844	1982 10 11.17986	00 20 08.81	-16 08 03.5	688
1844	1982 10 11.24236	00 20 06.31	-16 08 14.1	688
1845	1982 09 15.33889	01 37 15.06	-02 29 49.7	688
1845	1982 09 15.40833	01 37 13.17	-02 30 18.7	688
1879	1982 10 09.10972	23 14 37.64	-01 39 06.1	688
1879	1982 10 09.17639	23 14 34.84	-01 39 28.5	688
1885	1982 10 13.39236	02 47 45.77	+26 57 04.5	688
1885	1982 10 13.42361	02 47 43.74	+26 57 04.1	688
1908	1982 10 13.32986	02 03 28.48	+14 27 30.1	688
1908	1982 10 13.36111	02 03 26.95	+14 27 26.3	688
1944	1982 10 09.10972	23 39 42.58	+03 31 28.3	688
1944	1982 10 09.17639	23 39 40.94	+03 30 48.3	688
1955	1982 09 15.22708	23 05 08.20	-04 10 42.9	16.8 688
1955	1982 09 15.26597	23 05 06.32	-04 10 55.2	688
1957	1982 09 22.26458	00 25 17.87	-11 20 10.8	16.8 688
1957	1982 09 22.29514	00 25 16.30	-11 20 16.1	688
1957	1982 10 11.17986	00 09 49.31	-11 59 20.1	688
1957	1982 10 11.24236	00 09 46.27	-11 59 24.0	688
1976	1982 09 21.23542	23 21 03.25	-08 24 58.8	688
1976	1982 09 22.16736	23 20 13.68	-08 29 57.5	688
1976	1982 09 22.21806	23 20 11.07	-08 30 11.1	688
2000	1982 07 17.33681	21 49 26.68	+03 16 03.6	688
2000	1982 07 17.36806	21 49 25.14	+03 16 22.1	688
2021	1982 09 15.40833	01 34 03.43	+03 38 33.7	688
2025	1982 10 09.10972	23 17 54.00	+00 29 32.0	688
2025	1982 10 09.17639	23 17 51.55	+00 29 20.8	688
2128	1982 09 15.22708	23 27 51.65	-09 38 05.3	688
2128	1982 09 15.26597	23 27 48.40	-09 37 28.9	688
2128	1982 09 21.23542	23 20 20.70	-08 06 52.3	688
2128	1982 09 22.16736	23 19 14.49	-07 52 34.4	688
2128	1982 09 22.21806	23 19 10.85	-07 51 53.1	688
2153	1982 09 21.23542	23 17 21.91	-06 11 59.6	688
2153	1982 09 22.16736	23 16 40.33	-06 16 03.2	688
2153	1982 09 22.21806	23 16 38.24	-06 16 16.5	688
2168	1982 10 13.32986	01 56 19.71	+20 32 03.0	688
2168	1982 10 13.36111	01 56 17.87	+20 31 55.8	688
2179	1982 10 13.32986	01 49 06.04	+14 45 00.1	688
2179	1982 10 13.36111	01 49 04.34	+14 44 58.8	688
2185	1982 08 26.27431	21 32 11.02	-32 10 33.9	688
2193	1982 09 22.26458	00 08 39.58	-10 54 44.7	16.2 688
2193	1982 09 22.29514	00 08 38.05	-10 54 49.6	688
2193	1982 10 11.15694	23 53 40.80	-11 22 01.9	688
2193	1982 10 11.22014	23 53 37.99	-11 22 03.0	688
2217	1982 09 15.17639	22 36 21.30	-10 51 14.9	16.5 688
2217	1982 09 15.21042	22 36 20.01	-10 51 24.8	688
2222	1982 09 15.17639	22 50 31.48	-11 15 54.3	688
2222	1982 09 15.21042	22 50 30.15	-11 16 00.6	688
2232	1982 09 21.20972	22 30 59.62	-03 59 57.2	688
2232	1982 09 21.26667	22 30 57.50	-04 00 18.2	688

2268		1982 09 22.34861	02 00 13.79	+07 12 19.2		688
2268		1982 09 22.40139	02 00 12.24	+07 12 08.5		688
2270		1982 09 15.26597	23 14 26.44	-08 16 46.9		688
2270		1982 09 21.23542	23 10 08.35	-08 44 00.0		688
2270		1982 09 22.16736	23 09 29.39	-08 47 41.3		688
2270		1982 09 22.21806	23 09 27.14	-08 47 52.5		688
2315		1982 08 26.27431	21 14 57.96	-31 48 47.3		688
2324		1982 09 15.19444	22 04 47.93	-11 37 51.2	16.8	688
2338		1982 09 22.34861	01 52 55.19	+06 28 32.6		688
2338		1982 09 22.40139	01 52 53.40	+06 28 19.2		688
2358		1982 10 13.39236	02 38 00.20	+27 36 53.6		688
2358		1982 10 13.42361	02 37 58.82	+27 36 56.2		688
2378		1982 10 13.31389	01 24 21.97	+00 56 02.4		688
2378		1982 10 13.34583	01 24 20.43	+00 55 43.0		688
2383		1982 09 22.24861	23 50 13.08	-02 58 19.5		688
2383		1982 09 22.27986	23 50 11.13	-02 58 28.9		688
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2412		1982 10 11.26181	00 53 38.05	+17 41 21.1		688
2428		1982 08 26.27431	21 12 43.44	-27 08 39.0		688
2433		1982 09 22.31389	01 00 34.08	+06 00 16.1		688
2433		1982 09 22.36736	01 00 31.53	+05 59 50.0		688
2434		1982 10 11.15694	23 37 39.62	-14 53 58.9	16.5	688
2434		1982 10 11.22014	23 37 36.65	-14 53 45.0		688
2464		1982 09 22.31389	00 38 20.73	+04 05 05.6	16.8	688
2464		1982 09 22.36736	00 38 18.23	+04 04 51.5		688
2494		1982 09 15.38889	01 06 44.51	+24 55 19.0		688
2494		1982 09 15.42708	01 06 43.16	+24 55 19.9		688
2498		1982 09 15.22708	23 08 45.50	-04 53 48.5		688
2498		1982 09 15.26597	23 08 43.57	-04 53 59.4		688
2504		1982 09 15.30347	23 52 25.40	-02 29 32.5		688
2504		1982 09 22.24861	23 46 37.37	-02 58 38.8	1	688
2504		1982 09 22.27986	23 46 35.48	-02 58 47.8		688
2504		1982 10 09.10972	23 33 25.24	-04 01 06.6		688
2504		1982 10 09.17639	23 33 22.33	-04 01 16.9		688
2520		1982 10 13.37639	02 36 21.46	+19 53 17.3	17.0	688
2520		1982 10 13.40833	02 36 19.94	+19 53 16.2		688
2556		1982 07 17.25694	19 56 45.37	-19 48 55.8	3	688
2556		1982 07 17.28958	19 56 43.44	-19 49 01.5		688
2670		1982 07 17.25694	19 50 52.64	-18 16 31.6		688
2670		1982 07 17.28958	19 50 51.00	-18 16 31.8		688
2681		1982 05 20.20694	13 52 14.81	-08 33 51.4		688
2681		1982 05 20.28194	13 52 12.08	-08 33 45.0		688
2685		1982 07 17.33681	21 49 40.28	+04 47 57.1		688
2685		1982 07 17.36806	21 49 39.18	+04 47 58.5		688
2717		1982 05 20.20694	13 49 08.85	-06 16 00.6	16.8	688
2717		1982 05 20.28194	13 49 05.45	-06 15 42.2		688
2744		1982 09 15.31944	23 58 54.12	+13 31 46.2	16.5	688
2744		1982 09 15.37361	23 58 51.60	+13 32 10.8		688
2753		1982 09 15.16042	22 25 11.40	-10 44 06.3	16.8	688
2753		1982 09 15.19444	22 25 09.72	-10 44 09.1		688
2756		1982 09 15.16042	22 16 57.27	-12 32 31.3	17.0	688
2756		1982 09 15.19444	22 16 55.70	-12 32 34.2		688
2758		1982 09 21.20972	22 35 52.51	-07 38 38.9	17.0	688
2758		1982 09 21.26667	22 35 49.63	-07 38 47.2		688
1942	TJ	1982 09 15.38889	01 08 15.11	+20 45 16.1	16.2	688
1942	TJ	1982 09 15.42708	01 08 13.94	+20 45 14.0		688
1965	UU1	1982 10 11.17986	00 10 44.34	-18 40 47.4	16.8	688
1965	UU1	1982 10 11.24236	00 10 40.79	-18 40 35.9		688
1972	RX3	1982 09 22.26458	00 07 35.51	-11 07 53.7	15.5	688

1972	RX3	1982	09	22.29514	00	07	33.65	-11	07	59.0		688
1978	QW2	1982	10	13.37639	02	23	55.55	+16	55	29.7	16.8	688
1978	QW2	1982	10	13.40833	02	23	53.76	+16	55	25.5		688
1978	QB3	1982	10	13.37639	02	30	21.40	+20	53	54.7	16.5	688
1978	QB3	1982	10	13.40833	02	30	19.70	+20	53	55.1		688
1978	UC	1982	09	15.17639	22	30	51.22	-09	27	40.6	16.8	688
1978	UC	1982	09	15.21042	22	30	49.13	-09	27	40.7		688
1978	UC	1982	09	21.20972	22	25	19.02	-09	25	38.3	17.0	688
1978	UC	1982	09	21.26667	22	25	16.00	-09	25	36.8		688
1979	XE	1982	10	11.17986	00	05	22.35	-15	26	33.8	17.0	688
1979	XE	1982	10	11.24236	00	05	19.03	-15	26	52.3		688
1980	DA	1982	10	13.37639	02	29	53.24	+20	54	34.5	17.0	688
1980	DA	1982	10	13.40833	02	29	51.69	+20	54	27.2		688
1980	XE	1982	09	13.16736	21	55	15.13	+15	19	39.1	16.8	688
1980	XE	1982	09	21.19444	21	46	42.90	+15	00	54.3	17.0	688
1980	XE	1982	09	21.25139	21	46	39.16	+15	00	42.9		688
1981	JS	1982	10	13.32986	01	52	32.25	+14	29	57.5	17.5	688
1981	JS	1982	10	13.36111	01	52	30.67	+14	29	47.3		3 688
1982	HN1	1982	05	20.20694	13	57	53.67	-07	26	53.9	16.8	688
1982	HN1	1982	05	20.28194	13	57	50.91	-07	26	46.1		688
1982	HO1	1982	05	20.20694	13	56	07.32	-07	40	56.4	17.0	688
1982	HO1	1982	05	20.28194	13	56	03.74	-07	41	13.0		688
1982	HQ1	1982	05	20.20694	13	58	11.58	-07	58	51.0	17.0	688
1982	HQ1	1982	05	20.28194	13	58	07.61	-07	58	58.4		688
1982	KB2	* 1982	05	20.20694	13	57	04.97	-03	53	25.7	17.0	6 688
1982	KB2	1982	05	20.28194	13	57	01.37	-03	53	25.5		688
1982	QE	1982	09	15.17639	22	32	00.37	-05	11	34.9	16.2	688
1982	QE	1982	09	15.21042	22	31	58.51	-05	11	40.8		688
1982	QE	1982	09	21.20972	22	27	14.18	-05	28	06.9	16.2	688
1982	QE	1982	09	21.26667	22	27	11.53	-05	28	15.2		688
1982	QH	1982	09	15.17639	22	42	53.48	-09	16	12.1	16.8	688
1982	QH	1982	09	15.21042	22	42	52.09	-09	16	22.8		688
1982	QH	1982	09	21.20972	22	38	48.17	-09	44	50.0	16.8	688
1982	QH	1982	09	21.26667	22	38	45.92	-09	45	05.7		688
1982	RC	* 1982	09	15.22708	23	05	20.73	-10	27	32.3	17.0	4 688
1982	RC	1982	09	15.26597	23	05	18.89	-10	27	46.6		688
1982	RD	* 1982	09	15.22708	23	12	26.04	-03	47	06.1	17.0	4 688
1982	RD	1982	09	15.26597	23	12	24.21	-03	47	24.6		688
1982	RD	1982	09	21.23542	23	07	55.46	-04	27	09.4		688
1982	RD	1982	09	22.16736	23	07	15.24	-04	33	12.5	17.0	688
1982	RD	1982	09	22.21806	23	07	13.25	-04	33	34.0		688
1982	RE	* 1982	09	15.26597	23	14	34.53	-07	38	50.7	16.8	4 688
1982	RE	1982	09	21.23542	23	10	03.28	-08	21	36.5		688
1982	RE	1982	09	22.16736	23	09	22.23	-08	28	02.1	17.0	688
1982	RE	1982	09	22.21806	23	09	20.26	-08	28	24.5		688
1982	RF	* 1982	09	15.22708	23	18	06.38	-04	09	53.5	16.5	4 688
1982	RF	1982	09	15.26597	23	18	04.56	-04	10	09.6		688
1982	RF	1982	09	21.23542	23	13	51.83	-04	51	14.1		688
1982	RF	1982	09	22.16736	23	13	14.37	-04	57	25.5	17.0	688
1982	RF	1982	09	22.21806	23	13	12.32	-04	57	44.7		688
1982	RG	* 1982	09	15.22708	23	18	58.35	-04	50	12.7	16.5	4 688
1982	RG	1982	09	15.26597	23	18	56.32	-04	50	30.8		688
1982	RG	1982	09	21.23542	23	13	52.65	-05	36	45.3		688
1982	RG	1982	09	21.28194	23	13	50.08	-05	37	06.3		688
1982	RG	1982	09	22.16736	23	13	07.01	-05	43	43.1	16.8	688
1982	RG	1982	09	22.21806	23	13	04.45	-05	44	05.9		688
1982	RH	* 1982	09	15.22708	23	23	15.39	-04	46	00.9	17.0	4 688
1982	RH	1982	09	15.26597	23	23	13.62	-04	46	25.4		688
1982	RH	1982	09	21.23542	23	18	55.33	-05	51	56.2		688



1982 RH		1982 09	22.16736	23 18	16.45	-06 01	52.2	16.8	688
1982 RH		1982 09	22.21806	23 18	14.18	-06 02	26.0		688
1982 RJ	*	1982 09	15.24653	23 33	01.95	-16 55	13.1	17.0	4 688
1982 RJ		1982 09	15.28472	23 32	59.89	-16 55	24.1		688
1982 RK	*	1982 09	15.24653	23 34	44.36	-12 16	53.2	16.2	4 688
1982 RK		1982 09	15.28472	23 34	42.15	-12 17	09.9		688
1982 RK		1982 09	22.18472	23 28	29.40	-13 05	46.7	16.5	688
1982 RK		1982 09	22.23333	23 28	26.88	-13 06	03.7		688
1982 RK		1982 10	09.13264	23 15	52.21	-14 16	39.6	16.8	688
1982 RK		1982 10	09.19861	23 15	49.70	-14 16	47.7		688
1982 RL	*	1982 09	15.24653	23 39	54.16	-12 46	10.7	15.2	4 688
1982 RL		1982 09	15.28472	23 39	52.23	-12 46	30.6		688
1982 RL		1982 09	22.18472	23 34	26.46	-13 39	48.5	15.5	688
1982 RL		1982 09	22.23333	23 34	24.07	-13 40	09.2		688
1982 RL		1982 10	09.13264	23 23	47.54	-14 53	55.3	16.0	688
1982 RL		1982 10	09.19861	23 23	45.68	-14 54	02.5		688
1982 RM	*	1982 09	15.24653	23 44	42.79	-10 34	12.4	16.5	4 688
1982 RM		1982 09	15.28472	23 44	40.89	-10 34	19.3		688
1982 RM		1982 09	22.18472	23 38	51.44	-10 51	41.1	16.8	688
1982 RM		1982 09	22.23333	23 38	48.84	-10 51	47.9		688
1982 RN	*	1982 09	15.24653	23 47	08.42	-11 14	00.2	16.0	4 688
1982 RN		1982 09	15.28472	23 47	06.34	-11 14	15.6		688
1982 RN		1982 09	22.18472	23 40	52.76	-11 55	38.1	16.2	688
1982 RN		1982 09	22.23333	23 40	50.02	-11 55	53.6		688
1982 RN		1982 10	09.13264	23 27	32.92	-12 54	13.7	16.5	688
1982 RN		1982 10	09.19861	23 27	30.34	-12 54	20.0		688
1982 RO	*	1982 09	15.24653	23 47	24.55	-10 21	42.7	16.8	4 688
1982 RO		1982 09	15.28472	23 47	22.44	-10 21	50.0		688
1982 RO		1982 09	22.18472	23 40	53.76	-10 39	20.3	16.8	688
1982 RO		1982 09	22.23333	23 40	50.83	-10 39	26.8		688
1982 RP	*	1982 09	15.31944	23 53	45.32	+13 14	42.1	17.2	4 688
1982 RP		1982 09	15.37361	23 53	42.38	+13 14	33.5		688
1982 RQ	*	1982 09	15.31944	23 55	49.17	+09 03	54.0	17.0	4 688
1982 RQ		1982 09	15.37361	23 55	46.89	+09 03	32.4		688
1982 RR	*	1982 09	15.30347	23 57	57.82	-01 07	03.0	16.2	4 688
1982 RR		1982 09	15.35833	23 57	56.54	-01 08	05.4		688
1982 RR		1982 10	11.15694	23 49	52.77	-08 44	59.7	16.5	688
1982 RR		1982 10	11.22014	23 49	51.99	-08 45	53.1		688
1982 RS	*	1982 09	15.33889	01 48	07.87	+04 14	59.6	17.2	4 688
1982 RS		1982 09	15.40833	01 48	06.49	+04 14	58.4		688
1982 RS		1982 09	22.34861	01 44	24.29	+04 01	01.3	17.0	688
1982 RS		1982 09	22.40139	01 44	22.01	+04 00	56.4		688
1982 RT	*	1982 09	15.33889	01 50	23.72	-02 01	46.3	16.8	4 688
1982 RT		1982 09	15.40833	01 50	21.62	-02 01	59.0		688
1982 RT		1982 10	13.31389	01 30	39.65	-03 29	29.8	16.5	688
1982 RT		1982 10	13.34583	01 30	37.88	-03 29	34.3		688
1982 RU	*	1982 09	15.33889	01 52	00.77	+04 45	14.7	16.8	4 688
1982 RU		1982 09	15.40833	01 51	59.91	+04 44	37.9		688
1982 RU		1982 09	22.34861	01 50	06.85	+03 36	09.0	16.5	688
1982 RU		1982 09	22.40139	01 50	05.62	+03 35	36.8		688
1982 RU		1982 10	13.31389	01 39	09.45	-00 09	44.3	15.8	688
1982 RU		1982 10	13.34583	01 39	08.09	-00 10	05.2		688
1982 RV	*	1982 09	15.16042	22 19	20.71	-05 57	09.9	16.8	4 688
1982 RV		1982 09	15.19444	22 19	19.10	-05 57	17.7		688
1982 RW	*	1982 09	15.16042	22 24	01.36	-08 31	53.4	16.8	4 688
1982 RW		1982 09	15.19444	22 23	59.84	-08 31	59.2		688
1982 RX	*	1982 09	15.38889	00 55	57.67	+20 07	19.4	17.0	4 688
1982 RX		1982 09	15.42708	00 55	55.74	+20 07	24.1		688
1982 SA		1982 09	26.29444	23 43	36.03	+09 13	33.5	15.5	688

1982 SA		1982 09 26.31458	23 43 33.68	+09 13 49.4			688
1982 SB	*	1982 09 22.16736	23 23 39.88	-01 07 20.2	16.8	4	688
1982 SB		1982 09 22.21806	23 23 37.45	-01 07 36.6			688
1982 SO	*	1982 09 22.16736	23 27 21.49	-00 46 38.7	16.8	4	688
1982 SO		1982 09 22.21806	23 27 18.54	-00 46 30.2			688
1982 SD	*	1982 09 22.16736	23 30 04.86	-06 43 53.9	16.8	4	688
1982 SD		1982 09 22.18472	23 30 03.76	-06 43 56.8			688
1982 SD		1982 09 22.21806	23 30 02.01	-06 44 06.1			688
1982 SD		1982 09 22.23333	23 30 00.94	-06 44 09.8			688
1982 SE	*	1982 09 22.18472	23 31 55.49	-07 44 28.9	16.8	4	688
1982 SE		1982 09 22.23333	23 31 52.79	-07 44 40.6			688
1982 SF	*	1982 09 22.18472	23 36 55.52	-08 37 31.1	16.5	4	688
1982 SF		1982 09 22.23333	23 36 53.37	-08 37 56.4			688
1982 SF		1982 10 09.13264	23 26 02.13	-10 41 44.4	16.8		688
1982 SF		1982 10 09.19861	23 26 00.02	-10 42 05.2			688
1982 SG	*	1982 09 22.18472	23 46 43.41	-08 33 02.6	16.5	4	688
1982 SG		1982 09 22.23333	23 46 41.96	-08 34 12.1			688
1982 SH	*	1982 09 22.18472	23 48 00.86	-08 49 42.9	16.2	4	688
1982 SH		1982 09 22.23333	23 47 58.14	-08 50 01.1			688
1982 SH		1982 10 09.13264	23 34 18.63	-10 09 23.4	16.5		688
1982 SH		1982 10 09.19861	23 34 15.82	-10 09 35.4			688
1982 SH		1982 10 11.15694	23 33 00.91	-10 14 41.6			688
1982 SH		1982 10 11.22014	23 32 58.28	-10 14 51.3			688
1982 SJ	*	1982 09 22.24861	23 31 49.34	+02 53 41.0	16.5	4	688
1982 SJ		1982 09 22.27986	23 31 48.03	+02 53 17.4			688
1982 SJ		1982 10 09.10972	23 23 15.41	-00 32 03.6	16.2		688
1982 SJ		1982 10 09.17639	23 23 13.96	-00 32 46.3			688
1982 SK	*	1982 09 22.24861	23 42 28.83	+00 41 31.5	16.0	4	688
1982 SK		1982 09 22.27986	23 42 26.92	+00 41 20.3			688
1982 SK		1982 10 09.10972	23 27 48.87	-00 51 32.9	16.5		688
1982 SK		1982 10 09.17639	23 27 45.93	-00 51 51.6			688
1982 SL	*	1982 09 22.24861	23 49 49.14	+02 59 18.4	16.5	4	688
1982 SL		1982 09 22.27986	23 49 47.60	+02 59 04.7			688
1982 SL		1982 10 09.10972	23 38 24.70	+00 55 30.4	16.8		688
1982 SL		1982 10 09.17639	23 38 22.57	+00 55 04.3			688
1982 SM		1982 09 22.26458	00 09 34.22	-16 27 21.3	17.0	4	688
1982 SM		1982 09 22.29514	00 09 32.54	-16 27 28.4			688
1982 SN	*	1982 09 22.26458	00 11 52.64	-12 50 56.0	16.8	4	688
1982 SN		1982 09 22.29514	00 11 50.56	-12 51 02.8			688
1982 SO	*	1982 09 22.26458	00 13 11.65	-13 49 00.6	15.2	4	688
1982 SO		1982 09 22.29514	00 13 10.10	-13 49 10.1			688
1982 SO		1982 10 11.17986	23 58 57.44	-14 48 55.5	15.8		688
1982 SO		1982 10 11.24236	23 58 54.91	-14 48 59.3			688
1982 SP	*	1982 09 22.26458	00 13 36.88	-13 43 16.5	16.5	4	688
1982 SP		1982 09 22.29514	00 13 35.24	-13 43 28.9			688
1982 SP		1982 10 11.17986	23 58 40.23	-14 55 23.5	17.0		688
1982 SP		1982 10 11.24236	23 58 37.45	-14 55 27.5			688
1982 SQ	*	1982 09 22.26458	00 17 40.22	-15 18 17.1	16.0	4	688
1982 SQ		1982 09 22.29514	00 17 38.79	-15 18 31.2			688
1982 SR	*	1982 09 22.26458	00 23 52.10	-13 24 59.5	16.8	4	688
1982 SR		1982 09 22.29514	00 23 50.50	-13 25 09.6			688
1982 SR		1982 10 11.17986	00 08 29.62	-14 11 09.9	17.0		688
1982 SR		1982 10 11.24236	00 08 26.61	-14 11 09.7			688
1982 SS	*	1982 09 22.26458	00 24 15.96	-13 54 40.7	16.8	4	688
1982 SS		1982 09 22.29514	00 24 14.53	-13 54 53.1			688
1982 SS		1982 10 11.17986	00 05 06.94	-16 48 24.9	16.5		688
1982 SS		1982 10 11.24236	00 05 04.61	-16 48 29.5			688
1982 SU		1982 10 13.27778	23 43 38.88	-00 48 19.4	15.8		688
1982 SU		1982 10 13.29722	23 43 33.86	-00 48 27.0			688

