

**SEISMOLOGICAL BULLETIN OF SYOWA STATION,
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1. Introduction

Seismic observations at Syowa Station (69.0°S, 39.6°E), East Antarctica were started using a short-period seismometer with 1.0 s natural period in 1959 (Eto, 1962). A long-period seismograph was installed and phase readings of teleseismic events (i.e., detection of arrival times and amplitudes for significant seismic phases) have been reported in near real-time to the United States Geological Survey (USGS) and to the International Seismological Centre (ISC) since 1967 (Kaminuma *et al.*, 1968). A three-component broadband seismometer (STS-1; Wielandt and Steim, 1986) was installed in 1989, in order to contribute to the Federation of Digital broadband Seismograph Networks (FDSN; <http://www.fdsn.org>), together with the other key stations of the PACIFIC21 Japanese regional network. A distribution map of the FDSN stations in Antarctica is shown in Fig. 1.

All of the observation systems at Syowa Station were maintained in 2008 by one of the authors (Y. Aoyama) throughout the wintering season of the 49th Japanese Antarctic Research Expedition (JARE-49). In this report, we introduce the seismic observations in 2008, scaled

read-out travel-time data and detected teleseismic earthquake list, followed by the procedures for public use via internet service.

2. Observations

The original seismic observation systems at Syowa Station were replaced with the current operating ones by one of the authors (M. Kanao) in 1997 (Kanao, 1999). A block diagram of the current recording system is illustrated in Fig. 2.

2.1. Seismographic hut and seismographs

Seismic observations at Syowa Station have been carried out mainly by two types of seismometers. One is called a short-period seismometer (HES) with 1.0 Hz eigenfrequency of the pendulum which has been operated since 1967 (Kaminuma *et al.*, 1968). The overall frequency responses and the magnifications of the HES seismographs (Hagiwara, 1958) are shown in Fig. 3. Another is a three-component broadband seismometer (Streckeisen STS-1) with digital recording system which has been operating since 1990 (Nagasaka *et al.*, 1992). The amplitude and phase responses for the velocity output (Broadband; BRB) are shown in Fig. 4 (after Streckeisen and Messergeraete, 1987).

The seismographic hut was re-constructed in 1996 and all of the sensors were moved inside it in 1997. The new hut is located about 200 m north from the old vault, with WGS84 geodetic coordinates of 69°00'24.0"S, 39°35'06.0"E and elevation 20 m above mean sea level. Since the long-period output signals from the broadband seismographs can be affected by variations in temperature and atmospheric conditions, the seismometers were installed in the thermally insulated small room of the hut. In addition, the whole surface of the hut was covered by titanium in order to maintain constant temperature.

Seismic signals of the HES and STS-1 are transmitted to the Earth Science Laboratory (ESL) via analog cables 600 m in length through the main buildings of Syowa Station.

2.2. Acquisition system at Earth Science Laboratory

Three-component analogue outputs by HES have been digitized at 200 Hz sampling frequency by a 24-bit analog-to-digital (A/D) converter, generating triggered signals of 80 and 1 Hz re-sampling data and 20 Hz continuous outputs. Signals of a three-component broadband STS-1 have also been digitized to create triggered output of 80 Hz re-sampling data and continuous outputs of 20, 1, 0.1 and 0.01 Hz data, respectively. All the waveform data were formatted as a Mini_SEED volume, which is a standard format for data exchange in global seismology. The digitized data are automatically transmitted from the A/D converter to a workstation via TCP/IP protocol. All data are stored in the 40 GB hard-disk of the workstation, then copied onto DAT or 8 mm tape at three month intervals. The recording status of the A/D converter has been continuously monitored by a personal computer via an RS-232C serial port.

Remote-centering operation of the mass position for the STS-1 sensors can be carried out by keyboard commands from the computer using 'Kermit' communication software. The reference clock for the new system has been calibrated to Universal Time Coordinated (UTC) by detecting time codes by GPS. Long-term analog-recorders for the HES and BRB output of the STS-1 have been operated for monitoring at ESL. Boom-POSITION output (POS) of the STS-1 seismograph has been monitored by RD2212 type analogue-recorder, together with the temperature in the sensor room.

2.3. Data transmission via INTELSAT

Digital waveforms of both broadband and short-period seismographs have been transmitted via INMARSAT telecommunication link from Syowa Station to the National Institute of Polar Research (NIPR) since 1993. Waveform data transmission was greatly improved by using an INTELSAT communication link established in February 2004. During the 2008 winter season,

continuous data of both HES and STS-1 with 20 Hz sampling were automatically transmitted to NIPR once a day from the acquisition workstation. The UUCP protocol has been used for the data transfer.

In addition to remote monitoring operation of the data acquisition system from NIPR, Internet access to Syowa facilities has significantly advanced since 2005 via the INTELSAT system. Moreover, a web-camera using the Station LAN was installed inside ESL, followed by improvement of monitoring of the analogue recorders when nobody can access the ESL during bad weather.

3. Data

By using the waveform data transmitted via INTELSAT, the arrival-time information on the major seismic phases (here we say 'read-out data') is regularly reported from NIPR to USGS/NEIC (National Earthquake Information Center) via email, for contributions to the Preliminary Determination for Epicenters (PDE) weekly & monthly bulletins. The Quick Earthquake Determination (QED) services offered from NEIC have been used to identify the seismograms of teleseismic events. The arrival-time data and corresponding hypocentral data of the teleseismic events are listed in this report.

The phase arrival-times of teleseismic events were detected on the short-period digital monitoring seismograms. Most phases were scaled on the vertical component; only clear phases of shear waves were scaled on the horizontal components. These phases were identified by comparing the observed travel-time with the calculated time within a time difference of 3 s. The phases identified as *P*- and *S*-waves are listed in Table 1. The phase *K* denotes the *PKP* phase, which can be identified within 3 s of the time difference by comparing the observed travel-time with the calculated time. *X* denotes the clear phase whose wave type

can be identified but the observed travel time was within 3-10 s of the calculated time. Symbols *E* and *I* in the phase column denote emergent and sharp onsets, respectively. The initial ground motion is denoted by + for upward and - for downward motion. Arrival time is given in UTC and the accuracy of the read-out data is 0.2 s. The teleseismic events identified in the PDE are labeled by the serial numbers (#-xxx) in the table. These serial numbers correspond to those in Table 2. The events without serial numbers are teleseisms whose locations have not been determined by NEIC.

The list of hypocentral parameters for individual teleseismic events is presented in Table 2, identified by the same serial numbers as given in the remarks in Table 1. Fig. 5 shows the hypocenters of the teleseismic events whose initial phases were detected at Syowa Station.

4. Publication

The seismic waveform data are continuously transmitted to NIPR and stored in the data library server, and are accessible upon request by Internet service and/or UNIX formatted media (*i.e.*, CD-R, DAT, 8 mm-tape, *etc.*). The present authors hereby grant permission for use of these data in scientific papers. All kinds of archived seismic data (arrival times, hypocenter, waveform data by analog & digital, related document reports) of Syowa Station have been accumulated and are available from the data library server (POLARIS, URL; <http://polaris.nipr.ac.jp/~pseis/syowa>). These can be accessed by use of the 'ftp' command with password. If you are interested in using these data for scientific purposes, please contact kanao@nipr.ac.jp concerning availability.

Archived data that have passed two years since the JARE observation period are stored and freely available from both the NIPR ftp site and the PACIFIC21 center of the Japan Marine Science and Technology Agency. Any questions concerning data availability from PACIFIC21 shall be directed to y-ishihara@jamstec.go.jp.

5. Data Processing Staff

The seismic observation system at Syowa Station was designed by M. Kanao and K. Shibuya of NIPR. The authors express their sincere thanks to Ms. A. Ibaraki of NIPR for her efforts in scaling the seismic data. Readers can refer to the following URL for the data access: <http://polaris.nipr.ac.jp/~pseis/syowa>.

References

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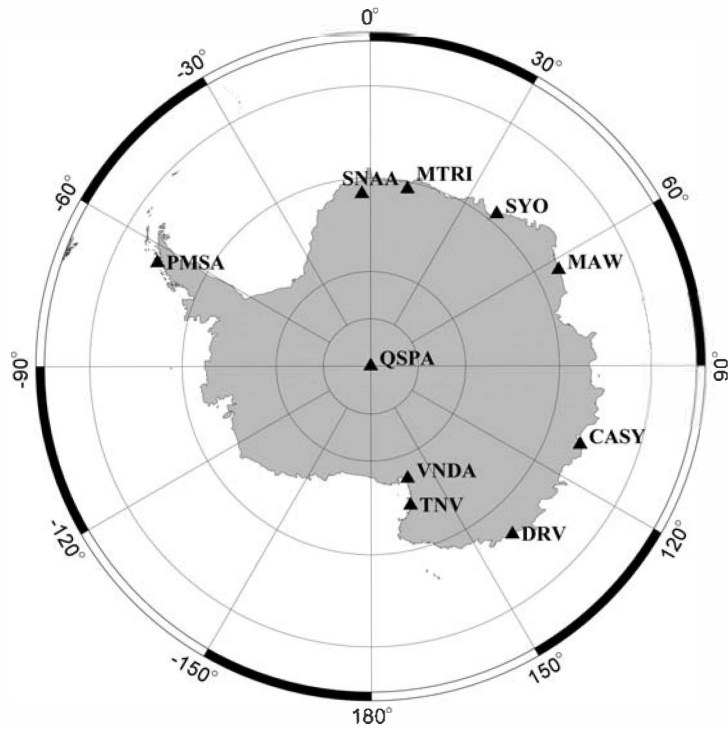


Fig. 1. Distribution of FDSN stations on the Antarctic continent in 2010. Syowa (SYO), Mawson (MAW), Casey (CASY), Dumont d'Urville (DRV), Terra Nova Bay (TNV), Vanda (VVDA), South Pole (QSPA), Palmer (PMSA), Sanac (SNAA), Maitri (MTRI).

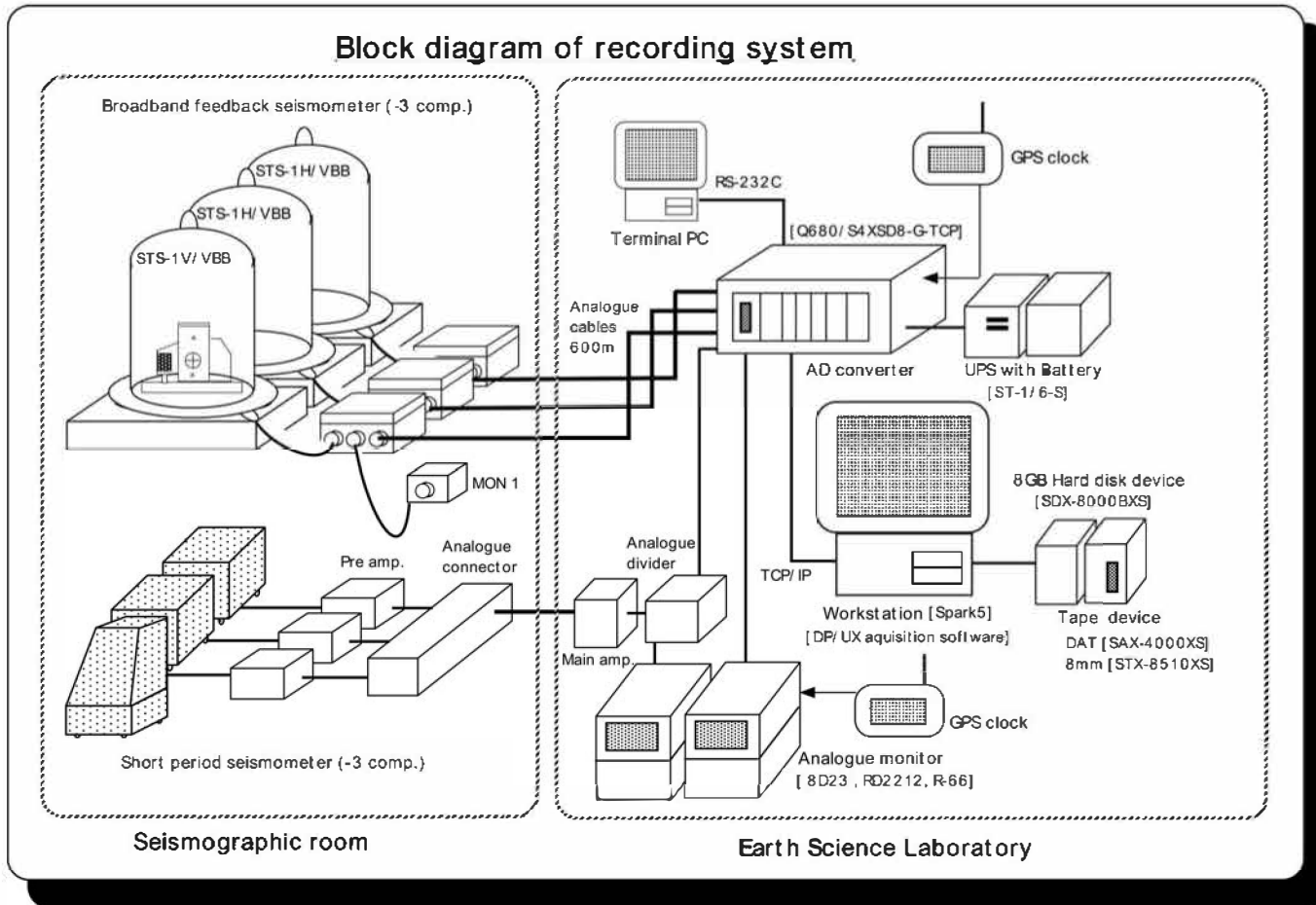


Fig. 2. Block diagram of new recording system for the STS and HES seismographs at Syowa Station. Left figure: Seismographic room; Right figure: Earth Science Laboratory.

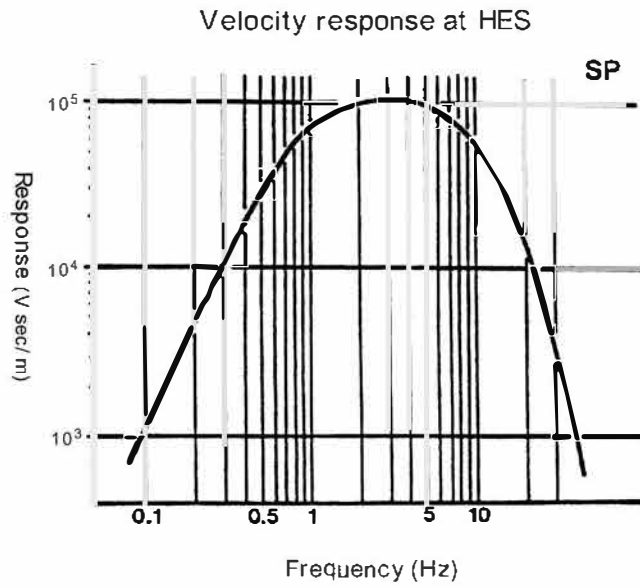


Fig. 3. Over-all frequency responses of the HES scismographs (Modified after Hagiwara, 1958).

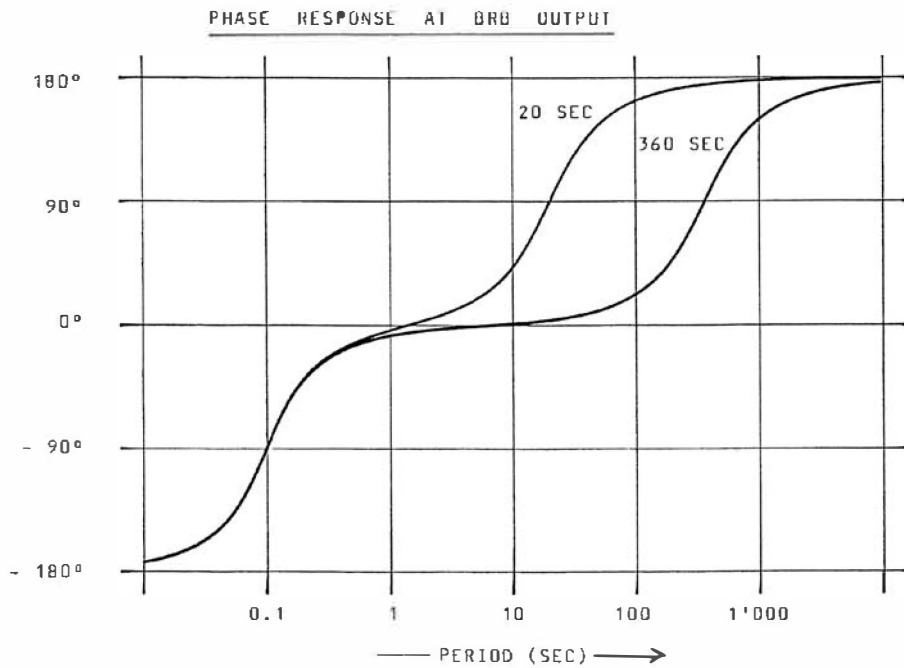
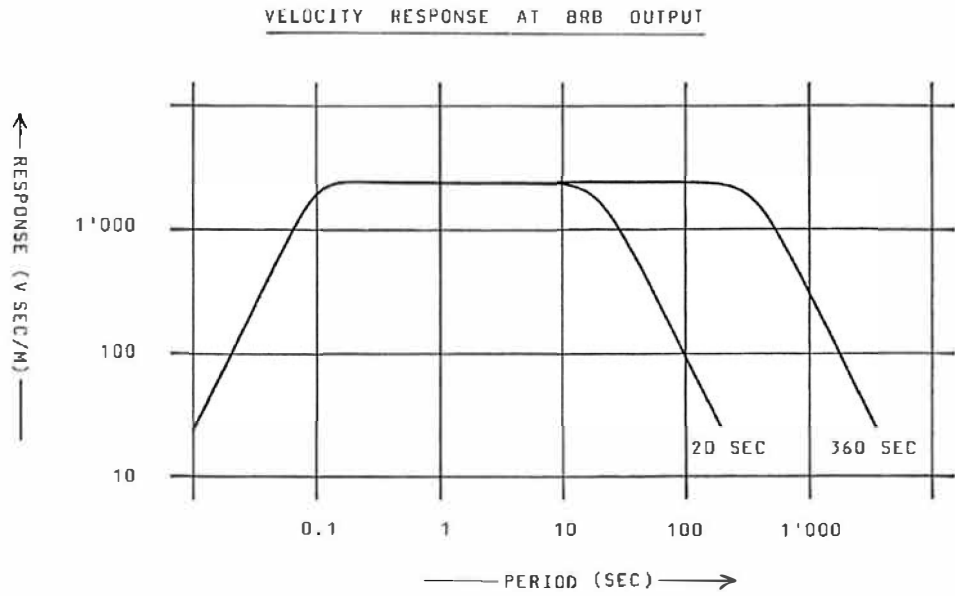
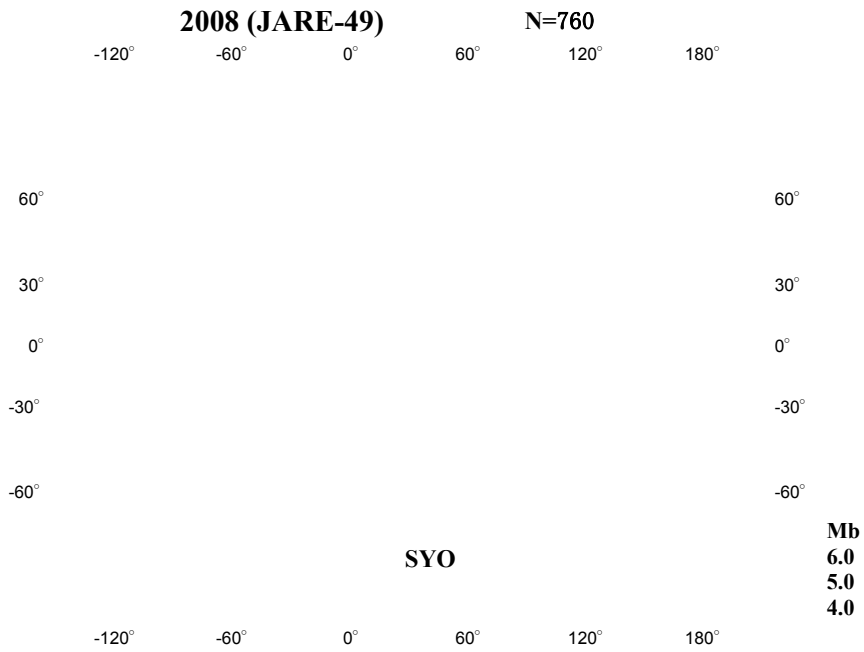


Fig. 4. Amplitude responses (upper figure) and phase responses (lower figure) for the velocity (BRB) output of the broadband seismograph (STS) in the two distinct signal modes of 20-s and 360-s (after Streckeisen and Messegeraete, 1987).



2008 (JARE-49) N=760

6.0
5.0
4.0
Mb

Table 1. List of phase arrival-time data in 2008.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
Jan.					4	-EPZ	0155	55.4	
1	+EPZ	0318	45.0		4	-EPZ	0741	09.0	#-9
1	-EPZ	0318	52.8		4	+EPcPZ	0741	19.8	#-9
1	-EPZ	0335	31.4		4	-I _p PZ	0741	23.0	#-9
1	-EPZ	0516	13.0		4	+EPZ	1042	52.3	
1	+EPZ	0643	17.2		4	-EPZ	1335	20.4	
1	+EPK _i KPZ	0651	01.2	#-1	4	+EPZ	1739	43.4	
1	+EPZ	0859	10.5		4	+EPZ	2235	42.8	
1	-EPZ	1020	16.0		5	+EPZ	0351	15.0	
1	+EPZ	1338	03.1		5	+IPZ	0741	02.0	#-10
1	-EPZ	1354	40.0		5	-IPcPZ	0741	14.8	#-10
1	+EPZ	1439	48.4		5	-I _p PZ	0741	27.9	#-10
1	-EPZ	1827	51.6		5	ESH	0750	32.0	
1	-IPZ	1907	56.6	#-2	5	+EPZ	1121	19.0	
1	-IPZ	1908	09.0		5	+EPZ	1121	41.7	
1	ESH	1918	46.8	#-2	5	+EPZ	1121	52.3	
1	-EPZ	1926	02.0	#-3	5	-EPZ	1204	49.3	
1	-EPZ	1926	14.1		5	+EPZ	1250	22.8	
1	-EsPZ	1926	25.8	#-3	5	-EXZ	2004	23.8	#-11
1	-EPZ	2239	45.4		5	-EXZ	2004	35.0	#-11
2	-EXZ	0854	09.4	#-4	5	-EPZ	2004	13.4	#-12
2	+EsPZ	0854	21.1	#-4	5	+EPZ	2014	15.0	#-13
2	+EPZ	1157	30.8	#-5	5	+EPcPZ	2014	19.4	#-13
2	-EPcPZ	1157	31.6	#-5	5	-EpPZ	2014	32.6	#-13
2	+EPZ	1530	03.2		5	+EPZ	2207	44.0	
2	+EpPZ	2339	35.6	#-6	5	-EPZ	2311	29.9	
3	+EPZ	0223	26.4		6	+EPZ	0121	07.0	
3	-EPZ	1128	07.4	#-7	6	-EPZ	0121	11.2	
3	-EpPZ	1128	10.6	#-7	6	+IPZ	0532	35.2	
3	+EPZ	1625	04.2		6	ESH	0538	53.6	
3	+EPZ	2038	34.4		6	+EPZ	0906	19.8	
4	-EPZ	0059	02.1		6	-EPZ	0906	26.2	#-14
4	-EPZ	0059	13.2		6	-EPcPZ	0906	45.4	#-14
4	-EPZ	0138	04.8	#-8	6	-IXZ	1842	11.0	#-15
4	-IsZP	0138	37.6	#-8	7	+EPZ	1928	01.4	#-16
4	+EPZ	0155	47.8		7	-IPZ	1928	09.2	#-16
4	-EPZ	0155	50.6		7	+EPZ	1951	25.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
7	-IPZ	1951	47.0		10	+EPZ	0144	02.0	
8	+EPZ	0748	40.5		10	+EPZ	0144	38.8	
8	+EPZ	0952	41.0		10	+EPKpdiffZ	0157	11.8	#-23
8	+EPZ	1036	15.7		10	+EPKiKPZ	0157	20.0	#-23
8	-EPcPZ	1036	25.0	#-17	10	+IPZ	0157	34.4	
8	+EPZ	1059	34.2		10	+EPZ	0522	16.0	
8	-EPZ	1253	36.6		10	+EPZ	0523	02.4	
8	+IPZ	1253	49.6		10	+EPZ	0738	02.9	
8	+EPZ	1310	10.0		10	+EPZ	0810	41.0	
8	-EPZ	1556	53.4		10	+EPZ	0833	20.0	
8	-IPZ	1557	31.2		11	+EPZ	0941	22.6	
8	+EPZ	1639	33.4		11	+EPZ	1604	08.6	
8	-EPZ	1916	47.0		12	-EPZ	0838	54.0	#-24
8	-EPZ	1936	17.8	#-18	12	-EPZ	0845	20.9	
8	-IPcPZ	1936	21.4	#-18	12	-EPZ	0910	35.1	
8	-IpPZ	1936	30.3	#-18	12	+IPZ	1026	30.8	#-25
8	-EPZ	1943	35.0		12	+EPZ	1038	13.8	
8	-EPZ	1943	40.0		12	+EPZ	1038	22.2	
8	+EPZ	2013	07.0		12	+EPZ	1547	35.4	#-26
8	-EPZ	2045	40.4		12	-EPcPZ	1547	38.2	#-26
8	+EPZ	2315	17.0	#-19	12	+EpPZ	1548	12.8	#-26
9	+EPZ	0103	00.4		12	+EsPZ	1548	29.4	#-26
9	-EPZ	0157	08.2	#-20	12	+EPZ	1550	06.0	#-27
9	+EPcPZ	0157	14.6	#-20	12	-EPcPZ	1550	07.9	#-27
9	+EPZ	0214	30.0		12	+EPZ	1831	04.9	
9	-EPZ	0845	10.0		12	-EpPdiffZ	2258	36.4	#-28
9	-EPZ	0845	21.6		12	+EsPdiffZ	2258	41.2	#-28
9	+EPZ	1039	22.4	#-21	13	+EPZ	0127	51.8	
9	+EXZ	1039	42.2	#-21	13	+EPZ	1129	43.4	#-29
9	+EPZ	1434	04.8		13	-EpPZ	1129	48.2	#-29
9	+EPZ	2012	01.2		13	-EPZ	1502	50.8	
9	+EPZ	2051	37.4		13	-EPZ	1609	28.2	
9	+IPZ	2141	30.0		13	-EPZ	1609	32.0	
9	-EPZ	2146	00.4	#-22	13	+EPZ	1933	27.8	
9	-EPZ	2324	09.6		13	+EPZ	1399	35.7	
9	+EPZ	2357	04.0		13	-EPZ	2204	34.8	
9	+EPZ	2357	10.8		13	-EPZ	2204	40.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
14	+IPZ	0126	49.4	#-30	18	-IPcPZ	1942	46.3	#-37
14	+EpPZ	0126	54.6	#-30	18	+EpPZ	1945	01.8	#-37
14	-EPZ	0155	05.0		18	ESH	1952	24.0	#-37
14	-EPZ	0155	24.0		18	+EPZ	2041	39.2	
14	+EPZ	0423	35.8		18	+EPZ	2144	13.6	#-38
14	+EPZ	0711	56.4		18	+EPcPZ	2144	25.4	#-38
14	+EPZ	1218	40.6		18	+EPZ	2257	40.6	
14	-IPZ	1351	19.8	#-31	18	-EPZ	2359	19.6	#-39
14	+EPcPZ	1351	22.1	#-31	18	+EpPZ	2359	33.0	#-39
14	-IpPZ	1351	34.6	#-31	19	-EPZ	0220	34.6	
14	-EPZ	2135	01.0	#-32	19	+EPZ	0823	05.0	
14	-EPcPZ	2135	20.6	#-32	19	+IPZ	1357	14.0	#-40
14	+EpPZ	2135	25.4	#-32	19	-IPcPZ	1357	17.6	#-40
15	+EPZ	0833	06.4		19	ESH	1407	13.0	#-40
15	-EPZ	1803	46.1	#-33	19	+EPZ	1632	01.0	
15	-IPcPZ	1803	47.1	#-33	19	-EPZ	1632	04.4	
15	ESH	1813	24.8	#-33	19	-EPZ	1854	10.4	
15	+EPZ	2214	30.0		19	-EPZ	2332	53.4	
16	-EPZ	0110	14.6		19	-EOZ	2332	57.0	
16	+EPZ	0548	35.3		20	+EPZ	0438	15.2	
16	+EPKiK'Z	1213	07.0	#-34	20	-EPZ	0519	07.6	
16	+EPZ	1505	49.6		20	-EPZ	0601	38.9	
16	+EPZ	1635	15.1		20	-EPZ	0601	41.0	
17	+EPZ	0750	12.6		20	-IPZ	0620	32.9	
17	+EPZ	1053	10.6		20	-EPZ	1040	16.6	#-41
17	+EPZ	1242	39.3		20	+EpPZ	1040	39.3	#-41
17	-EPZ	1519	38.9		20	+EPZ	1142	11.6	
17	-IPK'P'fZ	1558	51.6	#-35	20	+EPZ	1526	22.5	#-42
17	-IPK'bcZ	1558	56.0	#-35	20	-EPcPZ	1526	32.4	#-42
17	-EPZ	1741	07.4		20	-EPZ	1851	52.8	
17	-EPZ	1741	13.0		20	-IPZ	1851	54.4	
18	+EPZ	0232	16.8		20	+EPZ	2050	33.0	
18	-IPZ	0819	45.8	#-36	21	-EPZ	0335	29.6	#-43
18	-IPcPZ	0819	48.0	#-36	21	+EPZ	1005	26.2	
18	+EPZ	0948	28.0		21	-EPZ	1005	33.2	
18	+EPZ	1044	01.4		21	+EPZ	1236	01.6	
18	+EPZ	1942	45.0	#-37	21	+EPZ	1236	07.2	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
21	+EPZ	1538	32.0	#-44	24	+EPcPZ	1215	39.0	#-56
22	+EPZ	0709	16.6		24	-EPZ	1638	08.4	
22	+EpPZ	0809	10.4	#-45	24	+EPZ	1638	12.0	
22	+EPZ	0832	06.6		24	+EPZ	1736	27.6	
22	-EPZ	0921	21.8	#-46	24	-IPZ	2016	52.2	#-57
22	+EPcPZ	0921	30.4	#-46	24	-IPcPZ	2016	53.5	#-57
22	+EpPZ	0921	36.0	#-46	24	-EpPZ	2017	20.4	#-57
22	+EPZ	1102	28.0	#-47	24	+EPZ	2138	06.0	
22	-EPcPZ	1102	31.2	#-47	24	+EPZ	2242	47.6	
22	-EpPZ	1102	42.4	#-47	24	-IPZ	2242	49.6	
22	+EPZ	1241	18.4	#-48	24	-IPZ	2242	56.0	
22	-EPZ	1727	01.4	#-49	24	ESH	2253	39.2	
22	-EPcPZ	1727	05.8	#-49	25	-EPZ	0033	47.4	
23	-EPZ	0625	26.2	#-50	25	+EPZ	0752	32.2	#-58
23	-EPcPZ	0625	53.4	#-50	25	+EPZ	1432	16.4	
23	+EPZ	0628	57.6	#-50	25	+EPZ	1432	31.5	#-59
23	+EPZ	0908	36.4		25	+EPZ	1553	28.0	
23	+EPZ	1051	17.6	#-51	25	+EPZ	1728	10.8	#-60
23	-EPZ	1232	52.0	#-52	25	-EpPZ	1728	21.4	#-60
23	+EPZ	1354	02.6	#-53	25	+EPZ	2041	31.8	
23	+EPZ	1354	10.6		25	+EPZ	2140	22.6	
23	+EPZ	1902	38.1		25	+EPZ	2140	26.8	
23	-IPZ	1405	55.0	#-54	25	+EPZ	2245	18.0	
23	-IPcPZ	1405	56.8	#-54	26	+EXZ	0314	41.9	#-61
23	+EPZ	1545	25.6		26	-EXZ	0315	06.8	#-61
23	+EPZ	1545	39.2		26	+EsPZ	0620	25.0	#-62
23	+EPZ	1850	17.8		26	+EPZ	0823	19.0	
23	-IPZ	1850	31.0		26	+EPZ	0948	24.2	
23	+EpPZ	1935	38.4	#-55	26	+EpPZ	1813	29.6	#-63
23	+EsPZ	1935	46.4	#-55	27	+EPZ	1302	30.0	#-64
23	+EPZ	2136	26.0		28	-EXZ	0424	38.8	#-65
23	-EPZ	2246	24.0		28	-IXZ	0424	53.6	#-65
24	-EPZ	0137	50.7		28	-EPZ	0545	22.4	
24	+EPZ	0338	45.6		28	+EpPZ	0712	39.0	#-66
24	-EPZ	0547	38.6		28	+EPZ	0752	57.4	
24	+EPZ	0734	28.0		28	+IPZ	1043	29.6	#-67
24	+EPZ	1215	27.0	#-56	28	-IpPZ	1043	43.4	#-67

