

## SEISMOLOGICAL BULLETIN OF SYOWA STATION, ANTARCTICA, 2007

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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 2007 by one of the authors (S. Iwano) throughout the wintering season of the 48th Japanese Antarctic Research

Expedition (JARE-48). In this report, we introduce the seismic observations in 2007, scaled readout 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). The 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 Messegeraete, 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 geodetic coordinates of 69°00'24.0"S, 39°35'06.0"E and elevation 20 m above mean sea level. Since the longperiod 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 into DAT or 8 mm tape at three months' 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'. The reference clock for the new system has been calibrated to Coordinated Universal Time (UTC) by detecting time codes by GPS. Thermal pen-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 2006 winter season,

continuous data of both HES and STS-I 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 the 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 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. Figure 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](mailto: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](mailto: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. Ms. A. Ibaraki kindly assisted in preparing this data report. Readers can refer to the following URL site below for the data directory and access:  
<http://polais.nipr.ac.jp/~pseis/syowa>.

### References

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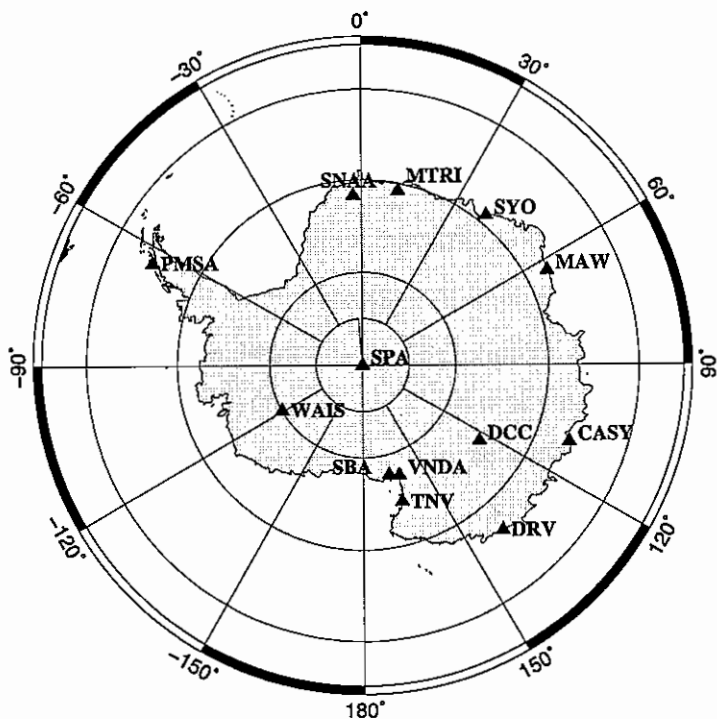


Fig. 1. Distribution of FDSN stations on the Antarctic continent in 2009. Syowa (SYO), Mawson (MAW), Casey (CASY), Dumont d'Urville (DRV), Terra Nova Bay (TNV), Vanda (VDA), South Pole (SPA), Palmer (PMSA), Sanae (SNAA), Maitri (MTRI).

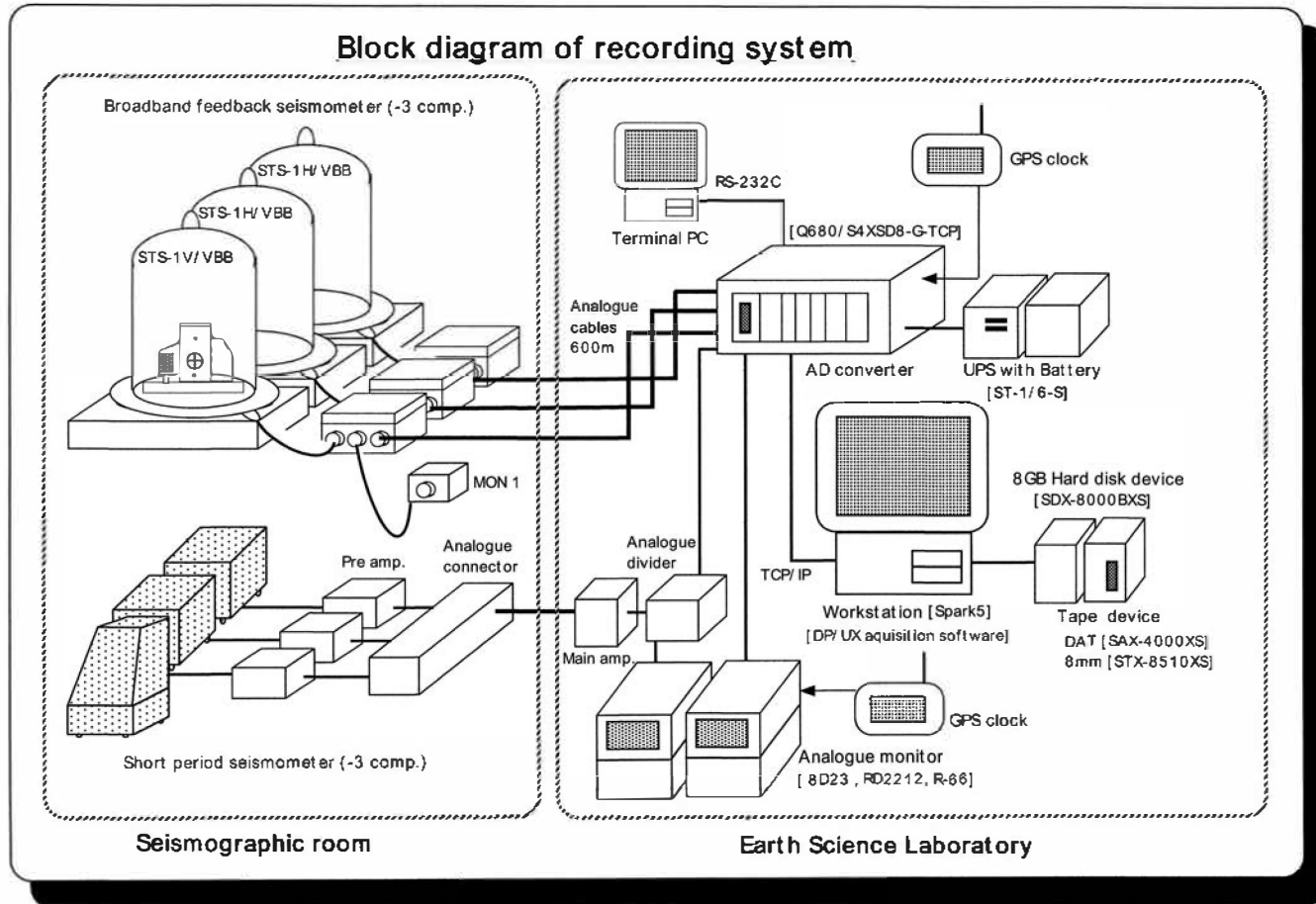


Fig. 2. Block diagram of new recording system for the STS and HES seismographs at Syowa Station. Left figure: Seismographic room; Right figure: Earth Science Laboratory.

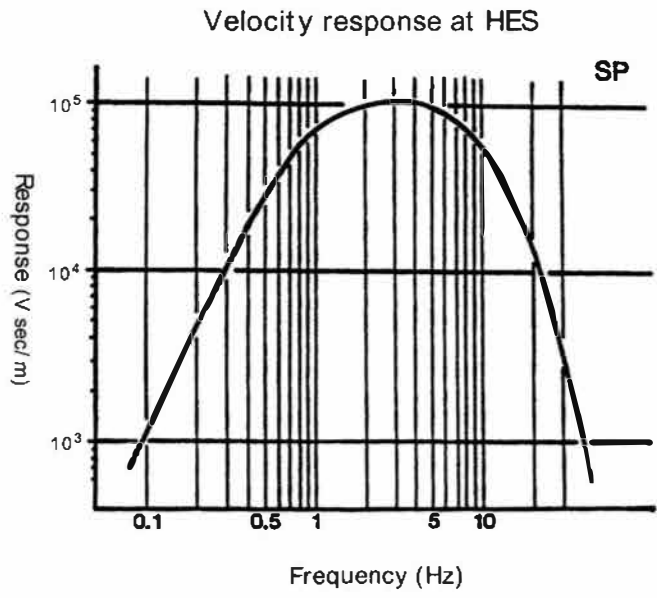


Fig. 3. Over-all frequency responses of the HES seismographs. (Modified after Hagiwara, 1958).

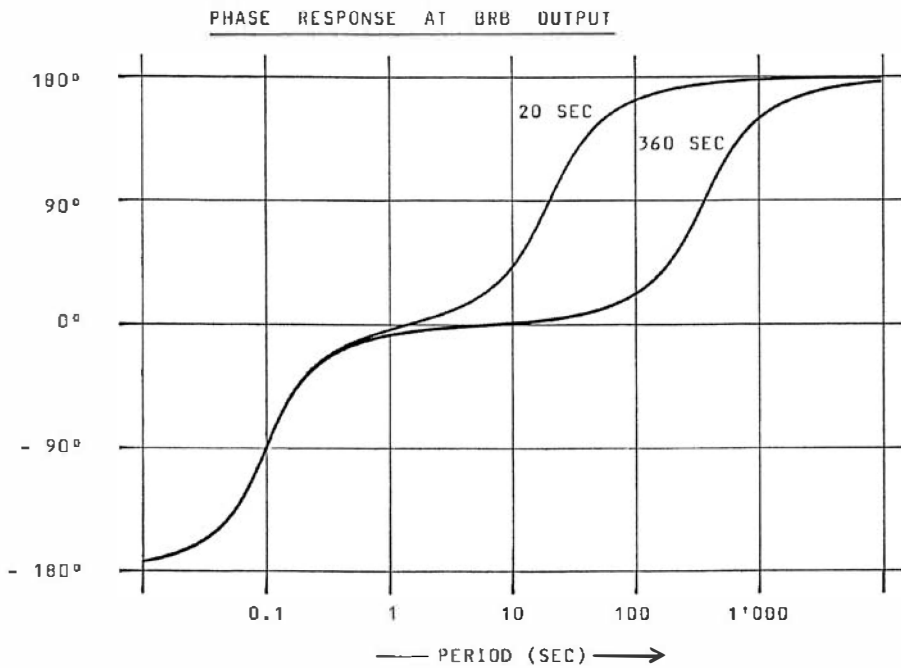
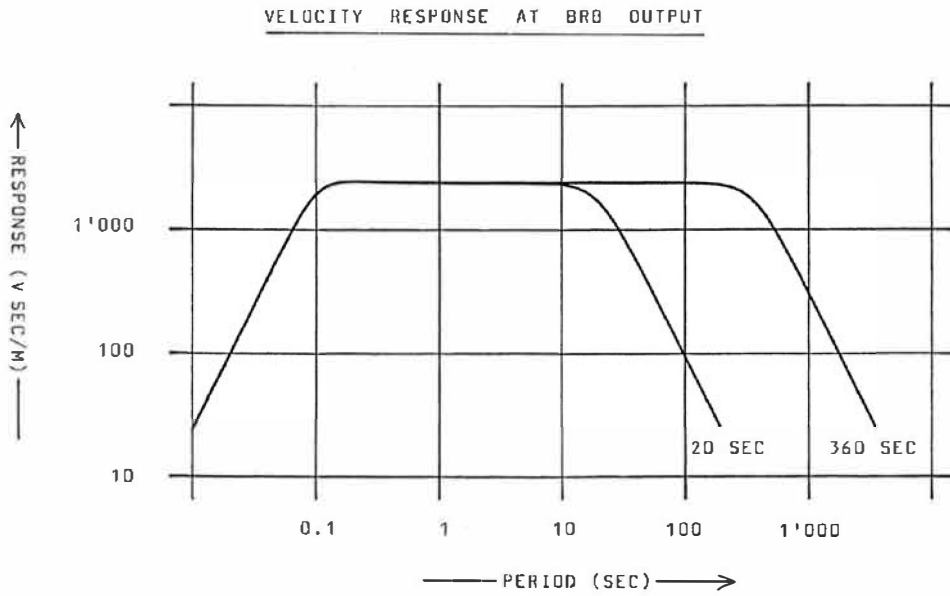
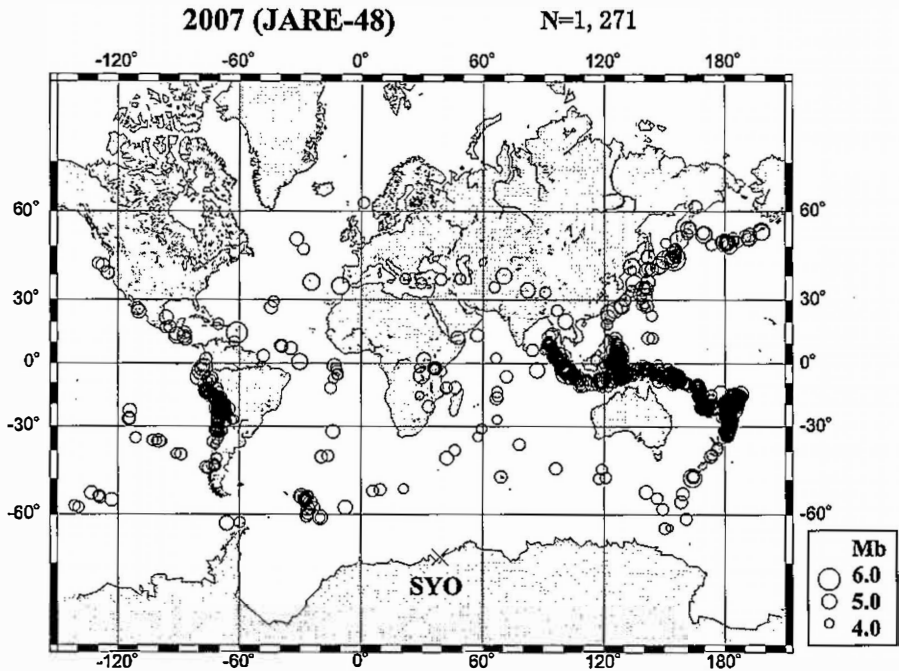


Fig. 4. Amplitude responses (upper figure) and phase responses (lower figure) for the velocity (BRB) output of the broadband seismograph (STS) in the two distinct signal modes of 20 s and 360 s (after Streckeisen and Messergeraete, 1987).



**2007 (JARE-48)**  
N=1,271

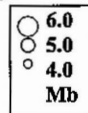


Fig. 5. Epicenters of the 1271 earthquakes recorded at Syowa Station. The sizes of earthquake circles are proportional to the body-wave magnitude (Mb) determined by the National Earthquake Information Center (NEIC) (upper: Mercator Projection, lower: Azimuthal Equidistant Projection).



Table 1. List of phase arrival-time data in 2007.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
Jan.					8	-IPZ	2104	27.8	#-17
1	-EPZ	0030	22.2	#-1	8	-IPcPZ	2104	30.5	#-17
2	+IPZ	1626	34.8	#-2	8	ESH	2114	39.6	#-17
2	-IPcPZ	1626	35.4	#-2	9	-EPZ	0240	07.5	
3	+EPZ	0946	28.5	#-3	9	+IPZ	1610	54.2	
3	+EPZ	1259	54.6	#-4	10	-EPKpdfZ	1021	12.0	#-18
3	-EPcPZ	1259	58.6	#-4	10	-EXZ	1021	52.6	#-18
3	-EpPZ	1300	05.0	#-4	10	+EPZ	1032	02.0	
3	-EsPZ	1300	08.6	#-4	11	+EXZ	0447	25.6	#-19
3	+EPZ	2327	18.2		11	-EPZ	0903	11.4	#-20
3	-EPZ	2335	23.6	#-5	11	-EXZ	0903	20.0	#-20
4	-EpPZ	0940	15.0	#-6	11	+EPZ	1443	58.0	#-21
4	+EPZ	1219	25.6		11	+EpPZ	1444	04.3	#-21
5	-EPZ	0844	28.8		11	ESH	1454	35.0	#-21
5	-EPZ	1456	58.8	#-7	11	-EPZ	1844	03.0	
5	-EsPZ	1457	53.0	#-7	11	+EPZ	2114	05.6	
6	+EPZ	1123	02.0	#-8	11	-EPZ	2313	39.9	
6	-EsPZ	1123	09.6	#-8	12	+EPZ	0454	02.0	#-22
6	-EPZ	2107	41.0	#-9	12	-EPZ	0610	10.2	
6	-EPcPZ	2107	43.8	#-9	12	+EPZ	1244	31.6	
6	-EPZ	2335	18.4		12	+EPZ	1413	37.0	#-23
7	-EPZ	0141	19.6	#-10	13	+EPZ	0440	32.0	
7	+EPKiKPZ	0210	12.8	#-11	13	-IPKpdfZ	0442	48.0	#-24
7	-EPZ	1105	53.4	#-12	13	+EPPZ	0632	23.8	#-25
7	+EpPZ	1106	17.2	#-12	13	+EPPZ	0707	08.0	#-26
7	-EPZ	1319	09.8		13	-EPZ	0937	49.8	
7	-EPZ	1926	02.0	#-13	13	-EPKpdfZ	0938	01.8	#-27
7	+EpPZ	1928	05.3	#-13	13	-EPKiKPZ	0938	03.4	#-27
7	-EPZ	1952	18.0		13	-EPZ	0957	25.0	
7	+EPZ	1952	37.5		13	-EPKpdfZ	1756	32.6	#-28
8	-EPZ	0057	40.4		13	-EpPKiKPZ	1756	48.0	#-28
8	+EPZ	0235	05.0	#-14	13	+EPdiffZ	1954	26.8	#-29
8	-IPZ	1301	17.0	#-15	13	-EPKpdfZ	1957	02.6	#-29
8	-IPcPZ	1301	20.2	#-15	14	-EPZ	0615	21.0	#-30
8	+EXZ	1736	27.6	#-16	14	+EPZ	1552	50.4	#-31
8	+EPKiKPZ	1740	20.2	#-16	14	-EsPZ	1553	21.6	#-31
8	+EPPZ	1741	01.8	#-16	14	-EPZ	1606	21.4	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
15	+EPZ	0700	29.0		20	-EPPZ	0301	33.6	#-44
15	+EPZ	0700	36.4		20	ESH	0308	26.2	#-44
15	+EPZ	0804	21.5		20	-EPZ	0627	37.8	#-45
15	+EPZ	1024	47.0	#-32	20	-IpPZ	0627	40.8	#-45
15	+EXZ	1143	15.6	#-33	20	ESH	0632	55.0	#-45
15	-EPZ	1203	02.0		20	-EPZ	0646	56.0	
15	-EPZ	1619	34.8		20	+EPZ	2338	49.0	
15	+EPZ	1619	39.2		21	+EPZ	0350	23.8	
15	+EPZ	1737	13.8	#-34	21	+EPZ	1140	41.0	#-46
15	-EPcPZ	1737	18.8	#-34	21	+IPcPZ	1140	42.4	#-46
15	-EPKpdfZ	1836	38.8	#-35	21	+IpPZ	1140	48.4	#-46
15	+EPKikPZ	1836	39.8	#-35	21	ESH	1151	32.0	
15	-EPZ	2112	56.6	#-36	21	+EPZ	1106	23.0	
15	+EpPZ	2113	21.6	#-36	21	+EPZ	1215	07.8	#-47
16	+EPZ	1819	17.4	#-37	21	+EpPZ	1215	10.0	#-47
16	+EsPZ	1819	49.6	#-37	21	-EPZ	1223	43.6	#-48
16	+EPPZ	1822	52.3	#-37	21	-EPcPZ	1223	44.8	#-48
16	+EPZ	1849	03.6	#-38	21	+EPZ	1231	06.0	
17	-EPZ	0128	20.0		21	-EPZ	1245	33.8	#-49
17	-EPZ	0441	16.6	#-39	21	-EPcPZ	1245	35.2	#-49
17	+EpPZ	0441	41.2	#-39	21	+EPZ	1303	10.8	#-50
17	+EPZ	2105	38.6		21	+EPZ	1321	30.2	#-51
17	-IPZ	2331	00.1		21	+EpPZ	1321	34.9	#-51
17	-IPZ	2331	11.0		21	+EpPZ	1325	30.0	#-52
18	-EPZ	0345	00.4	#-40	21	+EpPZ	1328	10.0	#-53
18	+EpPZ	0345	14.0	#-40	21	+EPZ	1356	50.0	#-54
18	+EPZ	0554	16.0	#-41	21	-EpPZ	1356	55.0	#-54
18	+EpPZ	0554	43.8	#-41	21	-EPZ	1408	15.0	#-55
18	-IXZ	1539	01.0	#-42	21	+EPZ	1423	34.4	#-56
18	-EPcPZ	1539	11.0	#-42	21	+EPZ	1424	39.5	#-57
18	+EPZ	1744	16.7		21	-EPZ	1427	05.6	#-58
18	+EPZ	1811	22.0		21	-EPZ	1440	47.0	#-59
19	+EPZ	0255	53.0	#-43	21	+EPPZ	1444	20.0	#-59
19	+IpPZ	0256	03.0	#-43	21	+EPZ	1452	16.2	#-60
20	-IPZ	0258	10.4	#-44	21	+EPcPZ	1452	18.0	#-60
20	-IPcPZ	0258	13.0	#-44	21	-EPZ	1509	34.8	#-61

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
21	+EPZ	1525	34.8	#-62	23	+EPZ	1127	41.4	
21	-EpPZ	1525	38.0	#-62	23	-EPZ	1229	33.2	#-81
21	+EPZ	1645	54.0	#-63	23	-EPcPZ	1229	34.4	#-81
21	+EPcPZ	1645	55.8	#-63	23	-IPZ	1728	58.8	#-82
21	-EPZ	1745	51.8	#-64	23	+IPcPZ	1729	00.6	#-82
21	+EPcPZ	1745	54.0	#-64	23	+EPZ	2049	44.7	#-83
21	+EPZ	2003	47.0	#-65	23	+EpPZ	2049	57.0	#-83
21	-EPcPZ	2003	49.0	#-65	23	+EPZ	2202	11.0	
21	-EPZ	2013	02.0		23	+EPZ	2219	04.0	
21	+EXZ	2115	56.8	#-66	23	+EPZ	2252	54.0	#-84
21	-EPZ	2358	07.4	#-67	23	-IsPZ	2253	06.7	#-84
21	+EPcPZ	2358	10.8	#-67	23	+EPZ	2308	12.5	
22	+IPZ	0035	49.8	#-68	24	+EPZ	0343	41.0	
22	-IpPZ	0035	54.0	#-68	24	+EPZ	0753	45.0	
22	-EPZ	0119	39.6	#-69	24	-EPZ	0853	25.0	#-85
22	-EPZ	0440	04.8	#-70	24	-IPcPZ	0853	26.6	#-85
22	+IpPZ	0440	13.6	#-70	24	-IsPZ	0853	31.0	#-85
22	-EPZ	0446	14.0		24	-EPZ	0947	29.0	#-86
22	-EPZ	0446	15.4		24	+EpPZ	1140	49.3	#-87
22	-EPKPdfZ	1042	45.4	#-71	24	-EPZ	1444	30.0	
22	+EPZ	1121	31.8	#-72	24	+EPZ	2348	23.5	
22	+EPcPZ	1121	36.4	#-72	25	-EPZ	0049	00.0	#-88
22	-EPZ	1248	19.7	#-73	25	+EPZ	0438	23.4	
22	-EPZ	1435	04.2	#-74	25	+EPZ	0700	22.2	#-89
22	-EPcPZ	1435	08.0	#-74	25	-EPcPZ	0700	25.2	#-89
22	+EPZ	1656	51.0	#-75	25	-EPZ	1003	52.4	#-90
22	-EPcPZ	1656	54.0	#-75	25	+EPPZ	1118	05.8	#-91
22	-EPZ	1657	46.0	#-76	25	-EPZ	1530	46.0	#-92
22	-IPcPZ	1657	47.2	#-76	25	-EPcPZ	1530	51.4	#-92
22	-EPZ	1827	41.0	#-77	25	-EpPZ	1530	54.2	#-92
22	-EPZ	1939	01.2	#-78	26	-EPKpabZ	0018	03.2	#-93
22	+EPZ	1939	21.2		26	+EPZ	0247	11.6	#-94
23	-EPZ	0348	40.0	#-79	26	-EsPZ	0247	28.2	#-94
23	-EpPZ	0715	07.6	#-80	26	+EPZ	0805	05.0	#-95
23	+EPZ	0818	31.0		26	+EPZ	1157	28.0	#-96
23	+EPZ	0834	21.4		26	-EPcPZ	1157	29.8	#-96

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
26	+EPZ	1203	07.0		29	+EPZ	0326	11.4	
26	+EPZ	2057	36.2	#-97	29	+EPZ	0434	12.4	
26	+EPZ	2349	18.4		29	-EPZ	0616	06.8	#-109
27	-EXZ	0459	40.4		29	+EPZ	0910	57.7	
27	+EPZ	0539	54.6	#-98	29	-EPZ	0911	04.0	
27	-EPcPZ	0539	59.0	#-98	29	-EPZ	1643	38.0	
27	-EpPZ	0540	24.8	#-98	29	+EPZ	1714	44.6	
27	-EPPZ	0543	08.0	#-98	29	-EPZ	2001	11.0	#-110
27	+EPZ	0713	36.2	#-99	29	-EPcPZ	2001	13.0	#-110
27	-EsPZ	0713	42.8	#-99	29	+EPZ	2153	11.1	#-111
27	+EPZ	0740	37.8		29	-EpPZ	2153	46.0	#-111
27	-EPZ	1034	46.2	#-100	30	-EPZ	0201	32.0	#-112
27	-EpPZ	1034	50.0	#-100	30	+IPZ	0448	01.5	
27	-EPZ	1117	20.8		30	-IPZ	0503	05.2	
27	-EPZ	1422	24.4		30	-IPZ	0503	10.2	
27	-EPZ	1828	20.0	#-101	30	-EPZ	0817	23.0	#-113
27	-EpPZ	1828	23.2	#-101	30	-EpPZ	0817	26.8	#-113
27	-EPZ	1909	55.2		30	+EPZ	1959	33.6	#-114
27	+EPZ	1946	45.0		30	+EPZ	2004	37.2	#-115
27	+EPZ	2005	01.6		30	+IPZ	2107	10.0	#-116
27	+EPZ	2005	09.4		30	-EPcPZ	2107	11.4	#-116
27	+EPZ	2318	38.4		31	-EpPZ	0227	36.2	#-117
28	+EPZ	0333	43.4		31	-IPZ	0327	46.2	#-118
28	+EPZ	0334	10.6	#-102	31	-IPcPZ	0327	55.4	#-118
28	+EPZ	0519	55.6	#-103	31	ESH	0337	36.6	#-118
28	-EPcPZ	0519	57.9	#-103	31	-EPZ	0346	35.8	
28	ESH	0530	24.6	#-103	31	-EPZ	0349	12.4	#-119
28	-EPcPZ	0652	05.0	#-104	31	+EpPZ	0349	37.2	#-119
28	-EPZ	0824	24.3	#-105	31	-EPcPZ	1653	37.0	#-120
28	+EpPZ	0826	29.6	#-105	31	+EpPZ	1653	46.6	#-120
28	ESH	0834	21.6	#-105	31	-EPZ	2043	08.4	#-121
28	-EPZ	1222	03.9	#-106	Feb.				
28	-IPcPZ	1222	06.4	#-106	1	-EPZ	0021	43.0	#-122
28	+IsPZ	1544	37.2	#-107	1	-EspZ	0021	49.2	#-122
28	-EPZ	1729	09.5	#-108	1	-EPZ	1056	25.8	#-123
28	-EPcPZ	1729	12.0	#-108	1	-EPcPZ	1056	28.2	#-123

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
1	+EpPZ	1258	29.4	#-124	6	+EPZ	0240	48.8	
1	-EPZ	1646	04.6		6	+EPZ	0253	02.8	
1	-EPZ	1646	07.8		6	+EPZ	1906	00.6	#-137
1	-EPZ	1722	03.0	#-125	6	+EPZ	2003	28.4	#-138
1	-EpPZ	1722	05.8	#-125	7	+EPZ	1907	01.0	
1	-EPnPnZ	1723	05.0	#-125	7	-IPZ	1907	06.0	
1	-EPcPZ	2015	22.2	#-126	7	+EPZ	2146	19.4	
2	-EXZ	1514	06.4	#-127	8	-EXZ	0734	30.8	#-139
2	-IPZ	1514	23.0		8	+EPPZ	1449	12.8	#-140
3	-EPZ	0540	27.3	#-128	8	+EPZ	1641	25.0	#-141
3	-EPcPZ	0540	29.6	#-128	8	+EPZ	1641	35.6	
3	-EpPZ	0909	51.4	#-129	8	+EPZ	1642	21.6	#-142
3	+EPZ	0910	08.3		8	-EpPZ	1642	24.6	#-142
3	+EPZ	1117	22.6		8	-EsPZ	1642	27.9	#-142
3	-EPZ	1125	08.9		9	-EPZ	0237	09.0	
3	-EpPZ	1520	38.8	#-130	9	-EPdiffZ	0237	14.2	#-143
4	+EPZ	0004	11.5		9	+EPZ	0246	00.8	
4	-EPZ	0004	31.7		9	+EPZ	1811	49.0	#-144
4	+EPZ	0132	12.2	#-131	10	+EPZ	1341	12.4	
4	-EPcPZ	0132	16.8	#-131	10	+IPZ	0612	33.0	#-145
4	+EPKpabZ	1006	25.0	#-132	10	-EPPZ	0614	40.2	#-145
4	+EPZ	1007	16.6		10	ESH	0620	19.0	#-145
4	+EPZ	1025	43.5	#-133	11	+EPZ	0352	11.8	
4	-EPcPZ	1025	49.9	#-133	11	+EPcPZ	1100	00.4	#-146
4	-EpPZ	1026	27.0	#-133	11	-EpPZ	1100	15.5	#-146
4	-EPZ	1418	00.8		11	+EsPZ	1100	24.2	#-146
4	+EPZ	2302	22.8		11	+EPZ	1502	17.8	#-147
4	-EPZ	2302	34.2		11	+EXZ	1502	28.3	
5	-EXZ	0702	28.0	#-134	11	+EPZ	1515	38.2	#-148
5	+EPZ	1029	06.8	#-135	11	-EPcPZ	1515	54.0	#-148
5	-IPcPZ	1029	12.2	#-135	11	+EPZ	2116	13.8	
5	-EPZ	1032	09.0	#-136	11	-EPZ	2117	24.5	
5	-EpPZ	1032	12.0	#-136	11	-EPZ	2145	41.0	
5	-EPZ	1649	44.8		11	-EPZ	2145	42.0	
5	+EPZ	1747	15.0		12	-IPZ	0221	54.3	
5	+EPZ	2246	19.8		12	-EPZ	0449	24.8	

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
12	-EPZ	0449 35.8		18	-EpPZ	1057 38.8	#-163
12	-EPZ	0456 18.6	#-149	18	+EPZ	1143 15.0	
12	-EPcPZ	0456 23.8	#-149	18	+EPZ	1214 34.2	#-164
12	+EXZ	1054 26.8	#-150	18	+EPcPZ	1214 38.0	#-164
12	+EXZ	1258 45.3	#-151	18	-EpPZ	1216 22.0	#-164
12	+IsPZ	1259 01.3	#-151	18	-EPPZ	1217 55.0	#-164
13	+EPZ	1011 47.8	#-152	18	+EPZ	1238 17.6	#-165
13	-EXZ	1110 02.0	#-153	18	-EpPZ	1238 32.0	#-165
13	+EPZ	1138 34.6		18	-EPPZ	1241 23.0	#-165
13	+EPZ	1139 45.4		18	+EPZ	1352 17.5	#-166
13	+EPZ	1337 20.4		18	-EPZ	1545 18.9	
13	-EPZ	1339 17.0		18	+EPcPZ	1742 18.2	#-167
13	+EPZ	1509 11.2		18	-EPZ	2117 46.0	
13	+EXZ	1510 48.6	#-154	19	-EPZ	0029 05.4	#-168
13	+IPZ	1934 55.0	#-155	19	-EPZ	0029 27.4	
13	-IPcPZ	1934 56.2	#-155	19	-EPZ	0245 04.6	
13	+EPZ	2015 37.2	#-156	19	+EPZ	0245 07.0	
14	-EPZ	0141 14.2		19	-EPZ	0257 05.0	
14	-EPZ	1433 43.2	#-157	19	+EPZ	0441 14.6	
14	+EPcPZ	1433 51.2	#-157	19	+EPZ	1012 52.4	
15	NIL			19	+EPZ	1013 03.8	
16	+EPZ	0121 51.8	#-158	19	-EPZ	1126 17.8	#-169
16	+EpPZ	0121 54.3	#-158	19	-EpPZ	1126 27.0	#-169
16	-EXZ	1711 30.2	#-159	19	-EPKiKPZ	1200 40.1	#-170
16	+EPPZ	1714 45.4	#-159	19	-EXZ	1200 50.4	#-170
17	+EPZ	0756 40.4	#-160	19	-EPZ	1418 46.0	
17	-EPZ	0800 55.8	#-161	19	-EPZ	1419 00.0	
17	-EPZ	0820 19.4		19	+EPKPdfZ	1433 54.2	#-171
17	+EPZ	1256 18.2	#-162	19	-EPZ	1446 08.0	#-172
17	+EPcPZ	1256 20.4	#-162	19	-EsPZ	1446 12.8	#-172
17	-EpPZ	1256 29.6	#-162	19	-EXZ	1449 29.0	#-172
18	-EPZ	0350 01.0		19	+EPZ	1457 22.8	
18	-EPZ	0350 04.2		19	+EPZ	1525 05.3	#-173
18	-EPZ	0744 25.0		19	-EpPZ	1525 22.4	#-173
18	-EPZ	0805 19.4		19	+EPZ	1915 30.0	
18	+EPZ	1057 29.8	#-163	19	-IPZ	1935 55.6	#-174