1982	SC1	*	1982	09	22.31389	00	41	00.14	+07	49	52.6	16.8	4	688
1982	SC1		1982	09	22.36736	00	40	57.33	+07	49	50.3			688
1982	SD1	*	1982	09	22.31389	00	47	54.22	+07	36	09.6	17.0	4	688
1982	SD1		1982	09	22.36736	00	47	51.08	+07	36	05.2			688
1982	SE1	*	1982	09	22.32917	00	57	41.82	+12	53	10.5	16.8	4	688
1982	SE1		1982	09	22.38264	00	57	39.60	+12	53	01.1			688
1982	SE1		1982	10	11.20000	00	44	00.17	+11	35	55.6	16.8	1	688
1982	SE1		1982	10	11.26181	00	43	57.42	+11	35	38.5			688
1982	SF1	*	1982	09	22.32917	01	01	27.10	+16	04	30.0	16.8	4	688
1982	SF1		1982	09	22.38264	01	01	24.07	+16	04	36.4			688
1982	SF1		1982	10	11.20000	00	43	22.55	+16	25	22.2	16.5		688
1982	SF1		1982	10	11.26181	00	43	18.72	+16	25	23.3			688
1982	SG1	*	1982	09	22.32917	01	03	54.61	+11	15	05.9	17.2	4	688
1982	SG1		1982	09	22.38264	01	03	51.39	+11	15	24.0			688
1982	TA		1982	10	13.27778	23	43	38.88	-00	48	19.4	15.8		688
1982	TA		1982	10	13.29722	23	43	33.86	-00	48	27.0			688
1982	TA		1982	10	17.17153	23	26	47.17	-01	15	47.8	15.5		688
1982	TA		1982	10	17.18958	23	26	42.10	-01	15	56.4			688
1982	TB	*	1982	10	11.20000	00	39	57.15	+12	50	22.8	16.8	4	688
1982	TB		1982	10	11.26181	00	39	54.22	+12	49	56.7			688
1982	TC	*	1982	10	11.20000	00	45	10.03	+12	12	43.9	16.8	4	688
1982	TC		1982	10	11.26181	00	45	05.92	+12	12	29.6			688
1982	TD	*	1982	10	11.20000	00	45	52.01	+12	07	54.3	16.8	4	688
1982	TD		1982	10	11.26181	00	45	48.03	+12	07	35.0			688
1982	TE	*	1982	10	11.20000	00	56	34.10	+11	18	11.7	17.0	4	688
1982	TE		1982	10	11.26181	00	56	31.42	+11	18	02.2			688
1982	TF	*	1982	10	13.31389	01	18	24.41	+02	54	52.9	17.0	4	688
1982	TF		1982	10	13.34583	01	18	22.78	+02	54	48.1			688
1982	TG	*	1982	10	13.31389	01	26	06.90	+03	02	24.7	17.2	4	688
1982	TG		1982	10	13.34583	01	26	04.60	+03	02	19.9			688
1982	TH	*	1982	10	13.31389	01	28	33.52	+00	05	46.4	16.2	4	688
1982	TH		1982	10	13.34583	01	28	31.56	+00	05	38.6			688
1982	TJ	*	1982	10	13.31389	01	32	22.86	+03	29	07.7	16.2	4	688
1982	TJ		1982	10	13.34583	01	32	21.80	+03	29	03.7			688
1982	TK	*	1982	10	13.31389	01	34	06.41	+03	45	16.3	16.5	4	688
1982	TK		1982	10	13.34583	01	34	04.45	+03	45	08.5			688
1982	TL	*	1982	10	13.32986	01	47	18.98	+14	10	49.0	16.5	5	688
1982	TL		1982	10	13.36111	01	47	16.96	+14	10	56.0			688
1982	TM	*	1982	10	13.32986	01	49	01.42	+20	49	00.2	17.0	4	688
1982	TM		1982	10	13.36111	01	48	59.65	+20	48	51.3			688
1982	TN	*	1982	10	13.32986	01	49	44.21	+18	52	39.2	16.8	4	688
1982	TN		1982	10	13.36111	01	49	42.44	+18	52	27.5			688
1982	TO	*	1982	10	13.32986	02	06	40.54	+22	18	54.5	16.2	4	688
1982	TO		1982	10	13.36111	02	06	38.58	+22	19	01.3			688
1982	TP	*	1982	10	13.37639	02	20	17.95	+22	55	06.6	16.8	4	688
1982	TP		1982	10	13.40833	02	20	16.18	+22	54	58.5			688
1982	TQ	*	1982	10	13.37639	02	21	56.62	+16	44	22.6	16.8	4	688
1982	TQ		1982	10	13.40833	02	21	55.21	+16	44	10.1			688
1982	TR	*	1982	10	13.37639	02	24	37.33	+21	48	09.1	17.0	4	688
1982	TR		1982	10	13.40833	02	24	35.61	+21	48	07.1			688
1982	TS	*	1982	10	13.37639	02	42	07.08	+17	02	41.3	17.0	4	688
1982	TS		1982	10	13.40833	02	42	05.69	+17	02	34.5			688
1982	TT	*	1982	10	13.39236	02	44	45.27	+25	51	32.0	16.8	4	688
1982	TT		1982	10	13.42361	02	44	44.03	+25	51	24.0			688
1982	TU	*	1982	10	13.39236	02	49	09.92	+29	36	21.4	17.0	4	688
1982	TU		1982	10	13.42361	02	49	08.61	+29	36	22.3			688

Note 1: right ascension uncertain. 2: declination uncertain. 3 = 1 + 2. 4: discoverer E. Bowell. 5 = 1 + 4. 6: discoverer M. Watt.

## OBSERVATIONS MADE AT THE STEWARD OBSERVATORY'S KITT PEAK STATION BY D. J. THOLEN AND S. TAPIA (ASSISTED BY R. WITWER).

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1981 VB	1982 09	23.49352	08 17 49.8	+15 22 37	691
1981 VB	1982 09	23.50000	08 17 50.2	+15 22 36	691

## OBSERVATIONS MADE AT THE LINCOLN LABORATORY ETS, NEW MEXICO, UNDER THE DIRECTION OF L. G. TAFF.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1982 SA	1982 09	22.38078	23 51 02.04	+08 22 20.1	14.5	704
1982 SA	1982 09	22.39328	23 51 00.34	+08 22 32.4		704
1982 SA	1982 09	23.20965	23 49 28.12	+08 33 32.8		704
1982 SA	1982 09	23.22277	23 49 26.51	+08 33 36.3		704
1982 SA	1982 09	23.23686	23 49 24.62	+08 33 44.6		704
1982 SA	1982 09	23.28413	23 49 19.06	+08 34 25.0		704
1982 SA	1982 09	24.20071	23 47 34.52	+08 46 31.5		704
1982 SA	1982 09	24.20360	23 47 34.14	+08 46 32.8		704
1982 SA	1982 09	24.23294	23 47 30.75	+08 47 00.5		704
1982 SA	1982 09	24.27779	23 47 25.48	+08 47 37.5		704
1982 SA	1982 09	24.30990	23 47 21.68	+08 48 01.5		704
1982 SA	1982 09	24.32741	23 47 19.41	+08 48 14.5		704
1982 SA	1982 09	25.17829	23 45 43.13	+08 59 17.5		704
1982 SA	1982 09	25.20297	23 45 40.21	+08 59 36.8		704
1982 SA	1982 09	25.21793	23 45 38.47	+08 59 50.5		704
1982 SA	1982 09	25.24294	23 45 35.51	+09 00 11.8		704

## OBSERVATIONS MADE AT THE OAK RIDGE OBSERVATORY BY R. E. MC CROSKY, C.-Y.

SHAO AND G. SCHWARTZ (WITH ASSISTANCE FROM C. M. BARDWELL, D. W. E. GREEN AND B. G. MARSDEN).

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
441	1982 09	13.16829	23 59 34.61	+13 01 58.2			801
1865	1982 09	12.07410	21 48 46.75	+21 09 56.9			801
2193	1982 09	11.19434	00 17 33.63	-10 22 16.9			801
2744	1982 09	10.18508	00 01 59.86	+12 49 07.4			801
2744	1982 09	13.16829	00 00 16.13	+13 15 02.4			801
2746	1982 09	10.13080	21 51 19.04	-10 21 07.7			801
2750	1982 09	13.11473	23 22 36.42	-12 22 57.9			801
2757	1982 09	11.12343	21 55 37.80	-13 15 34.8			801
1938 SD1	1982 09	20.26866	04 08 02.86	+25 50 38.2			801
1942 TJ	1982 09	15.18387	01 08 22.06	+20 45 11.9			801
1953 TX2	1982 05	27.22941	15 19 31.32	-14 06 27.0			801
1965 UU1	1982 09	13.19720	00 38 30.73	-18 28 51.3			801
1972 RX3	1982 09	11.19434	00 17 46.51	-10 26 44.2			801
1974 RA2	1982 09	15.06581	20 59 14.25	-16 06 19.8			801
1977 EB2	1982 09	17.28706	01 18 13.52	+05 44 57.5			801
1978 PS3	1982 09	13.24814	01 27 19.05	+18 22 07.8			801
1978 QJ	1982 09	18.35162	03 44 44.78	+31 14 35.1			801
1978 QW2	1982 09	15.25902	02 36 42.45	+16 58 01.9			801
1978 QW2	1982 09	17.25759	02 36 40.84	+17 02 04.9			801
1978 RU5	1982 08	19.23743	23 52 30.16	+07 56 56.8			801
1978 RU5	1982 09	13.15003	23 37 21.97	+04 57 14.1			801
1978 RU5	1982 09	15.11580	23 35 51.98	+04 38 20.5			801
1978 RU5	1982 09	17.21750	23 34 14.66	+04 17 39.7			801
1978 RU5	1982 09	18.16961	23 33 30.53	+04 08 08.0			801
1978 SP7	1982 09	10.01602	19 30 16.46	-00 47 38.3			801
1978 SP7	1982 09	13.09468	19 31 44.64	-01 16 49.1			801
1978 TM7	1982 09	18.29801	04 13 55.59	+11 42 34.0			801
1980 EC	1982 09	15.32479	02 34 33.33	+00 55 21.9			801
1981 CX	1982 09	10.10583	21 42 51.82	-20 25 30.1		3	801

1981 EV	1982 09	11.14957	22 32	02.45	-15 59	38.3		801
1981 EV	1982 09	12.10440	22 31	12.55	-16 05	58.3		801
1981 EV	1982 09	18.13507	22 26	16.48	-16 42	03.0	6	801
1981 FN	1982 09	11.16895	23 51	25.19	-13 16	08.4		801
1981 FN	1982 09	18.20405	23 44	19.05	-13 56	13.9		801
1981 JS	1982 09	15.22306	02 11	48.33	+16 36	21.3		801
1981 OG	1982 09	17.34280	03 50	37.23	+20 28	53.9		801
1981 OG	1982 09	18.32510	03 50	48.20	+20 29	35.0		801
1982 QS	1982 08	17.20071	22 43	27.53	-11 40	23.3	19	801
1982 QS	1982 08	18.19508	22 42	44.04	-11 44	29.0	19	801
1982 QT *	1982 08	17.20071	22 43	42.49	-11 36	54.6	18	801
1982 QU *	1982 08	18.22142	23 24	47.55	-04 10	21.0	16	801
1982 QV *	1982 08	19.20442	23 29	15.17	-03 05	32.3	18	801
1982 QW *	1982 08	22.21608	22 46	04.08	-09 42	03.1	18.5	801
1982 QW	1982 08	26.14304	22 42	18.39	-10 08	16.7	18.5	801
1982 QX *	1982 08	22.25022	23 23	02.30	-04 14	17.8	18	801
1982 QX	1982 08	26.17163	23 19	52.86	-04 48	50.8	17.5	801
1982 QY *	1982 08	26.14304	22 42	35.28	-09 54	05.6	19	801
1982 QZ *	1982 08	26.14304	22 43	01.03	-10 07	08.1	18	801
1982 QA1 *	1982 08	26.17163	23 20	45.18	-05 00	29.7	18.5	801
1982 RY *	1982 09	11.12343	21 56	08.71	-13 13	52.1	18.5	801
1982 RZ	1982 09	11.14957	22 32	09.29	-16 04	33.8	17.5	801
1982 RZ	1982 09	12.10440	22 31	26.68	-16 14	22.7	18	801
1982 RZ	1982 09	18.13507	22 27	18.06	-17 11	19.6		801
1982 RZ	1982 09	20.11716	22 26	06.08	-17 27	57.5		801
1982 RA1 *	1982 09	13.15003	23 37	22.16	+04 55	04.4	18	801
1982 RA1	1982 09	15.11580	23 35	55.68	+04 28	41.9		801
1982 RA1	1982 09	17.21750	23 34	23.66	+04 00	20.6		801
1982 RA1	1982 09	18.16961	23 33	43.16	+03 47	30.2		801
1982 RA1	1982 09	20.17353	23 32	19.55	+03 20	35.7		801
1982 RB1 *	1982 09	13.15003	23 37	49.54	+04 44	47.4	16.5	801
1982 RB1	1982 09	15.11580	23 36	32.37	+04 21	48.6		801
1982 RB1	1982 09	17.21750	23 35	08.07	+03 56	26.7		801
1982 RB1	1982 09	18.16961	23 34	30.14	+03 44	47.6	16	801
1982 RB1	1982 09	20.17353	23 33	10.39	+03 19	51.8		801
1982 RC1 *	1982 09	13.15003	23 37	51.35	+04 52	11.8	17.5	801
1982 RC1	1982 09	15.11580	23 36	33.69	+04 34	22.4		801
1982 RC1	1982 09	17.21750	23 35	09.81	+04 14	56.1		801
1982 RC1	1982 09	18.16961	23 34	31.77	+04 06	01.1		801
1982 RC1	1982 09	20.17353	23 33	11.70	+03 46	59.0		801
1982 SY *	1982 09	17.28706	01 16	39.69	+05 53	09.3	18	801
1982 SZ *	1982 09	18.23213	01 07	12.05	+03 15	45.4	19	801
1982 SA1 *	1982 09	20.11716	22 33	48.02	-17 22	29.0	18.5	801
1982 SB1 *	1982 09	20.13843	23 03	53.98	-08 21	35.3	17.5	801
2580 P-L	1982 09	18.23213	01 08	28.60	+03 21	21.2	18.5	801
2580 P-L	1982 09	20.19733	01 06	57.02	+03 12	00.6		801
2605 P-L	1982 08	19.30807	01 24	40.32	+07 44	50.8		801
2605 P-L	1982 09	13.21759	01 20	00.31	+08 06	12.6		801
3071 P-L	1982 09	12.12549	22 42	53.00	+01 22	21.1		801
4585 P-L	1982 09	10.15856	22 22	43.83	-14 11	28.6		801

Note 1: weak image. 2: clouds. 3 = 1 + 2. 4: poor measurement. 5 = 1 + 4.  
6: near edge of field. 7: inkdot measured. 8 = 1 + 7.

OBSERVATIONS MADE WITH THE 1.0-M SCHMIDT TELESCOPE AT THE EUROPEAN SOUTHERN  
OBSERVATORY BY H.-E. SCHUSTER AND G. PIZARRO. MEASURED BY R. M. WEST.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
486	1982 09	14.14360	23 15 48.33	-23 23 12.2			809
595	1982 09	15.11285	23 09 30.15	-24 36 42.3			809
891	1982 09	15.11285	22 53 41.57	-25 27 46.0			809

1982 RB	*	1982 09 14.14360	23 04 07.68	-23 55 00.3	17	1 809
1982 RB		1982 09 15.11285	23 05 21.60	-24 51 42.8		809
1982 RB		1982 09 19.24965	23 10 28.57	-28 27 21.3		809
1982 RB		1982 09 21.07917	23 12 44.00	-29 49 26.8		809

Note 1: discoverer Schuster.

\* \* \* \* \*

### ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

The orbit computers and authors of double designations are B = C. M. Bardwell, b = F. N. Bowman, D = S. Kanda, E = E. Bowell, G = D. W. E. Green, h = K. Hurukawa, I = H. Oishi, M = B. G. Marsden, U = T. Urata. For further information see MPC 5833.

Planet	B(1,0)	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1950 SJ	15.0	501006	17.66	120.19	226.02	7.75	0.2178	2.2405	25 6	1	U	
1977 DA	15.1	770308	356.48	170.33	350.35	2.87	0.1324	2.4545	25 8	1	h	
1977 DF2	15.4	770226	335.18	173.18	8.90	4.43	0.1252	2.7740	22 6		h	
1977 DJ2	14.1	770308	201.91	201.52	110.68	3.15	0.0516	2.8827	25 8		h	
1977 DL2	16.3	770308	43.49	313.63	140.43	5.62	0.1867	2.4576	25 8		h	
1977 DP2	16.2	770226	354.67	113.00	47.37	1.09	0.2286	3.0448	22 6		h	
1977 DR2	15.7	770226	286.55	250.33	344.32	6.64	0.0857	2.3196	22 0		h	
1977 DS2	13.6	770308	124.74	240.01	141.16	15.91	0.0750	3.1440	25 0		h	
1977 DT2	14.8	770226	183.48	271.63	56.43	1.48	0.0484	2.7221	22 0		h	
1977 DD3	11.4	770318	60.54	102.29	340.38	14.95	0.0843	5.2251	51 0		h	
1977 DG3	16.0	770308	331.02	45.62	144.83	6.14	0.0937	2.4541	25 8		h	
1977 DK3	15.6	770308	43.11	332.83	130.40	4.50	0.1135	2.2202	25 8		h	
1977 DL3	15.9	770308	56.00	73.83	3.74	4.64	0.2008	2.3581	25 8		h	
1977 DQ3	14.3	770226	66.62	354.86	63.19	2.21	0.2375	3.1941	22 6		h	
1977 DX3	13.7	770308	242.53	193.99	90.53	2.35	0.1428	3.0975	25 8		h	
1977 DY3	13.9	770308	236.47	255.55	36.91	1.95	0.1803	3.0391	25 8		h	
1977 DA4	14.5	770226	103.08	332.10	68.80	3.26	0.0753	2.8836	22 6		h	
1977 DC4	14.5	770308	29.28	22.65	94.45	2.56	0.1358	3.1145	25 8		h	
1977 DH4	15.5	770226	61.89	83.38	349.83	10.81	0.1620	2.5528	22 5		h	
1977 DL4	15.5	770226	323.53	213.74	355.16	4.77	0.2160	2.5825	22 6		h	
1977 DN4	14.5	770308	356.12	58.27	102.82	2.94	0.1133	3.1433	25 8		h	
1977 DO4	16.1	770308	25.10	127.41	1.57	2.83	0.0687	2.2453	25 8		h	
1977 DS4	14.3	770226	214.89	264.09	40.78	3.74	0.1079	2.8506	22 6		h	
1977 DX8	15.1	770308	111.19	288.98	96.97	2.09	0.2090	2.2443	24 6		h	
1977 DY8	15.7	770308	128.95	352.75	30.44	3.40	0.0600	2.1576	24 6		h	
1977 EF1	14.5	770328	326.79	38.21	186.26	15.57	0.0779	2.6568	28 5		h	
1977 EK1	15.8	770328	353.44	3.27	193.26	5.02	0.1535	2.2686	28 5		h	
1977 EN1	13.9	770328	305.95	184.90	71.96	2.31	0.1499	3.1311	28 7		h	
1977 EQ1	15.3	770328	56.88	94.56	26.97	2.79	0.0900	2.2565	28 7		h	
1977 EY1	15.0	770328	85.34	71.47	16.48	9.31	0.1299	2.2765	28 7		h	
1977 EV2	16.4	770328	333.60	126.59	73.65	2.68	0.1592	2.2994	29 6		h	
1977 UL2	16.5	771024	4.18	158.31	218.28	27.80	0.3843	2.4096	3 9		M	
1977 UP2	16.5	771024	11.85	73.89	296.37	12.25	0.1892	2.5604	3 8		M	
1979 SF11	15.0	791014	8.40	5.01	8.19	3.05	0.1867	2.4329	60 5		B	
1979 SJ11	13.5	791014	316.66	176.07	268.01	3.86	0.1369	3.1201	60 3		B	
1979 SN11	15.0	791014	332.96	162.97	262.44	1.57	0.1843	2.2983	60 4		B	
1979 SO11	14.0	791014	20.31	203.55	152.72	1.13	0.2092	3.1416	60 4		B	
1979 SQ11	13.5	791014	12.73	299.88	70.06	0.46	0.1734	3.1790	60 4		B	
1979 SU11	13.5	791014	24.76	265.29	88.66	2.50	0.1726	3.1377	60 4		B	
1979 UQ	15.5	791014	8.22	135.03	244.47	2.73	0.1757	2.2321	31 0		M	
1979 UT	14.0	791014	317.25	233.41	227.69	16.51	0.2290	3.2154	29 7	2	M	
1979 UD2	13.5	791014	70.42	36.73	264.48	3.43	0.1946	2.5528	10 3		M	
1979 WX3	15.0	791123	26.75	267.76	124.85	1.89	0.1784	2.4126	32 3		B	

1979	XL	14.5	791213	343.89	6.55	95.09	10.03	0.1081	2.7867	41	0	M
1979	XG	12.5	791123	174.57	178.04	84.77	12.93	0.1287	2.9772	32	3	M
1979	YP	15.5	791213	29.77	189.23	208.18	0.64	0.2126	2.3627	42	0	M
1980	RS	15.5	800829	9.95	117.28	199.58	4.41	0.2072	2.1499	6	4	M
1980	RU	14.5	800918	338.01	28.90	344.46	15.35	0.1418	2.5774	33	5	M
1980	RX1	15.0	801008	344.51	245.08	143.63	4.58	0.1393	2.2708	25	7	M
1980	RO2	14.0	801008	351.33	127.84	251.47	2.27	0.1758	2.2170	36	4	M
1980	RC3	15.5	800829	359.11	166.20	167.80	6.94	0.3227	2.5322	5	3	B
1980	RF4	14.5	800829	18.38	119.10	181.96	6.57	0.2663	2.8301	4	3	B
1980	SG	15.0	801008	5.99	344.97	21.55	7.14	0.1577	2.4522	29	0	M
1980	TG	15.0	801008	54.21	151.04	138.52	2.51	0.2143	2.3940	28	0	M
1980	TV2	16.0	801008	357.78	11.78	7.03	6.97	0.2293	2.3363	5	5	M
1980	TY2	15.0	801008	35.06	118.01	203.45	1.20	0.2221	2.2471	5	5	M
1980	TH3	14.0	801008	48.37	341.31	339.51	1.35	0.0812	2.8375	31	0	M
1980	TS3	15.0	801008	352.26	201.70	183.21	8.35	0.2884	2.7916	32	5	M
1980	TT3	14.0	801008	86.43	261.24	3.87	12.33	0.1707	2.5379	9	5	M
1980	TX3	14.5	801008	343.35	190.36	204.00	1.24	0.1597	2.8335	9	6	M
1980	TY3	16.5	801008	8.95	358.23	2.08	7.27	0.1522	2.1578	3	5	M
1980	TZ3	15.0	801008	24.96	100.50	238.28	1.56	0.1480	2.1796	9	5	M
1980	TE4	16.0	801008	4.03	4.22	1.67	1.43	0.2019	2.3717	9	6	M
1980	TF4	14.0	801008	41.93	276.63	43.23	4.43	0.0994	2.7580	32	6	M
1980	TS4	17.0	801008	331.92	22.55	36.37	2.25	0.2400	2.1556	4	5	M
1980	TU4	13.5	801008	53.83	167.66	135.87	2.11	0.1549	3.1660	36	7	M
1980	TK5	13.5	801008	268.58	251.64	224.87	8.65	0.1114	2.9885	8	5	M
1980	TQ5	13.5	801028	38.59	43.79	282.61	4.09	0.1575	3.1414	31	7	M
1980	TW5	13.5	801028	23.03	84.48	269.88	3.93	0.0262	3.0803	31	7	M
1980	TZ5	13.0	801008	4.58	358.49	12.91	13.32	0.1533	2.8460	28	5	M
1980	TA6	14.0	801008	207.64	151.92	22.93	6.64	0.0901	2.2563	18	4	M
1981	DJ	14.5	810317	334.37	339.12	230.91	8.86	0.0719	3.2003	40	0	M
1981	DK	14.5	810317	132.03	117.08	281.29	9.55	0.1577	3.1712	40	0	M
1981	DL	15.5	810317	39.47	261.75	232.88	9.24	0.0869	3.1495	40	9	M
1981	DM	16.0	810317	307.24	338.91	262.21	6.63	0.0834	2.3600	40	0	M
1981	DN	17.0	810317	14.94	210.16	306.31	7.10	0.2150	2.4488	40	0	M
1981	DO	16.5	810317	283.61	54.13	216.86	12.94	0.1230	2.5360	40	0	M
1981	DP	17.0	810317	325.60	349.75	233.22	7.79	0.1153	2.3080	40	0	M
1981	DQ	14.5	810317	124.34	189.44	221.39	13.37	0.0650	2.5792	40	0	M
1981	DR	15.5	810317	121.23	112.92	304.42	10.96	0.0437	2.9327	40	0	M
1981	DS	13.5	810317	86.77	207.68	240.01	9.89	0.0683	3.5731	40	0	M
1981	DT	14.5	810317	18.85	192.40	328.81	14.85	0.0653	3.1005	40	0	M
1981	DU	16.0	810317	262.55	38.53	257.06	6.54	0.1612	2.2863	40	0	M
1981	DV	15.5	810317	56.25	270.43	209.14	14.09	0.0496	2.6312	39	9	M
1981	DW	17.0	810317	341.07	263.26	302.43	8.62	0.1199	2.6338	40	6	M
1981	DX	14.5	810317	293.46	342.77	265.93	7.10	0.0006	3.2045	40	0	M
1981	DY	15.5	810317	306.70	323.60	285.22	6.22	0.1410	2.7839	40	0	M
1981	DZ	15.0	810317	347.22	315.90	241.07	8.93	0.0906	2.6784	40	0	M
1981	DA1	16.0	810317	308.12	8.70	234.40	11.44	0.0924	2.7232	40	0	M
1981	DB1	14.0	810317	222.43	124.18	210.63	14.08	0.2447	3.1296	39	8	M
1981	DC1	16.5	810317	298.81	49.06	210.78	11.55	0.1619	2.5661	40	8	M
1981	DD1	16.0	810317	68.39	128.11	331.93	14.57	0.1227	2.5339	40	0	M
1981	DE1	15.0	810317	124.10	145.89	262.88	6.37	0.0957	2.2600	40	0	M
1981	DF1	15.5	810317	256.25	335.58	317.83	11.50	0.0562	2.9415	40	0	M
1981	DH1	15.0	810317	148.88	105.01	280.24	7.20	0.1851	3.0722	40	9	M
1981	DJ1	17.5	810317	350.48	278.30	274.01	5.75	0.0754	2.3206	40	0	M
1981	DK1	15.0	810317	265.12	94.56	213.23	12.08	0.2995	2.3680	39	9	M
1981	DL1	15.0	810317	195.49	30.21	322.66	13.90	0.1319	3.1492	40	8	M
1981	DM1	13.5	810317	11.16	316.47	209.90	11.07	0.1407	2.6826	40	0	M
1981	DN1	15.0	810317	186.43	52.13	307.10	9.93	0.2049	2.5590	40	0	M
1981	DO1	17.0	810317	351.21	274.91	279.75	6.07	0.1946	2.3450	40	0	M
1981	DP1	16.5	810317	261.44	47.26	247.47	6.68	0.1326	2.3085	40	0	M