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
28	+EPZ	1204	11.0		8	+EPZ	0932	21.2	
28	+EPZ	2234	05.4		8	+EPZ	0932	27.8	
28	+EPZ	2234	12.4		8	+IPZ	1609	09.2	
29	+EPZ	1504	32.2		9	-EPZ	1449	55.2	
30	+IPZ	0745	06.0		10	-IPZ	1227	47.6	#-81
30	-IPZ	0745	08.4		10	-IsPZ	1227	51.4	#-81
31	+EPZ	0946	46.6	#-68	11	+EPZ	1649	44.9	
Fcb.					11	+EPZ	2122	20.2	
1	-IPZ	1221	39.2		11	+EPZ	2122	31.8	
1	-IPZ	1221	53.8		11	-EPZ	2305	23.9	
1	ESH	1231	16.2		12	+EPZ	1730	16.6	
2	+IPZ	0033	40.6	#-69	13	-IPZ	2011	04.0	
2	+EPZ	0923	38.6		13	-IPZ	2011	06.4	
2	+EPZ	1708	24.0		13	-IPZ	2011	42.4	
3	+IPZ	0745	04.0	#-70	14	+EPZ	0218	34.4	
3	+IpPZ	0745	07.3	#-70	14	-EPZ	0738	03.6	
3	-EPZ	0939	42.0		14	+EPZ	0811	42.0	#-82
3	+EPZ	1107	11.7	#-71	14	-EPZ	1523	16.0	
3	+EPZ	1107	02.6	#-72	14	-EPZ	1735	47.2	
3	+EPcPZ	1310	26.9	#-73	14	+EPZ	2320	25.2	
3	-EPZ	1430	46.0	#-74	15	-EPZ	0015	17.4	
3	-EPZ	1723	25.6		15	-EPZ	0108	03.8	
3	+EPZ	1723	41.2		15	-EPZ	0108	07.0	
3	+EPZ	1744	07.4	#-75	15	-EPZ	0304	02.0	
3	+EPcPZ	1744	10.0	#-75	15	+EPZ	2339	37.0	
3	+EPZ	1843	12.4		16	+IPZ	1456	45.6	
3	-EPZ	1843	14.2		16	-IPZ	1456	47.7	
3	+EPZ	2038	05.0		16	ESH	1506	39.2	
4	+EPZ	1712	06.0		17	NONE			
4	+EPZ	1713	24.0	#-76	18	-EPZ	0059	13.0	
5	-EPcPZ	0609	14.8	#-77	18	-EPZ	0304	29.4	
6	+EPZ	0046	26.6		18	+EPZ	0308	36.4	
6	+EPZ	2106	40.0		18	+EPZ	0439	06.0	
7	-IPZ	0803	43.8	#-78	18	-EPZ	0728	39.4	
7	-EPZ	0937	11.8	#-79	18	+EPZ	0901	44.2	#-83
7	-IPZ	2109	43.8		18	-EPZ	1006	31.4	#-84
7	-EPZ	2141	34.8	#-80	18	+IPZ	1541	38.2	#-85

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
19	-EPZ	0636	42.0		21	-EPZ	1755	49.6	
19	+EPZ	0824	35.4		21	+EPZ	1803	02.0	
19	+EPZ	1013	07.6		21	-EPZ	1939	34.0	
19	-EPZ	1013	13.2		21	+EPZ	2154	45.0	#-89
19	-IPZ	1104	49.4		21	+EPZ	2158	20.0	#-89
19	+EPZ	1616	00.6		21	+EPZ	2213	20.4	
19	-EPcPZ	1713	33.2	#-86	22	-EPZ	0007	41.0	
20	+EPZ	0634	32.4		22	-EPZ	0007	48.4	
20	-EPZ	0643	00.2		22	-EXZ	0012	16.8	#-90
20	-EPZ	0643	11.4		22	-EPZ	1755	19.7	
20	+EPZ	0654	46.4		22	-EPZ	2152	12.6	
20	+IPZ	0820	49.0		22	-EPZ	2152	17.1	
20	ESH	0832	14.6		23	-IPZ	1603	22.5	
20	-EPZ	0839	50.2		23	+IPZ	1603	28.6	
20	-EPZ	0840	24.2		24	+EPZ	0448	17.6	#-91
20	+EPZ	1219	05.2		24	+EPcPZ	0448	26.0	#-91
20	+EPZ	1219	27.8		24	-EsPZ	0448	31.6	#-91
20	+EPZ	1257	23.4	#-87	24	+EPZ	0531	36.3	
20	-EPZ	1740	42.0		24	+EPZ	1046	17.8	
21	+EPZ	0107	25.2		24	-EPZ	1458	15.2	#-92
21	+EPZ	0305	56.4		24	-EPpPZ	1458	21.0	#-92
21	+EPZ	0305	57.7		24	-EPcPZ	1458	24.0	#-92
21	-EPZ	0428	52.3	#-88	24	+EPZ	1736	37.0	
21	-EPcPZ	0428	54.4	#-88	24	+EPZ	2350	31.0	
21	-EPZ	0703	33.6		25	+EPZ	0848	25.6	
21	-EPZ	0830	25.6		25	-IPZ	0848	31.0	
21	-EPZ	0830	30.5		25	-EPZ	0922	40.0	#-93
21	+EPZ	0835	37.6		25	-EPcPZ	0922	44.6	#-93
21	+EPZ	0905	41.4		25	-EPZ	1048	37.0	
21	+EPZ	0905	45.4		25	+EPZ	1604	08.2	
21	-EPZ	1137	10.0		25	+EPZ	1817	56.0	#-94
21	-EPZ	1249	44.8		25	+IPZ	1818	08.2	#-94
21	-IPZ	1412	19.4		25	-EPZ	2114	11.8	
21	-IPZ	1435	53.4		25	-IPZ	2114	20.2	
21	-EPZ	1706	45.8		25	-IPZ	2114	43.6	
21	-EPZ	1706	52.4		26	+EPZ	0311	12.0	
21	+EPZ	1742	01.8		26	+EPZ	1037	15.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
27	+EPZ	0214	10.8		2	+EPZ	0848	08.5	
27	+EPZ	0451	13.0		2	+EPZ	1835	01.0	
27	+EPZ	0451	16.0		2	-EPZ	1835	08.0	
27	+EPZ	0505	52.0	#-95	2	+EPZ	2208	10.4	#-102
27	-EPZ	0506	03.0	#-95	2	+IpPZ	2208	12.0	#-102
28	+EPZ	0131	20.0		3	+EPZ	0125	30.4	
28	+EPZ	0905	12.4		3	+EPZ	0125	37.8	
28	+EPZ	1250	41.0		3	-EPZ	0249	22.0	#-103
28	-IPKpdfZ	1214	30.4	#-96	3	+EpPZ	0249	30.7	#-103
28	-IPKiKPZ	1214	39.6	#-96	3	-EPZ	0408	18.4	
28	-EPZ	1852	29.2		3	+EPZ	0650	34.2	
28	+EPZ	1852	36.2		3	+EPZ	1323	43.4	
29	-EPZ	0250	03.4		3	-EPdiffZ	1403	52.8	#-104
29	-EPZ	0250	07.0		3	+IPdiffZ	1425	01.0	#-105
29	-EPZ	0719	51.0		3	-IpPdiffZ	1425	10.0	#-105
29	+EPZ	1618	12.0		3	+IPcPZ	1800	31.2	#-106
29	+EPZ	1618	15.4		4	+EPZ	0440	05.3	
29	+EPZ	2101	07.8		4	-EPZ	1805	55.0	
29	+EPZ	2301	43.6	#-97	4	-EPZ	1805	58.0	
29	+EpPZ	2301	45.4	#-97	4	+EXZ	1944	27.8	#-107
Mar.					4	-EPZ	2134	46.0	
1	+EPZ	1145	19.2		4	+EPZ	2225	54.4	
1	+EPZ	1654	01.7		5	+EPZ	2356	19.8	
1	-EPKpdfZ	1910	58.4	#-98	6	-EPZ	0134	51.4	
1	+EPKiKPZ	1911	03.1	#-98	6	-EPZ	0135	05.2	
1	-IPZ	2003	52.0	#-99	6	+EPZ	0202	00.5	
1	-EPcPZ	2004	01.8	#-99	6	+EPcPZ	0348	15.0	#-108
1	+EpPKPbcZ	2016	06.0	#-100	6	-EsPZ	0348	21.0	#-108
1	+EPZ	2016	18.0		6	+EPZ	0439	36.2	#-109
1	+EPZ	2037	17.6		6	-EPZ	0746	08.6	#-110
1	+EPZ	2037	22.9		6	+EsPZ	0746	13.4	#-110
1	+EPZ	2206	11.4	#-101	6	+EPZ	0848	00.6	
1	+EpPZ	2206	20.6	#-101	6	-EPZ	0958	04.8	
1	-EPcPZ	2206	32.0	#-101	6	-IpPZ	1230	47.0	#-111
1	-EPZ	2318	12.0		6	+EPZ	1513	39.6	
2	+EPZ	0437	34.8		6	-EPZ	1513	42.4	
2	+EPZ	0532	36.0		6	+EPZ	1956	49.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
6	+EPZ	2112	02.4	#-112	10	-IPZ	0954	04.2	
6	+EPcPZ	2112	06.5	#-112	10	-IPZ	0954	09.2	
6	+EPZ	2150	08.5		10	-IPZ	0954	34.5	
6	+EPZ	2150	16.8		10	-EPZ	1125	16.6	
6	-EPZ	2237	36.4		10	-EXZ	1237	08.0	#-121
7	-EPZ	0449	04.0		10	+EPZ	1657	44.0	
7	+EPZ	0612	17.8		10	+EPZ	1830	27.8	
7	-EPZ	0612	25.0		10	+EPZ	2019	16.0	
7	+EPZ	0812	03.8		11	-EPZ	0223	33.9	
7	+EpPdifferZ	0812	17.8	#-113	11	-EPZ	0232	23.0	
7	-EPZ	0835	29.6		11	+EPZ	0847	11.8	
7	-EPcPZ	0904	48.6	#-114	11	-EPZ	1847	35.6	
7	+EXZ	0905	02.6	#-114	11	+EPZ	2013	22.0	
7	-EXZ	1713	54.6	#-115	11	+EPZ	2048	06.8	
7	+EPZ	2152	34.6		12	-EPZ	0219	48.6	#-122
7	+EPZ	2247	01.2	#-116	12	-IPcPZ	0219	50.0	#-122
7	+EXZ	2247	14.6	#-116	12	+EPZ	0817	15.0	
8	+EXZ	0051	34.8		12	-EPZ	1136	16.3	
8	+EPZ	0910	30.8		12	+IPZ	1149	38.6	#-123
8	-EPZ	0910	40.4		12	-IPcPZ	1149	42.6	#-123
8	+EPZ	1635	36.7		12	+EPZ	1231	16.4	
8	+EPZ	1645	54.3		12	+IPZ	1345	17.4	
8	+EPZ	1802	20.8	#-117	12	+EPZ	2249	10.0	
9	+EPZ	0318	02.6		13	-EPZ	0129	40.4	#-124
9	-EpPZ	1534	00.4	#-118	13	-EPcPZ	0129	42.0	#-124
9	-EsPZ	1534	09.0	#-118	13	-EpPZ	0129	57.6	#-124
9	-EPZ	2029	36.6		13	-EPZ	0810	07.2	
9	+EPZ	2029	39.4		13	+EPZ	0810	21.5	
9	+EPZ	2058	26.0		13	+EXZ	0857	28.6	#-125
9	+EPZ	2114	48.6		13	-IPZ	1333	55.0	
9	-EPZ	2114	50.6		13	+IPZ	1334	03.2	
10	-EPZ	0040	42.2	#-119	13	-EPZ	2055	13.6	
10	-EPcPZ	0040	51.2	#-119	14	+EsPZ	0330	53.2	#-126
10	-EpPZ	0040	55.4	#-119	14	+EPZ	0706	07.4	
10	-EPZ	0517	52.4	#-120	14	-EPZ	1012	03.4	#-127
10	-EpPZ	0518	07.0	#-120	14	+EPZ	1105	29.6	
10	+IPZ	0954	03.0		14	+EPZ	1601	07.3	#-128

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
14	-EPcPZ	1601	10.6	#-128	18	+EPZ	1714	24.0	
14	+EsPZ	1601	23.6	#-128	19	+EpPZ	1209	12.4	#-136
14	-IPZ	1614	57.0	#-129	19	+EPZ	2006	29.9	
14	+EPcPZ	1614	58.2	#-129	20	+EPZ	0037	08.0	
14	+EpPZ	1615	06.8	#-129	20	+EPZ	0139	15.1	
14	-EPZ	1658	22.7		20	+IPZ	1228	31.6	#-137
14	+EPZ	2154	32.3		20	-IPZ	1423	55.6	#-138
14	-EPZ	2241	12.6		20	-IPcPZ	1423	58.2	#-138
14	-EPZ	2250	56.4		20	-EPZ	1858	15.0	
15	+EPZ	0235	18.6		20	-EpPdiffZ	2247	26.0	#-139
15	-EPZ	0235	22.0		20	+EpPKiKPZ	2251	31.6	#-139
15	+EPZ	0413	07.7		20	-IPdiffZ	2253	15.8	#-140
15	-EPZ	0428	50.3		20	+EPKiKPZ	2257	23.0	#-140
15	-EPZ	0922	28.4		20	+EpdiffZ	2304	22.7	#-141
15	-EPZ	1210	52.8		20	-FPZ	2311	05.6	
15	+IPZ	1455	38.0		21	+EPZ	0116	40.0	
15	-IPZ	1455	48.6		21	+EPZ	0131	11.2	
15	ESH	1505	47.0		21	-EPZ	1418	48.8	
15	+EXZ	2148	41.8	#-130	21	+EPZ	1531	55.8	
16	-EPZ	0101	21.3	#-130	21	+EPZ	1532	01.0	
16	-EPcPZ	0101	25.4	#-130	21	+EPZ	1758	01.6	
16	+EPZ	0434	05.0		21	+EPZ	1758	06.0	
16	-EpPZ	0629	11.9	#-131	21	+EPZ	1914	33.0	
16	+EPZ	0859	16.2		21	-EPZ	1914	35.0	
16	-FPZ	0917	10.8		21	-FPZ	2227	03.8	
16	-EPZ	0917	29.0		21	+EPZ	2227	07.6	
16	+IPZ	1055	08.6	#-132	22	+EPZ	0009	06.0	
16	-EPcPZ	1055	13.9	#-132	22	-EPZ	0010	15.4	
16	+EPZ	1132	25.4		22	-FPZ	0010	19.5	
16	+EPZ	1251	04.0	#-133	22	+EPZ	0421	38.0	#-142
16	+EPZ	1947	09.0		22	-EPZ	0749	13.0	
16	+EpPZ	2317	30.0	#-134	22	+EPZ	1333	01.9	
17	+EPZ	0022	19.2		22	-EPZ	1643	02.8	
18	-IPZ	0834	46.0	#-135	22	-EPKdfZ	2143	41.5	#-143
18	+EPZ	1404	06.4		22	+EPK ^{ab} Z	2144	11.4	#-143
18	+EPZ	1544	19.4		22	+EP ^{ab} PZ	2147	50.3	#-143
18	-EPZ	1544	32.8		22	-EPZ	2350	56.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
23	+EPZ	0432	02.4		27	+EPZ	0447	03.6	
23	+EPZ	0721	46.0		27	-EPZ	1647	16.6	
23	+EPZ	2109	54.0		27	+EPZ	1938	35.8	#-147
23	+EPZ	2338	00.4		27	+EPZ	2007	18.8	
23	+EPZ	2338	15.4		27	-EPZ	2110	13.0	
24	+EPZ	0401	36.8		27	-EPZ	2110	16.0	
24	-EPZ	0620	29.2		27	+EPZ	2136	26.9	
24	-EPZ	0620	32.0		28	-EPcPZ	0148	19.0	#-148
24	-EPZ	0715	15.0		28	+EPpPZ	0148	36.7	#-148
24	-EPZ	0715	20.0		28	+EPZ	0246	09.8	#-148
24	-EPZ	0715	36.0		28	+EPZ	0310	34.0	
24	-EPZ	0737	45.2		28	-EPZ	0650	43.2	
24	-EPZ	0737	47.0		28	-EPZ	0650	45.4	
24	-EPZ	1318	21.2		28	-EXZ	1605	42.6	#-149
24	-EPZ	1856	40.4		28	-EXZ	1605	51.8	#-149
24	-EPZ	2050	51.8		28	-EPZ	1651	02.8	
24	ESH	2100	34.5		28	-EPZ	1651	09.6	
24	+EPZ	2202	54.2		28	+EPZ	1811	34.6	
25	+EPZ	0023	41.0		28	+EPZ	1812	01.4	
25	+EPZ	0023	45.8		28	+EPZ	2139	13.7	
25	+EPZ	0206	02.9		28	+EPZ	2139	18.4	
25	+EPZ	1509	08.0		28	+EPZ	2228	15.0	
25	-EPZ	1520	13.4		28	+EPZ	2256	03.8	
25	-EPZ	1703	35.0		28	-EPZ	2317	15.8	
25	+EPZ	2035	27.7		28	+EPZ	2342	07.6	
25	+EPZ	2254	47.4		29	-EPZ	0144	24.2	
26	+EPZ	0041	14.0		29	+EPZ	0144	33.6	
26	+EPZ	0113	00.2		29	+IPZ	0206	35.0	#-150
26	-EPZ	0639	16.4		29	-EPcPZ	0206	38.0	#-150
26	+EPZ	0639	21.4		29	+IPZ	0236	02.6	#-151
26	+EPZ	0857	00.0		29	+EPZ	1304	07.4	
26	-EPZ	1057	20.0		29	+EPZ	1304	14.0	
26	-EPZ	1409	10.0		29	+EPZ	1424	37.2	
26	+EXZ	1801	31.8	#-144	29	+EPZ	1517	50.0	
26	+EPpdiffZ	1850	25.0	#-145	29	+EPZ	1743	03.0	#-152
26	+EPdiffZ	2020	17.0	#-146	29	+IXZ	1743	07.5	#-152
27	+EPZ	0128	27.0		29	ESH	1753	15.0	#-152

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
29	-EPZ	1823	30.0		3	-EPZ	0936	10.0	
29	-EPZ	2220	15.1		3	+EPZ	1614	49.5	
30	+EPZ	0634	22.8		3	+EPZ	1717	51.4	#-163
30	-EXZ	1323	21.0	#-153	3	-EPcPZ	2012	30.0	#-164
30	+EPZ	1505	30.2		3	+EpPZ	2012	35.4	#-164
30	-EPZ	1722	04.8		3	+EPZ	2154	02.0	#-165
30	-EPZ	1722	07.6		3	+EPcPZ	2154	04.7	#-165
30	-IPZ	1722	50.8		3	+EPZ	2248	38.4	
30	+EPZ	1834	24.2		4	-EPKpdfZ	0338	37.0	#-166
30	+EPZ	1834	34.8		4	+EPZ	0416	08.2	
30	+EPZ	2047	09.6		4	-EPZ	1022	51.8	
30	+IPZ	2139	58.2		4	+EPZ	1122	47.6	
30	+EPZ	2224	51.4	#-154	4	-EPZ	1354	05.0	
31	+EPZ	0520	07.0		4	+EPZ	1446	40.6	
31	-EPZ	1008	01.6		4	+EPcPZ	2041	40.5	#-167
31	-EPZ	1342	00.6		5	+EPZ	0104	43.6	
31	+EXZ	1649	45.4	#-155	5	+EPZ	0953	19.0	
31	-EPZ	1916	20.4		5	-EPZ	0953	31.4	
Apr.					5	+EPZ	1018	13.4	
1	+EPZ	0250	05.4	#-156	5	-EPZ	1856	05.6	
1	-EPZ	0747	56.0		5	+EPZ	1931	31.8	
1	+EPZ	1346	26.6	#-157	6	-EPZ	0206	38.0	
1	+EXZ	1347	10.4	#-157	6	+EPZ	0518	25.4	
1	+EPZ	1715	25.2		6	-EPKpbcZ	0743	20.8	#-168
2	-EPZ	0038	52.2	#-158	6	-EPZ	0921	09.8	
2	-EPZ	0900	33.6	#-159	6	-EPZ	0921	12.0	
2	-EPcPZ	0900	41.8	#-159	6	-EPZ	1719	29.0	
2	-EPdiffZ	1034	46.0	#-160	6	+EPZ	2021	19.2	
2	+EPZ	1143	15.0		6	-EPZ	2029	34.6	
2	-EPZ	1235	05.2		6	+EPZ	2044	39.4	
2	+EPZ	1447	04.0		6	+EPZ	2113	06.5	
2	+EpPZ	1447	08.2		6	-EPZ	2321	08.3	
2	-EsPZ	1447	09.6		7	+EPZ	0238	34.2	
2	-IpPZ	1921	25.4	#-161	7	-EPZ	0643	24.2	
2	-IPZ	1922	24.4	#-162	7	-EPZ	0643	43.0	#-169
2	ESH	1932	25.2		7	-EPZ	2247	47.8	
3	+EPZ	0141	05.6		8	-EPZ	0203	37.2	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
8	-IPZ	0203	34.6		11	+EPZ	0320	44.6	
8	+EPZ	0718	21.5		11	-EPZ	0356	11.0	
8	+EPZ	0910	57.2		11	-EPZ	0356	17.5	
8	+EPZ	0929	04.4		11	+EPZ	0521	19.2	
8	-EPZ	1315	39.8		11	+EPZ	0521	29.4	
8	-IPZ	1553	42.0		11	-EPZ	0954	23.2	
8	+EPZ	1617	32.4		11	+EPZ	1221	01.6	
8	+EPZ	1920	24.6		11	+EPZ	1306	35.2	
8	-EPZ	1927	47.6		11	+EPZ	1413	41.8	
8	+EPZ	2204	09.6		11	+EPZ	1606	37.3	
8	-EPZ	2246	26.0		11	+EPZ	1606	54.4	
9	-EPZ	1125	44.9		11	+EPZ	1648	20.0	
9	-IPZ	1125	49.8		11	-EPZ	1648	23.4	
9	-IPZ	1125	53.6		11	+EPZ	1757	24.6	
9	+EPZ	1136	04.8		11	-EPZ	1757	30.2	
9	+IPZ	1258	37.0		11	+IPZ	1757	40.8	
9	ESH	1309	01.2		11	+EPZ	1809	32.0	
9	+EPZ	1315	42.2		11	+EPZ	1848	34.7	
9	-EPZ	1424	08.4		11	-EPZ	2252	01.0	
9	-EPZ	1424	11.4		11	+EPZ	2344	12.4	
9	+EPZ	1433	45.0		12	-IPZ	0038	49.2	
9	-EPZ	1434	32.8		12	+EPZ	0713	21.7	
9	+EPZ	1440	15.0		12	-EPZ	0713	40.8	
9	+IPZ	1500	15.4		12	-EPZ	1209	26.6	
9	-EPZ	1500	20.6		12	+EPZ	1456	37.6	
9	-IPZ	1500	43.0		12	+EPZ	1705	56.6	
9	+EPZ	1919	30.0		12	+EPZ	1706	04.0	
9	+EPZ	1936	54.0		12	+EPZ	1834	20.0	
9	+EPZ	1948	05.4		12	+EPZ	1843	42.6	
9	+EPZ	2148	43.3		12	+EPZ	2253	01.6	
10	+IPZ	0122	32.8		13	-EPZ	0143	55.2	
10	+EPZ	0848	33.3		13	-EPZ	0252	47.4	
10	+EPZ	0848	38.0		13	-EPZ	0304	10.8	
10	-IPZ	1318	29.2		13	+IPZ	0914	09.2	
10	-IPZ	1318	46.5		13	+EPZ	1422	35.9	
10	-EPZ	1338	02.0		13	-IPZ	1810	25.0	
10	+EPZ	1357	42.3		14	+EPZ	0117	02.6	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
14	+EPZ	0327	46.8	#-170	16	-EPZ	2311	01.0	
14	+EPcPZ	0327	51.2	#-170	16	-EPZ	2311	11.0	
14	-IPZ	0950	29.5		17	-EPZ	0346	00.4	
14	-IPZ	0957	47.2		17	+EPZ	0809	15.8	
14	ESH	1001	44.6		17	+EPZ	0841	39.0	#-174
14	+EPZ	1024	03.0		17	-EPZ	0841	48.5	#-174
14	+EPZ	1136	20.0		17	-IPZ	0849	51.0	
14	+EPZ	1349	30.0		17	+EPZ	1032	53.7	
14	+EPZ	1955	05.8		17	-EPZ	1343	28.0	
14	+EPZ	1955	30.0		17	+EPZ	1719	40.5	
15	+EPZ	0045	33.0		17	-EPZ	1719	42.5	
15	+EPZ	0045	41.8		17	-IPZ	1917	40.0	
15	-EPZ	0323	02.6		17	+EPZ	2125	14.4	
15	+EPZ	0650	50.4		17	-EPZ	2304	51.2	
15	-IPZ	0650	51.6		17	-EPZ	2304	53.2	
15	-EPZ	1526	09.9		18	-EPZ	0754	12.8	
15	-EPZ	1526	14.4		18	-EPZ	0754	15.5	
15	+EPZ	1737	51.0		18	+EPZ	0945	02.8	
15	+IPZ	1737	55.0		18	+EPZ	0945	05.8	
15	+EPZ	2151	27.7		18	+EPZ	1324	30.5	
15	+EpPKPdfZ	2319	48.4	#-171	18	+EPZ	1536	05.2	
15	-EPKbcZ	2319	53.9	#-171	18	+EPZ	1938	29.4	
16	-EPZ	0048	42.4		18	+EPZ	2008	23.5	
16	-EPZ	0048	44.2		18	+EPZ	2051	02.0	
16	-EPZ	0114	06.0		18	+IPZ	2051	04.2	
16	-EPZ	0320	38.4		18	ESH	2101	01.0	
16	-EPZ	0320	40.4		18	+EPZ	2123	04.8	
16	-EpPKPdfZ	0614	14.0	#-172	18	+IPZ	2322	35.0	
16	-IPZ	0614	41.0		19	+EPZ	0324	40.4	#-175
16	+EPZ	0710	13.0		19	-IPZ	0324	44.2	#-175
16	+EPZ	0824	28.6	#-173	19	-IPZ	0611	07.6	
16	-IPcPZ	0824	30.3	#-173	19	ESH	0621	35.4	
16	+EPZ	0850	49.0		19	+EPZ	0652	08.8	
16	+EPZ	0850	53.6		19	+EPZ	1033	28.2	#-176
16	+EPZ	1941	27.5		19	+EpPZ	1033	30.0	#-176
16	+EPZ	1941	32.2		19	+EPZ	1145	12.5	
16	+EPZ	1941	44.9		19	-EPZ	1505	56.7	#-177