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
19	-IPZ	1936	04.0	#-174	24	-EPZ	0746	14.8	
19	+EPZ	2009	02.4		24	-EPZ	0820	30.6	#-184
19	-EPZ	2009	14.8		24	-EPcPZ	0820	33.6	#-184
20	-EPZ	0357	47.4		24	+EpPZ	0820	41.2	#-184
20	-EPZ	0357	54.4		24	-EPZ	1343	21.2	
20	+EPZ	0617	06.2		24	-EPZ	1347	01.7	
20	-EPZ	0736	09.5		24	+EPZ	1906	30.0	#-185
20	-EPZ	0817	15.0	#-175	24	-EPcPZ	1906	31.5	#-185
20	-IpPZ	0817	19.2	#-175	25	+EPKpdfZ	0003	28.8	#-186
20	-EPZ	1327	28.5	#-176	25	-EpPKPbcZ	0003	51.0	#-186
20	-EPZ	1438	15.8	#-177	25	+EXZ	0204	08.0	#-187
20	-EPPZ	1441	41.8	#-177	25	+EPZ	0515	46.2	#-188
20	+EPZ	1736	34.1	#-178	25	+EPcPZ	0515	49.0	#-188
20	-EXZ	1736	41.0	#-178	25	-EpPdiffZ	1516	57.0	#-189
20	-EPcPZ	1736	50.8	#-178	25	+EPKpdfZ	1519	56.2	#-189
20	-EPZ	2324	15.2	#-179	26	+EPZ	1553	08.5	
20	+EpPZ	2324	23.6	#-179	25	+EPZ	1553	25.0	
20	+EPZ	2345	26.2		25	-EPZ	1909	37.0	
21	+IPZ	0232	44.8	#-180	25	-IPZ	2059	28.6	
21	+EPcPZ	0232	47.0	#-180	25	-IPZ	2059	35.6	
21	+EPZ	0754	53.5		26	+EXZ	0914	00.8	#-190
21	-EPZ	2338	01.8		26	-EpPZ	0914	20.4	#-190
22	-EPZ	0206	23.4	#-181	26	+EPKpbcZ	1239	46.2	#-191
22	+EPZ	0635	27.6		26	+EPPZ	1243	20.0	#-191
22	+EPZ	2120	13.4		26	-EPZ	1810	10.6	#-192
23	-EPZ	0147	31.0		26	+EPcPZ	1810	20.4	#-192
23	+EPZ	0147	41.6		26	-EpPZ	1810	40.4	#-192
23	-EPZ	0243	21.2		26	-EPZ	2359	36.0	
23	-EPZ	1108	10.2		27	+EPZ	1225	28.4	
23	+EPZ	1620	34.0		27	+EPZ	1625	20.3	
23	-EPZ	2005	20.0		27	-EPZ	1714	08.8	#-193
24	-EPZ	0249	36.8	#-182	27	+EPZ	1714	13.8	#-193
24	-EpPZ	0249	42.2	#-182	27	+EPZ	2039	15.6	
24	-EPZ	0319	41.2		27	-EPZ	2039	17.6	
24	+EPZ	0418	14.6	#-183	27	+EPZ	2134	50.6	
24	+EpPZ	0418	20.0	#-183	27	+EPZ	2134	53.8	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
28	-EPZ	0405	56.8		3	-EpPZ	1821	24.2	#-201
28	+EPZ	0738	19.0		3	+EPPZ	1824	35.2	#-201
28	+EPZ	0942	14.0	#-194	3	-EPZ	1831	14.3	
28	+EPZ	1905	03.3		3	-EPZ	2021	18.2	#-202
28	+EPZ	1905	30.5		3	+IPcPZ	2021	20.0	#-202
28	-EPZ	2319	47.4		3	+IpPZ	2021	33.0	#-202
28	-IPZ	2319	48.8		3	-EPPZ	2024	50.0	#-202
28	-IPZ	2319	50.0		3	+EPZ	2101	41.5	#-203
28	ESH	2330	10.4		3	+EpPZ	2101	45.6	#-203
Mar.					3	-EPcPZ	2102	42.6	#-203
1	+EPZ	0213	18.8	#-195	4	+EPZ	0031	05.0	
1	-EpPZ	0213	35.6	#-195	4	-EPZ	0031	17.0	
1	-EPZ	0214	04.4		4	+EPZ	0530	03.8	
1	+EPZ	0521	00.8	#-196	4	-EPZ	0714	08.9	
1	+EPZ	0521	11.7		4	+EPZ	0910	17.5	
1	+EPZ	0939	27.0		4	-EPZ	2254	51.5	
1	+EPZ	0939	34.6		4	-EPZ	2254	52.2	
1	-EPZ	1240	12.5		5	+EPZ	0127	39.0	#-204
1	-EPZ	1240	14.0		5	-IsPZ	0127	53.2	#-204
1	-EPZ	1528	07.8	#-197	5	-EPZ	1144	35.0	
1	+EPcPZ	1528	09.0	#-197	5	-EPZ	2322	08.0	#-205
1	-EPZ	2049	30.0		5	-EXZ	2322	15.6	#-205
1	+EPZ	2237	34.4		5	+EPZ	2326	24.4	
1	-EXZ	2321	18.6	#-198	6	+EPZ	0021	54.0	#-206
1	+EPZ	2345	13.0		6	+EPcPZ	0021	56.2	#-206
1	-EPZ	2359	20.0		6	+EPZ	0321	16.8	
1	-IPZ	2359	24.1		6	-EPZ	0401	46.6	
2	+IPZ	0918	28.9	#-199	6	-EPZ	0401	50.2	
2	-IPcPZ	0918	30.0	#-199	6	+EPZ	0601	32.6	
2	+EXZ	0920	35.7	#-199	6	-EPZ	0920	11.0	
2	ESH	0928	26.6	#-199	6	-EPZ	1128	47.5	
2	-EpPZ	1614	50.0	#-200	6	-EXZ	1318	46.6	#-207
3	-EPZ	1202	56.0		6	+EpPKiKPZ	1323	35.0	#-207
3	-EPZ	1351	29.0		6	+EPZ	1712	38.0	#-208
3	-EPZ	1726	02.4		6	+EPZ	1721	04.0	
3	-IPZ	1821	21.0	#-201	6	-EPZ	1921	27.0	



Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
6	+EPZ	2037 04.3		10	+IPKiKPZ	2132 46.2	#-218
6	-EPZ	2037 07.0		10	ESH	2150 03.0	
6	+EPZ	2135 17.4		10	-EPZ	2228 27.8	
6	+IPZ	2142 30.5	#-209	11	+EPZ	0117 45.0	
6	-EPZ	2142 53.8	#-209	11	+IXZ	0728 40.3	#-219
7	+EPZ	1105 49.8		11	-EPZ	1012 40.5	
7	+EPZ	2143 22.5		11	+EPZ	1243 43.0	
7	+EPZ	2340 03.0	#-210	11	-EPZ	1324 56.0	
8	+EPZ	0100 09.3	#-211	11	+EPZ	1737 30.6	#-220
8	+EPKPdfZ	0522 08.0	#-212	11	+EsPZ	1744 45.2	#-221
8	-EPPZ	0523 47.2	#-212	11	-EPZ	1948 15.8	
8	-EPZ	1119 31.0	#-213	12	-EPZ	0106 23.6	
8	-EPZ	1119 33.2	#-213	12	-IPZ	0106 25.0	
8	-EPZ	1202 19.2		12	+EXZ	0542 23.0	#-222
8	+EPZ	1303 20.6		12	-EXZ	0804 10.0	#-223
8	-EPZ	1745 35.0		12	+EPZ	0815 05.6	
8	+EPZ	2042 50.0		12	-EPZ	0815 09.8	
8	+EPZ	2340 09.0		12	+EPZ	1146 30.4	
9	-EPKPdfZ	0341 00.8	#-214	12	+EPZ	1443 24.0	
9	+IPZ	0343 41.0		12	-EPZ	1919 01.2	
9	ESH	0359 47.0		12	-EPZ	1919 27.8	
9	-EPZ	0647 43.2		13	+EPZ	0116 01.6	#-224
9	-EPZ	0737 36.7		13	-EPZ	0603 22.2	#-225
9	-EPZ	1050 21.8		13	+EPZ	0610 25.2	#-226
9	+EPPZ	2120 50.4	#-215	13	+EPcPZ	0610 28.5	#-226
10	-EPZ	1418 50.2	#-216	13	+EPZ	0610 47.2	#-226
10	-EPcPZ	1419 03.0	#-216	13	+EPZ	0747 30.0	
10	+EPcPZ	1518 26.4	#-217	13	+EPZ	0917 43.2	#-227
10	+EPZ	1604 43.5		13	-EPcPZ	0917 51.4	#-227
10	+EPZ	1640 05.8		13	-EPZ	1527 11.6	#-228
10	-EPZ	1723 04.5		13	-EPcPZ	1527 16.3	#-228
10	+EPZ	1723 09.8		13	+EXZ	1844 26.6	#-229
10	+IPZ	1723 10.6		13	-EPZ	2013 45.6	
10	+EPZ	2002 45.6		13	-EPZ	2013 49.4	
10	-EXZ	2132 37.0	#-218	14	+EPZ	0045 47.2	#-230
10	-IXZ	2132 44.0	#-218	14	+EPcPZ	0045 50.8	#-230

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
14	-EpPZ	0917	00.6	#-231	22	+EPZ	2036	33.8	#-244
14	-EPZ	1149	36.0		22	+EpPZ	2036	37.4	#-244
14	+EPZ	1149	46.2		22	-IPZ	2141	07.6	#-245
14	+EPZ	2146	12.6		23	-EPZ	0702	36.0	
14	+EPZ	2218	43.8	#-232	23	-EPZ	0717	01.0	
15	-EPZ	0502	44.0		23	-EPZ	1607	48.4	#-246
15	-EPZ	0621	08.0	#-233	23	+EPZ	1717	41.2	
15	-EpPZ	0621	23.0	#-233	23	-EPcPZ	1721	56.0	#-247
15	+EPZ	1022	27.0		23	-EPZ	1724	51.0	
15	+EPZ	1334	33.2		23	-EPZ	1813	44.2	
15	-EPZ	1532	07.0		23	-EPZ	1813	48.2	
16	-EPZ	1505	45.7	#-234	23	-EpPZ	1937	28.8	#-248
16	-EpPZ	1506	16.0	#-234	23	+IPZ	2242	39.8	#-249
16	+EPZ	1702	06.0		23	ESH	2252	28.4	
17	-EPZ	0952	25.7		23	+EPZ	2323	07.4	
17	+EPZ	1616	56.3		24	+EPZ	0229	39.8	#-250
17	-EPZ	1755	20.5	#-235	24	-EPZ	0449	33.6	#-251
18	-EPZ	0237	52.0	#-236	24	-EpPZ	0450	16.0	#-251
18	-EXZ	0243	49.2	#-237	24	-EPZ	0745	13.2	#-252
18	-EPZ	0712	47.0		24	+EpPZ	0745	17.6	#-252
18	-EPZ	0700	19.6	#-238	24	-IPZ	0745	42.0	
18	+EPcPZ	0700	27.0	#-238	24	-EPZ	1737	41.8	#-253
18	+EPZ	0804	04.2	#-239	24	-IpPZ	1737	44.9	#-253
18	+EpPZ	0804	11.8	#-239	24	-EPcPZ	1739	24.0	#-253
18	+EsPZ	0804	16.0	#-239	24	+EPZ	1833	08.0	
18	-EPZ	1240	33.6		24	-IPZ	1925	47.8	#-254
18	-EPZ	1430	56.0	#-240	24	-IpPZ	1925	50.6	#-254
19	NIL				24	-EPZ	2349	02.2	
20	NIL				25	-IPZ	0052	25.0	
21	-EsPZ	0712	37.1	#-241	25	+IPZ	0102	04.0	
22	-EPZ	0605	18.0		25	-IPZ	0120	41.3	
22	+IPZ	0622	07.8	#-242	25	-IPZ	0120	50.0	
22	-EpPZ	0622	17.4	#-242	25	-IPZ	0121	17.2	
22	+EPZ	0718	36.4		25	-EPZ	0414	49.0	
22	+EPZ	0836	08.9	#-243	25	+EPZ	0415	15.4	
22	+EPZ	1425	34.0		25	+EPZ	0521	10.0	#-255

Table 1. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
25	+EPZ	0919	40.6		30	+EPZ	0419	36.0	#-271
25	-EPZ	1049	35.0	#-256	30	-EPcPZ	0419	37.4	#-271
25	-EPcPZ	1049	40.1	#-256	30	+EPZ	0619	55.8	
25	-EpPZ	1049	45.4	#-256	30	+EPZ	0620	04.6	
25	-EPZ	1153	46.0		30	+EXZ	0656	31.8	#-272
25	+EPZ	1513	46.8		30	-EXZ	0656	33.0	#-272
25	-EPZ	1933	17.8	#-257	30	-EPZ	0827	32.2	#-273
26	+EPZ	0259	11.8	#-258	30	-EPcPZ	0827	37.0	#-273
26	+EPcPZ	0259	18.4	#-258	30	+EPZ	0924	02.2	
26	+EPZ	1051	38.4		30	+EPZ	1412	13.2	
26	+EPZ	1055	11.2		30	+EPZ	1446	33.6	
26	-EPZ	1130	21.6	#-259	30	-EPZ	1611	47.0	#-274
26	+EPcPZ	1130	23.4	#-259	30	-IpPZ	1612	03.8	#-274
26	-EPZ	1704	00.5	#-260	30	+EPZ	1613	10.4	#-275
26	+IPZ	2112	13.0	#-261	30	-EPcPZ	1613	37.8	#-275
26	+IPcPZ	2112	21.0	#-261	30	+EPZ	1814	27.4	
26	+EPZ	2150	52.9		30	+EPZ	1920	45.7	
26	-IXZ	2206	19.4	#-262	30	+EPZ	1935	05.4	
26	+EPZ	2312	07.0		30	+EPZ	2208	45.8	
27	+EXZ	0210	48.6	#-263	30	+EPZ	2221	12.6	
27	+EpPZ	0211	05.3	#-263	31	+EPZ	0309	45.0	#-276
27	-EPZ	1233	22.4		31	+IPZ	0353	21.7	#-277
28	-EPZ	0819	54.3	#-264	31	-EPcPZ	0353	25.0	#-277
28	-EPZ	1923	30.0		31	+EpPZ	0354	54.0	#-277
28	+IPZ	2127	37.6	#-265	31	-EPZ	0419	41.0	#-278
28	-IpPZ	2127	40.0	#-265	31	+EPcPZ	0419	46.0	#-278
29	-IPZ	1451	39.0	#-266	31	+EPZ	0744	03.6	#-279
29	-EsPZ	1451	52.0	#-266	31	-EPcPZ	0744	06.6	#-279
29	+EPZ	1720	00.0	#-267	31	+EPZ	0821	04.8	#-280
29	-EpPZ	1720	10.6	#-267	31	+EpPZ	0821	19.4	#-280
29	+EPZ	1757	20.6	#-268	31	+EPZ	1258	31.0	#-281
29	+EPZ	1842	54.0	#-269	31	+IpPZ	1258	32.2	#-281
29	-EPZ	1905	07.0		31	+EPZ	1300	32.4	#-281
29	+EPZ	1905	48.0		31	+EPZ	1950	06.4	#-282
30	-EPcPZ	0002	38.0	#-270	31	-EPcPZ	1950	08.0	#-282
30	-EpPZ	0002	48.8	#-270	31	-EPPZ	1953	34.6	#-282

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
31	+EXZ	2207	51.2	#-283	2	-EpPZ	0259	20.2	#-300
31	-EpPZ	2207	55.8	#-283	2	+EPZ	0416	14.4	
Apr.					2	+EPZ	0416	32.0	#-301
1	-EPZ	0143	17.6		2	+EXZ	0424	47.2	#-302
1	-EPKpFZ	0309	14.4	#-284	2	-EPcPZ	0424	50.4	#-302
1	+EPcPZ	0333	01.6	#-285	2	+EPZ	0546	43.2	#-303
1	+EpPZ	0333	12.8	#-285	2	+EPcPZ	0546	45.6	#-303
1	-EPZ	0423	23.6	#-286	2	-EpPZ	0546	49.2	#-303
1	-EPZ	0529	42.6	#-287	2	-EXZ	0729	40.0	#-304
1	+EXZ	0721	35.8	#-288	2	+EpPZ	0729	45.2	#-304
1	+EPZ	1534	01.4		2	-EPZ	1102	22.5	
1	-EPZ	1819	09.2	#-289	2	+IPZ	1102	23.6	
1	+EPcPZ	1819	11.2	#-289	2	-IPZ	1102	39.6	
1	-EPZ	2053	01.0		2	-EPZ	1215	26.6	
1	-IPZ	2053	09.6		2	+EPZ	1248	30.6	#-305
1	-IXZ	2100	39.0	#-290	2	+EpPZ	1248	34.9	#-305
1	-EPZ	2124	41.0	#-291	2	-EPZ	1348	08.9	
1	-IPcPZ	2124	44.0	#-291	2	+EPZ	1403	01.7	#-306
1	-EPZ	2128	46.0		2	-EPcPZ	1403	03.6	#-306
1	-IPZ	2128	47.7		2	+EPZ	1406	12.0	#-307
1	-EPZ	2210	05.6		2	+EpPZ	1553	17.2	#-308
1	-EPZ	2243	00.6	#-292	2	-EsPZ	1621	32.8	#-309
1	-EpPZ	2243	09.4	#-292	2	-IPZ	1955	48.6	#-310
1	+EXZ	2258	46.0	#-293	2	-IPcPZ	1955	49.4	#-310
1	-EPZ	2310	30.2	#-294	2	+EXZ	2223	14.0	#-311
1	-EPcPZ	2310	32.0	#-294	2	-EPZ	2302	22.8	#-312
1	-EPZ	2322	48.6	#-295	2	-IPZ	2302	49.4	
1	-EPZ	2338	41.7	#-296	2	+IPZ	2302	55.6	
1	+EsPZ	2338	44.6	#-296	2	+EPZ	2333	26.8	
1	+EXZ	2342	16.0	#-296	2	+EPZ	2333	30.2	
2	+EPZ	0102	55.0		2	+EPZ	2344	25.2	#-313
2	-EpPZ	0103	02.2	#-297	2	+EpPZ	2344	30.2	#-313
2	+EpPZ	0144	15.2	#-298	3	-EPZ	0035	05.6	#-314
2	+EPZ	0149	24.2	#-299	3	+EPZ	0041	53.0	#-315
2	+EpPZ	0149	29.6	#-299	3	+EPZ	0042	10.4	
2	-EPZ	0259	11.6	#-300	3	+EPZ	0042	33.0	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
3	-EPZ	0155	10.0	#-316	3	-EXZ	1954	11.3	#-326
3	+EPZ	0155	26.4		3	-EPZ	1955	26.0	
3	-EPZ	0259	35.4		3	-IPcPZ	1955	28.4	
3	-EPZ	0259	40.0		3	-EPZ	2030	06.3	#-327
3	+EPZ	0356	09.2		3	-EPZ	2035	03.9	#-328
3	+EPZ	0356	19.0		3	+EPcPZ	2035	16.0	#-328
3	+EPZ	0517	54.0		3	+EPZ	2038	37.6	#-329
3	-EPZ	0518	04.2		3	-EpPZ	2038	39.8	#-329
3	+EPZ	0531	42.6		3	-EPcPZ	2038	41.3	#-329
3	-EPZ	0534	24.0	#-317	3	+EPcPZ	2148	03.8	#-330
3	-EPcPZ	0534	25.8	#-317	3	+EPZ	2230	53.8	#-331
3	+EPZ	0924	52.8	#-318	3	+EPcPZ	2230	55.6	#-331
3	-EPZ	0925	02.0		3	+EPZ	2317	00.7	
3	+EPZ	0925	07.6		3	+EPZ	2317	04.0	
3	-EPZ	1044	30.8		4	+EPZ	0052	52.0	
3	-EXZ	1053	45.0	#-319	4	+IPZ	0052	54.2	
3	-EPcPZ	1053	47.6	#-319	4	-IPZ	0052	56.0	
3	+EPZ	1136	06.0		4	-EPZ	0058	42.6	
3	+EPZ	1136	20.0		4	-EPZ	0110	06.0	
3	+EPZ	1137	01.0		4	+EPZ	0428	20.6	
3	+EsPZ	1210	47.2	#-320	4	-EPZ	0546	20.0	
3	+EPZ	1214	15.4	#-320	4	+EPZ	0546	22.2	
3	+EPZ	1217	18.0		4	-EPZ	0647	41.8	
3	+EPZ	1217	33.0		4	-IPZ	0647	49.0	
3	-EPZ	1333	18.6		4	-EXZ	0815	34.8	#-332
3	+EPZ	1404	39.8		4	-EPZ	0949	11.0	#-333
3	-EPZ	1416	32.0		4	-EpPZ	0949	13.6	#-333
3	-EPZ	1420	37.8		4	-EsPZ	0959	29.0	#-334
3	-EPZ	1421	02.9		4	+EPZ	1112	51.8	
3	-EPZ	1540	14.0	#-321	4	-EPZ	1112	53.6	
3	-EPZ	1738	23.7	#-322	4	-EXZ	1651	17.5	#-335
3	+EPZ	1739	05.3	#-323	4	+EPZ	1422	17.8	
3	-EPZ	1901	22.0	#-324	4	-EPZ	1422	35.9	
3	+EPZ	1901	47.6		4	+EPZ	2007	30.0	#-336
3	+EPZ	1907	35.0	#-325	4	-EPZ	2007	43.2	
3	+EPZ	1954	06.2	#-326	4	+EPZ	2021	18.4	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
4	+EPZ	2021	21.4		7	+EXZ	0453	23.2	#-348
4	-EPZ	2221	23.6		7	-EsPZ	0453	43.2	#-348
4	+EPZ	2330	01.0		7	+EPZ	0526	53.8	#-349
5	+EXZ	0127	51.8	#-337	7	+EPZ	0527	13.6	
5	+EPcPZ	0127	53.6	#-337	7	+IPZ	0602	45.2	
5	-EPZ	0157	50.4		7	+EPZ	0605	07.4	
5	-EPZ	0167	55.6		7	+EpPdiffZ	0724	25.6	#-350
5	+EPKpdfZ	0415	36.0	#-338	7	-EPcPZ	0832	44.4	#-351
5	+EPZ	1019	47.2	#-339	7	+EPZ	0842	34.0	#-352
5	-EpPZ	1045	45.0	#-340	7	-EPcPZ	0842	39.0	#-352
5	+EPZ	1222	17.4	#-341	7	+EPZ	0859	02.6	#-353
5	-EPZ	1935	07.0	#-342	7	+EPcPZ	0859	07.0	#-353
5	-EPcPZ	1935	09.0	#-342	7	-EPZ	1004	03.3	#-354
5	+EpPZ	1936	01.9	#-342	7	+EPZ	1535	18.0	
5	+EPZ	2319	35.2		7	+EPZ	1700	39.5	#-355
6	+EPZ	0633	52.4		7	-EXZ	1700	43.2	#-355
6	+IPZ	0633	54.0		7	+EPZ	1826	21.0	#-356
6	-EPZ	0603	41.1		7	-EPcPZ	1826	31.1	#-356
6	-IPZ	0603	54.5		7	+EXZ	1827	00.6	#-356
6	-EPZ	0954	15.5		7	-EsPZ	1827	23.0	#-356
6	+EPZ	1123	16.8	#-343	7	+EPZ	1831	00.0	#-357
6	-EPcPZ	1123	27.2	#-343	7	-EpPZ	1831	02.0	#-357
6	+EpPZ	1123	42.8	#-343	7	+EPZ	1948	07.4	
6	-EPZ	1421	09.7	#-344	7	+EPZ	1948	14.2	
6	-EpPZ	1421	20.6	#-344	7	-EPZ	2336	02.8	
6	-EPZ	1528	42.5	#-345	8	-EPZ	0012	20.0	
6	+EPZ	1532	04.0		8	-EXZ	0341	28.2	#-358
6	+EPZ	1901	21.0		8	+EPZ	0356	01.0	#-359
6	+EPZ	1901	24.6	#-346	8	+EPZ	0616	35.8	
6	+EpPZ	1901	36.0	#-346	8	+EPZ	1203	25.6	#-360
6	+EPZ	2021	19.2		8	+EpPZ	1203	37.0	#-360
6	+EPPZ	2156	28.0	#-347	8	+EPZ	1236	25.6	#-361
6	+EPZ	2219	18.0		8	+EPcPZ	1236	31.2	#-361
7	-EPZ	0012	38.5		8	+EPZ	1340	28.5	#-362
7	-EPZ	0427	28.8		8	-EpPZ	1340	39.5	#-362
7	+EPZ	0427	32.4		8	+EPZ	1423	15.2	#-363

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
8	+EPcPZ	1223	21.2	#-363	12	-EPZ	1841	54.8	
8	+EPZ	1523	07.5	#-364	12	-EPZ	2212	03.6	
8	-EPZ	1845	51.0		13	+EPZ	0450	17.5	
8	-EPZ	1849	04.2		13	-EPZ	0927	40.0	
8	-EPZ	2023	49.2		13	-EPZ	0927	46.6	
8	-EPZ	2023	54.0	#-365	13	+EPZ	1512	27.3	
8	-EPZ	2326	49.5		13	-EPZ	1512	32.0	
8	-EPZ	2326	53.7		13	+EPZ	1709	19.8	
9	+EPZ	0010	18.8		13	+EPZ	1835	51.0	
9	+EPZ	0025	01.8		13	+IPZ	1835	53.9	
9	+EPZ	0111	28.8	#-366	13	+EPZ	2032	26.2	
9	+EPZ	0111	43.6	#-366	13	-EPZ	2243	04.8	
9	-EPZ	0132	03.8		14	+EPZ	0416	28.3	
9	+EPZ	0205	44.8		14	+EPZ	0443	55.0	
9	-EPZ	0205	47.8		14	+IPZ	0443	59.0	
9	-EPZ	0236	10.0	#-367	14	+EPZ	0551	10.7	
9	+EPZ	0256	01.0		14	+EPZ	1012	05.7	
9	-EPKpPfZ	1037	34.0	#-368	14	-EPZ	1244	17.6	
10	-EXZ	1409	47.0	#-369	14	-EPZ	1741	18.2	
10	-EXZ	1409	49.2	#-369	15	-EPZ	0220	11.4	
10	+EPdiffZ	1700	17.0	#-370	15	+EPZ	0314	06.6	
11	-EPZ	0100	08.0		15	+EPZ	0338	26.0	
11	-EPZ	0100	42.9		15	-EPZ	0338	32.0	
11	-EPZ	0616	20.2		15	-EPZ	0432	47.3	
11	+EPZ	1710	50.2		15	-EPZ	0432	49.0	
11	-EPZ	1915	36.0		15	+EPZ	1015	40.5	
11	-EPZ	1915	40.6		15	+EPZ	1055	11.0	
11	+EPZ	2000	08.1		15	+EPZ	1055	37.5	
12	+IPZ	0310	59.0		15	+EPZ	1909	09.7	
12	-EPZ	0311	04.0		15	+EPZ	2238	05.0	
12	+EPZ	0311	09.5		16	-EPZ	0012	43.2	
12	+EPZ	0819	19.0		16	+EXZ	0113	46.6	#-371
12	-EPZ	0819	25.8		16	+EPK1KPZ	0113	52.2	#-371
12	+EPZ	1128	25.3		16	+EPZ	0418	32.0	
12	+EPZ	1213	34.6		16	+EPZ	1005	23.7	
12	-EPZ	1418	30.0		16	-EPcPZ	1105	11.2	#-372

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
16	+EPZ	1328	31.3		20	-IPZ	1525	38.6	#-385
16	-EPZ	1328	38.6		20	+IsPZ	1526	01.4	#-385
16	-IPZ	1328	41.0		20	ESH	1535	06.0	#-385
17	-IPZ	0327	02.6	#-373	20	+EPZ	1821	21.7	
17	-EPcPZ	0327	15.4	#-373	20	-EXZ	1740	52.4	#-386
17	+EPZ	2116	05.4		20	+EPKpdfz	1956	33.0	#-387
18	+IPZ	0119	19.5	#-374	20	-EXZ	1956	44.8	#-387
18	-IPcPZ	0119	31.2	#-374	20	-EPZ	1958	15.0	
18	+EPZ	0801	02.0		20	-EPZ	2007	13.0	
18	+EPZ	1215	24.0		20	+EPZ	2007	17.1	
18	-EXZ	1526	30.6	#-375	21	+EPZ	0611	05.6	
18	+IpPKiKPZ	1527	09.0	#-375	21	+EPZ	0725	19.5	#-388
19	+EPZ	0309	16.4	#-376	21	-IPcPZ	0725	21.0	#-388
19	-EpPZ	0309	21.6	#-376	21	+EpPZ	0726	52.8	#-388
19	-EsPZ	0339	42.4	#-377	21	ESH	0735	15.2	#-388
19	+EPZ	0852	12.5		21	-EXZ	1024	39.0	#-389
19	-EPZ	0918	04.8	#-378	21	+EPZ	1517	16.0	
19	-EPcPZ	0918	07.4	#-378	21	-EPZ	1733	22.2	#-390
19	+EPZ	1306	49.7		21	-IPcPZ	1733	24.1	#-390
19	+EPZ	1306	55.6		21	+EPZ	1803	15.6	
19	-EPZ	1307	07.0		21	-EPZ	2147	01.4	
19	+EpPZ	1446	14.6	#-379	21	+EPZ	2206	37.7	
19	+EXZ	1446	19.5	#-379	22	+EPZ	0040	27.7	
19	-EPZ	1642	58.0	#-380	22	+EPZ	0412	24.5	
19	+EpPZ	1643	33.6	#-380	22	-EPZ	0616	22.5	#-391
19	-EXZ	1954	33.9	#-381	22	-EPcPZ	0616	38.8	#-391
20	+EPcPZ	0052	30.3	#-382	22	+EPZ	0908	30.0	#-392
20	+EXZ	0056	03.0	#-382	22	-EPZ	1405	15.4	#-393
20	+EPZ	0114	21.0		22	+EpPZ	1405	37.4	#-393
20	+EPZ	0205	01.3		23	-EPZ	0526	08.2	#-394
20	-EPZ	0215	29.0		23	+EXZ	0526	10.2	#-394
20	-EPZ	0224	05.2	#-383	23	-EPZ	0851	16.6	
20	+EXZ	0242	49.0	#-384	23	-EPZ	0924	20.2	
20	-EPZ	0748	53.2		23	+EPZ	0957	41.8	#-395
20	-EPZ	1333	48.4		23	-EPcPZ	0957	45.4	#-395
20	-EPZ	1334	05.3		23	-EPZ	1058	21.8	



Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
23	+EPZ	1213	26.8		26	-EPZ	0952	35.0	#-406
23	+EPZ	2116	07.4		26	-EPcPZ	0952	39.6	#-406
24	+EPZ	0053	29.6		26	+EPZ	1013	22.6	#-407
24	+EPpZ	0756	33.2	#-396	26	+EPcPZ	1013	25.3	#-407
24	+EPZ	1227	29.6	#-397	26	+EPZ	1213	49.4	
24	-EpPZ	1227	32.7	#-397	26	-IPZ	1224	39.0	#-408
24	-EPZ	1347	47.7		26	-EPZ	1224	49.8	#-408
24	+EPZ	1624	08.9		26	+EPZ	1506	14.8	#-409
24	+EPZ	1624	13.8		26	+EPZ	1516	01.0	
24	-EPZ	1830	44.2	#-398	26	+EPKpPfZ	1657	05.5	#-410
24	-EpPZ	1830	51.0	#-398	26	-EPKiKPZ	1657	09.5	#-410
24	-EPZ	1922	03.8		26	+EPZ	2337	01.5	
24	-EPZ	2101	37.2	#-399	27	+EPZ	0008	55.3	
24	-EpPZ	2101	39.2	#-399	27	-EPZ	0139	30.0	
24	+EPZ	2215	42.6		27	-EPZ	0229	22.2	#-411
25	+EPZ	0055	32.8		27	-EXZ	0229	29.0	#-411
25	-EPZ	0211	27.4	#-400	27	+EPZ	0743	48.5	
25	+EPcPZ	0211	37.0	#-400	27	+EPZ	0743	54.5	
25	-IPZ	0335	19.7	#-401	27	+EPZ	0815	11.2	
25	-IPcPZ	0335	22.0	#-401	27	-EPZ	0815	21.2	
25	+EPZ	0536	13.8		27	ESH	0825	27.0	
25	+EPZ	0541	55.2		27	+EPZ	0833	30.0	
25	+EPZ	0641	19.3		27	+EXZ	1333	10.8	#-412
25	+EPZ	0947	54.0		27	-IPZ	1402	32.5	#-413
25	-EpPKiKPZ	1026	25.4	#-402	27	-EPcPZ	1402	34.0	#-413
25	-EXZ	1206	16.0	#-403	27	+EXZ	1402	45.0	#-413
25	-IXZ	1206	27.9	#-403	27	-EPZ	1541	07.2	#-414
25	+EPZ	1257	45.2		27	-EpPZ	1541	18.0	#-414
25	-IPZ	1347	00.8		27	+EPZ	1720	07.3	
25	-IPZ	1347	04.2		27	-EpPZ	1733	41.3	#-415
25	+EPZ	2117	02.3		27	+EPZ	1740	26.5	
25	+EPZ	2117	09.9		27	+EPZ	2337	50.0	
26	+EPdiffZ	0018	17.7	#-404	28	-EPZ	0007	44.8	
26	+EpPdiffZ	0018	31.0	#-404	28	+EPZ	0517	11.0	
26	-EPZ	0945	09.8	#-405	28	+EXZ	0925	17.3	#-416
26	+EXZ	0945	16.4	#-405	28	+EPZ	1035	32.6	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
28	+EPZ	1343	39.6		30	+EPZ	2239	30.8	
28	-EPZ	1408	04.6	#-417	30	+EPZ	2239	41.8	
28	+IPZ	1408	06.3	#-417	May				
28	-IPZ	1408	07.7	#-417	1	+EPZ	0028	28.8	
28	-EPZ	1505	40.3		1	+EPZ	0132	12.7	#-430
28	-EPZ	1826	10.2		1	+EsPZ	0132	19.0	#-430
28	+EXZ	2032	11.0	#-418	1	+IPZ	0403	56.0	#-431
28	-EpPKPdz	2032	25.0	#-418	1	ESH	0412	50.2	#-431
28	+EXZ	2032	25.0	#-418	1	-EPZ	0554	05.6	
28	ESH	2049	32.0		1	-EPZ	0707	27.0	#-432
29	-EPZ	0357	35.6	#-419	1	-EPcPZ	0707	37.4	#-432
29	+EXZ	0645	09.0	#-420	1	-EPZ	1300	02.8	
29	-EPcPZ	0645	13.0	#-420	1	+EPZ	1956	41.0	#-433
29	+EPZ	1117	32.6		1	-EPcPZ	1956	46.6	#-433
29	+EPZ	1117	39.4		2	+EPZ	1135	39.0	#-434
29	+EPZ	1301	31.0		2	-EPZ	1153	38.6	#-435
29	+IPZ	1301	40.6		2	+EpPZ	1154	10.6	
29	-IPZ	1301	57.3		2	+EPZ	2048	35.2	
29	ESH	1301	08.0		2	-EPZ	2048	51.6	
29	+EPZ	1520	54.0		3	+EPZ	0719	22.8	
29	-EPZ	1556	46.2	#-421	3	+EPZ	1140	17.1	#-436
29	-EPZ	1705	23.4	#-422	3	-EpPZ	1140	21.2	#-436
29	+EsPZ	1705	30.6	#-422	3	-IPZ	1408	00.4	#-437
29	+EXZ	1722	01.3	#-423	3	-IPcPZ	1408	16.0	#-437
29	-EPcPZ	2341	34.0	#-424	3	+EPZ	1737	12.0	#-438
30	+EPZ	0052	25.8		3	+EPZ	2014	06.4	
30	+EXZ	0038	49.8	#-425	3	+EPZ	2243	42.8	
30	-EXZ	0416	24.8	#-426	4	+EPZ	0134	28.5	
30	-EPZ	0730	21.6		4	+EPZ	0134	30.3	
30	+EPZ	1145	42.3		4	-EPZ	0355	00.5	
30	+EPZ	1145	50.4		4	-EPcPZ	1041	30.5	#-439
30	+EXZ	1251	01.0	#-427	4	+EPZ	1104	19.6	
30	+EPZ	1543	35.6	#-428	4	+EPZ	1139	35.2	
30	-IXZ	1543	40.7	#-428	4	+EPZ	1218	41.8	
30	+EPZ	1754	15.6	#-429	4	+EPZ	1218	45.0	
30	-EPcPZ	1754	17.0	#-429	4	-EPZ	1246	11.0	#-440