1981	DQ1	15.5	810317	69.60	163.69	291.44	8.38	0.1628	2.7882	40 0	M
1981	DR1	15.5	810317	294.14	42.39	221.40	12.49	0.1397	2.5356	40 0	M
1981	DS1	16.0	810317	155.35	88.72	294.68	8.60	0.1076	2.5668	40 0	M
1981	DT1	16.0	810317	341.27	327.70	243.56	7.81	0.2077	2.7606	40 0	M
1981	DU1	15.0	810317	98.42	191.60	235.19	11.63	0.1716	2.8987	40 0	M
1981	DV1	15.5	810317	305.91	286.21	317.75	10.37	0.0612	3.1035	40 0	M
1981	DW1	17.5	810317	336.03	310.69	266.16	6.09	0.1821	2.6407	40 9	M
1981	DX1	15.5	810317	137.02	78.76	316.73	12.33	0.1806	2.5752	40 0	M
1981	DY1	16.0	810317	313.01	283.65	327.28	13.17	0.1979	3.1926	40 0	M
1981	DZ1	14.5	810317	24.09	309.49	205.83	21.92	0.0728	3.2234	40 0	M
1981	DA2	15.5	810317	146.23	95.62	296.22	6.75	0.1028	3.1756	40 9	M
1981	DB2	16.0	810317	40.37	195.92	288.23	6.38	0.2028	2.6769	40 0	M
1981	DC2	15.0	810317	237.15	98.81	224.71	11.85	0.2027	2.6625	40 0	M
1981	DD2	16.0	810317	23.01	248.90	267.91	7.69	0.0882	3.0395	40 8	M
1981	DE2	14.0	810317	37.24	184.34	319.46	8.79	0.0408	3.0204	40 0	M
1981	DF2	15.5	810317	153.80	125.81	255.50	7.30	0.2018	2.3176	40 0	M
1981	DG2	14.5	810317	231.72	104.26	220.99	10.08	0.1652	3.0567	40 0	M
1981	DH2	16.5	810317	88.30	213.06	225.59	12.57	0.1499	2.7770	40 9	M
1981	DJ2	14.5	810317	179.38	150.85	213.45	14.72	0.1437	2.7869	40 0	M
1981	DK2	17.0	810317	3.28	222.63	313.55	6.52	0.2725	2.6346	40 0	M
1981	DL2	17.5	810317	300.62	293.36	321.26	8.31	0.1193	2.2646	40 8	M
1981	DM2	15.5	810317	137.77	79.92	320.45	10.17	0.0990	2.9339	40 9	M
1981	DN2	15.0	810317	151.86	147.07	241.22	9.99	0.1046	3.0253	40 7	K
1981	DP2	13.5	810317	101.61	130.55	305.93	9.15	0.0683	3.0269	40 0	M
1981	DQ2	15.5	810317	55.45	231.69	241.62	5.58	0.1327	2.2667	40 0	M
1981	EH6	16.5	810317	19.29	231.17	265.01	4.18	0.3653	2.8558	38 0	M
1981	EJ6	15.5	810317	79.47	231.08	207.40	15.83	0.1905	3.0647	38 8	M
1981	EL6	16.0	810317	307.57	5.18	236.87	10.07	0.0895	3.0983	34 7	M
1981	EM6	16.5	810317	201.09	130.02	214.13	13.07	0.1287	2.5940	34 7	M
1981	EN6	17.0	810317	281.02	14.48	268.95	6.31	0.2095	2.2953	34 8	K
1981	EG6	16.5	810317	96.06	178.34	248.85	7.79	0.1672	2.6262	34 7	M
1981	EP6	16.0	810317	351.42	219.92	334.43	17.17	0.1281	3.1698	34 0	M
1981	EQ6	17.5	810317	324.78	256.69	330.87	12.74	0.1398	2.6702	34 9	M
1981	ER6	15.5	810317	24.22	233.64	271.37	5.13	0.1906	2.6402	34 0	M
1981	ES6	16.0	810317	70.67	227.51	238.49	10.04	0.0517	2.9745	34 7	M
1981	ET6	14.5	810317	347.86	239.90	319.92	9.49	0.1535	3.9494	34 0	M
1981	EU6	16.5	810317	254.01	70.48	245.79	7.97	0.2905	2.3185	34 5	M
1981	EV6	15.5	810317	177.76	83.77	281.93	7.59	0.0940	3.0890	34 6	M
1981	EW6	18.0	810317	28.31	227.72	279.27	5.85	0.1034	2.2723	34 7	M
1981	EX6	14.0	810317	196.01	10.88	341.85	16.84	0.1547	3.2199	34 0	M
1981	EY6	15.5	810317	144.30	84.48	307.66	10.48	0.1504	2.9999	34 7	M
1981	EZ6	17.5	810317	79.10	176.99	257.35	6.05	0.2518	2.4039	34 7	M
1981	EA7	16.5	810317	182.56	88.91	272.06	5.68	0.2168	2.2617	34 7	M
1981	EB7	16.0	810317	287.05	306.12	316.34	8.43	0.0503	3.1261	34 5	M
1981	EC7	15.0	810317	18.62	213.60	307.49	7.85	0.1166	3.9714	34 7	M
1981	ED7	16.0	810317	291.51	47.63	217.72	13.73	0.1166	3.1687	34 8	M
1981	EE7	17.5	810317	309.01	302.89	310.21	6.18	0.1939	2.2564	34 0	M
1981	EF7	17.0	810317	78.35	211.06	245.19	5.62	0.0764	2.3724	34 9	M
1981	EG7	17.0	810317	337.25	269.25	299.72	6.09	0.0570	2.3384	34 9	M
1981	EH7	17.0	810317	84.38	241.91	202.66	14.26	0.0870	2.6749	33 7	M
1981	RX1	14.5	810913	342.56	104.15	270.51	12.14	0.2072	2.6791	26 3	B
1981	RA2	14.5	810913	6.81	84.67	252.22	11.44	0.2454	2.6924	26 3	B
1981	RB2	14.0	810913	31.79	46.19	255.41	12.95	0.2043	2.5908	26 3	B
1981	RD2	13.5	810913	324.23	130.67	267.28	11.02	0.1767	3.1910	26 3	B
1981	RF2	13.0	810913	54.30	26.29	254.92	14.21	0.1353	3.2372	26 3	B
1981	RK2	13.5	810913	296.42	177.07	245.60	14.13	0.0847	2.5979	26 3	B
1981	RL2	15.0	810913	344.59	87.12	289.74	10.74	0.2496	2.6672	26 3	B
1981	RP2	13.5	810913	55.11	342.25	295.61	12.30	0.1793	2.6245	26 3	B



1981	RS2	15.5	810913	23.18	39.30	284.02	5.05	0.2473	2.2148	26	3	B
1981	RU2	13.0	810913	352.60	105.61	273.41	8.94	0.1122	3.0149	26	3	B
1981	YR1	14.0	820111	352.03	16.62	98.64	25.01	0.1998	2.3640	37	0	1 B
1982	FN	15.0	820401	346.91	32.62	177.36	26.66	0.2107	2.5526	67	0	1 M
1982	FA3	13.0	820401	232.08	175.52	154.01	2.46	0.0738	2.8700	41	0	1 B
1982	FP3	13.5	820401	347.42	144.24	67.26	2.30	0.1361	3.1728	37	0	1 M
1982	GG	14.5	820401	275.20	275.72	29.95	5.64	0.1761	2.2586	36	0	1 B
1982	HF1	14.0	820511	2.97	6.37	219.44	11.46	0.1505	2.7260	31	8	M
1982	HO1	15.3	820421	330.96	192.47	61.32	6.77	0.1755	2.2106	32	6	E
1982	HQ1	14.8	820421	302.03	233.55	59.81	7.42	0.1981	2.2481	32	6	E
1982	JC1	14.0	820511	105.68	342.50	118.02	3.30	0.2420	2.7905	3	5	M
1982	JD1	15.5	820511	358.40	16.83	215.57	8.94	0.1535	2.3963	3	5	2 M
1982	JF1	16.0	820511	255.11	266.22	82.78	3.23	0.1275	2.3033	3	5	M
1982	JG1	15.0	820511	291.99	277.86	55.17	15.32	0.2947	2.6025	2	4	M
1982	JJ1	16.5	820511	290.42	218.91	91.97	5.55	0.1011	2.1834	3	5	M
1982	JK1	15.0	820511	356.55	98.21	137.42	1.31	0.1467	3.0786	3	5	M
1982	JM1	14.0	820511	358.85	157.63	74.57	4.07	0.0337	2.9758	3	4	2 M
1982	JN1	17.0	820511	35.31	97.91	80.01	7.85	0.2028	2.4378	3	3	M
1982	JS1	16.0	820511	354.18	106.25	135.18	2.00	0.2693	2.7472	3	5	M
1982	JT1	15.0	820511	74.75	63.68	76.39	7.64	0.1407	2.4957	3	4	M
1982	JV1	16.5	820511	13.44	113.02	98.89	3.42	0.1637	2.1843	3	5	M
1982	JY1	15.0	820511	49.46	84.62	89.22	6.32	0.0848	3.0305	3	4	M
1982	JB2	16.0	820511	149.03	332.49	106.19	2.68	0.0760	2.2675	3	4	M
1982	JD2	16.5	820511	41.56	74.11	107.99	4.00	0.0913	2.1733	3	5	M
1982	JK2	16.5	820511	341.79	62.96	193.45	2.77	0.1505	2.1567	3	4	M
1982	JL2	15.5	820511	304.28	127.25	199.02	6.68	0.3359	2.8235	3	4	M
1982	JU2	15.5	820511	58.96	345.66	157.81	3.53	0.2682	2.6715	3	3	M
1982	JV2	16.0	820511	340.54	191.08	68.53	10.38	0.1678	2.5427	3	5	M
1982	JW2	14.5	820511	128.28	270.35	186.82	4.37	0.0919	2.6149	3	4	M
1982	JA3	14.5	820511	61.86	303.66	204.31	8.29	0.2094	3.2473	3	5	M
1982	JB3	14.5	820511	87.09	47.49	74.94	11.73	0.2022	2.6028	3	5	M
1982	JC3	16.5	820511	25.03	131.46	72.60	6.30	0.0666	2.2514	3	5	M
1982	JD3	15.0	820511	158.10	350.16	78.52	8.42	0.1696	2.3182	3	5	M
1982	JF3	16.5	820511	13.34	126.70	87.76	6.52	0.1388	2.4818	3	4	M
1982	JG3	16.5	820511	284.43	230.91	94.13	2.95	0.1442	2.1900	3	5	M
1982	JJ3	15.5	820511	302.78	117.28	179.69	2.57	0.0676	2.1717	3	5	M
1982	KB1	13.5	820511	283.24	277.36	55.57	16.79	0.2199	2.7693	8	6	M
1982	KC1	14.5	820511	0.97	16.96	213.54	5.11	0.1424	2.4897	9	7	M
1982	KG1	15.0	820511	90.13	20.01	107.70	4.09	0.1244	2.3574	12	7	M
1982	KH1	14.0	820511	335.75	186.71	76.36	10.20	0.1339	2.7685	12	7	M
1982	KJ1	14.5	820511	276.60	215.78	121.71	4.68	0.1908	2.2711	12	7	M
1982	KK1	15.5	820511	299.79	206.73	95.82	5.05	0.0926	2.2794	12	7	M
1982	KF2	13.0	820511	253.69	259.85	106.73	3.59	0.3102	2.9974	2	4	M
1982	KJ2	16.0	820511	27.79	113.15	74.49	8.39	0.2155	2.4804	2	4	M
1982	KQ2	15.5	820511	357.80	153.07	82.10	4.87	0.0161	2.1832	2	4	2 M
1982	KR2	16.5	820511	306.97	155.79	150.53	4.15	0.1952	2.6144	2	3	M
1982	QE	15.0	820819	326.83	71.46	312.36	3.36	0.2073	2.3231	33	0	M
1982	RD	15.3	820908	333.90	205.58	184.65	2.40	0.2507	2.6196	7	5	E
1982	RE	13.0	820908	176.44	13.50	156.60	8.15	0.0792	2.6914	7	4	2 M
1982	RF	15.2	820908	357.45	178.06	173.41	2.82	0.2142	2.5753	7	5	E
1982	RH	13.9	820908	66.92	101.24	168.71	14.69	0.1075	2.6537	7	5	E
1982	RK	14.8	820908	321.93	289.26	108.00	4.87	0.1389	2.2095	24	6	E
1982	RL	14.2	820908	354.10	237.01	119.49	5.71	0.1684	2.2329	24	6	E
1982	RU	13.0	820928	7.29	188.43	178.51	14.95	0.1994	3.1477	28	6	E
1982	RZ	16.0	820908	338.92	224.70	141.06	9.69	0.1056	2.2498	9	4	B
1982	RA1	18.0	820908	29.24	91.87	199.81	5.64	0.3404	2.1544	7	5	B
1982	RB1	15.0	820928	358.68	165.97	195.14	7.73	0.1890	2.2397	26	9	1 M
1982	RC1	13.5	820908	296.81	245.31	189.87	16.17	0.1728	3.1386	7	5	B

1982 RD1	15.0	820928	6.75	7.58	326.27	7.19	0.1792	2.2812	13	0	M
1982 RE1	14.5	820928	239.82	262.15	220.33	3.94	0.0765	2.2311	4	6	2 M
1982 RF1	14.5	820928	32.68	327.15	335.26	10.04	0.2448	2.6172	4	8	G
1982 RG1	12.5	820928	192.18	339.66	186.41	5.39	0.1925	2.7422	2	6	G
1982 RH1	13.5	820928	1.55	1.99	351.00	2.40	0.1459	3.1723	2	6	2 M
1982 RJ1	15.0	820928	51.38	293.99	349.88	20.88	0.2391	2.2334	5	8	G
1982 RK1	15.5	820928	38.66	5.36	295.85	3.78	0.2326	2.4598	2	6	G
1982 RL1	16.5	820928	2.54	32.44	325.28	5.10	0.2455	2.2572	2	6	2 M
1982 RM1	14.5	820928	120.78	280.33	312.47	5.08	0.0837	2.1833	15	8	M
1982 RN1	14.5	820928	3.36	162.65	194.47	11.99	0.1108	2.4777	2	6	2 M
1982 RO1	16.0	820928	6.42	111.42	241.56	2.75	0.1386	2.3314	2	6	G
1982 RP1	14.0	820928	182.86	207.02	332.09	7.27	0.1151	2.3345	2	5	2 M
1982 RQ1	15.0	820928	6.24	338.09	10.94	3.08	0.1465	2.5918	3	7	2 M
1982 RR1	16.0	820928	4.43	357.32	353.84	9.85	0.2848	2.5241	2	6	2 M
1982 RS1	15.5	820928	322.41	57.39	4.12	8.25	0.2814	2.4335	3	8	G
1982 RT1	13.0	820928	6.99	185.54	162.24	10.76	0.1224	3.0900	3	8	2 M
1982 RU1	15.0	820928	3.51	221.87	130.64	0.48	0.2455	2.7908	3	6	2 K
1982 RV1	16.0	820928	4.54	190.95	161.52	0.84	0.2113	2.2888	3	8	2 M
1982 RW1	14.5	820928	7.07	341.96	6.48	8.38	0.1273	2.6452	3	8	2 M
1982 RX1	16.5	820928	3.68	268.12	85.30	1.59	0.2412	2.2498	3	8	2 M
1982 RY1	15.0	820928	183.88	98.63	75.81	1.81	0.0167	2.1654	3	6	2 M
1982 RZ1	13.0	820928	335.87	327.42	72.68	2.68	0.1412	3.1503	4	0	G
1982 RA2	14.0	820928	1.96	330.62	24.30	0.95	0.1534	3.1993	2	6	2 M
1982 RB2	13.5	820928	1.68	194.72	160.54	7.89	0.1061	3.1530	2	6	2 M
1982 SA	14.5	820928	345.51	30.26	350.75	22.26	0.1077	1.9447	6	0	M
1982 SO	15.0	820928	11.48	349.89	348.16	10.21	0.2488	2.6679	10	9	M
1982 SL	16.0	820928	356.62	147.33	219.13	2.43	0.1966	2.1487	7	9	M
1982 SU	14.5	820928	223.79	321.45	184.10	29.47	0.1049	1.9806	9	5	M
1982 SV	15.5	820928	324.61	243.17	189.45	21.00	0.3682	2.3726	9	5	M
1982 SH1	17.5	820928	347.23	191.47	186.17	20.50	0.0811	1.8786	9	4	K
1982 SJ1	14.5	820928	7.23	182.27	173.74	7.68	0.1938	2.7959	4	0	G
1982 SK1	13.0	820928	148.07	204.01	12.66	11.16	0.0627	2.8958	3	6	2 M
1982 SL1	15.5	820928	340.46	192.27	191.41	5.03	0.1886	2.2691	2	6	G
1982 SM1	15.5	820928	328.49	129.62	277.33	1.94	0.2508	2.2242	2	6	G
1982 SN1	13.0	820928	12.55	259.15	86.27	2.57	0.2403	3.1687	2	6	2 M
1982 SO1	13.0	820928	54.29	109.62	184.25	26.31	0.1869	3.1532	2	6	G

Note 1: double designations 1950 SJ = 1950 TG1 (D, NOC 1353); 1977 DA = 1977 DF3 (I, JAM 735); 1980 TG = 1980 RE2 (b, MPC 5788); 1981 YR1 = 1982 AB (b); 1982 FN = 1982 HJ2 (E); 1982 FA3 = 1982 HV2 (B); 1982 FP3 = 1982 HW2 (E); 1982 GG = 1982 FL3 (b); 1982 RB1 = 1982 SJ (M). 2: e assumed.

\* \* \* \* \*

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

The identifications are by L. D. Schmadel.

1981 QJ = 1931 VL = 1937 VL = 1976 YW6  
 Epoch 1982 Aug. 19.0 ET = JDE 2445200.5  
 M 39.59577 (1950.0) P Q  
 n 0.17830334 Peri. 359.44163 +0.88403416 -0.46734043  
 a 3.1262934 Node 28.42537 +0.42890170 +0.80359876  
 e 0.1899932 Incl. 1.05296 +0.18581422 +0.36854031  
 P 5.53 B(1,0) 14.0

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

311104	024	(0.03+ 0.00+)X	810925	688	1.9+	0.7-	810926	688	0.7+	1.0-
371103	020	2.7+ 3.4+	810925	688	0.3-	1.2-	810927	704	4.0-	4.8+
371103	020	1.9- 2.0-	810925	688	2.4+	0.7-	810929	704	0.5-	0.6-
371112	020	(0.3+ 11.1-)	810925	704	0.1-	1.4+	811005	688	1.6-	2.2-
761220	095	0.1+ 0.8-	810925	688	0.1-	0.5-	811005	688	2.7+	1.8-
810830	688	0.8+ 0.3-	810925	704	0.2-	2.8+				
810830	688	1.4- 0.1+	810926	688	0.0	0.6-				

\* \* \* \* \*

ORBITAL ELEMENTS BY T. URATA, SMIMIZU, JAPAN.

The following orbital elements are from NOC 1354-1360. The identifications are by T. Urata unless otherwise stated.

(2764)\* 1981 CN = 1976 UJ20

Discovered 1981 Feb. 8 by N. G. Thomas at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	244.27767		(1950.0)		P		Q
n	0.29261417	Peri.	251.32090		-0.99535260		-0.09017100
a	2.2470142	Node	283.49483		+0.09612291		-0.90921321
e	0.0829940	Incl.	1.99195		+0.00579585		-0.40644868
P	3.37	B(1,0)	14.9				

Residuals in seconds of arc

761024	381	0.1+	0.4-	810208	688	0.3-	0.3+	820629	372	0.1-	0.6-
761024	381	0.0	0.1+	810208	688	1.0-	0.3+	820629	372	0.5-	0.2-
810103	688	0.1-	0.3+	820621	801	0.7-	1.6-	820717	688	(4.7+ 1.7-)	
810103	688	0.0	1.5-	820627	372	1.6+	0.6+	820717	688	(1.7- 1.4-)	
810205	688	1.0+	0.9-	820627	372	2.1+	0.1+	820725	801	1.8-	0.1+

(2765)\* 1981 EY = 1978 SU2

Discovered 1981 Mar. 4 by H. Debehogne and G. de Sanctis at the European Southern Observatory.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	189.20794		(1950.0)		P		Q
n	0.17661309	Peri.	143.95392		-0.67000504		-0.74059653
a	3.1462082	Node	347.82880		+0.61165115		-0.51173053
e	0.0528373	Incl.	14.02331		+0.42068529		-0.43548669
P	5.58	B(1,0)	12.9				

Residuals in seconds of arc

780926	095	1.2-	1.4+	810308	809	0.0	0.4-	810310	809	0.0	0.1+
781002	095	0.0	0.2-	810308	809	0.2+	0.3-	810310	809	0.1-	0.2-
781008	095	0.6-	1.2+	810309	809	0.8+	0.1-	810310	809	0.0	0.1-
810304	809	1.3-	0.8+	810309	809	0.7+	0.5-	810310	809	0.2+	0.2-
810304	809	1.2-	1.1+	810309	809	0.5+	0.2-	820423	474	0.8-	0.4+
810304	809	1.5-	1.4+	810309	809	0.3+	0.0	820423	474	0.9-	0.1+
810307	809	0.5+	0.3+	810309	809	0.2+	0.2-	820528	474	1.1+	0.2+
810307	809	0.3+	0.6+	810309	809	0.3+	0.1+	820528	474	0.8+	0.0
810307	809	0.4+	0.7+	810310	809	0.9+	0.2-				
810308	809	0.0	0.3-	810310	809	0.2+	0.1-				

(2766)\* 1982 FE1 = 1941 BK = 1948 XH = 1980 TR5

Discovered 1982 Mar. 23 by Z. Vavrova at Klet. The key identification 1982 FE1 = 1980 TR5 was found independently by T. Urata (NOC 1342), T. Furuta (JAM 1168) and L. D. Schmadel.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	179.16883		(1950.0)		P		Q
n	0.24215403	Peri.	146.32991	-0.44881506			-0.89184766
a	2.5492255	Node	330.22391	+0.79279184			-0.36829418
e	0.1774799	Incl.	6.51272	+0.41236652			-0.26261598
P	4.07	B(1,0)	13.4				

Residuals in seconds of arc

410102	062	4.0+	0.2-	820323	046	2.6+	1.3+	820414	046	0.1+	1.3-
410122	062	1.0-	0.7+	820323	046	0.8+	0.2-	820415	046	0.4-	1.3-
410130	062	1.4-	1.4 +	820326	046	1.9-	0.7-	820415	046	2.3-	1.0+
481210	012	0.3+	1.9-	820326	046	0.4+	0.7-	820416	046	1.3-	0.3-
801007	675	2.0+	1.5-	820327	046	0.2+	1.3-	820416	046	0.5-	0.3+
801008	675	1.4-	0.4-	820327	046	0.3+	0.6-				
801009	675	0.9+	1.4-	820414	046	0.7-	0.3-				

1974 SO2 = 1974 TV1 = 1951 WC = 1954 SF1 = 1961 VN = 1961 XE  
= 1968 WC

The double designation 1974 SO2 = 1974 TV1 is by H. Oishi (JAM 1206).