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
19	-EpPZ	1506	04.2	#-177	24	-EPZ	0131	42.2	
19	+EPZ	1639	44.4	#-178	24	+EPZ	1223	16.6	
19	+EPZ	1703	02.2	#-178	24	-EPZ	1451	00.0	
19	-EsPZ	1703	07.0	#-178	25	-EPZ	1500	13.1	
19	+EPZ	1903	36.2	#-179	25	+EPZ	1517	01.2	
19	+EXZ	1915	06.3	#-180	25	-EPZ	2127	02.0	
19	-EPcPZ	1925	47.2	#-181	26	+EPZ	1457	37.6	
19	+EpPZ	1925	53.9	#-181	26	+EPZ	1540	02.4	
19	-EPZ	2140	42.8		26	-EPZ	1540	07.3	
19	+EPZ	2210	30.8		26	+EPZ	1620	10.0	
20	+EPZ	0547	23.5		26	-EPZ	1737	05.0	
20	+EPZ	0741	27.0		26	-EPZ	2244	15.5	
20	+EPZ	1039	36.2	#-182	26	-EPZ	2244	23.0	
20	+EPZ	1144	13.3		26	+EPZ	2344	20.2	
20	-EXZ	1313	35.2	#-183	26	-IPZ	2344	28.2	
20	+EPZ	1844	03.4		27	-EPZ	0127	49.0	
20	-EPZ	2018	40.4		27	-EPZ	0127	58.6	
20	+EPZ	2221	45.5	#-184	27	-EXZ	0514	16.0	#-186
21	+EPZ	0116	10.8		27	+EPZ	1047	03.6	
21	+EXZ	0545	45.4		27	-EPZ	1751	03.7	
21	+EPZ	1555	19.8		28	+EPZ	0025	05.3	
21	-EPZ	1819	47.4		28	+EPZ	0025	12.4	
21	-EPZ	1819	50.2		28	+EPZ	0440	19.8	#-187
21	+EPZ	2007	52.3		28	+EPZ	1411	34.6	
21	-EPZ	2154	55.3		28	-EXZ	1411	44.2	#-188
21	+EPZ	2155	00.9		28	+EPZ	1603	49.0	
22	+EPZ	1544	51.4		28	+IPZ	1603	51.0	
22	-EPZ	1545	04.6		28	+IPZ	1815	20.4	
23	-EPZ	0011	23.5		28	+IPZ	1846	01.0	
23	-EPZ	0011	27.2		28	ESH	1856	19.0	
23	-EPZ	0024	03.8		28	-EPZ	2039	16.0	
23	+EPZ	0146	22.4		28	-IPZ	2039	41.4	
23	+IPZ	1418	27.8	#-185	28	+EPZ	2302	55.4	
23	+EpIPZ	1418	32.9	#-185	29	+EPZ	0325	34.4	
24	+EPZ	0004	33.0		29	+EPZ	0325	40.0	
24	+EPZ	0004	37.0		29	-EPZ	0553	24.8	
24	+EPZ	0131	39.5		29	+EPZ	0904	57.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
29	-IPZ	0905	01.0		3	+EPZ	1733	10.8	
29	-EPZ	0959	54.4		3	-EPZ	1750	35.4	
29	+EPZ	1605	38.0		3	-EPZ	1914	52.4	#-196
29	-EPZ	1921	44.2	#-189	3	-EPZ	1915	03.8	#-196
29	+IPcPZ	1921	47.2	#-189	3	+EPZ	1936	42.6	
29	ESH	1931	25.0	#-189	3	+EPZ	2016	56.8	
29	+EPZ	2128	26.7		3	+EPZ	2306	39.6	
30	-EPZ	0023	09.0		4	+EPZ	0218	47.0	
30	+EPZ	0229	17.6		4	-EPZ	0218	51.6	
30	+EPKbcZ	0322	54.0	#-190	4	+EPZ	0241	34.0	
30	+EPZ	0532	20.3		4	+EPZ	0424	32.2	
30	+EPZ	1106	04.0		4	+EPZ	1150	55.6	
30	-EPZ	1142	05.8		4	-EPZ	1630	02.4	
30	-EPZ	1318	25.5		4	+EPZ	1709	20.0	
30	+EPZ	1812	48.0	#-191	4	-EPZ	1735	45.4	
30	+EPZ	1844	00.8		4	-EPZ	1803	23.6	
30	+EPZ	2006	01.5		5	-EPZ	0302	51.4	
30	-EPZ	2341	30.7		5	+EPZ	0317	23.6	
May					5	-EPZ	1443	46.0	
1	-IPZ	0510	18.4		5	-IPZ	1443	50.6	
1	-IPZ	0510	22.1		5	-EPZ	1552	08.0	
1	-EPZ	0534	20.8		5	+EPZ	1648	12.5	
1	+EPZ	1341	31.7		5	-EXZ	1722	15.4	#-197
1	+EPZ	1924	43.0		5	-EPZ	1748	17.0	
1	+EPZ	2354	34.2		5	+EPZ	1919	36.0	
2	+EPKdfZ	0153	37.2	#-192	5	-EPZ	1919	43.6	
2	-EPdffZ	0434	42.0	#-193	5	-EPZ	2152	24.6	
2	-EPZ	0920	59.5		5	-EPZ	2152	28.2	
2	-EPZ	1631	49.2		6	+EPZ	0249	44.8	
2	-EPZ	1910	25.2		6	+EPZ	0249	48.0	
3	-EPZ	0104	46.0		6	-EPZ	0601	04.0	
3	-EPZ	0115	05.8		6	-EPZ	0956	00.4	
3	-EXZ	0405	28.8	#-194	6	-EPZ	1019	01.8	
3	+EPZ	1221	09.6	#-195	6	+EPZ	1254	40.0	
3	-EPZ	1331	26.0		6	-EPZ	1254	51.6	
3	+EPZ	1352	24.6		6	-EPZ	1607	02.5	
3	+EPZ	1604	00.8		6	-EPZ	1658	29.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
6	-EPZ	1749	30.0		11	+EPZ	0343	17.6	
6	-EPZ	1946	39.2		11	+EPZ	0419	10.0	#-203
6	+EPZ	2250	12.0		11	-EPZ	1832	10.0	
6	+EPZ	2339	24.4	#-198	12	+EPZ	0053	13.3	
6	ESH	2349	10.6	#-198	12	-EPZ	0350	34.0	
7	-EPZ	0545	15.0		12	-EPZ	0458	52.4	
7	+EPZ	1002	10.0		12	+EPZ	0522	52.7	
7	+EPZ	1208	20.6		12	-EPdiffZ	0642	30.4	#-204
7	+EPZ	1621	20.5		12	+IPZ	0646	50.9	
7	-EPKpdfZ	1635	38.9	#-199	12	-IXZ	0658	24.4	#-205
7	-EPKiKPZ	1635	43.0	#-199	12	-EPdiffZ	0716	06.2	#-206
7	+EPZ	1704	21.0		12	-EPZ	0758	19.8	
7	+EPZ	1704	26.0		12	-EPZ	0846	41.0	
8	-EPZ	0036	37.6		12	+EPZ	1143	51.0	
8	-EPZ	0857	03.0		12	+EPZ	1312	04.6	
8	-EPZ	0857	06.4		12	+EXZ	1547	20.8	#-207
8	+EPZ	1253	25.5		12	-EPZ	1604	09.2	
8	+EPZ	1433	09.8		12	-EPZ	1604	11.9	
9	+EPZ	0337	18.5		12	-EPZ	1621	22.2	
9	-EPZ	1214	39.6		12	+EPZ	1705	03.8	
9	-EPZ	2209	22.0		12	-EPZ	1824	11.6	
9	-EPZ	2209	30.2		12	-EPZ	2133	15.2	
9	-IXZ	2209	34.5	#-200	12	+EPZ	2351	00.8	
9	ESH	2216	07.4		13	+EPZ	0116	38.3	
9	-EPZ	2245	49.6		13	+EPZ	0131	26.5	
9	+EPZ	2245	53.5		13	+EPZ	0131	35.6	#-208
10	-EPZ	0647	06.5		13	+EPZ	0203	35.0	
10	-EPZ	0913	07.9		13	+EPZ	0343	35.0	
10	-EPZ	1156	01.6		13	-EPZ	0347	18.6	
10	-EPZ	1440	30.6		13	+EPZ	0403	36.4	
10	+EXZ	1545	14.9	#-201	13	+EPZ	0608	08.2	
10	-EPZ	1628	20.0		13	-EPZ	0822	36.8	
10	-EPZ	1842	33.5		13	+EPZ	1240	22.8	
10	-EPZ	1955	45.7		13	-EPdiffZ	1428	38.0	
10	-EPZ	1955	47.8		13	-EPZ	1432	02.3	
11	+EPZ	0012	15.0		13	+EPZ	1612	20.8	
11	-EXZ	0251	05.0	#-202	13	-EPZ	1612	23.6	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
13	+EPZ	1612	25.4		18	+EPZ	0459	09.6	
13	+EPZ	2310	15.4		19	+EPZ	0553	04.6	#-210
14	+EPZ	0250	11.0		19	-EXZ	1029	15.6	#-211
14	-EPZ	0406	19.5		19	+EpPZ	1439	05.8	#-212
14	+EPZ	0648	30.6		19	-EPZ	1444	23.0	#-212
14	+EPZ	0648	44.0		19	+EPZ	1501	35.0	#-213
14	+EPZ	1053	05.4		19	+EPZ	1532	10.4	#-214
14	+EPZ	1125	06.0		19	-EPZ	1914	26.0	
14	+EPZ	1132	24.0		19	+EPZ	2347	18.2	
14	+EXZ	1153	18.6	#-209	20	-EXZ	0524	42.0	#-215
14	+EPZ	1317	09.6		20	+EpPZ	1234	53.4	#-216
14	-EPZ	1323	56.2		20	-EPKpbcZ	1413	30.0	#-217
14	+EPZ	1630	58.3		20	-EpPKpbcZ	1413	40.6	#-217
14	-EPZ	1657	35.0		20	+EPZ	1526	00.8	
14	+EPZ	1923	46.9		20	+EPZ	1614	58.0	
14	+EPZ	2033	58.0		20	-EPZ	1719	50.4	#-218
14	+EPZ	2117	53.2		20	+EsPZ	1720	10.0	#-218
14	+EPZ	2213	15.4		20	+EPZ	1927	41.2	
14	-EPZ	2326	06.0		20	+EPZ	2149	58.0	#-219
15	-EPZ	0230	46.5		20	-EPZ	2339	00.0	
15	+EPZ	1429	27.0		20	+EPcPZ	0258	43.2	
15	-IPZ	1429	32.0		20	-EPZ	0543	05.6	
15	-IPZ	1429	35.0		21	+EPcPZ	0258	43.2	#-220
15	+EsPdiffZ	1440	02.0		21	-EPZ	0543	05.6	
15	+EPZ	2150	16.0		21	-EPZ	0909	18.2	
15	-IPZ	2150	19.0		21	-EPZ	1958	49.0	
16	-EPZ	0158	13.0		21	+EPZ	1959	01.2	
16	-EPZ	0158	14.8		21	-EPZ	2234	25.8	
16	+EPZ	1118	27.5		21	-EPZ	2334	55.0	#-221
16	-EPZ	2000	22.2		21	-EPZ	0747	41.5	
17	-EPZ	0451	13.0		21	+EPZ	1152	40.4	
17	+EPZ	1908	28.3		22	+EPZ	1423	08.4	
18	+EPZ	0238	41.8		22	+EPZ	1423	11.5	
18	-EpPZ	1229	27.4		22	+EPZ	2025	59.0	
18	-EPZ	1849	27.6		22	-EPZ	2026	02.4	
18	-IPZ	0321	01.0		22	-EPZ	2118	24.0	
18	+EPZ	0459	07.4		22	+EPZ	2030	26.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
22	+EPZ	2030	31.3		25	-EPZ	0516	22.0	
23	-EPZ	0119	14.8		25	-EPZ	0530	44.0	
23	-EPZ	0119	16.6		25	+EPZ	0836	08.0	
23	+EPZbcZ	0353	04.3	#-222	25	-EPZ	0511	14.0	
23	+EPZ	0611	11.3		25	-EPZ	0516	22.0	
23	+EPZ	0918	25.0		25	-EPZ	0530	44.0	
23	-EPZ	1044	38.4		25	+EPZ	0836	08.0	
23	+EPZ	1948	40.5	#-223	25	-EPZ	1108	39.4	
23	+EPZ	1948	43.2	#-223	25	-EPZ	1207	40.0	
23	-EPZ	2019	01.4		25	-EPZ	1441	44.0	
23	+EPZ	2027	48.4		25	-EPZ	1803	40.6	
23	-EPZ	2027	50.4		25	+EPZ	2012	08.4	
23	-EPZ	2028	14.6		25	-IPZ	2012	10.6	
23	ESH	2107	19.6		26	-EPZ	0123	54.4	
23	+EPZ	2302	49.0	#-224	26	-EPZ	0124	01.2	
23	-EXZ	2302	50.4	#-224	26	-EPZ	0420	18.0	
23	ESH	2312	55.5	#-224	26	+EPZ	1125	06.0	#-228
24	+EPZ	0720	48.3		26	+EPcPZ	1125	16.2	#-228
24	+EPZ	0752	43.6	#-225	26	-EPZ	1215	11.0	
24	-EPZ	0935	35.0		26	-IPZ	1515	01.0	
24	ESH	0945	10.0		27	-EPZ	0059	18.6	
24	-EPZ	1318	01.0		27	-EPZ	0059	20.2	
24	-EPZ	1318	09.4		27	-IPZ	0059	24.8	
24	-IPZ	1337	12.0	#-226	27	-EPZ	1017	18.0	
24	-EPcPZ	1337	15.0	#-226	27	-EPZ	1949	34.8	
24	-IPZ	1337	25.0	#-226	28	-EPZ	0933	05.6	
24	+EPZ	1419	27.0		28	+EPZ	1354	56.6	
24	-EPZ	1449	36.6		28	-IPZ	1747	01.6	
24	+EsPZ	1802	22.5	#-227	28	+EPZ	1747	34.7	
24	-EPZ	1802	45.0		28	ESH	1756	53.0	
24	-EPZ	1802	51.6		28	-EPZ	2151	35.0	
24	-EPZ	1938	48.2		29	+EPZ	1609	03.3	
24	-EPZ	1938	49.4		30	+EPZ	1049	09.0	
24	-EPZ	2018	39.4		30	-IPZ	1049	18.0	
24	-EPZ	2018	43.2		31	+EPZ	0444	47.5	
24	-IPZ	2018	53.4		31	+EPZ	0446	06.2	
25	-EPZ	0511	14.0		31	+EPZ	1323	52.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
31	+EPZ	1400	43.0		2	-EPZ	1627	44.0	
31	-EPZ	1409	07.0		2	+EPZ	1632	40.2	
31	+IPZ	2328	14.5		2	+EPZ	1641	44.6	
31	-EPZ	2344	38.4		2	-EPZ	1731	44.5	
Jun.					2	+EPZ	1959	45.6	#-235
1	-EPZ	0036	11.6		2	-EPcPZ	1959	48.8	#-235
1	-IPZ	0036	15.2		2	+EPZ	2048	46.6	
1	+EPZ	0632	12.8		2	+EPZ	2128	13.0	
1	+EPZ	0632	14.8		2	+EPZ	2346	51.0	
1	-IPZ	0955	11.0	#-229	3	+EPZ	0303	14.7	
1	-IPcPZ	0955	14.0	#-229	3	+EPZ	0333	36.0	
1	+EPZ	1030	43.4		3	-EPZ	0333	38.8	
1	-EPZ	1037	35.9		3	-EPZ	0637	18.4	
1	-EPZ	1046	05.6	#-230	3	+EPZ	0807	17.2	
1	-EPZ	1438	51.8		3	-EPZ	0913	27.4	
1	-EPZ	1438	52.7		3	+EPZ	0923	40.0	
1	+EPZ	1544	39.0	#-231	3	+EPcPZ	1028	01.5	#-236
1	+EPZ	1611	33.8	#-232	3	+EPZ	1246	01.8	
1	-EPKpPZ	1654	40.6	#-233	3	-EPZ	1452	51.8	
1	-EPKpPZ	1654	56.8	#-233	3	+IPZ	1633	43.8	
1	+EPZ	1718	41.0		3	-IPZ	1633	46.4	
1	-EPZ	1718	50.0		3	-IPZ	1743	35.6	#-237
1	-EPZ	1811	09.6		3	-IPcPZ	1743	41.0	#-237
1	-EPZ	2044	31.4		3	+EPZ	1807	12.7	#-238
1	+IPZ	2308	12.2	#-234	3	-EPZ	1847	07.0	
1	-IPcPZ	2308	15.2	#-234	3	+IPZ	1950	18.0	#-239
2	+EPZ	0127	38.0		3	-EPZ	2115	50.2	#-240
2	-EPZ	0432	56.8		3	-EPZ	2216	31.0	#-241
2	-EPZ	0433	01.5		3	-IPcPZ	2216	36.5	#-241
2	+EPZ	0508	30.0		3	-EPcPZ	2302	01.8	#-242
2	+EPZ	0902	45.0		3	+EPZ	2355	30.6	#-243
2	-EPZ	1052	44.0		4	-EPZ	0138	04.6	#-244
2	-EPZ	1052	44.9		4	+EPZ	0229	08.9	
2	+EPZ	1137	26.7		4	+EPZ	0244	33.4	
2	-EPZ	1214	18.7		4	+EPZ	1059	18.0	#-245
2	-EPZ	1257	54.6		4	+EPZ	1208	15.8	
2	+EPZ	1538	26.4		4	+EPZ	1504	12.5	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
4	+EPZ	1611	02.4		7	-EPZ	1319	12.8	
4	+EPZ	1724	45.0		7	+IPZ	2205	45.0	
4	+IPZ	1724	57.4		7	+EpPdiffZ	2209	14.4	#-251
4	-EPZ	2140	56.4		7	+IPZ	2215	21.6	#-252
4	-IPZ	2141	18.0		7	-EpPZ	2221	14.2	#-253
5	+EPZ	0227	34.6		8	+EPZ	0942	12.9	
5	+EPZ	0227	36.4		8	+EPZ	1244	12.2	
5	-IPZ	0228	27.6		8	-EPZ	1244	25.8	
5	+IPZ	0258	43.4		8	+IPZ	1516	40.3	
5	-EPZ	0351	18.6		8	+EPZ	1648	52.0	#-254
5	+EPZ	0351	28.3		8	-EPZ	1846	45.0	
5	+EPZ	0528	36.7		8	+EPZ	1940	37.8	
5	+EPZ	0533	14.0		8	+EPZ	2252	01.0	
5	-EPZ	0803	04.0		9	+EPZ	0403	40.8	
5	-EPZ	1018	11.0		9	+EPZ	0652	35.6	
5	+EPZ	1155	25.0		9	+EPZ	0652	52.2	
5	+EpPZ	1212	51.4	#-246	9	-EPZ	1634	38.4	
5	+EPZ	1350	27.4	#-247	9	-EPZ	1634	41.6	
5	+EpPZ	1351	11.3	#-247	9	+EPZ	1638	20.4	
5	-EPZ	1505	02.0		9	+EPZ	2046	13.4	
5	-EPZ	1517	13.0		10	-EPZ	0426	10.2	
5	-EPZ	1543	36.4	#-248	10	+IPZ	0426	18.6	
5	-EPZ	1724	28.8		10	-EpPZ	0723	47.2	#-255
5	-EPZ	1829	52.0		10	+EPZ	0757	45.0	#-256
5	+IPZ	1904	43.0		10	-IPcPZ	0757	50.0	#-256
5	+IPZ	1904	52.4		10	+EpPZ	0757	04.0	#-256
5	-EPZ	1933	06.0		10	+EPZ	1137	03.6	
6	+IPZ	0355	51.4	#-249	10	-EpPdiffZ	1151	13.3	#-257
6	-IPZ	1354	56.7	#-250	10	+EPZ	1434	21.8	
6	+EPZ	1410	34.8		10	-EPZ	1434	26.0	
6	+EPZ	2340	23.7		10	-EPZ	1943	28.2	
7	+EPZ	0018	48.6		10	-EPZ	1943	29.6	
7	+EPZ	0039	56.4		11	-IPZ	0241	37.6	
7	-EPZ	0409	08.0		11	+IPZ	0241	44.8	
7	+EPZ	0437	42.0		11	ESH	0254	06.4	
7	-EPZ	0958	01.0		11	-EPZ	0633	01.6	
7	+EPZ	1234	12.2		11	-IXZ	0850	57.0	#-258

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
11	-EPZ	1238	36.0		16	+EPZ	2113	20.6	
11	+EPZ	1325	25.8	#-259	16	+EPZ	2325	23.2	
11	-EPZ	1441	50.4		16	+EPZ	2326	02.0	
11	+EPZ	1740	02.4		17	-EPZ	0314	02.3	
12	-EXZ	0222	11.0	#-260	17	+EPZ	0557	23.6	
12	-EPcPZ	0222	23.4	#-260	17	+EPZ	2358	23.0	
12	+EPZ	0239	41.4		18	+EPZ	0338	22.4	
12	+EPZ	0531	33.6	#-261	18	+EPZ	0532	11.0	
12	-EPcPZ	0531	47.3	#-261	18	+EPZ	0532	20.0	
12	-EPZ	0632	10.8		18	+EPZ	1031	37.6	
12	-EPZ	1112	07.4		18	-EPZ	1112	14.8	
13	NONE				18	-EPZ	1112	23.8	
14	+EPZ	0744	41.2	#-262	18	-EXZ	1326	06.6	#-267
14	-EPcPZ	0744	49.0	#-262	18	-EPZ	1706	07.4	
14	+EPZ	1308	10.5	#-263	18	+EPZ	1847	20.0	
14	+EPcPZ	1308	13.4	#-263	18	-EPZ	1911	41.5	
14	+EXZ	1414	41.8	#-264	18	-EPZ	1911	43.4	
14	+EPZ	1814	26.8		18	-EPZ	2017	54.6	
14	+EPZ	1852	33.3		18	+EPZ	2018	05.2	
14	-EPZ	2215	31.7		18	+EPcPZ	2158	52.2	#-268
15	+IPZ	0125	00.6		18	+EPZ	2203	39.6	
15	-IPZ	0125	02.1		19	-EPZ	0237	08.8	
15	ESH	0134	30.0		19	-EPZ	0521	05.8	
15	-EPZ	0649	53.4		19	-EPZ	0531	51.6	
15	+EPZ	0655	03.6		19	-IPZ	0531	52.6	
15	-EPZ	0712	55.5		19	-IXZ	0736	05.0	#-269
15	+IPZ	0848	39.0		19	-IPZ	0755	57.4	
15	-IPZ	0848	44.0		19	-EPZ	1313	12.6	
15	-EPZ	1051	04.0		19	-EPZ	1313	14.4	
15	+EPZ	1232	41.6		19	-EPZ	1924	02.6	
15	-EXZ	1521	00.4	#-265	19	+EPZ	2048	48.3	
15	+EPZ	1942	09.0		19	+EPZ	2053	08.7	
15	+EPZ	2342	55.6		19	+EPZ	2222	13.6	
16	+EPZ	0253	50.6	#-266	20	+IPZ	0031	10.0	
16	-EPZ	0646	40.7		20	-EPZ	0328	06.6	#-270
16	-EPZ	1025	26.0		20	+EPcPZ	0328	09.8	#-270
16	-EPZ	2021	02.9		20	-EPZ	1134	17.8	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
20	+EPZ	1225	15.2		24	-EPZ	0350	48.0	
20	+EPZ	2136	07.0		24	+EPZ	1524	22.0	
20	+EPZ	2213	11.0		24	-EPZ	1926	35.8	#-279
21	+IPZ	0041	26.6	#-271	24	+EPZ	1948	38.2	#-280
21	-IPcPZ	0041	30.6	#-271	24	+EPZ	2001	09.0	#-281
21	+IPZ	0420	17.6	#-272	24	+EPZ	2125	24.4	
21	-EXZ	0420	28.0	#-272	24	-EPZ	2207	06.2	
21	-EPZ	0507	05.8		25	-EXZ	0204	42.8	#-282
21	+EPZ	0540	48.8		25	+EPcPZ	0204	52.4	#-282
21	-EPZ	0751	06.2	#-273	25	-EPZ	0251	13.6	
21	+EPZ	1643	38.0		25	-EPZ	0305	33.4	#-283
21	-EPZ	1901	55.2		25	-EPcPZ	0305	41.2	#-283
21	-EPZ	2254	23.0	#-274	25	-EPZ	1118	40.2	
21	+EPZ	2258	46.2		25	+EPZ	1141	52.0	
22	+EPZ	0203	39.6		25	+EPZ	1432	22.4	
22	+EPZ	0310	17.4		25	+EPZ	1554	32.4	#-284
22	+EPZ	0513	18.9		25	+IPZ	1554	34.2	#-284
22	-EPZ	1010	16.3		25	-EPZ	1629	21.0	
22	+EPZ	1116	26.0		25	-EPZ	1754	24.8	
22	-EPZ	1223	59.2	#-275	25	+EPZ	2134	06.2	
22	-EXZ	1224	08.9	#-275	26	-IPZ	0019	34.0	#-285
22	-EPZ	1327	55.2		26	-EPpZ	0019	47.8	#-285
22	-IPZ	1328	05.9		26	+EPZ	0731	02.8	
22	+EPZ	1328	42.0	#-276	26	+EPZ	1246	58.2	#-286
22	+EPZ	1432	13.4		26	+EXZ	1247	07.3	#-286
22	+EPZ	1514	33.0		26	+EPZ	1703	33.6	
22	+EPZ	1702	14.4		26	-IPZ	2131	56.0	#-287
22	+EPZ	2016	11.2		26	-IPpZ	2132	08.8	#-287
22	-EPZ	2022	53.0		26	+EPZ	2302	36.6	
22	-EPZ	2357	07.5		27	+EPZ	0454	12.3	#-288
23	+IXZ	0016	21.7	#-277	27	-EPpZ	0456	17.0	#-288
23	-EPZ	0114	09.4		27	+EPZ	0848	05.6	
23	-EPZ	0830	26.8		27	+IPZ	1153	01.0	#-289
23	+EPZ	1207	15.7		27	-IPcPZ	1153	04.0	#-289
23	-EPZ	1251	35.8		27	ESH	1204	00.2	#-289
23	-EPKpPZ	1251	42.2	#-278	27	-EPZ	1306	16.5	
23	+EPZ	2005	49.6		27	+EPZ	1319	54.8	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
27	-IPZ	1320	00.6		30	-EsPZ	0416	58.0	#-301
27	-EPZ	1428	21.0	#-290	30	-EPZ	0623	32.0	#-302
27	+EPZ	1818	00.0	#-291	30	+IpPZ	0623	34.0	#-302
27	+EPZ	2218	02.4		30	+EPZ	1724	01.0	
27	-EPZ	2347	44.0	#-292	30	+EPZ	1724	07.5	
28	-EPcPZ	0339	44.0	#-293	30	+EPZ	2327	23.6	
28	-EPZ	0447	50.0	#-294	30	-EPZ	2353	05.4	
28	-EPZ	0704	41.0		Jul.				
28	-EPZ	0704	46.0		1	-EPZ	0030	23.2	#-303
28	-IPZ	0905	29.4	#-295	1	-EPcPZ	0030	25.1	#-303
28	+EpPZ	0905	31.2	#-295	1	-EPZ	0053	44.6	
28	-IsPZ	0905	32.2	#-295	1	-EPZ	0200	30.4	
28	+EXZ	1026	42.0	#-296	1	-IPZ	0200	37.0	
28	-EPcPZ	1026	50.4	#-296	1	-EPZ	1046	39.4	
28	+EPZ	1223	50.7	#-297	1	+EPZ	1200	02.4	
28	+IPZ	1307	33.0	#-298	1	-EPZ	1334	08.5	
28	-IPcPZ	1307	35.0	#-298	1	-EPZ	1525	12.4	#-304
28	-EPZ	1409	51.4	#-299	1	-EPcPZ	1525	14.2	#-304
28	+EOZ	1542	00.0	#-299	1	+EPZ	2337	24.7	
28	-IPZ	1732	00.0		2	+EPZ	0039	02.0	
28	+EPZ	1732	17.0		2	+EPZ	0317	22.7	
28	+EPZ	1920	24.0		2	+EPZ	0317	24.0	
29	+EPZ	0321	44.0		2	-EPZ	0710	02.0	
29	+EPZ	0321	45.6		2	-EPZ	1212	41.6	
29	-EPZ	0322	01.4		2	+EPZ	1257	49.4	#-305
29	+EPZ	0427	23.2	#-300	2	-IPcPZ	1257	50.8	#-305
29	+EPZ	0511	15.0		2	+EXZ	1937	14.0	#-306
29	+EPZ	0542	06.0		2	+EPZ	2219	35.2	
29	+EPZ	1230	02.8		2	+EPZ	2233	11.8	
29	+EPZ	1521	14.5		2	-EPZ	2301	09.6	
29	-EPZ	2006	20.4		3	+IPZ	0314	03.0	
29	-EPZ	2006	22.8		3	-EPZ	0323	09.8	#-307
29	-EPZ	2108	15.4		3	-EPZ	0323	29.0	#-307
29	-EPZ	2111	29.0		3	+EPZ	0653	00.0	
29	-IPZ	2111	42.4		3	+EPZ	0653	06.8	
30	+EPZ	0133	29.4		3	+EPZ	0921	13.6	
30	-IPZ	0416	52.4	#-301	3	-EPZ	0921	19.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
3	+EPZ	1052	42.4		7	-EPZ	0250	16.0	
3	+EPZ	1052	47.3		7	-EPZ	0457	45.4	#-315
3	-EPZ	1516	16.0		7	-EPcPZ	0457	49.0	#-315
3	-EPZ	1516	26.4		7	-EPZ	0646	07.9	
3	+EPZ	2041	34.2		7	+EPZ	0759	49.6	
4	-EPZ	0515	02.0		7	+EPZ	0800	02.4	
4	-EPZ	0515	09.8		7	-EPZ	1506	00.4	
4	+EPZ	1717	37.0		7	-EPZ	2145	17.0	#-316
4	+EPZ	1952	06.7		7	-EPZ	2145	21.4	#-316
4	-EPZ	2105	03.0		7	-EPZ	2232	44.0	
4	+EPZ	2140	08.4		7	-IPZ	2232	47.2	
4	-EPZ	2323	06.4		7	-IXZ	2304	00.0	#-317
5	-EPZ	0057	44.4	#-308	8	-EPKpdfZ	0800	44.0	#-318
5	+EXZ	0230	25.0	#-309	8	+EXZ	0801	08.4	#-318
5	+IXZ	0230	29.4	#-309	8	-EPZ	0811	16.4	
5	ESH	0247	16.3		8	+IPZ	0925	14.6	
5	+EPZ	0310	28.8		8	ESH	0936	12.4	
5	-EPZ	0314	20.6		8	+EPZ	1224	58.4	
5	-EPZ	1324	31.2		8	+EPZ	1828	29.6	
5	-EPZ	1404	47.2		8	+EPZ	1605	32.6	#-319
5	+EPZ	1553	21.2		8	+EPcPZ	1605	44.8	#-319
5	+EPZ	1805	44.5		9	-EXZ	0247	37.8	#-320
5	-EPZ	2036	31.4		9	+EXZ	0247	55.2	#-320
5	+EPZ	2332	11.5		9	+IPZ	0339	01.0	
6	+EPKpdfZ	0119	30.1	#-310	9	-EPZ	0734	12.2	
6	-EPKiKPZ	0119	34.0	#-310	9	+EPZ	0836	36.4	#-321
6	-EPKpdfZ	0119	40.2	#-310	9	-EPcPZ	0836	39.6	#-321
6	+EPZ	0442	40.8	#-311	9	-EXZ	1248	32.8	#-322
6	-EPcPZ	0442	45.0	#-311	9	+EPKiKPZ	1248	44.6	#-322
6	-EPZ	0927	31.0	#-312	9	+EPZ	1324	03.8	
6	-EPKpdfZ	0927	45.5	#-312	9	+EPZ	1539	42.0	
6	-EPZ	1355	02.5	#-313	9	-EPZ	1729	01.4	
6	-EPZ	1749	07.2	#-314	9	-EPZ	1906	50.0	
6	-EPcPZ	1749	09.6	#-314	9	-IPZ	2010	19.0	#-323
6	-EPZ	1852	50.6		9	-EPZ	2010	42.8	
6	-EPZ	1923	11.0		9	-EPZ	2229	35.2	#-324
7	+EPZ	0056	19.4		9	+EPZ	2248	25.2	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
10	+EPZ	0254	38.2		13	+EPZ	1533	05.8	
10	-EPZ	0359	04.0	#-325	13	+EPZ	1636	25.6	#-335
10	+EXZ	0359	15.2	#-325	13	+EPcPZ	1636	30.4	#-335
10	-EPZ	0529	02.8	#-326	13	+EpPZ	1636	51.7	#-335
10	+IPcPZ	0529	04.6	#-326	13	+EPZ	1745	31.2	#-336
10	-EPZ	0642	42.4	#-327	13	-EPZ	1935	40.4	
10	+EPZ	0713	01.0		13	-EPZ	1941	50.6	#-337
10	+EPZ	1117	33.6		13	-EPcPZ	1942	00.6	#-337
10	-EPZ	1301	22.8		14	-EPZ	0219	23.0	
10	-EPZ	1301	30.0		14	+EPZ	0345	56.0	
10	-EXZ	1613	26.6	#-328	14	+EPZ	0457	05.8	#-338
10	-EpPZ	1613	42.0	#-328	14	+EPcPZ	0457	10.3	#-338
10	-EPZ	1745	45.6	#-329	14	-EPZ	0738	21.8	
10	+EPZ	2039	09.8		14	-EPZ	1103	57.0	
11	+EPZ	0002	02.0		14	+EPZ	1104	01.0	
11	+EPZ	0426	32.0		14	-EPZ	1156	42.0	
11	+IXZ	0703	06.9	#-330	14	+EPZ	1800	52.8	#-339
11	-EpPZ	0703	11.9	#-330	14	-EPcPZ	1801	05.6	#-339
11	+EXZ	0939	08.4	#-331	14	+EPZ	1850	51.6	
11	+EpPZ	0939	13.7	#-331	14	+EPZ	2325	53.2	
11	+EPZ	1012	02.6		15	+EPZ	0340	37.7	
11	-EPZ	1218	42.0		15	ESH	0351	10.8	
11	-EPZ	1313	08.2		15	-EPZ	0356	34.6	
11	-EPZ	1336	25.4		15	-EPZ	0407	07.8	
11	+EPZ	2322	09.9		15	+EPZ	0439	44.8	
12	+EpPcPZ	0021	34.0	#-332	15	+EXZ	0513	39.2	#-340
12	+EPZ	0018	44.4	#-333	15	-EPZ	1100	33.8	
12	+EPZ	0112	06.4		15	-EPZ	1100	45.2	
12	-EPZ	0553	19.4		15	-EPZ	1232	35.2	
12	-EsPZ	0856	01.5	#-334	15	-EPZ	1438	52.0	
12	+EPZ	1012	37.6		15	-EPZ	1719	16.0	
12	-EPZ	1642	36.0		15	-EPZ	1929	26.4	#-341
12	+EPZ	1917	25.0		15	-EpPZ	1929	30.0	#-341
13	+EPZ	0407	05.4		15	+EPZ	2024	03.6	
13	-EPZ	0856	47.5		15	+EPZ	2355	41.0	
13	-EPZ	1016	20.8		15	-EPZ	2355	51.6	
13	-IPZ	1016	39.6		16	+EPZ	0729	55.5	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
16	+EPZ	0730	02.3		19	+EPZ	1339	41.0	
16	+EPZ	0824	09.3		19	+EPZ	1919	10.4	
16	+EPZ	1300	47.0	#-342	19	+EPZ	1919	13.8	
16	+EPZ	1300	50.8	#-342	19	-EPZ	2245	58.4	#-351
16	-EPZ	1510	27.6		19	+IPZ	2252	06.2	#-352
16	-EPZ	1720	57.4	#-343	19	ESH	2302	22.0	#-352
16	+EPcPZ	1721	07.6	#-343	19	+EPZ	2331	54.0	#-353
16	ESH	1730	31.0	#-343	20	-EPZ	0049	04.6	
16	-EPZ	2135	09.7		20	+EPZ	0212	52.0	
16	+EPZ	2237	02.2	#-344	20	-EPZ	0450	37.2	
17	+EPZ	0416	20.0		20	+EXZ	0622	40.8	#-354
17	+EPZ	0744	22.7		20	-EPZ	0833	24.6	#-355
17	+EPZ	0905	11.7		20	-EPZ	1224	51.2	
17	+EPZ	1706	39.8		20	-EPZ	1224	53.4	
17	+EPZ	2311	44.0		20	+EPZ	2058	25.1	
17	+EPZ	2311	57.2		20	+EPZ	2058	28.4	
17	+EPZ	2315	11.0		20	+EPZ	2148	20.3	
18	-EPZ	1001	55.6		20	+EPZ	2239	02.4	
18	+EPZ	1908	15.6		20	-EPZ	2239	14.0	
18	+EPZ	2102	30.8		21	+EPZ	0002	35.3	
18	+EPZ	2358	47.2		21	+EPZ	0002	38.5	
19	+EPZ	0258	31.8		21	-EPZ	0242	05.0	
19	-EPZ	0258	34.0		21	+EPZ	0319	04.0	#-356
19	+EPZ	0820	15.4		21	+EPZ	0448	21.0	
19	-EXZ	0824	06.0	#-345	21	+EPZ	0528	36.2	
19	+EPcPZ	0824	12.0	#-345	21	+EPZ	0823	33.0	
19	+IPZ	0940	06.0	#-346	21	+EPcPcPZ	1149	42.8	#-357
19	-IPZ	0940	09.6	#-346	21	+EPZ	1150	00.8	
19	ESH	0950	50.0	#-346	21	-EPZ	1600	56.8	#-358
19	+EPZ	0947	31.0	#-347	21	+EPZ	2027	12.6	#-359
19	-EPcPZ	0947	35.0	#-347	21	-EPZ	2036	02.0	
19	+EXZ	1101	48.0	#-348	22	+EPZ	0403	59.0	
19	-EXZ	1114	20.0		22	-EPZ	0732	38.2	#-360
19	-EPZ	1128	29.0	#-349	22	+EXZ	0852	15.3	#-361
19	-IPcPZ	1128	31.6	#-349	22	+EPZ	1842	48.2	#-362
19	+EPZ	1158	45.6	#-350	22	+EPcPZ	1844	51.6	#-362
19	+EPZ	1339	34.0		22	-EXZ	2259	25.4	#-363

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
22	-EXZ	2259	41.2	#-363	26	+EPZ	1751	01.6	#-374
23	-EPZ	0109	26.6		26	+EPZ	1939	36.2	
23	-EPZ	0109	27.8		27	+EPZ	0015	02.2	
23	+EPZ	0312	31.2		27	+EPZ	0206	30.8	
23	-EPZ	0527	12.6		27	+EPZ	0538	45.6	
23	+EXZ	0818	07.4	#-364	27	-EPZ	0545	35.3	
23	+EPZ	1408	11.6		27	-EPZ	1136	55.4	#-375
23	-EPZ	1545	00.6		27	-EPZ	1743	11.3	
23	-IPKjdfZ	1545	16.6	#-365	27	+EPZ	1816	55.5	
23	ESH	1549	10.0		27	+EPZ	1816	58.0	
23	-EPKiKPZ	2013	18.9	#-366	27	+EPZ	1942	34.6	#-376
24	+EPZ	0030	12.1		27	+EPcPZ	1942	40.4	#-376
24	-EPZ	0202	47.6		27	-EPZ	2118	33.0	
24	-IPZ	0202	51.1		27	+EPZ	2127	43.4	
24	+EPZ	0517	10.6		27	-EPZ	2127	46.0	
24	+EPZ	0546	55.4		28	+EPZ	0234	32.6	
24	+EPKiKPZ	0728	04.6	#-367	28	+EPZ	0355	20.6	#-377
24	-EPKiKPZ	0728	09.2	#-367	28	-EPZ	0721	57.0	#-378
24	-EPZ	2056	33.6		28	+EXZ	0722	02.1	#-378
24	+EPZ	2229	49.9		28	+EPZ	0753	36.2	
25	-EPZ	0049	08.2		28	+EPKjdfZ	1326	49.0	#-379
25	+EPZ	0326	25.6		29	+EPZ	0045	32.0	
25	-EPZ	0353	13.2		29	+EPZ	0154	09.0	
25	+EXZ	0513	15.4	#-368	29	-EPZ	0256	02.0	
25	+EPZ	0721	31.2		29	-EPZ	0256	18.6	
25	+IPZ	0759	40.6	#-369	29	-EPZ	0320	12.9	
25	-IPZ	0759	50.6	#-369	29	+EPZ	0940	39.6	
25	ESH	0809	25.0	#-369	29	+EPZ	1126	17.3	
25	-EPZ	1224	21.4	#-370	29	-EPZ	1851	38.6	
25	-EsPZ	1224	32.4	#-370	29	+IPKjdfZ	1901	46.6	#-380
25	-EPZ	1855	02.6		29	-EPZ	1907	57.6	
25	-EPZ	2024	04.3	#-371	29	-IPZ	1908	03.0	#-381
25	+EPZ	2340	34.6		29	-EPZ	2105	56.5	#-382
26	+EPZ	0548	24.3	#-372	29	+IPZ	2106	04.6	
26	+EPZ	0802	37.6		29	+EPZ	2118	29.8	
26	-EPZ	1702	30.8	#-373	30	+EPZ	0553	12.0	
26	-EPZ	1702	53.6	#-373	30	-EPZ	0701	18.6	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
30	+EXZ	1312	49.0	#-383	5	+EPZ	1417	12.7	#-391
30	-EPZ	2020	57.4		5	-EPZ	1822	08.7	
30	ESII	1925	36.0		5	-IPZ	2317	34.0	
31	+EPZ	0702	10.0		5	-EPZ	2317	37.4	
31	+EPZ	0702	17.2		6	-EPZ	0710	10.7	
31	+EPZ	1230	39.0		6	-IPZ	0856	02.0	
31	+EPZ	1348	22.0		6	-EPZ	2252	59.0	
Aug.					6	-IPZ	2253	03.0	
1	+EPZ	0221	42.5		6	ESII	2303	03.4	
1	+EPZ	0308	05.0	#-384	6	+EPZ	2319	00.4	
1	+EPZ	0629	54.2	#-385	7	+EPZ	0029	01.0	
1	+EPZ	0712	35.0		7	+EPZ	0350	27.6	
1	+EPZ	0851	14.4		7	+EPZ	0358	18.0	
1	+EPZ	0851	18.6		7	+EXZ	0748	16.0	#-392
1	+EPZ	0902	20.8		7	+EPZ	0754	54.0	
1	+EPZ	1601	33.5		7	-EPZ	0937	34.2	
2	-EPZ	0207	28.6		7	-EPZ	1035	49.2	#-393
2	+EPZ	0321	40.0		7	+EPZ	1851	30.3	
2	+EPZ	1915	38.6		7	-EPZ	1851	36.8	
3	-EPZ	0051	37.2		8	+EPZ	0009	08.0	
3	-EPZ	0051	40.2		8	+EPZ	0009	13.0	
3	+EPZ	0329	45.5		8	+EPZ	0644	07.2	
3	+EPZ	0544	20.5		9	+EPZ	0013	54.0	#-394
3	+EPZ	1004	01.9		9	-EPcPZ	0014	01.4	#-394
3	+EPZ	1908	11.9		9	-EXZ	0609	37.8	#-395
4	-EPZ	0338	49.0		9	+EPZ	0731	32.5	
4	+EPZ	0501	36.4		9	+EPZ	1205	33.0	
4	+EPZ	0501	37.7		9	+EPZ	1644	31.0	
4	+EPZ	1530	00.3	#-386	9	+EPZ	1819	25.4	
4	-IPZ	1530	13.3	#-386	9	+EPZ	2221	07.8	
4	-EPdiffZ	1952	21.8	#-387	9	+EPZ	1845	20.5	#-396
4	+EPZ	2014	08.8		10	+EPZ	0229	24.0	
4	+IPZ	2057	26.2	#-388	10	-IPZ	0532	30.6	#-397
4	ESII	2107	37.6	#-388	10	-EPZ	0833	19.9	#-398
5	+EPZ	0100	02.8		10	-EsPZ	0833	28.3	#-398
5	+EXZ	1007	51.0	#-389	10	+EPZ	0940	42.6	
5	+EPZ	1021	11.6	#-390	10	+EPcPZ	1234	03.6	#-399