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
4	+EPZ	1645	36.0	#-441	6	+EsPZ	2303	21.2	#-450
4	+EPZ	1702	56.2		7	-EXZ	0036	24.0	#-451
4	+IPZ	1743	52.5	#-442	7	ESH	0046	08.2	#-451
4	+EXZ	1744	34.8	#-442	7	-EPPZ	0049	07.0	#-452
4	-EPZ	1806	53.0	#-443	7	-EPZ	0311	01.4	
4	-EPZ	1806	54.5	#-443	7	+EPZ	0451	27.4	
4	+EPZ	1941	36.6		7	+EPZ	0943	19.8	
4	-EPZ	2047	37.6		7	-EPZ	1538	17.4	
4	-EPZ	2047	41.4		7	-EPZ	2044	12.0	#-453
4	+EPZ	2047	51.4		7	-IPcPZ	2044	15.0	#-453
4	+EPZ	2130	02.4		8	+EPZ	0544	18.0	#-454
4	-EPZ	2130	05.5		8	+EPcPZ	0544	21.0	#-454
4	+EPZ	2130	13.7		8	+EPZ	1649	49.6	#-455
5	+EXZ	0509	46.0	#-444	8	-EPZ	2154	10.4	#-456
5	+EPZ	0533	01.2	#-445	8	+EPcPZ	2154	14.0	#-456
5	+EPnPnZ	0533	46.2	#-445	9	+EpPZ	0555	41.8	#-457
5	+EPKiKPZ	0910	06.6	#-446	9	+EPZ	0808	28.0	
5	+EXZ	0910	24.0	#-446	9	+EXZ	0914	03.2	#-458
5	+EPZ	1437	21.4		9	-EPZ	0914	04.3	#-458
5	-IPZ	1918	49.5	#-447	9	-EPZ	1052	28.8	#-459
5	-IPcPZ	1918	55.0	#-447	9	+EPZ	2037	15.2	#-460
5	-EpPZ	1919	19.4	#-447	9	-EXZ	2037	21.0	#-460
5	ESH	1928	55.0	#-447	9	+EPZ	2236	10.6	#-461
5	+EPZ	2035	36.5		9	+EPcPZ	2236	16.0	#-461
5	-EPZ	2335	24.0		9	+EsPZ	2236	33.0	#-461
6	+EPZ	0116	14.0	#-448	10	+EPZ	0147	07.2	
6	-EPcPZ	0116	20.0	#-448	10	+EPZ	1120	46.0	
6	-EPZ	0351	30.0		10	+EPZ	1221	28.2	
6	+EPZ	0502	34.6		10	+EXZ	1708	09.6	#-462
6	+EPZ	2123	28.4	#-449	10	-EPZ	1849	48.0	#-463
6	-IPcPZ	2123	29.4	#-449	10	-EPcPZ	1849	51.0	#-463
6	ESH	2133	12.0	#-449	10	+EPZ	1908	47.0	#-464
6	-EPZ	2212	43.8		10	-EPZ	1940	14.6	
6	-IPZ	2212	46.0		11	-EPZ	0033	30.4	#-465
6	ESH	2222	25.6		11	+EPZ	0418	31.2	
6	+EPZ	2303	06.6	#-450	11	+EPZ	0418	35.0	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
11	+EPZ	0735	38.5		14	+EPZ	0735	10.6	
11	-EPZ	2039	48.0		14	+EPZ	0755	10.6	
11	-IPZ	2039	49.2		14	+EPZ	0920	33.0	
11	+EPZ	2250	43.5		14	+EPZ	0920	36.2	
11	-EPZ	2250	47.2		14	+EPZ	0943	51.0	#-480
11	-EPZ	2314	05.0	#-466	14	-EsPZ	0944	04.8	#-480
11	-EpPZ	2314	27.6	#-466	14	-EPZ	2223	25.4	
12	-EPZ	0224	01.7	#-467	15	+EPZ	0124	29.2	
12	-EpPZ	0224	15.4	#-467	15	-EPZ	0342	05.2	
12	+EPZ	0344	46.0	#-468	15	+EPZ	0548	30.9	
12	+EPZ	0346	37.1	#-469	15	-IPZ	0548	34.3	
12	-EXZ	0346	45.0	#-469	15	+EPKIPZ	1145	20.5	#-481
12	+EPZ	0406	25.8	#-470	15	+EPZ	1642	40.0	
12	+EPcPZ	0406	30.2	#-470	15	+EXZ	1759	27.3	#-482
12	+EPZ	0451	32.0	#-471	15	+EPZ	2039	32.1	#-483
12	-EsPZ	0451	39.8	#-471	16	+EPZ	0530	47.4	#-484
12	-IPZ	1143	59.6		16	-EPZ	0547	10.8	
12	+IPZ	1144	02.0		16	+EPFZ	0914	00.2	#-485
12	ESH	1154	49.0		16	-EXZ	1037	12.0	#-486
12	+EPZ	1310	43.0	#-472	16	ESH	1055	20.4	
12	+EPcPZ	1310	47.2	#-472	16	+EPZ	1153	10.8	
12	+EPZ	1314	40.3	#-473	16	+EPZ	1658	02.3	
13	+EPZ	0334	22.5	#-474	16	+EPZ	1658	23.6	
13	+EpPZ	0334	24.2	#-474	16	+EPZ	2349	23.2	#-487
13	+EPZ	0347	47.2	#-475	16	+EPcPZ	2349	36.5	#-487
13	+EPcPZ	0347	51.2	#-475	17	-EPZ	0011	41.5	
13	+EPZ	0703	36.5	#-476	17	-IPZ	0011	45.0	
13	+EPcPZ	0703	40.0	#-476	17	+EpPKPdz	0241	03.4	#-488
13	-EPZ	1138	19.4	#-477	17	+EXZ	0241	09.4	#-488
13	-IPcPZ	1138	20.8	#-477	17	-EPZ	0312	33.8	#-489
13	ESH	1148	02.0	#-477	17	-EpPZ	0312	42.6	#-489
13	+EPZ	1335	38.9	#-478	17	+EPcPZ	0331	33.1	#-490
13	-EpPZ	1336	02.8	#-478	17	-EpPZ	0331	38.6	#-490
13	+EPZ	2206	26.5		17	+EPZ	0432	21.0	#-491
14	+EPZ	0720	15.0	#-479	17	-EPZ	1049	54.0	
14	+EpPZ	0720	23.2	#-479	17	+EXZ	1224	46.2	#-492

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
17	+EPZ	1316	03.6	#-493	20	+EPZ	1247	35.8	#-508
17	+EPZ	1610	24.7		20	+EPcPZ	1247	44.8	#-508
17	-EPZ	1637	46.5	#-494	21	+EPZ	0533	45.2	#-509
17	+EPZ	1908	10.1		21	+EPcPZ	0533	52.6	#-509
17	-IPZ	1940	57.4		21	+EpPZ	0534	10.0	#-509
17	-IPZ	1941	00.1		21	-EPZ	1035	38.2	
17	+IPZ	1952	22.4		22	+EPcPZ	0353	30.0	#-510
18	-EPZ	0058	07.0	#-495	22	+EpPZ	0353	33.0	#-510
18	+EXZ	0058	17.4	#-495	22	+EPZ	1229	40.6	
18	+EPZ	0606	25.8	#-496	22	-EPZ	1756	41.8	#-511
18	-EPcPZ	0606	31.4	#-496	22	-EPZ	1852	27.8	
18	+EXZ	0659	48.0	#-497	22	-EXZ	2116	49.6	#-512
18	+EXZ	0659	49.2	#-497	23	-EPZ	0132	26.6	#-513
18	+EPZ	1002	07.3	#-498	23	-EPKPdfZ	0500	56.5	#-514
18	+EXZ	1610	00.6	#-499	23	+EPKiKPZ	0501	01.0	#-514
18	+EPZ	1942	58.9	#-500	23	+EPZ	0615	09.6	
18	+EPcPZ	1943	14.8	#-500	23	+EPZ	1134	24.0	
18	+EpPZ	1943	34.0	#-500	23	-EPZ	1220	23.8	
18	+EPZ	2242	23.8		23	+EPZ	1611	22.8	#-515
18	-EPZ	2324	24.6	#-501	23	-EPcPZ	1611	24.0	#-515
19	+EPZ	1044	41.5	#-502	23	+EPKiKPZ	1928	18.6	#-516
19	-EpPZ	1044	44.0	#-502	23	+EPZ	1942	32.5	
19	+EPZ	1331	15.8		24	+IPZ	0118	14.7	#-517
19	-EPZ	1408	12.8		24	-EpPZ	0118	30.5	#-517
19	+EPZ	1429	42.6		24	+EPpZ	0121	12.4	#-517
19	+EPZ	1637	02.2	#-503	24	+EPZ	0339	10.0	
19	-EPZ	1637	20.6	#-503	24	-EPZ	1911	34.8	
19	-IsPZ	1637	30.0	#-503	24	-EPKPdfZ	2031	40.2	#-518
19	+EPZ	2043	20.1		24	-EPZ	2226	07.6	
19	+EPZ	2107	02.5	#-504	24	-EPZ	2301	58.8	
19	-EPcPZ	2107	04.4	#-504	24	-EPZ	2302	04.0	
19	-EPZ	2316	51.0		25	+EPZ	0645	10.5	#-519
19	-EPZ	2350	12.4	#-505	25	-EPcPZ	0645	14.8	#-519
20	+EPZ	0302	01.6	#-506	25	+EXZ	1738	05.6	#-520
20	-IPZ	1226	48.0	#-507	25	+IPZ	1758	41.6	#-521
20	-EpPZ	1227	00.6	#-507	25	-IpPZ	1759	25.8	#-521

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
25	-IXZ	1759 39.0	#-521	30	+EPZ	0250 08.2	
25	ESH	1807 56.2	#-521	30	+EPZ	0257 04.9	#-533
25	+EPZ	1956 34.1		30	+EPcPZ	0257 07.5	#-533
26	+EPZ	0019 30.0		30	-EPZ	0806 46.6	
26	+EPZ	0037 13.5		30	+EPZ	1030 31.5	
26	+EPZ	0242 20.2	#-522	30	-EPZ	1502 48.0	
26	+EPZ	0432 06.4	#-523	30	+EPZ	1636 07.4	
26	+EPcPZ	0432 10.1	#-523	30	+EPZ	1638 56.0	
26	-EPZ	0619 09.6	#-524	30	+IPKpDfZ	2041 37.8	#-534
26	+EXZ	0619 18.0	#-524	30	-IPKpbcZ	2041 42.8	#-534
26	-IPZ	0623 59.2	#-525	30	+EPZ	2234 26.2	
26	+EPcPZ	0624 02.6	#-525	30	-IPZ	2234 33.8	
27	-IPZ	1826 23.3	#-526	31	-EPZ	1700 07.0	#-535
27	-IPcPZ	1825 25.0	#-526	31	+EPZ	1750 21.7	#-536
27	+EPZ	1839 00.8		31	+EPZ	1833 29.6	
28	NIL			Jun.			
29	-EPZ	0116 26.0		1	-EPZ	1534 31.5	#-537
29	-EPZ	0116 30.2		1	-EPZ	1534 33.0	#-537
29	-EXZ	0601 15.0	#-527	1	+EPZ	1920 12.6	#-538
29	-IPcPZ	0601 17.4	#-527	1	+EPZ	1927 43.6	
29	-EPZ	0647 02.0		1	-EPZ	1936 31.6	
29	-EPZ	0948 52.6		1	+IPZ	2016 57.8	#-539
29	+EPZ	0955 48.2	#-528	1	+EPcPZ	2017 13.4	#-539
29	+EXZ	1034 24.2	#-529	1	-EPZ	2346 01.8	
29	-EPZ	1044 32.8		1	-EPZ	2345 03.1	
29	-EPZ	1213 12.5	#-530	2	+EPZ	0910 09.0	
29	-EPcPZ	1213 16.2	#-530	2	-EPZ	1027 02.0	
29	-EPZ	1504 19.0		2	+EPZ	1245 55.4	#-540
29	+EPZ	1603 46.4	#-531	2	+EPZ	1311 20.4	
29	-EPZ	1603 57.2	#-531	2	-EPZ	2144 27.8	
29	+EPZ	2025 06.0	#-532	3	+IPZ	0311 21.6	#-541
29	-IPcPZ	2025 08.9	#-532	3	-EPcPZ	0311 35.1	#-541
29	-EXZ	2025 49.2	#-532	3	+EPZ	0941 11.6	#-542
29	ESH	2035 31.6		3	+EPcPZ	0941 15.7	#-542
30	+EPZ	0210 04.8		3	+EPZ	1435 30.8	
30	+EPZ	0250 01.0		3	-EPZ	2221 01.7	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
4	-IPZ	0313	04.6	#-543	6	+IPZ	1140	46.6	
4	-EpPZ	0313	39.2	#-543	6	-EPZ	1339	09.9	
4	ESH	0318	03.2	#-543	7	-EsPZ	0023	38.0	#-556
4	+EPZ	0758	05.2	#-544	7	-EPZ	0053	54.7	#-557
4	+EPZ	1108	10.0		7	+EpPZ	0053	56.8	#-557
4	+EPZ	1108	20.2		7	+EPZ	0326	16.0	#-558
4	+EPZ	1202	17.6		7	-EPcPZ	0326	19.8	#-558
4	-EPZ	1300	23.8	#-545	7	+EPZ	0336	04.6	#-559
4	-EpPZ	1300	39.6	#-545	7	-EpPZ	0338	17.0	#-559
4	+EPZ	2008	12.2	#-546	7	-EPZ	0441	33.9	
4	+EpPZ	2008	24.0	#-546	7	+EPZ	0510	00.0	#-560
4	+EPZ	2122	02.8		7	-EpPZ	0510	08.6	#-560
4	-EPZ	2122	09.0	#-547	7	+EPZ	0809	46.6	
4	-EPPZ	2125	50.2	#-547	7	+EPZ	1102	46.4	
4	+EPZ	2212	29.8		7	+EPZ	1102	51.8	
5	+EPZ	0444	49.2	#-548	7	+EPZ	1942	11.8	
5	+EPcPZ	0444	52.6	#-548	7	+EPZ	2251	25.2	#-561
5	+EPZ	0946	30.2		8	-EPZ	0853	50.5	#-562
5	-IPZ	0946	31.8		8	+EPZ	1003	53.2	#-563
5	-IPZ	0946	36.2		8	-EpPZ	1003	55.8	#-563
5	+EPZ	0956	37.0	#-549	8	-EPZ	1328	44.0	#-564
5	-EPcPZ	0956	40.2	#-549	8	-EPdiffZ	1345	24.0	#-565
5	-EPdiffZ	1204	40.2	#-550	8	-EPZ	1449	26.3	#-566
5	-EPZ	1429	18.8		8	+EPZ	1756	26.5	#-567
5	+EPZ	1532	52.4	#-551	8	+EPcPZ	1756	29.4	#-567
5	+EpPZ	1532	55.3	#-551	9	+EPZ	1120	27.6	
5	+EPZ	1629	16.0	#-552	9	+EPcPZ	1512	11.0	#-568
5	-EPZ	1709	17.9		9	+EPZ	1756	37.8	
5	+EPZ	2051	08.5	#-553	9	+EPZ	2117	50.3	
5	+EPcPZ	2051	12.0	#-553	9	+EPZ	2120	53.3	#-569
6	+EPZ	0142	11.6	#-554	9	+EPZ	2215	36.5	
6	+EPcPZ	0142	20.0	#-554	9	+EPZ	2308	27.0	
6	+EPZ	0954	00.8	#-555	10	-IPZ	0527	03.8	#-570
6	+EPcPZ	0954	04.5	#-555	10	-EPZ	0531	45.4	
6	+EPZ	1058	28.8		10	+EPZ	1322	25.6	
6	-IPZ	1140	46.0		10	-EPZ	1322	36.8	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
10	-EPZ	2342	44.8		14	-EsPZ	1754	33.0	#-583
11	+EPZ	0033	00.0	#-571	14	-EPZ	1827	42.4	
11	+EPZ	0046	22.3		14	+EPZ	1827	47.6	
11	-EPZ	0333	40.0		14	-EXZ	2304	12.0	#-584
11	-EPZ	0824	47.6		15	+EPZ	0237	46.5	
11	+EPZ	2242	05.0	#-572	15	+EPZ	0318	54.0	
11	-IPcPZ	2242	06.0	#-572	16	+EPZ	0354	21.0	#-585
12	-EPZ	0211	55.0		15	-EpPZ	0354	49.9	#-585
12	+EPZ	0939	38.0		15	ESH	0359	03.6	#-585
12	+EPZ	1518	20.3		15	ESH	0404	44.6	
12	+EXZ	1727	42.0	#-573	16	+EPZ	0453	27.8	#-586
12	+EpPZ	1727	46.8	#-573	15	+EpPZ	0453	32.0	#-586
12	-EPZ	2111	41.0	#-574	16	-EXZ	0535	09.5	
12	-EpPZ	2111	42.5	#-574	15	+EPZ	0812	40.3	
12	+EPZ	2331	21.2	#-575	15	+EPZ	0812	53.6	
12	+EPcPZ	2331	24.6	#-575	15	+EPZ	1117	33.2	
13	+EPZ	0124	48.2		15	+EPZ	1511	53.3	#-587
13	+EPZ	0908	43.2		15	+EPZ	1736	18.2	#-588
13	-EPZ	1454	17.0		15	-EsPZ	1736	25.0	#-588
13	-EPZ	1740	42.0	#-576	15	+EPZ	1901	07.3	#-589
13	+EPcPZ	1740	44.3	#-576	15	-IpPZ	1901	16.0	#-589
13	-EpPZ	1741	07.0	#-576	15	-IsPZ	1901	18.0	#-589
13	-EsPZ	1741	15.2	#-576	15	-EPPZ	1309	46.0	#-589
13	+EXZ	1949	23.2	#-577	16	-EPZ	0045	24.0	
14	-EPZ	0704	18.2	#-578	16	-EPZ	0045	40.4	
14	-EScPZ	0710	38.0	#-578	16	+EPZ	0131	41.3	
14	+EPZ	0904	38.6	#-579	16	+EPZ	0131	43.4	
14	-EPcPZ	0904	52.0	#-579	16	+EPZ	0131	56.6	
14	+IPZ	1053	28.2	#-580	16	-EPZ	0437	05.6	#-590
14	-IpPZ	1053	55.0	#-580	16	+EsPZ	0437	12.2	#-590
14	+IsPZ	1054	06.4	#-580	16	+EPZ	0523	40.8	#-591
14	+EPZ	1348	56.2	#-581	16	-EPZ	1457	34.8	#-592
14	+EPdiffZ	1503	31.8	#-582	16	-EpPZ	1458	02.0	#-592
14	+EPZ	1520	51.0		16	-EPZ	1530	19.8	
14	-IPZ	1754	08.6	#-583	16	+EPZ	1530	23.0	
14	-IPcPZ	1754	09.8	#-583	16	+EPZ	1927	36.6	#-593



Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
16	-IPZ	2205	35.4	#-594	21	-EPZ	0910	25.0	#-604
16	-IPcPZ	2205	37.4	#-594	21	+EPZ	1005	43.4	#-605
16	-EpPZ	2205	48.4	#-594	21	+EpPZ	1005	54.6	#-605
16	ESH	2216	26.0	#-594	21	-EsPZ	1006	01.8	#-605
16	+EPZ	2234	36.4		21	+EPZ	1252	44.1	#-606
17	+EPZ	0218	43.2	#-595	21	-EPcPZ	1252	48.4	#-606
17	+EPZ	0218	46.5	#-595	21	+EPZ	1406	20.6	
17	-EPZ	0302	29.9		21	-EPZ	2322	26.4	
17	+EPZ	0936	46.4	#-596	21	+EPZ	2322	28.6	
17	-EPZ	1235	58.0		22	+EPZ	0740	04.6	#-607
17	+EPZ	1608	05.2	#-597	22	-EXZ	0740	25.0	#-607
17	-EPcPZ	1608	10.2	#-597	22	-EPZ	1745	40.0	
17	+EPZ	1625	16.6	#-598	22	-EPZ	1745	51.0	
17	-EXZ	1627	24.4	#-598	23	-EPZ	0144	03.4	#-608
17	ESH	1635	01.0	#-598	23	+EPZ	0236	21.2	
17	+EPZ	1743	20.2		23	+EPZ	0404	01.7	#-609
17	-EPZ	2116	06.4		23	+EPcPZ	0532	31.4	#-610
18	-EPZ	0632	04.4	#-599	23	-EPZ	0917	54.4	
18	-IpPZ	0632	10.0	#-599	23	+EPZ	1037	21.7	#-611
18	-EPZ	0641	30.8		23	-EpPZ	1037	46.5	#-611
18	-IPZ	0641	34.2		23	-EPZ	1204	39.9	#-612
18	-EPZ	1213	26.6		23	-EPZ	1632	39.0	
18	-EPZ	1508	55.0	#-600	24	-EPZ	0030	19.0	
18	-EPPZ	1511	58.0	#-600	24	-IPZ	0030	29.6	
18	+EPZ	1625	43.6	#-601	24	-EPZ	0519	40.2	
18	-EPZ	1819	25.0		24	-EPZ	0543	44.0	#-613
18	+EPZ	1819	27.8		24	+EPZ	0611	15.4	
18	-EPZ	2028	31.2		24	-EPZ	0706	05.3	
19	+EPZ	0000	51.6	#-602	24	+EPZ	0853	45.6	#-614
19	-EPZ	0617	55.0	#-603	24	+EPZ	1208	52.4	#-615
19	+EsPZ	0618	09.0	#-603	24	-EPcPZ	1209	01.2	#-615
20	-EPZ	0411	51.0		24	-EpPZ	1209	26.0	#-615
20	+EPZ	0414	09.8		24	-EPZ	1312	32.4	#-616
20	+EPZ	1419	24.4		24	+EsPZ	1400	16.0	#-617
20	+EPZ	1922	15.4		24	-EPZ	1753	00.4	
20	+EPZ	2107	27.6		25	+EPKpdfZ	0252	10.6	#-618

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
25	-EPKpbcZ	0252	15.6	#-618	28	+IPZ	1602	21.3	#-627
25	-IPZ	1345	00.8		28	-EPcPZ	1602	30.6	#-627
25	+EPZ	1723	18.5	#-619	28	-EPZ	1902	11.0	
25	-EPZ	1723	29.0	#-619	28	-IPZ	1902	15.0	
25	+EsPZ	1723	35.2	#-619	28	+IPZ	1936	08.0	#-628
25	-IPZ	2111	26.6		28	-IPZ	1936	25.4	#-628
25	+EPZ	2111	32.0		28	-IPcPZ	1936	35.0	#-628
25	+EPZ	2111	48.7		28	ESH	1945	19.0	#-628
26	+EPZ	2049	58.0		28	+EPZ	2107	50.0	
26	-EPZ	2050	01.0		28	+EPZ	2249	00.6	
26	+EXZ	2234	27.2	#-620	29	-EPZ	0138	14.4	
26	-EsPZ	2234	38.8	#-620	29	-EPZ	0214	43.6	
26	+EXZ	2300	41.0	#-621	29	+EPZ	0214	51.3	
27	-EPZ	0147	22.4		29	+EPZ	0351	08.6	
27	+EPZ	0147	33.0		29	+EPZ	1028	18.4	
27	+EPZ	1007	55.0		29	+EPZ	1213	39.0	
27	+EPZ	1154	00.6		29	+EPZ	1327	02.9	
27	-EPZ	1154	04.0		29	+EPZ	1607	36.8	#-629
27	-EPZ	1607	24.8		29	+EPZ	1820	16.8	#-630
27	-EPZ	1633	07.0		29	+EPZ	1930	09.6	
27	-EPZ	1656	34.3		29	+EXZ	2342	01.8	#-631
27	+EPZ	2211	21.5		30	-EPZ	0316	40.0	
28	-EPZ	0023	26.0	#-622	30	-EPZ	0725	27.0	
28	-EPcPZ	0023	40.8	#-622	30	-EsPZ	0853	30.0	#-632
28	-EpPZ	0024	07.8	#-622	30	-EPKpdfZ	1406	31.2	#-633
28	+EXZ	0305	12.3	#-623	30	-EPKpbcZ	1406	36.6	#-633
28	+IPZ	0305	13.8	#-623	Jul.				
28	-IPZ	0305	22.2	#-623	1	-EPZ	0317	49.9	
28	-EPZ	0508	52.5		1	+EPZ	0317	52.6	
28	+EPZ	0857	13.2	#-624	1	-EPZ	0431	09.5	
28	-IpPZ	0857	23.2	#-624	1	-EPZ	0522	09.1	
28	+EPZ	1040	27.5		1	-EPZ	1033	27.9	#-634
28	+EpPZ	1139	07.2	#-625	1	-EPcPZ	1033	34.5	#-634
28	+EXZ	1139	15.0	#-625	1	-IPZ	1446	30.0	#-635
28	+EXZ	1254	10.5	#-626	1	+EPZ	1739	31.6	
28	+EPcPZ	1254	19.2	#-626	1	-EPZ	2351	54.6	#-636

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
2	+EPZ	1202	13.4		6	-IPZ	1610	20.1	#-649
2	+EPZ	2204	13.5		6	-IPcPZ	1610	31.8	#-649
2	+EPZ	2204	15.0		6	-EXZ	1753	50.8	#-650
3	+EPZ	0838	28.0	#-637	7	+EPZ	1515	06.4	#-651
3	-IpPZ	0838	31.5	#-637	7	+EsPZ	1515	12.6	#-651
3	-EPZ	1018	17.0	#-638	7	+EPZ	1705	30.0	#-652
3	-EPZ	1602	40.0	#-639	7	-EPZ	1726	07.6	#-653
3	+EPcPZ	1602	41.0	#-639	7	-EPZ	2025	12.4	#-654
3	-EPZ	2019	26.5		7	+EXZ	2034	03.6	#-655
3	+EPZ	2019	30.0		7	-EPZ	2256	55.4	#-656
3	+EPZ	2230	01.8	#-640	7	-EXZ	2323	21.0	#-657
3	+EXZ	2230	11.4	#-640	7	+EsPZ	2323	40.8	#-657
3	-EPcPZ	2254	02.6		7	+EPZ	2346	04.4	
4	+EPZ	0046	53.6	#-641	7	-EPZ	2346	16.6	
4	+EPcPZ	0046	57.5	#-641	8	-EXZ	0039	34.7	#-658
4	+EXZ	0201	28.3	#-642	8	-EPcPZ	0351	26.0	#-659
4	-EXZ	0318	35.0		8	-EPZ	0844	43.0	
4	+EPZ	0445	05.0		8	+EXZ	0911	22.2	#-660
4	+EPZ	1001	01.2		8	-EXZ	0911	32.4	#-660
4	-EPZ	1545	49.4		8	-EPZ	1540	36.0	
4	+EPZ	1736	40.0	#-643	8	+EPZ	1914	01.8	
4	+EPcPZ	1736	46.8	#-643	8	+EPZ	1924	29.9	#-661
4	+EPZ	1923	16.0		8	-EPcPZ	1924	40.0	#-661
4	-EPZ	2119	14.6	#-644	8	+EsPZ	1925	17.6	#-661
5	-EPZ	0403	41.6		8	+EPZ	2305	11.8	
5	+EPZ	0553	37.6	#-645	9	+IPZ	0703	00.2	#-662
5	-EPcPZ	0556	48.6	#-645	9	+IPcPZ	0703	03.2	#-662
5	+IPZ	1333	58.0	#-646	9	+IsPZ	0703	13.6	#-662
5	-IpPZ	1334	00.8	#-646	9	-EPZ	1151	19.8	#-663
5	+IsPZ	1334	02.6	#-646	9	+EPZ	1409	24.0	
5	+EPZ	1646	20.6	#-647	10	+EPZ	0058	43.4	#-664
5	+EpPZ	1646	31.6	#-647	10	-EPZ	0441	10.0	
5	-EPZ	1936	49.6	#-648	10	+EPZ	1840	42.3	#-665
5	-IpPZ	1937	00.6	#-648	10	-EPcPZ	1840	48.2	#-665
6	+IPZ	0128	25.0		10	-EPZ	1852	48.0	#-666
6	-EPZ	0128	37.0		10	-EPcPZ	1852	50.4	#-666

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
10	+EPZ	2226	17.8		15	-EPZ	1811	10.9	#-679
11	-EPZ	0315	15.5	#-667	15	-EPcPZ	1811	12.0	#-679
11	-EPPZ	0710	02.6	#-668	15	+IPZ	2052	59.0	#-680
11	-EPZ	1523	00.0	#-669	15	-IpPZ	2053	02.0	#-680
11	-EsPZ	1523	27.0	#-669	15	-EPZ	2122	19.8	
11	-EPZ	1726	38.2		16	+EPZ	0023	52.0	
12	+EPZ	0521	12.4		16	+EPZ	0132	21.3	
12	+IPZ	0536	34.4	#-670	16	+EPZ	0132	25.0	
12	-IPcPZ	0536	37.4	#-670	16	+EPZ	0146	10.2	#-681
12	+EPZ	0553	12.4		16	+EPZ	0507	15.5	
12	+EPZ	2058	31.6	#-671	16	+EPZ	0656	40.5	
12	-EpPZ	2058	48.0	#-671	16	+EPZ	0656	42.5	
12	-EPZ	2112	06.0		16	+EPdiffZ	1432	37.0	#-682
13	-EPZ	1619	09.2	#-672	16	+IPKPdfZ	1435	55.0	#-682
13	+EPcPZ	1619	27.0	#-672	16	-IPZ	1434	23.0	#-683
13	+EPZ	1643	07.4	#-673	16	-EpPZ	1434	26.5	#-683
13	+EsPZ	1643	16.0	#-673	16	+EPZ	1656	19.0	
13	-EPZ	2214	28.4		16	-EPZ	2333	05.8	
13	+IPZ	2214	56.6		17	+EXZ	0622	51.4	#-684
14	+EPZ	0322	46.0		17	+EPZ	0951	41.0	
14	+EPZ	1525	04.5		17	-IPZ	0951	49.1	
14	+EPZ	1638	01.6		17	ESH	1001	52.0	
14	+EPZ	1638	04.3		17	-EpPZ	1127	53.0	#-685
14	-EPZ	2225	43.6		17	+EPZ	1326	31.3	#-686
15	-EPZ	0940	23.3		17	+EpPZ	1326	41.6	#-687
15	-IPZ	0940	26.6		17	+EPZ	1421	29.6	#-687
15	-IPZ	0940	31.0		17	-IpPZ	1421	33.8	#-687
15	-EpPZ	1125	33.8	#-674	17	+EPZ	1838	39.2	#-688
15	+EPZ	1135	08.7	#-675	17	+EsPZ	1838	44.0	#-688
15	-EpPZ	1135	12.0	#-675	17	+EPZ	2116	33.2	
15	-EpPZ	1215	47.0	#-676	18	+EXZ	0019	48.0	#-689
15	+EPZ	1328	23.0		18	+IpPZ	0019	52.0	#-689
15	+EsPKPabZ	1328	43.4	#-677	18	-IsPZ	0019	54.0	#-689
15	+EPZ	1337	31.0	#-678	18	-IPZ	0305	42.0	#-690
15	+EPcPZ	1337	38.8	#-678	18	+EpPZ	0305	47.6	#-690
15	-EPZ	1346	24.6		18	+EPZ	0439	39.8	#-691

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
18	+EpPZ	0439	46.3	#-691	21	+EXZ	2051	25.6	#-705
18	-EPZ	1040	03.2	#-692	22	-EPZ	0005	42.0	
18	+EPZ	1124	28.7		22	-IPZ	1102	42.8	#-706
18	-EPZ	1224	29.6	#-693	22	-EPZ	1228	55.0	
18	-EpPZ	1224	47.6	#-693	22	-EPZ	1433	50.8	#-707
18	+EPZ	1736	40.5	#-694	22	-EpPZ	1433	55.0	#-707
18	+EXZ	1819	28.8	#-695	22	+EXZ	1555	14.2	#-708
18	+EXZ	1949	10.4	#-696	22	-EPcPZ	1555	17.8	#-708
18	-EPZ	2355	13.4		22	+EpPZ	1555	27.2	#-708
19	-EPZ	0003	53.8		22	+EPZ	1641	05.2	
19	-EPZ	0004	01.0		22	+EPZ	1641	09.3	
19	+EPZ	0524	24.0		22	+EPZ	2058	39.4	#-709
19	-EPZ	1704	33.4	#-697	22	-EPcPZ	2058	45.0	#-709
19	+EPZ	2145	01.3		22	+EPZ	2101	34.0	#-710
19	+EPZ	2339	07.6	#-698	23	+EPZ	0020	44.0	
19	-EPcPZ	2339	11.6	#-698	23	-EPZ	0616	36.7	#-711
20	+EPZ	0216	58.4		23	-EPcPZ	0617	37.9	#-711
20	+EPZ	0217	01.6		23	+EPZ	0842	01.0	
20	-EPZ	0843	24.2		23	+EPZ	0842	02.6	
20	-EPZ	0919	26.2	#-699	23	+EPZ	2044	21.6	
20	-EPZ	1001	30.8	#-700	23	+EPZ	2044	24.8	
20	+EPZ	1736	17.4	#-701	23	+EPKpdfZ	2248	38.8	#-712
20	+EPZ	2246	02.4		23	+EPZ	2308	50.8	#-713
21	+EPZ	0017	23.6		23	+EpPZ	2309	02.2	#-713
21	-EPZ	0521	25.2		24	-EPZ	0004	04.6	
21	-EPZ	0521	42.6		24	-EPZ	0443	33.3	
21	+EXZ	0808	38.2	#-702	24	-EPZ	0443	39.2	
21	+EXZ	0808	39.6	#-702	24	+EPZ	1503	40.1	#-714
21	-EPZ	1305	30.0	#-703	24	+EPcPZ	1503	48.5	#-714
21	-EPcPZ	1305	33.0	#-703	24	+EpPZ	1503	54.8	#-714
21	+IPZ	1338	54.0		24	+EPZ	1946	55.4	#-715
21	ESH	1348	22.8		24	+EpPZ	1947	09.8	#-715
21	-EPZ	1545	59.2	#-704	25	+EPZ	0115	08.2	#-716
21	-IPcPZ	1546	10.6	#-704	25	+EPcPZ	0115	12.2	#-716
21	ESH	1555	18.0	#-704	25	-EPZ	0815	10.1	
21	+EXZ	2050	25.8	#-705	25	+EPZ	0815	35.1	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
25	-EPZ	2350	01.0		29	+EXZ	0514	19.6	#-732
25	-EPZ	2350	03.4		29	-IXZ	0514	26.7	#-732
26	+EPZ	0240	34.4	#-717	29	-IXZ	0514	34.7	#-732
26	-EPKPdfZ	0345	48.8	#-718	29	+EPZ	1311	15.0	#-733
26	+EPZ	0425	22.8	#-719	29	+EPcPZ	1311	17.0	#-733
26	-IPZ	0553	20.4	#-720	29	+EPZ	1737	23.3	
26	-IpPZ	0553	31.4	#-720	30	+EPZ	2349	16.6	#-734
26	ESH	0604	19.6	#-720	31	-IPZ	0249	00.6	
26	+EPZ	0713	48.9		31	-IPZ	0255	19.2	
26	-EPZ	1404	12.2	#-721	31	ESH	0259	14.8	
26	-EPcPZ	1404	13.6	#-721	31	+EPZ	0324	35.7	
26	ESH	1414	00.0	#-721	31	+EPZ	0324	39.2	
26	-EPZ	1526	20.8		31	+EPZ	1309	10.0	
26	+EPZ	1633	33.2	#-722	31	+EPZ	1309	16.3	
26	+EpPZ	1633	49.2	#-722	31	-EPKPdfZ	1316	17.8	#-735
26	-EPZ	1820	20.6		31	+EPZ	2052	22.4	
26	-EPZ	1905	25.4	#-723	31	-EPZ	2052	24.2	
27	+EPZ	0143	15.4		31	+EXZ	2120	18.4	#-736
27	+EPZ	0349	53.0		31	+EPZ	2307	32.6	
27	+EXZ	0404	39.8	#-724	31	-EPZ	2307	36.6	
27	-EXZ	1458	50.6	#-725	Aug.				
27	ESH	1509	26.2	#-725	1	+EPZ	0319	04.6	#-737
27	-EPZ	1542	49.2	#-726	1	+EPcPZ	0319	06.1	#-737
27	-EpPZ	1544	05.8	#-726	1	-EPZ	0809	34.8	
27	-EPKpabZ	2343	02.8	#-727	1	+EPZ	0809	45.6	
28	-EPZ	0409	02.6		1	+EPZ	0834	12.3	
28	+EPZ	0905	43.6	#-728	1	-IPZ	1721	25.6	#-738
28	+EPZ	0915	12.6		1	+EPZ	1715	17.8	
28	-EPZ	1424	47.0	#-729	1	+EPZ	1715	19.4	
28	-EPcPZ	1424	49.5	#-729	1	ESH	1732	50.0	
28	-EpPZ	1425	02.2	#-729	1	-IPZ	1820	21.3	#-739
28	-EPZ	1535	41.6	#-730	1	-EPZ	1820	24.2	#-739
28	-EXZ	1538	07.0	#-731	1	+EpPZ	1821	02.0	#-739
28	-EpPZ	1538	14.2	#-731	1	+EPZ	2202	41.0	
28	+EPZ	1905	15.6		1	+EPZ	2203	11.4	
29	-EPZ	0407	49.2		2	-EXZ	0341	28.4	#-740