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	104.10877		(1950.0)		P		Q
n	0.29495960	Peri.	259.31471	-0.84690332			-0.52492391
a	2.2350911	Node	248.97385	+0.51646810			-0.77401148
e	0.0930620	Incl.	5.21921	+0.12655226			-0.35406371
P	3.34	B(1,0)	13.5				

Residuals in seconds of arc

511129	760	2.1-	0.2+	611203	760	(9.8+	5.2+)X	740920	095	1.2-	1.2-
511129	760	1.0+	4.5+	681130	095	1.7-	2.4-	740922	095	0.1+	1.8-
540927	760	(54.9-	67.5-)X	681130	095	1.4+	4.5-	741010	095	0.5+	0.8+
611110	760	(4.5+	25.5-)X	681222	095	0.4-	2.7+				

1975 SF = 1971 UN3 = 1981 AV

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	289.85858		(1950.0)		P		Q
n	0.22777435	Peri.	269.02275	+0.90217999			-0.36980406
a	2.6554230	Node	112.65227	+0.42419679			+0.85402428
e	0.1942786	Incl.	13.92404	-0.07828378			+0.36590640
P	4.33	B(1,0)	13.0				

Residuals in seconds of arc

711030	095	1.0+	0.0	751004	808	0.7+	0.3-	810101	688	2.7-	1.3+
750930	808	1.6+	0.1+	751007	808	0.6+	0.3+	810109	688	0.9-	1.3+
751003	808	0.4+	0.4+	751007	808	0.3-	0.3-	810114	688	3.6+	2.4-
751003	808	1.0+	0.1-	751009	808	0.8+	0.6+				
751004	808	0.8+	0.6+	751009	808	0.4+	0.7+				

1981 SM1 = 1975 RJ2

The identification was found independently by L. D. Schmadel.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	125.57954		(1950.0)		P		Q
n	0.17736733	Peri.	250.28635	+0.95264220			-0.30296184
a	3.1372888	Node	127.34047	+0.28987799			+0.87868493
e	0.1855196	Incl.	1.88920	+0.09188903			+0.36895381
P	5.56	B(1,0)	13.5				

Residuals in seconds of arc

750909	808	0.8+	0.3-	810926	688	0.5-	0.1+	811102	688	1.8+	0.8-
750909	808	0.8-	0.4+	811004	688	0.5-	0.6-	811120	688	0.0	0.5+
810907	688	0.4+	1.1-	811004	688	0.2-	2.0+	811120	688	0.9-	1.0+
810926	688	0.1+	0.1+	811102	688	0.3-	1.3-				

1982 HL = 1975 TP5 = 1975 VM7

The identification and double designation were found independently by L. D. Schmadel.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	144.67204		(1950.0)		P		Q
n	0.21621244	Peri.	109.27864	-0.97802614			-0.18946952
a	2.7492641	Node	59.88399	+0.13252928			-0.88709411
e	0.0972849	Incl.	5.77130	+0.16093744			-0.42091014
P	4.56	B(1,0)	14.0				

Residuals in seconds of arc

751014	095	1.3+	1.8-	820418	688	0.6+	0.7+	820520	688	0.1-	3.4-
751106	095	0.2+	1.4-	820426	688	0.8+	0.0	820520	688	1.9-	1.8-
820418	688	0.3+	1.0+	820426	688	1.3-	0.2+				

1982 KM = 1979 VK

The identification is by T. Furuta (JAM 1229)

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	91.12085		(1950.0)		P		Q
n	0.27038430	Peri.	71.51060	+0.49230617			+0.86824874
a	2.3685503	Node	228.14044	-0.82646636			+0.44411889
e	0.1865563	Incl.	4.73437	-0.27310802			+0.22113919
P	3.65	B(1,0)	14.0				

Residuals in seconds of arc

791111	095	0.7+	1.1+	820524	704	0.7-	0.5-	820528	688	0.6+	0.9-
791116	095	0.7-	1.2-	820525	704	1.0-	2.5+	820618	688	0.5-	0.2+
820521	688	0.2+	0.3+	820526	704	0.6+	2.0+				
820521	688	1.0-	1.5-	820528	688	1.7+	2.1-				

\* \* \* \* \*

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

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

(2767)\* 1967 UM = 1956 VA = 1980 CQ = 1982 RT

Discovered 1967 Oct. 30 by L. Kohoutek at Bergedorf. The key identification 1967 UH = 1982 RT is by E. Bowell.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	114.31473		(1950.0)		P		Q
n	0.18744693	Peri.	255.87149	+0.76806891			+0.61682936
a	3.0237821	Node	65.75200	-0.49021073			+0.73919838
e	0.0817800	Incl.	10.87502	-0.41202376			+0.27038361
P	5.26	B(1,0)	12.5				

Residuals in seconds of arc

561108	024	1.9+	2.8-	671030	029	0.4-	1.0+	820915	688	0.1+	1.8-
671013	029	0.2-	0.6+	671031	029	0.2-	0.6+	820915	688	0.4-	0.8-
671013	029	1.7+	0.6+	671031	029	0.7+	0.6+	821013	688	1.8+	0.1+
671014	029	0.4-	0.6+	671031	029	0.1-	0.8+	821013	688	0.4+	0.1+
671014	029	0.0	0.3+	800415	046	1.9-	2.3-				
671030	029	0.2-	0.9+	800415	046	0.8-	2.0-				

(2768)\* 1972 RX3 = 1934 CM = 1951 JO = 1974 FZ1 = 1979 YV2

Discovered 1972 Sept. 6 by L. V. Zhuravleva at the Crimean Astrophysical Observatory. The identifications 1972 RX3 = 1974 FZ1 = 1979 YV2 and 1972 RX3 = 1951 JO are by G. R. Kastel' and O. Kippes, respectively (MPC 7151).

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	87.05210		(1950.0)		P		Q
n	0.29519137	Peri.	334.45331	+0.88598634			-0.45542169
a	2.2339166	Node	52.91723	+0.44199188			+0.77245655
e	0.1717285	Incl.	6.28167	+0.14025470			+0.44260813
P	3.34	B(1,0)	14.0				

Residuals in seconds of arc

Residuals in seconds of arc

340406	024	0.9-	0.3+	721007	095	0.5+	3.1-	820826	801	0.6-	0.5+
510502	711	1.9-	6.0-	Y 740321	095	0.1+	0.4-	820911	801	1.4-	0.4+
720906	095	1.8+	2.2-	791224	095	0.4+	2.7-	820922	688	0.5+	0.6+
720909	095	1.6+	0.4-	820822	801	1.9-	0.2-	820922	688	1.2+	0.7+

(2769)\* 1976 GZ2 = 1953 EA1 = 1981 AS

Discovered 1976 Apr. 1 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	159.64720		(1950.0)		P		Q
n	0.17746581	Peri.	52.18398	-0.89908501			-0.43564767
a	3.1361218	Node	101.95244	+0.38651315			-0.83617528
e	0.1311108	Incl.	2.52474	+0.20555710			-0.33319963
P	5.55	B(1,0)	12.5				

Residuals in seconds of arc

530310	760	1.7+	0.9+	760404	095	4.2-	2.1-	810114	688	0.3+	1.2-
530310	760	0.4-	2.3+	760502	095	2.9+	4.0+	810114	688	1.2+	0.1-
760401	095	(6.2+	2.4+)	791218	095	0.8-	0.4+	820521	688	0.7+	0.7+
760402	095	1.7-	1.8-	810110	688	1.6-	0.5+	820521	688	1.5+	0.1+
760404	095	(10.2+	1.8+)	810110	688	0.4+	1.6-				

(2770)\* 1977 SM1 = 1977 TL4 = 1977 UU1 = 1966 DN = 1974 WN = 1976 KS  
= 1979 HM1 = 1980 TB10 = 1982 DZ2 = 1982 HR2

Discovered 1977 Sept. 19 by N. S. Chernykh at the Crimean Astrophysical Observatory. The triple designation 1977 SM1 = 1977 TL4 = 1977 UU1 is by H. Oishi (JAM 745). The key identification and double designation 1977 SM1 = 1982 DZ2 = 1982 HR2 were found by E. Bowell.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	163.17547		(1950.0)		P		Q
n	0.30836726	Peri.	134.53662	-0.99180734			-0.12392591
a	2.1698208	Node	38.37599	+0.09839826			-0.89586652
e	0.0641142	Incl.	2.86155	+0.08146152			-0.42669138
P	3.20	B(1,0)	14.5				

Residuals in seconds of arc

Residuals in seconds of arc

660221	760	(88.6-	11.6+)X	790424	095	0.2-	0.1-	820221	033	0.4-	0.2-
741118	095	0.4-	0.8+	790430	808	0.9-	0.3+	820222	704	1.3+	0.5-
760526	095	0.0	1.9-	790430	808	0.4-	0.1+	820425	033	0.1-	0.3+
770919	095	0.7-	0.1-	801015	095	0.4+	1.1-	820425	033	0.5-	0.5+
770922	095	2.6+	0.7+	820220	033	0.5-	0.4-	820427	033	0.8-	1.0-
771007	095	0.1+	1.6-	820220	033	0.3-	0.3-	820427	033	0.3-	1.4-
771017	095	0.6-	1.9-	820220	033	0.3+	0.4-				
790424	095	1.0+	0.9+	820221	033	0.1-	0.1-				

(2771)\* 1978 SP7 = 1943 TC = 1981 EK6 = 1982 NB

Discovered 1978 Sept. 26 by L. V. Zhuravleva at the Crimean Astrophysical Observatory. The key identification 1978 SP7 = 1982 NB is by E. Bowell (MPC 7153).

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	81.22487		(1950.0)		P		Q
n	0.22476265	Peri.	115.58949		+0.78593361		+0.60832055
a	2.6790858	Node	207.36303		-0.61753107		+0.76327069
e	0.2259480	Incl.	13.93656		-0.03104403		+0.21763261
P	4.39	B(1,0)	13.5				

Residuals in seconds of arc

431005	062	0.0	0.6-	810307	413	0.3-	0.7+	810408	413	0.6+	1.2-
431005	062	0.0	0.0	810307	413	1.4+	0.2-	810409	413	1.2-	1.0+
780926	095	0.7+	2.3-	810310	413	0.2-	0.1+	810409	413	0.1-	0.7-
781002	095	1.1+	1.3+	810310	413	1.0+	0.2+	820715	688	1.3+	0.6-
781008	095	0.2+	1.4-	810312	413	0.6-	0.5+	820715	688	0.7-	0.3+
781101	095	2.2-	3.3+	810406	413	1.3-	1.9+	820815	801	0.5-	0.1+
810302	413	1.3-	0.3+	810406	413	2.0+	1.4-	820910	801	0.7-	0.7+
810302	413	1.6+	0.4-	810408	413	1.2-	0.4+	820913	801	0.1+	0.7+

(2772)\* 1979 XE = A906 EC = 1966 BV = 1968 TM = 1973 CG

Discovered 1979 Dec. 14 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	43.74674		(1950.0)		P		Q
n	0.28000097	Peri.	310.546 81		+0.15138207		-0.97993155
a	2.3139983	Node	130.25697		+0.95046958		+0.10827397
e	0.2052669	Incl.	9.78376		+0.27146093		+0.16736462
P	3.52	B(1,0)	14.5				

Residuals in seconds of arc

060122	024	8.3+	2.5-	791214	688	1.7+	3.7+	800211	688	1.1-	0.8-
060122	024	10.0-	2.1+	791214	688	0.7+	0.5+	821011	688	0.2-	3.8-
660128	330	5.4+	6.6-	791216	688	1.5+	0.3+	821011	688	2.8-	0.6 +
681015	095	4.4+	1.0+	800122	688	3.0-	0.2-				
730203	095	1.4-	1.7+	800122	688	2.8-	1.2-				

(2773)\* 1981 JZ2 = 1929 VO = 1975 VS2 = 1982 SH

Discovered 1981 May 6 by C. Shoemaker on plates taken at Palomar by E. Helin and S. J. Bus. The key identification 1981 JZ2 = 1982 SH is by E. Bowell.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	70.45684		(1950.0)		P		Q
n	0.27753362	Peri.	296.20053		+0.79654021		-0.60130474
a	2.3276927	Node	100.82672		+0.57502040		+0.72134143
e	0.1431291	Incl.	3.67168		+0.18674909		+0.34365556
P	3.55	B(1,0)	14.5				

Residuals in seconds of arc

291106	690(36.8-	15.3+)X		810506	675	0.4+	2.0-	821009	688	0.1-	1.1-
751102	095	0.1-	1.2+	810510	675	0.9-	1.1+	821011	688	2.6+	0.4+
751107	095	0.4-	0.0	820922	688	1.4-	0.4+	821011	688	0.7+	0.2-
810411	675	1.5-	1.6+	820922	688	1.5-	0.5+				
810505	675	2.1+	0.0	821009	688	0.2+	0.7-				

1965 SB = 1982 RG

The identification is by E. Bowell.

M	78.75794		(1950.0)		P		Q
n	0.28983923	Peri.	221.26153		+0.88554379		-0.46439576
a	2.2613379	Node	166.39421		+0.43864986		+0.82722795
e	0.1272428	Incl.	2.97205		+0.15296565		+0.31627598
P	3.40	B(1,0)	15.5				

## Residuals in seconds of arc

650919	026	0.6-	2.5+	820915	688	0.8+	1.3-	820922	688	0.6-	1.1-
650922	026	0.9-	1.3+	820915	688	2.2+	1.0-	820922	688	0.0	1.2-
650924	026	3.5-	1.1+	820921	688	1.1+	1.7-				
651003	026	0.2-	3.6-	820921	688	1.0-	1.6-				

1970 PA = A916 QA = 1979 YJ2 = 1981 DG1

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	4.79467		(1950.0)		P		Q
n	0.23691023	Peri.	73.71259	+0.87467709			-0.45933613
a	2.5867097	Node	313.33082	+0.32203821			+0.78934323
e	0.1962779	Incl.	12.28386	+0.36225871			+0.40736663
P	4.16	B(1,0)	13.5				

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

160823	094	(0.05-	0.02-)X	700908	323	0.9+	0.0	810308	413	0.8+	0.9-
700730	095	2.1+	2.3-	700908	323	0.1+	0.4-	810312	413	0.4-	0.4-
700804	323	0.3-	1.2-	700909	323	1.2	0.0	810312	413	1.1+	0.6-
700804	323	0.4-	2.5+	700909	323	0.4+	0.7-	810407	413	1.8-	0.9+
700805	323	0.0	0.0	791224	095	0.1-	0.6-	810407	413	1.7+	0.7-
700805	323	0.5+	0.9+	810228	413	1.2-	0.5-	810408	413	1.3-	1.2+
700809	095	1.6-	1.1-	810228	413	1.4+	0.5-	810408	413	0.1-	0.6+
700820	323	1.0+	0.9-	810306	413	0.1-	0.6+	810409	413	0.8-	1.0+
700820	323	1.6+	0.4+	810306	413	0.4+	1.7-	810409	413	0.7+	0.5+
700829	095	2.7-	2.1+	810308	413	0.5-	0.1-				

1971 UP = 1952 RJ = 1975 XG3 = 1982 RO

The key identification 1971 UP = 1982 RO is by E. Bowell.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	119.06484		(1950.0)		P		Q
n	0.26334856	Peri.	278.14511	+0.78362385			+0.61795865
a	2.4105508	Node	43.71807	-0.52744246			+0.71600126
e	0.1823596	Incl.	5.29050	-0.32823484			+0.32476036
P	3.74	B(1,0)	14.5				

## Residuals in seconds of arc

520914	074	0.0	0.2+	711110	029	0.9-	0.6+	820915	688	3.1+	0.6-
711026	029	0.2-	1.1+	711110	029	0.7-	0.1+	820922	688	0.2-	1.0-
711026	029	0.7-	1.4+	711119	029	0.2+	0.7+	820922	688	1.9-	1.5-
711027	095	0.9+	0.1+	751202	095	1.4+	4.9-				
711030	029	1.8-	1.8+	820915	688	0.8+	0.3-				

1973 SX3 = 1957 YO = 1976 GN4 = 1979 VG3 = 1982 HX2

The key identification 1973 SX3 = 1982 HX2 is by E. Bowell.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	300.58547		(1950.0)		P		Q
n	0.17581688	Peri.	312.82031	+0.99204409			+0.08956129
a	3.1557059	Node	42.26979	-0.03580957			+0.87448951
e	0.1390266	Incl.	7.55818	-0.1206 9049			+0.47670417
P	5.61	B(1,0)	12.5				

## Residuals in seconds of arc

571227	760	(16.7+	7.2+)X	731102	033	0.0	0.2-	820425	033	1.6-	0.7-
730925	095	0.6+	2.5-	731103	033	0.5-	0.1+	820427	033	0.4+	1.3-
730927	095	1.0+	5.5+	760402	095	3.0+	5.3+	820427	033	0.3-	1.6-
731031	033	0.9-	0.4-	791114	095	1.0+	3.3-				
731101	033	1.6-	0.1-	820425	033	1.1-	0.7-				



1978 QB3 = 1955 RG = 1959 TG

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	108.13770		(1950.0)		P		Q
n	0.25877258	Peri.	10.69394	+0.99929863			-0.03533919
a	2.4388855	Node	351.30265	+0.02535098			+0.88186401
e	0.2032934	Incl.	4.69800	+0.02756042			+0.47017763
P	3.81	B(1,0)	14.5				

Residuals in seconds of arc

550913	760	1.7+	2.4-	780926	095	0.0	0.3+	781008	095	0.1+	1.8+
591001	024	0.3+	1.2-	781002	095	0.3+	1.1+	821013	688	0.2+	1.5-
780831	095	2.5-	0.3+	781005	095	0.1-	2.1 +	821013	688	0.1-	1.5-

1978 SE2 = 1982 SR

The identification is by E. Bowell.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	91.14483		(1950.0)		P		Q
n	0.24562922	Peri.	273.63939	+0.99031136			+0.04929778
a	2.5251290	Node	83.56592	+0.00802305			+0.91299035
e	0.1966205	Incl.	7.50672	-0.13863274			+0.40499178
P	4.01	B(1,0)	15.0				

Residuals in seconds of arc

780927	095	1.4-	0.6+	820922	688	0.4+	0.3+	821011	688	2.3-	0.0
781003	095	1.9+	2.1-	820922	688	0.5+	1.0-				
781007	095	0.1-	0.6-	821011	688	0.2+	0.3+				

1978 UC = 1950 ER = 1954 CC

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	25.76179		(1950.0)		P		Q
n	0.22997364	Peri.	76.18968	+0.51383036			-0.85555834
a	2.6384662	Node	342.45508	+0.68350863			+0.45281411
e	0.1528963	Incl.	12.10813	+0.51845376			+0.25095679
P	4.29	B(1,0)	13.5				

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

500315	760	0.1+	0.5-	781107	026	0.2-	0.2-	820915	688	0.5+	1.4-
500315	760	0.5+	1.3+	781109	026	0.1-	0.8+	820915	688	0.4-	1.6-
540209	760(0.04+	0.01+)X		781124	026	1.1+	0.7-	820921	688	0.7-	2.3+
781027	026	0.6+	0.3+	781124	026	0.0	0.3-	820921	688	0.0	1.8+
781028	026	0.1-	1.0-	781202	026	1.3-	1.1 +				

1980 DC

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	140.32018		(1950.0)		P		Q
n	0.18584276	Peri.	287.89135	+0.13014639			+0.99104858
a	3.0411638	Node	349.45294	-0.83697772			+0.09373285
e	0.0975134	Incl.	9.35150	-0.53153570			+0.09506244
P	5.30	B(1,0)	12.5				

Residuals in seconds of arc

800219	801	1.6+	1.3+	800312	801	0.6+	1.5-	820928	675	0.0	0.4-
800222	801	0.7-	0.3-	800313	801	0.4-	0.3-	820929	675	0.0	0.4+
800225	801	0.8-	0.6-	800417	801	0.8-	0.2-				
800310	801	0.8-	1.3+	800420	801	1.4+	0.5+				

1980 MD = 1933 XC = 1951 WS1 = 1965 AR

The 1982 observations were made by J. Gibson on the basis of a prediction by J. G. Williams.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	94.53028		(1950.0)		P		Q
n	0.15896154	Peri.	247.19809	+0.98832974			-0.04193058
a	3.3750136	Node	114.94053	+0.08879259			+0.93973346
e	0.1075981	Incl.	9.29433	-0.12377478			+0.33932703
P	6.20	B(1,0)	12.5				

Residuals in seconds of arc

331215	024	2.7+	2.9+	800611	675	0.6-	1.1-	800620	675	1.4-	2.4+
511129	711	0.5+	3.7+	800618	675	1.0-	1.2-	820912	675	0.2-	1.5-
650108	330	0.7+	0.3-	800618	675	2.5+	0.8-	820914	675	0.1-	1.7-
800517	095	0.3-	2.0+	800619	675	1.1-	2.5+				
800610	675	1.4+	0.9-	800619	675	0.0	3.9-				

1980 XE = 1980 YD

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	257.82050		(1950.0)		P		Q
n	0.36594070	Peri.	281.60422	-0.69840984			+0.65815339
a	1.9358117	Node	300.27932	-0.46090907			-0.71416335
e	0.0265175	Incl.	19.00132	-0.54752764			-0.23833762
P	2.69	B(1,0)	15.0				

Residuals in seconds of arc

801204	688	1.1+	0.0	810130	688	2.1-	1.3-	810211	046	1.1+	3.3+
801204	688	2.2+	0.7+	810130	688	0.6+	1.4-	810211	046	1.2-	0.5+
801212	688	0.8+	3.2-	810130	046	0.7+	0.1-	810227	046	0.1-	1.1-
801212	688	1.1+	0.7-	810130	046	0.6+	0.6-	810227	046	0.3-	0.4+
801230	688	1.8+	1.0+	810131	046	1.4-	0.1-	810228	688	0.2-	0.6-
801230	688	1.4-	0.2-	810131	046	0.6+	0.8+	810228	688	0.5+	1.4-
810129	046	0.2+	1.0-	810201	046	0.7-	0.7-	820913	688	0.8-	1.1-
810129	046	0.1-	0.3+	810201	046	2.3+	1.1+	820921	688	3.7+	0.5+
810130	046	0.2+	0.7+	810209	046	1.8-	1.1+	820921	688	2.6-	0.1+
810130	046	2.4-	1.0-	810209	046	1.4-	2.2+				

1981 RF

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	190.55451		(1950.0)		P		Q
n	0.26007040	Peri.	238.94703	+0.99667119			+0.06207946
a	2.4307601	Node	117.44715	-0.03804430			+0.92745539
e	0.1897309	Incl.	3.41391	-0.07210524			+0.36874467
P	3.79	B(1,0)	15.0				

From 12 observations 1981 Aug. 30-1982 Jan. 16, mean residual 0".9.

1982 RA

Epoch 1982 Sept. 28.0 ET = JDE 2445240.5

M	336.29342		(1950.0)		P		Q
n	0.49830760	Peri.	53.18410	+0.79663825			-0.57344382
a	1.5756910	Node	339.46552	+0.21032823			+0.55941567
e	0.2839234	Incl.	33.01632	+0.56668292			+0.59851173
P	1.98	B(1,0)	16.3				

From 20 observations 1982 Sept. 13-24.

1982 RB

Epoch 1982 Sept. 28.0 ET = JDE 2445240.5

M	17.08188		(1950.0)		P		Q
n	0.31907600	Peri.	158.64429	+0.74522992			+0.64831660
a	2.1209965	Node	158.45815	-0.65660724			+0.75422945
e	0.3988601	Incl.	25.13176	-0.11618646			-0.10403615
P	3.09	B(1,0)	18.0				

From 4 observations 1982 Sept. 14-21.

1982 TA

Epoch 1982 Nov. 7.0 ET = JDE 2445280.5

M	343.97976		(1950.0)		P		Q
n	0.29239800	Peri.	117.94866		-0.61815186		-0.78517907
a	2.2481215	Node	10.48029		+0.63004380		-0.52318897
e	0.7608886	Incl.	11.79336		+0.47003518		-0.33131122
P	3.37	B(1,0)	16.0				

From 20 observations 1982 Oct. 11-20.

\* \* \* \* \*

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

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

(2774)\* 1942 TJ = 1948 TO1 = 1981 LE

Discovered 1942 Oct. 3 by L. Oterma at Turku.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	40.69470		(1950.0)		P		Q
n	0.17359451	Peri.	113.79351		+0.70250749		-0.69806021
a	3.1825755	Node	290.81232		+0.58699252		+0.67841818
e	0.1439142	Incl.	8.52367		+0.40239657		+0.22904302
P	5.68	B(1,0)	12.0				

Residuals in seconds of arc

420908	062	0.1-	1.5+	810604	688	0.7+	0.3-	810725	688	2.9+	0.0
420911	062	1.3-	0.1-	810606	688	1.9-	1.2+	810725	688	0.6+	0.8+
421003	062	1.0+	0.1+	810609	688	0.3-	0.6-	820816	801	0.2-	1.3-
421011	062	0.5-	0.1-	810609	688	0.6-	0.1-	820915	801	1.3+	0.3+
481010	012	0.2-	0.2+	810703	688	1.4+	0.6+	820915	688	1.3-	0.8+
810604	688	1.9-	1.2-	810703	688	1.4-	0.4-	820915	688	0.6+	1.7-

(2775)\* 1953 TX2 = 1981 CJ

Discovered 1953 Oct. 14 at the Goethe Link Observatory, Indiana University. The identification is by E. Bowell (MPC 6047).