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
10	+EpPZ	1234	05.2	#-399	17	+EPZ	2135	11.9	
10	+EPZ	1314	20.2	#-400	18	+EPZ	0301	15.5	
10	+EPZ	2248	34.0		18	-IPZ	1005	16.6	#-412
11	-EPZ	0143	03.4		18	+EpPZ	1007	15.4	#-412
11	+EPZ	1523	49.0		18	+EPZ	2039	47.1	
11	+EPZ	1858	24.0		19	+EPZ	0342	03.2	
11	+EPZ	2350	44.0		19	+EPZ	0845	03.0	#-413
11	-EPZ	2351	05.6		19	+EPZ	1110	09.6	#-414
12	+EPZ	0539	09.2	#-401	19	+IXZ	1110	12.8	#-414
12	+EpPZ	0539	10.9	#-401	19	+EPZ	1214	28.6	
12	+EPZ	0621	08.0	#-402	19	-EPZ	1234	06.0	
12	+EpPZ	0622	30.0	#-402	19	-EPZ	1350	40.4	#-415
12	+EPZ	2241	08.3		19	-EPZ	1643	25.0	#-416
13	+EPZ	0035	47.4		19	-EPcPZ	1643	27.4	#-416
13	+EPZ	0436	34.8		20	+EPZ	0855	07.8	
13	+EPKpabZ	0855	23.4	#-403	20	-EPZ	1418	14.6	
13	-EPZ	1850	58.3		20	+EPZ	1631	20.5	
13	-EPZ	2009	48.8		20	+EPZ	2300	11.4	
13	+EPZ	2249	19.6		21	-EXZ	0846	48.2	#-417
14	+EPKpdfZ	1129	50.2	#-404	21	+IPZ	0944	13.4	#-418
15	+EPZ	0344	07.6		21	-EPZ	1056	16.0	
15	+EPZ	0452	48.4		21	+EPZ	1251	43.0	
15	+EPZ	1041	24.3		21	-EPZ	1251	46.4	
15	+EPZ	1539	01.0		21	-EPZ	1424	03.4	
15	-EpPKpdfZ	1612	46.0	#-405	21	+EPZ	1531	07.6	
15	+EPZ	2010	49.7		21	-EPZ	1715	56.4	#-419
16	+EPZ	0255	01.0		21	-EPcPZ	1716	01.6	#-419
16	-EPZ	0326	07.0		21	+EPZ	2143	21.5	#-420
16	+EPZ	0459	31.0	#-406	22	-EPZ	0232	35.0	
16	-EXZ	0517	05.4	#-407	22	-EPZ	0232	40.6	
16	-EPZ	0737	43.5	#-408	22	-EPZ	0757	00.6	#-421
17	-EPZ	0334	01.6		22	+EXZ	1118	46.6	#-422
17	+EPZ	1244	47.2	#-409	22	-EpPZ	1745	09.7	#-423
17	+EPcPZ	1244	54.2	#-409	22	+EPZ	2116	08.8	#-424
17	-EPZ	1544	38.2	#-410	23	+IXZ	0459	01.0	#-425
17	-EPZ	2106	34.4	#-411	23	+EPZ	2137	54.5	
17	-EPcPZ	2106	44.0	#-411	24	+EPZ	0311	10.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
24	+EPZ	0535	13.0	#-426	29	+EPZ	0009	46.8	#-441
24	-IpPZ	0535	26.0	#-426	29	-EXZ	0009	54.6	#-441
24	-EPZ	1547	19.5	#-427	29	+EPZ	0353	54.5	
24	+EPZ	1942	02.0		29	-EPZ	1011	47.8	
25	-EPZ	0633	45.6		29	+EXZ	1032	43.4	#-442
25	-EPZ	1136	07.4	#-428	30	+EPZ	0420	06.0	
25	-IPcPZ	1136	36.4	#-428	30	-EPZ	0707	01.0	#-443
25	+EPZ	1204	28.5		30	-IPcPZ	0707	02.5	#-443
25	-EPZ	1329	33.6		30	+EPZ	0727	28.4	
25	-EPdiffZ	1336	07.2	#-429	30	-EpPKiKPZ	0849	19.1	#-444
25	-EPdiffZ	1353	48.8	#-430	30	-EPZ	1046	02.2	#-445
25	+EPZ	1657	51.6		30	-EPcPZ	1046	09.0	#-445
26	-EPZ	0233	06.0		30	-EPZ	1328	13.5	
26	-IPZ	0233	09.8		30	+EPZ	1328	15.4	
26	+IPZ	0319	09.0		30	-EPZ	1501	24.6	#-446
26	+EPcZ	0811	12.8	#-431	30	-EPcPZ	1501	26.4	#-446
26	-IPZ	0811	14.0	#-431	30	+EPZ	1519	28.0	
26	+EPZ	0834	26.0	#-432	31	-EPZ	0020	48.0	
26	-EPZ	2113	23.0		31	-EPZ	0020	51.6	
26	-IPZ	2113	25.2		31	-IPZ	0020	58.3	
26	-EPZ	2207	02.4		31	-IPZ	0123	00.0	#-447
27	+EPKpdFZ	0154	37.6	#-433	31	+EXZ	0703	33.2	#-448
27	-EPZ	0453	17.0	#-434	31	+EPZ	1335	43.2	
27	ESH	0502	34.0	#-434	31	+EPZ	1926	01.0	
27	-EPZ	0540	34.0		Sep.				
27	-EPZ	0543	55.0		1	+IPZ	0132	34.0	#-449
27	+IPZ	0656	15.0	#-435	1	-EpPZ	0132	51.6	#-449
27	-EpPZ	0656	18.6	#-435	1	-IPZ	0412	38.4	#-450
27	ESH	0704	22.0	#-435	1	ESH	0422	35.6	#-450
27	-EPZ	1356	25.0		1	-EXZ	0544	30.0	#-451
28	-EPZ	0311	19.2	#-436	1	-EPZ	0559	40.8	
28	+EXZ	0836	24.0	#-437	1	+EPZ	0625	54.2	#-452
28	+EPZ	0908	36.5	#-438	1	+EPZ	0625	58.0	#-452
28	+EPKfabZ	1258	13.0	#-439	1	+EPZ	0719	23.0	#-453
28	-EPZ	1534	26.6	#-440	1	-EPZ	1113	48.3	#-454
28	-IpPZ	1534	31.0	#-440	1	+EPcPZ	1113	50.4	#-454
28	+EPZ	2348	12.0		1	-EPZ	1134	02.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
1	-EPZ	1324	29.8		5	+EPZ	1652	08.4	#-467
1	-EXZ	1732	07.6	#-455	5	+EPZ	1919	30.4	
1	-EPcPZ	1732	11.4	#-455	5	-EPZ	1919	32.0	
1	+EPcPZ	2003	46.0		5	+EPZ	2049	57.0	
1	-EPKdfZ	2111	34.0	#-456	6	-EPZ	0238	01.0	
1	+EPZ	2331	07.6		6	+EXZ	0605	38.0	#-468
2	+EPZ	0852	14.6		6	-EPZ	0923	38.8	
2	-EPcPZ	0912	16.0	#-457	6	+EXZ	1156	43.6	#-469
2	+EPZ	1111	45.6	#-458	6	+EPZ	1327	43.4	
2	-EPZ	1141	03.5	#-459	6	+EPZ	1749	06.6	
2	+EPZ	1309	22.0		6	-EsPZ	2314	44.0	#-470
2	+EPZ	1504	25.7		7	+EPZ	0053	32.3	
2	+EPZ	1854	02.2	#-460	7	+EPZ	0211	17.0	
2	+EPZ	2014	14.6	#-461	7	+EPZ	0216	06.0	
3	+IPZ	1135	26.4	#-462	7	+EPZ	0214	17.2	#-471
3	ESII	1143	50.4		7	-EpPZ	0214	20.6	#-471
3	-EPZ	1203	15.2		7	-EPZ	0913	21.8	#-472
3	+EPcPZ	1228	56.2	#-463	7	+EPZ	1124	13.2	
3	-EPZ	1818	01.6		8	-IPZ	0315	41.6	
3	+EPZ	1925	53.0		8	-IPZ	0316	05.0	
4	-EPZ	0057	47.6		8	ESII	0326	24.0	
4	+EPZ	0949	34.4		8	-EPZ	0702	41.4	
4	-EPZ	0949	36.6		8	-EPZ	0755	55.0	
4	+EPZ	1157	00.1		8	+EPZ	1055	19.0	#-473
4	+EPZ	1418	02.2		8	+EPZ	1103	16.8	
4	-EPZ	1621	34.0	#-464	8	+EPZ	1525	11.0	
4	-IpPZ	1621	43.0	#-464	8	+IPZ	1525	14.5	
4	+EPZ	1800	26.0		8	+EPZ	1727	10.6	
4	+EPZ	1834	44.4		8	-IPZ	1904	50.3	#-474
5	+EPZ	0229	02.8		8	ESII	1915	32.0	#-474
5	+EPZ	0523	32.2	#-465	8	+EPZ	2003	33.2	#-475
5	+EsPZ	0523	47.3	#-465	8	+EPZ	2158	11.4	
5	-EPZ	1248	24.0	#-466	8	+EPZ	2216	04.6	
5	-EPcPZ	1248	28.6	#-466	9	+IPZ	0319	19.8	#-476
5	+EPZ	1319	29.6		9	-EPcPZ	0319	30.0	#-476
5	+EPZ	1530	08.7		9	+EPZ	1116	09.7	
5	-EPZ	1530	14.6		9	+EPZ	1123	34.4	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
9	+EPZ	1235	57.2		13	-EPZ	0010	53.8	
9	-EPZ	1405	47.4	#-477	13	+EXZ	0016	32.4	#-455
9	-EPZ	2331	30.8		13	-EPZ	0028	17.4	
9	+EPZ	2331	42.4		13	+IPZ	0744	31.6	#-456
10	-EPZ	0019	11.4		13	+EPePZ	0744	36.2	#-456
10	+EPZ	0242	05.6		13	+EPZ	0949	45.2	
10	+EPZ	0312	40.8	#-478	13	-IPPZ	0950	00.0	#-457
10	+EPZ	1003	02.4		13	-EPKiKPZ	0950	05.7	#-457
10	-EPZ	1025	42.6		13	+EPZ	1358	36.8	
10	-EPZ	1114	01.0	#-479	13	+EPZ	1555	37.2	#-458
10	+EpPZ	1114	08.4	#-479	13	-EpPZ	1555	39.2	#-458
10	-EPZ	1321	28.8	#-450	13	+EPZ	1834	34.0	
10	-IpPZ	1321	32.0	#-450	13	+EPZ	1915	03.9	
10	+EPZ	1515	00.6		13	+EPZ	1931	14.0	#-459
10	-IPZ	1623	55.2	#-451	13	+EPZ	2023	08.7	
10	-IpPZ	1624	06.6	#-451	13	-EPZ	2023	14.0	
10	ESH	1634	07.4	#-451	14	+EPZ	0012	19.8	#-460
11	-IPZ	0012	53.8		14	-EpPZ	0012	29.0	#-460
11	ESH	0023	13.0		14	ESH	0022	25.6	#-460
11	-EPZ	0040	03.0		14	+EPZ	0025	01.2	
11	+EPZ	0802	04.6		14	+EPZ	0621	43.5	
11	+EPZ	0946	11.8		14	-EPZ	0816	03.6	
11	-EPZ	1206	25.6		14	+EPZ	0935	47.6	
11	-EPZ	1649	36.4		14	-IPZ	1150	54.0	
11	+EPZ	1723	21.6	#-452	14	+EPZ	1453	31.0	
11	+EpPZ	1723	50.2	#-452	14	-EPZ	1546	10.0	
11	+IPZ	2116	17.2		14	-EPZ	1657	08.0	
11	+IPZ	2118	21.8		14	+EPZ	1902	26.0	
12	+EPZ	0320	39.5		14	-EPZ	1903	14.0	#-461
12	+EPZ	0735	56.8		14	-EPZ	1945	42.6	
12	+EPZ	1656	40.0		14	-EPZ	2030	58.4	#-462
12	+EPZ	1656	45.4		14	-EPZ	2054	53.5	
12	+IPZ	1759	24.2		15	+EPZ	0243	26.2	#-463
12	+EPZ	1803	24.0		15	+EPZ	0335	04.5	
12	+EPZ	1918	54.8		15	+EPZ	0434	01.0	
12	+EpPKPdz	2327	42.8	#-453	15	-EPZ	0546	04.3	
13	+EPKbcZ	0009	48.6	#-454	15	+EPZ	0938	09.9	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
15	+EPZ	0958	37.0		19	+EPZ	1842	13.5	
15	+EXZ	0601	40.5	#-464	19	-EPZ	1846	46.5	#-477
15	+EsPKPdfZ	0601	55.6	#-464	19	-IPcPZ	1846	49.9	#-477
15	+EPZ	1601	26.0	#-465	19	-EPZ	2128	49.6	#-478
15	+EPZ	2204	38.0		19	-EpPZ	2128	50.7	#-478
15	-EPZ	2311	47.6		19	-EXZ	2129	08.6	#-478
15	+IPZ	2348	05.5	#-466	19	+EPZ	2302	03.8	#-479
15	ESH	2357	25.4	#-466	20	-EXZ	0313	21.4	#-480
16	-EPZ	0125	33.0		20	+EPZ	0411	24.5	#-481
16	-EPZ	0125	51.6		20	+EXZ	0411	38.4	#-481
16	+EPZ	0740	51.6	#-467	20	+EPdiffZ	0507	24.0	#-482
16	-EpPZ	0740	54.8	#-467	20	+EPKpabZ	0537	45.0	#-483
16	-EPZ	0817	10.6	#-468	20	+EPZ	1247	48.5	
16	+IPZ	0959	59.0	#-469	20	-EPZ	1455	25.0	#-484
16	-IpPZ	1000	10.6	#-469	20	+EpPZ	1455	37.2	#-484
16	-IPZ	1127	50.0	#-470	20	-EsPZ	1455	43.6	#-484
16	-IPcPZ	1127	56.5	#-470	20	-EPZ	1938	55.0	#-485
16	+EPZ	2112	38.6		21	+IPZ	0655	01.5	
16	-EPZ	2208	22.6	#-471	21	-EPZ	0718	36.0	#-486
17	+EPZ	0403	56.6		21	+EXZ	1250	22.0	#-487
17	-EPZ	0434	32.0		21	-EPZ	1635	15.0	#-488
17	-EPZ	0821	38.3		21	-EpPZ	1637	19.7	#-488
17	+EPZ	0844	24.6		21	-EPZ	1901	24.0	#-489
18	-EPZ	0941	03.6		21	-IPcPZ	1901	35.6	#-489
18	+EPZ	1203	00.4		21	+EPZ	2212	15.0	
18	+EPZ	1203	14.0		22	+EPZ	0033	06.8	
18	-IPKpdfZ	1218	22.8	#-472	22	-EPZ	0830	30.4	#-490
18	+EPZ	1320	04.3		22	+EpPZ	0830	39.5	#-490
18	+IPZ	1859	52.4	#-473	22	+EPZ	1323	08.6	#-491
18	+EXZ	2045	46.6	#-474	22	-EPZ	1343	47.8	#-492
19	-EPZ	0043	33.2		22	-EPcPZ	1343	50.6	#-492
19	+EPZ	0127	43.6		22	+EsPZ	1806	47.6	#-493
19	+EPZ	0233	02.0		22	+IPZ	2032	28.8	#-494
19	-EPZ	0336	36.4	#-475	23	+EPcPZ	1532	35.5	#-495
19	+EPZ	0352	40.0		23	+EPZ	2115	19.0	
19	+EPZ	1200	21.9		24	+EpPKPpdfZ	0252	09.0	#-496
19	+EPcPZ	1742	15.4	#-476	24	-EPZ	0253	21.8	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
24	+EPZ	0613	45.0	#-497	28	+EPZ	0421	19.3	
24	+EPZ	1334	08.4		28	+EPZ	0849	53.6	
24	-IPZ	1721	52.2	#-498	28	+EPZ	0924	09.8	
24	+IPZ	1741	24.8		28	-EPZ	1355	12.0	#-508
24	+EPZ	2251	08.8		28	+EPcPZ	1355	17.3	#-508
24	-EPZ	2251	13.6		28	+EpPZ	1355	49.3	#-508
24	+EPZ	2323	03.4		28	-EpPZ	1545	36.4	#-509
25	-EPZ	0216	36.4		28	-EPZ	1835	48.2	
25	+EPZ	0229	40.0		29	+EPZ	0324	40.0	
25	-EPZ	0407	49.0		29	-EPZ	0434	31.8	
25	+EPZ	0501	46.6	#-499	29	+EPZ	1126	10.3	
25	+EPZ	0702	19.3		29	+EPZ	1126	20.8	
25	-EPZ	1242	09.0		29	+EPZ	1315	14.4	#-510
25	+EPZ	1737	07.0		29	-IPZ	1531	22.4	#-511
26	+IPZ	0600	46.0	#-500	29	ESH	1541	12.0	#-511
26	-IcPZ	0602	50.0	#-500	29	-IPZ	1622	29.0	#-512
26	ESH	0610	48.2	#-500	29	+IPcPZ	1622	39.0	#-512
26	-EPZ	0733	33.2	#-501	29	+EPZ	1701	11.8	
26	+EPZ	0815	47.5		29	+EPZ	1938	31.6	
26	+EPZ	1334	52.6		29	+EPZ	1943	27.6	
26	+EPZ	1335	02.0		29	-EPZ	1949	36.2	
26	+EPZ	1604	07.6		29	+EPZ	2000	57.6	
26	+EXZ	1846	34.4	#-502	29	-EPZ	2110	03.0	
26	-EPZ	1857	54.5	#-503	29	+EPZ	2316	01.5	
26	-EsPZ	1858	01.4	#-503	29	+EPZ	2348	10.0	
26	+EPZ	1912	13.4		30	+EPZ	0101	55.6	
26	-EPZ	2322	27.4	#-504	30	+EPZ	0418	25.0	
26	+EPcPZ	2322	30.4	#-504	30	+EPZ	0707	13.2	
27	-EPZ	0318	32.8	#-505	30	+EPZ	0707	18.0	
27	+EPKiKPZ	0323	06.5	#-505	30	-EPZ	0747	23.0	#-513
27	-EPdiffZ	0322	45.4	#-506	Oct.				
27	-IcPdiffZ	0322	51.5	#-506	1	+EsPZ	0324	50.0	#-514
27	+IPZ	0342	00.0	#-507	1	+EpPZ	0633	46.6	#-515
27	+EPZ	0343	25.0		1	+EPZ	0956	14.0	
27	+EPZ	1018	02.9		1	-EPZ	0956	24.4	
27	+EPZ	2326	42.6		1	+EPZ	1055	23.2	
27	+EPZ	2336	11.3		1	+EPZ	1309	04.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
1	-EPZ	1426	53.4	#-516	5	+EPZ	0013	14.0	
1	-EPZ	1714	10.4	#-517	5	-EPZ	0013	23.4	
2	+EPZ	0428	48.0		5	+EPZ	0025	58.4	
2	+EPZ	0447	30.0		5	-EPZ	0328	31.4	
2	+EPZ	0500	08.4		5	+EPZ	0626	32.4	
2	+EPZ	0604	55.3		5	+EPZ	0924	30.0	#-528
2	+EPZ	1314	46.4	#-518	5	-IPcPZ	0924	42.4	#-528
2	-IPcPZ	1314	57.5	#-518	5	ESH	0934	23.0	#-528
2	+EPZ	1504	04.5		5	+EpPZ	1056	51.2	#-529
2	+EPZ	1711	28.4		5	-EsPZ	1056	53.5	#-529
2	+EPZ	1918	40.6		5	-EPZ	1421	33.0	#-529
2	+EPZ	2101	03.0		5	+EPKIPZ	1611	17.9	#-530
2	+IPZ	2340	23.6	#-519	5	+EPZ	1640	34.6	
2	-IPZ	2340	26.0	#-519	5	+EPZ	2123	28.3	
3	+EXZ	0037	40.0	#-520	5	+EPZ	2257	52.6	
3	-EPZ	0352	47.8	#-521	5	+EPZ	2356	17.2	
3	-EXZ	0352	49.8	#-521	6	+EPZ	0030	17.7	#-531
3	-EpPZ	0539	33.0	#-522	6	+EPZ	0821	10.6	
3	+EXZ	0543	16.4	#-522	6	-IPKIPZ	0849	13.2	#-532
3	+EPZ	0543	34.8	#-523	6	-EPPZ	0849	16.8	#-532
3	-EPZ	0627	40.8		6	-EPZ	0904	47.4	
3	-EPZ	0847	15.0	#-524	6	-EPZ	1256	19.2	#-533
3	-EPZ	1613	56.6		6	-EPZ	2037	40.6	
3	+EPZ	1906	11.2		6	-EPZ	2108	51.4	#-534
3	+EPZ	1951	33.6		6	+IPZ	2357	08.4	
3	+EPZ	2133	09.8		7	+EPZ	0619	05.7	
3	+EPZ	2318	04.2		7	+IPZ	0718	15.8	
4	-EPZ	0015	40.8		7	+IPZ	0838	19.8	
4	+EPZ	0421	49.0		7	-IPZ	1021	57.6	
4	+EPZ	0639	02.2		7	-EPZ	1233	05.4	
4	+EPZ	0802	43.0	#-525	7	+EPZ	1430	18.3	#-535
4	+IPZ	0802	50.0	#-525	7	-EPZ	1604	52.0	
4	+EPZ	0954	20.8		7	+EPZ	1655	28.2	
4	+EPZ	1157	52.4	#-526	7	-EPZ	2210	12.2	
4	-EpPZ	1157	55.8	#-526	8	+EPZ	0720	22.2	
4	-EPZ	1502	22.4	#-527	8	+EPZ	0743	46.4	
4	+EPZ	1837	13.0		8	+EPZ	0819	11.6	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
8	+IXZ	0928	18.7	#-536	13	-EPZ	1608	29.8	
8	+EPZ	0928	48.2	#-536	13	+EPZ	1726	54.2	
8	+EPZ	1202	54.4	#-537	13	+EPZ	1916	13.4	
8	+EPZ	1420	39.4		13	+EPZ	2357	30.8	
8	-EPZ	1857	20.2		14	-EPZ	0119	18.3	
9	-EPZ	0608	32.2		14	+EPZ	1704	44.5	#-543
9	-EPZ	1802	41.5		14	-EPcPZ	1704	48.4	#-543
9	-EPZ	1802	44.0		14	ESH	1714	39.0	#-543
9	ESH	1813	17.2		14	-EPZ	2003	22.4	#-544
9	+EPZ	2321	55.0		14	-EPZ	2247	54.6	
10	+EPZ	0403	44.4		15	-EPZ	0030	07.8	
10	-EPZ	0531	20.8		15	-EPZ	0817	48.0	
10	+EPZ	0652	48.2		15	-EPZ	1440	56.0	#-545
10	+EPZ	1003	07.5		15	-EPZ	1505	09.6	
10	+EPZ	1616	26.6		15	-EPZ	1648	00.7	#-546
10	-EPZ	2321	33.0		16	+EPZ	2016	48.8	
11	-EXZ	0925	29.0	#-538	17	+EPZ	1210	02.0	
11	-EPZ	0925	49.2		17	+EPZ	1507	31.6	
11	-EPZ	1002	47.0		17	-EPZ	2017	16.5	
11	+EXZ	1058	45.0	#-539	18	-EPZ	0107	28.0	#-547
11	+IPPZ	1059	35.2	#-539	18	+EPcPZ	0107	31.0	#-547
11	-IPZ	1059	40.0	#-539	18	+EPZ	0407	13.6	
11	ESH	1105	27.0		18	-EPZ	1038	27.0	#-548
11	-EPZ	1235	21.6	#-540	18	+EPZ	1241	39.0	
11	-EPcPZ	1235	32.2	#-540	18	+EPZ	1355	07.0	
11	+EPZ	1724	04.2		18	+EPZ	1705	30.0	
11	+EPZ	1932	45.6		19	-EPZ	0302	22.0	#-549
11	-EPZ	2008	29.8		19	-IPZ	0302	54.4	#-549
12	-EPZ	0051	35.4		19	-IPZ	0523	10.7	#-550
12	+EPZ	0138	43.2		19	ESH	0534	23.4	#-550
12	-EPZ	1745	28.0		19	+EPZ	0623	38.8	
12	+IPZ	2106	51.4	#-541	19	+IPZ	1307	41.2	#-551
12	ESH	2116	07.0	#-541	19	-EPcPZ	1307	44.4	#-551
13	+EPZ	1220	24.0	#-542	19	+EPZ	1407	23.6	
13	-EPcPZ	1220	29.4	#-542	19	+EPZ	1933	16.5	
13	+EPZ	1312	19.4		20	+EPZ	0039	41.6	
13	+EPZ	1312	32.4		20	-EPZ	0346	19.5	#-552

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
20	-1PZ	0506	50.4	#-553	25	+EPZ	1808	25.0	
20	-EPZ	0506	55.8	#-553	25	+EPZ	1937	29.6	#-564
20	ESH	0517	18.0		25	-EPcPZ	1937	34.2	#-564
20	+EPZ	0643	19.4		25	+EPZ	2023	24.8	
20	+EPZ	1112	38.4		25	-EPZ	2023	29.5	
20	-EPZ	1226	01.4		25	+EPZ	2210	06.4	
20	+EPZ	1252	34.7		26	-EPkKPZ	0146	56.2	#-565
20	+EPZ	2219	14.1		26	-EPZ	0150	10.4	
21	+EPZ	0340	00.8		26	+EsPZ	0507	37.8	#-566
21	+EPZ	0849	38.5		26	+EPZ	0515	18.2	
21	-EPZ	1312	53.6	#-554	26	+EPZ	0921	11.5	#-567
21	+EPZ	1340	04.3		26	-EPcPZ	0921	14.8	#-567
21	+EPZ	2132	47.6	#-555	26	-EXZ	0954	53.0	#-568
21	+EpPZ	2132	54.4	#-555	26	+EPZ	1051	20.9	
22	+EXZ	0404	02.0	#-556	26	-EPZ	1051	34.8	
22	+EPZ	0922	35.3	#-557	26	+EPZ	1345	35.2	
22	-EPcPZ	0922	40.9	#-557	26	+EPZ	1402	16.8	
22	+1PZ	1308	25.0	#-558	26	-EPZ	2124	01.3	
22	-1PcPZ	1308	27.0	#-558	27	+EPZ	0556	26.5	#-569
22	ESH	1318	51.0	#-558	27	-EpPZ	0557	00.7	#-569
22	+EPZ	1715	29.2	#-559	27	-EPcPZ	0906	11.6	#-570
22	-EPcPZ	1715	32.2	#-559	27	+EPZ	1844	20.0	
22	ESH	1725	12.0	#-559	27	-1PZ	1919	22.5	#-571
22	+EPZ	2333	21.0		27	-EPZ	2146	00.6	
23	+EPZ	0220	12.0		27	-EPZ	2336	37.2	
23	-EPZ	0934	17.2	#-560	28	+EPZ	0215	31.6	
23	+1PZ	1017	48.0	#-561	28	+EPZ	1534	39.9	#-572
23	+EPcPZ	1017	51.8	#-561	28	-EPZ	1607	36.0	#-573
23	+EPZ	1305	47.2		28	-EPcPZ	1613	14.2	#-574
23	+EPZ	1745	01.4		28	+EPZ	2324	12.8	
23	+EPZ	2154	29.6		28	+EPZ	2323	50.0	
24	-EPZ	0038	10.0	#-562	28	ESH	2334	33.0	
24	-EPZ	1312	39.8		29	-EPZ	0655	00.8	
25	-EPZ	0148	41.2		29	-FPZ	1021	42.2	
25	-EXZ	0733	37.6	#-563	29	-EPcPZ	1150	45.2	#-575
25	-EPZ	1123	20.6		29	+EPZ	1311	01.6	
25	-EPZ	1123	25.4		29	-EPZ	1616	21.2	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
29	+EPZ	1759	49.7		2	+EXZ	1408	29.6	
29	+EPZ	2230	06.2	#-576	2	-EpPKPdFZ	1408	42.8	#-585
29	-EPZ	2325	45.0		2	-EPZ	1512	50.7	#-586
30	-EPZ	0144	14.8	#-577	2	-EPcPZ	1513	00.0	#-586
30	+EpPZ	0144	20.2	#-577	2	+EPPZ	1513	04.0	#-586
30	-EPZ	0609	18.4		2	+EPZ	1708	55.3	
30	+EPZ	0610	08.8		2	+EPZ	2030	37.0	
30	-EXZ	0735	32.4	#-578	3	+EPZ	0313	35.6	
30	-EPZ	0938	56.6		3	+EPZ	0513	57.0	
30	+EPZ	0939	00.3		3	+EPZ	0730	34.6	#-587
30	-EPZ	1350	45.4		3	-EPZ	0850	30.8	
30	+EPZ	1414	41.4		3	+EPZ	0911	08.2	
30	+EPZ	2251	02.0	#-579	3	+EPZ	1008	30.6	
30	+EPZ	2326	16.6		3	+EPZ	1515	47.0	
31	-EPZ	0512	08.8		3	+EPZ	1515	50.6	
31	+IPZ	0512	10.5		3	-EPZ	1531	36.9	
31	+EPZ	1339	47.8	#-580	3	+EPZ	1934	08.2	#-588
31	-EPZ	1340	06.8	#-581	3	+EPZ	1948	42.8	#-589
31	+EpPZ	1340	13.0	#-581	3	ESH	1958	37.4	#-589
31	-EPZ	1425	40.8		3	+EXZ	2200	03.6	#-590
31	-EPZ	1906	05.6		3	+EPZ	2343	47.4	
31	-EPZ	1927	54.6		4	-EPZ	0333	31.8	
31	+EPZ	2008	53.4		4	-EPZ	0749	33.7	#-591
31	+EpPKPabZ	2231	06.4	#-582	4	-EXZ	0749	35.2	#-591
Nov.					4	+EPZ	0804	36.9	
1	+EPZ	0126	23.4	#-583	4	+EPZ	0847	08.4	
1	+EPZ	0146	54.8	#-584	4	-EPZ	0936	19.6	
1	-EsPZ	0147	03.7	#-584	4	+EPZ	1043	14.8	#-592
1	ESH	0157	23.5	#-584	4	+EPZ	1848	03.8	#-593
1	+EPZ	0710	05.4		4	+IPcPZ	1848	05.0	#-593
1	-EPZ	1028	38.0		4	ESH	1858	22.0	#-593
1	+EPZ	1028	39.7		4	-EPZ	2132	51.8	
1	+EPZ	1134	04.6		4	-EPZ	2224	34.6	
1	-EPZ	1246	31.7		5	-EPZ	0021	34.2	
1	-EPZ	1701	04.6		5	+EPZ	0120	20.6	#-594
2	+EPZ	0816	01.7		5	+EPZ	0121	12.2	
2	+EPZ	0816	12.4		5	+EPZ	0248	14.2	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
5	-EPZ	0354	21.8	#-595	8	-EPZ	1212	05.8	
5	+EPZ	0524	45.6		8	+EPZ	1801	05.0	
5	-EPZ	0525	15.5		8	-EPcPZ	2108	11.8	#-603
5	-EPZ	0848	51.8		9	+EPZ	0812	55.0	
5	-EPZ	0848	55.0		9	-EPZ	1051	04.6	#-604
5	+EPZ	1546	51.6		9	-EPcPZ	1051	09.6	#-604
5	-EPZ	1908	19.0		9	+EPZ	1304	05.6	
6	+EPZ	0507	07.5		9	+EPZ	1514	34.1	
6	+EPZ	0536	05.0		9	+EPZ	2002	04.0	
6	+IPZ	0923	00.0		9	+EPZ	2339	09.0	#-605
6	-IPZ	0923	20.9		9	+EpPZ	2339	30.3	#-605
6	ESH	0933	51.6		10	+EPZ	0134	35.2	
6	+EPZ	1243	30.9		10	-EXZ	0140	36.6	#-606
6	-EPZ	1510	39.8	#-596	10	+EPZ	0415	00.7	
6	-EPZ	1910	08.3		10	+EXZ	0803	40.6	
6	-EPZ	2256	55.2	#-597	10	+EPZ	0910	42.4	#-607
6	+EPZ	2345	54.0		10	-EPcPZ	0910	51.3	#-607
7	+EPZ	0446	10.3		10	-EPZ	1003	30.4	#-608
7	+IPZ	0732	26.2	#-598	10	+EPcPZ	1003	41.2	#-608
7	-IPZ	0732	29.8	#-598	10	-EPZ	1038	46.2	
7	+EPZ	0854	41.8	#-599	10	-EPZ	1454	48.5	
7	-EPZ	0904	06.6		10	-EPZ	1613	29.2	#-609
7	+IPZ	0952	51.6		10	-EPZ	1727	31.6	#-610
7	+EPZ	1509	24.0		10	+EPZ	1954	57.2	
7	+EPZ	1616	45.2		10	-EPZ	1955	00.6	
7	+EPZ	1616	48.4		11	+EPZ	0015	54.0	
7	ESH	1627	12.0		11	+EPZ	0736	05.0	
7	+EPZ	1735	39.7		11	+EPZ	1041	40.3	
7	-EPZ	1856	37.2		11	-EPZ	1548	10.6	
7	+EPZ	1856	42.4		11	-EPZ	2101	01.5	
7	+EPZ	2016	07.0		12	+EpPZ	0035	31.6	#-611
8	-EPZ	0607	14.2		12	-EPZ	0052	09.2	
8	+EPZ	0802	54.4	#-600	12	-EPZ	0218	09.2	#-612
8	+EPcPZ	0802	56.2	#-600	12	-EPcPZ	0218	10.8	#-612
8	+EPZ	0928	44.2	#-601	12	+EPZ	0856	52.7	
8	-IPZ	1208	50.0	#-602	12	-EPZ	1042	41.4	
8	+ESpZ	1209	12.0	#-602	12	-EPZ	1715	43.2	#-613