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
2	+IpPKPdfZ	0341 38.8	#-740	5	-EXZ	1215 32.6	#-751
2	-IXZ	0341 52.9	#-740	5	-EPZ	1924 17.6	#-752
2	+EXZ	0538 41.2	#-741	5	-EPcPZ	1924 19.2	#-752
2	-EpPKPdfZ	0643 07.9	#-742	5	+IPZ	2049 38.3	#-753
2	+EPZ	0643 21.6		5	+IPcPZ	2049 50.4	#-753
2	-EPZ	0723 48.0		6	-EPZ	0039 16.4	#-754
2	+EPZ	0723 51.6		6	+EPZ	0039 39.6	#-754
2	-EPZ	0723 53.4		6	+EPZ	1433 53.5	
2	+EPZ	1215 35.7		6	+EPZ	1434 08.0	
2	-EPZ	1349 47.2	#-743	6	+EPZ	1450 37.6	#-755
2	-EpPZ	1349 50.0	#-743	6	+EPZ	1724 52.3	#-756
2	+EPZ	1419 53.0		6	-EPZ	2212 13.4	
2	+IPZ	1523 15.1		7	+EPZ	0444 42.0	
2	ESH	1532 53.2		7	-EpPZ	0918 08.6	#-757
2	-EPZ	1815 05.6	#-744	7	+EsPZ	0918 20.4	#-757
2	-EPcPZ	1815 07.0	#-744	7	-EPZ	1134 28.6	
2	-EPZ	2112 15.6		7	-EPZ	1641 00.2	
2	+EPZ	2223 45.9		7	+EPZ	2142 28.2	
2	+EPZ	2224 09.3		8	-EPZ	0118 25.7	
3	-IPZ	0048 35.2		8	-EPZ	0118 37.8	
3	-IPZ	0048 43.2		8	+EPZ	0229 06.8	#-758
3	-EPZ	0201 11.9	#-745	8	+EpPZ	0229 10.4	#-758
3	-EXZ	0201 24.6	#-745	8	+EPZ	0315 05.4	#-759
3	-EPZ	0629 43.4		8	-EPcPZ	0315 09.7	#-759
4	+EPZ	0119 35.8		8	ESH	0324 39.8	
4	+EPZ	0340 36.0		8	+EPZ	0512 06.0	
4	-EPZ	0340 37.8		8	+EPZ	1105 39.4	
4	-EPZ	0627 25.6	#-746	8	+EPZ	1214 26.1	
4	-EPZ	0728 38.4	#-747	8	-EPZ	1425 08.4	#-760
4	+EPZ	0757 17.3		8	-EpPZ	1425 14.1	#-760
4	+EXZ	1355 41.0	#-748	8	+EPPZ	1539 20.4	#-761
4	+EPcPZ	1355 45.8	#-748	8	-EPZ	1657 39.5	
4	+EPZ	1808 31.0	#-749	8	+EPZ	1657 41.5	
4	-EPcPZ	1808 42.0	#-749	8	+IPZ	1716 16.3	
5	-EPZ	0941 08.6	#-750	8	+EPZ	1743 17.4	
5	-IPcPZ	0941 10.6	#-750	8	ESH	1803 33.2	

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
8	+EPZ	2025 55.5		13	+EPZ	1023 03.8	#-778
8	-EPZ	2341 01.4		13	+EPcPZ	1023 16.5	#-778
8	+EPZ	2341 06.3		13	+EPZ	1035 15.6	
9	+EPZ	0812 24.8	#-762	13	+EPZ	1035 19.4	
10	+EPZ	0032 38.4	#-763	13	-EPZ	1514 30.8	
10	-EPcPZ	0032 47.0	#-763	13	+EXZ	1856 40.6	#-779
10	-EpPZ	0032 52.2	#-763	13	+EPZ	1902 30.0	#-780
10	+EPZ	0549 40.3	#-764	13	-EPcPZ	1902 33.0	#-780
10	+IpPZ	0549 42.8	#-764	13	-EpPZ	1902 41.0	#-780
10	+IXZ	1022 36.4	#-765	13	+EPZ	2223 20.8	
10	+EPZ	1329 34.6	#-766	13	+EPZ	2231 44.4	
10	+EXZ	1329 43.4	#-766	13	-EPZ	2231 50.6	
10	-EPZ	1743 20.0	#-767	13	+EPZ	2245 15.2	
10	+EpPZ	2054 37.6	#-768	14	+EPZ	0604 21.8	
10	+EPcPZ	2057 52.6	#-768	14	-EPZ	0635 48.1	#-781
11	+EPZ	0038 44.2	#-769	14	+EPZ	2012 18.2	#-782
11	+EpPZ	0038 46.0	#-769	15	+EPZ	0429 44.0	#-783
11	-EPZ	0418 58.0		15	+EPZ	1027 39.4	
11	+EPZ	0419 07.6		15	+EPZ	1704 48.0	#-784
11	+EPZ	0644 15.5	#-770	15	+EPKPdfZ	1934 05.6	#-785
11	+EPZ	0857 13.0	#-771	15	+EXZ	1934 16.5	#-785
11	+EPZ	1149 20.7		15	-IPZ	2042 00.0	
11	+EPZ	1429 19.6		15	-IPZ	2042 09.0	
11	-EPZ	1429 23.0		15	-IUPZ	2042 22.6	
11	+IPZ	1816 21.8	#-772	15	-IPZ	2353 34.4	
11	-IPcPZ	1816 24.8	#-772	16	-IPZ	0015 18.0	#-786
11	+EpPZ	1818 32.0	#-772	16	+EpPZ	0015 30.6	#-786
11	ESH	1825 57.6	#-772	16	+EPZ	0031 46.7	#-787
12	+EsPZ	0812 53.6	#-773	16	+IPcPZ	0031 48.0	#-787
12	+EPZ	1008 12.2	#-774	16	-IPZ	0115 01.0	#-788
12	+EPZ	1009 28.4		16	+EpPZ	0115 09.4	#-788
12	-EPZ	1218 19.4	#-775	16	+IPZ	0118 55.0	#-789
12	-EPcPZ	1218 22.2	#-775	16	-EPcPZ	0118 56.2	#-789
12	+EPcPZ	1721 25.4	#-776	16	+EPZ	0131 16.8	#-790
13	+EPZ	0612 37.5	#-777	16	-EPZ	0148 13.0	#-791
13	+EPcPZ	0612 41.0	#-777	16	-EpPZ	0148 22.2	#-791



Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
16	-EsPZ	0148 27.0	#-791	17	-EPcPZ	0306 54.4	#-804
16	+EPZ	0229 43.4	#-792	17	+EpPZ	0307 05.0	#-804
16	-EPZ	0306 55.8	#-793	17	-EPZ	0316 36.4	
16	-EpPZ	0307 03.2	#-793	17	-EPZ	0316 41.0	
16	+EsPZ	0307 08.6	#-793	17	-EPZ	0630 40.0	#-805
16	-EPZ	0416 45.4	#-794	17	-EsPZ	0630 51.4	#-805
16	-EPcPZ	0416 47.6	#-794	17	-EPZ	0713 09.2	#-806
16	-EXZ	0422 50.4	#-795	17	+IPZ	1656 56.2	#-807
16	+EPZ	0429 29.4	#-796	17	+EpPZ	1657 04.8	#-807
16	-EPZ	0435 53.4	#-797	17	+EPZ	2329 50.6	#-808
16	-EpPZ	0435 55.0	#-797	18	-EPZ	0305 11.0	
16	-IPZ	0529 30.7		18	-IPZ	0305 15.4	
16	-IPZ	0529 33.6		18	-IPZ	0305 21.0	
16	-EPZ	0852 28.8		18	ESH	0315 43.4	
16	-IPZ	0852 33.6		18	+EPZ	0450 32.5	#-809
16	-EPZ	0914 42.6	#-798	18	+EPcPZ	0450 39.6	#-809
16	-EPZ	0956 26.0	#-799	18	+EPZ	0754 48.4	#-810
16	-EPcPZ	0956 30.2	#-799	18	-EpPZ	0754 50.4	#-810
16	-EPZ	1148 02.6		18	-EPdiffZ	0810 52.5	#-811
16	+EPZ	1148 08.0		18	+EPZ	0825 35.9	#-812
16	-EPZ	1449 01.6	#-800	18	+EPZ	1244 42.6	
16	-EpPZ	1451 07.5	#-800	18	-EPZ	1244 47.4	
16	+EsPZ	1455 40.4	#-801	18	-EPZ	1300 03.5	#-813
16	-EPZ	1524 00.6	#-802	18	-EPcPZ	1300 15.3	#-813
16	-IPcPZ	1524 02.8	#-802	18	-EPZ	1810 07.0	#-814
16	-IpPZ	1524 10.0	#-802	18	-EPZ	1843 25.6	#-815
16	+EPZ	1802 44.5		18	+EPZ	2016 01.2	
16	+EPZ	2046 07.8		19	+EPZ	0010 17.5	#-816
16	-EPZ	2105 33.3		19	+EpPZ	0010 20.5	#-816
16	+EPZ	2302 24.5		19	-EpPZ	0010 24.4	#-816
17	+EPZ	0044 15.2		19	+EPZ	0110 39.8	#-817
17	+EPZ	0044 23.4		19	+EPZ	0110 46.6	#-817
17	-EPZ	0103 53.2	#-803	19	+EpPZ	0110 54.6	#-817
17	+EPZ	0229 03.0		19	-IPZ	0135 18.3	
17	+EPZ	0229 12.4		19	+EPZ	0245 18.5	#-818
17	-EPZ	0306 51.2	#-804	19	+EPcPZ	0245 20.4	#-818

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
19	-EPZ	0510	51.4		21	-EPZ	2145	03.0	#-830
19	+EPZ	0728	47.2	#-819	21	-EPcPZ	2145	04.2	#-830
19	+EpPZ	0752	05.6	#-820	22	-EXZ	0745	20.6	#-831
19	+EPZ	0933	25.3	#-821	22	+EPKiKPZ	0745	23.8	#-831
19	-EpPZ	1311	20.0	#-822	22	-EPZ	0748	35.0	
19	+EsPZ	1311	25.2	#-822	22	-EXZ	1738	06.0	#-832
19	+EPcPZ	1324	51.4	#-823	22	+EPcPZ	1738	11.6	#-832
19	-EPZ	1342	09.8	#-824	22	+EPZ	2237	39.6	#-833
19	-EpPZ	1342	21.6	#-824	22	+EsPZ	2237	45.3	#-833
19	+IPZ	1356	22.5	#-825	22	-EPZ	2334	49.0	
19	-IPcPZ	1356	24.2	#-825	23	-EPZ	0958	25.0	#-834
19	-EPZ	1656	19.4	#-826	23	+IPZ	1146	10.8	#-835
19	-EPZ	1930	41.4		23	+IPcPZ	1146	12.0	#-835
19	-EPZ	1930	44.0		23	-EXZ	1155	42.6	#-835
19	-EPZ	2024	20.2	#-827	24	+EPZ	0425	56.6	#-836
20	+EPZ	0307	35.6		24	-EpPZ	0426	08.4	#-836
20	-EPZ	0307	38.4		24	+EPZ	0910	48.0	
20	+EPZ	0451	15.8		24	+IPZ	1029	07.6	#-837
20	+EPZ	1249	08.9		24	-EPcPZ	1029	11.6	#-837
20	+EPZ	1359	38.3	#-828	24	+EPZ	1735	43.2	#-838
20	-IPcPZ	1359	40.5	#-828	24	-EPcPZ	1735	45.2	#-838
20	ESH	1410	10.6	#-828	24	+EPZ	2305	02.5	
20	-IPZ	2112	57.4		25	-EPZ	0002	49.2	
20	-IPZ	2113	00.6		25	+EPZ	0242	32.4	
20	ESH	2122	26.8		25	+EPZ	1642	23.6	
20	+EPZ	2136	35.0		25	-EPZ	1716	05.6	#-839
20	+EPZ	2136	37.8		25	-EPcPZ	1716	08.2	#-839
20	-EPZ	2143	39.0		25	-EpPZ	1716	24.6	#-839
20	-EPZ	2202	40.0		25	-EPZ	1724	24.6	
20	+EPZ	2255	43.9		26	-EPZ	0104	14.8	
20	+EPZ	2255	53.0		26	-IPZ	1250	16.5	#-840
20	+EPZ	2315	17.0		26	+IPZ	1250	18.7	#-840
21	+EPZ	1326	32.6		26	-EsPZ	1251	03.0	#-840
21	-EpPZ	1650	03.6	#-829	26	ESH	1300	35.6	#-840
21	-EPZ	2050	36.6		26	+EXZ	1400	04.6	#-841
21	-EPZ	2050	41.4		26	+EPZ	1811	07.4	#-842

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
26	-EPcPZ	1811	09.8	#-842	30	-EpPZ	1630	30.4	#-851
27	+EPZ	0341	20.6		31	+EPZ	0532	35.0	
27	-IPZ	0549	17.4	#-843	31	+EPZ	0532	51.4	
27	-IXZ	0549	20.0	#-843	31	+EPZ	2004	52.4	#-852
27	ESH	0558	43.4	#-843	Sep.				
27	-EPZ	0609	56.6		1	-EPZ	1539	30.0	#-853
27	+EPZ	0610	08.9		1	-EpPZ	1539	48.4	#-853
27	+EPZ	1632	35.4		1	+EpPKiKPZ	1933	39.0	#-854
27	+IPZ	1725	01.9		1	-EPZ	1933	54.2	
27	+EPZ	2112	42.8		1	-IPZ	2334	02.9	
27	+EPZ	2113	23.0	#-844	1	-IPZ	2334	06.2	
27	+EPZ	2314	52.7		2	+EPZ	0025	51.5	#-855
28	+IPZ	0135	20.4		2	+EPZ	0118	16.8	
28	+IPZ	0138	49.2		2	-IPZ	0118	22.9	
28	-EPZ	0904	11.2	#-845	2	+EPZ	0247	10.6	#-856
28	-EPcPZ	0904	15.4	#-845	2	+EPZ	0247	13.0	#-856
28	+EpPZ	0904	27.4	#-845	2	-EPZ	0303	00.4	#-857
28	+EPZ	1003	51.6		2	-EPcPZ	0303	03.0	#-857
29	-EPZ	0211	10.4		2	+EPZ	1155	33.0	#-858
29	+EPZ	0832	31.6	#-846	2	-EsPZ	1155	50.8	#-858
29	+IPZ	1629	46.0	#-847	2	-EPZ	1245	33.8	#-859
29	-IPcPZ	1629	53.2	#-847	2	-EsPZ	1245	46.4	#-859
29	+EpPZ	1630	21.7	#-847	2	+EPZ	1417	34.0	#-860
29	-EPZ	2105	24.0		2	-EPcPZ	1417	38.8	#-860
29	-EPZ	2105	26.9		2	+EpPZ	1417	48.6	#-860
30	+IPZ	0648	45.0		2	-EPZ	1549	15.4	
30	-EPZ	0648	47.2		2	-EPZ	1549	16.7	
30	-EPZ	0742	22.8	#-848	2	-EPZ	1549	25.0	
30	-EsPZ	0742	28.4	#-848	2	+EPZ	1707	48.7	#-861
30	-EPZ	0942	39.4		3	+EPZ	0141	22.0	
30	+EPZ	1027	29.4	#-849	3	-EPZ	0141	35.0	
30	+EPcPZ	1027	32.6	#-849	3	+EPZ	0957	28.2	#-862
30	-EXZ	1119	17.4	#-850	3	+EpPZ	0957	30.8	#-862
30	-EXZ	1119	23.4	#-850	3	+EPKpFZ	1634	06.4	#-863
30	-EPZ	1630	18.4	#-851	3	+EXZ	1634	08.4	#-863
30	-EPcPZ	1630	19.7	#-851	3	-EpPKpFZ	1634	33.4	#-863

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
4	+IPZ	0502 22.4	#-864	7	+EPZ	0938 22.0	#-875
4	+EPcPZ	0502 28.4	#-864	7	-EpPZ	0938 25.8	#-875
4	-EPZ	0632 09.4	#-865	7	+EPZ	1043 22.8	
4	+EpPZ	0632 19.4	#-865	7	-EpPZ	2330 55.0	#-876
4	+EPZ	0953 29.3	#-866	8	+EPZ	0007 54.4	#-877
4	-IXZ	0953 32.6	#-866	8	+EsPZ	0008 08.8	#-877
4	-EPZ	1511 23.2		8	+EPZ	0327 35.7	#-878
4	+EPZ	1937 11.0		8	+EPcPZ	0327 38.1	#-878
4	-IPZ	2205 55.0		8	+EPcPZ	0851 50.1	#-879
4	-IPZ	2205 56.5		8	+EXZ	0851 57.5	#-879
5	+EPZ	0823 17.8		8	+EpPZ	0903 12.5	#-880
5	-EPZ	1105 44.6	#-867	8	-EPcPZ	1143 55.0	#-881
5	+EPcPZ	1105 50.6	#-867	8	+EPZ	1426 21.6	#-882
5	+EPZ	1214 33.0		8	-EpPZ	1426 23.8	#-882
5	+EPZ	1349 07.3	#-868	8	-EPZ	1706 46.8	#-883
5	-EPcPZ	1349 09.3	#-868	8	-EPcPZ	1706 51.0	#-883
5	-EPZ	1420 36.4		8	-EPZ	1830 17.4	
5	-EPZ	1420 40.1		8	+EPZ	1949 01.5	
5	+EPZ	2103 59.8		9	+EPZ	0453 22.0	#-884
6	+EPZ	0144 38.4		9	+EPZ	0825 40.4	
6	+EPZ	0144 40.8		9	+EPZ	1849 42.0	
6	+EPZ	1035 17.4	#-869	9	+EPZ	1857 12.8	
6	+EPZ	1353 53.4	#-870	9	-EPZ	1857 13.4	
6	-EPcPZ	1353 55.5	#-870	9	-IPZ	2210 04.7	
6	+EPZ	1809 46.6		9	-IPZ	2110 11.2	
6	+EPKiKPZ	1809 49.6	#-871	9	-EPZ	2243 23.8	#-885
6	+EPZ	2033 54.0	#-872	10	+EPZ	0025 16.4	#-886
6	+EXZ	2034 14.8	#-872	10	+EpPZ	0025 29.4	#-886
6	+EPZ	2356 20.0	#-873	10	+EPZ	0203 05.8	
6	-EPcPZ	2356 22.1	#-873	10	-EPZ	0203 13.2	
7	+EPZ	0251 34.8		10	ESH	0213 50.0	
7	-EPZ	0306 08.0		10	+EPZ	1729 13.8	
7	-EPZ	0456 14.4		10	-EPZ	1729 15.7	
7	-EPZ	0456 22.6		10	-EPZ	2209 27.8	#-887
7	-EPZ	0905 30.0	#-874	10	-EPcPZ	2209 28.6	#-887
7	-EpPZ	0905 32.0	#-874	11	+EXZ	0209 10.5	#-888

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
11	-EPcPZ	0209	14.0	#-888	13	-EPZ	0241	58.4	#-902
11	-EPZ	0509	13.0		13	-IPcPZ	0242	08.0	#-902
11	-EPZ	0808	25.0		13	-IpPZ	0242	10.6	#-902
11	+EPZ	1023	12.8		13	-EXZ	0303	34.0	#-903
11	-EPZ	1647	56.5	#-889	13	-EXZ	0303	37.2	#-903
11	+EPZ	1655	02.2		13	+EPZ	0321	22.6	
12	+EPZ	0007	44.5		13	+IPZ	0321	25.0	
12	+EPZ	0209	02.4	#-890	13	+EPZ	0347	21.2	#-904
12	+EPZ	0537	38.5		13	-EPZ	0418	08.8	#-905
12	+IXZ	1122	08.0	#-891	13	-EpPZ	0418	22.2	#-905
12	-IpPZ	1122	20.0	#-891	13	+EsPZ	0418	28.2	#-905
12	-EPZ	1313	58.6	#-892	13	+EPZ	0535	17.4	#-906
12	-EPcPZ	1314	07.8	#-892	13	+EPcPZ	0535	26.6	#-906
12	-EsPZ	1314	13.2	#-892	13	-EpPZ	0535	30.4	#-906
12	-EXZ	1329	13.0	#-893	13	+EPZ	0605	15.4	#-907
12	-EPZ	1451	55.4	#-894	13	-EpPZ	0605	22.6	#-907
12	-EpPZ	1452	02.8	#-894	13	+EPZ	0605	53.7	
12	-EsPZ	1452	05.0	#-894	13	+EPZ	0734	13.5	
12	+EPZ	1648	51.6		13	+EPZ	0933	30.4	#-908
12	+EPZ	1648	57.2	#-895	13	-EpPZ	0933	34.0	#-908
12	-EsPZ	1649	05.0	#-895	13	-EPZ	1001	51.2	
12	-IPZ	1716	16.6	#-896	13	+EPZ	1019	06.5	
12	-EPcPZ	1716	20.6	#-896	13	+EPZ	1209	16.0	#-909
12	+EPZ	2214	11.0	#-897	13	-EPcPZ	1209	25.0	#-909
12	+EPZ	2214	36.6		13	-EPZ	1224	49.0	#-910
12	+EPcPZ	2229	25.2	#-898	13	-EsPZ	1224	56.0	#-910
13	+IPZ	0000	55.2		13	+EPZ	1227	21.6	
13	-EPZ	0138	29.4	#-899	13	-EPZ	1322	08.2	#-911
13	-IpPZ	0138	38.6	#-899	13	+EpPZ	1322	18.2	#-911
13	-IPcPZ	0138	40.8	#-899	13	-EPZ	1520	38.8	#-912
13	+EPZ	0150	02.2	#-900	13	+EpPZ	1520	45.1	#-912
13	+EPcPZ	0150	11.2	#-900	13	+EPcPZ	1520	53.0	#-912
13	+EpPZ	0207	49.6	#-901	13	+EPZ	1621	04.6	#-913
13	+EPZ	0210	15.6		13	+EPcPZ	1621	18.4	#-913
13	-IPZ	0210	20.7		13	-EpPZ	1621	22.8	#-913
13	+EPZ	0210	33.0		13	+EPZ	1711	16.8	#-914

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
13	+EpPZ	1711	25.6	#-914	15	-EPZ	1410	57.6	#-929
13	+EpPZ	1842	43.6	#-915	15	-EPcPZ	1411	03.8	#-929
13	+IpPZ	2015	57.0		15	+EXZ	1438	49.8	#-930
13	-IPcPZ	2017	02.0		15	+EPZ	1457	21.4	
13	-EpPZ	2324	34.6	#-916	15	-EPZ	1457	34.0	
14	+EPZ	0113	53.4		15	+EPZ	1516	37.8	#-931
14	+EPZ	0113	57.6		15	+EsPZ	1516	52.2	#-931
14	-IPZ	0114	08.4		15	+EXZ	1819	39.8	#-932
14	-EsPZ	0319	20.8	#-917	15	-EPZ	1839	32.5	#-933
14	+EsPZ	0415	54.4	#-918	15	-EpPZ	1839	40.4	#-933
14	-EPPZ	0418	35.0	#-918	15	-EPZ	2114	38.2	
14	+EPZ	0559	48.2	#-919	16	+EPZ	0022	42.6	
14	-EpPZ	0559	53.6	#-919	16	+EPZ	0127	40.2	
14	-IPZ	0613	17.6	#-920	16	+EPZ	0127	44.5	
14	-IpPZ	0613	25.0	#-920	16	+EPZ	0240	43.3	
14	-EPZ	0704	46.0		16	+EPZ	0713	19.3	#-934
14	-IPZ	1202	56.8	#-921	16	-EPcPZ	0713	20.7	#-934
14	ESH	1212	27.8	#-921	16	+EPZ	0922	10.6	#-935
14	+EPZ	1319	40.6	#-922	16	+EXZ	0922	17.5	#-935
14	-EPcPZ	1319	51.3	#-922	16	+EsPZ	0922	25.8	#-935
14	+EpPZ	1427	09.0	#-923	16	+EPZ	1102	55.6	
14	+EPZ	2317	35.0		16	+EPZ	1103	11.1	
15	+EPZ	0126	09.3		16	+EPZ	1149	34.6	#-936
15	-EPZ	0126	22.2		16	-EsPZ	1149	49.6	#-936
15	+EPZ	0126	29.8		16	+EPZ	1411	35.3	#-937
15	-EPZ	0134	08.6		16	-EPcPZ	1412	28.2	#-937
15	+EPZ	0152	55.6	#-924	16	-EPZ	1534	03.0	#-938
15	+IPZ	0233	55.2		16	-IPZ	2102	53.2	
15	-IPZ	0234	04.2		16	-IPZ	2102	54.7	
15	+EPcPZ	0614	22.4	#-925	16	+EPZ	2120	49.6	#-939
15	+EXZ	1049	20.8	#-926	16	+EXZ	2136	12.0	#-940
15	+EPZ	1111	06.9		17	-EPZ	0056	05.8	
15	-EPZ	1147	35.2	#-927	17	+EPKpdfZ	0615	37.6	#-941
15	-EXZ	1349	02.0	#-928	17	+EPZ	1204	36.9	#-942
15	-EsPZ	1349	09.4	#-928	17	+EPcPZ	1204	40.0	#-942
15	+EPZ	1405	17.7		17	-EPZ	1312	55.0	#-943

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
17	+EPcPZ	1313 59.3	#-943	20	+EPcPZ	0848 19.8	#-959
17	+EPZ	1444 52.8	#-944	20	-EPZ	0941 00.0	#-960
17	+EPcPZ	1444 55.6	#-944	20	-EpPZ	0941 12.0	#-960
17	-EPZ	2249 10.8		20	+EPZ	1343 04.6	
18	+EPZ	0252 14.0	#-945	20	-EpPKPdfZ	1728 48.5	#-961
18	-EPcPZ	0252 17.0	#-945	20	-EPK <del>P</del> abZ	1728 51.2	#-961
18	-EPZ	0323 36.2		20	+EPZ	2313 27.6	
18	+EPZ	0823 45.0		21	+EPZ	0220 04.8	
18	+EPZ	1015 54.6	#-946	21	+EPZ	0310 22.3	
18	+EPcPZ	1016 04.4	#-946	21	+EPZ	1109 50.3	
18	+EPZ	2236 24.2		21	-EsPZ	1345 16.8	#-962
19	-EPZ	0002 16.4	#-947	22	+EPZ	2051 32.7	
19	+EPZ	0353 41.8		23	-EPZ	0256 40.7	
19	+EPZ	0353 45.6		23	+EPZ	0643 17.2	
19	+EPZ	0607 51.3		23	+EPZ	0827 34.4	
19	+EPZ	0607 56.8		23	+EPZ	1425 37.0	#-963
19	+EPZ	0653 30.6		23	-EpPZ	1425 44.2	#-963
19	-EPZ	0739 42.0	#-948	23	+EpPZ	1542 02.0	#-964
19	+EPcPZ	0739 50.8	#-948	23	-EPZ	1632 35.4	
19	-EXZ	0820 04.0	#-949	23	-EPZ	1632 39.6	
19	+EXZ	0942 43.0	#-950	23	+EPZ	1909 38.2	
19	+EPZ	1228 28.4	#-951	23	+EPZ	1909 42.0	
19	+EpPZ	1228 33.2	#-951	23	+EXZ	2235 42.0	#-965
19	+EPZ	1347 39.6		23	-EPZ	2242 09.6	
19	+IPZ	1725 19.2	#-952	23	+EPcPZ	2336 03.3	#-966
19	-IpPZ	1725 20.8	#-952	24	+EPZ	0212 26.0	
19	-EPZ	2344 50.0	#-953	24	-EPZ	0238 17.2	#-967
19	-EPcPZ	2344 52.6	#-953	24	-EPcPZ	0238 22.8	#-967
20	+EXZ	0102 02.4	#-954	24	-EPZ	0723 47.0	
20	+EPZ	0232 04.0	#-955	24	+EPZ	0946 26.4	#-968
20	-EpPZ	0232 06.0	#-955	24	+EPZ	1003 02.4	#-969
20	+EXZ	0345 19.6	#-956	24	-EsPZ	1003 19.0	#-969
20	+EPZ	0742 56.1	#-957	24	+EPZ	1042 48.8	#-970
20	+EPZ	0843 08.2	#-958	24	+EPZ	1208 05.6	#-971
20	-IPcPZ	0843 17.6	#-958	24	-EPZ	1238 12.4	#-972
20	+EPZ	0848 15.8	#-959	24	-EpPZ	1238 24.4	#-972

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
24	+EpPKPdfZ	1508	11.8	#-973	27	-EPZ	2117	56.6	
24	+EpPKPdfZ	1508	19.6	#-973	27	-EPZ	2139	21.0	
24	-EXZ	1747	10.0	#-974	27	-EPZ	2213	36.4	#-989
24	-EXZ	1747	15.0	#-974	27	+EPZ	2222	33.0	#-990
24	+EPZ	1918	27.8	#-975	27	+EPZ	0057	09.6	
24	+EPcPZ	1918	37.8	#-975	27	-EPZ	0057	18.4	
24	-EpPZ	1918	45.2	#-975	28	-EPZ	0114	12.0	#-991
24	-EXZ	2137	40.2	#-976	28	-IpPZ	0114	16.0	#-991
24	+EPPZ	2257	41.8	#-977	28	ESH	0124	29.0	#-991
25	-EPZ	0527	01.6		28	+EPZ	0137	39.0	#-992
25	-EPZ	0711	41.6		28	+EPPZ	0140	53.4	#-992
25	-EPZ	0839	00.0	#-978	28	+EPZ	0148	13.6	#-993
25	+EPcPZ	0839	07.7	#-978	28	-EIXZ	0148	16.6	#-993
25	-EPZ	1456	39.0	#-979	28	-IPPZ	0151	28.8	#-993
25	-EPcPZ	1456	46.0	#-979	28	+EPZ	0156	28.2	
25	+EPZ	1724	40.6	#-980	28	-EPZ	0203	23.6	#-994
25	-EPZ	2208	16.0	#-981	28	+EPZ	0232	27.8	#-995
25	-EpPZ	2208	44.9	#-981	28	+EPZ	0630	12.8	#-996
26	+EPZ	0456	33.0	#-982	28	+EPZ	0833	46.0	#-997
26	-EPcPZ	0456	34.0	#-982	28	+EpPZ	0833	47.5	#-997
26	-EPZ	0513	17.5		28	+EPcPZ	0833	49.9	#-997
26	+EPZ	0843	04.0		28	-EPZ	1125	06.0	
26	-IPZ	1248	36.6		28	-EPZ	1125	19.0	
26	-IPZ	1248	42.0		28	-EPZ	1156	06.8	#-998
26	+EPZ	1254	05.4		28	-EPcPZ	1156	10.0	#-998
26	-EXZ	1303	06.4	#-983	28	+EPZ	1353	25.2	
26	-EPcPZ	1303	09.8	#-983	28	-EPZ	1354	02.2	
26	-EPZ	1453	13.6	#-984	28	-EPZ	1357	06.0	
26	+EPZ	1554	56.0	#-985	28	+EPZ	2110	24.8	
26	-EPZ	1555	06.6	#-985	29	+EPZ	0544	55.0	#-999
26	-EPZ	1850	45.6		29	-EPcPZ	0545	02.6	#-999
27	-EPZ	0746	44.8		29	+EsPZ	0545	14.8	#-999
27	+EPZ	2010	07.8	#-986	29	+EPZ	0655	52.6	#-1000
27	-IPcPZ	2010	11.2	#-986	29	+EPZ	1549	07.8	
27	+EPZ	2038	25.2	#-987	29	+EPZ	1622	05.6	#-1001
27	+EPZ	2059	43.2	#-988	29	+EPcPZ	1622	14.2	#-1001



Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
29	+EPZ	1737	22.2	#-1002	3	+EPZ	1955	01.6	
29	-EpPZ	1737	28.6	#-1002	3	-EPZ	2348	31.4	#-1017
29	+EPZ	2350	25.0	#-1003	3	-EXZ	2348	34.0	#-1017
30	+EPZ	0225	14.0		4	+EPZ	0753	11.8	
30	+EPZ	0225	17.3		4	+EPZ	0854	46.5	#-1018
30	+EPZ	0238	19.4		4	+EPZ	1204	06.5	
30	-IPcPZ	0534	05.2	#-1004	4	+EPZ	1252	35.0	
30	ESH	0552	01.6		4	-IPZ	1252	37.6	
30	+EPZ	2120	44.6		4	ESH	1302	49.0	
Oct.					4	-EPZ	1440	32.0	#-1019
1	-IPZ	1344	58.3	#-1005	4	-EXZ	1440	35.2	#-1019
1	-EpPZ	1345	00.4	#-1005	4	+EPZ	1835	27.4	#-1020
1	-EpPZ	1403	45.0	#-1006	5	-EPZ	0337	09.2	
1	-EPZ	1629	28.6	#-1007	5	-IPZ	0729	14.6	#-1021
1	-EpPZ	1629	32.4	#-1007	5	+IPcPZ	0729	18.8	#-1021
1	-EsPZ	1744	05.6	#-1008	5	ESH	0738	42.6	#-1021
2	-EPZ	0355	22.5		5	-EXZ	0934	27.3	#-1022
2	+EPZ	0355	54.0		5	-EPZ	1909	43.0	
2	-EPZ	1451	52.4	#-1009	5	-EPZ	2041	42.6	#-1023
2	-EPcPZ	1452	01.6	#-1009	5	+EPZ	2318	25.0	#-1024
2	-EpPZ	1452	03.6	#-1009	6	-EPZ	0250	14.3	#-1025
2	-EPZ	1544	26.2	#-1010	6	-EPcPZ	0250	15.4	#-1025
2	+EpPZ	1544	33.4	#-1010	6	-EPZ	0315	48.6	#-1026
2	-IPZ	1549	51.0	#-1011	6	-EPcPZ	0315	54.4	#-1026
2	-EPcPZ	1550	08.0	#-1011	6	ESH	0325	58.6	#-1026
2	-EXZ	1624	02.4	#-1012	6	+EPZ	0815	07.8	
2	+EXZ	1820	00.6	#-1013	6	-EPZ	1250	34.2	#-1027
2	+EPZ	1824	39.0	#-1013	6	-EPcPZ	1250	36.6	#-1027
2	+EPK <sub>abZ</sub>	1824	39.0	#-1014	6	-EPZ	1257	24.0	
3	+EPZ	0153	01.5		6	-EPZ	1257	29.6	
3	+EPZ	0153	07.4		7	+EPZ	0326	12.3	
3	-EPZ	1552	28.4	#-1015	7	+EPZ	0943	41.2	
3	+EPZ	1812	40.3		7	+EPZ	1201	09.2	
3	-IPZ	1925	37.6	#-1016	7	+EPZ	1201	21.5	
3	-IpPZ	1925	54.6	#-1016	8	-EPZ	0826	10.0	#-1028
3	+EPZ	1954	40.0		8	-EPZ	1641	06.6	#-1029

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
8	+EPKp <sub>d</sub> fZ	1729	50.4	#-1030	12	-EPZ	1146	27.6	#-1045
9	-EPZ	0204	58.0	#-1031	12	+EPZ	1454	43.3	
9	-EpPZ	0205	11.4	#-1031	12	+EPZ	1846	37.0	
9	-EPZ	0333	21.2	#-1032	12	+EPZ	2146	01.8	
9	-EsPZ	0333	28.0	#-1032	13	-EPZ	0231	34.6	
9	-EPZ	0727	20.0		13	-EPZ	1025	12.0	
9	-EPZ	0727	25.0		13	-EPZ	1025	16.0	
9	+EPZ	0844	19.4		13	+EPZ	1758	12.4	#-1046
9	+EPZ	0844	30.8		13	-IPcPZ	1758	16.2	#-1046
9	-EXZ	0910	35.0	#-1033	13	ESH	1808	38.0	#-1046
9	-EPZ	1239	19.6		13	+EPZ	2033	15.0	#-1047
9	+EPZ	1437	42.0		14	+EPZ	0223	52.0	#-1048
9	+EPZ	1516	51.8	#-1034	14	+EpPZ	0224	38.0	#-1048
9	-IPZ	1516	52.4	#-1034	14	+EPZ	0348	42.8	
9	+EPZ	1844	02.3		14	+EPZ	0400	55.0	#-1049
9	-EPZ	1844	05.4		14	-EPZ	0510	46.8	#-1050
10	-EPZ	0008	07.9		14	+EpPZ	0511	03.8	#-1050
10	-EPZ	0031	10.6		14	+EXZ	1115	26.0	#-1051
10	-IPZ	0031	22.4		14	+EPZ	1408	14.0	
10	-EPZ	0204	08.0	#-1035	14	+EPZ	2244	37.7	
10	-IPZ	0530	20.8	#-1036	15	+EPZ	0606	13.0	
10	-EPcPZ	0530	25.6	#-1036	15	-IPZ	1239	39.9	
10	-IPZ	1132	45.8	#-1037	15	+IPZ	1245	43.0	
10	ESH	1142	09.0	#-1037	15	-EPZ	2010	46.5	
10	-EPZ	1238	16.4	#-1038	15	-IPZ	2138	29.4	
10	-EXZ	2119	25.0	#-1039	15	+EPZ	2148	40.0	#-1052
10	+EPcPZ	2119	32.2	#-1039	15	+EpPZ	2148	47.2	
10	+EPZ	2324	08.9	#-1040	15	+EsPZ	2148	52.3	
10	-EPcPZ	2324	12.2	#-1040	16	+EPZ	0036	39.9	
11	+EPZ	0109	02.6		16	-EPZ	0240	00.0	
11	+IPZ	0456	48.6	#-1041	16	-EPZ	0501	42.2	
11	+EPZ	0544	08.0	#-1042	16	-EPZ	0647	18.0	
11	+EPZ	0544	56.4		16	-EPZ	0724	09.0	
11	-IPZ	1634	38.6	#-1043	16	-IPZ	0853	17.0	
11	-IpPZ	1634	39.6	#-1043	16	-EPZ	0928	32.6	
12	+EPZ	0836	15.6	#-1044	16	+EPZ	1318	51.0	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
16	+EPZ	1347	29.4		21	-IXZ	1038	10.5	#-1063
16	-EpPZ	1347	31.0	#-1053	21	+EXZ	1252	04.8	#-1064
16	-IPZ	1444	40.4	#-1053	21	-EPZ	1436	06.0	#-1065
16	-IPZ	1638	47.8		21	+EXZ	1436	12.8	#-1065
16	-IPZ	1648	56.7		21	-EPZ	1637	22.4	#-1066
16	-EPZ	1906	17.4	#-1054	21	+EPZ	2036	43.2	
16	-IPZ	2117	04.0		22	-EPZ	0440	30.8	#-1067
16	ESH	2126	29.2		22	-EPZ	0624	12.4	#-1068
17	-EPZ	0114	44.2		22	+EPZ	0627	39.0	#-1069
17	-EPZ	0115	00.6		22	-EPZ	1036	31.6	
17	+EPZ	0514	26.8		22	-EPZ	1036	37.2	#-1070
17	+EPZ	0525	22.4		23	-EXZ	0654	51.4	#-1071
18	+EPZ	0435	21.6		23	-IPZ	0654	52.8	#-1071
18	-EPZ	0435	26.0		23	+EPZ	2008	40.4	#-1072
18	-EPZ	1804	17.0		23	-IPcPZ	2008	50.6	#-1072
18	-EPZ	1904	23.0		23	-IsPZ	2008	55.8	#-1072
18	+EPZ	1904	26.8		23	-EPZ	2305	58.0	
18	+EPKIKPZ	2345	27.6	#-1055	23	+EPZ	2312	12.8	
19	-EPcPZ	0817	13.2	#-1056	23	+EPZ	2257	32.0	
19	+EPZ	0938	16.4		23	-IPZ	2257	48.0	
19	+EPZ	1715	03.6		24	+EPZ	0123	01.0	
19	+EPZ	1728	42.2		24	-EPZ	0155	37.2	#-1073
19	+EPZ	1757	01.0		24	-EpPZ	0443	34.6	#-1074
19	+EPZ	2315	17.8		24	+IPZ	1658	25.0	#-1075
20	+EPZ	0114	26.0		24	-EpPZ	1658	55.6	#-1075
20	+EPZ	0904	53.0	#-1057	24	-EPZ	2114	35.0	
20	+EPZ	1209	59.6	#-1058	24	-IPZ	2114	48.0	
20	+EPZ	1752	22.8		24	+EPZ	2257	32.0	
20	+EPZ	1938	44.5	#-1059	25	-EPZ	0357	44.7	
20	-EPZ	2006	47.4	#-1060	25	-IPZ	0358	00.0	
20	-IXZ	2006	54.8	#-1060	25	-EPZ	0537	20.3	#-1076
20	-EPZ	2153	02.0	#-1061	25	-EpPZ	0537	33.6	#-1076
20	+EPZ	2352	16.8	#-1062	25	-EPZ	0744	33.0	#-1077
21	-EPZ	0856	53.0		25	+EXZ	1409	28.9	#-1078
21	+EPZ	0949	22.8		25	-EPZ	1513	35.0	#-1079
21	-IPZ	1037	57.6	#-1063	25	+EpPZ	1513	45.2	#-1079

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
25	+EPZ	2057 40.9		1	-IPZ	0018 27.6	#-1092
25	+EPZ	2142 45.2		1	+EPZ	0054 16.2	
26	-EPZ	1617 53.8		1	+EPZ	0332 43.6	#-1093
26	-EPZ	1741 42.2		1	+EPZ	0638 01.0	
27	-IPZ	0127 33.4	#-1080	1	-EPZ	2158 44.6	
27	-IXZ	0128 04.2	#-1080	1	+EPZ	2159 01.0	
27	-EXZ	0300 06.0	#-1081	2	-EPZ	1253 20.4	
27	+EPZ	1148 21.9		2	-EPZ	1253 24.7	
27	+EXZ	1848 11.2	#-1082	2	+EPZ	1253 38.6	
27	+EPZ	2146 00.4		2	-EPZ	1343 54.6	
28	+EsPKPdz	0010 50.0	#-1083	2	-EPZ	1950 26.2	
28	-EPZ	1535 32.6	#-1084	2	+EPZ	2241 11.7	
28	+EPZ	2158 52.8		2	+IPZ	2242 01.0	
29	+EPZ	0027 40.4		2	+EPZ	2317 49.0	
29	+EXZ	0941 56.0	#-1085	2	-EPZ	2350 49.9	
29	+EPZ	1340 10.0		3	+EPZ	0546 23.6	
29	+EPZ	1510 06.8		3	+EPZ	0546 40.4	
29	+EPZ	2151 37.8		3	+EPZ	1318 46.6	
30	+IPZ	0302 28.0	#-1086	3	+EPZ	1818 39.0	#-1094
30	-IPcPZ	0302 30.0	#-1086	4	-EPZ	0140 19.0	
30	+EPZ	1809 47.4	#-1087	4	+EPZ	1512 56.2	
30	-EsPZ	1810 19.6	#-1087	4	+EPZ	1856 48.0	
31	-EPZ	0344 44.2		4	-IPZ	2041 02.2	
31	ESH	0359 08.0		4	+EPZ	2309 11.7	#-1095
31	+EPZ	0716 27.6		4	-EPcPZ	2309 13.4	#-1095
31	-IPZ	0810 04.0		4	-EPZ	2352 28.8	
31	+IPKPdfZ	1404 06.4	#-1088	4	-EPZ	2352 32.6	
31	+EpPKPdz	1404 17.6	#-1088	5	-EPZ	1204 13.0	
31	+EPZ	1606 31.2	#-1089	5	-IPZ	1421 38.0	#-1096
31	+EPcPZ	1606 45.0	#-1089	5	-IpPZ	1421 41.5	#-1096
31	+IPZ	2129 05.0	#-1090	6	-EPZ	0827 28.7	
31	+EsPZ	2129 12.0	#-1090	6	-EPZ	1406 00.0	
31	+EPZ	2218 17.6	#-1091	6	+EXZ	1423 17.6	#-1097
31	-IpPZ	2218 30.6	#-1091	6	-EPcPZ	1423 21.2	#-1097
31	+EPZ	2245 00.2		6	-EXZ	1739 45.8	#-1098
				6	-EPZ	2045 16.8	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
6	+EPZ	2228	03.4		10	+EPZ	0308	49.4	
6	+EPZ	2340	24.0		10	+EPZ	0740	16.8	
7	-EPZ	0651	08.5		10	+EPZ	1003	14.8	
7	+EPZ	0651	18.2		10	+EPZ	1359	11.0	
7	-EPZ	0704	14.2		10	+EPZ	1406	54.6	
7	+EPZ	0901	20.0		10	-EPZ	1523	33.4	
7	+EXZ	0921	17.2	#-1099	10	+EPZ	1712	22.0	
7	+EPZ	1517	44.6	#-1100	11	+EPZ	0750	01.0	#-1107
7	-EPcPZ	1517	57.2	#-1100	11	+EPcPZ	0750	04.6	#-1107
7	-EPZ	1627	31.8		11	+EPZ	1113	32.0	
7	-EPZ	2256	54.8		11	+EPZ	1305	37.0	
8	+EPZ	0628	44.4	#-1101	11	+EPZ	1447	30.0	
8	+EPcPZ	0628	48.2	#-1101	11	+EPZ	2143	01.8	
8	-EPZ	0641	27.0		11	-EXZ	2208	51.6	#-1108
8	-IPZ	0750	45.4	#-1102	11	-EPcPZ	2209	17.4	#-1108
8	-IPZ	0751	05.4	#-1102	11	+EPZ	2340	28.3	
8	ESH	0755	47.8	#-1102	12	+IPZ	0149	43.4	#-1109
8	+EPKiKPZ	0801	02.4	#-1102	12	-EPZ	1344	32.7	
8	-EPZ	1432	26.0		12	+EXZ	1537	14.6	#-1110
8	+EPZ	1513	41.4		12	-EPZ	1824	56.2	#-1111
8	-EPZ	1513	46.8		12	-EPcPZ	1824	58.0	#-1111
9	+EPZ	0045	01.0		12	+EPZ	2003	32.4	#-1112
9	+EPZ	0122	05.6		12	+EPZ	2005	10.9	#-1112
9	+EPZ	0558	40.4		12	-EPZ	2227	29.0	#-1113
9	-EXZ	0705	41.8	#-1103	13	-EPZ	0546	35.0	
9	+EPZ	0714	54.3		13	-EPZ	1250	27.8	
9	+EPZ	1051	25.0	#-1104	13	+EPZ	1435	32.0	
9	+EPcPZ	1051	31.0	#-1104	13	-EPZ	2045	34.9	
9	+EPZ	1826	08.3		13	+EPZ	2330	27.6	
9	-IPZ	2132	50.0	#-1105	13	-EPZ	2330	29.5	
9	+EScPZ	2139	13.0	#-1105	14	-IPZ	0442	44.0	#-1114
9	+EPZ	2309	55.0		14	-EPcPZ	0442	45.8	#-1114
10	+EPZ	0122	33.2		14	-IPZ	1552	31.6	#-1115
10	-IPZ	0122	48.0		14	ESH	1602	10.6	
10	+EPZ	0255	18.9	#-1106	14	+EPZ	1616	32.8	
10	+EPZ	0255	29.8	#-1106	14	-EPZ	1628	27.7	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
14	-EPZ	1730	23.0	#-1116	16	-IPcPZ	0326	19.3	#-1131
14	-IpPZ	1730	37.2	#-1116	16	-IPZ	0330	19.2	
14	+EPZ	1751	29.2		16	ESH	0337	39.0	#-1131
14	+EPZ	1751	48.6		16	+EPZ	0805	26.3	#-1132
14	-IPZ	1755	42.5	#-1117	16	+IPZ	0805	34.4	
14	-IpPZ	1755	51.6	#-1117	16	-EpPZ	0805	40.2	#-1132
14	-EPZ	1805	08.6	#-1118	16	+EPZ	0854	21.5	#-1133
14	+IPZ	1808	28.5	#-1119	16	+IpPZ	0854	29.6	#-1133
14	+EPcPZ	1808	38.7	#-1119	16	+EPZ	1445	47.6	#-1134
14	-EPZ	1900	49.8	#-1120	16	+EPZ	1717	02.4	#-1135
14	-EPZ	1907	31.2	#-1121	16	+EPZ	1945	02.0	
14	+EpPZ	1907	40.0	#-1121	16	+EPZ	2034	44.7	
14	+EsPZ	1907	45.1	#-1121	16	+EPZ	2223	46.6	#-1136
14	-EPZ	1929	06.0	#-1122	17	+IPZ	0319	12.0	#-1137
14	+EPZ	2119	12.8		17	-IPcPZ	0319	24.8	#-1137
15	-EPZ	0158	17.4	#-1123	17	+EPZ	1806	15.0	
15	-EPZ	0517	42.8	#-1124	17	+EPZ	1816	18.0	#-1138
15	+EsPZ	0517	47.0	#-1124	17	-EpPZ	1816	27.2	#-1138
15	+EPZ	0943	09.6		17	+EPZ	1824	56.6	#-1139
15	-EPZ	1126	32.4	#-1125	17	+EPZ	1930	44.7	
15	-EpPZ	1126	40.0	#-1125	17	+EPZ	2011	03.0	#-1140
15	-EPZ	1514	49.2	#-1126	17	+EPZ	2229	10.8	#-1141
15	-IpPZ	1514	56.6	#-1126	17	-EPZ	2301	55.8	
15	-IXZ	1527	23.2	#-1127	17	+EPZ	2301	57.3	
15	-EPZ	1557	30.0	#-1128	18	-EPZ	0044	17.6	#-1142
15	+EpPZ	1557	39.6	#-1128	18	-EPcPZ	0044	21.0	#-1142
15	-EPZ	1730	50.6	#-1129	18	+EPZ	0203	26.8	
15	+EPcPZ	1730	55.2	#-1129	18	+EPZ	0551	22.2	
15	+EPZ	1959	14.4		18	-IPZ	0551	23.5	
15	-EPZ	2044	04.6		18	ESH	0600	38.0	
15	-EPZ	2117	14.4		18	+EPZ	0714	36.0	#-1143
15	+EPZ	2124	05.0	#-1130	18	-EPcPZ	0714	40.9	#-1143
15	+EpPZ	2124	15.0	#-1130	18	+EPZ	0923	28.5	
15	+EPZ	2129	36.6		18	+EPZ	1227	20.5	
16	+EPZ	0005	14.6		18	ESH	1237	00.0	
16	-EPZ	0326	16.6	#-1131	18	-EPZ	1314	50.2	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
18	+EPZ	1452	33.7	#-1144	20	-EPZ	1352	24.9	
18	-EPZ	1536	37.4	#-1145	20	-IPZ	1540	17.6	#-1155
18	+EpPZ	1536	42.4	#-1145	20	ESH	1550	02.0	
18	+EPcPZ	1536	48.6	#-1145	20	-EPZ	1656	10.4	#-1156
18	-EPZ	2024	47.0		20	-EXZ	1656	18.0	#-1156
18	+EPZ	2252	22.2	#-1146	20	+EPZ	1758	53.0	
18	+IpPZ	2254	17.4	#-1146	20	-EPZ	1807	34.0	#-1157
19	+IPZ	0103	51.2		20	-IpPZ	1807	42.5	#-1157
19	ESH	0013	38.0		20	+EPZ	1930	34.8	
19	+EPZ	0823	23.0		20	-EPZ	1930	39.8	
19	-EPZ	0925	51.7		20	-EPZ	2107	09.6	
19	-EPZ	0926	15.0		20	+EXZ	2250	08.4	#-1158
19	+EPZ	1240	50.6		20	-EpPZ	2050	21.2	#-1168
19	-EXZ	1532	27.0	#-1147	20	+EXZ	2311	10.0	#-1159
19	+EPZ	1621	17.4		20	-EXZ	2311	19.2	#-1169
19	-EPZ	1807	48.1		20	+EPZ	2352	10.2	
19	+EPZ	1831	03.6	#-1148	20	+EPZ	2352	23.3	
19	-EsZP	1831	10.0	#-1148	21	+IPZ	0005	51.0	
19	-IPZ	2032	52.0	#-1149	21	+EPZ	0005	53.8	
19	-EPKpabZ	2052	56.0	#-1150	21	-IPZ	0005	57.2	
19	-EPZ	2224	03.7		21	+EPZ	0342	27.6	#-1160
19	-IPZ	2342	12.6		21	+EPZ	0506	22.1	
19	EHS	2352	41.0		21	+IPZ	0700	03.4	#-1161
20	-EPZ	0102	48.0	#-1151	21	-EPcPZ	0700	06.4	#-1161
20	+EpPZ	0102	57.4	#-1151	21	+IXZ	0820	42.6	#-1162
20	+EPZ	0430	43.0		21	-EPZ	0954	20.0	
20	+EPZ	0430	46.0		21	+IPZ	0954	29.0	
20	+IPZ	0507	59.0		21	+IPZ	1306	21.6	#-1163
20	+EPZ	0508	06.4	#-1152	21	-IPcPZ	1306	34.9	#-1163
20	-EPZ	0510	45.0		21	-EPZ	1330	40.0	
20	-EPZ	0652	50.8		21	-EPZ	1330	47.5	
20	+EPZ	0945	24.3		21	-EPZ	1452	53.6	#-1164
20	-EPZ	1104	43.0		21	+EPZ	1735	26.0	
20	-EXZ	1205	19.3	#-1153	21	+EPZ	1855	02.0	
20	-EPZ	1306	02.4		21	+EPZ	1916	34.0	#-1165
20	-EPZ	1322	02.4	#-1154	21	+EPZ	2012	26.8	

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
21	-EPZ	2043 00.6	#-1166	24	+EPZ	2022 06.3	
21	-EPZ	2131 55.8		24	-EPZ	2022 18.4	
22	+EPZ	0244 10.0		24	+EPZ	2359 07.4	
22	+EPZ	0435 44.7		25	-EPZ	0201 33.4	#-1175
22	-EPZ	0520 05.4		25	-EPZ	0303 39.6	
22	-EPZ	0818 14.0		25	+IPZ	0304 01.8	
22	-IXZ	0901 21.4	#-1167	25	+EPZ	1020 23.4	
22	ESH	0912 26.0	#-1167	25	+EPZ	1124 51.0	
22	-EXZ	1058 48.0	#-1168	25	-IPZ	1137 18.6	#-1176
22	-EsPKPdfZ	1059 01.6	#-1168	25	ESH	1146 30.0	#-1176
22	+EPZ	1918 05.6		25	+EPZ	1237 03.4	
22	+EPZ	2042 47.8	#-1169	25	-IPZ	1614 13.6	#-1177
22	-EPcPZ	2042 52.4	#-1169	25	+IpPZ	1614 26.7	#-1177
22	-EPZ	2114 13.0		25	ESH	1624 13.0	#-1177
22	+EPZ	2314 29.6		25	+EPZ	1753 30.0	
23	+EPZ	0139 43.8		25	-IPZ	1753 33.5	
23	-IPZ	0140 21.0		25	-IPZ	1753 48.8	
23	+EPZ	0513 08.9		25	-IPZ	2005 04.8	
23	-EPZ	1235 44.2		25	-IPZ	2005 11.2	
23	-EPZ	1235 46.5		25	ESH	2015 00.0	
23	+IPZ	1250 27.0		25	+EXZ	2041 26.2	#-1178
23	-IXZ	1251 43.8	#-1170	25	+EXZ	2129 29.9	#-1179
23	-EPZ	1726 39.0		25	-EPZ	2129 41.0	#-1179
23	-EPZ	1923 30.0	#-1171	25	ESH	2138 55.4	#-1179
23	-IPnZ	1923 31.4	#-1171	25	-EXZ	2303 34.0	#-1180
23	-IpPZ	1923 36.4	#-1171	26	+EPZ	0235 35.5	
23	-EPZ	2133 02.4		26	-EPZ	0235 40.7	
24	+IPZ	0513 33.4	#-1172	26	-EPZ	0243 54.2	#-1181
24	+IpPZ	0513 58.4	#-1172	26	-EPZ	0626 38.4	#-1182
24	-EsPZ	0514 08.0	#-1172	26	+EPZ	0656 05.8	#-1183
24	ESH	0523 41.2	#-1172	26	+EPZ	0710 25.6	#-1184
24	-EPZ	1016 45.8	#-1173	26	+EPZ	0710 29.7	#-1184
24	-IPcPZ	1016 48.6	#-1173	26	+EPZ	0710 34.6	#-1184
24	-EPZ	1054 36.8	#-1174	26	-IPZ	0826 50.4	#-1185
24	-IpPZ	1054 43.2	#-1174	26	-EPZ	0921 51.3	
24	-EPcPZ	1056 12.0	#-1174	26	+EPZ	0922 03.8	



Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
26	+EPZ	1115	41.4	#-1186	29	-EPZ	0307	50.0	#-1195
26	+EXZ	1410	37.8	#-1187	29	-IpPZ	0307	52.4	#-1195
26	+EPZ	2112	29.0		29	-EPZ	0337	34.8	
26	-EPZ	2150	49.2		29	+EPZ	0852	42.6	#-1196
26	-IPZ	2215	00.0		29	-EpPZ	0853	19.2	#-1196
27	-EPZ	0100	19.6	#-1188	29	ESH	0857	34.0	#-1196
27	-EpPZ	0100	28.8	#-1188	29	+EPZ	0916	17.2	#-1197
27	-EPcPZ	0100	31.0	#-1188	29	+EPZ	0941	02.8	
27	-EPZ	0346	50.8	#-1189	29	+EPZ	1216	24.0	
27	-EpPZ	0346	01.8	#-1189	29	+EPZ	1603	23.3	
27	-EPZ	0440	45.4		29	-EXZ	1914	24.8	#-1198
27	-EPZ	0635	25.4		29	-IpPKiKPZ	1919	05.2	#-1198
27	-EPZ	0731	50.0		29	ESH	1940	26.7	
27	-EPZ	0842	47.0		29	+EPZ	2234	20.6	
27	-EPZ	0842	50.3		30	-EPZ	0018	04.6	
27	-EPZ	0936	02.4	#-1190	30	+EPZ	0124	48.6	#-1199
27	-EPZ	1025	36.0	#-1191	30	-EsPZ	0125	02.4	#-1199
27	-IPZ	1025	38.8	#-1191	30	+EPZ	1204	27.0	
27	-EPZ	1119	13.4		30	+EPZ	1715	32.8	#-1200
27	-EPZ	1203	00.0		30	-IPZ	2018	13.6	
27	-EPZ	1203	05.0		Dec.				
27	-EPZ	1304	58.0	#-1192	1	+EPZ	0156	45.0	#-1201
27	-EPcPZ	1558	18.6		1	+EPZ	0344	27.7	#-1202
27	+EPZ	2202	48.4		1	+EXZ	1622	25.8	#-1203
27	+EPZ	2202	57.8	#-1193	1	+IPZ	2313	03.2	#-1204
28	+EPZ	0428	49.0		2	+EPZ	0002	26.4	#-1205
28	+EPZ	0428	52.2		2	-EpPZ	0002	42.0	#-1205
28	-IPZ	1017	50.0	#-1194	2	+EPZ	0645	08.8	#-1206
28	-EPcPZ	1018	00.4	#-1194	2	+EPcPZ	0645	19.0	#-1206
28	-EsPZ	1018	15.8	#-1194	2	+EPZ	1345	19.6	
28	+EPZ	1137	45.6		2	-EPZ	1609	16.4	#-1207
28	+EPZ	1137	48.5		2	+EPZ	1837	33.9	
28	-EPZ	1353	00.2		2	-EPZ	1921	22.4	
28	-EPZ	1704	15.0		3	-EPZ	0416	08.2	
28	-EPZ	1704	19.6		3	+EPZ	0620	00.4	
28	-EPZ	1744	21.0		3	+EPZ	2205	41.2	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
3	+EPZ	2205	48.2		9	+EPZ	1744	10.8	
3	+EPZ	2227	35.5		9	+EPZ	1744	12.0	
4	-EPZ	0350	00.8	#-1208	10	-EPZ	1226	35.2	#-1218
4	+EXZ	0350	34.4	#-1208	10	-IPcPZ	1226	40.4	#-1218
4	-EPZ	0356	14.0		10	+IPZ	1441	01.2	#-1219
4	+EPZ	0356	16.4		10	+EXZ	1441	31.0	#-1219
4	-EPZ	0656	06.8		10	+EPZ	2217	18.0	#-1220
4	-EPZ	1540	20.6		10	-EPcPZ	2217	20.0	#-1220
4	+EPZ	1600	35.2	#-1209	10	-EXZ	2220	46.8	#-
4	-IXZ	1601	08.9	#-1209	11	-EPZ	1728	21.0	#-1221
4	-IPZ	2009	03.8	#-1210	11	-EXZ	1728	24.0	#-1221
4	-IPZ	2009	17.0	#-1210	11	+EPZ	1757	48.0	#-1222
4	-EPZ	2243	37.0		11	-EPcPZ	1757	57.0	#-1222
5	-EPZ	0822	08.6	#-1211	12	+EXZ	0645	25.6	#-1223
5	+EPZ	0832	09.4		12	+EXZ	1754	56.7	#-1224
5	-EPZ	1310	08.2		12	+EPZ	1921	39.5	
5	+EPZ	1721	30.5		12	-EPZ	1921	44.0	
5	-EPZ	1816	53.2		13	-EPZ	0120	18.2	
6	+EPZ	0122	51.3	#-1212	13	+EPZ	0120	21.2	#-1225
6	-EPZ	1219	24.8		13	+EPZ	0310	24.0	
6	-EPZ	1241	14.0		13	-EPZ	0311	50.4	#-1226
6	+EPZ	1329	19.4		13	+EPZ	0532	03.6	#-1227
6	-IPZ	1614	36.0	#-1213	13	+EPZ	0547	05.0	#-1228
6	-IPcPZ	1614	38.4	#-1213	13	-EPcPZ	0547	16.0	#-1228
6	-EsPdiffZ	2157	44.0	#-1214	13	-EPZ	0619	11.9	
7	+EPZ	0014	28.8		13	+EXZ	0724	49.6	#-1229
7	+EPZ	0334	18.6		13	+EPZ	0735	21.3	
7	-EPZ	1057	35.4	#-1215	13	+EPZ	1604	37.6	#-1230
7	-EPZ	1057	39.4	#-1215	13	+EXZ	1604	49.5	#-1230
7	-EPZ	1837	34.8	#-1216	13	+EsPZ	1604	54.0	#-1230
8	-IPZ	0828	46.8	#-1217	14	+EPZ	1548	11.5	
8	-IPcPZ	0828	55.1	#-1217	15	-EPZ	0815	16.0	
8	-IsZP	0829	28.8	#-1217	15	ESH	0825	15.0	
9	-IPZ	0740	18.6		15	-EPZ	0952	18.4	
9	ESH	0811	14.3		15	ESH	1002	38.2	
9	+EPZ	1354	48.0		15	+EPZ	1229	20.0	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
15	+EPZ	1229	22.0		18	+EPZ	1712	29.4	
16	+EPZ	0820	54.0		18	+EPZ	2032	26.9	
16	+EPZ	0820	55.4		18	+EPZ	2032	50.4	
16	+IPZ	0820	57.8		18	+EPZ	2331	37.3	
16	+IPZ	0821	12.4		19	+EPZ	0234	32.6	
16	ESH	0830	52.0		19	-EPZ	0234	34.8	
16	+EPZ	1454	10.5		19	+EPZ	0624	26.2	
17	-EPZ	0021	12.8		19	-EPZ	0624	30.5	
17	+EPZ	0021	19.7		19	-EPZ	0950	09.8	
17	+EPZ	0521	06.7		19	+IPZ	0950	13.4	
17	+EPZ	1151	04.2		19	-EPZ	1119	32.6	
17	+EPZ	1151	33.2		19	-IPZ	1148	01.3	
17	+EPZ	1220	32.7		19	-IPZ	1148	04.1	
17	-EPZ	1257	50.0		19	-EPZ	1216	34.2	
17	-EPZ	1257	52.9		19	+EPZ	1250	47.6	
17	+EPZ	1332	47.5		19	+EPZ	1250	50.4	
17	-EPZ	1359	22.8		19	-IPZ	1423	52.0	
17	-EPZ	1441	31.8		19	+EPZ	1424	01.0	
17	+EPZ	1738	42.6		19	+EPZ	1647	29.8	
17	-EPZ	2024	48.8		19	-EPZ	1916	05.7	
17	+EPZ	2040	23.8		19	+EPZ	2033	22.3	
17	+EPZ	2117	05.2		19	-IPZ	2211	23.1	
17	-EPZ	2147	24.8		20	+IPZ	0806	13.2	
17	+EPZ	2231	11.9		20	-IPZ	0806	18.0	
18	-IPZ	0150	43.4		20	ESH	0815	39.2	
18	-EPZ	0150	44.8		20	+EPZ	1136	05.0	
18	+EPZ	0617	22.2		20	-EPZ	1237	26.0	
18	+EPZ	0617	25.8		20	+EPZ	1254	44.7	
18	-EPZ	1024	34.7		20	+EPZ	1405	35.2	
18	-IPZ	1024	36.4		20	+EPZ	1715	00.0	
18	+EPZ	1027	32.3		20	-EPZ	1738	30.3	
18	+EPZ	1042	07.6		20	-EPZ	1951	16.0	
18	+EPZ	1145	45.0		20	+EPZ	2243	53.4	
18	-EPZ	1145	51.2		20	-EPZ	2244	04.4	
18	+EPZ	1408	46.3		20	-IPZ	2244	06.5	
18	+EPZ	1442	16.4		21	-EPZ	0120	33.2	

Table I. Continued.