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	317.71355		(1950.0)		P		Q
n	0.26163050	Peri.	306.38892		+0.66403578		-0.74497414
a	2.4210874	Node	101.87414		+0.70515730		+0.59559828
e	0.1854216	Incl.	3.73785		+0.24861549		+0.30046000
P	3.77	B(1,0)	15.0				

Residuals in seconds of arc

531014	760	2.3-	1.1-	810202	046	1.4-	0.5+	820516	675	2.3-	1.3+
531014	760	1.5-	0.3-	810202	046	1.5-	0.7+	820517	675	0.3-	0.4-
531031	760	1.7+	0.2-	810209	046	2.0+	0.7-	820518	675	0.8-	1.8+
531031	760	1.3+	0.1+	810210	046	1.7+	0.6+	820527	801	4.1+	1.7-
531105	760	1.7-	1.1+	820515	675	0.6+	0.2-				
531105	760	0.4-	0.5+	820516	675	1.2-	0.0				

(2776)\* 1976 SZ7 = 1938 EE1 = 1949 GB = 1949 HH1 = 1951 WJ1 = 1962 YB  
= 1967 EA = 1971 KS = 1980 VE2 = 1982 HH1 = 1982 KE1

Discovered 1976 Sept. 25 by N. S. Chernykh at the Crimean Astrophysical Observatory. The double designation 1982 HH1 = 1982 KE1 is by B. G. Marsden.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	199.58070		(1950.0)		P		Q
n	0.27066475	Peri.	319.61591		-0.83715881		-0.54685895
a	2.3669091	Node	187.25512		+0.52080759		-0.79111437
e	0.1755291	Incl.	4.77287		+0.16710651		-0.27401338
P	3.64	B(1,0)	14.0				

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

380306	078(26.8- 41.8+)X	670309	095	0.5-	2.7+	820515	675	0.0	0.9-
490403	078(16.4+ 11.3+)X	710525	095	0.1-	1.2+	820516	675	1.1-	0.6+
490424	094(73.6+ 71.7+)X	760925	095	0.6-	1.2+	820516	675	3.4-	2.1+
490427	094(0.01- 0.04+)X	760928	095	3.3+	0.2+	820517	675	1.5-	0.9+
511129	711 1.5+ 0.4+ Y	761025	095	0.4-	2.3-	820518	675	0.9-	1.2+
511129	711 1.6- 5.3- Y	801110	330	2.0-	3.0+	820524	675	0.4+	1.9-
621230	760(31.7+ 20.5+)X	820425	688	2.9+	1.8-	820527	675	0.4+	0.8+
670305	095 2.1+ 2.5-	820425	688	3.0+	2.4-				

(2777)\* 1979 SY11 = 1961 WC = 1968 UJ2 = 1972 VL1 = 1981 FK

Discovered 1979 Sept. 24 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	297.45260	(1950.0)	P	Q
n	0.26998769	Peri. 93.87035	-0.64731050	-0.76051210
a	2.3708646	Node 36.63334	+0.66089694	-0.59339037
e	0.0903766	Incl. 4.91206	+0.379742 47	-0.26364598
P	3.65	B(1,0) 14.0		

Residuals in seconds of arc

611130	760(69.0+ 31.3+)X	810327	046	1.9+	1.1-	810405	688	1.5+	1.8-
681023	095 0.4+ 0.7-	810328	046	0.4+	0.9-	810410	046	3.3-	0.4-
721109	095 0.4- 3.1+	810329	046	0.5+	0.5-	810410	046	2.3-	0.2-
790924	095 0.4+ 1.9-	810329	046	4.0-	1.8+	810410	688	0.6+	1.0-
791014	095 1.8+ 0.4-	810330	688	1.8-	2.6+	810410	688	1.4+	1.3-
791116	095 0.9+ 2.7-	810330	688	1.3+	1.1-				
791122	095 0.2- 1.2-	810405	688	1.5+	1.0-				

(2778)\* 1979 XP = 1948 WL = 1965 UK = 1970 EG = 1977 ET = 1982 RN

Discovered 1979 Dec. 14 at the Purple Mountain Observatory.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	86.70537	(1950.0)	P	Q
n	0.28606673	Peri. 286.00849	+0.95022194	-0.30099774
a	2.2811709	Node 91.56284	+0.30768451	+0.86581821
e	0.1217976	Incl. 4.61844	+0.04907647	+0.39969886
P	3.45	B(1,0) 14.5		

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

481128	012 0.2- 0.8+	791117	095	1.2-	0.5+	820922	688	0.0	0.6-
651025	760(0.03+ 0.04-)X	791214	330	0.3+	0.8-	820922	688	0.0	0.1-
700307	095 2.2+ 1.2-	791218	095	0.2+	1.3+	821009	688	0.3-	0.5-
770309	095 0.1+ 2.3-	820915	688	0.3+	0.1+	821009	688	0.1+	1.4-
770313	095 2.5- 0.8-	820915	688	1.4+	0.3-				

(2779)\* 1981 CX = 1935 EC = 1968 FN = 1969 RP = 1976 UF5

Discovered 1981 Feb. 6 by N. G. Thomas at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	237.48322	(1950.0)	P	Q
n	0.29952872	Peri. 122.25571	-0.92418554	+0.37604482
a	2.2122986	Node 79.90824	-0.36927781	-0.83502516
e	0.0622319	Incl. 3.89448	-0.09754477	-0.40165067
P	3.29	B(1,0) 14.5		

Residuals in seconds of arc

350308	012(35.0+ 14.4-)X	810206	688	1.2+	0.4-	810325	688	1.0-	0.2+
680331	095 1.3+ 0.7-	810206	688	0.9+	0.1+	810330	688	1.4+	0.6+
680418	095 4.6- 3.0-	810309	688	0.0	0.6-	810330	688	2.1+	1.3+
690908	095 0.9+ 3.6+	810309	688	0.5-	0.1+	820816	801	1.0+	0.4-
761030	095 0.3- 3.9-	810325	688	1.8-	0.9+	820910	801	1.3-	2.8-

(2780)\* 1981 DO2 = 1952 KV = 1971 BV2 = 1971 BT3 = 1976 YO

Discovered 1981 Feb. 28 at Siding Spring in the course of the U.K.-  
Caltech Asteroid Survey.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	243.83467		(1950.0)		P		Q
n	0.30324458	Peri.	311.69855		-0.68762623		+0.71983606
a	2.1941889	Node	274.59157		-0.63463443		-0.65937612
e	0.1157572	Incl.	5.46322		-0.35271703		-0.21693128
P	3.25	B(1,0)	14.0				

Residuals in seconds of arc

520524	711	0.3+	2.4+Y	810306	413	1.0+	0.2+	810407	413	0.1+	0.2+
710127	805	0.0	0.9+	810306	413	3.0+	0.7-	810407	413	0.3-	0.1+
710129	805	0.9+	1.3+	810308	413	0.7-	0.8+	810408	413	0.5-	0.4-
761216	095	0.1-	1.7+	810308	413	0.6+	0.3+	810408	413	0.5+	0.1-
810228	413	2.4-	0.4-	810312	413	0.6-	0.8-	810409	413	1.0-	0.5-
810228	413	0.3-	0.1-	810312	413	0.1-	0.9-	810409	413	0.0	0.4-

(2781)\* 1982 QH = 1962 AE = 1971 UX1 = 1976 PA

Discovered 1982 Aug. 19 by Z. Vavrova at Klet.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	20.53394		(1950.0)		P		Q
n	0.17654215	Peri.	260.10158		+0.68771254		-0.72563996
a	3.1470510	Node	146.41408		+0.68085854		+0.63399247
e	0.1873562	Incl.	2.31224		+0.25195856		+0.26739521
P	5.58	B(1,0)	13.0				

Residuals in seconds of arc

620110	760	0.8-	2.5-	820819	046	1.5+	0.3-	820915	688	0.6+	2.1-
620110	760	0.6+	0.2+	820819	046	1.9+	0.2-	820915	688	2.1+	2.6-
620128	760	0.1-	0.2+	820822	046	0.2+	0.7-	820921	688	0.7-	0.7+
620128	760	0.3-	0.1-	820822	046	0.8-	1.4-	820921	688	0.1-	0.4+
711020	095	1.0-	2.5+	820826	046	1.3-	1.1+				
760801	095	0.0	0.1-	820826	046	2.0-	1.1+				

(2782)\* 2605 P-L = 1969 UO2 = 1973 QW1

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-  
Groeneveld on Palomar Schmidt plates taken by T. Gehrels. The key  
identification 2605 P-L = 1973 QW1 is by E. Bowell (MPC 5322).

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5

M	114.10903		(1950.0)		P		Q
n	0.22436773	Peri.	310.97558		+0.78065091		+0.62485460
a	2.6822286	Node	10.37175		-0.55174210		+0.69798075
e	0.2199925	Incl.	3.78016		-0.29353842		+0.34982796
P	4.39	B(1,0)	14.5				

Residuals in seconds of arc

600924	675	0.2+	0.5+	601022	675	1.0-	0.2-	730831	095	1.1+	2.6-
600926	675	0.4-	0.1+	601025	675	0.6+	0.3+	730905	095	0.1+	0.1-
600928	675	1.8+	0.1+	601026	675	0.5-	0.3+	810601	801	0.3+	0.4+
600928	675	0.9-	0.3+	601026	675	0.2-	1.1-	820819	801	0.4-	2.5+
601017	675	0.1-	0.4+	691018	095	0.9+	2.3-	820913	801	1.5-	1.6+

1940 WG = 1977 KC1 = 1979 SZ11

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	228.63136		(1950.0)		P		Q
n	0.17559677	Peri.	41.82010		+0.46012582		-0.88781495
a	3.1583426	Node	20.78884		+0.80822252		+0.41497105
e	0.1617253	Incl.	1.33947		+0.36750588		+0.19895636
P	5.61	B(1,0)	13.0				

## Residuals in seconds of arc

401129	062	0.4-	1.6-	770518	675	0.8-	2.3-	790924	095	0.7-	0.2+
401203	062	0.7-	0.5-	770518	675	0.2+	1.2-	791014	095	0.4-	0.6+
401228	062	1.3+	1.2-	770519	675	1.3-	2.3-	791116	095	0.0	1.6-
401230	062	1.7+	2.6-	770519	675	0.5+	1.3-	791122	095	1.2+	0.3+

1961 TA = 1973 AR3 = 1981 RR2

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	162.80454		(1950.0)		P		Q
n	0.19872270	Peri.	24.58353	+0.94558854		+0.31027914	
a	2.9082959	Node	316.95302	-0.31718320		+0.81200086	
e	0.2049614	Incl.	8.24801	-0.07250611		+0.49434951	
P	4.96	B(1,0)	13.0				

## Residuals in seconds of arc

610914	012	3.9+	0.6+	611011	012	0.6-	1.0+	810907	095	1.2+	2.0-
610916	012	3.5-	0.5-	730102	095	2.1+	2.2-	810927	095	(18.3-	4.9-)
611007	012	0.0	0.2-	730104	095	2.0-	0.2-	811003	095	2.7-	1.6-

1964 TH1 = 1951 EP = 1973 AE2 = 1979 UV4

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	313.32445		(1950.0)		P		Q
n	0.26529938	Peri.	264.80850	-0.48478645		-0.87442601	
a	2.3987192	Node	214.21095	+0.81522093		-0.44387678	
e	0.1469083	Incl.	1.93728	+0.31685473		-0.19583	809
P	3.72	B(1,0)	14.0				

## Residuals in seconds of arc

510305	760	1.9+	1.6+	641030	330	4.2+	3.0+	791017	095	1.4-	0.6+
510305	760	1.5+	0.7+	641109	330	4.3-	0.1+	791117	095	0.3-	2.6+
641008	330	4.3-	1.0-	730101	095	0.7-	0.2+				

1972 NW = 1972 QK = 1979 VH2 = 1982 SB

The double designation 1972 NW = 1972 QK is by T. Urata (NOC 978).

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	129.68244		(1950.0)		P		Q
n	0.29696834	Peri.	84.49578	+0.81062688		+0.58523226	
a	2.2250006	Node	239.68330	-0.54584209		+0.74304545	
e	0.1885303	Incl.	1.30625	-0.21199168		+0.32463311	
P	3.32	B(1,0)	15.0				

## Residuals in seconds of arc

720713	805	1.5-	0.7+	720908	095	0.1+	2.9+	820915	046	1.0-	1.4-
720713	805	1.4-	0.9+	791114	095	0.5-	1.5+	820916	046	0.3-	2.4-
720713	805	0.9-	0.6-	820914	046	1.8+	0.4+	820916	046	0.4+	1.8-
720818	095	0.6-	0.4-	820914	046	2.3+	0.5-	820922	688	0.9-	0.7-
720904	095	2.4-	2.2+	820915	046	1.4-	0.9-	820922	688	1.1+	1.5+

1972 QM = 1979 WT3 = 1979 YY3

The double designation 1979 WT3 = 1979 YY3 was found by N. S. Chernykh.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	80.98455		(1950.0)		P		Q
n	0.29619687	Peri.	226.12409	+0.88459844		-0.46600337	
a	2.2288625	Node	161.62783	+0.44260856		+0.82672242	
e	0.1683020	Incl.	3.28631	+0.14691245		+0.31523148	
P	3.33	B(1,0)	15.0				

## Residuals in seconds of arc

720818	095	0.4-	1.9+	720908	095	1.1+	4.3-	791116	095	0.4-	0.5+
720904	095	0.4-	0.6-	721004	095	0.2-	3.3+	791218	095	0.5+	0.8-

1973 SD3 = 1978 PT1 = 1979 XT1

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	295.24023		(1950.0)		P		Q
n	0.17909605	Peri.	201.87581	+0.98022004			-0.19789536
a	3.1170678	Node	169.53719	+0.18352816			+0.90424208
e	0.1647505	Incl.	0.77959	+0.07406816			+0.37839620
P	5.50	B(1,0)	13.5				

Residuals in seconds of arc

730922	095	1.4-	0.8-	731026	095	0.6+	0.2-	791214	095	1.4+	2.1-
730926	095	0.2+	0.8-	780808	095	0.4-	1.1+	791218	095	0.8-	0.6+

1979 SS11 = 1966 DV = 1971 DW = 1974 ST4

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	215.32230		(1950.0)		P		Q
n	0.19677618	Peri.	79.21378	-0.27544732			-0.96118408
a	2.9274438	Node	26.79139	+0.86755355			-0.2556 8772
e	0.0875729	Incl.	2.02599	+0.41410095			-0.10367711
P	5.01	B(1,0)	13.0				

Residuals in seconds of arc

660225	330	1.3-	1.5-	790924	095	1.7-	0.3-	791122	095	1.2-	1.1+
710218	095	1.0+	4.3+	791014	095	0.4+	0.3+				
740926	095	0.6+	1.6+	791116	095	0.3-	1.0+				

1979 SV11 = 1951 YG1 = 1969 RU1 = 1975 XR5 = 1978 PQ

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	72.19237		(1950.0)		P		Q
n	0.20727962	Peri.	3.20571	-0.27148823			+0.96227905
a	2.8276947	Node	251.04199	-0.88339544			-0.25644607
e	0.0237417	Incl.	1.07216	-0.38197726			-0.09085395
P	4.75	B(1,0)	13.0				

Residuals in seconds of arc

511227	711	1.2-	4.8+	Y	780808	095	1.6-	2.3+	791116	095	0.8-	2.2-
690913	095	1.6+	1.3+		790924	095	0.1+	0.1+	791122	095	0.7-	0.2-
751204	095	1.5+	0.5-		791014	095	0.8+	0.4-				

1979 SW11 = 1969 VG1

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	26.02888		(1950.0)		P		Q
n	0.29350615	Peri.	231.54939	+0.25419328			-0.96650490
a	2.2424638	Node	203.79705	+0.91240601			+0.25178786
e	0.1373433	Incl.	5.03499	+0.3207 8193			+0.04971070
P	3.36	B(1,0)	14.5				

Residuals in seconds of arc

691111	095	1.1+	2.1+	790924	095	0.7-	0.9+	791116	095	0.1-	0.0
691113	095	1.1-	2.1-	791014	095	1.0+	1.3-	791122	095	0.4-	0.5+

1979 SA12 = 1973 QV1

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	248.31989		(1950.0)		P		Q
n	0.17894005	Peri.	41.67831	+0.73262398			-0.68063355
a	3.1188791	Node	1.21497	+0.62094738			+0.66821265
e	0.1772347	Incl.	0.74513	+0.27872289			+0.30038279
P	5.51	B(1,0)	13.0				

Residuals in second of arc

730831	095	1.2-	1.4+	790924	095	0.0	0.2+	791116	095	0.6+	0.9-
730905	095	1.2+	1.6-	791014	095	0.2-	0.5+	791122	095	0.5-	0.6+

1979 WO = 1942 EP = 1962 WF = 1970 EZ

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	232.08936		(1950.0)		P		Q
n	0.17235708	Peri.	18.57964	+0.64182696			-0.75979105
a	3.1977965	Node	31.73799	+0.67615009			+0.49684438
e	0.1274021	Incl.	11.38126	+0.36177230			+0.41936048
P	5.72	B(1,0)	12.0				

Residuals in seconds of arc

420323	024	3.8+	5.4+	790924	095	1.0-	1.0+	791119	330	0.4+	3.0+
621124	760	(2.2+	1.0-)X	791014	095	0.2+	0.1+	791122	095	1.6-	1.6+
700307	095	1.8-	3.0-	791116	095	0.6-	1.1-	791123	330	1.4+	1.2+

1982 HV = 1982 KB2 = 1975 JC = 1979 SY3

The double designation 1982 HV = 1982 KB2 is by E. Bowell.

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

K	86.86845		(1950.0)		P		Q
n	0.27576696	Peri.	197.30597	+0.39857393			+0.91277408
a	2.3376281	Node	96.25787	-0.83041896			+0.40052037
e	0.2205558	Incl.	5.15666	-0.38928546			+0.08016800
P	3.57	B(1,0)	15.0				

Residuals in seconds of arc

750510	095	0.4+	1.1+	820421	688	2.9-	1.8-	820428	688	1.1-	0.4+
750514	095	0.9+	0.2-	820421	688	0.6-	2.3	820520	688	2.3+	1.6-
790924	095	0.4+	1.3-	820428	688	1.1-	1.0-	820520	688	1.0+	2.3-

1982 HN1 = 1950 JG = 1974 RN1 = 1977 DL10

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	95.83738		(1950.0)		P		Q
n	0.21460574	Peri.	120.59104	-0.60686644			+0.79345144
a	2.7629691	Node	111.97374	-0.74523059			-0.54777574
e	0.0929594	Incl.	2.86463	-0.27630505			-0.26528579
P	4.59	B(1,0)	13.5				

Residuals in seconds of arc

500515	078	(13.1+	1.9+)Y	820418	688	1.0+	0.5-	820520	688	0.3+	0.4+
740914	095	0.0	0.1+	820418	688	0.0	1.2-	820520	688	0.1-	0.3+
770219	381	0.4-	0.2+	820428	688	0.6-	0.3+				
770219	381	0.3+	0.0	820428	688	0.5-	1.0+				

1982 KD1 = 1978 SY

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	14.68641		(1950.0)		P		Q
n	0.18848914	Peri.	256.47762	+0.75891717			+0.62817280
a	3.0126316	Node	64.32251	-0.49912141			+0.73037749
e	0.0960643	Incl.	10.97574	-0.41823742			+0.26823061
P	5.23	B(1,0)	13.0				

Residuals in seconds of arc

780927	095	1.4+	1.0+	820516	675	0.4-	0.1-	820518	675	0.0	0.3+
781007	095	0.8-	0.5-	820516	675	0.3-	0.6+	820524	675	0.0	0.6+
820515	675	1.3+	0.4-	820517	675	0.5-	0.5-	820527	675	0.4+	0.3+

7633 P-L = 1977 DR3

The identification is by H. Oishi (JAM 735).

Epoch 1983 Sept. 23.0 ET = JDE 2445600.5 (J-P)

M	337.22455		(1950.0)		P		Q
n	0.20615434	Peri.	203.31417	+0.66582267			+0.74409465
a	2.8379752	Node	108.47948	-0.67508836			+0.63209264
e	0.0584705	Incl.	3.31250	-0.31770405			+0.21629156
P	4.78	B(1,0)	14.5				



Residuals in seconds of arc

601017	675	1.0+	0.3+	770218	381	0.2+	0.9-	770312	381	0.4+	0.8-
601022	675	0.4+	0.0	770218	381	1.6+	1.7-	770312	381	0.8+	1.0-
601025	675	0.3+	0.6+	770219	381	0.4-	0.1+				
601026	675	1.2+	0.9+	770219	381	1.6-	0.4-				

\* \* \* \* \*

EPHEMERIDES.

1982 TA a,e,i = 2.25, 0.76, 12 Elements MPC 7369

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 10 18		23 23.01	-01 21.3	0.430	1.377	147.1	23.2	15.4
1982 10 23		22 59.17	-01 54.0					
1982 10 28		22 33.90	-02 21.1	0.380	1.252	125.2	40.4	15.3
1982 11 02		22 07.85	-02 40.6					
1982 11 07		21 41.49	-02 51.3	0.353	1.122	102.7	59.5	15.4
1982 11 12		21 15.06	-02 53.8					
1982 11 17		20 48.41	-02 50.2	0.339	0.989	80.2	80.1	15.5
1982 11 22		20 21.04	-02 44.0					
1982 11 27		19 52.24	-02 41.2	0.334	0.855	57.5	103.2	15.7
1982 12 02		19 21.39	-02 49.8					
1982 12 07		18 48.58	-03 19.5	0.347	0.726	34.3	130.0	16.0
1983 01 16		17 01.96	-20 24.1	0.859	0.619	38.5	81.7	16.5
1983 01 26		17 25.30	-23 57.6					
1983 02 05		17 50.79	-26 31.7	1.133	0.861	47.3	57.3	17.3
1983 02 15		18 15.21	-28 23.3					
1983 02 25		18 37.26	-29 47.6	1.291	1.128	57.5	47.7	17.9
1983 03 07		18 56.47	-30 56.4					
1983 03 17		19 12.54	-31 58.9	1.355	1.382	70.1	42.6	18.3
1983 03 27		19 25.18	-33 02.3					
1983 04 06		19 34.09	-34 12.1	1.351	1.617	85.5	38.1	18.6

Periodic Comet Tempel 2 (1982d)

Elements MPC 3676

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1982 12 17		15 34.42	-10 01.9	2.916	2.142	31.7	14.0	19.4
1982 12 27		15 56.53	-11 15.6					
1983 01 06		16 19.66	-12 21.2	2.662	2.014	40.3	18.4	19.2
1983 01 16		16 43.86	-13 17.2					
1983 01 26		17 09.16	-14 02.2	2.397	1.888	48.1	22.8	19.0
1983 02 05		17 35.59	-14 34.9					
1983 02 15		18 03.17	-14 54.0	2.137	1.766	55.0	27.3	18.7
1983 02 25		18 31.86	-14 58.3					
1983 03 07		19 01.66	-14 47.1	1.894	1.652	60.7	31.6	18.4
1983 03 17		19 32.50	-14 19.7					
1983 03 27		20 04.27	-13 36.4	1.679	1.551	65.2	35.7	18.1
1983 04 06		20 36.87	-12 37.8					
1983 04 16		21 10.12	-11 25.5	1.500	1.468	68.6	39.5	17.9
1983 04 26		21 43.79	-10 02.0					
1983 05 06		22 17.64	-08 30.6	1.362	1.411	71.3	42.6	17.7
1983 05 16		22 51.36	-06 55.5					
1983 05 26		23 24.60	-05 21.4	1.262	1.383	74.0	44.7	17.6
1983 06 05		23 57.02	-03 52.9					
1983 06 15		00 28.25	-02 34.6	1.193	1.389	77.5	45.6	17.5
1983 06 25		00 57.90	-01 30.4					
1983 07 05		01 25.63	-00 43.4	1.142	1.427	82.6	44.9	17.4
1983 07 15		01 51.07	-00 15.7					
1983 07 25		02 13.85	-00 08.7	1.098	1.494	89.9	42.8	17.4

1983 08 04	02 33.63	-00 22.5						
1983 08 14	02 50.01	-00 57.0	1.054	1.584	100.0	39.0	17.3	
1983 08 24	03 02.58	-01 50.4						
1983 09 03	03 11.02	-02 59.9	1.013	1.690	113.5	33.2	17.2	
1983 09 13	03 14.97	-04 21.3						
1983 09 23	03 14.36	-05 47.4	0.989	1.807	130.2	25.1	17.0	
1983 10 03	03 09.46	-07 08.8						
1983 10 13	03 01.00	-08 15.0	1.011	1.931	148.0	15.9	16.9	
1983 10 23	02 50.36	-08 55.4						
1983 11 02	02 39.17	-09 04.2	1.111	2.058	156.3	11.2	17.1	
1983 11 12	02 29.02	-08 40.4						
1983 11 22	02 21.10	-07 48.0	1.300	2.187	145.4	14.9	17.7	
1983 12 02	02 16.00	-06 33.7						
1983 12 12	02 13.86	-05 04.3	1.571	2.314	128.3	19.5	18.4	
1983 12 22	02 14.52	-03 25.6						
1984 01 01	02 17.63	-01 42.1	1.902	2.440	111.5	22.0	19.0	
1984 01 11	02 22.85	+00 03.0						
1984 01 21	02 29.83	+01 47.4	2.268	2.564	95.9	22.4	19.5	
1984 01 31	02 38.25	+03 29.4						
1984 02 10	02 47.88	+05 08.0	2.650	2.684	81.3	21.3	19.9	
1984 02 20	02 58.47	+06 42.2						
1984 03 01	03 09.86	+08 11.3	3.027	2.801	67.5	19.1	20.2	
1984 03 11	03 21.91	+09 35.0						
1984 03 21	03 34.47	+10 52.7	3.382	2.915	54.3	16.1	20.5	