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
12	-EPcPZ	1715	46.0	#-613	15	+EPZ	0834	49.4	
12	+EPZ	2204	00.8		15	+EPZ	1416	16.8	
13	-EPZ	0116	01.5		15	+EPZ	1556	08.4	
13	+EPZ	0812	41.0		15	+EPZ	2210	57.5	#-622
13	+EPZ	0812	42.3		15	+EPZ	2322	51.5	
13	+EPZ	1043	28.7	#-614	16	+EPZ	0028	06.2	
13	-EPcPZ	1043	30.8	#-614	16	+EpPZ	0305	21.5	#-623
13	+EPZ	1122	59.2		16	+EPZ	0802	03.5	
13	-EPZ	1302	24.8		16	-EPZ	1233	21.6	#-624
13	-EPZ	1302	47.4		16	-EPcZP	1233	25.2	#-624
13	-EPZ	1516	28.8	#-615	16	-EPZ	1348	14.8	#-625
13	+EpPZ	1516	47.4	#-615	16	+EPZ	1550	24.4	
13	ESH	1521	28.4	#-615	16	-IXZ	1715	19.0	#-626
13	+EPZ	1559	14.0		16	ESH	1726	06.0	
13	+EPZ	1704	50.0		16	-EXZ	1747	25.0	#-627
13	+EPZ	1611	33.6	#-616	16	-EPcPZ	1747	29.6	#-627
13	-IPZ	1822	21.0		16	+EXZ	1833	17.6	#-628
14	+EPZ	0039	01.0		16	+EPZ	1922	25.0	#-629
14	+EPZ	0039	13.3		16	-EPZ	2134	19.8	
14	+EPZ	0041	20.8		16	+EPZ	2214	16.0	
14	-EPKiKPZ	0208	37.2	#-617	16	+EPZ	2214	27.5	
14	-IPZ	0209	49.4	#-618	16	+EXZ	2246	37.5	#-630
14	-IPZ	0248	34.6	#-619	16	+EPZ	2358	21.8	
14	-EPZ	0357	04.2		17	-IPZ	0612	55.6	#-631
14	-EPZ	0428	35.4		17	-EPZ	0613	03.2	
14	+EPZ	0807	07.4		17	ESH	0622	45.5	
14	-EPZ	0932	23.3		17	-EPZ	0650	09.0	
14	+EPZ	1025	40.6		17	-EPZ	1019	26.9	
14	+EPZ	1305	10.0		17	-EPZ	1115	23.0	
14	+EPZ	1436	50.3		17	-EPZ	1144	47.6	#-632
14	-EPZ	1810	04.9		17	-EPcPZ	1144	49.7	#-632
14	-EPZ	2305	06.0	#-620	17	-EPZ	1316	32.2	
14	+EPcPZ	2305	11.0	#-620	17	-EPZ	1316	56.2	
14	+EPZ	2319	17.2		17	+EPZ	1329	18.3	#-633
14	+EPZ	2359	06.2		17	+EPcPZ	1329	21.2	#-633
15	-EPKiKPZ	0423	31.6	#-621	17	-EPKiKPZ	1400	20.8	#-634
15	-EPKTabZ	0423	40.8	#-621	17	+EPZ	1405	24.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
17	+EPZ	2300	21.4		21	-IPZ	0718	27.3	#-646
18	+EPZ	0420	58.0		21	-IPcPZ	0718	30.6	#-646
18	+EPZ	0431	44.0		21	+EPZ	0913	28.6	
18	-EPZ	0458	05.4		21	+EPZ	1140	43.0	
18	+EPK ^{ah} Z	0514	00.2	#-635	21	+EPZ	1255	48.8	
18	+EPZ	0558	36.4		21	-EPZ	1255	51.6	
18	-EPZ	0558	44.6		21	-EPZ	1408	20.0	#-647
18	-EPZ	0559	30.0	#-636	21	+EPcPZ	1408	25.1	#-647
18	+EPZ	1030	54.8		21	+EXZ	1408	52.4	#-647
18	+EPZ	1124	53.8	#-637	21	+EPZ	2319	12.7	#-648
18	+EPZ	1258	35.6	#-638	22	+EPZ	0016	13.2	
18	-EXZ	1258	49.8	#-638	22	+EPZ	0251	50.7	
18	-EPZ	1415	45.6	#-639	22	-EPZ	0530	11.0	
18	-EPZ	1451	18.5	#-640	22	+EPZ	1053	22.8	
18	-IPZ	1451	31.8		22	+EPZ	1612	45.5	#-649
18	+EPZ	1853	39.6		22	-IsPZ	1612	53.4	#-649
18	+EPZ	1853	41.6		22	-IpPZ	1614	13.5	#-650
18	+EPZ	1914	04.2		22	-EPZ	1623	33.2	#-651
18	+EPZ	2054	37.0	#-641	22	+EXZ	1623	42.2	#-651
18	-EPZ	2200	10.0		22	+EPZ	1734	48.4	#-652
19	-EPZ	1534	51.2		22	+EPcPZ	1734	54.6	#-652
19	-EPZ	1608	38.3		22	+EPZ	1901	33.2	#-653
19	+EPZ	1726	55.6	#-642	22	+EsPZ	1901	37.4	#-653
19	+EPZ	2050	27.8	#-643	22	+EPZ	1915	03.6	
19	-EPcPZ	2050	31.6	#-643	22	+EPZ	2038	48.0	#-654
20	+EPZ	0257	38.2		22	+EPcPZ	2038	49.4	#-654
20	+EPZ	0612	11.6		22	+EPZ	2317	51.2	
20	-IPZ	1053	00.0		22	+EPZ	2318	07.6	
20	+EPZ	1514	06.3		22	+EPZ	2345	59.4	
20	-EPZ	1937	56.4		22	+EPZ	2346	08.6	
20	+EPZ	1938	02.2		22	-EPZ	2354	51.4	
20	+EPZ	2216	16.4		23	+IPZ	0806	11.6	#-655
21	-EPZ	0101	51.4		23	-EPcPZ	0806	14.8	#-655
21	+EPZ	0441	17.8		23	+EPZ	0910	32.8	#-656
21	-IPZ	0508	25.6	#-644	23	-EPcPZ	0910	38.2	#-656
21	+EPcPZ	0509	05.4	#-644	23	-EPZ	0924	18.4	#-657
21	+EPZ	0704	45.4	#-645	23	-EPZ	1124	24.6	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
23	-EPZ	1210	55.4	#-658	26	+EPZ	1035	54.6	
23	-EXZ	1211	11.4	#-658	26	-EPZ	2102	06.4	
23	+EPZ	1231	01.6	#-659	26	+EPZ	2159	12.4	
23	+EPZ	2009	29.7		27	-EPZ	0317	13.6	#-666
23	-EPZ	2011	35.6		27	+EPZ	0448	25.5	
23	-IPZ	2130	08.6		27	+EPZ	0513	01.4	
24	-EPZ	0158	13.6		27	-EXZ	0924	48.0	#-667
24	+EPZ	0405	29.0		27	+EPZ	1715	38.6	
24	-EPZ	0921	40.0		27	+EPZ	1744	05.6	#-668
24	+IPZ	0921	43.2		27	-IPcPZ	1744	09.4	#-668
24	ESH	0943	47.0		27	ESH	1754	41.0	#-668
24	+EPZ	1005	25.4		27	+EPZ	1822	15.2	
24	ESH	1008	06.6		28	+IPZ	0146	32.3	#-669
24	+EPZ	1142	17.0		28	-EPZ	0324	17.0	#-670
24	+EPZ	1658	22.6		28	+EpPZ	0324	36.4	#-670
24	-EPZ	1903	55.8		28	-EPZ	0409	16.6	
24	+EPZ	2006	26.3		28	-IPZ	0902	33.4	#-671
25	-IPZ	0148	20.0		28	+EPZ	1014	01.6	
25	-IPZ	0148	29.2		28	+EPZ	1146	16.0	
25	ESH	0158	20.2		29	+EPZ	0509	17.3	
25	-EPcPZ	0615	42.4	#-660	29	-IPZ	0611	24.0	#-672
25	+EPZ	1424	43.8		29	+IPcPZ	0611	26.6	#-672
25	-EPZ	1517	15.0	#-661	29	ESH	0621	34.4	#-672
25	+IPZ	1514	10.6	#-662	29	+EPZ	2306	07.0	
25	-IpPZ	1514	11.6	#-662	30	+EPZ	1015	13.6	
25	+EPZ	1624	52.0		30	+EPZ	1406	33.7	
26	+EPZ	0223	01.2	#-663	Dec.				
26	+EPcPZ	0223	04.8	#-663	1	-EPZ	0056	00.2	
26	-EPZ	0414	29.4	#-664	1	+EPZ	0103	36.5	
26	+IpPZ	0414	44.2	#-664	1	+EPZ	0133	08.8	
26	+EPZ	0443	38.2		1	+EPZ	0232	12.7	
26	-EPZ	0457	51.8	#-665	1	+EPZ	1414	29.5	
26	-EpPZ	0457	55.8	#-665	1	+EPZ	1445	42.2	
26	+EPZ	0536	39.3		1	-EPZ	1945	03.4	
26	+EPZ	0536	44.5		1	-EPZ	2034	02.4	
26	+EPZ	0704	12.2		2	+EPZ	0019	04.6	
26	+EPZ	0812	49.6		2	-EPZ	0039	09.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
2	+EPZ	0127	02.4		6	+EPZ	0633	54.6	#-679
2	+EPZ	0512	22.0		6	+EpPZ	0634	03.0	#-679
2	+EPZ	0642	07.5		6	+EsPZ	0634	06.8	#-679
2	+EPZ	0904	14.6		6	+EPZ	1106	57.8	
2	-EPZ	1207	04.4		6	-IPcPZ	1107	02.5	
2	+EPZ	1718	06.7	#-673	6	ESH	1116	34.4	
3	+EPZ	0434	47.8		6	-EPZ	1125	28.4	
3	+EPZ	0935	27.8		6	+EPZ	1133	34.0	
3	+EPZ	1108	51.0		6	-EPZ	1133	38.8	
3	-EPZ	1119	05.2		6	+EPZ	1324	33.2	
3	-EPZ	1119	06.6		6	-EPZ	1450	13.2	
3	-EPKpafZ	1156	42.4	#-674	6	+EPZ	1502	04.4	
3	-EPKpabZ	1156	51.5	#-674	6	+EPZ	2349	07.4	#-680
3	+EPZ	1936	25.3		6	+EPcPZ	2349	09.2	#-680
3	+EPZ	2200	50.2		7	+EPZ	1043	27.4	
4	-EPZ	0020	00.6		7	+EPZ	1139	44.6	
4	+EPZ	0020	08.7		7	-EPZ	1315	41.6	
4	-EPZ	0251	44.8		7	-EPZ	1349	52.0	#-681
4	+EPZ	1658	44.6	#-675	7	-EPZ	1434	08.0	
4	-IPcPZ	1658	54.6	#-675	7	-IsPdfffZ	1550	04.4	#-682
4	ESH	1708	20.4		7	-EPZ	1601	45.3	#-683
4	+EPZ	1743	44.9		7	+IPZ	1601	48.9	
4	-EPKpafZ	2308	38.8	#-676	7	+EPZ	1852	18.4	
4	-IPZ	2352	26.0		7	+EPZ	1938	00.7	
4	-EPZ	2352	57.4		7	+EPZ	2015	24.8	
5	-EPZ	0130	23.2		7	-EPZ	2043	04.0	
5	-EPZ	0620	44.8		7	+EPZ	2251	09.6	
5	-EPZ	0628	01.6		7	+EPZ	2317	17.4	
5	+EPZ	0711	05.4		7	+EPZ	2327	20.3	
5	-EPZ	0819	25.0		8	-EPZ	0210	55.9	
5	+EPZ	1505	01.0		8	-EPZ	0247	47.5	
5	-EPZ	1505	04.2		8	-EPKikPZ	0317	43.6	#-684
5	+EPZ	2323	35.8		8	-EPZ	0346	12.4	
5	+EPcPZ	2337	18.6	#-677	8	-EPZ	1025	01.6	
5	-EpPZ	2337	24.0	#-677	8	+EPZ	1034	01.3	
6	+EPZ	0055	45.6	#-678	8	-EPZ	1206	34.1	
6	-EsPZ	0055	57.0	#-678	8	+EPZ	1409	47.0	#-685

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
8	+EpPZ	1410	03.0	#-685	10	ESH	1339	45.0	#-695
8	+EPZ	1444	24.6		10	-EPZ	1642	14.8	
8	+EPZ	1444	27.8		10	-EPZ	2146	25.4	
8	+EPZ	1455	12.6	#-686	10	+EPZ	2317	54.7	
8	+EPZ	1632	01.3		10	+EPZ	2322	26.0	
8	+EPZ	1845	51.6		11	-EPZ	0718	11.8	
8	-EPZ	1845	54.0		11	+EPZ	1342	39.9	
8	ESH	1852	16.0		11	+EPZ	1343	00.8	
8	+EPZ	2248	18.4		11	+EPZ	1504	21.8	
9	-EPZ	0319	43.0		11	+EPZ	1641	34.8	#-696
9	-EPZ	0448	44.4		11	-EPcPZ	1641	36.4	#-696
9	-EPZ	0546	05.6	#-687	11	-EXZ	1652	18.2	#-697
9	+IPZ	0635	48.6	#-688	11	-EPZ	1718	01.0	
9	-IpPZ	0635	54.2	#-688	11	+EPZ	1744	19.3	
9	ESH	0645	37.6	#-688	11	+EPZ	2041	28.5	
9	-EPZ	0928	23.5		11	+EPZ	2106	47.2	#-698
9	-EpPZ	0942	44.4	#-689	11	+EpPZ	2106	53.4	#-698
9	+EPZ	1104	47.2		11	+IPZ	2153	25.2	#-699
9	+EPZ	1544	48.0	#-690	11	+IPcPZ	2153	29.0	#-699
9	-EpPZ	1545	06.5	#-690	11	-IpPZ	2154	00.2	#-699
9	ESH	1554	28.0	#-690	11	ESH	2203	39.8	#-699
9	+EPZ	1741	18.8		12	+EPZ	0132	01.6	
9	-IPZ	1741	20.2		12	+EPZ	0701	17.3	
9	ESH	1751	40.6		12	+EPZ	0744	53.3	
9	+EPZ	1803	02.8		12	-EPZ	0820	11.6	
9	+EPZ	1902	51.4	#-691	12	+EPZ	1058	07.7	#-700
9	-EPZ	1902	53.6	#-691	12	+EPZ	1207	19.8	
9	-EPZ	1946	38.6		12	-EPZ	1413	54.5	
9	-IPZ	2020	27.0	#-692	12	+EPZ	1610	05.6	
9	ESH	2030	11.0	#-692	13	-EPZ	0426	57.0	
9	-EPZ	2113	21.6	#-693	13	+EPZ	0502	02.2	
9	-EPcPZ	2113	24.0	#-693	13	+EPZ	0837	01.2	
10	-EPZ	0221	21.6		13	+EPZ	0846	21.2	
10	+EPcPZ	1046	40.0	#-694	13	-EPZ	0853	36.4	#-701
10	+EPZ	1122	38.3		13	-IpPZ	0853	40.6	#-701
10	+EPZ	1328	29.0	#-695	13	-EPZ	0907	41.4	#-702
10	-IPcPZ	1328	34.9	#-695	13	+EPZ	0918	06.8	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
13	+EPZ	1316	13.2		16	+EpPZ	2043	45.5	#-707
13	-EPZ	1913	17.0	#-703	16	+EPZ	2337	21.6	
13	+EsPZ	1913	35.0	#-703	17	+EpPZ	0823	06.6	#-708
13	+EPZ	2250	15.5		17	-EPZ	1107	56.2	#-709
13	-EPZ	2330	11.0		17	-IPcPZ	1107	58.2	#-709
13	+EPZ	2333	10.2		17	+EPZ	1400	18.3	#-710
13	-EPZ	2333	17.8		17	+EpPZ	1618	46.2	#-711
14	+EPZ	0518	54.6	#-704	17	-EPZ	1619	09.9	
14	-EpPZ	0519	17.2	#-704	17	-EPZ	2044	54.8	#-712
14	+EPZ	1429	01.6		17	-EpPZ	2045	25.3	#-712
14	+EPZ	1648	35.0		18	-EPZ	0054	56.8	
14	+EPZ	1738	03.8		18	+EPZ	0210	01.9	
14	+EPZ	1857	23.2		18	+EPZ	0316	01.7	#-713
14	-EPZ	2041	56.4	#-705	18	-EPZ	0332	18.6	#-714
14	-IPZ	2041	57.8	#-705	18	-EPcPZ	0332	21.5	#-714
14	-EPZ	2239	56.6		18	+EPZ	0629	56.4	
15	+EPZ	0005	05.1		18	-IPZ	0630	04.8	
15	+EPZ	0529	54.6		18	+IPZ	0635	15.2	#-715
15	-EPZ	0530	06.6		18	-EPZ	0705	52.5	
15	+EPZ	0802	51.8		18	-EPZ	0818	55.0	
15	+EPZ	0900	44.6		18	+EPZ	0819	01.0	
15	+EPZ	1044	50.3		18	+EPZ	1012	21.7	
15	-EPZ	1516	16.2		18	+EPZ	1535	51.4	
15	-IPZ	1531	23.0		18	-IPZ	1603	09.8	#-716
15	+IPZ	1541	15.5		18	-EPcPZ	1603	12.4	#-716
15	+EPZ	2334	17.0		18	+EPZ	1634	17.5	
16	-EPZ	0942	31.5		18	-EPZ	2048	44.7	
16	+EPZ	1029	13.0	#-706	18	-IPZ	2109	07.4	#-717
16	-EPZ	1029	16.4	#-706	18	-IPcPZ	2109	09.6	#-717
16	+EPZ	1120	50.3		18	ESH	2118	41.2	
16	+EPZ	1124	23.4		18	-IPZ	2130	19.8	
16	+EPZ	1203	37.5		18	ESH	2139	11.4	
16	-EPZ	1230	09.9		18	-IPZ	2201	19.9	
16	+EPZ	1449	31.4		18	-IPZ	2201	22.0	
16	+EPZ	1621	17.9		18	ESH	2210	13.0	
16	-EPZ	1841	31.6		18	-EPZ	2244	18.8	
16	-EPZ	1841	33.8		18	+EPZ	2341	01.1	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
19	-IPZ	0031	44.0		20	+EPZ	1757	41.6	#-732
19	+EPZ	0139	15.0	#-718	20	+EPcPZ	1757	44.2	#-732
19	+EPZ	0152	14.0		20	+EPZ	2056	19.8	#-733
19	+EPZ	0223	44.9		20	+EPcPZ	2056	23.5	#-733
19	+EPZ	0435	03.6		20	+EPZ	2113	54.4	
19	-EPZ	0740	57.6	#-719	20	+IPZ	2113	55.6	
19	+EPZ	0819	03.8	#-720	20	-IPZ	2113	58.0	
19	+EPZ	0933	49.6		20	-EPZ	2222	30.2	
19	-IPZ	0946	56.0		20	+EXZ	2252	02.6	#-734
19	-IPZ	0946	57.2		21	-EPZ	0516	25.8	
19	ESH	0955	47.0		21	+EPZ	0624	11.0	
19	+EPZ	1101	00.6		21	+EPZ	0659	42.6	#-735
19	-EPZ	1408	19.6	#-721	21	+EPcPZ	0659	55.6	#-735
19	+EPZ	1436	19.4		21	-EPZ	0822	00.8	
19	-IPZ	1659	40.2	#-722	21	+EPZ	0822	14.2	
19	+EPcPZ	1700	09.6	#-722	21	-EPZ	0935	50.2	
19	-EPZ	1936	43.9	#-723	21	-EPZ	0936	04.6	
19	+EPcPZ	1936	56.5	#-723	21	-EPZ	0954	38.4	
19	+EPZ	2015	19.9	#-724	21	-EPZ	1400	11.2	#-736
19	+EPZ	2246	20.0	#-725	21	-EPcPZ	1400	15.8	#-736
20	+EPZ	0125	17.2		21	+EPZ	1541	05.0	
20	-EPZ	0622	16.6	#-726	21	+EPZ	1541	29.0	
20	-EsPZ	0622	22.0	#-726	21	-EPZ	2003	01.4	
20	+EPZ	0723	17.1	#-727	21	-EPZ	2138	06.1	
20	-EPZ	0902	48.2		22	-EPZ	0402	03.4	
20	+EPK'dfZ	1048	25.6	#-728	22	-EPZ	0548	15.0	
20	+EPZ	1101	52.3		22	+EPZ	1036	41.8	
20	+EPZ	1140	25.2	#-729	22	-EPZ	1314	18.0	
20	+EPZ	1232	06.0		22	+EPZ	1320	02.6	
20	+EPZ	1232	20.4		22	-EPZ	1404	33.8	#-737
20	+EPZ	1437	06.4		22	+EPcPZ	1404	41.0	#-737
20	+EPZ	1556	31.2		22	+EPZ	1610	27.7	
20	+EPZ	1556	32.7		22	+EPZ	1710	00.3	
20	+EPZ	1608	17.4		22	-EPZ	1812	28.6	
20	+EPZ	1654	01.6	#-730	22	+EPZ	1819	29.9	#-738
20	+IPZ	1717	40.0	#-731	22	+EPZ	1858	40.4	
20	-IPcPZ	1718	07.0	#-731	22	+EPZ	1928	45.0	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
22	+EPZ	2335	16.1		25	-EPZ	0023	33.2	
22	-EPZ	2344	51.8		25	-EPZ	0024	13.2	
23	-EPZ	0016	20.3		25	+EPZ	0036	07.7	
23	+EPZ	0017	05.8		25	-EPZ	0128	23.5	
23	+EPZ	0017	07.4		25	+EPZ	0212	28.0	
23	+EPcPZ	0057	04.5	#-739	25	-EPZ	0245	00.6	
23	+EpPZ	0057	11.8	#-739	25	-IPZ	0333	21.6	#-743
23	+EPZ	0107	14.8		25	ESH	0343	32.6	#-743
23	-EPZ	0126	06.4		25	+EPZ	0423	54.3	
23	+EPZ	0935	07.8		25	-EPZ	0516	02.5	
23	+EPZ	1040	01.8		25	+EPZ	0516	19.8	
23	-IPZ	1128	26.0		25	-EPZ	0536	48.2	
23	-IPZ	1128	38.5		25	+EXZ	0832	29.6	#-744
23	+EPZ	1419	37.4		25	+EPZ	0911	58.5	
23	+EPZ	1804	47.2	#-740	25	-EPZ	1118	36.7	
23	-EpPZ	1805	09.2	#-740	25	+EPZ	1203	26.8	
23	-EPZ	1825	06.4		25	-EPZ	1324	29.6	
23	+EXZ	2113	07.3	#-741	25	+EPZ	1349	08.9	
23	+EPZ	2135	30.0		25	-EPZ	1349	12.6	
24	+EPZ	0044	33.7		25	-EPZ	1532	57.4	
24	+EPZ	0621	11.2		25	+EPZ	1547	12.0	
24	+EPZ	0924	35.6	#-742	25	+EPZ	1824	31.8	#-745
24	+IPcPZ	0924	37.2	#-742	25	-EPcPZ	1824	33.9	#-745
24	+EPZ	1007	03.3		25	-EPZ	2014	52.5	
24	+EPZ	1019	04.4		25	+EPZ	2253	39.9	#-746
24	-EPZ	1019	22.2		25	+EsPZ	2253	48.0	#-746
24	+EPZ	1037	55.0		26	+IPZ	0326	55.3	#-747
24	+EPZ	1100	06.5		26	-EPZ	0606	35.5	
24	+EPZ	1332	24.1		26	+EPZ	0916	03.7	#-748
24	+EPZ	1412	18.8		26	+EPZ	1047	47.3	
24	-EPZ	1501	51.6		26	+EPZ	1054	06.8	
24	+EPZ	1712	12.0		26	+EPZ	1519	13.9	
24	+EPZ	1827	13.4		26	+EXZ	1641	24.0	#-749
24	+EPZ	1913	00.5		26	-EPZ	1652	43.6	
24	+EPZ	2045	15.4		26	+EPZ	2000	36.2	
24	+EPZ	2157	08.2		26	-EPZ	2124	20.7	
24	+EPZ	2239	45.8		27	+EPZ	0136	19.2	

Table 1. Continued.

Date	Phase	Time H M	S	Remarks	Date	Phase	Time H M	S	Remarks
27	+EPZ	0214	40.0		29	+EPZ	1653	46.2	
27	+EPZ	0808	37.0		29	+EPZ	1938	17.0	
27	+EPZ	0809	23.0		30	+EPZ	0333	55.0	#-756
27	+EPZ	0947	30.6	#-750	30	+EPZ	0356	38.6	
27	+EPZ	1024	14.0		30	+EPZ	0857	13.3	
27	-EPZ	1252	17.8		30	+EPZ	1122	04.2	
27	-EPZ	1307	34.8		30	+EPZ	1122	06.4	
27	+EPZ	1742	36.3		30	-EPZ	1552	15.5	
27	-EPZ	2120	36.2	#-751	30	-IPZ	1649	05.6	
27	-EPZ	2128	23.9		30	-EPcPZ	1756	52.3	#-757
27	-EPZ	2217	48.2		30	-IpPZ	2001	45.0	#-758
27	-EPZ	2241	01.5		30	+EPcPZ	2001	54.3	#-758
27	+EPZ	2337	18.5		30	+EPZ	2331	39.4	
28	+EPZ	0440	03.1		31	+EPZ	0214	25.6	
28	+EPZ	0915	26.5		31	-EPZ	0322	12.6	
28	+EPZ	1002	08.5		31	-EPZ	0825	33.0	
28	-EPZ	1023	10.6		31	+EPZ	1143	41.8	
28	+EPZ	1323	27.0		31	+EPZ	1153	05.2	#-759
28	-EPKiKPZ	1351	07.6	#-752	31	+IPZ	1414	28.8	#-760
28	+EsPKiKPZ	1351	29.8	#-752	31	-IXZ	1414	31.4	#-760
28	-EPZ	1416	24.6		31	-IpPZ	1415	06.4	#-760
28	-EPZ	1514	36.6		31	ESII	1424	27.8	#-760
28	+EPZ	1637	33.0						
28	+EPZ	2159	37.6						
28	-EPZ	2219	48.0	#-753					
28	-EPcPZ	2219	52.4	#-753					
28	-EPZ	2309	56.6						
28	-EPZ	2321	15.0						
29	+EPZ	0054	11.0						
29	+EPZ	0135	03.2						
29	+EPZ	0355	41.0						
29	+EPZ	0355	47.1						
29	+EXZ	0633	09.6	#-754					
29	-EPZ	1423	38.2						
29	+EPZ	1451	44.6	#-755					
29	+EPcPZ	1451	55.2	#-755					
29	+EPZ	1504	26.4						

Table 2. List of hypocenters of teleseismic events detected at Syowa Station.
The total number of events is 760.