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
21	+EPZ	0120	43.2		24	-EPZ	0926	05.0	
21	+EsPZ	0320	21.7	#-1231	24	+EPZ	1055	56.6	#-1243
21	-IPKpdfZ	0743	27.5	#-1232	24	+EPZ	1111	19.3	
21	+EpPKiKPZ	0743	43.2	#-1232	24	-EPZ	2108	04.0	#-1244
21	-IpPKPbcZ	0744	46.6	#-1233	24	+EXZ	2133	35.6	#-1245
21	-IPZ	0744	58.5		24	-EPcPZ	2133	49.7	#-1245
21	+EPZ	1437	01.8		24	+EPZ	2318	47.6	
21	+EPZ	2226	37.4		25	+IPZ	0200	50.2	#-1246
21	+EPZ	2320	21.8		25	-EPcPZ	0200	52.0	#-1246
21	+EPZ	2332	28.2		25	+EPZ	1004	48.1	
22	-EPZ	0234	45.8	#-1234	25	-EPZ	1004	50.6	
22	-EPcPZ	0234	47.8	#-1234	25	+EPcPZ	1227	46.0	#-1247
22	+EPZ	0503	35.8	#-1235	25	-EsPZ	1227	55.8	#-1247
22	+EPZ	0724	10.0	#-1236	25	-EPZ	1419	34.6	
22	+IPcPZ	0724	11.8	#-1236	25	+IPZ	1632	40.2	#-1248
22	+IsPZ	0724	23.5	#-1236	25	-IPcPZ	1632	44.8	#-1248
22	-EPZ	0744	31.2		25	ESH	1642	28.0	#-1248
22	-EPZ	0747	46.0		25	+EPZ	2357	38.6	
22	+EPZ	1139	48.2		26	+EXZ	0519	27.6	#-1249
22	-EPZ	1238	30.4	#-1237	26	+IPZ	0519	38.2	
22	-IpPZ	1238	37.6	#-1237	26	+EPZ	0648	05.2	
22	ESH	1248	55.0	#-1237	26	+EPZ	0651	18.0	#-1250
23	+EPZ	0245	03.2		26	+EPZ	0831	06.6	
23	-EPZ	1306	52.6	#-1238	26	-EPZ	0833	23.6	
23	+EPZ	1322	22.4	#-1239	26	+EPZ	1452	02.4	
23	+IPZ	1356	15.0	#-1240	26	-EPZ	1452	13.5	
23	-IpPZ	1356	19.2	#-1240	26	+EPZ	1508	34.2	#-1251
23	+EPZ	1600	10.2	#-1241	26	-EXZ	1508	37.4	#-1251
23	-EPZ	1948	41.8		26	-EXZ	1549	25.8	#-1252
23	-EPZ	1948	46.6		26	-IPZ	1725	21.0	#-1253
23	+EPZ	2319	09.3		26	-IPcPZ	1725	23.6	#-1253
23	-EPZ	2319	30.0		26	-IpPZ	1725	27.4	#-1253
23	-EPZ	2334	43.2		26	-EPZ	1931	35.5	
23	-IPZ	2334	47.6		26	+EPZ	2018	18.4	
24	+EPZ	0638	48.6		26	+EPZ	2149	36.4	
24	+EPKpbcZ	0801	49.2	#-1242	26	+IPZ	2352	24.6	#-1254

Table I. Continued.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
26	-IPcPZ	2352 34.2	#-1254	30	+EPZ	0323 03.6	
26	ESH	0002 10.6	#-1254	30	-IPZ	0438 40.1	#-1267
27	+EPZ	0302 32.0		30	+EPcPZ	0636 54.6	#-1268
27	+EPZ	0548 41.1	#-1255	30	+EpPZ	0637 03.2	#-1268
27	+EPZ	0717 11.6		30	-EPZ	1117 56.6	
27	-IPZ	0817 44.4		31	+EPZ	0202 17.2	
27	+EPZ	0818 13.4		31	+EPZ	0947 47.6	#-1269
27	+EPZ	0818 31.6		31	-EPZ	1052 14.2	#-1270
27	+EPZ	1151 57.4	#-1256	31	-EPZ	1111 32.6	#-1271
27	-EpPZ	1152 00.4	#-1256	31	+EPcPZ	1111 36.0	#-1271
27	+EPZ	1339 18.3	#-1257	31	-IPZ	1543 23.8	
27	-EPcPZ	1339 21.2	#-1257	31	+EPZ	1837 25.8	
27	+EPKpabZ	1533 39.0	#-1258				
27	-EsPKPdfZ	1547 10.2	#-1259				
27	-EPKpdfZ	1613 26.4	#-1260				
27	-IXZ	1613 45.4	#-1260				
27	+EPZ	1805 36.4					
27	-EPZ	1805 41.5	#-1261				
27	+EPZ	1952 32.5					
28	-EPZ	0147 38.8					
28	-EPZ	0147 42.0					
28	+EPZ	0424 11.4	#-1262				
28	+EPZ	0536 42.6	#-1263				
28	+EPcPZ	0536 48.0	#-1264				
28	+EPZ	1640 37.4					
28	+IPZ	1814 24.5	#-1265				
28	-IPcPZ	1814 50.6	#-1265				
28	+EPZ	2114 36.0					
28	+EpPZ	2212 43.2	#-1266				
29	-EPZ	0147 10.8					
29	-EPZ	0258 28.2					
29	+EPZ	1416 26.4					
29	-EPZ	1416 33.8					
29	+EPZ	2108 09.6					
29	+EPZ	2318 17.6					
29	-EPZ	2318 34.3					

Table 2. List of hypocenters of teleseismic events detected at Syowa Station.  
The total number of events is 1271.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
1.	1	1	0	19	2.6	-25.900	179.760	496	80.89	4.9	-	SOUTH OF FIJI ISL.
2.	1	2	16	13	47.7	-174.464	-174.437	123	90.28	5.1	-	TONGA
3.	1	3	9	33	47.7	2.217	128.527	234	91.90	4.9	-	HALMAHERA, INDONESIA
4.	1	3	12	47	30.6	5.532	94.350	30	83.53	5.4	-	NORTHERN SUMATRA, INDONESIA
5.	1	3	23	22	34.3	-10.283	161.073	119	91.17	5.1	-	SOLOMON ISLANDS
6.	1	4	9	27	41.1	-16.391	-70.427	115	81.42	4.9	-	SOUTHERN PERU
7.	1	5	14	45	52.8	-34.980	178.900	145	71.89	4.8	-	SOUTH OF KERMADEC ISLANDS
8.	1	6	11	10	18.2	-20.635	-174.438	15	87.17	5.1	-	TONGA
9.	1	6	20	55	7.3	0.073	123.738	14	88.18	5.1	-	MINAHASA, SULAWESI, IND.
10.	1	7	1	22	41.6	12.375	143.934	22	106.87	5.0	-	GUAM REGION
11.	1	7	1	50	54.1	61.959	1.152	10	133.72	5.0	-	NORWEGIAN SEA
12.	1	7	10	55	31.6	-35.413	-70.848	112	63.78	5.0	-	MAULE, CHILE
13.	1	7	19	14	7.0	-17.768	-178.368	555	89.21	4.6	-	FIJI REGION
14.	1	8	2	22	5.4	-9.933	160.933	35	91.46	5.3	-	SOLOMON ISLANDS
15.	1	8	12	48	41.4	8.104	92.466	16	85.44	5.7	6.2	NICOBAR ISLANDS, INDIA REGION
16.	1	8	17	21	50.7	39.819	70.260	23	111.26	5.9	6.1	KYRGYZSTAN
17.	1	8	20	52	20.9	-18.469	-177.906	407	88.62	5.6	-	FIJI REGION
18.	1	10	10	1	21.7	53.739	-167.618	48	160.43	5.4	-	FOX ISL., ALEUTIAN ISL., ALASKA
19.	1	11	4	27	26.4	60.988	165.463	10	156.88	5.3	-	NR E COAST KORYAKIA, RUSSIA
20.	1	11	8	50	21.9	-14.490	168.037	35	89.13	5.0	-	VANUATU
21.	1	11	14	31	20.6	-3.684	127.291	13	85.95	5.8	-	SERAM, INDONESIA
22.	1	12	4	41	24.9	8.852	92.269	35	86.10	4.9	-	NICOBAR ISL., INDIA REGION
23.	1	12	14	2	11.2	-19.936	-66.645	255	76.85	4.7	-	POTOSI, BOLIVIA
24.	1	13	4	23	20.8	46.272	154.455	10	141.36	7.3	8.2	EAST OF THE KURIL ISLANDS
25.	1	13	6	9	52.0	46.020	153.783	10	140.90	5.0	-	KURIL ISLANDS
26.	1	13	6	44	26.5	47.150	154.806	10	142.23	5.1	-	KURIL ISLANDS
27.	1	13	9	18	32.1	45.621	153.758	10	140.55	5.8	-	EAST OF THE KURIL ISLANDS
28.	1	13	17	37	6.0	46.920	156.182	10	142.53	5.6	-	EAST OF THE KURIL ISLANDS
29.	1	13	19	37	32.5	47.093	155.448	10	142.41	5.5	-	EAST OF THE KURIL ISLANDS
30.	1	14	6	11	6.7	-52.867	21.042	10	18.19	4.6	-	SOUTH OF AFRICA
31.	1	14	15	39	54.7	2.181	126.742	94	91.22	4.7	-	MOLUCCA SEA
32.	1	15	10	11	29.8	8.778	-39.773	10	94.22	5.1	4.6	CENTRAL MID-ATLANTIC RIDGE
33.	1	15	11	24	33.8	35.323	65.535	10	106.16	5.0	4.5	CENTRAL AFGHANISTAN
34.	1	15	17	25	7.7	-7.695	127.307	117	82.21	5.0	-	KEPULAUAN BARAT DAYA, IND.
35.	1	15	18	17	59.5	34.896	138.645	172	125.68	5.7	-	NEAR THE SOUTH COAST OF HONSHU, JAPAN
36.	1	15	20	59	48.5	5.679	126.442	87	94.38	5.0	-	MINDANAO, PHILIPPINES

Table 2. Continued.

No.	Date	Origin time UTC			Geographic	Coordinates	Depth	Epicentral		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb	Ms		
37.	1	16	18	6	19.8	2.638	126.213	78	91.46	5.5	-	MOLUCCA SEA
38.	1	16	18	37	54.2	-24.055	-66.823	207	73.06	4.6	-	JUJUY, ARGENTINA
39.	1	17	4	28	26.4	-3.325	139.904	100	90.77	5.5	-	PAPUA, INDONESIA
40.	1	18	3	34	14.2	-39.560	175.860	51	66.85	5.1	-	NORTH ISLAND OF NEW ZEALAND
41.	1	18	5	40	51.9	9.619	126.236	92	97.99	5.2	-	MINDANAO, PHILIPPINES
42.	1	18	15	27	17.5	-5.492	101.407	14	75.25	5.4	5.4	SOUTHWEST OF SUMATRA, INDONESIA
43.	1	19	2	44	23.5	-9.966	109.693	25	73.84	5.9	5.3	SOUTH OF JAVA, INDONESIA
44.	1	20	2	45	50.3	-5.509	130.462	141	85.38	5.9	-	BANDA SEA
45.	1	20	6	21	4.7	-55.117	-29.356	10	32.71	5.8	6.2	SOUTH SANDWICH ISLANDS REGION
46.	1	21	11	27	45.0	1.081	126.297	22	90.04	6.8	7.3	MOLUCCA SEA
47.	1	21	12	2	7.7	1.067	126.061	10	89.94	5.2	-	MOLUCCA SEA
48.	1	21	12	10	45.6	0.988	126.074	10	89.87	5.2	-	MOLUCCA SEA
49.	1	21	12	32	35.2	1.115	126.164	10	90.02	5.6	-	MOLUCCA SEA
50.	1	21	12	50	12.7	1.067	126.351	10	90.04	4.7	-	MOLUCCA SEA
51.	1	21	13	8	32.4	0.862	126.121	10	89.77	5.0	-	MOLUCCA SEA
52.	1	21	13	12	26.4	1.232	126.430	10	90.23	4.7	-	MOLUCCA SEA
53.	1	21	13	15	7.9	0.956	125.977	10	89.81	5.0	-	MOLUCCA SEA
54.	1	21	13	43	52.6	0.967	126.268	10	89.92	5.1	-	MOLUCCA SEA
55.	1	21	13	55	16.6	1.098	126.388	10	90.09	5.4	-	MOLUCCA SEA
56.	1	21	14	10	34.6	1.120	126.123	10	90.01	4.9	-	MOLUCCA SEA
57.	1	21	14	11	40.0	1.254	126.345	10	90.22	5.2	-	MOLUCCA SEA
58.	1	21	14	14	6.8	1.340	126.630	10	90.40	4.8	-	MOLUCCA SEA
59.	1	21	14	27	49.3	0.920	125.994	10	89.78	5.4	-	MOLUCCA SEA
60.	1	21	14	39	18.2	1.061	126.014	10	89.92	5.6	-	MOLUCCA SEA
61.	1	21	15	3	16.3	-55.749	-26.992	47	31.38	5.7	-	SOUTH SANDWICH ISL REGION
62.	1	21	15	12	36.4	1.048	126.109	10	89.94	5.1	-	MOLUCCA SEA
63.	1	21	16	32	55.6	0.899	125.982	10	89.76	4.7	-	MOLUCCA SEA
64.	1	21	17	32	55.4	1.080	126.329	23	90.05	5.9	5.9	MOLUCCA SEA
65.	1	21	19	50	50.3	1.029	125.820	10	89.82	5.5	4.9	MOLUCCA SEA
66.	1	21	21	3	1.8	1.145	126.026	10	90.00	5.1	-	MOLUCCA SEA
67.	1	21	23	45	9.7	1.036	126.252	10	89.98	5.6	-	MOLUCCA SEA
68.	1	22	0	22	52.0	0.935	126.061	10	89.82	5.5	-	MOLUCCA SEA
69.	1	22	1	6	41.0	1.007	126.301	10	89.97	5.2	-	MOLUCCA SEA
70.	1	22	4	27	8.1	-2.595	136.353	35	90.20	5.3	-	NEAR N COAST PAPUA, IND.
71.	1	22	10	22	54.3	51.611	-173.588	44	156.81	5.0	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
72.	1	22	11	9	14.8	-22.442	170.411	30	82.10	4.9	-	SOUTHEAST OF LOYALTY ISLANDS

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude	Region	
		h	m	s				(deg)	Ms			
73.	1	22	12	35	21.5	0.933	125.990	10	89.79	5.0	-	MOLUCCA SEA
74.	1	22	14	22	49.5	-7.102	129.353	109	83.49	4.4	-	KEPULAUAN BABAR, INDONESIA
75.	1	22	16	44	34.0	2.898	95.753	23	81.43	5.3	-	SIMEULUE, INDONESIA
76.	1	22	16	44	50.7	0.434	126.215	10	89.40	5.3	-	MOLUCCA SEA
77.	1	22	18	14	44.1	1.160	126.405	10	90.15	5.3	-	MOLUCCA SEA
78.	1	22	19	25	49.5	-3.337	146.363	10	93.00	5.4	5.6	BISMARCK SEA
79.	1	23	3	35	43.5	-16.390	-173.674	50	91.49	5.0	-	TONGA
80.	1	23	7	2	7.2	-9.802	-75.425	13	89.26	4.9	-	CENTRAL PERU
81.	1	23	12	16	39.7	-3.085	136.135	38	89.66	5.1	-	PAPUA, INDONESIA
82.	1	23	17	16	20.8	-13.103	167.038	188	90.19	5.8	-	VANUATU
83.	1	23	20	40	18.8	-45.382	-71.983	50	54.94	5.0	-	AISEN, CHILE
84.	1	23	22	46	25.8	-55.362	-29.335	35	32.51	5.4	-	SOUTH SANDWICH ISL REGION
85.	1	24	8	40	27.7	1.006	125.998	10	89.86	5.5	5.3	MOLUCCA SEA
86.	1	24	9	34	38.5	1.081	126.171	78	89.99	5.4	-	MOLUCCA SEA
87.	1	24	11	27	46.3	1.185	126.481	10	90.20	5.0	-	MOLUCCA SEA
88.	1	25	0	36	7.5	1.091	126.082	64	89.97	5.0	-	MOLUCCA SEA
89.	1	25	6	48	46.8	-21.835	-179.445	552	85.02	4.4	-	FIJI REGION
90.	1	25	9	57	59.1	-58.619	-24.896	10	28.46	4.9	-	SOUTH SANDWICH ISL REGION
91.	1	25	10	59	18.4	22.633	121.941	40	108.58	5.6	5.6	TAIWAN REGION
92.	1	25	15	18	36.0	1.761	97.084	30	80.76	5.3	-	NIAS REGION, INDONESIA
93.	1	25	23	57	49.1	51.751	-175.420	71	156.37	5.0	-	ANDREANOF ISLANDS, ALUTIAN IS., ALASKA
94.	1	26	2	34	26.7	-19.758	-174.463	49	88.03	5.0	-	TONGA
95.	1	26	7	46	7.0	34.836	141.510	55	126.65	5.1	-	OFF E COAST OF HONSHU, JAPAN
96.	1	26	11	44	29.0	1.149	126.124	10	90.04	5.4	-	MOLUCCA SEA
97.	1	26	20	45	58.2	-22.190	-179.500	495	84.66	4.4	-	SOUTH OF THE FIJI ISLANDS
98.	1	27	5	27	41.3	-15.139	-72.180	110	83.17	4.3	-	SOUTHERN PERU
99.	1	27	7	0	37.1	1.294	126.557	10	90.33	5.2	-	MOLUCCA SEA
100.	1	27	10	21	46.7	1.293	126.190	10	90.20	5.6	5.2	MOLUCCA SEA
101.	1	27	18	21	18.7	-34.455	57.562	10	36.08	4.7	-	SOUTH INDIAN OCEAN
102.	1	28	3	27	55.0	-55.724	-26.924	54	31.38	4.5	-	SOUTH SANDWICH ISL REGION
103.	1	28	5	6	56.7	1.230	126.497	10	90.25	5.3	-	MOLUCCA SEA
104.	1	28	6	39	20.2	-18.135	-174.711	123	89.57	4.6	-	TONGA
105.	1	28	8	12	32.7	-17.554	179.794	579	89.03	4.7	-	FIJI
106.	1	28	12	9	5.6	1.045	126.312	10	90.01	5.7	5.6	MOLUCCA SEA
107.	1	28	15	34	46.6	-54.205	-133.224	10	56.65	5.4	4.7	PACIFIC-ANTARCTIC RIDGE
108.	1	28	17	16	47.4	-6.650	130.380	81	84.28	5.3	-	BANDA SEA



Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
109.	1	29	6	3	10.1	-15.759	-174.144	102	92.01	4.6	-	TONGA
110.	1	29	19	48	34.8	8.384	93.533	30	86.01	5.3	-	NICOBAR ISL, INDIA REGION
111.	1	29	21	42	19.3	-27.916	-66.642	163	69.41	4.9	-	CATAMARCA, ARGENTINA
112.	1	30	1	48	49.9	1.400	126.180	156	90.29	5.2	-	MOLUCCA SEA
113.	1	30	8	9	11.0	-55.673	146.232	10	44.75	5.1	-	WEST OF MACQUARIE ISLAND
114.	1	30	19	47	30.1	-21.088	169.753	181	83.24	4.6	-	SOUTHEAST OF LOYALTY ISLANDS
115.	1	30	19	52	55.7	-20.654	-178.343	576	86.40	4.6	-	FIJI REGION
116.	1	30	20	55	36.3	-22.301	-179.693	549	84.51	4.8	-	SOUTH OF THE FIJI ISLANDS
117.	1	31	2	14	26.8	-19.175	169.513	296	85.01	5.0	-	VANUATU
118.	1	31	3	15	52.7	-29.732	-177.982	34	77.61	6.1	6.3	KERMADEC ISLANDS, NEW ZEALAND
119.	1	31	3	36	30.1	-15.237	168.022	87	88.41	4.9	-	VANUATU
120.	1	31	16	40	32.4	-9.693	159.834	31	91.36	5.4	4.3	SOLOMON ISLANDS
121.	1	31	20	31	29.6	-7.768	107.149	13	75.03	5.8	-	JAVA, INDONESIA
122.	2	1	0	14	27.3	-37.521	78.013	10	37.87	5.1	-	MID-INDIAN RIDGE
123.	2	1	10	43	26.7	1.206	126.376	10	90.18	5.5	4.8	MOLUCCA SEA
124.	2	1	12	45	27.6	1.041	126.198	10	89.97	5.0	-	MOLUCCA SEA
125.	2	1	17	15	41.5	-55.672	-26.923	10	31.42	4.8	-	SOUTH SANDWICH ISL REGION
126.	2	1	20	2	46.5	0.310	122.456	131	87.95	4.8	-	MINAHASA, SULAWESI, IND.
127.	2	2	15	3	24.1	-31.767	179.282	637	75.09	4.8	-	KERMADEC ISLANDS REGION
128.	2	3	5	28	14.6	-19.563	-176.713	309	87.79	4.8	-	FIJI REGION
129.	2	3	9	0	15.7	-45.261	-72.199	10	55.11	5.1	-	AISEN, CHILE
130.	2	3	15	11	17.3	-16.036	28.747	10	53.37	4.4	-	ZAMBIA
131.	2	4	1	19	23.9	-0.580	127.440	30	88.90	5.3	-	HALMAHERA, INDONESIA
132.	2	4	9	46	11.9	51.685	-176.151	47	156.08	5.0	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
133.	2	4	10	13	53.0	-17.051	-69.078	173	80.36	4.8	-	LA PAZ, BOLIVIA
134.	2	5	6	42	58.0	49.384	155.475	10	144.35	5.0	-	KURIL ISLANDS
135.	2	5	10	16	24.5	-20.551	-175.540	15	87.05	5.6	-	TONGA
136.	2	5	10	19	24.4	-20.637	-175.395	15	86.99	5.2	-	TONGA
137.	2	6	18	53	53.4	-9.223	123.966	10	79.59	4.6	-	TIMOR REGION, INDONESIA
138.	2	6	19	57	51.4	-58.411	-26.779	285	29.28	4.3	-	SOUTH SANDWICH ISL REGION
139.	2	8	7	15	4.8	46.541	153.234	10	141.15	5.4	-	KURIL ISLANDS
140.	2	8	14	32	11.5	8.502	-39.268	10	93.79	5.1	-	CENTRAL MID-ATLANTIC RIDGE
141.	2	8	16	28	7.9	8.661	-39.364	10	93.97	5.3	4.8	CENTRAL MID-ATLANTIC RIDGE
142.	2	8	16	30	23.4	-9.025	118.798	19	77.93	5.0	-	SILBAWA REGION, INDONESIA
143.	2	9	2	22	58.8	38.382	39.054	10	107.39	5.1	-	EASTERN TURKEY
144.	2	9	17	58	57.8	0.885	126.041	52	89.76	4.7	-	MOLUCCA SEA

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
145.	2 10	6	3	2.9	-42.863	-71.423	157	57.08	5.0	-	CIUBUT, ARGENTINA	
146.	2 11	10	47	34.9	6.152	94.405	68	84.13	5.6	-	NICOBAR ISLANDS, INDIA REGION	
147.	2 11	14	49	26.0	5.098	125.393	191	93.47	4.7	-	MINDANAO, PHILIPPINES	
148.	2 11	15	4	23.7	-24.290	-66.996	153	72.90	4.5	-	SALTA, ARGENTINA	
149.	2 12	4	44	10.1	1.541	97.124	30	80.56	5.0	-	NIAS REGION, INDONESIA	
150.	2 12	10	35	21.2	35.809	-10.294	10	110.91	6.2	5.8	AZORES-CAPE ST. VINCENT RIDGE	
151.	2 12	12	45	32.7	5.592	126.129	29	94.19	5.9	5.7	MINDANAO, PHILIPPINES	
152.	2 13	9	59	34.8	-24.422	-177.683	89	82.85	4.7	-	SOUTH OF THE FIJI ISLANDS	
153.	2 13	10	56	58.2	-6.651	154.659	32	92.63	5.2	-	BOUGAINVILLE REG, P. N. G.	
154.	2 13	14	56	43.5	-1.422	-77.752	176	97.94	5.2	-	ECUADOR	
155.	2 13	19	22	16.7	-0.429	124.206	102	87.88	5.5	-	MOLUCCA SEA	
156.	2 13	20	3	6.2	-5.669	127.314	6	84.10	5.1	-	BANDA SEA	
157.	2 14	14	21	46.2	-19.605	-69.870	41	78.22	5.4	4.5	TARAPACA, CHILE	
158.	2 16	1	15	25.2	-54.945	-26.457	10	31.82	5.1	-	SOUTH SANDWICH ISL REGION	
159.	2 16	16	59	15.7	-16.480	-73.468	10	82.33	5.0	-	NEAR COAST OF SOUTHERN PERU	
160.	2 17	7	43	36.6	-7.376	155.863	54	92.33	5.3	-	SOLOMON ISLANDS	
161.	2 17	7	47	53.5	-7.310	155.838	60	92.38	5.3	-	SOLOMON ISLANDS	
162.	2 17	12	43	13.5	-7.290	155.769	38	92.38	5.4	5.3	SOLOMON ISLANDS	
163.	2 18	10	45	24.1	1.080	97.386	30	80.20	5.0	4.5	NIAS REGION, INDONESIA	
164.	2 18	12	3	1.2	-23.723	-179.863	487	83.09	4.6	-	SOUTH OF THE FIJI ISLANDS	
165.	2 18	12	26	13.7	1.303	97.186	50	80.35	4.8	-	NIAS REGION, INDONESIA	
166.	2 18	13	39	16.3	-6.709	154.689	92	92.58	4.7	-	BOUGAINVILLE REG, P. N. G.	
167.	2 18	17	29	45.8	-20.300	173.048	57	84.80	4.9	-	VANUATU REGION	
168.	2 19	0	16	58.0	-15.751	-72.061	139	82.56	4.7	-	SOUTHERN PERU	
169.	2 19	11	13	3.6	5.537	126.300	30	94.20	5.5	4.8	MINDANAO, PHILIPPINES	
170.	2 19	11	42	22.9	12.509	141.692	26	106.20	5.2	-	MARIANA ISLANDS REGION	
171.	2 19	14	14	50.8	49.189	-28.446	10	128.09	5.1	5.0	NORTHERN MID-ATLANTIC RIDGE	
172.	2 19	14	33	32.6	-20.224	173.109	10	84.90	5.2	6.5	VANUATU REGION	
173.	2 19	15	13	22.4	-4.390	102.971	58	76.81	5.5	-	SOUTHERN SUMATRA, INDONESIA	
174.	2 19	19	24	10.6	-23.057	-70.520	10	75.20	5.5	4.7	ANTOFAGASTA, CHILE	
175.	2 20	8	4	25.3	-1.019	127.013	11	88.33	6.3	6.6	KEPULAUAN OBI, INDONESIA	
176.	2 20	13	14	41.8	-1.073	127.145	34	88.33	5.0	-	KEPULAUAN OBI, INDONESIA	
177.	2 20	14	25	26.0	-1.071	126.972	11	88.27	6.0	5.8	KEPULAUAN SULA, INDONESIA	
178.	2 20	17	25	9.6	-26.833	-70.917	10	71.79	4.8	-	OFFSHORE ATACAMA, CHILE	
179.	2 20	23	12	32.4	-11.256	118.837	35	75.86	5.1	-	SOUTH OF SUMBAWA, INDONESIA	
180.	2 21	2	19	53.7	-0.936	127.211	13	88.48	5.7	5.1	HALMAHERA, INDONESIA	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance (deg)		Magnitude		Region
		h	m	s				Mb	Ms			
181.	2	22	1	55	34.0	-32.178	-71.627	44	67.02	4.6	-	OFFSHORE VALPARAISO, CHILE
182.	2	24	2	36	23.3	-7.011	-80.365	23	93.46	5.9	6.1	OFF THE COAST OF NORTHERN PERU
183.	2	24	4	5	30.5	1.640	116.125	16	86.95	4.9	-	KALIMANTAN, INDONESIA
184.	2	24	8	7	58.6	-20.213	173.122	30	84.92	5.2	-	VANUATU REGION
185.	2	24	18	53	42.8	-1.008	126.925	34	88.31	5.2	-	KEPULAUAN SULA, INDONESIA
186.	2	24	23	43	42.6	61.406	-178.456	35	155.11	5.4	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
187.	2	25	1	49	42.1	33.245	90.591	35	109.01	5.0	-	XIZANG-QINGHAI BORDER REGION
188.	2	25	5	2	55.3	-9.394	-75.882	52	89.79	4.7	-	CENTRAL PERU
189.	2	25	15	0	41.1	26.145	-110.430	10	133.50	5.3	5.6	GULF OF CALIFORNIA
190.	2	26	9	1	24.1	-15.964	167.544	66	87.58	5.3	-	VANUATU
191.	2	26	12	19	54.4	40.643	-124.866	0	150.37	5.2	5.2	OFFSHORE NORTHERN CALIFORNIA
192.	2	26	17	58	28.2	-20.160	-69.280	121	77.51	5.1	-	TARAPACA, CHILE
193.	2	27	17	1	4.5	-16.429	-172.023	14	91.74	5.3	4.7	SAMOA ISLANDS REGION
194.	2	28	9	29	45.3	2.460	124.297	277	90.61	5.1	-	CELEBES SEA
195.	3	1	2	1	5.9	3.723	96.269	68	82.37	5.5	-	NORTHERN SUMATRA, INDONESIA
196.	3	1	5	8	19.9	10.310	93.129	70	87.74	5.3	-	ANDAMAN ISL., INDIA REGION
197.	3	1	15	15	25.1	-0.277	124.371	54	88.08	5.5	-	MOLUCCA SEA
198.	3	1	23	2	1.1	26.647	-44.392	10	112.45	5.3	-	NORTHERN MID-ATLANTIC RIDGE
199.	3	2	9	6	34.2	-21.390	-177.981	384	85.75	4.8	-	FIJI REGION
200.	3	2	16	3	18.0	-27.923	-66.485	172	69.35	4.6	-	CATAMARCA, ARGENTINA
201.	3	3	18	8	53.3	13.754	57.147	10	83.76	5.3	4.7	OWEN FRACTURE ZONE REGION
202.	3	3	20	8	30.3	-0.041	126.784	56	89.16	5.7	-	MOLUCCA SEA
203.	3	3	20	52	8.1	-55.332	-129.096	10	55.36	5.3	5.2	PACIFIC-ANTARCTIC RIDGE
204.	3	5	1	15	50.2	-30.258	-177.756	35	77.14	5.2	-	KERMADEC ISL., NEW ZEALAND
205.	3	5	23	9	17.7	-4.231	143.497	106	91.17	4.9	-	NEW GUINEA, PAPUA NEW GUINEA
206.	3	6	0	9	7.9	-1.013	126.898	26	88.30	5.3	-	KEPULAUAN SULA, INDONESIA
207.	3	6	13	5	12.1	2.063	-76.509	42	100.83	5.2	-	COLOMBIA
208.	3	6	17	1	10.9	-24.251	-69.160	69	73.64	4.6	-	ANTOFAGASTA, CHILE
209.	3	6	21	30	11.4	-15.050	-73.842	93	83.79	5.4	-	SOUTHERN PERU
210.	3	7	23	27	21.8	-0.044	127.223	107	89.32	5.3	-	HALMAHERA, INDONESIA
211.	3	8	0	47	22.3	0.038	126.783	54	89.24	5.2	-	MOLUCCA SEA
212.	3	8	5	3	31.7	29.920	140.240	133	121.75	5.8	-	IZU ISLANDS, JAPAN REGION
213.	3	8	11	14	32.0	-58.188	-7.615	10	22.62	5.6	-	EAST OF THE SOUTH SANDWICH ISLANDS
214.	3	9	3	22	42.8	43.214	133.552	442	131.30	6.1	-	PRIMOR'YE, RUSSIA
215.	3	9	21	1	37.8	13.201	-87.503	226	114.88	5.5	-	GOLFO DE FONSECA, HONDURA
216.	3	10	14	7	10.2	-22.836	-70.101	31	75.27	5.4	-	ANTOFAGASTA, CHILE