## Periodic Comet Vaisala 1 (19811)

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Elements NK 396 m2
1983 01 26		18 00.18	-15 50.6	3.232	2.499	35.7	13.3	20.5
1983 02 05		18 17.59	-15 46.9					
1983 02 15		18 33.83	-15 35.7	3.186	2.622	47.5	16.1	20.7
1983 02 25		18 48.77	-15 18.7					
1983 03 07		19 02.33	-14 57.4	3.097	2.748	60.5	18.3	20.8
1983 03 17		19 14.39	-14 33.5					
1983 03 27		19 24.82	-14 08.7	2.972	2.875	74.7	19.6	21.0
1983 04 06		19 33.50	-13 44.8					
1983 04 16		19 40.28	-13 23.5	2.822	3.002	90.4	19.5	21.0
1983 04 26		19 45.04	-13 06.5					
1983 05 06		19 47.67	-12 55.4	2.669	3.129	107.8	17.9	21.1
1983 05 16		19 48.09	-12 51.7					
1983 05 26		19 46.30	-12 56.3	2.541	3.255	127.2	14.4	21.2
1983 06 05		19 42.43	-13 09.7					
1983 06 15		19 36.75	-13 31.5	2.473	3.380	148.3	9.1	21.3
1983 06 25		19 29.70	-14 00.8					
1983 07 05		19 21.88	-14 35.7	2.500	3.503	169.1	3.1	21.4

## Periodic Comet Johnson

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Elements MPC Mag.
1983 02 15		17 31.98	-13 36.8	3.282	2.960	62.6	17.2	20.3
1983 02 25		17 45.31	-13 39.1					
1983 03 07		17 57.92	-13 36.2	2.963	2.891	76.1	19.5	20.0
1983 03 17		18 09.65	-13 29.0					
1983 03 27		18 20.27	-13 18.7	2.635	2.822	90.3	20.7	19.6
1983 04 06		18 29.60	-13 06.9					
1983 04 16		18 37.38	-12 55.5	2.312	2.755	105.5	20.5	19.2
1983 04 26		18 43.36	-12 46.7					
1983 05 06		18 47.31	-12 42.8	2.015	2.691	122.1	18.5	18.8
1983 05 16		18 48.97	-12 46.5					
1983 05 26		18 48.22	-13 00.3	1.766	2.629	140.7	14.1	18.4
1983 06 05		18 45.06	-13 26.3					

1983 06 15	18 39.70	-14 05.6	1.589	2.571	161.0	7.4	18.1
1983 06 25	18 32.70	-14 57.9					
1983 07 05	18 24.88	-16 01.0	1.508	2.517	170.6	3.8	17.9
1983 07 15	18 17.27	-17 11.8					
1983 07 25	18 10.94	-18 26.4	1.528	2.467	151.2	11.5	17.8
1983 08 04	18 06.74	-19 41.2					
1983 08 14	18 05.28	-20 53.3	1.634	2.423	131.0	18.4	17.9
1983 08 24	18 06.83	-22 00.8					
1983 09 03	18 11.39	-23 01.9	1.800	2.385	113.1	22.9	18.1
1983 09 13	18 18.83	-23 55.4					
1983 09 23	18 28.89	-24 40.1	1.999	2.353	97.6	25.0	18.2
1983 10 03	18 41.27	-25 15.1					
1983 10 13	18 55.68	-25 39.3	2.212	2.329	83.9	25.2	18.4
1983 10 23	19 11.79	-25 51.9					
1983 11 02	19 29.31	-25 52.3	2.426	2.312	71.6	24.0	18.6
1983 11 12	19 47.97	-25 39.9					
1983 11 22	20 07.50	-25 14.7	2.630	2.303	60.1	21.8	18.7
1983 12 02	20 27.67	-24 36.8					
1983 12 12	20 48.27	-23 46.6	2.819	2.303	49.4	18.9	18.9
1983 12 22	21 09.11	-22 44.8					
1984 01 01	21 30.04	-21 32.4	2.988	2.310	39.1	15.6	19.0

(2772) 1979 XE a,e,i = 2.31, 0.21, 10 Elements MPC 7365

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 10 18		00 00.31	-16 00.5	1.184	2.090	146.7	15.2	16.8
1982 10 28		23 55.05	-16 20.7					
1982 11 07		23 52.81	-16 07.7	1.293	2.045	126.7	22.9	17.1
1982 11 17		23 53.84	-15 25.2					
1982 11 27		23 58.07	-14 17.8	1.448	2.003	109.3	27.7	17.4
1982 12 07		00 05.16	-12 50.3					
1982 12 17		00 14.77	-11 06.5	1.624	1.964	94.6	30.0	17.7
1982 12 27		00 26.53	-09 09.8					
1983 01 06		00 40.11	-07 03.2	1.804	1.930	81.9	30.3	17.9

(2780) 1981 DO2 a,e,i = 2.19, 0.12, 5 Elements MPC 7371

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 10 18		00 15.26	+11 30.3	1.434	2.401	161.9	7.4	16.8
1982 10 28		00 07.98	+10 17.2					
1982 11 07		00 03.36	+09 14.2	1.570	2.414	140.0	15.3	17.2
1982 11 17		00 01.67	+08 26.6					
1982 11 27		00 02.89	+07 57.1	1.781	2.425	119.6	20.7	17.7
1982 12 07		00 06.76	+07 46.2					
1982 12 17		00 12.96	+07 52.5	2.035	2.434	101.8	23.3	18.0
1982 12 27		00 21.18	+08 14.5					
1983 01 06		00 31.08	+08 49.8	2.304	2.441	86.0	23.7	18.3

(2767) 1967 UM a,e,i = 3.02, 0.08, 11 Elements MPC 7363

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 10 18		01 26.64	-03 39.5	1.900	2.880	167.1	4.4	16.2
1982 10 28		01 18.40	-03 50.9					
1982 11 07		01 11.23	-03 47.3	1.996	2.894	149.5	10.0	16.5
1982 11 17		01 05.77	-03 28.1					
1982 11 27		01 02.47	-02 53.6	2.187	2.909	128.7	15.3	16.9
1982 12 07		01 01.44	-02 05.7					
1982 12 17		01 02.65	-01 06.3	2.443	2.924	109.6	18.5	17.2
1982 12 27		01 05.96	+00 02.5					
1983 01 06		01 11.12	+01 18.6	2.731	2.939	92.3	19.5	17.5
1983 01 16		01 17.93	+02 40.4					
1983 01 26		01 26.15	+04 06.3	3.026	2.955	76.5	18.9	17.7

1978 QB3		a,e,i = 2.44, 0.20, 5				Elements MPC		7367
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 10 18		02 26.27	+20 53.1	1.019	1.990	161.8	9.0	16.2
1982 10 28		02 16.38	+20 38.0					
1982 11 07		02 06.42	+20 09.3	1.033	2.016	169.9	5.0	16.2
1982 11 17		01 58.05	+19 34.6					
1982 11 27		01 52.55	+19 02.9	1.140	2.046	148.2	14.7	16.7
1982 12 07		01 50.51	+18 41.3					
1982 12 17		01 51.98	+18 33.3	1.325	2.081	128.0	21.9	17.2
1982 12 27		01 56.73	+18 40.0					
1983 01 06		02 04.32	+19 00.3	1.560	2.118	110.7	25.7	17.7
1983 01 16		02 14.33	+19 32.0					
1983 01 26		02 26.38	+20 12.5	1.825	2.159	95.8	27.0	18.1

1981 DK1		a,e,i = 2.37, 0.30, 12				Elements MPC		7357
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1982 11 07		03 31.91	+12 55.7	1.321	2.300	-1.95	-1.9	17.5
1982 11 17		03 21.34	+11 20.8					
1982 11 27		03 11.61	+09 59.4	1.408	2.368	-1.83	-2.5	17.8
1982 12 07		03 03.88	+08 57.5					
1982 12 17		02 58.79	+08 17.8	1.598	2.434	-1.58	-2.2	18.3
1982 12 27		02 56.62	+07 59.7					
1983 01 06		02 57.28	+08 00.6	1.865	2.497	-1.31	-1.7	18.8
1983 01 16		03 00.51	+08 16.9					
1983 01 26		03 06.00	+08 45.1	2.174	2.558	-1.10	-1.2	19.2
1983 02 05		03 13.42	+09 21.6					
1983 02 15		03 22.45	+10 03.5	2.499	2.617	-0.94	-0.8	19.6

1980 MD		a,e,i = 3.38, 0.11, 9				Elements MPC		7367
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 11 07		04 04.62	+09 02.6	2.186	3.133	159.5	6.4	16.8
1982 11 17		03 57.05	+08 45.9					
1982 11 27		03 49.07	+08 36.5	2.181	3.150	166.9	4.1	16.7
1982 12 07		03 41.53	+08 36.6					
1982 12 17		03 35.16	+08 47.1	2.290	3.167	147.9	9.5	17.0
1982 12 27		03 30.54	+09 08.1					
1983 01 06		03 27.99	+09 38.8	2.496	3.185	126.9	14.3	17.3
1983 01 16		03 27.62	+10 17.8					
1983 01 26		03 29.41	+11 03.5	2.765	3.203	107.6	17.0	17.6
1983 02 05		03 33.19	+11 54.0					
1983 02 15		03 38.78	+12 47.8	3.064	3.222	90.2	17.8	17.9

1961 TA		a,e,i = 2.91, 0.20, 8				Elements MPC		7372
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 11 07		08 17.53	+25 07.7	2.740	3.114	102.8	18.1	18.1
1982 11 17		08 20.01	+25 01.8					
1982 11 27		08 20.02	+25 02.5	2.510	3.150	122.3	15.3	17.8
1982 12 07		08 17.49	+25 09.2					
1982 12 17		08 12.42	+25 20.4	2.333	3.184	144.2	10.4	17.6
1982 12 27		08 05.12	+25 33.7					
1983 01 06		07 56.15	+25 45.9	2.250	3.217	167.6	3.8	17.3
1983 01 16		07 46.34	+25 53.9					
1983 01 26		07 36.68	+25 55.8	2.284	3.248	166.0	4.2	17.4
1983 02 05		07 28.11	+25 50.7					
1983 02 15		07 21.36	+25 39.3	2.436	3.278	142.9	10.5	17.8
1983 02 25		07 16.90	+25 22.7					
1983 03 07		07 14.88	+25 02.4	2.677	3.306	121.5	14.8	18.1
1983 03 17		07 15.27	+24 39.2					
1983 03 27		07 17.88	+24 13.7	2.972	3.332	102.4	17.0	18.4

1981 QJ		a,e,i = 3.13, 0.19, 1				Elements MPC		7360
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 11 07		08 16.07	+20 58.0	2.483	2.862	102.3	19.8	18.7
1982 11 17		08 20.06	+20 49.7					
1982 11 27		08 21.57	+20 49.5	2.262	2.899	121.2	16.9	18.5
1982 12 07		08 20.49	+20 57.8					
1982 12 17		08 16.79	+21 14.1	2.092	2.936	142.6	11.7	18.2
1982 12 27		08 10.72	+21 36.5					
1983 01 06		08 02.83	+22 02.3	2.009	2.973	166.3	4.5	17.9
1983 01 16		07 53.90	+22 27.9					
1983 01 26		07 44.95	+22 50.2	2.039	3.011	168.9	3.6	17.9
1983 02 05		07 36.99	+23 07.1					
1983 02 15		07 30.79	+23 17.6	2.183	3.049	145.5	10.6	18.4
1983 02 25		07 26.88	+23 21.9					
1983 03 07		07 25.47	+23 20.6	2.418	3.086	124.1	15.4	18.7
1983 03 17		07 26.50	+23 14.1					
1983 03 27		07 29.82	+23 03.0	2.708	3.123	105.3	17.9	19.0
1983 04 06		07 35.13	+22 47.4					
1983 04 16		07 42.17	+22 27.4	3.023	3.160	88.5	18.5	19.3

1981 SM1		a,e,i = 3.14, 0.19, 2				Elements MPC		7362
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1982 11 07		08 34.93	+17 57.8	2.740	3.029	97.3	18.9	18.5
1982 11 17		08 39.31	+17 43.4					
1982 11 27		08 41.49	+17 37.4	2.504	3.065	115.8	16.8	18.3
1982 12 07		08 41.32	+17 40.7					
1982 12 17		08 38.74	+17 53.6	2.310	3.102	136.8	12.5	18.1
1982 12 27		08 33.87	+18 15.2					
1983 01 06		08 27.08	+18 43.7	2.196	3.138	160.1	6.1	17.8
1983 01 16		08 18.95	+19 15.9					
1983 01 26		08 10.33	+19 48.5	2.192	3.174	175.4	1.4	17.5
1983 02 05		08 02.13	+20 18.1					
1983 02 15		07 55.17	+20 42.7	2.306	3.209	151.5	8.4	18.0
1983 02 25		07 50.08	+21 01.0					
1983 03 07		07 47.20	+21 12.7	2.521	3.244	129.5	13.7	18.4
1983 03 17		07 46.63	+21 18.0					
1983 03 27		07 48.31	+21 17.2	2.803	3.278	109.8	16.6	18.7
1983 04 06		07 52.03	+21 10.5					
1983 04 16		07 57.54	+20 58.2	3.115	3.311	92.3	17.6	19.0

1981 RF		a,e,i = 2.43, 0.19, 3				Elements MPC		7368
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1982 11 27		10 03.79	+12 34.3	2.394	2.674	-0.82	+3.5	19.5
1982 12 07		10 09.19	+12 16.4					
1982 12 17		10 12.32	+12 11.9	2.156	2.705	-0.92	+4.1	19.3
1982 12 27		10 12.94	+12 22.4					
1983 01 06		10 10.89	+12 48.4	1.953	2.734	-1.04	+4.8	19.0
1983 01 16		10 06.19	+13 29.2					
1983 01 26		09 59.10	+14 21.8	1.823	2.761	-1.17	+5.1	18.7
1983 02 05		09 50.25	+15 21.2					
1983 02 15		09 40.55	+16 21.1	1.799	2.786	-1.22	+4.9	18.3
1983 02 25		09 31.11	+17 15.2					
1983 03 07		09 22.95	+17 58.7	1.893	2.808	-1.17	+4.2	18.8
1983 03 17		09 16.85	+18 29.0					
1983 03 27		09 13.27	+18 45.5	2.084	2.827	-1.04	+3.5	19.2
1983 04 06		09 12.30	+18 48.9					
1983 04 16		09 13.83	+18 40.4	2.337	2.844	-0.90	+3.1	19.6
1983 04 26		09 17.64	+18 21.1					
1983 05 06		09 23.40	+17 52.4	2.620	2.859	-0.79	+2.8	19.8

1981 VL2		a,e,i = 2.47, 0.07, 4				Elements MPC		7224
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation	Mag.	
1982 12 17		11 17.71	+01 13.5	2.199	2.478	-0.97 +4.8	17.7	
1982 12 27		11 24.55	+00 27.7					
1983 01 06		11 29.26	-00 04.0	1.957	2.493	-1.10 +5.5	17.4	
1983 01 16		11 31.54	-00 19.1					
1983 01 26		11 31.18	-00 15.5	1.746	2.509	-1.27 +6.4	17.1	
1983 02 05		11 28.13	+00 08.0					
1983 02 15		11 22.58	+00 50.7	1.598	2.524	-1.43 +7.3	16.8	
1983 02 25		11 15.05	+01 49.7					
1983 03 07		11 06.44	+02 58.9	1.546	2.538	-1.50 +7.7	16.2	
1983 03 17		10 57.81	+04 10.8					
1983 03 27		10 50.27	+05 17.4	1.606	2.552	-1.43 +7.2	16.8	
1983 04 06		10 44.66	+06 12.2					
1983 04 16		10 41.48	+06 51.7	1.762	2.565	-1.27 +6.2	17.1	
1983 04 26		10 40.92	+07 14.1					
1983 05 06		10 42.87	+07 19.8	1.984	2.577	-1.10 +5.3	17.5	
1983 05 16		10 47.11	+07 09.9					
1983 05 26		10 53.36	+06 45.8	2.241	2.589	-0.96 +4.7	17.8	

(2539) 1964 TS2		a,e,i = 2.26, 0.17, 4				Elements MPC		6635
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 06		12 58.31	-07 50.7	2.259	2.435	88.2	23.8	19.7
1983 01 16		13 06.49	-08 35.2					
1983 01 26		13 12.64	-09 05.8	2.023	2.466	104.8	22.7	19.5
1983 02 05		13 16.46	-09 20.8					
1983 02 15		13 17.65	-09 18.4	1.806	2.495	123.8	19.2	19.2
1983 02 25		13 16.03	-08 57.5					
1983 03 07		13 11.63	-08 17.9	1.639	2.522	145.7	12.8	18.9
1983 03 17		13 04.75	-07 21.2					
1983 03 27		12 56.11	-06 11.5	1.557	2.546	170.0	3.9	18.5
1983 04 06		12 46.69	-04 55.8					
1983 04 16		12 37.63	-03 42.0	1.585	2.568	165.1	5.8	18.7
1983 04 26		12 29.95	-02 37.7					
1983 05 06		12 24.38	-01 48.5	1.717	2.587	141.8	13.9	19.1
1983 05 16		12 21.29	-01 17.1					
1983 05 26		12 20.76	-01 04.0	1.927	2.603	121.4	19.4	19.4
1983 06 05		12 22.65	-01 08.2					
1983 06 15		12 26.71	-01 27.7	2.182	2.617	103.8	22.1	19.8

1981 WP1		a,e,i = 2.37, 0.15, 8				Elements MPC		6646
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 06		13 04.12	+01 43.7	2.534	2.727	90.5	21.1	19.2
1983 01 16		13 11.13	+01 24.8					
1983 01 26		13 16.27	+01 19.4	2.262	2.728	107.7	20.1	18.9
1983 02 05		13 19.24	+01 28.1					
1983 02 15		13 19.79	+01 51.2	2.016	2.727	127.0	16.8	18.6
1983 02 25		13 17.73	+02 27.7					
1983 03 07		13 13.07	+03 15.1	1.829	2.723	148.3	11.0	18.2
1983 03 17		13 06.07	+04 09.3					
1983 03 27		12 57.34	+05 04.0	1.733	2.717	168.1	4.3	17.9
1983 04 06		12 47.76	+05 52.7					
1983 04 16		12 38.36	+06 29.1	1.748	2.709	158.9	7.7	18.0
1983 04 26		12 30.14	+06 48.8					
1983 05 06		12 23.84	+06 50.1	1.866	2.698	137.6	14.6	18.3
1983 05 16		12 19.89	+06 33.2					
1983 05 26		12 18.42	+05 59.8	2.058	2.685	117.8	19.5	18.7
1983 06 05		12 19.37	+05 12.2					
1983 06 15		12 22.53	+04 12.6	2.290	2.670	100.5	22.0	18.9

(2700) 1976 YP7		a,e,i = 2.91, 0.04, 2				Elements MPC		7023
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 06		12 57.91	-05 57.9	2.760	2.914	89.0	19.7	18.3
1983 01 16		13 04.69	-06 33.3					
1983 01 26		13 09.73	-06 56.9	2.489	2.922	106.3	18.9	18.0
1983 02 05		13 12.79	-07 07.6					
1983 02 15		13 13.67	-07 04.3	2.244	2.931	125.6	15.9	17.8
1983 02 25		13 12.27	-06 46.5					
1983 03 07		13 08.66	-06 14.9	2.056	2.939	147.2	10.5	17.4
1983 03 17		13 03.09	-05 31.2					
1983 03 27		12 56.11	-04 38.9	1.959	2.947	170.5	3.2	17.1
1983 04 06		12 48.47	-03 43.0					
1983 04 16		12 40.99	-02 49.2	1.973	2.955	165.5	4.9	17.2
1983 04 26		12 34.50	-02 03.0					
1983 05 06		12 29.60	-01 28.3	2.095	2.963	142.9	11.9	17.5
1983 05 16		12 26.65	-01 07.4					
1983 05 26		12 25.84	-01 01.3	2.300	2.970	122.6	16.7	17.9
1983 06 05		12 27.10	-01 09.4					
1983 06 15		12 30.31	-01 30.5	2.554	2.977	104.7	19.3	18.1

1941 UL		a,e,i = 3.15, 0.20, 3				Elements MPC		6894
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 06		13 07.30	-04 22.8	3.647	3.735	87.5	15.2	19.0
1983 01 16		13 11.62	-04 42.3					
1983 01 26		13 14.41	-04 52.1	3.355	3.747	106.0	14.6	18.8
1983 02 05		13 15.54	-04 51.6					
1983 02 15		13 14.90	-04 40.4	3.090	3.758	126.2	12.2	18.6
1983 02 25		13 12.47	-04 18.9					
1983 03 07		13 08.35	-03 48.0	2.889	3.768	148.0	8.0	18.4
1983 03 17		13 02.80	-03 09.7					
1983 03 27		12 56.24	-02 26.8	2.787	3.775	170.8	2.4	18.0
1983 04 06		12 49.20	-01 42.9					
1983 04 16		12 42.26	-01 01.8	2.804	3.781	164.8	4.0	18.2
1983 04 26		12 36.02	-00 27.0					
1983 05 06		12 30.92	-00 01.1	2.935	3.786	142.5	9.3	18.4
1983 05 16		12 27.28	+00 14.4					
1983 05 26		12 25.27	+00 18.7	3.154	3.788	121.9	13.1	18.7
1983 06 05		12 24.93	+00 12.0					
1983 06 15		12 26.20	-00 04.8	3.427	3.789	103.1	15.1	18.9

(2570) Porphyro		a,e,i = 2.77, 0.11, 16				Elements MPC		6701
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 06		13 08.73	-18 36.0	2.884	2.911	81.8	19.5	18.1
1983 01 16		13 15.20	-20 17.4					
1983 01 26		13 19.91	-21 53.4	2.624	2.929	98.1	19.4	17.9
1983 02 05		13 22.59	-23 22.4					
1983 02 15		13 22.95	-24 42.4	2.378	2.946	115.8	17.6	17.6
1983 02 25		13 20.80	-25 50.5					
1983 03 07		13 16.12	-26 43.3	2.178	2.962	134.8	13.8	17.4
1983 03 17		13 09.11	-27 17.3					
1983 03 27		13 00.31	-27 29.7	2.054	2.976	152.8	8.8	17.1
1983 04 06		12 50.54	-27 20.0					
1983 04 16		12 40.79	-26 50.0	2.032	2.990	158.9	6.9	17.1
1983 04 26		12 32.08	-26 04.9					
1983 05 06		12 25.19	-25 11.6	2.116	3.003	145.5	11.0	17.3
1983 05 16		12 20.59	-24 17.1					
1983 05 26		12 18.49	-23 27.6	2.289	3.014	127.4	15.5	17.6
1983 06 05		12 18.83	-22 47.3					
1983 06 15		12 21.46	-22 18.5	2.522	3.024	110.0	18.4	17.8

(2650) 1931 EG		a,e,i = 2.63, 0.20, 14				Elements MPC		6940
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 06		13 11.66	-15 47.2	3.120	3.141	82.2	18.1	17.9
1983 01 16		13 17.41	-17 07.6					
1983 01 26		13 21.51	-18 22.3	2.820	3.132	99.2	18.1	17.6
1983 02 05		13 23.71	-19 30.0					
1983 02 15		13 23.75	-20 29.0	2.536	3.120	117.7	16.3	17.4
1983 02 25		13 21.45	-21 17.0					
1983 03 07		13 16.80	-21 51.6	2.300	3.106	137.7	12.4	17.1
1983 03 17		13 09.93	-22 10.2					
1983 03 27		13 01.32	-22 11.1	2.145	3.090	157.5	7.1	16.8
1983 04 06		12 51.71	-21 54.4					
1983 04 16		12 41.98	-21 22.3	2.098	3.072	163.1	5.4	16.6
1983 04 26		12 33.10	-20 39.5					
1983 05 06		12 25.83	-19 52.2	2.162	3.052	146.1	10.6	16.8
1983 05 16		12 20.68	-19 06.2					
1983 05 26		12 17.93	-18 26.8	2.317	3.029	126.3	15.6	17.1
1983 06 05		12 17.57	-17 57.3					
1983 06 15		12 19.48	-17 39.8	2.529	3.004	108.1	18.7	17.3

(2600) Lumme		a,e,i = 3.01, 0.09, 12				Elements MPC		6822
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 16.07	+06 43.8	2.704	3.171	109.5	17.0	17.6
1983 02 05		13 18.83	+07 15.3					
1983 02 15		13 19.54	+07 59.2	2.447	3.156	128.4	14.2	17.3
1983 02 25		13 18.06	+08 53.6					
1983 03 07		13 14.46	+09 54.7	2.255	3.141	148.0	9.6	17.0
1983 03 17		13 08.96	+10 57.6					
1983 03 27		13 02.02	+11 56.1	2.159	3.125	162.4	5.5	16.7
1983 04 06		12 54.34	+12 44.1					
1983 04 16		12 46.67	+13 16.5	2.173	3.108	154.4	8.0	16.8
1983 04 26		12 39.80	+13 30.2					
1983 05 06		12 34.36	+13 24.5	2.288	3.091	135.7	13.2	17.1
1983 05 16		12 30.75	+13 00.4					
1983 05 26		12 29.17	+12 19.9	2.477	3.073	117.0	17.1	17.3
1983 06 05		12 29.63	+11 25.7					
1983 06 15		12 32.03	+10 20.2	2.710	3.055	100.0	19.1	17.5
1983 06 25		12 36.21	+09 05.7					
1983 07 05		12 41.97	+07 44.1	2.958	3.037	84.7	19.5	17.7