No.	Date	Origin time UTC			Geographic Coordinates		Dep	Epicentral distance		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)		(km)	(deg)	Mb	Ms	
#-1	1	1	6	32	33.2	40.334	72.976	42	112.20	5.7	5.4	KYRGYZSTAN
#-2	1	1	18	55	3.5	-5.994	146.912	74	90.69	5.9	-	EASTERN NEW GUINEA REG, P.N.G.
#-3	1	1	19	13	8.1	-5.969	146.914	61	90.71	5.6	-	EASTERN NEW GUINEA REG, P.N.G.
#-4	1	2	8	42	27.0	-23.122	-70.586	37	75.16	5.1	-	OFFSHORE ANTOFAGASTA, CHILE
#-5	1	2	11	44	54.2	-23.669	-114.840	10	85.39	5.1	-	EASTER ISLAND REGION
#-6	1	2	23	26	58.5	-15.955	-72.891	74	82.64	4.8	-	SOUTHERN PERU
#-7	1	3	11	15	48.5	-5.927	122.669	10	82.20	5.5	-	SULAWESI, INDONESIA
#-8	1	4	1	26	28.5	-21.410	-68.217	97	75.99	5.7	-	ANTOFAGASTA, CHILE
#-9	1	4	7	29	18.5	-2.778	101.040	35	77.70	5.9	5.9	SOUTHERN SUMATRA, INDONESIA
#-10	1	5	7	29	33.4	-22.793	-68.420	103	74.77	5.5	-	ANTOFAGASTA, CHILE
#-11	1	5	19	51	24.3	-6.816	153.289	53	92.03	4.9	-	NEW BRITAIN REG, P.N.G.
#-12	1	5	19	55	29.7	-61.980	-155.066	10	48.63	4.9	-	PACIFIC-ANTARCTIC RIDGE
#-13	1	5	20	1	56.2	5.466	94.680	69	83.56	5.4	-	NORTHERN SUMATRA, INDONESIA
#-14	1	6	8	54	59.4	-9.364	107.377	35	73.61	5.2	-	SOUTH OF JAVA, INDONESIA
#-15	1	6	18	30	6.4	-18.246	-177.927	516	88.83	4.9	-	FIJI REGION
#-16	1	7	19	16	12.4	-30.181	-177.691	43	77.23	5.4	-	KERMADEC ISL., NEW ZEALAND
#-17	1	8	10	24	51.4	-21.804	-179.984	602	84.94	5.1	-	FIJI REGION
#-18	1	8	19	23	37.0	-3.952	131.382	35	87.16	5.7	5.5	CERAM SEA, INDONESIA
#-19	1	8	23	4	16.8	-5.623	110.210	551	78.09	4.6	-	JAVA SEA
#-20	1	9	1	45	34.8	-25.780	-178.931	381	81.28	4.6	-	SOUTH OF THE FIJI ISLANDS
#-21	1	9	10	28	22.5	-30.544	-71.789	35	68.60	4.8	-	OFFSHORE COQUIMBO, CHILE
#-22	1	9	21	33	18.7	2.519	128.623	229	92.21	5.3	-	HALMAHERA, INDONESIA
#-23	1	10	1	37	18.8	43.833	-127.275	10	153.85	5.7	5.9	OFF THE COAST OF OREGON
#-24	1	12	8	32	46.5	-56.428	-27.241	89	30.94	5.5	-	SOUTH SANDWICH ISLANDS REGION
#-25	1	12	10	13	25.9	4.161	126.917	69	93.14	5.2	-	KEPULAUAN TALAUD, INDONESIA
#-26	1	12	15	34	49.2	-4.472	144.141	148	91.17	4.7	-	NR N CST NEW GUINEA, P.N.G.
#-27	1	12	15	38	6.4	-7.484	-71.604	557	90.20	4.8	-	AMAZONAS, BRAZIL
#-28	1	12	22	44	48.1	22.797	92.395	38	99.49	5.0	-	INDIA-BANGLADESH BORDER REGION
#-29	1	13	11	16	36.2	-15.998	-173.066	10	91.98	5.1	-	TONGA
#-30	1	14	1	20	2.9	-35.405	53.835	10	34.60	5.4	-	SOUTHWEST INDIAN RIDGE
#-31	1	14	13	38	38.5	10.422	92.939	56	87.79	5.7	5.6	ANDAMAN ISLANDS, INDIA REGION
#-32	1	14	21	24	4.0	-29.113	-69.771	95	69.30	4.6	-	SAN JUAN, ARGENTINA

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates			Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude	(km)			(deg)	Mb		Ms
		h	m	s	(deg)	(deg)							
#-33	1	15	17	52	15.6	-21.905	-179.524	596	84.93	5.8	-	FIJI REGION	
#-34	1	16	11	54	44.4	32.349	85.146	12	106.85	6.0	5.8	WESTERN XIZANG	
#-35	1	17	15	39	16.4	52.983	159.344	68	148.69	5.2	-	OFF E CST KAMCHATKA, RUSSIA	
#-36	1	18	8	8	8.7	-20.818	-178.934	586	86.12	4.6	-	FIJI REGION	
#-37	1	18	19	31	12.7	-20.875	-179.189	641	86.01	5.1	-	FIJI REGION	
#-38	1	18	21	33	1.4	-23.615	-66.661	194	73.42	4.3	-	JUJUY, ARGENTINA	
#-39	1	18	23	46	55.7	-15.117	-74.665	55	83.99	4.8	-	NIR CST S PERU	
#-40	1	19	13	45	21.8	-21.783	-178.406	375	85.28	5.1	-	FIJI REGION	
#-41	1	20	10	27	23.0	1.815	126.820	77	90.91	5.1	-	MOLUCCA SEA	
#-42	1	20	15	15	15.5	-31.296	-179.957	342	75.70	4.9	-	KERMADEC ISLANDS REGION	
#-43	1	21	3	22	58.6	-0.064	123.775	159	88.07	4.9	-	SULAWESI, INDONESIA	
#-44	1	21	15	28	35.2	-10.562	41.553	10	58.47	4.9	-	COMOROS REGION	
#-45	1	22	7	55	53.2	-15.313	-175.319	35	92.22	5.5	6.0	TONGA	
#-46	1	22	9	9	28.0	-19.806	-69.905	46	78.05	5.1	-	TARAPACA, CHILE	
#-47	1	22	10	49	26.6	-15.331	-175.664	41	92.14	5.6	-	TONGA	
#-48	1	22	12	29	4.5	3.501	95.420	35	81.91	4.8	-	OFF WEST COAST OF N SUMATRA	
#-49	1	22	17	14	54.4	0.938	97.410	27	80.07	5.1	-	NIAS REGION, INDONESIA	
#-50	1	23	6	13	27.0	-22.681	173.300	16	82.58	5.0	-	SOUTHEAST OF LOYALTY ISLANDS	
#-51	1	23	10	39	55.4	-6.802	125.284	540	82.32	4.7	-	BANDA SEA	
#-52	1	23	12	20	10.0	-20.491	-175.541	35	87.11	5.2	-	TONGA	
#-53	1	23	13	41	2.8	-11.158	164.919	37	91.46	5.0	-	SANTA CRUZ ISLANDS REGION	
#-54	1	23	13	54	23.9	-21.982	-179.550	586	84.85	4.6	-	FIJI REGION	
#-55	1	23	19	23	34.4	-2.892	101.117	50	77.62	5.1	-	SOUTHERN SUMATRA, INDONESIA	
#-56	1	24	12	3	39.3	-3.948	101.625	35	76.78	5.3	-	SOUTHERN SUMATRA, INDONESIA	
#-57	1	24	20	4	15.7	-0.153	124.043	108	88.08	5.2	-	MOLUCCA SEA	
#-58	1	25	7	40	48.8	-21.022	-178.694	528	85.97	4.6	-	FIJI REGION	
#-59	1	25	14	19	25.8	-5.990	153.241	35	92.80	4.7	-	NEW IRELAND REG, P. N. G.	
#-60	1	25	17	15	7.0	-6.066	151.806	35	92.26	4.9	-	NEW BRITAIN REG, P. N. G.	
#-61	1	26	3	1	46.3	-4.592	142.360	87	90.44	4.8	-	NEW GUINEA, PAPUA NEW GUINEA	
#-62	1	26	6	8	2.4	1.079	97.225	35	80.15	4.5	-	NIAS REGION, INDONESIA	
#-63	1	26	17	59	50.1	-2.915	-80.277	64	97.33	5.2	-	NEAR THE COAST OF ECUADOR	
#-64	1	27	12	48	0.5	-8.650	110.682	35	75.42	4.6	-	JAVA, INDONESIA	

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude			Mb	Ms		
		h	m	s	(deg)	(deg)						(km)
#-65	1	28	4	5	13.5	49.660	155.856	48	144.72	5.1	-	KURIL ISLANDS
#-66	1	28	7	1	34.0	-30.828	-71.875	30	68.36	4.9	-	OFFSHORE COQUIMBO, CHILE
#-67	1	28	10	31	26.6	-27.851	-176.526	45	79.72	5.2	-	KERMADEC ISLANDS REGION
#-68	1	31	9	36	22.0	-34.942	-70.422	97	64.08	4.8	-	LIBERTADOR O' HIGGINS, CHILE
#-69	2	2	0	22	7.2	-22.093	-68.281	95	75.37	5.4	-	ANTOFAGASTA, CHILE
#-70	2	3	7	34	12.1	-2.318	28.944	10	67.03	5.9	5.8	LAC KIVU REGI
#-71	2	3	10	55	31.8	-8.920	111.230	35	75.36	4.7	-	JAVA, INDONESIA
#-72	2	3	10	56	9.8	-2.442	28.970	10	66.91	5.0	-	RWANDA
#-73	2	3	12	57	54.4	0.017	123.585	169	88.08	4.5	-	MINAHASA, SULAWESI, IND.
#-74	2	3	14	24	37.0	-56.265	-27.020	96	30.99	5.5	-	SOUTH SANDWICH ISLANDS REGION
#-75	2	3	17	31	32.2	-17.636	167.874	35	86.06	4.9	-	VANUATU
#-76	2	4	17	1	29.5	-20.123	-70.000	32	77.78	6.1	-	TARAPACA, CHILE
#-77	2	5	5	56	48.5	-3.526	118.072	23	82.80	5.7	5.3	SULAWESI, INDONESIA
#-78	2	7	7	50	55.3	1.225	122.665	36	88.88	5.3	5.3	MINAHASA, SULAWESI, INDONESIA
#-79	2	7	9	25	31.6	-22.585	-179.268	477	84.32	5.2	-	SOUTH OF THE FIJI ISLANDS
#-80	2	7	21	30	3.8	-23.492	179.969	513	83.28	5.1	-	SOUTH OF THE FIJI ISLANDS
#-81	2	10	12	22	2.7	-60.684	-25.544	8	27.20	6.5	6.5	SOUTH SANDWICH ISLANDS REGION
#-82	2	14	7	59	24.7	-8.307	128.617	29	82.11	5.0	-	TIMOR SEA
#-83	2	18	8	51	3.8	-31.353	-68.650	100	66.86	4.6	-	SAN JUAN, ARGENTINA
#-84	2	18	9	54	23.1	-21.607	170.383	125	82.90	5.4	-	SOUTHEAST OF LOYALTY ISLANDS
#-85	2	18	15	29	52.8	-21.334	-69.813	53	76.58	4.5	-	TARAPACA, CHILE
#-86	2	19	17	1	29.1	-2.450	99.930	13	77.65	5.6	-	KEPULAUAN MENTAWAI REGION, IND.
#-87	2	20	12	49	44.4	-53.034	-46.636	10	40.33	5.6	-	SOUTH ATLANTIC OCEAN
#-88	2	21	4	16	53.5	-18.389	-177.920	501	88.69	4.9	-	FIJI REGION
#-89	2	21	21	41	39.5	-2.157	138.690	11	91.44	5.5	5.3	PAPUA, INDONESIA
#-90	2	21	23	52	15.7	51.261	-177.336	71	155.34	5.5	-	ANDREANOF ISL., ALEUTIAN IS., ALASKA
#-91	2	24	4	36	28.4	-3.774	101.936	40	77.05	5.5	-	SOUTHERN SUMATRA, INDONESIA
#-92	2	24	14	46	21.6	-2.367	99.949	22	77.74	6.1	6.4	KEPULAUAN MENTAWAI REGION, INDONESIA
#-93	2	25	9	11	10.6	-24.162	179.926	493	82.62	4.8	-	SOUTH OF THE FIJI ISLANDS
#-94	2	25	18	6	5.5	-2.322	99.927	35	77.77	6.2	-	KEPULAUAN MENTAWAI REGION, INDONESIA
#-95	2	27	4	54	27.6	-34.678	-178.934	46	72.61	5.1	-	SOUTH OF KERMADEC ISLANDS
#-96	2	28	11	55	7.6	49.455	155.516	72	144.43	5.2	-	KURIL ISLANDS

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep Epicentral		Magnitude		Region	
		UTC			Latitude	Longitude	distance					
		h	m	s	(deg)	(deg)	(km)	(deg)	Mb	Ms		
#-97	2	29	22	51	34.3	-40.266	-74.589	10	60.39	5.2	-	OFFSHORE LOS LAGOS, CHILE
#-98	3	1	18	51	26.4	53.868	159.303	112	149.39	5.6	-	NR THE E COAST OF KAMCHATKA, RUSSIA
#-99	3	1	19	51	59.4	-20.175	-69.824	36	77.67	5.8	5.1	TARAPACA, CHILE
#-100	3	1	19	55	56.6	51.786	-179.446	35	155.11	5.2	-	ANDREANOF ISL, ALEUTIAN IS., ALASKA
#-101	3	1	21	54	54.3	-35.569	-179.346	35	71.66	5.6	-	EAST OF N ISL, NEW ZEALAND
#-102	3	2	21	58	56.7	-58.221	-139.691	10	52.77	5.4	5.0	PACIFIC-ANTARCTIC RIDGE
#-103	3	3	2	37	27.3	-2.160	99.845	25	77.90	5.8	6.2	KEPULAUAN MENTAWAI REGION, IND.
#-104	3	3	13	49	40.4	19.908	121.379	10	105.85	6.0	-	BABUYAN ISLANDS REG., PHILIPPINES
#-105	3	3	14	11	14.5	13.357	125.664	24	101.27	6.4	6.7	PHILIPPINE ISLANDS REGION
#-106	3	3	17	48	32.0	-4.478	101.386	28	76.20	5.5	-	SOUTHERN SUMATRA, IND.
#-107	3	4	19	24	30.6	52.335	-173.725	35	157.40	5.1	-	ANDREANOF ISL, ALEUTIAN IS., ALASKA
#-108	3	6	3	36	14.6	-2.268	99.726	35	77.76	5.4	-	KEPULAUAN MENTAWAI REGION, IND.
#-109	3	6	4	28	1.8	-23.655	-179.676	463	83.20	5.1	-	SOUTH OF THE FIJI ISLANDS
#-110	3	6	7	35	36.0	-5.399	36.053	10	63.64	4.7	-	TANZANIA
#-111	3	6	12	19	16.1	-24.549	-64.331	39	71.78	5.3	-	SALTA, ARGENTINA
#-112	3	6	21	0	40.3	-22.253	179.125	656	84.31	4.4	-	SOUTH OF THE FIJI ISLANDS
#-113	3	7	7	58	24.8	13.166	125.526	10	101.04	5.0	-	PHILIPPINE ISLANDS REGION
#-114	3	7	8	51	40.6	-6.339	154.916	74	93.01	4.7	-	BOUGAINVILLE REG, P. N. G.
#-115	3	7	16	54	56.3	36.474	140.420	35	127.73	5.2	-	NEAR E COAST HONSHU, JAPAN
#-116	3	7	22	35	2.5	-17.276	-70.052	98	80.47	5.2	-	SOUTHERN PERU
#-117	3	8	17	50	25.9	-13.767	170.470	617	80.47	4.4	-	VANUATU REGION
#-118	3	9	15	27	54.3	-58.117	-24.942	67	28.85	5.0	-	SOUTH SANDWICH ISL REGION
#-119	3	10	0	28	50.2	-8.331	117.226	41	78.02	5.0	-	SUMBAWA REG, IND.
#-120	3	10	5	6	12.3	-22.203	-70.026	42	75.84	4.9	-	ANTOFAGASTA, CHILE
#-121	3	10	12	24	0.8	1.492	126.476	53	90.49	4.9	-	MOUOCCA SEA
#-122	3	12	2	7	7.5	-16.554	167.231	36	86.93	5.3	-	VANUATU
#-123	3	12	11	36	55.2	-16.480	167.176	10	86.99	5.6	-	VANUATU
#-124	3	13	1	16	45.8	1.688	126.655	64	90.73	5.4	-	MOUOCCA SEA
#-125	3	13	8	41	7.5	43.043	146.539	54	135.73	5.6	-	KURIL ISLANDS
#-126	3	14	3	17	13.4	-4.589	153.039	67	94.05	5.0	-	NEW IRELAND REG, P. N. G.
#-127	3	14	9	59	4.9	-3.071	141.733	58	91.65	5.1	-	NEW GUINEA, PAPUA NEW GUINEA
#-128	3	14	15	48	33.8	-22.301	-174.734	35	85.49	5.1	-	TONGA REGION

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		h	m	s	Latitude (deg)	Longitude (deg)			(km)	(deg)		Mb
#-129	3	14	16	2	22.4	-22.190	-175.035	35	85.54	5.4	-	TONGA REGION
#-130	3	15	21	36	19.4	-6.204	130.255	164	84.66	4.5	-	BANDA SEA
#-130	3	16	0	49	5.3	-6.263	130.419	130	84.66	4.9	-	BANDA SEA
#-131	3	16	6	17	54.0	-1.732	69.179	10	70.26	4.3	-	CARLSBERG RIDGE
#-132	3	16	10	43	11.6	-17.371	-69.911	136	80.33	4.7	-	SOUTHERN PERU
#-133	3	16	12	37	55.7	-6.184	-79.708	73	94.05	4.6	-	NEAR THE COAST OF NORTHERN PERU
#-134	3	16	23	5	27.2	-2.941	101.023	53	77.54	5.3	-	SOUTHERN SUMATRA, INDONESIA
#-135	3	18	8	22	48.0	-28.932	-177.469	25	78.49	5.8	6.1	KERMADEC ISLANDS REGION
#-136	3	19	11	55	53.3	-6.915	155.292	27	92.58	5.2	-	BOUGAINVILLE REG, P.N.G.
#-137	3	20	12	15	42.0	1.575	127.261	104	90.84	5.2	-	HALMAHERA, INDONESIA
#-138	3	20	14	10	40.4	6.192	126.934	45	95.04	6.0	5.7	MINDANAO, PHILIPPINES
#-139	3	20	22	32	57.9	35.490	81.467	10	109.08	6.3	7.3	WESTERN XIZANG
#-140	3	20	22	38	53.5	35.505	81.398	10	109.08	5.3	-	WESTERN XIZANG
#-141	3	20	22	49	57.6	35.457	81.409	10	109.03	5.0	-	WESTERN XIZANG
#-142	3	22	4	9	7.9	-0.051	123.354	151	87.93	4.9	-	MINAHASA, SULAWESI, IND.
#-143	3	22	21	24	11.2	52.176	-178.716	132	155.68	5.8	-	ANDREANOF ISL, ALEUTIAN IS., ALASKA
#-144	3	26	17	49	17.2	-7.649	128.330	156	82.62	4.5	-	KEPULAUAN BARAT DAYA, IND.
#-145	3	26	18	33	34.0	46.428	152.979	16	140.96	5.5	5.2	KURIL ISLANDS
#-146	3	26	20	6	5.8	13.594	144.879	70	108.34	5.4	-	GUAM REGION
#-147	3	27	19	25	41.2	-3.920	141.897	70	90.91	5.1	-	NEW GUINEA, PAPUA NEW GUINEA
#-148	3	28	1	35	18.9	1.858	128.470	67	91.54	4.9	-	HALMAHERA, INDONESIA
#-149	3	28	15	53	36.7	-4.542	128.414	254	85.55	4.9	-	BANDA SEA
#-150	3	29	1	53	37.0	1.065	126.260	8	90.01	5.4	-	MOLUCCA SEA
#-151	3	29	2	23	6.8	0.636	126.754	10	89.79	5.0	-	MOLUCCA SEA
#-152	3	29	17	30	50.1	2.855	95.296	20	81.25	5.8	6.5	SIMEULUE, INDONESIA
#-153	3	30	13	10	27.1	13.067	93.928	35	90.60	4.7	-	ANDAMAN ISL, INDIA REGION
#-154	3	30	22	12	51.4	0.114	98.242	49	79.55	5.4	-	NIAS REGION, INDONESIA
#-155	3	31	16	37	59.5	-2.932	101.117	63	77.58	4.7	-	SOUTHERN SUMATRA, INDONESIA
#-156	4	1	2	37	11.5	1.550	126.308	52	90.48	5.3	-	MOLUCCA SEA
#-157	4	1	13	33	28.9	-4.146	153.607	174	94.66	4.8	-	NEW IRELAND REG, P.N.G.
#-158	4	2	0	25	54.3	-6.928	155.757	94	92.72	4.9	-	BOUGAINVILLE REG, P.N.G.
#-159	4	2	8	48	49.7	-4.346	102.717	67	76.76	5.8	-	SOUTHERN SUMATRA, INDONESIA

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Coordinates		Dep Epicentral distance		Magnitude		Region	
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb	Ms		
#-160	4	2	10	19	40.6	25.373	179.720	485	130.59	4.5	-	SOUTH OF THE FIJI ISLANDS
#-161	4	2	19	9	6.3	-0.159	99.191	81	79.59	5.3	-	SOUTHERN SUMATRA, INDONESIA
#-162	4	2	19	10	19.4	-7.046	129.203	180	83.49	5.5	-	KEPULAUAN BARAT DAYA, IND.
#-163	4	3	17	4	39.5	-3.448	145.229	6	92.51	4.9	-	NEW IRELAND REG, P. N. G.
#-164	4	3	19	59	22.9	-6.063	151.093	27	92.02	4.8	-	NEW BRITAIN REG, P. N. G.
#-165	4	3	21	41	25.5	0.027	127.466	153	89.47	5.0	-	MINAHASA, SULAWESI, IND.
#-166	4	4	3	19	8.4	47.558	155.581	35	142.86	5.1	-	KURIL ISLANDS
#-167	4	4	20	29	22.0	2.849	95.476	50	81.30	4.9	4.2	SIMEULUE, INDONESIA
#-168	4	6	7	23	27.2	51.614	179.276	62	154.54	5.0	-	RAT ISL., ALEUTIAN ISLANDS, ALASKA
#-169	4	7	6	30	36.7	-3.587	145.176	35	92.36	4.5	-	NR N CST NEW GUINEA, P. N. G.
#-170	4	14	3	15	38.2	-7.043	129.185	150	83.49	5.1	-	KEPULAUAN BARAT DAYA, IND.
#-171	4	15	22	59	51.5	51.856	-179.361	11	155.19	6.1	6.4	ANDREANOF ISL., ALEUTIAN IS., ALASKA
#-172	4	16	5	54	19.6	51.878	-179.165	13	155.28	6.1	6.5	ANDREANOF ISL., ALEUTIAN IS., ALASKA
#-173	4	16	8	11	32.3	0.829	126.081	10	89.73	5.7	5.4	MOJAJCA SEA
#-174	4	17	8	29	7.9	8.264	91.780	35	85.40	5.4	-	NICOBAR ISL., INDIA REGION
#-175	4	19	3	12	25.1	-7.815	125.694	13	81.52	5.8	5.8	KEPULAUAN BARAT DAYA, IND.
#-176	4	19	10	21	12.5	-7.875	125.722	10	81.47	5.6	5.6	KEPULAUAN BARAT DAYA, IND.
#-177	4	19	14	53	40.8	-7.870	125.691	10	81.47	5.3	-	KEPULAUAN BARAT DAYA, IND.
#-178	4	19	16	27	29.0	-7.935	125.704	10	81.41	5.0	-	KEPULAUAN BARAT DAYA, IND.
#-178	4	19	16	50	45.4	-7.930	125.626	10	81.39	5.0	-	KEPULAUAN BARAT DAYA, IND.
#-179	4	19	18	51	16.2	-7.945	125.808	5	81.44	5.0	-	KEPULAUAN BARAT DAYA, IND.
#-180	4	19	18	57	23.6	2.578	94.534	19	80.76	4.7	-	NORTHERN SUMATRA, INDONESIA
#-181	4	19	19	13	17.5	-6.678	129.910	35	84.09	4.0	-	BANDA SEA
#-182	4	20	10	27	21.2	-8.086	125.769	10	81.29	4.6	-	FLORES REGION, INDONESIA
#-183	4	20	13	1	20.4	-7.850	125.685	3	81.48	5.6	5.1	KEPULAUAN BARAT DAYA, IND.
#-184	4	20	22	9	30.3	-7.953	125.683	27	81.39	4.5	-	KEPULAUAN BARAT DAYA, IND.
#-185	4	23	14	5	42.8	-3.860	131.446	10	87.27	5.3	5.3	CERAM SEA, INDONESIA
#-186	4	27	5	2	39.9	-7.782	107.876	40	75.26	5.0	-	JAVA, INDONESIA
#-187	4	28	4	27	15.9	2.907	127.467	35	92.16	5.2	-	HALMAHERA, INDONESIA
#-188	4	28	13	58	37.0	-7.128	156.094	35	92.64	4.6	-	BOUGAINVILLE REG, P. N. G.
#-189	4	29	19	10	2.1	-6.108	127.484	404	83.75	5.6	-	BANDA SEA
#-190	4	30	3	3	6.9	40.836	-123.497	29	150.34	5.4	4.9	OFF THE COAST OF NORTHERN CALIFORNIA

Table 2. Continued.

No.	Date	Origin time				Geographic Coordinates		Dep	Epicentral		Magnitude		Region
		UTC				Latitude	Longitude		distance		Mb	Ms	
		h	m	s	(deg)	(deg)	(km)	(deg)					
#-191	4 30	18	1	9.3	-4.238	103.277	108	77.05	4.8	-		SOUTHERN SUMATRA, INDONESIA	
#-192	5 2	1	33	37.2	51.864	-177.528	14	155.80	6.3	6.8		ANDREANOF ISL., ALEUTIAN IS., ALASKA	
#-193	5 2	4	20	17.1	17.850	-178.612	600	123.80	4.1	-		FIJI REGION	
#-194	5 3	3	53	34.9	-3.015	101.319	50	77.56	5.6	-		KEPULAUAN MENTAWAI REG, IND.	
#-195	5 3	12	8	8.9	1.772	126.549	10	90.77	4.2	-		MOLUCCA SEA	
#-196	5 3	19	1	46.2	-6.640	155.091	35	92.78	5.4	5.4		BOUGAINVILLE REG, P.N.G.	
#-197	5 5	17	9	18.4	-5.908	151.600	35	92.34	4.8	-		NEW BRITAIN REG, P.N.G.	
#-198	5 6	23	27	37.6	-7.863	123.147	212	80.56	5.4	-		BANDA SEA	
#-199	5 7	16	16	36.1	36.156	141.756	23	127.93	5.9	-		NR THE E COAST OF HONSHU, JAPAN	
#-200	5 9	21	51	29.7	12.516	143.181	76	106.74	6.1	-		GUAM REGION	
#-201	5 10	15	31	58.0	3.299	128.328	35	92.84	4.0	-		N OF HALMAHERA, INDONESIA	
#-202	5 11	2	38	25.1	-7.666	128.493	47	82.66	4.4	-		KEPULAUAN BARAT DAYA, IND.	
#-203	5 11	4	6	1.0	-5.186	152.498	47	93.31	4.7	-		NEW IRELAND REGION, P.N.G.	
#-204	5 12	6	28	1.5	31.002	103.322	19	110.35	6.9	8.1		EASTERN SICHUAN CHINA	
#-205	5 12	6	43	14.3	31.211	103.715	10	110.66	5.8	-		EASTERN SICHUAN CHINA	
#-206	5 12	7	1	34.0	31.636	104.217	10	111.21	5.3	-		EASTERN SICHUAN CHINA	
#-207	5 12	15	28	53.4	31.058	103.514	10	110.46	5.0	4.5		EASTERN SICHUAN CHINA	
#-208	5 13	1	18	23.3	-4.011	152.164	35	94.31	4.0	-		NEW BRITAIN REG, P.N.G.	
#-209	5 14	11	35	15.5	-4.646	152.966	72	93.98	4.7	-		NEW IRELAND REGION, P.N.G.	
#-210	5 19	5	40	39.5	-7.141	130.576	35	83.90	5.3	-		KEPULAUAN TANIMBAR REG, IND.	
#-211	5 19	10	8	36.3	42.503	131.872	513	130.09	5.4	-		EASTERN RUSSIA-N.E. CHINA	
#-212	5 19	14	26	45.0	1.640	99.147	10	81.28	5.8	6.0		NORTHERN SUMATRA, INDONESIA	
#-213	5 19	14	49	17.6	1.724	99.180	10	81.37	5.3	-		KEPULAUAN MENTAWAI REG, IND.	
#-214	5 19	15	19	21.3	-5.731	147.200	127	91.03	5.2	-		E NEW GUINEA REG, P.N.G.	
#-215	5 20	5	12	7.3	4.453	95.923	121	82.97	4.4	-		NORTHERN SUMATRA, INDONESIA	
#-216	5 20	12	22	34.0	2.181	96.754	35	81.05	4.8	-		SIMELUUE, INDONESIA	
#-217	5 20	13	53	35.6	51.162	178.759	27	153.99	5.8	6.0		RAT ISL., ALEUTIAN ISLANDS, ALASKA	
#-218	5 20	17	8	0.2	-3.181	101.475	47	77.46	5.6	5.2		SUMATRA, INDONESIA	
#-219	5 20	21	37	12.1	-8.580	-74.886	129	90.24	5.4	-		CENTRAL PERU	
#-220	5 21	2	45	52.6	-9.981	150.891	39	88.26	5.1	-		NEW BRITAIN REGION, P.N.G.	
#-221	5 21	23	23	9.2	-4.445	101.096	22	76.14	5.2	-		SOUTHERN SUMATRA, INDONESIA	
#-222	5 23	3	33	9.8	51.638	177.916	55	154.11	5.3	-		RAT ISL., ALEUTIAN ISLANDS, ALASKA	

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude			Mb	Ms		
		h	m	s	(deg)	(deg)						(km)
#-223	5	23	19	35	34.7	7.313	-34.897	8	91.17	6.0	6.4	CENTRAL MID-ATLANTIC RIDGE
#-224	5	23	22	50	37.0	-7.061	129.483	125	83.58	5.8	-	KEPULAUAN BARBAR, INDONESIA
#-225	5	24	7	40	42.3	-8.839	124.097	81	79.99	5.2	-	KEPULAUAN ALOR, INDONESIA
#-226	5	24	13	24	5.9	-7.181	156.069	29	92.58	5.8	5.5	SOLOMON ISLANDS
#-227	5	24	17	50	1.0	0.350	99.587	35	80.20	4.4	-	SUMATRA, INDONESIA
#-228	5	26	11	13	21.6	-9.333	116.260	50	76.74	4.7	-	SOUTH OF JAVA, INDONESIA
#-229	6	1	9	42	32.1	-4.583	129.532	10	85.91	5.5	4.9	BANDA SEA
#-230	6	1	10	33	28.3	-4.574	129.500	10	85.91	5.8	5.1	BANDA SEA
#-231	6	1	15	31	42.4	2.243	126.833	71	91.32	5.0	-	HALMAHERA, INDONESIA
#-232	6	1	15	59	48.7	-9.159	118.034	81	77.53	5.1	-	SUMBAWA REGION, INDONESIA
#-233	6	1	16	35	6.0	51.624	159.283	40	147.57	5.1	-	OFF E CST KAMCHATKA, RUSSIA
#-234	6	1	22	55	34.0	-4.592	129.593	10	85.92	5.4	-	BANDA SEA
#-235	6	2	19	47	16.2	-0.029	123.282	153	87.92	5.4	-	MINAHASA, SULAWESI, IND.
#-236	6	3	10	15	50.8	0.354	97.759	35	79.63	5.1	-	NIAS REGION, INDONESIA
#-237	6	3	17	31	32.3	-8.166	120.255	14	79.25	5.6	5.3	FLORES REGION, INDONESIA
#-238	6	3	17	55	8.8	-8.170	120.269	10	79.25	4.7	-	FLORES REGION, INDONESIA
#-239	6	3	19	38	16.0	-8.126	120.336	21	79.31	4.5	-	FLORES REGION, INDONESIA
#-240	6	3	21	3	46.7	-8.125	120.265	7	79.29	5.5	5.2	FLORES REGION, INDONESIA
#-241	6	3	22	4	27.8	-8.100	120.231	14	79.30	5.6	5.5	FLORES REGION, INDONESIA
#-242	6	3	22	49	57.0	-2.077	99.975	35	78.02	5.4	-	KEPULAUAN MENTAWAI REG, IND.
#-243	6	3	23	43	26.6	-8.142	120.127	10	79.22	4.8	-	FLORES REGION, INDONESIA
#-244	6	4	1	25	24.9	-0.627	122.639	46	87.14	5.2	-	SULAWESI, INDONESIA
#-245	6	4	10	47	15.0	-8.154	120.314	10	79.28	4.6	-	FLORES REGION, INDONESIA
#-246	6	5	12	0	13.8	-7.717	117.549	301	78.70	4.2	-	SOUTH OF SUMBAWA, INDONESIA
#-247	6	5	13	37	39.5	-8.733	-76.448	126	90.60	5.4	-	NORTHERN PERU
#-248	6	5	15	31	56.7	-9.747	114.155	28	75.61	4.7	-	SUMBAWA REGION, INDONESIA
#-249	6	6	3	42	50.6	-7.435	156.143	75	92.36	5.2	-	SOLOMON ISLANDS
#-250	6	6	13	42	48.9	-7.495	127.885	122	82.60	5.7	-	KEPULAUAN BARAT DAYA, INDONESIA
#-251	6	7	21	53	12.8	22.457	-175.069	35	129.11	5.3	-	TONGA REGION
#-252	6	7	22	3	18.1	-8.154	120.343	10	79.29	5.1	-	FLORES REGION, INDONESIA
#-253	6	7	22	9	4.5	-8.115	120.431	10	79.36	4.7	-	FLORES REGION, INDONESIA
#-254	6	8	16	35	46.2	3.715	126.621	41	92.61	4.9	-	KEPULAUAN TALAUD, INDONESIA

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region
		UTC			Latitude	Longitude			Mb	Ms	
		h	m	s	(deg)	(deg)	(km)	(deg)			
#-255	6 10	7	10	23.1	-5.172	154.581	46	94.00	5.2	-	BOUGAINVILLE REGION, P. N. G.
#-256	6 10	7	44	36.5	5.248	126.387	57	93.96	5.2	-	MINDANAO, PHILIPPINES
#-257	6 10	11	36	44.9	33.242	92.087	10	109.38	5.0	-	WESTERN XIZANG
#-258	6 11	8	37	45.8	6.558	124.216	51	94.41	5.3	-	MINDANAO, PHILIPPINES
#-259	6 11	13	13	19.6	4.224	123.126	557	91.84	4.8	-	CELEBES SEA
#-260	6 12	2	9	57.2	-7.388	127.776	37	82.66	5.3	-	KEPULAUAN BARAT DAYA, IND.
#-261	6 12	5	19	57.4	-9.379	112.769	51	75.46	5.2	-	KURIL ISLANDS
#-262	6 14	7	32	41.1	-8.192	120.346	35	79.25	4.5	-	FLORES SEA
#-263	6 14	12	55	25.1	-4.376	144.354	160	91.33	4.9	-	NR N CST NEW GUINEA, P. N. G.
#-264	6 14	14	1	2.6	8.191	126.500	78	96.75	4.9	-	MINDANAO, PHILIPPINES
#-265	6 15	15	9	30.7	-9.553	107.745	11	73.56	5.1	-	SOUTH OF JAVA
#-266	6 16	2	40	59.1	-5.583	154.029	189	93.44	4.9	-	BOUGAINVILLE REG, P. N. G.
#-267	6 18	13	13	10.9	1.975	128.408	73	91.63	5.4	-	HALMAHERA, INDONESIA
#-268	6 18	21	47	10.2	-7.646	108.086	110	75.46	4.3	-	JAVA, INDONESIA
#-269	6 19	7	25	16.9	-4.617	29.495	10	64.70	4.7	-	BANDA SEA
#-270	6 20	3	16	2.0	-4.789	148.955	607	92.51	4.9	-	BISMARCK SEA
#-271	6 21	0	29	16.3	-22.656	171.157	70	82.08	5.1	-	SOUTHEAST OF LOYALTY ISLANDS
#-272	6 21	4	9	4.2	-24.296	-67.053	148	72.91	4.2	-	SALTA, ARGENTINA
#-273	6 21	7	40	39.8	-35.663	-71.545	70	63.76	4.6	-	MAULE, CHILE
#-274	6 21	22	42	0.1	-15.865	-176.103	382	91.53	4.4	-	FIJI REGION
#-275	6 22	12	12	50.2	-23.870	-66.562	215	73.15	4.6	-	JUJUY, ARGENTINA
#-276	6 22	13	15	34.8	-8.784	157.897	10	91.63	5.2	-	SOLOMON ISLANDS
#-277	6 22	23	56	30.0	67.730	141.249	18	153.22	6.2	5.6	NORTHEASTERN SAKHA, RUSSIA
#-278	6 23	12	32	12.5	46.494	153.244	10	141.11	5.5	-	KURIL ISLANDS
#-279	6 24	19	14	44.1	-3.198	101.340	50	77.40	5.3	-	SOUTHERN SUMATRA, INDONESIA
#-280	6 24	19	35	35.1	-2.523	138.455	6	91.01	4.7	-	PAPUA, INDONESIA
#-281	6 24	19	48	9.9	-2.541	138.445	35	90.99	5.2	-	PAPUA, INDONESIA
#-282	6 25	1	52	38.4	1.379	97.176	34	80.42	5.3	5.1	NIAS REGION, INDONESIA
#-283	6 25	2	53	29.1	1.399	97.218	40	80.45	5.5	-	NIAS REGION, INDONESIA
#-284	6 25	15	41	27.8	-5.288	151.701	51	92.96	5.3	-	NEW BRITAIN REGION, P. N. G.
#-285	6 26	0	6	39.7	-8.887	-75.564	41	90.17	5.2	-	CENTRAL PERU
#-286	6 26	12	34	2.3	-8.904	-75.532	44	90.14	5.1	-	CENTRAL PERU