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
217.	3 10	15	5	51.6	-21.465	-175.240	41	86.21	5.0	-	TONGA	
218.	3 10	21	12	59.3	55.291	161.891	45	151.43	5.9	-	NEAR THE EAST COAST OF KAMCHATKA, RUSSIA	
219.	3 11	7	9	21.3	44.052	147.910	10	137.11	6.1	-	KURIL ISLANDS	
220.	3 11	17	24	45.8	-20.460	-174.082	10	87.41	4.9	-	TONGA	
221.	3 11	17	32	24.3	-24.102	-176.483	29	83.40	4.5	-	SOUTH OF THE FIJI ISLANDS	
222.	3 12	5	29	41.2	-16.544	-174.794	163	91.12	4.5	-	TONGA	
223.	3 12	7	51	37.8	1.380	125.925	207	90.18	4.9	-	MOLUCCA SEA	
224.	3 13	1	2	57.1	1.176	126.244	10	90.11	5.2	-	MOLUCCA SEA	
225.	3 13	5	50	15.3	4.092	126.783	76	93.02	5.4	-	KEPULAUAN TALAUD, INDONESIA	
226.	3 13	5	57	22.7	4.148	126.791	77	93.08	5.3	-	KEPULAUAN TALAUD, INDONESIA	
227.	3 13	9	5	47.2	-8.105	117.828	31	78.44	5.5	-	SUMBAWA REGION, INDONESIA	
228.	3 13	15	15	46.1	-23.338	179.884	567	83.41	4.7	-	SOUTH OF THE FIJI ISLANDS	
229.	3 13	18	32	34.3	-20.612	-178.326	518	86.44	4.3	-	FIJI REGION	
230.	3 14	0	33	28.0	-7.590	129.010	36	82.92	5.1	-	KEPULAUAN BABAR, INDONESIA	
231.	3 14	9	4	12.0	-4.699	133.588	20	87.25	5.1	-	NEAR S COAST PAPUA, IND.	
232.	3 14	21	59	26.2	11.906	-86.883	127	113.46	5.5	-	NEAR THE COAST OF NICARAGUA	
233.	3 15	6	8	1.8	4.177	126.839	59	93.12	5.4	-	KEPULAUAN TALAUD, INDONESIA	
234.	3 16	14	53	39.4	-16.297	-71.132	118	81.74	4.8	-	SOUTHERN PERU	
235.	3 17	17	42	26.3	1.146	126.250	35	90.08	6.1	5.8	MOLUCCA SEA	
236.	3 18	2	24	55.7	-4.048	139.920	35	90.10	4.3	-	PAPUA, INDONESIA	
237.	3 18	2	31	55.5	-12.997	168.862	620	90.79	4.3	-	SANTA CRUZ ISLANDS REGION	
238.	3 18	6	48	17.5	-9.556	124.543	25	79.48	5.0	-	TIMOR REGION	
239.	3 18	7	52	54.9	-28.576	-70.815	26	70.13	5.1	-	ATACAMA, CHILE	
240.	3 18	14	19	3.3	-17.966	-178.472	564	88.99	4.5	-	FIJI REGION	
241.	3 21	6	59	15.6	-15.464	-173.520	43	92.42	4.8	-	TONGA	
242.	3 22	6	10	43.3	-3.384	86.696	21	72.79	5.8	-	SOUTH INDIAN OCEAN	
243.	3 22	8	24	2.7	-22.317	171.505	119	82.49	5.2	-	SOUTHEAST OF LOYALTY ISLANDS	
244.	3 22	20	25	18.1	-27.912	-70.901	12	70.78	5.3	4.4	ATACAMA, CHILE	
245.	3 22	21	29	5.0	-7.628	127.526	157	82.35	5.4	-	KEPULAUAN BARAT DAYA, IND.	
246.	3 23	15	55	12.9	-15.103	167.516	124	88.40	5.2	-	VANUATU	
247.	3 23	17	12	52.1	-58.404	-25.248	24	28.75	4.9	-	SOUTH SANDWICH ISL REGION	
248.	3 23	19	26	48.4	-34.163	-70.054	20	64.69	4.6	-	REGION METROPOLITANA, CHILE	
249.	3 23	22	30	55.2	-18.767	-178.448	607	88.22	5.4	-	FIJI REGION	
250.	3 24	2	17	16.2	5.010	95.080	30	83.24	4.6	-	NORTHERN SUMATRA, INDONESIA	
251.	3 24	4	36	59.1	0.388	124.279	158	88.67	4.4	-	MINAHASA, SULAWESI, IND.	
252.	3 24	7	39	39.0	-42.666	42.104	10	26.39	5.4	-	PRINCE EDWARD ISLANDS REGION	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
253.	3 24	17	29	29.8	-53.849	140.762	10	44.70	5.4	-	WEST OF MACQUARIE ISLAND	
254.	3 24	19	13	47.3	-19.746	-70.138	10	78.18	5.9	5.2	TARAPACA, CHILE	
255.	3 25	5	8	44.0	-20.892	169.299	10	83.31	4.9	-	VANUATU	
256.	3 25	10	37	11.6	-20.578	169.425	31	83.64	5.1	-	VANUATU	
257.	3 25	19	21	18.7	-27.880	-176.885	51	79.63	5.2	-	KERMADEC ISLANDS REGION	
258.	3 26	2	47	0.4	-17.075	-72.466	29	81.44	5.1	-	NEAR COAST OF SOUTHERN PERU	
259.	3 26	11	17	8.2	6.691	126.220	65	95.25	5.2	-	MINDANAO, PHILIPPINES	
260.	3 26	16	51	3.1	0.841	125.924	10	89.68	5.5	4.7	MOLUCCA SEA	
261.	3 26	21	0	18.1	-19.414	-69.047	51	78.13	5.1	-	TARAPACA, CHILE	
262.	3 26	21	54	27.0	-17.652	-178.733	566	89.25	4.6	-	FIJI REGION	
263.	3 27	1	59	20.7	-22.589	-67.270	35	74.58	4.7	-	POTOSI, BOLIVA	
264.	3 28	8	8	8.5	-30.761	-178.095	35	76.58	5.7	-	KERMADEC ISL., NEW ZEALAND	
265.	3 28	21	17	11.2	-6.145	29.746	8	63.16	5.9	5.8	LAKE TANGANYIKA REGION, CONGO-TANZANIA	
266.	3 29	14	40	44.9	-31.527	-71.793	29	67.68	5.3	5.1	OFFSHORE COQUIMBO, CHILE	
267.	3 29	17	9	8.1	-31.500	-71.602	41	67.65	5.4	5.3	OFFSHORE COQUIMBO, CHILE	
268.	3 29	17	46	21.7	-31.512	-72.064	10	67.78	4.8	-	OFFSHORE COQUIMBO, CHILE	
269.	3 29	18	31	59.9	-31.512	-71.739	30	67.68	4.9	-	OFFSHORE COQUIMBO, CHILE	
270.	3 29	23	49	49.8	10.871	92.132	46	87.99	4.6	-	ANDAMAN ISL., INDIA REGION	
271.	3 30	4	7	56.8	-20.316	-178.466	589	86.70	4.5	-	FIJI REGION	
272.	3 30	6	44	59.4	-21.621	-179.409	584	85.23	4.9	-	FIJI REGION	
273.	3 30	8	15	29.8	-25.453	-177.266	141	81.92	4.8	-	SOUTH OF THE FIJI ISLANDS	
274.	3 30	15	58	49.7	-14.560	177.749	49	91.49	5.7	5.3	FIJI REGION	
275.	3 30	16	2	13.6	-31.486	-71.719	10	67.70	4.9	-	OFFSHORE COQUIMBO, CHILE	
276.	3 31	2	58	12.6	-33.613	-178.467	35	73.73	4.7	-	SOUTH OF KERMADEC ISLANDS	
277.	3 31	3	41	51.3	-25.898	-179.204	397	81.11	4.9	-	SOUTH OF THE FIJI ISLANDS	
278.	3 31	4	7	7.9	-18.974	175.799	73	86.75	4.6	-	FIJI REGION	
279.	3 31	7	31	37.1	-20.545	169.022	23	83.57	5.0	-	VANUATU	
280.	3 31	8	8	42.1	-20.516	169.531	32	83.73	4.9	-	VANUATU	
281.	3 31	12	49	3.7	-56.073	-123.246	10	54.25	5.4	6.1	SOUTHERN EAST PACIFIC RISE	
282.	3 31	19	37	16.8	1.232	122.665	21	88.88	5.2	4.9	MINAHASA, SULAWESI, INDONESIA	
283.	3 31	21	55	25.3	-20.305	169.036	10	83.80	5.3	-	VANUATU	
284.	4 1	2	51	5.2	32.341	137.605	377	123.00	5.4	-	IZU ISLANDS, JAPAN REGION	
285.	4 1	3	20	20.7	-21.235	-174.347	35	86.60	4.8	-	TONGA	
286.	4 1	4	11	48.9	-33.230	-178.640	35	74.07	4.7	-	SOUTH OF KERMADEC ISLANDS	
287.	4 1	5	17	57.4	-17.854	-178.668	656	89.06	4.9	-	FIJI REGION	
288.	4 1	7	9	0.7	9.287	91.497	30	86.30	5.0	-	NICOBAR ISL., INDIA REGION	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
289.	4	1	18	7	12.4	-12.984	168.610	609	90.73	4.4	-	SANTA CRUZ IS
290.	4	1	20	47	32.0	-7.222	155.602	10	92.39	6.7	-	SOLOMON ISLANDS
291.	4	1	21	11	33.8	-7.457	155.751	10	92.22	6.4	-	SOLOMON ISLANDS
292.	4	1	22	29	56.2	-7.410	155.390	23	92.15	5.3	-	SOLOMON ISLANDS
293.	4	1	22	45	37.7	-6.980	155.260	0	92.51	5.2	-	BOUGAINVILLE REGION, PAPUA NEW GUINEA
294.	4	1	22	57	21.4	-7.630	155.920	0	92.11	5.8	-	SOLOMON ISLANDS
295.	4	1	23	9	44.5	-7.260	155.590	43	92.35	5.1	-	SOLOMON ISLANDS
296.	4	1	23	25	28.1	-7.347	156.161	10	92.45	5.3	-	SOLOMON ISLANDS
297.	4	2	0	49	48.0	-6.858	155.457	10	92.69	4.9	-	BOUGAINVILLE REG, P. N. G.
298.	4	2	1	31	3.0	-8.196	157.108	10	91.94	5.3	-	SOLOMON ISLANDS
299.	4	2	1	36	15.5	-7.202	155.474	10	92.37	5.3	-	SOLOMON ISLANDS
300.	4	2	2	49	42.8	-45.219	-72.823	35	55.33	5.5	-	AISEN, CHILE
301.	4	2	4	3	20.6	-6.868	155.160	10	92.59	4.8	-	BOUGAINVILLE REG, P. N. G.
302.	4	2	4	11	39.5	-7.175	156.067	10	92.58	5.6	-	SOLOMON ISLANDS
303.	4	2	5	33	35.8	-7.309	155.323	10	92.22	5.6	-	SOLOMON ISLANDS
304.	4	2	7	16	32.8	-7.465	156.145	10	92.33	5.3	-	SOLOMON ISLANDS
305.	4	2	12	35	25.9	-8.773	157.659	10	91.57	5.5	-	SOLOMON ISLANDS
306.	4	2	13	49	54.1	-7.811	156.518	10	92.12	5.4	-	SOLOMON ISLANDS
307.	4	2	13	53	7.3	-8.607	157.541	10	91.69	5.7	-	SOLOMON ISLANDS
308.	4	2	15	40	4.9	-7.400	155.560	10	92.21	5.0	-	SOLOMON ISLANDS
309.	4	2	16	8	20.3	-8.622	157.778	10	91.75	5.2	-	SOLOMON ISLANDS
310.	4	2	19	42	55.9	1.400	125.807	54	90.16	5.8	-	MOLUCCA SEA
311.	4	2	22	10	9.7	-7.735	155.704	10	91.94	5.1	-	SOLOMON ISLANDS
312.	4	2	22	49	22.7	-9.683	154.528	10	89.72	4.7	-	D'ENTRECASTEAUX ISL REGION
313.	4	2	23	31	15.4	-6.926	155.370	10	92.60	5.4	-	BOUGAINVILLE REG, P. N. G.
314.	4	3	0	22	9.6	-9.876	154.692	10	89.59	5.1	-	D'ENTRECASTEAUX ISL REGION
315.	4	3	0	28	40.1	-6.690	155.020	0	92.71	5.5	-	BOUGAINVILLE REGION, PAPUA NEW GUINEA
316.	4	3	1	42	6.1	-8.799	157.387	10	91.46	5.2	-	SOLOMON ISLANDS
317.	4	3	5	21	18.2	-8.689	157.517	10	91.60	5.5	-	SOLOMON ISLANDS
318.	4	3	9	11	43.8	-7.297	155.727	10	92.36	5.2	-	SOLOMON ISLANDS
319.	4	3	10	40	36.5	-6.780	155.706	10	92.84	5.1	-	BOUGAINVILLE REG, P. N. G.
320.	4	3	11	57	31.4	-7.766	155.568	10	91.86	5.5	-	SOLOMON ISLANDS
321.	4	3	15	27	4.7	-7.233	155.395	10	92.31	5.2	-	SOLOMON ISLANDS
322.	4	3	17	25	37.6	-0.467	125.827	43	88.42	5.0	-	MOLUCCA SEA
323.	4	3	17	25	58.3	-8.765	157.472	10	91.52	5.2	-	SOLOMON ISLANDS
324.	4	3	18	48	38.5	-4.835	145.266	167	91.22	4.7	-	NR N CST NEW GUINEA, P. N. G.

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
325.	4	3	18	54	27.0	-7.219	155.671	10	92.42	4.6	-	SOLOMON ISLANDS
326.	4	3	19	40	59.5	-7.095	155.298	23	92.41	5.4	-	SOLOMON ISLANDS
327.	4	3	20	16	58.4	-6.974	155.097	10	92.46	4.9	-	BOUGAINVILLE REG, P. N. G.
328.	4	3	20	23	24.2	-4.441	102.943	84	76.75	5.6	-	S SUMATRA, IND.
329.	4	3	20	26	10.0	-20.541	168.957	12	83.56	5.5	6.0	LOYALTY ISLANDS
330.	4	3	21	34	54.7	-8.707	157.479	10	91.57	5.2	-	SOLOMON ISLANDS
331.	4	3	22	17	42.8	-6.684	154.863	10	92.66	5.2	-	BOUGAINVILLE REG, P. N. G.
332.	4	4	8	0	48.3	23.259	143.582	33	116.84	5.0	-	VOUCANO ISL, JAPAN REGION
333.	4	4	9	35	58.0	-6.719	154.930	10	92.65	5.2	-	BOUGAINVILLE REG, P. N. G.
334.	4	4	9	46	12.6	-6.510	154.304	10	92.65	5.3	-	BOUGAINVILLE REG, P. N. G.
335.	4	4	16	38	42.6	-20.649	168.808	10	83.42	5.1	-	LOYALTY ISLANDS
336.	4	4	19	58	3.4	-17.084	66.761	10	54.74	5.3	5.3	MAURITIUS - REUNION REGION
337.	4	5	1	16	3.4	-18.968	-177.651	557	88.18	4.6	-	FIJI REGION
338.	4	5	3	56	50.6	37.343	-24.613	14	116.09	6.1	6.2	AZORES ISLANDS REGION
339.	4	5	10	6	34.4	-6.788	154.864	10	92.57	5.1	-	BOUGAINVILLE REG, P. N. G.
340.	4	5	10	32	28.2	-7.132	155.826	10	92.55	4.8	-	SOLOMON ISLANDS
341.	4	5	12	9	51.6	-20.570	169.240	10	83.60	4.8	-	VANUATU
342.	4	5	19	22	34.3	-13.114	167.137	224	90.20	4.9	-	VANUATU
343.	4	6	11	11	49.0	-23.049	-68.328	102	74.50	4.6	-	ANTOFAGASTA, CHILE
344.	4	6	14	8	57.3	-16.819	-71.157	41	81.26	5.4	-	SOUTHERN PERU
345.	4	6	15	15	34.6	-8.278	157.230	10	91.90	4.5	-	SOLOMON ISLANDS
346.	4	6	18	48	17.6	-6.988	155.837	44	92.69	5.8	5.6	BOUGAINVILLE REGION, PAPUA NEW GUINEA
347.	4	6	21	40	17.5	-17.276	-175.242	243	90.31	4.5	-	TONGA
348.	4	7	4	41	24.8	-28.058	-176.760	39	78.48	5.2	-	KERMADEC ISLANDS REGION
349.	4	7	5	20	49.5	-39.796	46.185	10	29.46	5.0	-	SOUTHWEST INDIAN RIDGE
350.	4	7	7	9	25.3	37.371	-24.457	8	116.07	6.0	5.9	AZORES ISLANDS REGION
351.	4	7	8	20	20.5	-21.032	168.620	36	83.00	5.0	-	LOYALTY ISLANDS
352.	4	7	8	30	14.2	-20.901	168.644	38	83.13	5.2	-	LOYALTY ISLANDS
353.	4	7	8	46	43.8	-20.894	168.684	38	83.15	5.0	-	LOYALTY ISLANDS
354.	4	7	9	51	51.6	2.924	95.699	30	81.44	5.7	6.2	SIMEULUE, INDONESIA
355.	4	7	16	48	32.2	-24.422	-177.597	129	82.87	4.8	-	SOUTH OF THE FIJI ISLANDS
356.	4	7	18	15	9.4	-24.023	-66.769	188	73.08	4.2	-	JUJUY, ARGENT
357.	4	7	18	20	3.2	-31.690	-71.939	14	67.57	4.7	-	OFFSHORE COQUIMBO, CHILE
358.	4	8	3	21	58.9	49.279	155.484	10	144.27	5.2	-	KURIL ISLANDS
359.	4	8	3	42	50.4	-7.090	155.933	10	92.63	4.8	-	SOLOMON ISLANDS
360.	4	8	11	51	15.6	-17.624	-72.797	46	81.03	4.9	-	NEAR COAST OF SOUTHERN PERU

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
361.	4	8	12	24	31.4	-15.569	-70.219	219	82.13	4.4	-	SOUTHERN PERU
362.	4	8	13	28	17.4	-17.431	-72.818	30	81.22	5.0	-	NEAR COAST OF SOUTHERN PERU
363.	4	8	14	10	49.5	-20.561	168.863	10	83.51	4.7	-	LOYALTY ISLANDS
364.	4	8	15	11	34.8	-30.219	-178.704	154	77.00	5.1	-	KERMADEC ISL., NEW ZEALAND
365.	4	8	20	10	41.3	-6.774	155.696	10	92.85	4.9	-	BOUGAINVILLE REG., P. N. G.
366.	4	9	0	58	22.7	-6.868	155.856	35	92.81	5.4	-	BOUGAINVILLE REGION, PAPUA NEW GUINEA
367.	4	9	2	24	29.0	-20.030	-178.159	595	87.04	4.9	-	FIJI REGION
368.	4	9	10	18	4.7	48.323	154.676	36	143.18	5.8	-	KURIL ISLANDS
369.	4	10	13	56	53.2	13.000	92.598	22	90.16	5.5	-	ANDAMAN ISLANDS, INDIA REGION
370.	4	10	16	45	49.4	11.706	-86.381	149	113.11	5.2	-	NEAR THE COAST OF NICARAGUA
371.	4	16	0	55	4.5	27.480	141.593	44	120.00	5.1	-	BONIN ISLANDS, JAPAN REGION
372.	4	16	10	51	58.1	-7.048	155.754	10	92.60	4.8	-	SOLOMON ISLANDS
373.	4	17	3	16	2.4	-31.702	179.790	386	75.26	5.3	-	KERMADEC ISLANDS REGION
374.	4	18	1	8	10.5	-24.070	-66.570	200	72.97	5.3	-	JUJUY, ARGENTINA
375.	4	18	15	7	31.8	42.673	141.863	121	133.74	5.5	-	HOKKAIDO, JAPAN REGION
376.	4	19	2	57	20.6	-29.776	-177.250	18	77.71	4.9	-	KERMADEC ISL., NEW ZEALAND
377.	4	19	3	26	1.2	-17.117	-174.458	156	90.62	5.0	-	TONGA
378.	4	19	9	5	8.3	0.792	125.796	10	89.59	5.1	-	MOLUCCA SEA
379.	4	19	14	36	31.2	-45.240	-72.700	70	55.27	4.6	-	AISEN, CHILE
380.	4	19	16	32	6.4	-28.380	-67.615	134	69.29	4.9	-	LA RIOJA, ARGENTINA
381.	4	19	19	37	46.0	-2.437	137.895	10	90.89	5.0	-	PAPUA, INDONESIA
382.	4	20	0	39	19.5	-7.169	155.151	10	92.30	5.3	-	SOLOMON ISLANDS
383.	4	20	2	11	7.6	1.041	126.099	10	89.93	4.8	-	MOLUCCA SEA
384.	4	20	2	23	34.1	25.652	125.047	10	112.45	5.9	-	SOUTHWESTERN RYUKYU ISLANDS, JAPAN
385.	4	20	15	14	13.2	-33.722	-178.901	50	73.55	5.6	-	SOUTH OF THE KERMADEC ISLANDS
386.	4	20	17	20	9.0	52.546	-176.011	177	156.86	5.2	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
387.	4	20	19	37	58.4	27.498	128.410	42	115.33	5.9	5.1	RYUKYU ISLANDS, JAPAN
388.	4	21	7	12	47.4	-3.559	151.326	402	94.46	5.8	-	NEW IRELAND REGION, PAPUA NEW GUINEA
389.	4	21	10	12	43.1	-3.076	100.911	30	77.37	5.1	-	KEPULAUAN MENTAWAI REG, IND.
390.	4	21	17	20	31.9	-13.911	166.881	41	89.37	5.5	-	VANUATU
391.	4	22	6	5	28.6	-31.522	-71.793	30	67.69	4.9	-	OFFSHORE COQUIMBO, CHILE
392.	4	22	8	56	58.0	-20.557	-68.153	179	76.77	4.4	-	POTOSI, BOLIVIA
393.	4	22	13	54	42.6	-33.469	-70.146	91	65.37	4.1	-	REGION METROPOLITANA, CHILE
394.	4	23	5	13	54.0	-6.814	129.795	122	83.92	5.0	-	BANDA SEA
395.	4	23	9	45	25.3	-20.599	169.247	83	83.58	5.1	-	VANUATU
396.	4	24	7	36	58.7	29.195	-43.223	10	114.40	5.0	-	NORTHERN MID-ATLANTIC RIDGE



Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
397.	4	24	12	14	22.8	-7.768	155.627	10	91.88	5.5	-	SOLOMON ISLANDS
398.	4	24	18	21	12.8	-16.404	67.211	10	55.49	4.8	-	MID-INDIAN RIDGE
399.	4	24	20	53	23.3	-27.087	66.970	10	45.02	4.5	-	MID-INDIAN RIDGE
400.	4	25	1	59	57.1	-30.078	-178.061	200	77.26	4.6	-	KERMADEC ISL, NEW ZEALAND
401.	4	25	3	22	46.7	-15.612	167.723	132	87.97	5.1	-	VANUATU
402.	4	25	10	6	49.8	46.644	152.551	10	140.99	5.0	-	KURIL ISLANDS
403.	4	25	11	52	57.0	7.368	126.527	35	95.99	5.7	-	MINDANAO, PHILIPPINES
404.	4	26	0	2	58.1	33.874	133.455	43	122.92	5.1	-	SHIKOKU, JAPAN
405.	4	26	9	34	16.0	-31.480	-71.669	34	67.69	4.8	-	OFFSHORE COQUIMBO, CHILE
406.	4	26	9	39	55.0	-18.055	172.904	23	86.95	5.3	4.9	VANUATU REGION
407.	4	26	10	0	58.2	-18.264	172.762	157	86.71	4.9	-	VANUATU REGION
408.	4	26	12	13	29.6	-28.152	-70.567	49	70.45	5.6	4.7	ATACAMA, CHILE
409.	4	26	14	53	31.4	-15.313	166.006	36	87.79	4.5	-	VANUATU
410.	4	26	16	37	57.6	42.457	143.544	56	134.15	5.4	-	HOKKAIDO, JAPAN REGION
411.	4	27	2	17	36.8	-5.376	104.878	23	76.51	4.7	-	SOUTHERN SUMATRA, INDONESIA
412.	4	27	13	21	20.2	-17.794	-178.603	581	89.13	4.6	-	FIJI REGION
413.	4	27	13	49	28.3	-6.980	155.970	46	92.74	5.9	5.5	BOUGAINVILLE REGION, PAPUA NEW GUINEA
414.	4	27	15	33	59.0	-61.829	-59.746	47	37.13	4.9	-	SOUTH SHETLAND ISLANDS
415.	4	27	17	21	7.5	-20.093	169.093	10	84.02	4.7	-	VANUATU
416.	4	28	9	12	27.1	-11.952	166.575	94	91.16	4.8	-	SANTA CRUZ ISLANDS
417.	4	28	14	2	37.9	-60.678	-20.165	10	25.32	5.7	5.6	EAST OF THE SOUTH SANDWICH ISLANDS
418.	4	28	20	12	46.0	48.141	154.953	21	143.12	5.1	-	KURIL ISLANDS
419.	4	29	3	44	29.9	-8.311	157.182	10	91.86	5.4	5.0	SOLOMON ISLANDS
420.	4	29	6	33	8.3	-19.861	-178.015	378	87.24	4.4	-	FIJI REGION
421.	4	29	15	45	26.4	-25.316	179.290	512	81.36	4.5	-	SOUTH OF THE FIJI ISLANDS
422.	4	29	16	53	34.4	-11.441	121.833	11	76.76	4.6	-	SOUTH OF TIMOR
423.	4	29	17	8	52.4	-6.823	155.815	10	92.84	4.9	-	BOUGAINVILLE REG, P. N. G.
424.	4	29	23	29	53.3	-20.432	-177.776	630	86.73	4.5	-	FIJI REGION
425.	4	30	0	26	22.2	-14.786	167.219	195	88.62	4.8	-	VANUATU
426.	4	30	4	4	32.3	-17.445	-178.723	562	89.45	4.5	-	FIJI REGION
427.	4	30	12	37	53.0	-7.142	156.241	10	92.67	5.0	-	SOLOMON ISLANDS
428.	4	30	15	38	54.4	-53.531	5.760	10	21.74	5.1	5.1	BOUVET ISLAND REGION
429.	4	30	17	41	51.2	-15.275	-177.748	368	91.77	4.7	-	FIJI REGION
430.	5	1	1	19	4.3	-7.236	155.339	10	92.29	5.0	-	SOLOMON ISLANDS
431.	5	1	3	52	20.4	-21.276	-68.358	112	76.16	5.5	-	ANTOFAGASTA, CHILE
432.	5	1	6	55	55.2	-21.301	-67.804	137	75.96	4.6	-	POTOSI, BOLIVIA

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
433.	5	1	19	44	20.7	5.529	94.570	61	83.59	5.0	-	NORTHERN SUMATRA, INDONESIA
434.	5	2	11	22	31.5	-8.899	157.890	10	91.52	5.2	-	SOLOMON ISLANDS
435.	5	2	11	41	1.0	-8.868	157.836	10	91.53	5.3	-	SOLOMON ISLANDS
436.	5	3	11	27	17.4	1.541	126.385	10	90.60	5.3	4.2	MOLUCCA SEA
437.	5	3	13	56	30.3	-33.947	-179.017	10	73.30	5.5	5.4	SOUTH OF THE KERMADEC ISLANDS
438.	5	3	17	25	26.7	-27.246	-178.109	217	80.01	5.2	-	KERMADEC ISLANDS REGION
439.	5	4	10	21	12.3	17.458	-96.401	68	121.56	5.1	-	OAXACA, MEXICO
440.	5	4	12	33	59.0	3.349	94.327	33	81.43	5.0	-	OFF WEST COAST OF N SUMATRA
441.	5	4	16	39	40.7	-56.820	-28.320	262	31.02	4.5	-	SOUTH SANDWICH ISL REGION
442.	5	4	17	37	47.8	-56.388	-27.270	149	30.98	5.1	-	SOUTH SANDWICH ISL REGION
443.	5	4	18	1	26.0	-60.792	-20.165	10	25.24	4.6	-	EAST OF SOUTH SANDWICH ISL
444.	5	5	4	59	30.3	-37.540	-72.010	96	62.16	4.5	-	BIO-BIO, CHILE
445.	5	5	5	27	14.6	-58.259	-22.835	35	28.00	5.0	-	SOUTH SANDWICH ISL REGION
446.	5	5	8	51	38.9	34.212	81.901	9	107.93	5.7	6.2	WESTERN XIZANG
447.	5	5	19	6	39.8	-7.393	128.429	119	82.89	5.6	-	KEPULAUAN BARAT DAYA, INDONESIA
448.	5	6	1	3	47.5	-3.666	123.256	35	84.52	4.7	-	SULAWESI, INDONESIA
449.	5	6	21	11	52.6	-19.410	-179.344	678	87.40	6.0	-	FIJI REGION
450.	5	6	22	50	5.8	-16.616	-172.773	35	91.42	5.0	-	SAMOA ISLANDS REGION
451.	5	7	0	24	48.1	-19.049	-179.431	675	87.74	5.4	-	FIJI REGION
452.	5	7	0	29	11.2	30.055	130.211	89	118.30	5.1	-	KYUSHU, JAPAN
453.	5	7	20	32	32.8	-21.094	-178.692	551	86.90	5.2	-	FIJI REGION
454.	5	8	5	31	39.3	-21.158	-173.687	41	86.80	5.2	-	TONGA
455.	5	8	16	39	13.9	-32.810	-69.705	95	65.84	4.7	-	MENDOZA, ARGENTINA
456.	5	8	21	42	31.4	-19.080	-179.137	651	87.77	4.5	-	FIJI REGION
457.	5	9	5	42	25.8	1.464	127.834	64	90.95	5.1	-	HALMAHERA, INDONESIA
458.	5	9	9	1	47.6	6.631	123.928	572	94.38	5.2	-	MORO GULF, MINDANAO, PHILIPPINES
459.	5	9	10	40	1.1	-18.154	168.388	43	85.70	5.0	-	VANUATU
460.	5	9	20	25	53.3	-21.348	-66.542	222	75.50	4.6	-	POTOSI, BOLIVIA
461.	5	9	22	23	49.3	-7.106	130.453	60	83.88	5.1	-	KEPULAUAN TANIMBAR REG, IND.
462.	5	10	16	57	37.5	-32.624	-69.799	105	66.04	4.7	-	MENDOZA, ARGENTINA
463.	5	10	18	37	11.2	-5.614	133.870	31	86.50	5.3	4.1	KEPULAUAN KAI, INDONESIA
464.	5	10	18	56	6.0	-5.596	133.858	10	86.51	4.7	-	KEPULAUAN KAI, INDONESIA
465.	5	11	0	21	19.9	-7.670	128.871	127	82.79	4.9	-	KEPULAUAN BARAT DAYA, IND.
466.	5	11	23	0	42.6	8.741	126.723	79	97.34	5.2	-	MINDANAO, PHILIPPINES
467.	5	12	2	12	30.6	-32.984	-178.689	45	74.30	4.9	-	SOUTH OF KERMADEC ISLANDS
468.	5	12	3	33	8.5	-32.927	-178.555	10	74.39	4.5	-	SOUTH OF KERMADEC ISLANDS

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
469.	5 12	3	35	3.2	-32.724	-178.504	35	74.69	5.1	-	SOUTH OF KERMADEC ISLANDS	
470.	5 12	3	54	52.0	-23.090	-179.590	500	83.76	4.4	-	SOUTH OF THE FIJI ISLANDS	
471.	5 12	4	38	24.4	-7.433	156.126	10	92.36	5.1	-	SOLOMON ISLANDS	
472.	5 12	12	58	11.1	-3.452	127.905	59	86.17	5.5	-	SERAM, INDONESIA	
473.	5 12	13	2	10.3	-20.011	-175.982	139	87.49	4.7	-	TONGA	
474.	5 13	3	23	53.5	-41.341	-88.921	10	63.17	5.1	-	WEST CHILE RISE	
475.	5 13	3	36	15.4	-21.494	-179.282	606	85.38	4.9	-	FIJI REGION	
476.	5 13	6	51	59.4	-21.457	-179.212	548	85.43	4.4	-	FIJI REGION	
477.	5 13	11	26	43.1	-19.494	-179.366	669	87.32	5.3	-	FIJI REGION	
478.	5 13	13	26	10.8	-41.250	173.550	90	64.74	5.0	-	SOUTH ISLAND OF NEW ZEALAND	
479.	5 14	7	7	17.6	1.253	126.299	10	90.20	5.2	-	MOLUCCA SEA	
480.	5 14	9	31	43.3	1.295	97.255	30	80.36	5.5	-	NTAS REGION, INDONESIA	
481.	5 15	11	27	19.9	26.692	140.315	379	118.82	4.8	-	RONIN ISLANDS, JAPAN REGION	
482.	5 15	17	42	41.2	46.855	155.414	10	142.20	5.1	-	EAST OF THE KURIL ISLANDS	
483.	5 15	20	26	41.0	-5.590	146.090	96	90.79	4.5	-	GUINEA	
484.	5 16	5	19	15.1	-20.970	-178.970	645	85.96	4.1	-	FIJI REGION	
485.	5 16	8	56	15.9	20.512	100.746	20	99.69	5.8	6.4	LAOS	
486.	5 16	10	17	45.2	48.821	154.797	10	143.64	5.5	-	KURIL ISLANDS	
487.	5 16	23	37	39.9	-6.590	105.120	0	75.45	5.0	-	SUNDA STRAIT, IND.	
488.	5 17	2	20	50.1	53.473	-169.688	108	159.60	5.1	-	FOX ISLANDS, ALEUTIAN ISLANDS, ALASKA	
489.	5 17	2	59	35.6	-2.752	136.736	20	90.19	5.3	-	NEAR THE NORTH COAST OF PAPUA, INDONESIA	
490.	5 17	3	19	24.0	-27.880	-176.669	41	79.67	4.6	-	KERMADEC ISLANDS REGION	
491.	5 17	4	20	9.3	-17.257	-72.464	54	81.27	4.5	-	NEAR COAST OF SOUTHERN PERU	
492.	5 17	12	12	52.4	-17.813	-178.581	549	89.12	4.3	-	FIJI REGION	
493.	5 17	13	3	10.0	-0.748	130.038	30	89.67	4.8	-	PAPUA REGION, INDONESIA	
494.	5 17	16	26	32.7	-24.078	-66.923	154	73.07	4.1	-	SALTA, ARGENTINA	
495.	5 18	0	45	20.3	-19.360	-173.076	35	88.67	5.2	-	TONGA	
496.	5 18	5	55	2.5	-23.376	179.969	603	83.40	4.2	-	SOUTH OF THE FIJI ISLANDS	
497.	5 18	6	46	49.1	-8.623	154.439	10	90.69	5.4	-	D'ENTRECASTEAUX ISL REGION	
498.	5 18	9	49	2.7	-15.109	-173.797	41	92.71	5.2	-	TONGA	
499.	5 18	15	57	31.5	4.123	96.086	91	82.70	5.1	-	NORTHERN SUMATRA, INDONESIA	
500.	5 18	19	31	45.7	-24.402	-67.073	152	72.82	4.7	-	SALTA, ARGENTINA	
501.	5 18	23	11	26.6	-7.361	151.883	35	91.06	5.7	-	NEW BRITAIN REGION, PAPUA NEW GUINEA	
502.	5 19	10	38	34.0	-66.836	-24.915	10	29.81	5.5	-	SOUTH SANDWICH ISL REGION	
503.	5 19	16	26	3.0	-28.570	-68.456	84	69.39	5.0	-	LA RIOJA, ARGENTINA	
504.	5 19	20	55	6.8	-17.722	-178.724	533	89.18	4.5	-	FIJI REGION	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic	Coordinates	Depth	Epicentral		Magnitude	Region	
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb			Ms
505.	5	19	23	37	58.3	-20.617	-176.632	245	86.77	4.9	-	FIJI REGION
506.	5	20	2	50	24.8	-21.275	-68.592	117	76.24	4.6	-	ANTOFAGASTA, CHILE
507.	5	20	12	15	44.8	-29.604	-71.097	46	69.26	5.3	-	COQUIMBO, CHILE
508.	5	20	12	35	46.8	-8.276	120.858	134	79.36	4.6	-	FLORES REGION, INDONESIA
509.	5	21	5	21	56.6	-19.493	-69.178	103	78.10	4.8	-	TARAPACA, CHILE
510.	5	22	3	41	12.7	2.012	96.718	35	80.88	4.9	-	SIMEULUE, INDONESIA
511.	5	22	17	44	8.5	-14.143	167.070	177	89.20	4.7	-	VANUATU
512.	5	22	21	4	31.1	-21.052	168.706	10	83.00	5.0	-	LOYALTY ISLANDS
513.	5	23	1	19	14.2	-7.193	155.164	10	92.28	4.9	-	SOLOMON ISLANDS
514.	5	23	4	41	46.4	52.319	-31.792	10	131.83	5.4	5.6	NORTHERN MID-ATLANTIC RIDGE
515.	5	23	15	59	32.1	-17.892	-178.529	582	89.05	4.8	-	FIJI REGION
516.	5	23	19	9	15.7	22.025	-96.267	10	125.88	5.6	-	GULF OF MEXICO
517.	5	24	1	6	26.9	-9.614	118.790	47	77.37	5.5	-	SUMBAWA REGION, INDONESIA
518.	5	24	20	13	2.4	27.314	141.384	76	119.78	5.2	-	BONIN ISLANDS, JAPAN REGION
519.	5	25	6	32	54.1	-6.573	130.254	118	84.31	5.2	-	BANDA SEA
520.	5	25	17	26	9.9	-17.767	-178.758	537	89.13	5.1	-	FIJI REGION
521.	5	25	17	47	31.2	-24.180	-67.001	180	73.00	5.5	-	SALTA, ARGENTINA
522.	5	26	2	29	24.7	-17.669	-172.943	35	90.36	5.4	-	TONGA REGION
523.	5	26	4	20	58.0	-7.100	120.373	586	80.28	4.9	-	FLORES SEA
524.	5	26	6	7	23.6	-9.364	117.868	58	77.28	4.9	-	SUMBAWA REGION, INDONESIA
525.	5	26	6	11	19.6	-8.608	149.665	114	89.15	5.0	-	E NEW GUINEA REG, P. N. G.
526.	5	27	18	12	35.3	-20.014	-174.537	10	87.76	5.8	5.1	TONGA
527.	5	29	5	48	29.0	-13.843	166.632	65	89.37	5.2	-	VANUATU
528.	5	29	9	42	58.7	-1.072	127.366	10	88.41	5.6	-	KEPULAUAN OBI, INDONESIA
529.	5	29	10	21	37.0	-1.014	127.520	10	88.52	4.7	-	KEPULAUAN OBI, INDONESIA
530.	5	29	12	0	23.1	-1.108	127.383	10	88.38	5.3	-	KEPULAUAN OBI, INDONESIA
531.	5	29	15	50	53.2	-18.474	-173.838	18	89.40	5.1	-	TONGA
532.	5	29	20	12	40.3	-0.035	122.811	180	87.75	5.3	-	SULAWESI, INDONESIA
533.	5	30	2	44	24.5	-5.632	147.409	194	91.20	4.6	-	E NEW GUINEA REG, P. N. G.
534.	5	30	20	22	12.6	52.144	157.313	116	147.29	6.4	-	KAMCHATKA PENINSULA, RUSSIA
535.	5	31	16	47	19.2	-1.140	127.556	30	88.42	4.9	-	KEPULAUAN OBI, INDONESIA
536.	5	31	17	38	11.3	-7.634	127.766	39	82.43	4.8	-	KEPULAUAN BARAT DAYA, IND.
537.	6	1	15	23	0.1	-34.059	-178.831	10	73.23	5.0	-	SOUTH OF KERMADEC ISLANDS
538.	6	1	19	7	7.0	2.325	128.632	30	92.04	4.8	-	HALMAHERA, INDONESIA
539.	6	1	20	6	43.2	-27.000	-62.660	532	68.94	4.5	-	SANTIAGO DEL ESTERO, ARG.
540.	6	2	12	33	0.3	-6.078	147.454	72	90.79	4.9	-	E NEW GUINEA REG, P. N. G.