1981 QC		a,e,i = 2.34, 0.22, 26				Elements MPC		6950
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1983 01 26		13 37.00	+23 49.5	2.103	2.597	-0.75	+10.5	18.7
1983 02 05		13 40.03	+25 03.2					
1983 02 15		13 40.02	+26 27.9	1.943	2.634	-0.86	+11.8	18.5
1983 02 25		13 36.75	+27 56.9					
1983 03 07		13 30.29	+29 21.0	1.842	2.668	-1.00	+12.3	18.3
1983 03 17		13 21.00	+30 29.9					
1983 03 27		13 09.71	+31 13.1	1.824	2.699	-1.10	+11.6	18.2
1983 04 06		12 57.61	+31 23.6					
1983 04 16		12 45.98	+30 59.0	1.900	2.728	-1.10	+10.0	18.4
1983 04 26		12 35.97	+30 01.3					
1983 05 06		12 28.32	+28 36.4	2.060	2.753	-0.99	+8.5	18.7
1983 05 16		12 23.35	+26 50.7					
1983 05 26		12 21.09	+24 50.7	2.282	2.776	-0.84	+7.5	19.0
1983 06 05		12 21.32	+22 41.7					
1983 06 15		12 23.75	+20 27.3	2.539	2.796	-0.71	+6.8	19.2
1983 06 25		12 28.08	+18 10.4					
1983 07 05		12 33.99	+15 52.8	2.807	2.812	-0.60	+6.4	19.5



(2578) 1975 VW3			a,e,i = 3.00, 0.10, 11				Elements MPC		6705
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		13 23.82	+01 50.1	2.834	3.247	106.1	16.9	17.7	
1983 02 05		13 26.06	+01 54.9						
1983 02 15		13 26.26	+02 10.6	2.581	3.256	125.5	14.3	17.5	
1983 02 25		13 24.33	+02 36.2						
1983 03 07		13 20.33	+03 09.4	2.390	3.263	146.5	9.7	17.2	
1983 03 17		13 14.48	+03 47.0						
1983 03 27		13 07.24	+04 24.7	2.291	3.270	166.4	4.1	16.9	
1983 04 06		12 59.25	+04 58.0						
1983 04 16		12 51.26	+05 22.7	2.307	3.275	161.8	5.5	17.0	
1983 04 26		12 44.01	+05 35.5						
1983 05 06		12 38.08	+05 34.8	2.432	3.279	141.2	11.1	17.3	
1983 05 16		12 33.87	+05 20.4						
1983 05 26		12 31.59	+04 52.9	2.641	3.283	121.3	15.3	17.5	
1983 06 05		12 31.25	+04 13.9						
1983 06 15		12 32.78	+03 24.9	2.901	3.285	103.2	17.5	17.8	
1983 06 25		12 36.02	+02 27.4						
1983 07 05		12 40.79	+01 22.9	3.181	3.287	86.9	18.0	18.0	

1980 VL1			a,e,i = 3.19, 0.04, 21				Elements MPC		6879
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.	
1983 01 26		13 17.90	-29 33.2	3.082	3.320	-0.76	+1.3	17.3	
1983 02 05		13 21.28	-30 33.7						
1983 02 15		13 22.65	-31 23.1	2.812	3.317	-0.86	+1.3	17.1	
1983 02 25		13 21.86	-31 58.3						
1983 03 07		13 18.91	-32 16.2	2.581	3.313	-0.95	+1.6	16.9	
1983 03 17		13 13.99	-32 13.7						
1983 03 27		13 07.51	-31 48.6	2.419	3.309	-1.02	+2.2	16.6	
1983 04 06		13 00.13	-31 00.7						
1983 04 16		12 52.62	-29 52.0	2.353	3.304	-1.01	+2.8	16.5	
1983 04 26		12 45.82	-28 27.6						
1983 05 06		12 40.38	-26 54.1	2.396	3.299	-0.95	+3.1	16.6	
1983 05 16		12 36.76	-25 18.9						
1983 05 26		12 35.22	-23 48.6	2.537	3.294	-0.86	+2.8	16.8	
1983 06 05		12 35.76	-22 27.9						
1983 06 15		12 38.30	-21 20.1	2.748	3.288	-0.77	+2.4	17.1	
1983 06 25		12 42.69	-20 26.5						
1983 07 05		12 48.70	-19 47.3	3.001	3.282	-0.70	+1.9	17.3	

1980 TB5			a,e,i = 2.57, 0.17, 15				Elements MPC		6286
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.	
1983 01 26		13 21.47	-11 06.6	1.926	2.339	-1.11	+12.1	16.8	
1983 02 05		13 27.22	-12 52.0						
1983 02 15		13 30.52	-14 32.7	1.659	2.304	-1.35	+13.9	16.4	
1983 02 25		13 30.95	-16 07.2						
1983 03 07		13 28.21	-17 33.0	1.436	2.272	-1.63	+16.3	16.0	
1983 03 17		13 22.18	-18 46.7						
1983 03 27		13 13.19	-19 44.3	1.285	2.242	-1.86	+19.0	15.5	
1983 04 06		13 02.11	-20 22.8						
1983 04 16		12 50.30	-20 41.3	1.230	2.214	-1.87	+20.9	15.3	
1983 04 26		12 39.38	-20 43.5						
1983 05 06		12 30.73	-20 36.1	1.273	2.190	-1.68	+20.8	15.6	
1983 05 16		12 25.26	-20 26.6						
1983 05 26		12 23.36	-20 22.3	1.393	2.169	-1.43	+19.0	15.9	
1983 06 05		12 24.96	-20 27.5						
1983 06 15		12 29.79	-20 44.4	1.562	2.151	-1.24	+16.5	16.2	
1983 06 25		12 37.48	-21 13.8						
1983 07 05		12 47.65	-21 54.7	1.755	2.138	-1.13	+14.2	16.5	

(2669) 1976 YQ2		a,e,i = 2.78, 0.22, 8			Elements MPC		6947	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 28.22	-18 10.5	3.073	3.351	97.8	16.9	19.0
1983 02 05		13 30.60	-18 53.5					
1983 02 15		13 31.00	-19 26.4	2.803	3.364	116.7	15.2	18.7
1983 02 25		13 29.29	-19 47.1					
1983 03 07		13 25.49	-19 54.2	2.578	3.374	137.2	11.5	18.5
1983 03 17		13 19.78	-19 46.3					
1983 03 27		13 12.56	-19 23.1	2.434	3.382	158.4	6.2	18.2
1983 04 06		13 04.46	-18 45.9					
1983 04 16		12 56.18	-17 57.7	2.400	3.388	167.9	3.6	18.1
1983 04 26		12 48.52	-17 03.1					
1983 05 06		12 42.10	-16 07.4	2.481	3.391	149.8	8.6	18.3
1983 05 16		12 37.38	-15 15.5					
1983 05 26		12 34.61	-14 31.6	2.659	3.392	129.2	13.4	18.6
1983 06 05		12 33.85	-13 58.0					
1983 06 15		12 35.03	-13 36.2	2.902	3.391	110.3	16.3	18.8
1983 06 25		12 38.02	-13 26.4					
1983 07 05		12 42.61	-13 28.0	3.177	3.388	93.1	17.4	19.1

1979 QP8		a,e,i = 3.13, 0.20, 2			Elements MPC		6883	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 24.25	-10 34.0	3.223	3.554	101.6	15.7	19.2
1983 02 05		13 26.73	-10 51.0					
1983 02 15		13 27.41	-10 57.2	2.917	3.529	121.0	13.9	18.9
1983 02 25		13 26.19	-10 52.0					
1983 03 07		13 23.09	-10 35.0	2.665	3.502	142.2	10.0	18.6
1983 03 17		13 18.25	-10 06.6					
1983 03 27		13 12.02	-09 28.3	2.501	3.474	165.0	4.3	18.2
1983 04 06		13 04.92	-08 42.8					
1983 04 16		12 57.59	-07 53.9	2.450	3.445	171.2	2.6	18.1
1983 04 26		12 50.72	-07 05.9					
1983 05 06		12 44.91	-06 23.3	2.514	3.414	148.3	8.9	18.4
1983 05 16		12 40.60	-05 49.3					
1983 05 26		12 38.08	-05 26.3	2.673	3.382	127.1	13.8	18.6
1983 06 05		12 37.45	-05 15.3					
1983 06 15		12 38.69	-05 16.3	2.892	3.349	108.1	16.8	18.8
1983 06 25		12 41.70	-05 29.0					
1983 07 05		12 46.33	-05 52.2	3.138	3.315	91.0	17.9	19.0

1938 SL		a,e,i = 2.32, 0.26, 7			Elements MPC		7148	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 33.08	-03 57.6	2.549	2.916	101.9	19.3	19.3
1983 02 05		13 36.30	-04 07.7					
1983 02 15		13 37.31	-04 05.3	2.267	2.903	121.1	16.9	19.0
1983 02 25		13 35.90	-03 50.3					
1983 03 07		13 32.00	-03 23.4	2.036	2.886	142.5	12.1	18.6
1983 03 17		13 25.71	-02 46.1					
1983 03 27		13 17.43	-02 01.8	1.889	2.866	165.5	5.0	18.2
1983 04 06		13 07.87	-01 15.3					
1983 04 16		12 57.95	-00 32.0	1.854	2.842	167.4	4.4	18.2
1983 04 26		12 48.67	+00 02.7					
1983 05 06		12 40.87	+00 24.6	1.932	2.815	144.5	12.0	18.5
1983 05 16		12 35.15	+00 31.8					
1983 05 26		12 31.83	+00 23.4	2.095	2.784	123.3	17.7	18.7
1983 06 05		12 30.95	+00 00.4					
1983 06 15		12 32.40	-00 35.9	2.309	2.749	104.8	20.9	19.0
1983 06 25		12 36.00	-01 24.0					
1983 07 05		12 41.49	-02 22.1	2.541	2.712	88.5	22.0	19.2

1980 RB		a,e,i = 2.39, 0.31, 5					Elements MPC		6198
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		13 31.08	-03 38.9	2.560	2.935	102.5	19.1	19.8	
1983 02 05		13 34.87	-03 38.1						
1983 02 15		13 36.57	-03 23.5	2.255	2.896	121.5	16.9	19.5	
1983 02 25		13 35.92	-02 54.8						
1983 03 07		13 32.83	-02 12.5	2.001	2.854	142.5	12.2	19.1	
1983 03 17		13 27.32	-01 18.6						
1983 03 27		13 19.74	-00 16.8	1.832	2.807	164.8	5.3	18.6	
1983 04 06		13 10.74	+00 47.2						
1983 04 16		13 01.18	+01 47.0	1.773	2.758	166.1	5.0	18.5	
1983 04 26		12 52.09	+02 36.0						
1983 05 06		12 44.38	+03 09.4	1.824	2.705	143.9	12.7	18.8	
1983 05 16		12 38.70	+03 24.7						
1983 05 26		12 35.46	+03 21.3	1.959	2.649	122.8	18.7	19.0	
1983 06 05		12 34.74	+03 00.6						
1983 06 15		12 36.47	+02 24.1	2.142	2.590	104.5	22.3	19.2	
1983 06 25		12 40.47	+01 34.0						
1983 07 05		12 46.51	+00 32.4	2.341	2.528	88.5	23.7	19.4	

(2569) Madeline		a,e,i = 2.62, 0.16, 11					Elements MPC		6700
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		13 34.36	+03 58.4	2.586	2.985	104.3	18.6	17.4	
1983 02 05		13 37.57	+04 16.7						
1983 02 15		13 38.57	+04 47.7	2.345	3.001	123.1	16.0	17.1	
1983 02 25		13 37.22	+05 29.8						
1983 03 07		13 33.52	+06 20.1	2.159	3.015	143.4	11.3	16.8	
1983 03 17		13 27.65	+07 14.4						
1983 03 27		13 20.05	+08 06.9	2.062	3.026	161.8	5.9	16.6	
1983 04 06		13 11.41	+08 51.6						
1983 04 16		13 02.58	+09 23.3	2.075	3.036	159.5	6.6	16.6	
1983 04 26		12 54.42	+09 38.3						
1983 05 06		12 47.64	+09 35.3	2.195	3.043	140.6	12.1	16.9	
1983 05 16		12 42.71	+09 14.9						
1983 05 26		12 39.90	+08 38.7	2.398	3.049	121.2	16.5	17.2	
1983 06 05		12 39.21	+07 49.2						
1983 06 15		12 40.56	+06 48.8	2.651	3.052	103.5	18.9	17.5	
1983 06 25		12 43.77	+05 39.6						
1983 07 05		12 48.63	+04 23.5	2.924	3.053	87.5	19.4	17.7	

1980 LA		a,e,i = 2.32, 0.30, 22					Elements MPC		7154
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		13 29.88	-33 51.8	2.618	2.816	91.1	20.5	18.8	
1983 02 05		13 35.19	-35 27.8						
1983 02 15		13 38.26	-36 56.0	2.323	2.774	106.7	19.9	18.5	
1983 02 25		13 38.70	-38 12.6						
1983 03 07		13 36.21	-39 13.1	2.055	2.728	123.2	17.7	18.2	
1983 03 17		13 30.68	-39 51.6						
1983 03 27		13 22.34	-40 01.1	1.841	2.679	139.5	14.0	17.8	
1983 04 06		13 11.93	-39 36.5						
1983 04 16		13 00.58	-38 34.8	1.708	2.627	150.2	10.9	17.5	
1983 04 26		12 49.74	-36 58.8						
1983 05 06		12 40.71	-34 56.9	1.672	2.571	145.9	12.7	17.5	
1983 05 16		12 34.42	-32 40.5						
1983 05 26		12 31.34	-30 22.5	1.728	2.511	130.9	17.7	17.6	
1983 06 05		12 31.50	-28 13.2						
1983 06 15		12 34.71	-26 19.5	1.853	2.449	114.1	22.3	17.8	
1983 06 25		12 40.66	-24 45.3						
1983 07 05		12 48.98	-23 31.4	2.015	2.384	98.3	25.0	18.0	

1981 PA		a, e, i = 2.37, 0.36, 22					Elements MPC		6514
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.	
1983 01 26		13 48.12	-30 52.7	2.422	2.595	-0.72	+5.5	19.0	
1983 02 05		13 52.31	-32 58.3						
1983 02 15		13 53.82	-34 56.2	2.232	2.664	-0.84	+5.3	18.9	
1983 02 25		13 52.26	-36 42.9						
1983 03 07		13 47.42	-38 13.8	2.067	2.729	-0.99	+5.7	18.7	
1983 03 17		13 39.32	-39 22.7						
1983 03 27		13 28.45	-40 03.4	1.959	2.790	-1.12	+6.6	18.5	
1983 04 06		13 15.77	-40 11.7						
1983 04 16		13 02.61	-39 46.5	1.938	2.847	-1.13	+7.9	18.4	
1983 04 26		12 50.45	-38 52.3						
1983 05 06		12 40.44	-37 37.4	2.018	2.900	-1.02	+8.6	18.6	
1983 05 16		12 33.27	-36 12.1						
1983 05 26		12 29.21	-34 46.1	2.189	2.949	-0.88	+8.4	18.9	
1983 06 05		12 28.13	-33 27.0						
1983 06 15		12 29.76	-32 19.4	2.427	2.994	-0.75	+7.5	19.2	
1983 06 25		12 33.75	-31 26.2						
1983 07 05		12 39.75	-30 47.8	2.705	3.035	-0.65	+6.4	19.5	

(2633) 1981 WR1		a, e, i = 2.22, 0.14, 3					Elements MPC		6887
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		13 34.11	-06 20.4	2.087	2.470	100.9	23.0	18.1	
1983 02 05		13 40.07	-06 46.5						
1983 02 15		13 43.72	-06 59.0	1.819	2.451	118.6	20.7	17.7	
1983 02 25		13 44.72	-06 56.7						
1983 03 07		13 42.84	-06 39.5	1.592	2.430	139.0	15.5	17.3	
1983 03 17		13 38.01	-06 07.8						
1983 03 27		13 30.55	-05 24.0	1.438	2.407	162.0	7.4	16.9	
1983 04 06		13 21.17	-04 33.0						
1983 04 16		13 10.93	-03 41.1	1.384	2.382	171.9	3.4	16.6	
1983 04 26		13 01.13	-02 55.8						
1983 05 06		12 52.93	-02 23.4	1.436	2.355	148.5	12.9	16.9	
1983 05 16		12 47.15	-02 07.8						
1983 05 26		12 44.24	-02 10.7	1.570	2.327	127.2	20.3	17.3	
1983 06 05		12 44.25	-02 31.6						
1983 06 15		12 47.03	-03 08.8	1.755	2.298	109.1	24.7	17.6	
1983 06 25		12 52.32	-04 00.3						
1983 07 05		12 59.82	-05 03.8	1.961	2.267	93.8	26.6	17.9	

(2712) 1937 YD		a, e, i = 2.16, 0.04, 1					Elements MPC		7141
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		13 26.80	-08 58.8	1.662	2.095	101.6	27.4	18.3	
1983 02 05		13 35.11	-09 42.7						
1983 02 15		13 40.85	-10 10.4	1.444	2.100	118.2	24.5	18.0	
1983 02 25		13 43.60	-10 20.2						
1983 03 07		13 43.07	-10 10.9	1.262	2.106	137.8	18.4	17.5	
1983 03 17		13 39.17	-09 42.0						
1983 03 27		13 32.27	-08 55.5	1.145	2.112	160.7	9.0	17.1	
1983 04 06		13 23.24	-07 56.3						
1983 04 16		13 13.37	-06 52.0	1.118	2.119	174.5	2.6	16.8	
1983 04 26		13 04.19	-05 52.3						
1983 05 06		12 56.98	-05 05.5	1.189	2.127	150.6	13.5	17.3	
1983 05 16		12 52.55	-04 37.0						
1983 05 26		12 51.25	-04 29.1	1.339	2.134	129.8	21.4	17.8	
1983 06 05		12 52.99	-04 41.0						
1983 06 15		12 57.54	-05 10.8	1.539	2.143	112.3	26.0	18.2	
1983 06 25		13 04.54	-05 55.8						
1983 07 05		13 13.64	-06 53.1	1.765	2.151	97.6	27.9	18.5	

(2624) 1962 RE		a,e,i = 3.96, 0.12, 3			Elements MPC		6884	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 37.46	-08 33.3	3.893	4.167	99.3	13.5	18.4
1983 02 05		13 39.92	-08 40.3					
1983 02 15		13 40.87	-08 38.2	3.582	4.149	118.8	12.0	18.1
1983 02 25		13 40.24	-08 27.0					
1983 03 07		13 38.06	-08 06.8	3.324	4.130	139.7	8.9	17.9
1983 03 17		13 34.43	-07 38.5					
1983 03 27		13 29.61	-07 03.8	3.152	4.111	161.8	4.3	17.6
1983 04 06		13 23.97	-06 24.9					
1983 04 16		13 17.96	-05 44.7	3.092	4.092	174.7	1.3	17.3
1983 04 26		13 12.11	-05 06.6					
1983 05 06		13 06.88	-04 33.4	3.151	4.073	152.6	6.5	17.7
1983 05 16		13 02.68	-04 07.6					
1983 05 26		12 59.79	-03 50.9	3.311	4.053	131.5	10.8	17.9
1983 06 05		12 58.36	-03 44.0					
1983 06 15		12 58.44	-03 47.1	3.541	4.033	112.0	13.5	18.1
1983 06 25		13 00.03	-03 59.8					
1983 07 05		13 03.02	-04 21.3	3.808	4.013	94.2	14.6	18.3

(2599) 1980 SO		a,e,i = 2.53, 0.16, 15			Elements MPC		6822	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 46.07	-16 17.4	2.585	2.838	94.5	20.2	17.3
1983 02 05		13 50.65	-17 37.1					
1983 02 15		13 53.12	-18 50.8	2.290	2.816	112.2	19.0	17.0
1983 02 25		13 53.15	-19 56.9					
1983 03 07		13 50.54	-20 53.6	2.032	2.792	131.7	15.4	16.6
1983 03 17		13 45.18	-21 38.2					
1983 03 27		13 37.27	-22 07.7	1.842	2.766	152.5	9.6	16.3
1983 04 06		13 27.38	-22 20.4					
1983 04 16		13 16.42	-22 15.7	1.751	2.738	166.8	4.8	16.0
1983 04 26		13 05.55	-21 56.3					
1983 05 06		12 55.90	-21 27.3	1.771	2.709	153.0	9.7	16.1
1983 05 16		12 48.35	-20 55.0					
1983 05 26		12 43.47	-20 26.0	1.886	2.678	132.6	16.2	16.4
1983 06 05		12 41.43	-20 05.0					
1983 06 15		12 42.16	-19 55.0	2.066	2.646	113.9	20.5	16.7
1983 06 25		12 45.48	-19 57.6					
1983 07 05		12 51.11	-20 12.8	2.277	2.613	97.5	22.7	16.9

(2479) 1942 CB		a,e,i = 2.39, 0.19, 3			Elements MPC		6468	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 41.59	-13 14.9	1.812	2.160	96.7	26.9	17.6
1983 02 05		13 49.56	-14 19.1					
1983 02 15		13 54.92	-15 09.5	1.618	2.202	113.2	24.3	17.3
1983 02 25		13 57.30	-15 44.4					
1983 03 07		13 56.46	-16 02.3	1.452	2.246	132.6	19.0	17.0
1983 03 17		13 52.37	-16 01.6					
1983 03 27		13 45.38	-15 41.8	1.347	2.290	154.9	10.7	16.7
1983 04 06		13 36.32	-15 04.7					
1983 04 16		13 26.37	-14 14.9	1.333	2.334	175.2	2.1	16.4
1983 04 26		13 16.90	-13 19.6					
1983 05 06		13 09.08	-12 26.9	1.422	2.378	155.8	10.0	16.9
1983 05 16		13 03.69	-11 43.5					
1983 05 26		13 01.09	-11 13.9	1.601	2.421	134.5	17.4	17.3
1983 06 05		13 01.27	-11 00.0					
1983 06 15		13 04.03	-11 01.5	1.842	2.463	116.0	21.8	17.8
1983 06 25		13 09.09	-11 17.4					
1983 07 05		13 16.09	-11 45.6	2.118	2.504	100.0	23.6	18.2

(2565) 1977 TB1		a,e,i = 2.36, 0.24, 2				Elements MPC		6699
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 53.50	-12 44.0	2.661	2.903	94.1	19.8	20.9
1983 02 05		13 58.22	-13 17.3					
1983 02 15		14 00.87	-13 40.0	2.385	2.908	112.4	18.3	20.6
1983 02 25		14 01.21	-13 50.8					
1983 03 07		13 59.07	-13 48.7	2.144	2.911	132.9	14.5	20.3
1983 03 17		13 54.46	-13 33.1					
1983 03 27		13 47.60	-13 04.3	1.972	2.910	155.6	8.1	20.0
1983 04 06		13 39.04	-12 23.9					
1983 04 16		13 29.56	-11 35.3	1.903	2.906	177.9	0.7	19.4
1983 04 26		13 20.13	-10 43.6					
1983 05 06		13 11.67	-09 54.5	1.949	2.898	155.7	8.2	19.9
1983 05 16		13 04.92	-09 12.9					
1983 05 26		13 00.36	-08 42.9	2.095	2.887	133.5	14.7	20.2
1983 06 05		12 58.16	-08 26.2					
1983 06 15		12 58.30	-08 23.4	2.310	2.873	113.7	18.9	20.5
1983 06 25		13 00.65	-08 34.1					
1983 07 05		13 04.99	-08 56.9	2.558	2.856	96.4	20.7	20.8

(2652) 1953 GM		a,e,i = 2.63, 0.08, 7				Elements MPC		6940
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 53.07	-04 38.2	2.561	2.854	97.0	20.0	17.8
1983 02 05		13 58.43	-04 54.6					
1983 02 15		14 01.76	-04 59.4	2.288	2.850	115.0	18.3	17.5
1983 02 25		14 02.80	-04 52.6					
1983 03 07		14 01.42	-04 34.7	2.055	2.845	135.1	14.3	17.2
1983 03 17		13 57.57	-04 06.9					
1983 03 27		13 51.48	-03 31.9	1.893	2.839	157.0	7.9	16.8
1983 04 06		13 43.65	-02 53.5					
1983 04 16		13 34.85	-02 16.5	1.833	2.831	172.6	2.6	16.5
1983 04 26		13 26.00	-01 45.9					
1983 05 06		13 18.02	-01 26.0	1.884	2.823	153.4	9.2	16.8
1983 05 16		13 11.66	-01 19.6					
1983 05 26		13 07.40	-01 27.8	2.032	2.813	132.1	15.5	17.1
1983 06 05		13 05.45	-01 50.3					
1983 06 15		13 05.81	-02 25.9	2.243	2.803	113.1	19.5	17.4
1983 06 25		13 08.36	-03 13.0					
1983 07 05		13 12.89	-04 09.9	2.488	2.791	96.4	21.2	17.7

(2591) 1949 PS		a,e,i = 2.94, 0.04, 2				Elements MPC		6819
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 48.66	-11 37.1	2.645	2.911	95.6	19.7	17.4
1983 02 05		13 54.34	-12 13.7					
1983 02 15		13 58.08	-12 39.9	2.366	2.903	113.4	18.2	17.1
1983 02 25		13 59.65	-12 54.6					
1983 03 07		13 58.89	-12 57.2	2.124	2.895	133.2	14.5	16.8
1983 03 17		13 55.77	-12 47.3					
1983 03 27		13 50.50	-12 25.3	1.951	2.887	155.2	8.3	16.4
1983 04 06		13 43.55	-11 53.0					
1983 04 16		13 35.62	-11 13.4	1.876	2.880	178.3	0.6	15.9
1983 04 26		13 27.61	-10 31.4					
1983 05 06		13 20.40	-09 51.9	1.913	2.872	157.8	7.6	16.4
1983 05 16		13 14.70	-09 19.5					
1983 05 26		13 11.01	-08 57.9	2.048	2.865	136.0	14.2	16.7
1983 06 05		13 09.55	-08 48.9					
1983 06 15		13 10.35	-08 52.9	2.254	2.858	116.7	18.5	17.0
1983 06 25		13 13.30	-09 09.7					
1983 07 05		13 18.20	-09 37.8	2.499	2.852	99.7	20.6	17.2