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep (km)	Epicentral distance (deg)	Magnitude		Region	
		UTC			Latitude	Longitude			Mb	Ms		
		h	m	s	(deg)	(deg)						
#-287	6	26	21	19	15.7	-20.762	-173.329	38	87.25	6.0	5.8	TONGA
#-288	6	27	4	42	29.5	-20.016	-178.192	571	87.05	4.6	-	FIJI REGION
#-289	6	27	11	40	14.1	11.008	91.855	17	88.05	6.5	6.7	ANDAMAN ISLANDS, INDIA REGION
#-290	6	27	14	16	21.8	0.247	96.699	35	79.20	5.0	-	NIAS REGION, INDONESIA
#-291	6	27	18	5	13.6	10.892	91.855	26	87.93	5.2	-	ANDAMAN ISL, INDIA REGION
#-292	6	27	23	34	36.7	-15.128	-173.778	25	92.70	6.1	-	TONGA
#-293	6	28	3	26	52.7	10.886	91.916	28	87.95	4.9	-	ANDAMAN ISL, INDIA REGION
#-294	6	28	4	35	5.3	10.899	91.749	27	87.91	5.1	-	ANDAMAN ISL, INDIA REGION
#-295	6	28	8	56	57.3	-33.064	-16.032	10	47.05	5.5	4.7	SOUTHERN MID-ATLANTIC RIDGE
#-296	6	28	10	15	30.8	-27.572	179.641	475	79.24	4.6	-	KERMADEC ISLANDS REGION
#-297	6	28	12	10	44.4	-6.534	154.939	34	92.83	5.0	-	BOUGAINVILLE REG, P.N.G.
#-298	6	28	12	54	46.4	10.849	91.715	15	87.85	5.9	6.0	ANDAMAN ISLANDS, INDIA REGION
#-299	6	28	13	57	4.0	10.733	91.697	10	87.74	5.0	-	ANDAMAN ISLANDS, INDIA REGION
#-299	6	28	15	29	14.5	10.998	91.977	35	88.07	5.4	-	ANDAMAN ISLANDS, INDIA REGION
#-300	6	29	4	14	35.2	10.755	91.632	10	87.74	5.0	-	ANDAMAN ISL, INDIA REGION
#-301	6	30	4	5	59.8	-38.329	-93.222	10	67.04	5.0	-	WEST CHILE RISE
#-302	6	30	6	17	43.3	-58.169	-22.014	10	27.78	6.3	6.7	SOUTH SANDWICH ISLANDS REGION
#-303	7	1	0	17	29.7	-10.370	-75.486	10	88.74	5.4	-	CENTRAL PERU
#-304	7	1	15	13	44.3	-23.530	179.965	529	83.22	4.6	-	SOUTH OF THE FIJI ISLANDS
#-305	7	2	12	46	3.5	-19.234	-177.600	576	87.93	4.6	-	FIJI REGION
#-306	7	2	19	24	34.8	-6.191	130.855	42	84.88	4.7	-	BANDA SEA
#-307	7	3	3	2	36.6	-23.324	-179.812	569	83.49	5.6	-	SOUTH OF THE FIJI ISLANDS
#-308	7	5	0	46	15.9	-23.890	-179.916	518	82.92	4.6	-	SOUTH OF THE FIJI ISLANDS
#-309	7	5	2	12	4.6	53.888	152.869	636	147.10	6.7	-	SEA OF OKHOTSK
#-310	7	6	1	0	8.8	45.402	151.017	22	139.38	5.5	5.5	KURIL ISLANDS
#-311	7	6	4	30	27.1	-25.398	-176.377	49	82.15	5.5	-	SOUTH OF THE FIJI ISLANDS
#-312	7	6	9	8	20.1	45.420	150.931	10	139.37	5.7	5.4	KURIL ISLANDS
#-313	7	6	13	23	7.7	-17.756	-178.459	555	89.20	4.4	-	FIJI REGION
#-314	7	6	17	36	30.9	-5.093	145.656	231	91.11	4.8	-	E NEW GUINEA REG, P.N.G.
#-315	7	7	4	44	55.5	-16.459	-174.083	118	91.33	5.0	-	TONGA
#-316	7	7	21	39	26.0	-58.047	-22.155	10	27.92	5.2	-	SOUTH SANDWICH ISL REGION
#-317	7	7	22	43	50.7	51.917	-177.064	67	155.99	5.4	-	ANDREANOV ISL, ALEUTIAN IS., ALASKA

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region		
		UTC			Latitude	Longitude			(km)	(deg)		Mb	Ms
		h	m	s	(deg)	(deg)							
#-318	7	8	7	42	10.7	27.506	128.358	43	115.31	6.0	5.5	RVUKYU ISLANDS, JAPAN	
#-319	7	8	15	54	17.3	-22.967	-66.733	195	74.05	4.5	-	JUJUY, ARGENTINA	
#-320	7	9	2	34	46.3	-12.478	166.459	67	90.63	5.0	-	SANTA CRUZ ISLANDS	
#-321	7	9	8	24	19.2	-20.936	168.703	61	83.11	5.5	-	LOYALTY ISLANDS	
#-322	7	9	12	29	41.1	49.259	151.399	282	142.79	5.0	-	NORTHWEST OF KURIL ISLANDS	
#-323	7	9	19	58	40.5	-23.091	-70.128	47	75.04	4.6	-	ANTOFAGASTA, CHILE	
#-324	7	9	22	17	42.6	-1.799	101.139	69	78.66	5.1	-	SOUTHERN SUMATRA, INDONESIA	
#-325	7	10	3	46	47.3	-21.014	168.643	63	83.02	5.2	-	LOYALTY ISLANDS	
#-326	7	10	5	16	27.7	-15.212	167.545	122	88.30	5.3	-	VANUATU	
#-327	7	10	6	29	49.9	0.906	125.962	35	89.75	5.1	-	MOLUCCA SEA	
#-328	7	10	16	1	2.8	-19.859	169.348	35	84.31	5.2	-	VANUATU	
#-329	7	10	17	32	29.1	6.497	124.651	38	94.51	5.2	-	MINDANAO, PHILIPPINES	
#-330	7	11	6	51	37.7	-9.527	107.594	13	73.53	5.5	4.8	SOUTH OF JAVA, INDONESIA	
#-331	7	11	9	28	19.0	-11.216	-14.496	10	67.01	5.0	-	ASCENSION ISLAND REGION	
#-332	7	12	0	1	26.7	51.606	-176.382	63	155.94	5.1	-	ANDREANOF ISL., ALEUTIAN IS., ALASKA	
#-333	7	12	0	8	56.7	-45.725	167.253	115	59.09	5.0	-	SOUTH ISLAND OF NEW ZEALAND	
#-334	7	12	8	42	36.9	-10.732	161.673	73	90.92	5.1	-	SOLOMON ISLANDS	
#-335	7	13	16	24	28.4	-9.073	124.056	101	79.76	4.9	-	TIMOR REGION	
#-336	7	13	17	33	49.0	-21.535	-67.964	35	75.79	5.0	-	POTOSI, BOLIVIA	
#-337	7	13	19	30	26.2	-21.835	-67.190	173	75.26	4.4	-	POTOSI, BOLIVIA	
#-338	7	14	4	44	54.2	2.232	96.535	43	81.04	5.5	-	SIMEULUE, INDONESIA	
#-339	7	14	17	49	10.5	-21.261	-68.132	46	76.10	4.9	-	POTOSI, BOLIVIA	
#-340	7	15	5	7	11.5	-47.351	-12.090	10	32.95	5.1	5.3	SOUTHERN MID-ATLANTIC RIDGE	
#-341	7	15	19	17	42.1	-22.550	-70.267	20	75.59	4.8	-	ANTOFAGASTA, CHILE	
#-342	7	16	12	48	41.3	-28.227	-175.733	10	79.50	4.9	-	KERMADEC ISLANDS REGION	
#-343	7	16	17	9	25.6	-30.986	-178.599	141	76.27	5.2	-	KERMADEC ISLANDS, NEW ZEALAND	
#-344	7	16	22	25	52.3	-7.266	120.282	549	80.10	4.7	-	FLORES SEA	
#-345	7	19	8	13	59.3	-11.141	66.403	10	60.50	4.6	-	MID-INDIAN RIDGE	
#-346	7	19	9	27	1.4	-11.032	164.509	10	91.46	6.1	6.4	SANTA CRUZ ISLANDS REGION	
#-347	7	19	9	34	27.0	-11.035	164.507	10	91.46	5.5	-	SANTA CRUZ ISLANDS REGION	
#-348	7	19	10	49	0.5	-10.242	-75.349	24	88.82	4.8	-	CENTRAL PERU	
#-349	7	19	11	15	29.1	-11.020	164.487	43	91.47	5.2	-	SANTA CRUZ ISLANDS REGION	

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region
		UTC			Latitude	Longitude			Mb	Ms	
		h	m	s	(deg)	(deg)	(km)	(deg)			
#-350	7 19	11	45	41.1	-10.976	164.626	10	91.55	5.2	-	SANTA CRUZ ISLANDS REGION
#-351	7 19	22	34	16.8	-20.106	-178.476	578	86.90	4.7	-	FIJI REGION
#-352	7 19	22	39	53.2	-17.264	-177.350	395	89.91	5.9	-	FIJI REGION
#-353	7 19	23	19	58.4	-0.453	96.963	35	78.61	5.3	-	SW OF SUMATRA, INDONESIA
#-354	7 20	6	11	6.5	-8.684	111.260	60	75.59	5.3	-	JAVA, INDONESIA
#-355	7 20	8	21	42.5	4.883	62.149	10	75.60	5.2	-	CARLSBERG RIDGE
#-356	7 21	3	8	22.5	-31.550	-69.048	99	66.80	4.7	-	SAN JUAN, ARGENTINA
#-357	7 21	11	30	29.4	37.213	142.060	22	128.98	5.7	6.1	OFF THE E COAST OF HONSHU, JAPAN
#-358	7 21	15	47	58.0	-10.993	164.441	54	91.48	5.0	-	SANTA CRUZ ISLANDS REGION
#-359	7 21	20	14	49.1	-23.341	-175.416	70	84.34	4.8	-	TONGA REGION
#-360	7 22	7	19	46.9	-15.164	-174.331	147	92.56	4.3	-	TONGA
#-361	7 22	8	39	32.0	-18.197	-174.944	94	89.47	4.5	-	TONGA
#-362	7 22	18	31	15.8	-22.250	-179.585	585	84.58	4.3	-	SOUTH OF THE FIJI ISLANDS
#-363	7 22	22	46	23.7	-15.008	-173.115	66	92.94	5.1	-	TONGA
#-364	7 23	8	12	42.3	-66.860	112.561	10	26.05	5.3	-	ANTARCTICA
#-365	7 23	15	26	19.8	39.802	141.463	108	131.07	6.7	-	EASTERN HONSHU, JAPAN
#-366	7 23	19	54	45.2	32.784	105.551	10	112.68	5.8	-	SICHUAN-GANSU BORDER REGION, CHINA
#-367	7 24	7	9	30.2	32.789	105.564	10	112.69	5.6	5.4	SICHUAN-GANSU BORDER REGION, CHINA
#-368	7 25	5	1	28.0	-18.035	-178.987	606	88.82	4.5	-	FIJI REGION
#-369	7 25	7	48	10.8	-22.310	-68.040	119	75.09	4.8	-	ANTOFAGASTA, CHILE
#-370	7 25	12	13	7.5	-28.081	-70.902	18	70.62	5.1	-	ATACAMA, CHILE
#-371	7 25	20	11	11.3	-5.901	146.609	74	90.67	5.3	-	EASTERN NEW GUINEA REG, P. N. G.
#-372	7 26	5	35	36.8	11.570	91.710	31	88.54	5.4	-	ANDAMAN ISL, INDIA REGION
#-373	7 26	16	49	53.0	10.330	93.158	82	87.77	5.1	-	ANDAMAN ISL, INDIA REGION
#-374	7 26	17	39	28.4	-21.541	-68.163	126	75.85	4.7	-	POTOSI, BOLIVIA
#-375	7 27	11	25	40.6	-7.311	121.942	533	80.65	4.5	-	FLORES SEA
#-376	7 27	19	30	50.9	-7.374	126.467	317	82.21	5.0	-	KEPULAUAN BARAT DAYA, IND.
#-377	7 28	3	43	2.2	-24.704	-176.141	45	82.87	4.9	-	SOUTH OF THE FIJI ISLANDS
#-378	7 28	7	10	4.3	-1.118	99.759	81	78.86	5.2	-	KEPULAUAN MENTAWAI REG, IND.
#-379	7 28	13	6	43.6	51.365	-179.016	62	154.89	5.0	-	ANDREANOF ISL, ALEUTIAN IS., ALASKA
#-380	7 29	18	42	14.9	33.734	-117.906	13	142.42	5.6	-	GREATER LOS ANGELES AREA, CALIFORNIA
#-381	7 29	18	54	35.4	-2.696	152.647	10	95.71	5.4	-	NEW IRELAND REGION, P. N. G.

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude			Mb	Ms		
		h	m	s	(deg)	(deg)	(km)	(deg)				
#-382	7	29	20	56	22.6	-54.684	-118.941	10	55.26	5.6	5.4	SOUTHERN EAST PACIFIC RISE
#-383	7	30	12	59	14.3	-21.923	-179.499	581	84.92	5.2	-	FIJI REGION
#-384	8	1	2	56	41.1	-22.022	-67.209	173	75.09	4.6	-	POTOSI, BOLIVIA
#-385	8	1	6	18	39.0	-22.286	-66.524	213	74.62	4.9	-	JUJUY, ARGENTINA
#-386	8	4	15	16	53.2	-5.099	151.835	45	93.18	5.2	-	NEW BRITAIN REGION, P.N.G.
#-387	8	4	19	38	26.3	34.186	26.533	31	103.61	5.3	-	CRETE, GREECE
#-388	8	4	20	45	13.8	-5.908	130.214	173	84.92	6.1	-	WANDA SEA
#-389	8	5	9	49	17.3	32.745	105.511	6	112.64	5.9	6.0	SICHUAN-GANSU BORDER REG., CHINA
#-390	8	5	10	8	12.2	13.883	93.596	35	91.29	5.3	-	ANDAMAN ISL, INDIA REGION
#-391	8	5	14	4	23.0	1.717	127.558	107	91.08	4.9	-	HALMAHERA, INDONESIA
#-392	8	7	7	27	44.7	53.597	-167.401	50	160.37	5.2	-	FOX ISL, ALEUTIAN ISLANDS, ALASKA
#-393	8	7	10	24	45.0	-30.236	-179.972	424	76.73	4.7	-	KERMADEC ISLANDS REGION
#-394	8	9	0	1	59.0	-8.164	117.753	39	78.36	4.8	-	SUMBAWA REGION, INDONESIA
#-395	8	9	6	1	49.2	-60.568	153.765	10	42.32	5.6	5.9	WEST OF MACQUARIE ISLAND
#-396	8	9	18	32	46.6	-14.763	167.237	156	88.65	5.1	-	VANUATU
#-397	8	10	5	19	51.5	-18.865	-174.711	120	88.86	4.7	-	TONGA
#-398	8	10	8	20	31.7	11.051	91.841	10	88.08	5.8	6.1	ANDAMAN ISLANDS, INDIA REGION
#-399	8	10	12	21	11.9	10.939	91.721	13	87.94	5.4	5.4	ANDAMAN ISLANDS, INDIA REGION
#-400	8	10	13	1	30.6	10.978	91.836	2	88.01	5.1	-	ANDAMAN ISL., INDIA REGION
#-401	8	12	5	25	58.2	-11.424	166.220	38	91.57	5.2	5.4	SANTA CRUZ ISLANDS
#-402	8	12	6	9	5.3	-20.600	-177.406	346	86.64	5.1	-	FIJI REGION
#-403	8	13	8	35	1.9	83.675	114.812	10	156.67	5.4	4.9	NORTH OF SEVERNAYA ZEMLYA
#-404	8	14	11	10	29.4	44.017	147.552	10	136.94	5.5	-	KURIL ISLANDS
#-405	8	15	15	52	51.2	82.114	-17.542	10	153.86	5.0	-	NEAR N COAST OF GREENLAND
#-406	8	16	4	46	49.8	-16.698	-174.610	183	91.00	4.8	-	TONGA
#-407	8	16	5	3	58.0	-7.009	157.627	36	93.23	5.2	-	SOLOMON ISLANDS
#-408	8	16	7	25	57.4	5.707	61.234	10	76.28	5.1	4.4	CARLSBERG RIDGE
#-409	8	17	12	33	24.6	-29.435	-179.126	301	77.68	4.7	-	KERMADEC ISLANDS REGION
#-410	8	17	15	39	9.1	-52.845	-4.380	10	25.67	4.9	-	SOUTHERN MID-ATLANTIC RIDGE
#-411	8	17	20	54	49.5	-9.125	119.146	105	77.96	4.6	-	SUMBA REGION, INDONESIA
#-412	8	18	9	53	29.4	-19.682	179.938	531	86.99	5.2	-	SOUTH OF THE FIJI ISLANDS
#-413	8	19	8	33	55.5	-8.218	-13.492	10	69.56	5.3	-	ASCENSTON ISLAND REGION

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region		
		UTC			Latitude	Longitude			(km)	(deg)		Mb	Ms
		h	m	s	(deg)	(deg)							
#-414	8	19	10	58	1.0	-28.436	-112.830	10	80.39	5.5	-	EASTER ISLAND REGION	
#-415	8	19	13	37	28.0	-14.901	-173.228	10	93.02	5.1	-	SAMOA ISLANDS REGION	
#-416	8	19	16	30	13.2	-15.023	-173.525	8	92.85	5.6	5.9	TONGA	
#-417	8	21	8	33	23.9	-15.217	-173.237	10	92.71	5.3	-	TONGA	
#-418	8	21	9	32	57.9	-25.183	-68.664	108	72.61	5.3	-	ANTOFAGASTA, CHILE	
#-419	8	21	17	3	59.7	-25.108	-177.731	191	82.17	4.8	-	SOUTH OF THE FIJI ISLANDS	
#-420	8	21	21	30	48.0	-0.380	119.610	60	86.29	4.9	-	MINAHASA, SULAWESI, INDONESIA	
#-421	8	22	7	47	39.7	-17.797	65.440	6	53.79	5.5	5.7	MAURITIUS - REUNION REGION	
#-422	8	22	10	59	49.5	36.477	140.391	44	127.73	5.1	-	NEAR E COAST HONSHU, JAPAN	
#-423	8	22	17	39	7.4	-58.559	-24.899	55	28.51	4.7	-	SOUTH SANDWICH ISL REGION	
#-424	8	22	21	3	24.7	-8.339	-74.236	147	90.26	5.2	-	CENTRAL PERU	
#-425	8	23	4	47	18.1	-4.661	125.789	430	84.50	4.7	-	BANDA SEA	
#-426	8	24	5	23	45.2	-33.259	-179.397	45	73.90	5.3	-	SOUTH OF KERMADEC ISLANDS	
#-427	8	24	15	35	5.9	-21.231	-176.863	221	86.13	4.7	-	FIJI REGION	
#-428	8	25	11	25	16.6	-39.652	176.483	10	66.89	5.4	-	NORTH ISLAND OF NEW ZEALAND	
#-429	8	25	13	21	59.0	30.893	83.614	12	105.10	6.1	6.5	WESTERN XIZANG	
#-430	8	25	13	39	38.9	30.800	83.382	10	104.96	5.3	-	WESTERN XIZANG	
#-431	8	26	8	7	8.6	-52.506	26.426	10	17.53	5.0	-	SOUTH OF AFRICA	
#-432	8	26	8	23	2.2	-25.312	179.620	475	81.44	4.4	-	SOUTH OF THE FIJI ISLANDS	
#-433	8	27	1	35	32.1	51.620	104.135	16	129.67	5.8	6.2	LAKE BAYKAL REGION, RUSSIA	
#-434	8	27	4	42	6.9	-21.671	-65.574	278	74.87	5.0	-	POTOSI, BOLIVIA	
#-435	8	27	6	46	19.4	-10.691	41.373	10	58.34	5.8	-	COMOROS REGION	
#-436	8	28	2	59	37.7	-8.623	119.266	154	78.47	5.2	-	FLORES REGION	
#-437	8	28	8	17	33.4	17.578	145.661	221	112.32	5.0	-	ALAMAGAN REG., N MARIANA ISLAND	
#-438	8	28	8	56	44.0	-17.994	-178.513	577	88.96	4.5	-	FIJI REGION	
#-439	8	28	12	37	34.8	50.183	-129.606	10	160.39	5.3	-	VANCOUVER ISLAND, CANADA REGION	
#-440	8	28	15	22	24.9	-0.009	-17.421	16	78.57	5.8	-	NORTH OF ASCENSION ISLAND	
#-441	8	28	23	56	49.9	-11.091	161.996	29	90.68	5.0	-	SOLOMON ISLANDS	
#-442	8	29	10	20	55.3	1.050	121.039	560	88.13	5.0	-	MINAHASA, SULAWESI, IND.	
#-443	8	30	6	54	7.6	-6.154	147.302	75	90.67	6.1	-	EASTERN NEW GUINEA REG, P. N. G.	
#-444	8	30	8	30	54.0	26.276	101.918	17	105.49	5.7	5.8	SICHUAN-YUNNAN BORDER REG., CHINA	
#-445	8	30	10	34	6.2	-28.738	-177.342	53	78.70	5.1	-	KERMADEC ISLANDS REGION	

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region
		UTC			Latitude	Longitude			Mb	Ms	
		h	m	s	(deg)	(deg)	(km)	(deg)	Mb	Ms	
#-446	8 30	14	48	23.7	-7.035	155.852	82	92.65	5.0	-	SOLOMON ISLANDS
#-447	8 31	1	15	25.1	-61.211	-67.764	10	39.78	5.6	4.9	DRAKE PASSAGE
#-448	8 31	6	52	1.7	-22.262	-68.181	128	75.18	4.7	-	ANTOFAGASTA, CHILE
#-449	9 1	1	21	49.2	-39.131	175.604	66	67.21	5.2	-	NORTH ISLAND OF NEW ZEALAND
#-450	9 1	4	0	39.4	-25.390	-177.686	171	81.90	5.7	-	SOUTH OF THE FIJI ISLANDS
#-451	9 1	5	31	26.0	-15.305	-176.363	20	92.02	5.1	-	FIJI REGION
#-452	9 1	6	14	27.2	-23.324	-179.917	556	83.47	5.2	-	SOUTH OF THE FIJI ISLANDS
#-453	9 1	7	6	16.8	-15.254	-176.399	10	92.07	5.4	5.6	FIJI REGION
#-454	9 1	11	1	18.6	-22.899	-174.899	51	84.87	5.2	-	TONGA REGION
#-455	9 1	17	19	11.5	4.544	126.054	109	93.18	5.7	-	KEPULAUAN TALAUD, INDONESIA
#-456	9 1	20	53	28.2	29.723	139.327	377	121.24	5.0	-	IZU ISLANDS, JAPAN REGION
#-457	9 2	9	0	4.3	0.599	98.038	35	79.95	5.1	-	NIAS REGION, INDONESIA
#-458	9 2	11	0	4.0	-8.391	120.493	194	79.12	5.1	-	FLORES REGION, INDONESIA
#-459	9 2	11	28	12.4	-5.839	145.561	67	90.37	5.0	-	E NEW GUINEA REG, P. N. G.
#-460	9 2	18	41	41.3	-20.508	169.243	49	83.66	5.2	-	VANUATU
#-461	9 2	20	1	5.4	-15.370	-173.281	17	92.55	5.4	-	TONGA
#-462	9 3	11	25	14.3	-26.725	-63.196	570	69.38	5.8	-	SANTIAGO DEL ESTERO, ARGENTINA
#-463	9 3	12	16	6.3	-10.435	161.304	139	91.10	5.2	-	SOLOMON ISLANDS
#-464	9 4	16	9	50.9	-31.537	-177.818	22	75.88	5.4	-	KERMADEC ISLANDS REGION
#-465	9 5	5	12	13.2	-26.686	-70.791	42	71.89	4.7	-	OFFSHORE ATACAMA, CHILE
#-466	9 5	12	35	47.8	-13.234	166.853	183	90.01	5.3	-	VANUATU
#-467	9 5	16	45	54.8	-55.744	-26.736	53	31.29	4.8	-	SOUTH SANDWICH ISL. REGION
#-468	9 6	5	47	40.1	36.504	70.916	192	108.12	5.5	-	HINDU KUSH REGION, AFGHANISTAN
#-469	9 6	11	38	56.8	28.268	138.920	523	119.77	5.0	-	BONIN ISLANDS, JAPAN REGION
#-470	9 6	23	2	2.6	-7.324	130.885	35	83.84	4.9	-	KEPULAUAN TANIMBAR REG, IND.
#-471	9 7	2	5	33.7	-23.715	69.487	10	48.84	5.4	5.0	MID-INDIAN RIDGE
#-472	9 7	9	0	28.6	12.926	92.392	41	90.03	5.2	-	ANDAMAN ISL, INDIA REGION
#-473	9 8	10	43	29.9	-2.216	100.482	67	78.05	5.2	-	KEPULAUAN MENTAWAI REGION, IND.
#-474	9 8	18	52	8.2	-13.514	166.967	122	89.77	6.4	-	VANUATU
#-475	9 8	19	51	45.0	-17.529	179.528	613	88.99	5.2	-	FIJI
#-476	9 9	3	7	32.1	-3.853	103.162	61	77.38	5.4	-	SOUTHERN SUMATRA, INDONESIA
#-477	9 9	13	53	52.8	-19.670	-177.920	470	87.44	4.7	-	FIJI REGION

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region		
		UTC			Latitude	Longitude			(km)	(deg)		Mb	Ms
		h	m	s	(deg)	(deg)							
#-478	9 10	3 0	30.7	2.491	96.298	42	81.21	5.2	-	SIMEULUE, INDONESIA			
#-479	9 10	11 0	34.7	26.823	55.825	15	96.62	6.1	6.0	SOUTHERN IRAN			
#-450	9 10	13 8	14.9	8.090	-38.748	10	93.22	6.2	6.5	CENTRAL MID-ATLANTIC RIDGE			
#-451	9 10	16 12	3.9	-20.234	-69.131	38	77.39	5.6	5.3	TARAPACA, CHILE			
#-452	9 11	17 11	34.5	-19.651	-69.040	106	77.91	5.1	-	TARAPACA, CHILE			
#-453	9 12	23 7	51.0	56.352	164.054	15	153.02	5.5	5.7	KOMANDORSKIYE OSTROVA, RUSSIA REG.			
#-454	9 12	23 49	52.9	56.219	164.298	10	153.01	5.1	-	KOMANDORSKIYE OSTROVA, RUSSIA REG.			
#-455	9 13	0 4	4.9	-3.776	128.939	102	86.45	5.5	-	SERAM, INDONESIA			
#-456	9 13	7 32	16.0	-21.269	167.924	52	82.59	5.3	-	LOYALTY ISLANDS			
#-457	9 13	9 32	1.3	4.779	-75.489	132	103.05	6.0	-	COLOMBIA			
#-458	9 13	15 45	26.4	-48.718	-113.139	10	60.49	4.8	-	SOUTHERN EAST PACIFIC RISE			
#-459	9 13	19 19	13.7	-20.237	-177.803	388	86.91	4.7	-	FIJI REGION			
#-460	9 14	0 0	8.4	-8.739	126.871	18	81.08	5.7	5.5	EAST TIMOR REGION			
#-461	9 14	18 51	7.4	-7.459	128.197	139	82.75	5.1	-	KEPLAUAN BARAT DAYA, IND.			
#-462	9 14	20 18	53.5	-23.610	-177.321	198	83.71	4.9	-	SOUTH OF THE FIJI ISLANDS			
#-463	9 15	2 31	36.5	-20.108	-177.743	504	87.05	4.5	-	FIJI REGION			
#-464	9 15	5 41	48.6	51.434	-178.323	53	155.17	5.2	-	ANDREANOF ISL, ALEUTIAN IS., ALASKA			
#-465	9 15	15 50	51.4	-4.993	30.211	10	64.28	4.8	-	LAKE TANGANYIKA REGION, TANZANIA			
#-466	9 15	23 36	52.8	-24.142	-66.772	157	72.97	5.2	-	SALTA, ARGENTINA			
#-467	9 16	7 28	25.2	0.954	-29.017	10	83.20	5.2	-	CENTRAL MID-ATLANTIC RIDGE			
#-468	9 16	8 5	17.8	-25.979	-177.632	194	81.34	4.6	-	SOUTH OF THE FIJI ISLANDS			
#-469	9 16	9 46	58.2	-16.623	-172.704	35	91.43	5.2	-	SAMOA ISLANDS REGION			
#-470	9 16	11 15	41.3	-8.741	126.855	35	81.07	5.9	-	EAST TIMOR REGION			
#-471	9 16	21 56	41.1	-20.201	-68.389	114	77.18	4.9	-	POTOSI, BOLIVIA			
#-472	9 18	11 58	50.8	51.969	158.346	67	147.52	5.7	-	NR THE E COAST OF KAMCHATKA, RUSSIA			
#-473	9 18	18 46	45.3	-4.712	153.271	84	94.01	5.0	-	NEW IRELAND REG, P. N. G.			
#-474	9 18	20 32	45.4	10.917	91.783	13	87.94	5.3	-	ANDAMAN ISL, INDIA REGION			
#-475	9 19	3 24	42.4	-17.558	-178.584	584	89.37	4.4	-	FIJI REGION			
#-476	9 19	17 29	53.5	-24.529	-175.856	53	83.10	4.8	-	SOUTH OF TONGA			
#-477	9 19	18 34	24.3	-23.990	-175.907	56	83.61	5.1	-	TONGA REGION			
#-478	9 19	21 17	35.4	-7.098	-13.025	10	70.48	4.9	-	ASCENSION ISLAND REGION			
#-479	9 19	22 49	3.3	-11.167	164.491	29	91.33	5.4	5.1	SANTA CRUZ ISLANDS REGION			

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude			Mb	Ms		
		h	m	s	(deg)	(deg)						(km)
#-480	9	20	2	54	37.5	38.420	73.423	146	110.40	5.3	-	TAJIKISTAN
#-481	9	20	4	0	23.7	-29.309	-70.506	68	69.35	4.6	-	COQUIMBO, CHILE
#-482	9	20	4	52	27.1	14.459	-92.211	61	117.50	5.2	-	OFFSHORE GUATEMALA
#-483	9	20	5	16	10.5	63.588	-129.029	10	172.78	5.2	-	NORTHWEST TERRITORIES, CANADA
#-484	9	20	14	43	5.4	-16.126	-73.761	42	82.75	5.4	4.8	NEAR THE COAST OF SOUTHERN PERU
#-485	9	20	19	27	23.3	-7.080	126.256	445	82.41	4.7	-	KEPULAUAN BARAT DAYA, IND.
#-486	9	21	7	5	46.9	-3.976	141.437	102	90.70	4.9	-	NEW GUINEA, PAPUA NEW GUINEA
#-487	9	21	12	38	51.9	-23.103	179.427	519	83.55	4.5	-	SOUTH OF THE FIJI ISLANDS
#-488	9	21	16	23	20.8	-17.730	-178.619	562	89.19	4.4	-	FIJI REGION
#-489	9	21	18	50	17.6	-31.363	-179.996	340	75.63	5.2	-	KERMADEC ISLANDS REGION
#-490	9	22	8	17	23.5	-5.987	150.982	33	92.06	5.2	-	NEW BRITAIN REG, P. N. G.
#-491	9	22	13	10	45.5	-24.251	-175.906	35	83.36	4.7	-	SOUTH OF TONGA
#-492	9	22	13	30	38.2	15.563	96.112	35	93.62	5.4	4.9	NEAR SOUTH COAST OF MYANMAR
#-493	9	22	17	53	29.0	-9.765	160.214	35	91.41	4.9	-	SOLOMON ISLANDS
#-494	9	22	20	20	59.3	-23.445	-179.574	540	83.42	5.3	-	SOUTH OF THE FIJI ISLANDS
#-495	9	23	15	20	9.0	-24.298	-175.427	35	83.40	4.7	-	SOUTH OF TONGA
#-496	9	24	2	33	5.4	17.635	-105.521	10	124.12	5.7	6.2	OFF THE COAST OF OAJIMA, MEXICO
#-497	9	24	6	0	50.5	-10.213	161.398	93	91.34	5.1	-	SOLOMON ISLANDS
#-498	9	24	17	12	16.1	-22.687	-12.771	10	55.63	5.4	-	SOUTHERN MID-ATLANTIC RIDGE
#-499	9	25	4	48	53.8	-16.108	-173.572	113	91.77	4.3	-	TONGA
#-500	9	26	5	48	51.9	-17.636	-178.239	572	89.36	4.8	-	FIJI REGION
#-501	9	26	7	23	3.3	-42.218	173.818	23	63.87	4.9	-	SOUTH ISLAND OF NEW ZEALAND
#-502	9	26	18	34	3.4	-15.338	-74.393	52	83.70	4.6	-	NEAR COAST OF SOUTHERN PERU
#-503	9	26	18	46	18.7	3.106	65.431	10	74.35	5.4	5.4	CARLSBERG RIDGE
#-504	9	26	23	10	4.6	-5.688	130.712	109	85.30	5.3	-	BANDA SEA
#-505	9	27	3	4	51.8	13.453	120.612	10	99.57	5.5	-	MINDORO, PHILIPPINES
#-506	9	27	3	9	4.9	13.470	120.603	10	99.59	5.7	5.6	MINDORO, PHILIPPINES
#-507	9	27	3	29	33.6	-15.551	167.441	200	87.95	4.9	-	VANUATU
#-508	9	28	13	42	57.6	-6.318	130.176	144	84.52	5.1	-	BANDA SEA
#-509	9	28	15	34	12.7	-35.880	-101.230	10	71.09	4.7	-	SOUTHEAST OF EASTER ISLAND
#-510	9	29	13	3	58.0	-24.086	-66.999	120	73.09	4.6	-	SALTA, ARGENTINA
#-511	9	29	15	19	31.8	-29.749	-177.678	36	77.65	6.5	6.7	KERMADEC ISLANDS, NEW ZEALAND

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Coordinates		Dep (km)	Epicentral distance (deg)	Magnitude		Region	
		h	m	s	Latitude (deg)	Longitude (deg)			Mb	Ms		
#-512	9	29	16	10	38.2	-29.909	-177.633	35	77.50	5.3	-	KERMADEC ISL, NEW ZEALAND
#-513	9	30	7	35	21.6	-9.569	124.564	35	79.48	4.6	-	TIMOR REGION
#-514	10	1	3	12	25.2	1.816	96.779	27	80.71	4.8	-	NIAS REGION, INDONESIA
#-515	10	1	6	19	47.7	-17.698	-178.727	567	89.20	4.8	-	FIJI REGION
#-516	10	1	14	15	53.3	-0.863	33.868	25	68.23	4.6	-	LAKE VICTORIA REGION, UGANDA
#-517	10	1	17	3	47.1	-34.962	-70.640	99	64.13	5.1	-	MAULE, CHILE
#-518	10	2	13	3	2.9	-31.097	-178.028	49	76.27	5.2	-	KERMADEC ISLANDS REGION
#-519	10	2	23	28	9.2	-23.003	169.844	10	81.42	5.7	5.4	SOUTHEAST OF THE LOYALTY ISLANDS
#-520	10	3	0	25	27.1	-23.016	169.691	10	81.37	5.2	4.8	SOUTHEAST OF THE LOYALTY ISLANDS
#-521	10	3	3	40	28.2	-22.315	171.149	10	82.41	5.3	-	SOUTHEAST OF THE LOYALTY ISLANDS
#-522	10	3	5	26	21.5	7.493	-36.898	5	92.02	5.1	5.1	CENTRAL MID-ATLANTIC RIDGE
#-523	10	3	5	30	27.1	7.417	-37.507	10	92.16	5.2	-	CENTRAL MID-ATLANTIC RIDGE
#-524	10	3	8	34	5.6	-15.317	-173.485	10	92.57	4.9	-	TONGA
#-525	10	4	7	56	52.5	-59.314	-25.950	35	28.32	5.8	5.3	SOUTH SANDWICH ISLANDS REGION
#-526	10	4	11	47	6.0	-38.820	-91.169	10	66.10	5.0	-	WEST CHILE RISE
#-527	10	4	14	50	31.7	-30.449	-177.260	46	77.05	5.4	-	KERMADEC ISLANDS, NEW ZEALAND
#-528	10	5	9	12	36.1	-30.208	-177.177	10	77.30	5.8	6.2	KERMADEC ISLANDS, NEW ZEALAND
#-529	10	5	10	44	56.2	-30.607	-176.845	10	76.97	5.2	-	KERMADEC ISLANDS REGION
#-529	10	5	14	9	50.1	-31.156	-177.721	35	76.27	5.2	-	KERMADEC ISLANDS REGION
#-530	10	5	15	52	49.3	39.515	73.768	28	111.53	6.3	6.9	KYRGYZSTAN
#-531	10	6	0	18	28.4	-18.323	-68.734	135	79.05	5.1	-	ORURO, BOLIVIA
#-532	10	6	8	30	45.8	29.761	90.320	12	105.61	6.1	6.2	EASTERN XIZANG
#-533	10	6	12	43	58.8	5.403	94.503	54	83.45	4.9	-	NORTHERN SUMATRA, INDONESIA
#-534	10	6	20	56	29.8	-15.265	-177.119	397	91.91	4.8	-	FIJI REGION
#-535	10	7	14	18	24.2	-5.577	128.651	341	84.67	4.4	-	RANDA SEA
#-536	10	8	9	15	29.9	-12.092	166.564	109	91.03	5.1	-	SANTA CRUZ ISLANDS
#-537	10	8	11	51	48.2	-36.933	-96.027	10	69.00	4.9	-	WEST CHILE RISE
#-538	10	11	9	6	10.8	43.388	46.306	16	112.53	5.7	5.5	CAUCASUS REGION, RUSSIA
#-539	10	11	10	40	13.8	19.160	-64.786	23	112.77	6.2	5.9	VIRGIN ISLANDS REGION
#-540	10	11	12	23	30.0	-29.789	-176.907	35	77.76	5.4	-	KERMADEC ISLANDS REGION
#-541	10	12	20	55	42.1	-20.060	-64.940	356	76.16	6.0	-	CHUQUISACA, BOLIVIA
#-542	10	13	12	7	48.7	-21.203	-174.660	46	86.58	5.1	-	TONGA

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates			Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude	(km)			(deg)	Mb		Ms
		h	m	s	(deg)	(deg)							
#-543	10 14	16 52	52.7	-21.489	-178.139	404	85.62	5.0	-	FIJI REGION			
#-544	10 14	19 51	35.7	4.044	69.003	10	75.90	5.0	-	NORTH INDIAN OCEAN			
#-545	10 15	14 28	18.4	-16.078	166.780	67	87.26	5.3	-	VANUATU			
#-546	10 15	16 35	51.5	-6.522	129.506	172	84.09	4.6	-	BANDA SEA			
#-547	10 18	0 54	40.9	-6.967	147.233	90	89.88	5.8	-	EASTERN NEW GUINEA REC., P.N.G.			
#-548	10 18	10 26	41.8	-20.518	-177.892	536	86.62	4.7	-	FIJI REGION			
#-549	10 19	2 56	14.8	-55.901	-28.206	168	31.69	4.9	-	SOUTH SANDWICH ISL REGION			
#-550	10 19	5 10	33.8	-21.864	-173.814	29	86.08	6.8	7.0	TONGA			
#-551	10 19	12 55	2.1	-21.960	-173.697	12	86.01	5.8	5.3	TONGA			
#-552	10 20	3 39	17.3	-60.550	-51.834	10	35.86	5.2	-	SCOTIA SEA			
#-553	10 20	4 54	22.1	0.109	120.637	121	87.11	6.1	-	MINAHASA, SULAWESI, INDONESIA			
#-554	10 21	13 0	49.6	-7.435	127.762	148	82.61	5.4	-	KEPULAUAN BAJAT DAYA, INDONESIA			
#-555	10 21	21 21	54.0	-10.424	-13.129	10	67.35	5.1	-	ASCENSION ISLAND REGION			
#-556	10 22	3 52	24.3	-31.742	-177.311	48	75.78	5.0	-	KERMADEC ISLANDS REGION			
#-557	10 22	9 10	39.0	-26.085	-177.648	170	81.23	4.8	-	SOUTH OF THE FIJI ISLANDS			
#-558	10 22	12 55	57.3	-18.418	-175.356	233	89.17	5.8	-	TONGA			
#-559	10 22	17 3	47.9	-24.668	-178.790	378	82.39	5.2	-	SOUTH OF THE FIJI ISLANDS			
#-560	10 23	9 21	14.9	5.962	125.790	128	94.41	5.8	-	MINDANAO, PHILIPPINES			
#-561	10 23	10 4	35.3	-2.634	145.563	10	93.39	6.0	6.3	ADMIRALTY ISLANDS REC., P.N.G.			
#-562	10 24	0 26	9.4	-26.580	-177.446	128	80.79	5.1	-	SOUTH OF THE FIJI ISLANDS			
#-563	10 25	7 21	23.9	-22.253	170.672	35	82.35	5.1	-	SOUTHEAST OF LOYALTY ISLANDS			
#-564	10 25	19 24	53.4	-17.189	167.231	41	86.32	5.7	-	VANUATU			
#-565	10 26	1 28	56.2	36.528	70.669	210	108.10	5.6	-	HINDU KUSH REGION, AFGHANISTAN			
#-566	10 26	4 56	10.7	-5.573	-11.477	10	71.49	4.9	-	ASCENSION ISLAND REGION			
#-567	10 26	9 8	34.7	-0.139	123.023	80	87.73	5.5	-	SULAWESI, INDONESIA			
#-568	10 26	9 43	18.7	-20.687	-179.038	616	86.22	4.6	-	FIJI REGION			
#-569	10 27	5 43	50.1	-14.646	167.223	127	88.76	5.1	-	VANUATU			
#-570	10 27	8 54	9.2	-20.974	-70.357	35	77.10	4.3	-	OFFSHORE TARAPACA, CHILE			
#-571	10 27	19 8	17.0	-27.239	-69.318	113	70.90	4.9	-	ATACAMA, CHILE			
#-572	10 28	15 23	50.2	-32.464	-71.809	28	66.81	4.7	-	OFFSHORE VALPARAISO, CHILE			
#-573	10 28	15 56	7.9	-23.891	-179.957	522	82.91	4.9	-	SOUTH OF THE FIJI ISLANDS			
#-574	10 28	16 0	2.8	-3.515	145.863	16	92.66	5.4	5.9	NR N COAST OF NEW GUINEA, P.N.G.			

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude			Mb	Ms		
		h	m	s	(deg)	(deg)						(km)
#-575	10	29	11	32	43.4	30.567	67.520	14	101.76	6.1	6.6	PAKISTAN
#-576	10	29	22	17	1.2	4.193	126.631	61	93.06	5.2	-	KEPULAUAN TALAUD, INDONESIA
#-577	10	30	1	32	40.1	-24.005	-70.344	27	74.25	5.3	-	ANTOFAGASTA, CHILE
#-578	10	30	7	19	4.4	-16.489	-173.578	96	91.40	4.8	-	TONGA
#-579	10	30	22	38	11.7	1.426	126.998	94	90.61	5.0	-	MOLUCCA SEA
#-580	10	31	13	29	40.8	-11.637	66.277	10	59.99	4.7	-	MID-INDIAN RIDGE
#-581	10	31	13	30	1.5	-11.476	66.481	10	60.18	5.2	-	MID-INDIAN RIDGE
#-582	10	31	22	10	36.0	51.617	-174.427	45	156.56	5.1	-	ANDREANOF ISL, ALEUTIAN IS., ALASKA
#-583	11	1	1	13	9.6	-3.410	148.691	10	93.72	5.3	5.8	BISMARCK SEA
#-584	11	1	1	34	26.5	-6.642	129.258	10	83.89	5.4	-	BANDA SEA
#-585	11	2	13	48	42.8	51.612	-174.382	36	156.57	5.7	5.8	ANDREANOF ISL, ALEUTIAN IS., ALASKA
#-586	11	2	15	1	0.3	-29.985	-177.044	45	77.54	5.2	-	KERMADEC ISLANDS, NEW ZEALAND
#-587	11	3	7	18	2.6	-4.453	154.130	413	94.54	4.4	-	BOUGAINVILLE REG, P.N.G.
#-588	11	3	19	22	2.3	1.201	97.281	35	80.28	5.4	-	NIAS REGION, INDONESIA
#-589	11	3	19	36	21.3	-16.286	-176.325	370	91.07	5.1	-	FIJI REGION
#-590	11	3	21	40	6.5	51.537	159.421	36	147.55	5.0	-	OFF E CST KAMCHATKA, RUSSIA
#-591	11	4	7	38	29.6	-36.940	-96.114	10	69.01	4.9	-	WEST CHILE RISE
#-592	11	4	10	31	58.9	-27.772	-70.974	14	70.93	4.5	-	ATACAMA, CHILE
#-593	11	4	18	35	45.1	-17.122	168.425	207	86.70	5.7	-	VANUATU
#-594	11	5	1	9	24.3	-31.197	179.524	452	75.69	4.6	-	KERMADEC ISLANDS REGION
#-595	11	5	3	41	43.4	-17.241	-174.428	187	90.50	5.1	-	TONGA
#-596	11	6	14	57	38.7	-6.405	154.911	88	92.94	4.9	-	BOUGAINVILLE REG, P.N.G.
#-597	11	6	22	44	42.7	-18.625	169.105	223	85.44	5.1	-	VANUATU
#-598	11	7	7	19	35.4	-14.862	168.049	13	88.77	6.0	6.3	VANUATU
#-599	11	7	8	43	17.7	-24.069	178.696	547	82.45	4.9	-	SOUTH OF THE FIJI ISLANDS
#-600	11	8	7	49	58.9	-15.198	-174.277	121	92.53	5.4	-	TONGA
#-601	11	8	9	15	51.8	-15.220	-174.210	140	92.53	5.3	-	TONGA
#-602	11	8	11	57	25.6	-38.147	176.030	203	68.25	4.4	-	NORTH ISLAND OF NEW ZEALAND
#-603	11	8	20	55	37.7	-6.749	129.283	10	83.80	4.6	-	BANDA SEA
#-604	11	9	10	38	47.9	-7.171	129.465	75	83.47	5.3	-	KEPULAUAN BAMBAR, INDONESIA
#-605	11	9	23	28	18.8	-30.632	-70.685	89	68.17	4.8	-	COQUIMBO, CHILE
#-606	11	10	1	22	2.6	37.589	95.836	19	114.47	6.4	6.4	NORTHERN QINGHAI, CHINA

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region
		UTC			Latitude	Longitude			Mb	Ms	
		h	m	s	(deg)	(deg)	(km)	(deg)			
#-607	11 10	8	58	40.7	-0.247	100.013	35	79.77	5.2	-	SOUTHERN SUMATRA, INDONESIA
#-608	11 10	9	52	1.8	-32.069	-179.214	121	75.09	5.2	-	SOUTH OF KERMADEC ISLANDS
#-609	11 10	16	0	30.1	-8.825	-79.156	67	91.37	4.6	-	NEAR COAST OF NORTHERN PERU
#-610	11 10	17	15	15.3	-6.682	130.268	128	84.21	4.6	-	BANDA SEA
#-611	11 12	0	22	6.0	-7.468	-74.395	156	91.13	4.8	-	NORTHERN PERU
#-612	11 12	2	4	51.8	6.982	126.340	45	95.56	5.0	-	MINDANAO, PHILIPPINES
#-613	11 12	17	3	9.3	-17.395	167.152	49	86.10	4.9	-	VANUATU
#-614	11 13	10	31	35.3	-21.761	-178.132	370	85.36	5.0	-	FIJI REGION
#-615	11 13	15	10	16.0	-55.985	-27.251	88	31.29	5.5	-	SOUTH SANDWICH ISLANDS REGION
#-616	11 13	16	2	9.1	-56.950	-140.520	10	54.04	4.7	4.8	PACIFIC-ANTARCTIC RIDGE
#-617	11 14	1	48	37.1	43.494	-127.398	10	153.53	5.3	4.8	OFF THE COAST OF OREGON
#-618	11 14	2	5	9.4	-53.734	8.681	10	20.66	5.6	5.5	BOUVET ISLAND REGION
#-619	11 14	2	43	54.4	-53.825	8.584	10	20.61	5.1	-	BOUVET ISLAND REGION
#-620	11 14	22	53	1.4	-21.616	170.535	161	82.93	5.5	-	SOUTHEAST OF THE LOYALTY ISLANDS
#-621	11 15	4	3	25.5	51.436	-175.036	49	156.21	5.1	-	AMIRKHOV ISL., ALUTIAN IS., ALASKA
#-622	11 15	21	58	29.9	-19.086	168.482	54	84.83	5.1	-	VANUATU
#-623	11 16	2	52	54.3	13.069	51.088	10	82.52	4.7	-	GULF OF ADEN
#-624	11 16	12	20	37.4	10.836	91.727	30	87.85	5.4	-	ANDAMAN ISLANDS, INDIA REGION
#-625	11 16	13	36	37.6	-8.974	110.189	44	74.94	4.5	-	JAVA, INDONESIA
#-626	11 16	17	2	32.6	1.290	122.100	30	88.74	6.5	7.0	MINAHASA, SULAWESI, INDONESIA
#-627	11 16	17	34	38.6	1.314	122.122	35	88.77	5.6	-	MINAHASA, SULAWESI, INDONESIA
#-628	11 16	18	20	32.5	1.135	121.769	35	88.47	5.5	-	MINAHASA, SULAWESI, INDONESIA
#-629	11 16	19	12	49.0	-43.601	-72.024	79	56.58	4.8	-	LOS LAGOS, CHILE
#-630	11 16	22	33	47.3	1.367	122.263	10	88.87	5.1	-	MINAHASA, SULAWESI, INDONESIA
#-631	11 17	6	0	59.1	-5.668	128.804	308	84.64	5.3	-	BANDA SEA
#-632	11 17	11	31	53.2	-11.478	166.096	86	91.48	5.0	-	SANTA CRUZ ISLANDS
#-633	11 17	13	16	34.9	-16.823	171.989	38	87.91	5.3	-	VANUATU REGION
#-634	11 17	13	40	11.3	79.698	-115.453	10	167.52	5.1	-	ARCTIC OCEAN
#-635	11 18	4	52	51.3	79.742	-115.331	10	167.48	5.3	-	ARCTIC OCEAN
#-636	11 18	5	46	55.5	4.789	124.825	316	92.98	4.8	-	CELEBES SEA
#-637	11 18	11	12	22.7	-19.002	169.517	38	85.18	5.1	-	VANUATU
#-638	11 18	12	46	3.3	-19.196	169.064	10	84.88	5.0	-	VANUATU

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		h	m	s	Latitude (deg)	Longitude (deg)			(km)	(deg)		Mb
#-639	11	18	14	3	17.2	-18.892	169.479	54	85.28	5.5	5.3	VANUATU
#-640	11	18	14	38	49.9	-18.890	169.582	54	85.31	5.4	4.7	VANUATU
#-641	11	18	20	41	31.1	-4.441	152.743	87	94.10	4.9	-	NEW BRITAIN REG, P. N. G.
#-642	11	19	17	14	19.8	8.648	93.633	41	86.29	5.4	-	NICOBAR ISL, INDIA REGION
#-643	11	19	20	38	58.8	-22.160	-179.724	596	84.64	5.2	-	SOUTH OF THE FIJI ISLANDS
#-644	11	21	4	55	54.5	0.110	123.590	152	88.16	4.8	-	MINAHASA, SULAWESI, IND.
#-645	11	21	6	58	29.1	-55.530	-26.067	35	31.22	5.0	-	SOUTH SANDWICH ISL REGION
#-646	11	21	7	5	35.0	-8.948	159.558	118	91.99	6.0	-	SOLOMON ISLANDS
#-647	11	21	13	55	44.7	-14.778	167.114	130	88.60	4.9	-	VANUATU
#-648	11	21	23	7	43.7	-24.178	-69.197	47	73.72	5.0	-	ANTOFAGASTA, CHILE
#-649	11	22	16	0	59.1	-4.411	101.218	10	76.21	5.9	-	SOUTHERN SUMATRA, INDONESIA
#-650	11	22	16	1	39.6	-22.503	171.165	59	82.23	5.7	-	SOUTHEAST OF THE LOYALTY ISLANDS
#-651	11	22	16	11	46.7	-4.531	101.358	10	76.14	5.7	-	SOUTHERN SUMATRA, INDONESIA
#-652	11	22	17	22	34.7	-22.389	171.289	56	82.37	5.5	-	SOUTHEAST OF LOYALTY ISLANDS
#-653	11	22	18	49	42.5	-1.159	-13.925	10	76.42	5.9	-	NORTH OF ASCENSION ISLAND
#-654	11	22	20	25	52.3	-9.056	-75.578	43	90.01	5.1	-	CENTRAL PERU
#-655	11	23	7	53	45.3	-20.251	-175.570	170	87.34	5.1	-	TONGA
#-656	11	23	8	58	18.3	-22.455	171.294	40	82.31	5.3	-	SOUTHEAST OF THE LOYALTY ISLANDS
#-657	11	23	9	12	8.9	-22.537	171.266	89	82.22	4.8	-	SOUTHEAST OF THE LOYALTY ISLANDS
#-658	11	23	11	57	48.5	-4.650	153.045	74	94.00	5.2	-	NEW IRELAND REG, P. N. G.
#-659	11	23	12	18	53.6	-21.527	-177.083	272	85.80	4.7	-	FIJI REGION
#-660	11	25	6	3	16.3	-19.619	169.969	94	84.70	4.9	-	VANUATU
#-661	11	25	15	4	44.5	-22.775	-175.225	35	84.93	5.3	-	TONGA REGION
#-662	11	25	15	5	37.9	-21.905	33.324	10	47.23	5.0	-	MOZAMBIQUE
#-663	11	26	2	10	42.1	-22.842	-175.734	117	84.77	4.6	-	TONGA REGION
#-664	11	26	4	2	8.3	-20.437	169.267	48	83.74	5.3	-	VANUATU
#-665	11	26	4	47	1.7	-4.952	68.560	10	66.98	4.9	-	CHAGOS ARCHIPELAGO REGION
#-666	11	27	3	4	57.4	-15.857	-73.473	76	82.92	5.1	-	S PERU
#-667	11	27	9	17	48.0	-41.612	85.069	10	36.31	5.2	-	SOUTHEAST INDIAN RIDGE
#-668	11	27	17	31	27.5	-17.759	167.579	10	85.87	5.5	-	VANUATU
#-669	11	28	1	34	5.9	-22.774	-175.309	70	84.92	5.2	-	TONGA REGION
#-670	11	28	3	11	49.4	-22.995	-175.143	66	84.73	4.8	-	TONGA REGION

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)			(km)	(deg)	
#-671	11 28	8	50	48.2	-4.745	101.739	27	76.07	5.7	5.9	SOUTHERN SUMATRA, INDONESIA
#-672	11 29	5	59	16.6	-18.692	-177.716	386	88.44	5.7	-	FIJI REGION
#-673	12 2	17	5	56.9	-20.313	169.712	163	83.97	5.0	-	VANUATU
#-674	12 3	11	37	5.0	53.072	159.574	44	148.85	5.2	-	NR E COAST KAMCHATKA, RUSSIA
#-675	12 4	16	47	9.7	-21.288	-68.150	115	76.08	5.5	-	POTOSI, BOLIVIA
#-676	12 4	22	50	3.2	52.972	152.753	538	146.33	4.3	-	NORTHWEST OF KURIL ISLANDS
#-677	12 5	23	24	37.0	8.756	94.117	28	86.54	5.1	-	NICOBAR ISL, INDIA REGION
#-678	12 6	0	43	7.0	8.749	94.027	25	86.50	5.1	-	NICOBAR ISL, INDIA REGION
#-679	12 6	6	21	48.3	-27.858	-176.621	35	79.70	4.9	-	KERMADEC ISLANDS REGION
#-680	12 6	23	36	47.0	-19.375	-175.938	262	88.12	4.9	-	TONGA
#-681	12 7	13	36	20.5	26.957	55.874	10	96.76	5.6	5.2	SOUTHERN IRAN
#-682	12 7	15	31	23.7	51.478	151.733	443	144.75	4.7	-	SEA OF OKHOTSK
#-683	12 7	15	49	57.9	-29.942	-177.891	56	77.42	5.1	-	KERMADEC ISL, NEW ZEALAND
#-684	12 8	2	58	8.8	48.858	156.276	32	144.20	5.0	-	EAST OF THE KURIL ISLANDS
#-685	12 8	13	58	43.7	-29.200	-71.082	53	69.63	4.7	-	COQUIMBO, CHILE
#-686	12 8	14	41	43.3	26.920	55.850	6	96.72	5.4	4.7	S IRAN
#-687	12 9	5	33	15.4	1.209	126.897	81	90.37	5.1	-	MOLUCCA SEA
#-688	12 9	6	24	0.1	-31.090	-176.970	18	76.48	6.2	6.7	KERMADEC ISLANDS REGION
#-689	12 9	9	29	23.2	-5.847	150.832	73	92.14	5.3	-	NEW BRITAIN REG, P. N. G.
#-690	12 9	15	31	50.2	-2.774	139.340	47	91.09	5.6	5.4	NEAR THE NORTH COAST OF PAPUA, IND.
#-691	12 9	18	51	14.1	-20.829	-178.871	585	86.12	5.1	-	FIJI REGION
#-692	12 9	20	8	49.4	-20.212	-178.719	617	86.75	5.1	-	FIJI REGION
#-693	12 9	21	0	51.4	7.693	92.237	30	84.98	5.2	-	NICOBAR ISL, INDIA REGION
#-694	12 10	10	35	15.8	-31.782	-177.895	277	75.63	4.7	-	KERMADEC ISLANDS REGION
#-695	12 10	13	15	36.7	-12.348	166.525	72	90.77	5.7	-	SANTA CRUZ ISLANDS
#-696	12 11	16	29	10.6	-19.081	-175.366	238	88.52	4.9	-	TONGA
#-697	12 11	16	40	36.3	-30.923	-176.623	10	76.70	4.8	-	KERMADEC ISLANDS REGION
#-698	12 11	20	55	1.4	-5.891	105.308	16	76.17	5.2	-	SUNDA STRAIT, INDONESIA
#-699	12 11	21	40	52.2	0.068	123.438	132	88.07	6.2	-	MINAHASA, SULAWESI, INDONESIA
#-700	12 12	10	46	18.0	-31.101	-176.838	10	76.49	5.1	-	KERMADEC ISLANDS REGION
#-701	12 13	8	45	36.4	-48.968	123.427	10	43.35	6.0	5.8	WESTERN INDIAN-ANTARCTIC RIDGE
#-702	12 13	8	59	41.5	-49.003	123.489	10	43.34	5.4	-	W INDIAN-ANTARCTIC RIDGE

Table 2. Continued.

No.	Date		Origin time UTC			Geographic Coordinates		Dep Epicentral		Magnitude		Region
						Latitude	Longitude	distance				
						(deg)	(deg)	(km)	(deg)	Mb	Ms	
#-703	12	13	19	0	37.0	-3.112	129.782	45	87.37	5.2	-	SERAM, INDONESIA
#-704	12	14	5	13	7.7	-58.814	-26.051	78	28.73	5.0	-	SOUTH SANDWICH ISL REGION
#-705	12	14	20	36	29.9	-60.123	-18.780	10	25.22	5.5	-	EAST OF THE SOUTH SANDWICH ISLANDS
#-706	12	16	10	19	39.8	-16.287	67.105	10	55.59	5.0	-	MID-INDIAN RIDGE
#-707	12	16	20	31	54.1	-31.229	-176.649	10	76.40	5.1	-	KERMADEC ISLANDS REGION
#-708	12	17	8	10	0.1	-7.244	147.767	58	89.80	5.0	-	E NEW GUINEA REG, P.N.G.
#-709	12	17	10	55	59.5	-17.774	-178.341	530	89.21	5.2	-	FIJI REGION
#-710	12	17	13	48	0.0	6.790	94.778	145	84.85	5.1	-	NICOBAR ISL, INDIA REGION
#-711	12	17	16	6	58.0	-6.066	103.490	35	75.40	5.6	4.6	SOUTHWEST OF SUMATRA, INDONESIA
#-712	12	17	20	34	0.5	-36.940	177.320	115	69.68	5.3	-	OFF E COAST OF N ISL, N.Z.
#-713	12	18	3	3	33.5	1.300	122.170	35	88.77	4.5	-	MINAHASA, SULAWESI, IND.
#-714	12	18	3	20	4.7	-17.021	168.586	256	86.84	5.2	-	VANUATU
#-715	12	18	6	22	19.1	-6.948	156.668	135	92.99	4.9	-	SOLOMON ISLANDS
#-716	12	18	15	50	17.3	2.306	127.130	108	91.48	5.5	-	MOLUCCA SEA
#-717	12	18	20	57	39.5	-23.482	179.978	543	83.29	5.3	-	SOUTH OF THE FIJI ISLANDS
#-718	12	19	1	27	20.2	-1.725	99.798	28	78.30	4.7	-	KEPULAUAN MENTAWAI REGION, IND.
#-719	12	19	7	30	6.0	-32.537	-72.020	12	66.81	5.2	-	OFFSHORE VALPARAISO, CHILE
#-720	12	19	8	6	11.3	1.267	126.879	58	90.42	5.0	-	MOLUCCA SEA
#-721	12	19	13	57	32.0	-32.523	-71.640	35	66.71	5.1	-	OFFSHORE VALPARAISO, CHILE
#-722	12	19	16	48	49.2	-32.522	-71.772	11	66.75	5.0	-	OFFSHORE VALPARAISO, CHILE
#-723	12	19	19	25	57.0	-32.475	-71.627	46	66.75	4.9	-	OFFSHORE VALPARAISO, CHILE
#-724	12	19	20	2	21.1	-9.967	160.465	47	91.29	5.2	-	SOLOMON ISLANDS
#-725	12	19	22	33	20.5	-9.941	160.366	35	91.29	5.4	-	SOLOMON ISLANDS
#-726	12	20	6	10	29.7	-31.150	-177.757	10	76.27	5.1	-	KERMADEC ISLANDS REGION
#-727	12	20	7	12	5.4	-23.999	-66.627	179	73.05	4.6	-	JUJUY, ARGENTINA
#-728	12	20	10	29	21.6	36.538	142.420	10	128.51	5.9	6.3	OFF THE EAST COAST OF HONSHU, JAPAN
#-729	12	20	11	29	36.8	-32.431	-71.769	35	66.83	5.0	-	OFFSHORE VALPARAISO, CHILE
#-730	12	20	16	43	8.7	-32.402	-71.923	12	66.91	4.9	-	OFFSHORE VALPARAISO, CHILE
#-731	12	20	17	7	0.8	-31.569	-68.068	106	66.47	5.3	-	SAN JUAN, ARGENTINA
#-732	12	20	17	44	45.0	-2.747	139.002	38	90.99	5.5	-	NEAR THE NORTH COAST OF PAPUA, IND.
#-733	12	20	20	44	42.4	-6.914	127.003	420	82.83	4.4	-	BANDA SEA
#-734	12	20	22	40	18.0	-30.237	-178.575	35	77.00	5.1	-	KERMADEC ISL, NEW ZEALAND

Table 2. Continued.

No.	Date	Origin time			Geographic Coordinates		Dep	Epicentral distance	Magnitude		Region	
		UTC			Latitude	Longitude			Mb	Ms		
		h	m	s	(deg)	(deg)						(km)
#-735	12	21	6	48	14.6	-22.849	-67.914	103	74.55	4.7	-	ANTOFAGASTA, CHILE
#-736	12	21	13	47	51.9	4.786	95.014	54	83.01	5.5	5.1	NORTHERN SUMATRA, INDONESIA
#-737	12	22	13	52	40.7	-17.676	-69.067	144	79.77	4.8	-	LA PAZ, BOLIVIA
#-738	12	22	18	6	31.9	-17.314	-172.610	35	90.77	5.0	-	TONGA REGION
#-739	12	23	0	44	30.4	-23.133	-174.681	39	84.68	5.0	-	TONGA REGION
#-740	12	23	17	51	48.7	2.406	128.656	77	92.12	5.4	-	HALMAHERA, INDONESIA
#-741	12	23	20	57	20.4	36.485	142.379	9	128.44	5.1	-	OFF E COAST OF HONSHU, JAPAN
#-742	12	24	9	11	34.0	-17.344	-171.873	9	90.87	5.9	5.6	TONGA REGION
#-743	12	25	3	20	29.3	5.751	125.406	205	94.08	6.0	-	MINDANAO, PHILIPPINES
#-744	12	25	8	11	58.6	49.125	-128.634	10	159.22	5.5	5.5	VANCOUVER ISLAND, CANADA REGION
#-745	12	25	18	12	7.6	5.309	124.242	434	93.25	5.5	-	MINDANAO, PHILIPPINES
#-746	12	25	22	40	23.7	23.394	64.495	13	94.24	5.6	-	OFF THE COAST OF PAKISTAN
#-747	12	26	3	15	44.2	-24.038	-66.712	185	73.04	4.8	-	JUJUY, ARGENTINA
#-748	12	26	9	4	27.1	-21.527	-68.433	99	75.95	4.8	-	ANTOFAGASTA, CHILE
#-749	12	26	16	30	1.6	-32.485	-179.056	193	74.72	4.9	-	SOUTH OF KERMADEC ISLANDS
#-750	12	27	9	35	7.9	-0.242	122.778	214	87.55	4.6	-	SULAWESI, INDONESIA
#-751	12	27	21	7	48.8	-14.835	167.757	40	88.72	5.1	-	VANUATU
#-752	12	28	13	31	37.9	48.315	154.341	52	143.05	5.3	-	KURIL ISLANDS
#-753	12	28	22	7	30.2	-22.377	173.907	47	83.01	5.1	-	SOUTHEAST OF LOYALTY ISLANDS
#-754	12	29	6	18	23.0	32.286	105.224	10	112.12	5.0	-	SICHUAN-GANSU BDR REG, CHINA
#-755	12	29	14	40	15.5	-23.005	-68.500	101	74.59	4.8	-	ANTOFAGASTA, CHILE
#-756	12	30	3	20	56.0	5.425	125.716	135	93.89	5.1	-	MINDANAO, PHILIPPINES
#-757	12	30	17	43	51.0	-10.601	161.158	57	90.89	5.1	-	SOLOMON ISLANDS
#-758	12	30	19	49	52.5	-4.265	101.190	20	76.34	5.7	-	SOUTHERN SUMATRA, INDONESIA
#-759	12	31	11	39	57.5	4.905	127.435	77	94.02	5.4	-	KEPULAUAN TALAUD, INDONESIA
#-760	12	31	14	2	27.5	-25.348	-177.611	154	81.96	5.3	-	SOUTH OF THE FIJI ISLANDS