(2516) 1964 VY		a,e,i = 2.28, 0.16, 1				Elements MPC		6527
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 52.04	-10 19.4	2.041	2.346	95.3	24.7	19.0
1983 02 05		13 59.29	-10 52.7					
1983 02 15		14 04.12	-11 11.9	1.822	2.382	112.5	22.5	18.7
1983 02 25		14 06.22	-11 15.9					
1983 03 07		14 05.36	-11 04.2	1.633	2.415	132.4	17.7	18.4
1983 03 17		14 01.48	-10 36.8					
1983 03 27		13 54.85	-09 55.1	1.506	2.447	155.1	9.9	18.1
1983 04 06		13 46.14	-09 02.7					
1983 04 16		13 36.34	-08 05.0	1.475	2.478	178.2	0.7	17.5
1983 04 26		13 26.66	-07 09.0					
1983 05 06		13 18.24	-06 21.6	1.551	2.506	155.9	9.4	18.2
1983 05 16		13 11.90	-05 47.6					
1983 05 26		13 08.10	-05 30.0	1.721	2.532	134.0	16.7	18.6
1983 06 05		13 06.95	-05 28.9					
1983 06 15		13 08.34	-05 43.5	1.954	2.556	115.0	21.1	19.0
1983 06 25		13 12.04	-06 12.0					
1983 07 05		13 17.75	-06 52.1	2.222	2.577	98.6	23.0	19.3

1977 YA		a,e,i = 2.74, 0.36, 31				Elements MPC		6949
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1983 01 26		14 21.52	-09 11.6	1.831	2.061	-0.65	+18.0	19.0
1983 02 05		14 27.85	-11 40.8					
1983 02 15		14 31.33	-14 08.4	1.650	2.134	-0.79	+18.8	18.8
1983 02 25		14 31.45	-16 34.2					
1983 03 07		14 27.79	-18 57.0	1.491	2.210	-0.99	+19.8	18.6
1983 03 17		14 20.07	-21 12.6					
1983 03 27		14 08.46	-23 14.9	1.391	2.288	-1.20	+20.8	18.3
1983 04 06		13 53.77	-24 56.5					
1983 04 16		13 37.43	-26 11.1	1.388	2.367	-1.29	+21.3	18.2
1983 04 26		13 21.34	-26 57.8					
1983 05 06		13 07.25	-27 21.0	1.499	2.446	-1.19	+20.4	18.6
1983 05 16		12 56.32	-27 28.9					
1983 05 26		12 49.09	-27 30.6	1.708	2.525	-0.99	+18.3	19.1
1983 06 05		12 45.50	-27 33.1					
1983 06 15		12 45.23	-27 40.9	1.984	2.603	-0.81	+15.6	19.5
1983 06 25		12 47.84	-27 56.8					
1983 07 05		12 52.88	-28 21.4	2.295	2.679	-0.68	+13.2	19.9

1981 AE1		a,e,i = 5.19, 0.05, 27				Elements MPC		6099
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1983 01 26		13 51.79	+15 00.2	5.071	5.387	-0.33	+1.0	17.9
1983 02 05		13 53.84	+15 49.5					
1983 02 15		13 54.66	+16 45.4	4.815	5.391	-0.35	+1.1	17.8
1983 02 25		13 54.21	+17 45.8					
1983 03 07		13 52.53	+18 48.0	4.621	5.394	-0.37	+1.2	17.6
1983 03 17		13 49.73	+19 48.9					
1983 03 27		13 45.98	+20 45.1	4.519	5.398	-0.38	+1.2	17.5
1983 04 06		13 41.55	+21 33.4					
1983 04 16		13 36.76	+22 11.1	4.523	5.401	-0.39	+1.1	17.5
1983 04 26		13 31.97	+22 36.2					
1983 05 06		13 27.52	+22 47.8	4.630	5.404	-0.38	+0.9	17.7
1983 05 16		13 23.71	+22 45.9					
1983 05 26		13 20.78	+22 31.3	4.821	5.407	-0.37	+0.8	17.8
1983 06 05		13 18.87	+22 05.3					
1983 06 15		13 18.08	+21 29.6	5.069	5.410	-0.34	+0.8	17.9
1983 06 25		13 18.44	+20 45.9					
1983 07 05		13 19.91	+19 56.0	5.344	5.413	-0.32	+0.8	18.1

(2617) 1975 WO1		a,e,i = 3.15, 0.24, 13					Elements MPC		6880
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		14 05.02	+00 17.9	3.356	3.592	95.9	15.8	17.3	
1983 02 05		14 08.36	+00 24.7						
1983 02 15		14 09.93	+00 41.3	3.102	3.625	114.5	14.4	17.1	
1983 02 25		14 09.63	+01 06.8						
1983 03 07		14 07.41	+01 39.5	2.890	3.656	134.6	11.1	16.9	
1983 03 17		14 03.35	+02 17.2						
1983 03 27		13 57.69	+02 56.6	2.757	3.686	154.9	6.6	16.7	
1983 04 06		13 50.85	+03 34.0						
1983 04 16		13 43.35	+04 05.6	2.732	3.713	166.0	3.8	16.5	
1983 04 26		13 35.82	+04 28.0						
1983 05 06		13 28.87	+04 39.0	2.822	3.739	151.4	7.4	16.8	
1983 05 16		13 22.98	+04 37.4						
1983 05 26		13 18.53	+04 23.3	3.014	3.764	131.6	11.6	17.0	
1983 06 05		13 15.71	+03 57.6						
1983 06 15		13 14.56	+03 21.5	3.278	3.786	112.6	14.3	17.3	
1983 06 25		13 15.07	+02 36.7						
1983 07 05		13 17.11	+01 44.7	3.579	3.807	95.1	15.4	17.5	

(2517) 1968 SB		a,e,i = 3.17, 0.19, 3					Elements MPC		6527
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		14 05.74	-10 21.3	3.581	3.749	92.1	15.2	19.0	
1983 02 05		14 09.55	-10 37.4						
1983 02 15		14 11.76	-10 44.8	3.272	3.739	110.9	14.3	18.8	
1983 02 25		14 12.21	-10 43.2						
1983 03 07		14 10.84	-10 32.4	2.999	3.728	131.2	11.5	18.5	
1983 03 17		14 07.64	-10 12.8						
1983 03 27		14 02.79	-09 45.2	2.798	3.716	153.2	6.9	18.2	
1983 04 06		13 56.61	-09 11.6						
1983 04 16		13 49.58	-08 34.4	2.700	3.701	175.7	1.2	17.8	
1983 04 26		13 42.29	-07 56.9						
1983 05 06		13 35.36	-07 22.5	2.721	3.686	160.2	5.3	18.1	
1983 05 16		13 29.35	-06 54.3						
1983 05 26		13 24.69	-06 34.7	2.850	3.668	138.2	10.6	18.3	
1983 06 05		13 21.64	-06 25.1						
1983 06 15		13 20.33	-06 26.0	3.060	3.650	118.1	14.2	18.6	
1983 06 25		13 20.78	-06 37.3						
1983 07 05		13 22.88	-06 58.2	3.316	3.629	99.8	16.0	18.8	

(2654) 1968 OG		a,e,i = 3.04, 0.10, 7					Elements MPC		6941
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		13 56.12	-14 07.6	2.607	2.835	93.0	20.3	18.3	
1983 02 05		14 03.42	-14 34.3						
1983 02 15		14 08.91	-14 48.9	2.323	2.820	110.2	19.2	18.0	
1983 02 25		14 12.32	-14 50.2						
1983 03 07		14 13.46	-14 37.1	2.070	2.805	129.3	15.9	17.7	
1983 03 17		14 12.22	-14 08.9						
1983 03 27		14 08.70	-13 26.0	1.879	2.792	150.7	10.1	17.3	
1983 04 06		14 03.25	-12 30.2						
1983 04 16		13 56.46	-11 25.0	1.780	2.780	173.9	2.2	16.9	
1983 04 26		13 49.18	-10 15.9						
1983 05 06		13 42.32	-09 09.4	1.790	2.769	162.5	6.3	17.1	
1983 05 16		13 36.66	-08 11.3						
1983 05 26		13 32.84	-07 26.4	1.902	2.759	140.4	13.5	17.4	
1983 06 05		13 31.16	-06 57.2						
1983 06 15		13 31.74	-06 44.2	2.089	2.751	120.8	18.5	17.7	
1983 06 25		13 34.52	-06 46.8						
1983 07 05		13 39.32	-07 03.2	2.321	2.745	103.6	21.1	18.0	



(2634) 1982 DL		a,e,i = 3.45, 0.07, 6				Elements MPC		6887
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		14 08.71	-06 41.3	3.261	3.450	92.7	16.6	17.1
1983 02 05		14 13.72	-06 44.5					
1983 02 15		14 17.05	-06 37.4	2.987	3.464	110.9	15.5	16.9
1983 02 25		14 18.54	-06 20.0					
1983 03 07		14 18.12	-05 52.9	2.748	3.477	130.7	12.5	16.7
1983 03 17		14 15.79	-05 17.2					
1983 03 27		14 11.70	-04 35.1	2.578	3.490	151.9	7.7	16.4
1983 04 06		14 06.19	-03 49.5					
1983 04 16		13 59.73	-03 04.1	2.509	3.503	170.6	2.7	16.2
1983 04 26		13 52.96	-02 22.8					
1983 05 06		13 46.50	-01 49.2	2.555	3.516	159.1	5.9	16.4
1983 05 16		13 40.91	-01 26.1					
1983 05 26		13 36.66	-01 15.1	2.706	3.528	138.4	11.0	16.7
1983 06 05		13 33.99	-01 16.5					
1983 06 15		13 33.05	-01 29.8	2.936	3.540	118.9	14.5	16.9
1983 06 25		13 33.84	-01 54.0					
1983 07 05		13 36.26	-02 27.6	3.213	3.552	101.1	16.3	17.2

(2620) 1980 TN		a,e,i = 2.86, 0.07, 3				Elements MPC		6881
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		14 13.09	-10 28.1	2.895	3.064	90.4	18.7	18.7
1983 02 05		14 19.15	-10 54.0					
1983 02 15		14 23.42	-11 10.2	2.613	3.066	108.0	17.8	18.4
1983 02 25		14 25.67	-11 16.1					
1983 03 07		14 25.72	-11 11.5	2.360	3.067	127.6	14.9	18.1
1983 03 17		14 23.49	-10 56.6					
1983 03 27		14 19.08	-10 32.2	2.168	3.068	149.1	9.6	17.8
1983 04 06		14 12.80	-10 00.0					
1983 04 16		14 05.18	-09 22.8	2.070	3.067	172.0	2.6	17.4
1983 04 26		13 57.00	-08 44.5					
1983 05 06		13 49.07	-08 09.3	2.084	3.065	163.5	5.4	17.6
1983 05 16		13 42.16	-07 41.3					
1983 05 26		13 36.86	-07 23.5	2.206	3.063	141.3	11.9	17.9
1983 06 05		13 33.54	-07 17.5					
1983 06 15		13 32.32	-07 23.8	2.407	3.059	121.2	16.5	18.2
1983 06 25		13 33.21	-07 41.9					
1983 07 05		13 36.08	-08 10.8	2.657	3.055	103.3	18.9	18.5

(2577) 1975 EE3		a,e,i = 1.90, 0.14, 23				Elements MPC		6704
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 01 26		13 49.08	-14 08.6	1.414	1.787	94.6	33.3	16.8
1983 02 05		14 02.95	-13 15.6					
1983 02 15		14 14.29	-11 48.2	1.229	1.821	109.9	30.7	16.5
1983 02 25		14 22.61	-09 42.7					
1983 03 07		14 27.44	-06 57.6	1.069	1.855	128.2	24.9	16.1
1983 03 17		14 28.41	-03 34.6					
1983 03 27		14 25.51	+00 17.2	0.966	1.890	148.4	16.1	15.7
1983 04 06		14 19.22	+04 20.4					
1983 04 16		14 10.57	+08 11.6	0.951	1.924	159.8	10.4	15.6
1983 04 26		14 01.11	+11 26.8					
1983 05 06		13 52.45	+13 50.8	1.033	1.957	147.0	16.3	15.9
1983 05 16		13 45.86	+15 19.4					
1983 05 26		13 42.13	+15 56.9	1.191	1.989	128.8	23.4	16.4
1983 06 05		13 41.47	+15 52.5					
1983 06 15		13 43.75	+15 15.3	1.396	2.019	112.8	27.6	16.9
1983 06 25		13 48.69	+14 13.9					
1983 07 05		13 55.92	+12 55.3	1.622	2.047	99.2	29.4	17.3

1981 YS		a, e, i = 2.93, 0.16, 15					Elements MPC		7224
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.	
1983 01 26		14 20.31	+02 03.7	2.577	2.804	-0.71	+6.5	17.8	
1983 02 05		14 27.10	+02 06.5						
1983 02 15		14 31.88	+02 21.2	2.347	2.835	-0.78	+7.3	17.6	
1983 02 25		14 34.40	+02 46.8						
1983 03 07		14 34.49	+03 21.3	2.146	2.866	-0.87	+8.2	17.3	
1983 03 17		14 32.08	+04 01.8						
1983 03 27		14 27.29	+04 44.1	2.007	2.898	-0.96	+8.8	17.1	
1983 04 06		14 20.51	+05 22.9						
1983 04 16		14 12.35	+05 52.9	1.960	2.929	-1.01	+8.9	16.9	
1983 04 26		14 03.64	+06 09.3						
1983 05 06		13 55.28	+06 09.0	2.020	2.960	-0.99	+8.3	17.1	
1983 05 16		13 48.03	+05 51.0						
1983 05 26		13 42.48	+05 16.2	2.179	2.991	-0.91	+7.5	17.4	
1983 06 05		13 38.97	+04 26.6						
1983 06 15		13 37.57	+03 25.0	2.412	3.021	-0.80	+6.7	17.7	
1983 06 25		13 38.26	+02 13.9						
1983 07 05		13 40.86	+00 55.8	2.690	3.050	-0.70	+6.0	18.0	

(2628) Kopal		a, e, i = 2.91, 0.15, 1					Elements MPC		6885
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 01 26		14 18.15	-13 59.7	3.166	3.284	88.1	17.4	19.5	
1983 02 05		14 24.02	-14 27.1						
1983 02 15		14 28.24	-14 45.7	2.859	3.269	105.8	16.9	19.2	
1983 02 25		14 30.59	-14 54.6						
1983 03 07		14 30.88	-14 53.4	2.577	3.252	125.2	14.4	18.9	
1983 03 17		14 29.03	-14 41.5						
1983 03 27		14 25.07	-14 19.0	2.354	3.235	146.7	9.8	18.6	
1983 04 06		14 19.28	-13 46.7						
1983 04 16		14 12.09	-13 06.5	2.223	3.216	169.7	3.2	18.2	
1983 04 26		14 04.18	-12 21.6						
1983 05 06		13 56.33	-11 36.0	2.205	3.195	166.7	4.2	18.3	
1983 05 16		13 49.28	-10 54.1						
1983 05 26		13 43.66	-10 19.9	2.297	3.173	144.0	10.8	18.6	
1983 06 05		13 39.86	-09 56.0						
1983 06 15		13 38.11	-09 44.0	2.475	3.150	123.4	15.6	18.8	
1983 06 25		13 38.44	-09 44.3						
1983 07 05		13 40.75	-09 56.2	2.705	3.126	105.0	18.3	19.1	

(2718) 1951 OM		a, e, i = 3.11, 0.17, 2					Elements MPC		7144
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.	
1983 02 15		14 28.92	-13 59.1	2.719	3.136	105.9	17.6	18.1	
1983 02 25		14 32.05	-14 15.2						
1983 03 07		14 33.12	-14 21.7	2.428	3.104	124.9	15.2	17.7	
1983 03 17		14 31.98	-14 18.1						
1983 03 27		14 28.64	-14 04.3	2.193	3.071	145.9	10.5	17.4	
1983 04 06		14 23.29	-13 41.0						
1983 04 16		14 16.36	-13 09.8	2.047	3.038	168.7	3.7	17.0	
1983 04 26		14 08.54	-12 33.6						
1983 05 06		14 00.63	-11 56.4	2.011	3.005	167.8	4.1	16.9	
1983 05 16		13 53.46	-11 22.5						
1983 05 26		13 47.73	-10 55.8	2.083	2.971	145.2	11.2	17.2	
1983 06 05		13 43.93	-10 39.4						
1983 06 15		13 42.29	-10 34.8	2.240	2.938	124.6	16.5	17.5	
1983 06 25		13 42.90	-10 42.5						
1983 07 05		13 45.64	-11 01.9	2.449	2.906	106.5	19.6	17.7	
1983 07 15		13 50.40	-11 31.9						
1983 07 25		13 56.97	-12 11.2	2.681	2.874	90.4	20.7	17.9	

(2540) 1971 TH2		a,e,i = 2.20, 0.05, 1			Elements MPC 6636			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 02 15		14 31.31	-14 32.9	1.760	2.232	105.1	25.3	18.1
1983 02 25		14 37.46	-14 55.3					
1983 03 07		14 40.82	-15 03.3	1.543	2.243	122.9	21.8	17.7
1983 03 17		14 41.03	-14 56.1					
1983 03 27		14 37.97	-14 33.2	1.371	2.253	143.6	15.2	17.3
1983 04 06		14 31.85	-13 55.4					
1983 04 16		14 23.27	-13 05.3	1.273	2.263	167.1	5.7	16.9
1983 04 26		14 13.35	-12 07.9					
1983 05 06		14 03.44	-11 10.6	1.275	2.272	168.1	5.3	16.9
1983 05 16		13 54.85	-10 20.7					
1983 05 26		13 48.58	-09 44.5	1.375	2.280	144.9	14.8	17.3
1983 06 05		13 45.16	-09 25.3					
1983 06 15		13 44.70	-09 23.8	1.550	2.287	124.8	21.4	17.7
1983 06 25		13 47.11	-09 39.1					
1983 07 05		13 52.09	-10 08.9	1.770	2.293	107.7	25.0	18.1
1983 07 15		13 59.33	-10 50.8					
1983 07 25		14 08.56	-11 42.3	2.011	2.299	92.9	26.2	18.4

(2567) Elba		a,e,i = 2.74, 0.14, 9			Elements MPC 6700			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 02 15		14 33.21	-05 47.4	2.522	2.968	107.3	18.5	17.3
1983 02 25		14 36.76	-05 22.0					
1983 03 07		14 38.16	-04 44.4	2.251	2.946	126.1	15.8	17.0
1983 03 17		14 37.24	-03 55.4					
1983 03 27		14 34.01	-02 57.3	2.039	2.923	146.4	10.9	16.6
1983 04 06		14 28.68	-01 53.9					
1983 04 16		14 21.68	-00 50.0	1.917	2.898	164.9	5.2	16.3
1983 04 26		14 13.72	+00 08.3					
1983 05 06		14 05.65	+00 55.5	1.904	2.872	160.0	6.9	16.3
1983 05 16		13 58.32	+01 27.3					
1983 05 26		13 52.46	+01 41.0	1.994	2.846	140.1	13.2	16.6
1983 06 05		13 48.54	+01 36.6					
1983 06 15		13 46.82	+01 15.1	2.161	2.818	120.7	18.0	16.8
1983 06 25		13 47.34	+00 38.6					
1983 07 05		13 50.01	-00 10.4	2.374	2.790	103.4	20.8	17.1
1983 07 15		13 54.67	-01 09.6					
1983 07 25		14 01.14	-02 16.7	2.604	2.762	88.0	21.6	17.3

(2651) Karen		a,e,i = 2.98, 0.33, 18			Elements MPC 6940			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 02 15		14 41.43	+04 39.2	3.429	3.848	107.8	14.1	19.4
1983 02 25		14 42.58	+05 30.8					
1983 03 07		14 41.94	+06 29.9	3.198	3.870	126.4	11.9	19.2
1983 03 17		14 39.48	+07 34.0					
1983 03 27		14 35.31	+08 39.4	3.034	3.889	144.5	8.6	19.1
1983 04 06		14 29.70	+09 41.7					
1983 04 16		14 23.01	+10 36.4	2.967	3.906	156.2	6.0	18.9
1983 04 26		14 15.78	+11 19.3					
1983 05 06		14 08.58	+11 47.4	3.012	3.921	150.4	7.3	19.0
1983 05 16		14 01.94	+11 59.1					
1983 05 26		13 56.34	+11 54.4	3.160	3.933	134.1	10.7	19.2
1983 06 05		13 52.09	+11 34.4					
1983 06 15		13 49.38	+11 01.2	3.386	3.943	116.3	13.4	19.4
1983 06 25		13 48.28	+10 16.8					
1983 07 05		13 48.76	+09 23.6	3.659	3.950	99.2	14.7	19.6
1983 07 15		13 50.72	+08 23.7					
1983 07 25		13 54.06	+07 18.8	3.947	3.955	83.1	14.8	19.8

(2598) Merlin		a,e,i = 2.78, 0.22, 8				Elements MPC		6821
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 02 15		14 43.29	-14 33.7	2.931	3.288	102.4	17.1	18.8
1983 02 25		14 45.91	-14 27.1					
1983 03 07		14 46.49	-14 09.8	2.675	3.308	121.9	14.8	18.6
1983 03 17		14 44.93	-13 41.6					
1983 03 27		14 41.27	-13 03.0	2.472	3.325	143.3	10.3	18.3
1983 04 06		14 35.77	-12 15.4					
1983 04 16		14 28.83	-11 21.2	2.358	3.341	166.1	4.1	18.0
1983 04 26		14 21.09	-10 23.9					
1983 05 06		14 13.26	-09 27.9	2.358	3.354	169.2	3.2	18.0
1983 05 16		14 06.05	-08 37.5					
1983 05 26		14 00.07	-07 56.2	2.472	3.365	146.8	9.5	18.3
1983 06 05		13 55.73	-07 26.5					
1983 06 15		13 53.23	-07 09.3	2.678	3.374	125.8	14.1	18.6
1983 06 25		13 52.67	-07 04.7					
1983 07 05		13 53.95	-07 11.7	2.941	3.381	107.0	16.7	18.9
1983 07 15		13 56.97	-07 29.0					
1983 07 25		14 01.57	-07 55.1	3.229	3.386	90.0	17.5	19.1

1981 WR		a,e,i = 2.28, 0.08, 4				Elements MPC		6629
Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1983 02 15		14 39.50	-09 47.6	1.862	2.318	-1.17	+6.4	18.3
1983 02 25		14 45.35	-09 50.4					
1983 03 07		14 48.50	-09 39.7	1.647	2.335	-1.36	+7.4	18.0
1983 03 17		14 48.65	-09 15.6					
1983 03 27		14 45.67	-08 39.5	1.476	2.351	-1.56	+8.6	17.6
1983 04 06		14 39.77	-07 54.2					
1983 04 16		14 31.50	-07 03.9	1.382	2.366	-1.71	+9.5	17.3
1983 04 26		14 21.85	-06 14.7					
1983 05 06		14 12.06	-05 33.1	1.389	2.381	-1.69	+9.5	17.3
1983 05 16		14 03.31	-05 04.5					
1983 05 26		13 56.60	-04 52.6	1.496	2.394	-1.52	+8.6	17.7
1983 06 05		13 52.46	-04 58.3					
1983 06 15		13 51.09	-05 20.7	1.679	2.406	-1.30	+7.4	18.1
1983 06 25		13 52.44	-05 58.1					
1983 07 05		13 56.27	-06 47.6	1.910	2.417	-1.12	+6.4	18.5
1983 07 15		14 02.31	-07 47.0					
1983 07 25		14 10.30	-08 53.8	2.162	2.427	-0.98	+5.5	18.8

1982 BD3		a,e,i = 3.14, 0.07, 6				Elements MPC		6951
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1983 02 15		14 42.33	-09 25.6	2.839	3.225	104.1	17.3	18.2
1983 02 25		14 45.57	-09 14.9					
1983 03 07		14 46.80	-08 54.0	2.586	3.237	123.1	14.9	18.0
1983 03 17		14 45.92	-08 23.7					
1983 03 27		14 42.95	-07 45.2	2.389	3.248	143.8	10.4	17.7
1983 04 06		14 38.13	-07 00.9					
1983 04 16		14 31.84	-06 13.8	2.280	3.259	164.9	4.6	17.4
1983 04 26		14 24.69	-05 28.1					
1983 05 06		14 17.38	-04 47.8	2.281	3.270	166.4	4.2	17.4
1983 05 16		14 10.61	-04 16.4					
1983 05 26		14 05.01	-03 56.6	2.392	3.280	145.9	10.0	17.7
1983 06 05		14 00.99	-03 49.5					
1983 06 15		13 58.79	-03 55.3	2.591	3.289	125.7	14.5	18.0
1983 06 25		13 58.50	-04 13.1					
1983 07 05		14 00.06	-04 41.6	2.847	3.298	107.5	17.1	18.3
1983 07 15		14 03.37	-05 19.0					
1983 07 25		14 08.27	-06 03.9	3.130	3.307	90.9	17.9	18.5