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
541.	6	3	3	0	10.6	-23.986	-66.639	187	73.07	4.7	-	JUJUY, ARGENTINA
542.	6	3	9	29	49.2	-21.337	-179.612	745	85.47	4.1	-	FIJI REGION
543.	6	4	3	7	0.1	-55.959	-27.647	178	31.45	5.2	-	SOUTH SANDWICH ISL REGION
544.	6	4	7	46	12.0	-17.736	-178.678	553	89.17	4.9	-	FIJI REGION
545.	6	4	12	48	0.8	-4.391	123.467	45	83.92	4.9	-	BANDA SEA
546.	6	4	19	55	7.9	-6.173	152.260	37	92.30	4.9	-	NEW BRITAIN REG, P.N.G.
547.	6	4	21	9	0.5	-7.246	155.663	10	92.39	5.2	-	SOLOMON ISLANDS
548.	6	5	4	33	20.2	-23.762	-179.932	608	83.04	5.2	-	SOUTH OF THE FIJI ISLANDS
549.	6	5	9	43	52.9	-14.861	166.704	59	88.41	4.9	-	VANUATU
550.	6	5	11	50	21.6	38.611	21.602	10	108.39	5.0	-	GREECE
551.	6	5	15	27	2.1	-60.129	-26.725	10	28.00	5.4	-	SOUTH SANDWICH ISLANDS REGION
552.	6	5	16	16	29.2	-14.825	166.823	35	88.48	4.6	-	VANUATU
553.	6	5	20	38	59.4	-7.405	128.508	119	82.91	4.7	-	KEPULAUAN BARAT DAYA, IND
554.	6	6	1	30	46.4	-20.345	-66.785	229	76.52	4.1	-	POTOSI, BOLIVIA
555.	6	6	9	41	54.6	-7.470	128.196	146	82.74	4.1	-	KEPULAUAN BARAT DAYA, IND.
556.	6	7	0	10	17.2	-6.549	155.370	10	92.95	4.6	-	BOGAINVILLE REG, P.N.G.
557.	6	7	0	40	39.3	-3.336	146.788	13	93.15	5.7	6.2	BISMARCK SEA
558.	6	7	3	13	29.4	-10.893	166.197	171	92.07	4.5	-	SANTA CRUZ ISLANDS
559.	6	7	3	24	15.7	-17.970	-178.521	608	88.98	4.3	-	FIJI REGION
560.	6	7	5	3	40.9	-55.734	-27.163	35	31.45	4.7	-	SOUTH SANDWICH ISL REGION
561.	6	7	22	39	21.9	-28.203	-177.530	10	79.19	4.7	-	KERMADOC ISLANDS REGION
562.	6	8	8	44	2.6	-14.115	67.061	10	57.70	4.9	-	MID-INDIAN RIDGE
563.	6	8	9	52	18.8	-34.921	-111.258	10	73.78	4.9	-	SOUTHERN EAST PACIFIC RISE
564.	6	8	13	16	21.2	-7.749	129.353	8	82.89	5.0	-	KEPULAUAN BABAR, INDONESIA
565.	6	8	13	30	43.4	19.043	-70.406	59	114.66	5.0	-	DOMINICAN REPUBLIC
566.	6	8	14	36	44.0	-16.844	167.173	10	86.64	5.0	-	VANUATU
567.	6	8	17	43	20.0	-6.240	151.537	10	92.00	5.1	-	NEW BRITAIN REG, P.N.G.
568.	6	9	14	59	31.8	2.599	96.093	45	81.25	4.6	-	SIMEULUE, INDONESIA
569.	6	9	21	9	39.8	-24.244	-67.167	160	73.00	4.3	-	SALTA, ARGENTINA
570.	6	10	5	15	44.6	-25.533	179.393	524	81.17	4.3	-	SOUTH OF THE FIJI ISLANDS
571.	6	11	0	19	38.9	-3.156	-79.022	70	96.70	5.2	-	NEAR THE COAST OF ECUADOR
572.	6	11	22	30	21.6	-20.731	-178.014	532	86.39	4.9	-	FIJI REGION
573.	6	12	17	17	11.8	-41.044	-91.280	10	64.00	4.7	-	SOUTHEAST OF EASTER ISLAND
574.	6	12	21	3	37.8	-60.917	160.709	10	43.58	5.1	-	MACQUARIE ISLAND REGION
575.	6	12	23	18	27.1	-16.285	-174.341	85	91.46	4.9	-	TONGA
576.	6	13	17	27	40.6	3.482	127.955	87	92.87	5.3	-	KEPULAUAN TALAUD, INDONESIA

Table 2. Continued.

No.	Date		Origin time UTC			Geographic Latitude	Coordinates Longitude	Depth (km)	Epicentral distance		Magnitude		Region
	h	m	s	ms	(deg)	(deg)	(km)	(deg)	Mb	Ms			
577.	6	13	19	29	41.1	13.623	-90.797	23	116.28	6.0	6.5	OFFSHORE GUATEMALA	
578.	6	14	6	58	14.3	-56.295	-27.257	149	31.05	5.3	-	SOUTH SANDWICH ISL REGION	
579.	6	14	8	53	24.6	-24.220	-66.868	163	72.92	4.3	-	SALTA, ARGENTINA	
580.	6	14	10	41	59.2	-22.967	-68.809	106	74.73	5.3	-	ANTOFAGASTA, CHILE	
581.	6	14	13	37	41.0	-36.182	-100.005	10	70.56	5.4	5.4	SOUTHEAST OF EASTER ISLAND	
582.	6	14	14	49	58.6	10.349	125.258	45	98.32	5.4	5.1	LEYTE, PHILIPPINES	
583.	6	14	17	41	6.1	-5.706	151.577	57	92.52	5.7	5.5	NEW BRITAIN REGION, PAPUA NEW GUINEA	
584.	6	14	22	57	14.7	-46.344	96.151	10	35.94	5.2	5.3	SOUTHEAST INDIAN RIDGE	
585.	6	15	3	48	35.1	-58.569	-26.193	150	28.96	5.4	-	SOUTH SANDWICH ISLANDS REGION	
586.	6	15	4	42	14.7	-36.187	-100.614	10	70.67	4.4	-	SOUTHEAST OF EASTER ISLAND	
587.	6	15	15	2	38.5	-58.161	-139.527	10	52.83	4.9	-	PACIFIC-ANTARCTIC RIDGE	
588.	6	15	17	29	21.8	-46.399	95.942	10	35.82	5.2	-	SOUTHEAST INDIAN RIDGE	
589.	6	15	18	49	53.4	1.739	30.777	24	70.97	5.6	5.8	LAKE ALBERT REGION, DEM REP OF THE CONGO	
590.	6	16	4	23	57.9	-7.283	155.528	10	92.31	5.4	5.5	SOLOMON ISLANDS	
591.	6	16	5	11	53.5	-20.274	-178.181	512	86.80	4.4	-	FIJI REGION	
592.	6	16	14	45	16.8	-6.624	130.024	100	84.18	4.8	-	BANDA SEA	
593.	6	16	19	16	4.7	-22.437	-68.517	115	75.13	4.6	-	ANTOFAGASTA, CHILE	
594.	6	16	21	52	39.3	-3.129	138.729	41	90.54	5.9	5.5	PAPUA, INDONESIA	
595.	6	17	2	5	40.7	-6.328	154.770	79	92.97	4.5	-	BOUGAINVILLE REG, P. N. G.	
596.	6	17	9	23	47.2	-10.233	161.283	85	91.28	5.0	-	SOLOMON ISLANDS	
597.	6	17	15	56	14.4	-18.271	-68.905	137	79.16	4.6	-	ORURO, BOLIVIA	
598.	6	17	16	13	41.3	-20.794	-178.885	609	86.15	4.6	-	FIJI REGION	
599.	6	18	6	18	46.0	-3.573	151.010	10	94.34	5.7	6.2	NEW IRELAND REGION, PAPUA NEW GUINEA	
600.	6	18	14	56	45.0	-27.020	-176.580	36	80.52	4.9	-	KERMADEC ISLANDS REGION	
601.	6	18	16	14	32.2	-22.914	-66.138	235	73.90	4.3	-	JUJUY, ARGENTINA	
602.	6	18	23	51	10.5	-12.452	41.835	10	56.59	5.1	-	COMOROS REGION	
603.	6	19	6	11	35.1	-55.779	-27.574	35	31.56	4.5	-	SOUTH SANDWICH ISL REGION	
604.	6	21	8	57	45.8	10.295	92.820	68	87.64	4.7	-	ANDAMAN ISL, INDIA REGION	
605.	6	21	9	54	54.0	-31.755	-71.157	45	67.27	5.2	-	COQUIMBO, CHILE	
606.	6	21	12	40	11.6	-18.080	168.373	45	85.77	4.9	-	VANUATU	
607.	6	22	7	27	16.5	-4.943	144.076	113	90.71	4.7	-	NR N CST NEW GUINEA, P. N. G.	
608.	6	23	1	31	44.9	-22.817	171.668	35	82.05	5.1	-	SOUTHEAST OF LOYALTY ISLANDS	
609.	6	23	3	51	50.4	-22.814	171.710	61	82.06	5.0	-	SOUTHEAST OF LOYALTY ISLANDS	
610.	6	23	5	20	6.8	-22.520	171.980	35	82.41	4.6	-	SOUTHEAST OF LOYALTY ISLANDS	
611.	6	23	10	24	25.8	-10.926	166.177	92	92.04	5.2	-	SANTA CRUZ ISLANDS	
612.	6	23	11	54	55.4	-12.145	46.366	10	57.06	5.2	-	NORTHWEST OF MADAGASCAR	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
613.	6	24	5	32	37.4	-27.197	-69.309	99	70.94	4.1	-	ATACAMA, CHILE
614.	6	24	8	40	44.4	-10.722	165.601	56	92.07	5.0	-	SANTA CRUZ ISLANDS
615.	6	24	11	57	0.2	-27.357	-177.815	134	79.96	4.7	-	KERMADEC ISLANDS REGION
616.	6	24	13	0	44.2	-18.628	-177.743	582	88.50	4.2	-	FIJI REGION
617.	6	24	13	47	36.8	5.546	94.664	30	83.63	5.1	-	NORTHERN SUMATRA, INDONESIA
618.	6	25	2	32	22.8	41.072	-125.182	10	150.84	5.3	-	OFFSHORE NORTHERN CALIFORNIA
619.	6	25	17	10	17.5	-11.307	165.521	37	91.49	5.1	-	SANTA CRUZ ISLANDS
620.	6	26	22	23	3.0	-10.505	108.113	10	72.79	5.8	5.6	SOUTH OF JAVA, INDONESIA
621.	6	26	22	49	4.7	-10.559	108.029	10	72.71	4.9	-	SOUTH OF JAVA, INDONESIA
622.	6	28	0	12	15.5	-24.172	-66.811	176	72.95	4.8	-	SALTA, ARGENTINA
623.	6	28	2	52	9.4	-7.938	154.616	10	91.40	6.3	6.7	BOUGAINVILLE REGION, PAPUA NEW GUINEA
624.	6	28	8	44	48.5	-15.657	-74.821	28	83.53	5.6	5.3	NEAR THE COAST OF SOUTHERN PERU
625.	6	28	11	26	33.4	-15.376	-74.657	24	83.75	4.7	-	NEAR COAST OF SOUTHERN PERU
625.	6	28	12	41	48.2	-15.126	-74.402	25	83.93	5.0	-	NEAR COAST OF SOUTHERN PERU
627.	6	28	15	50	45.2	-8.169	117.520	201	78.27	4.7	-	SUMBAWA REGION, INDONESIA
628.	6	28	19	25	21.4	-31.976	-71.281	68	67.10	5.6	-	COQUIMBO, CHILE
629.	6	29	15	56	24.4	-24.302	-66.971	167	72.88	4.4	-	SALTA, ARGENTINA
630.	6	29	18	7	27.8	-5.788	145.906	115	90.54	5.1	-	E NEW GUINEA REG, P.N.G.
631.	6	29	23	23	59.8	25.445	96.594	41	103.16	5.1	-	MYANMAR
632.	6	30	8	40	3.3	-5.061	153.039	32	93.61	5.2	-	NEW IRELAND REG, P.N.G.
633.	6	30	13	46	42.5	55.584	162.454	22	151.86	5.0	-	NR E COAST KAMCHATKA, RUSSIA
634.	7	1	10	21	59.8	-22.113	-179.633	607	84.71	4.8	-	SOUTH OF THE FIJI ISLANDS
635.	7	1	14	34	11.2	-5.947	130.610	128	85.02	5.7	-	BANDA SEA
636.	7	1	23	45	26.9	-55.307	-28.127	12	32.13	5.2	-	SOUTH SANDWICH ISL REGION
637.	7	3	8	26	0.7	0.728	-30.254	10	83.40	5.9	-	CENTRAL MID-ATLANTIC RIDGE
638.	7	3	10	6	47.8	-23.306	179.958	521	83.46	4.5	-	SOUTH OF THE FIJI ISLANDS
639.	7	3	15	49	47.4	-10.550	165.953	135	92.33	5.2	-	SANTA CRUZ ISLANDS
640.	7	3	22	18	35.1	-33.944	-178.196	45	73.46	4.6	-	SOUTH OF KERMADEC ISLANDS
641.	7	4	0	34	3.3	-6.560	147.323	67	90.30	4.9	-	E NEW GUINEA REG, P.N.G.
642.	7	4	1	49	44.7	-32.388	-179.543	35	74.72	4.6	-	SOUTH OF KERMADEC ISLANDS
643.	7	4	17	24	33.5	-27.112	-176.624	35	80.43	5.1	-	KERMADEC ISLANDS REGION
644.	7	4	21	7	32.0	-20.442	-178.594	542	86.55	4.7	-	FIJI REGION
645.	7	5	5	47	49.9	-59.498	-26.347	58	28.33	5.3	-	SOUTH SANDWICH ISL REGION
646.	7	5	13	26	22.8	-42.251	-19.588	10	40.01	5.2	-	SOUTHERN MID-ATLANTIC RIDGE
647.	7	5	16	34	11.5	-27.000	-176.377	25	80.58	5.0	-	KERMADEC ISLANDS REGION
648.	7	5	19	25	49.0	-30.350	-71.458	45	68.68	4.9	-	COQUIMBO, CHILE

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
649.	7	6	15	58	59.4	-34.121	-178.621	71	73.21	5.1	-	SOUTH OF KERMADEC ISLANDS
650.	7	6	17	40	48.8	-16.381	-172.692	6	91.67	5.5	5.1	SAMOA ISLANDS REGION
651.	7	7	15	2	46.1	-26.673	-114.550	10	82.39	4.9	-	EASTER ISLAND REGION
652.	7	7	16	53	51.3	-20.747	-178.759	571	86.22	4.3	-	FIJI REGION
653.	7	7	17	14	35.0	-23.014	179.205	526	83.59	4.3	-	SOUTH OF THE FIJI ISLANDS
654.	7	7	20	12	1.9	6.134	125.475	73	94.46	5.1	-	MINDANAO, PHILIPPINES
655.	7	7	20	21	47.8	-6.057	125.094	35	82.94	4.4	-	BANDA SEA
656.	7	7	22	44	27.5	-15.136	-75.040	30	84.10	5.0	-	NEAR COAST OF CENTRAL PERU
657.	7	7	23	10	8.9	6.095	126.572	36	94.82	4.8	-	MINDANAO, PHILIPPINES
658.	7	8	0	26	35.9	0.346	124.658	103	88.77	4.9	-	MINAHASA, SULAWESI, IND.
659.	7	8	3	39	21.9	-17.810	-69.808	114	79.89	4.5	-	TARAPACA, CHILE
660.	7	8	8	59	0.7	-19.835	-176.059	188	87.65	4.4	-	FIJI REGION
661.	7	8	19	12	58.1	-21.651	-68.059	132	75.72	4.9	-	POTOSI, BOLIVIA
662.	7	9	6	50	49.9	-26.285	-178.075	35	80.95	5.5	5.3	SOUTH OF THE FIJI ISLANDS
663.	7	9	11	39	48.0	-24.087	-179.827	462	82.74	4.5	-	SOUTH OF THE FIJI ISLANDS
664.	7	10	0	46	28.1	-6.766	129.831	117	83.98	4.8	-	BANDA SEA
665.	7	10	18	28	29.7	3.327	94.232	26	81.38	5.0	-	OFF WEST COAST OF N SUMATRA
666.	7	10	18	40	13.7	-13.527	167.141	196	89.81	4.9	-	VANUATU
667.	7	11	3	2	9.9	-4.801	152.544	73	93.69	5.3	-	NEW BRITAIN REGION, PAPUA NEW GUINEA
668.	7	11	6	51	14.5	38.593	48.573	28	107.84	5.0	-	AZERBAIJAN
669.	7	11	15	12	20.8	-32.604	-70.087	76	66.15	5.1	-	MENDOZA, ARGENTINA
670.	7	12	5	23	49.1	-7.929	-74.345	152	90.68	5.8	-	NORTHERN PERU
671.	7	12	20	47	38.0	-30.831	-71.198	61	68.15	4.9	-	COQUIMBO, CHILE
672.	7	13	16	7	46.5	-10.535	108.307	31	72.83	4.7	-	SOUTH OF JAVA, INDONESIA
673.	7	13	16	33	37.5	-55.478	-128.865	10	55.20	5.1	-	PACIFIC-ANTARCTIC RIDGE
674.	7	15	11	11	47.6	10.036	125.884	74	98.25	5.0	-	LEYTE, PHILIPPINES
675.	7	15	11	24	21.5	-2.866	36.185	10	66.17	5.4	4.6	TANZANIA
676.	7	15	12	9	48.4	-59.883	-25.908	10	27.90	4.9	-	SOUTH SANDWICH ISL REGION
677.	7	15	13	8	0.9	52.620	-168.042	10	159.32	5.8	5.9	FOX ISLANDS, ALEUTIAN ISLANDS, ALASKA
678.	7	15	13	25	23.0	-7.397	128.615	141	82.96	4.9	-	KEPULAUAN BARAT DAYA, IND.
679.	7	15	17	58	6.9	-6.861	155.782	49	92.79	5.2	-	BOUGAINVILLE REG, P. N. G.
680.	7	15	20	42	11.4	-2.786	36.124	10	66.25	5.3	5.2	TANZANIA
681.	7	16	1	32	19.8	10.664	-62.458	101	104.05	5.0	-	SUCRE, VENEZUELA
682.	7	16	14	17	37.2	36.788	134.897	349	126.05	6.2	-	SEA OF JAPAN
683.	7	16	14	23	34.1	-2.563	35.947	10	66.48	4.7	-	TANZANIA
684.	7	17	6	11	41.0	-2.777	36.058	10	66.26	4.5	-	TANZANIA



Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
685.	7	17	11	17	1.6	-2.819	35.935	10	66.22	4.4	-	TANZANIA
686.	7	17	13	15	0.6	-7.347	103.105	30	74.06	5.5	-	SW OF SUMATRA, INDONESIA
687.	7	17	14	10	42.7	-2.586	36.281	8	66.45	5.6	5.7	TANZANIA
688.	7	17	18	27	51.2	-2.752	36.159	10	66.28	5.1	-	TANZANIA
689.	7	18	0	7	36.0	-25.210	-177.746	10	81.09	5.8	5.8	SOUTH OF THE FIJI ISLANDS
690.	7	18	2	53	28.8	-25.221	-177.836	10	81.06	5.0	-	SOUTH OF THE FIJI ISLANDS
691.	7	18	4	27	24.3	6.475	84.371	10	81.67	5.2	-	BAY OF BENGAL
692.	7	18	10	29	15.9	-2.676	35.983	10	66.36	4.8	-	TANZANIA
693.	7	18	12	11	28.6	-7.111	155.937	67	92.60	4.9	-	SOLOMON ISLANDS
694.	7	18	17	25	52.2	-2.776	36.129	10	66.26	4.9	-	TANZANIA
695.	7	18	18	1	19.6	30.734	138.343	349	121.81	4.8	-	IZU ISLANDS, JAPAN REGION
696.	7	18	19	37	31.5	-6.041	104.412	30	75.73	5.3	-	SUNDA STRAIT, INDONESIA
697.	7	19	16	52	31.8	-18.336	-177.913	449	88.75	4.2	-	FIJI REGION
698.	7	19	23	27	4.8	-7.819	127.709	152	82.24	4.0	-	KEPULAUAN BARAT DAYA, IND.
699.	7	20	9	6	39.0	-1.193	127.048	35	88.18	5.0	-	KEPULAUAN OBI, INDONESIA
700.	7	20	9	49	44.9	-9.478	117.990	73	77.21	5.2	-	SUMBAWA REGION, INDONESIA
701.	7	20	17	23	57.9	-20.798	168.426	38	83.17	5.5	-	LOYALTY ISLANDS
702.	7	21	7	55	57.9	-3.086	130.143	35	87.53	4.8	-	SERAM, INDONESIA
703.	7	21	12	53	4.5	5.006	97.670	30	84.02	5.3	-	NORTHERN SUMATRA, INDONESIA
704.	7	21	15	34	51.9	-22.267	-65.751	290	74.38	5.6	-	JUJUY, ARGENTINA
705.	7	21	20	40	53.4	-54.999	-129.375	10	55.70	5.1	-	PACIFIC-ANTARCTIC RIDGE
706.	7	22	10	49	39.1	-2.814	141.673	35	91.87	5.7	5.5	NEAR NORTH COAST OF NEW GUINEA, P.N.G.
707.	7	22	14	20	43.7	-2.832	141.789	10	91.89	5.4	5.3	NEAR NORTH COAST OF NEW GUINEA, P.N.G.
708.	7	22	15	42	14.3	-2.798	141.788	35	91.92	5.5	4.7	NIR N CST NEW GUINEA, P.N.G.
709.	7	22	20	46	25.9	-18.538	169.004	195	85.50	4.6	-	VANUATU
710.	7	22	20	49	37.9	-17.863	-178.558	536	89.08	4.6	-	FIJI REGION
711.	7	23	6	4	10.9	-13.106	167.289	292	90.25	4.8	-	VANUATU
712.	7	23	22	30	9.0	14.415	-91.028	113	117.10	5.4	-	GUATEMALA
713.	7	23	22	56	8.7	-16.520	168.100	35	87.20	4.5	-	VANUATU
714.	7	24	14	51	29.5	2.244	97.955	46	81.48	5.4	4.6	NORTHERN SUMATRA, INDONESIA
715.	7	24	19	33	54.3	-2.929	141.462	41	91.69	5.0	-	NIR N CST NEW GUINEA, P.N.G.
716.	7	25	1	3	46.0	-25.689	179.874	482	81.12	4.8	-	SOUTH OF THE FIJI ISLANDS
717.	7	26	2	29	20.9	-24.222	-67.069	164	72.99	4.0	-	SALTA, ARGENTINA
718.	7	26	3	27	56.1	27.769	139.823	467	119.63	4.6	-	BONIN ISLANDS, JAPAN REGION
719.	7	26	4	12	13.8	-6.142	-80.226	66	94.25	4.3	-	NEAR THE COAST OF NORTHERN PERU
720.	7	26	5	40	16.2	2.823	127.482	25	92.09	6.4	6.7	MOLUCCA SEA

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
721.	7	26	13	52	30.8	-20.470	-178.481	566	86.55	4.9	-	FIJI REGION
722.	7	26	16	21	6.9	-14.197	-73.398	56	84.46	4.5	-	CENTRAL PERU
723.	7	26	18	54	36.2	-2.568	35.854	10	66.47	5.0	-	TANZANIA
724.	7	27	3	51	28.3	-14.644	-175.520	51	92.84	4.9	-	SAMOA ISLANDS REGION
725.	7	27	14	46	32.2	-21.452	170.878	35	83.17	5.9	-	SOUTHEAST OF LOYALTY ISLANDS
726.	7	27	15	30	42.2	-20.111	-177.303	318	87.14	5.0	-	FIJI REGION
727.	7	27	23	22	48.8	44.391	-129.762	10	154.72	5.1	-	OFF THE COAST OF OREGON
728.	7	28	8	53	13.8	-15.888	-175.295	316	91.66	5.2	-	TONGA
729.	7	28	14	11	59.0	-10.971	-77.837	52	88.92	5.0	-	NEAR COAST OF CENTRAL PERU
730.	7	28	15	23	19.7	-26.703	-114.618	10	82.37	5.4	-	EASTER ISLAND REGION
731.	7	28	15	32	51.1	-49.129	68.970	10	24.62	5.2	-	KERGUELEN ISLANDS REGION
732.	7	29	4	54	36.2	53.693	169.647	24	152.94	6.1	5.5	KOMANDORSKIYE OSTROVA, RUSSIA REGION
733.	7	29	12	58	37.9	-16.991	167.665	51	86.63	5.0	-	VANUATU
734.	7	30	23	37	50.3	-17.262	-178.777	560	89.62	5.1	-	FIJI REGION
735.	7	31	12	58	29.1	28.227	138.979	509	119.75	5.2	-	BONIN ISLANDS, JAPAN REGION
736.	7	31	21	9	20.9	-3.024	36.423	10	66.01	4.7	-	TANZANIA
737.	8	1	3	6	7.8	-3.671	140.141	40	90.53	5.0	-	PAPUA, INDONESIA
738.	8	1	17	8	51.0	-15.737	167.745	120	87.85	6.2	-	VANUATU
739.	8	1	18	7	50.1	-15.391	167.602	152	88.15	5.0	-	VANUATU
740.	8	2	3	21	42.6	51.336	-179.988	21	154.55	6.3	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
741.	8	2	5	22	17.5	46.661	141.763	10	137.17	5.6	-	SAKHALIN, RUSSIA
742.	8	2	6	23	11.8	51.202	-179.871	10	154.47	5.1	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
743.	8	2	13	37	29.4	12.529	47.447	10	81.76	5.5	5.3	GULF OF ADEN
744.	8	2	18	2	2.3	2.484	127.001	25	91.60	5.5	-	MOLUCCA SEA
745.	8	3	1	49	44.2	-33.191	-179.344	49	73.98	5.0	-	SOUTH OF KERMADEC ISLANDS
746.	8	4	6	14	49.1	9.573	93.351	60	87.10	5.0	-	NICOBAR ISL., INDIA REGION
747.	8	4	7	17	11.2	-6.454	107.228	182	76.29	4.8	-	JAVA, INDONESIA
748.	8	4	13	43	59.2	-20.507	-178.504	533	86.51	4.5	-	FIJI REGION
749.	8	4	17	56	58.9	-22.185	-68.295	113	75.29	5.2	-	ANTOFAGASTA, CHILE
750.	8	5	9	28	42.0	-19.161	168.720	60	84.82	5.6	-	VANUATU
751.	8	5	12	2	36.8	1.828	121.715	51	89.10	5.0	-	MINAHASA, SULAWESI, IND.
752.	8	5	19	11	27.2	-15.958	-174.246	127	91.80	4.7	-	TONGA
753.	8	5	20	38	24.7	-31.160	-179.753	272	75.87	5.0	-	KERMADEC ISLANDS REGION
754.	8	6	0	27	40.2	2.615	66.483	10	74.04	4.8	-	CARLSBERG RIDGE
755.	8	6	14	38	13.1	6.745	90.964	30	83.71	5.0	-	NICOBAR ISL., INDIA REGION
756.	8	6	17	11	52.7	-6.058	150.663	63	91.89	5.0	-	NEW BRITAIN REG., P. N. G.

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
757.	8	7	9	4	54.0	-5.135	143.381	111	90.29	4.8	-	NEW GUINEA, PAPUA NEW GUINEA
758.	8	8	2	21	34.4	-63.050	152.550	10	39.88	4.1	-	BALLENY ISLANDS REGION
759.	8	8	3	3	37.4	-23.739	-179.958	529	83.06	5.2	-	SOUTH OF THE FIJI ISLANDS
760.	8	8	14	14	18.8	-32.422	-71.518	24	66.76	5.0	-	OFFSHORE VALPARAISO, CHILE
761.	8	8	15	19	43.7	27.393	128.332	58	115.20	5.3	-	RYUKYU ISLANDS, JAPAN
762.	8	9	7	59	20.0	-15.040	-173.827	43	92.77	5.1	-	TONGA
763.	8	10	0	20	45.7	-29.202	-177.457	56	78.23	5.1	-	KERMADEC ISL, NEW ZEALAND
764.	8	10	5	41	49.5	-49.330	120.855	10	42.16	4.9	-	W INDIAN-ANTARCTIC RIDGE
765.	8	10	10	11	30.1	-32.319	179.627	271	74.62	5.0	-	SOUTH OF KERMADEC ISLANDS
766.	8	10	13	17	56.5	-6.704	105.038	47	75.31	5.2	-	SUNDA STRAIT, INDONESIA
767.	8	10	17	31	2.6	-17.965	-176.946	321	89.31	4.4	-	FIJI REGION
768.	8	10	20	43	15.5	-35.870	-102.863	10	71.41	4.9	-	SOUTHEAST OF EASTER ISLAND
769.	8	11	0	26	52.8	-30.546	-177.408	10	76.92	5.0	-	KERMADEC ISL, NEW ZEALAND
770.	8	11	6	32	54.2	-5.652	-11.624	10	71.45	5.1	-	ASCENSION ISLAND REGION
771.	8	11	8	46	2.6	-24.138	-66.751	181	72.96	4.4	-	SALTA, ARGENTINA
772.	8	11	18	4	53.0	-22.260	-179.534	606	84.58	5.3	-	SOUTH OF THE FIJI ISLANDS
773.	8	12	8	1	25.8	-5.693	-11.696	10	71.43	4.8	-	ASCENSION ISLAND REGION
774.	8	12	9	55	49.0	1.071	123.904	268	89.17	5.1	-	MINAHASA, SULAWESI, IND.
775.	8	12	12	5	19.9	-11.376	166.274	42	91.63	5.8	-	SANTA CRUZ ISLANDS
776.	8	12	17	8	46.7	-3.663	127.436	32	86.02	4.9	-	SERAM, INDONESIA
777.	8	13	6	0	17.5	-13.979	-70.156	69	83.60	4.7	-	CENTRAL PERU
778.	8	13	10	11	12.6	-30.388	-177.471	10	77.07	5.2	-	KERMADEC ISL, NEW ZEALAND
779.	8	13	18	45	8.4	-7.504	105.851	35	74.83	4.8	-	JAVA, INDONESIA
780.	8	13	18	49	42.2	-0.616	127.496	35	88.88	5.0	-	HALMAHERA, INDONESIA
781.	8	14	6	23	14.3	-15.967	167.343	108	87.52	5.0	-	VANUATU
782.	8	14	20	1	6.2	-7.783	-13.642	10	70.02	4.6	-	ASCENSION ISLAND REGION
783.	8	15	4	17	52.8	-18.141	-178.028	585	88.91	4.5	-	FIJI REGION
784.	8	15	16	51	44.8	-7.269	155.687	49	92.37	5.3	4.9	SOLOMON ISLANDS
785.	8	15	19	15	9.1	35.344	140.295	35	126.68	5.4	-	NEAR E COAST HONSHU, JAPAN
786.	8	16	0	2	39.5	-13.235	-76.400	27	86.32	5.6	-	NEAR COAST OF CENTRAL PERU
787.	8	16	0	19	14.5	-14.205	-76.077	35	85.30	5.8	-	NEAR COAST OF CENTRAL PERU
788.	8	16	1	2	23.3	-13.336	-76.521	35	86.27	5.8	-	NEAR COAST OF CENTRAL PERU
789.	8	16	1	6	17.7	-13.529	-76.783	37	86.17	5.2	-	NEAR COAST OF CENTRAL PERU
790.	8	16	1	20	31.3	-12.307	-14.920	10	66.10	5.1	-	SOUTHERN MID-ATLANTIC RIDGE
791.	8	16	1	35	39.2	-14.166	-76.706	33	85.54	5.4	-	NEAR COAST OF CENTRAL PERU
792.	8	16	2	17	9.3	-13.715	-76.032	41	85.75	5.0	-	NEAR COAST OF CENTRAL PERU

Table 2. Continued.

No.	Date	Origin time UTC			Geographic	Coordinates	Depth	Epicentral		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb	Ms		
793.	8 16	2	54	17.9	-13.542	-76.601	25	86.10	5.0	-	NEAR COAST OF CENTRAL PERU	
794.	8 16	4	4	8.7	-13.580	-76.564	32	86.05	5.6	86	NEAR COAST OF CENTRAL PERU	
795.	8 16	4	3	3.4	50.267	-177.572	14	154.41	5.8	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA	
796.	8 16	4	16	51.0	-13.396	-76.924	35	86.35	5.0	-	NEAR COAST OF CENTRAL PERU	
797.	8 16	4	23	14.7	-13.624	-75.790	7	85.76	5.2	-	CENTRAL PERU	
798.	8 16	9	2	10.4	-14.127	-76.226	35	85.42	4.9	-	NEAR COAST OF CENTRAL PERU	
799.	8 16	9	43	52.6	-14.009	-75.984	35	85.46	5.3	-	NEAR COAST OF CENTRAL PERU	
800.	8 16	14	37	37.2	-23.395	179.952	581	83.37	4.4	-	SOUTH OF THE FIJI ISLANDS	
801.	8 16	14	44	3.4	-3.581	-11.874	10	73.51	4.8	-	NORTH OF ASCENSION ISLAND	
802.	8 16	15	11	23.0	-13.453	-76.601	37	86.21	5.4	-	NEAR COAST OF CENTRAL PERU	
803.	8 17	0	51	19.4	-14.393	-75.919	16	85.08	5.2	-	NEAR COAST OF CENTRAL PERU	
804.	8 17	2	54	20.5	-14.162	-75.903	48	85.29	5.1	-	NEAR COAST OF CENTRAL PERU	
805.	8 17	6	18	4.6	-14.155	-75.979	20	85.32	5.5	-	NEAR THE COAST OF CENTRAL PERU	
806.	8 17	7	0	7.0	-9.876	159.461	16	91.26	5.0	-	SOLOMON ISLANDS	
807.	8 17	16	45	20.8	-32.600	-178.709	35	74.68	5.0	-	SOUTH OF KERMADEC ISLANDS	
808.	8 17	23	17	40.0	-7.002	129.688	154	83.71	4.6	-	KEPULAUAN BABAR, INDONESIA	
809.	8 18	4	38	22.5	2.088	96.713	24	80.95	4.9	-	SIMEULUE, INDONESIA	
810.	8 18	7	44	2.5	-2.814	36.209	10	66.22	5.2	-	TANZANIA	
811.	8 18	7	55	10.4	35.208	140.127	35	126.49	5.0	-	NEAR THE EAST COAST OF HONSHU, JAPAN	
812.	8 18	8	12	22.1	-5.837	-77.118	20	93.55	4.6	-	NORTHERN PERU	
813.	8 18	12	48	9.5	-29.075	-177.454	47	78.35	5.4	-	KERMADEC ISL, NEW ZEALAND	
814.	8 18	17	57	41.9	-22.138	174.702	10	83.43	5.1	-	SOUTHEAST OF LOYALTY ISLANDS	
815.	8 18	18	30	37.3	-5.088	144.016	105	90.55	5.2	-	NEW GUINEA, PAPUA NEW GUINEA	
816.	8 19	0	4	28.2	-60.354	-26.853	10	27.89	5.2	-	SOUTH SANDWICH ISL REGION	
817.	8 19	1	4	55.8	-60.318	-26.586	35	27.82	5.1	-	SOUTH SANDWICH ISL REGION	
818.	8 19	2	32	16.6	-9.795	159.573	10	91.18	5.2	-	SOLOMON ISLANDS	
819.	8 19	7	16	9.8	-13.658	-76.775	31	86.04	4.7	-	NEAR COAST OF CENTRAL PERU	
820.	8 19	7	42	26.8	-45.672	-72.521	53	54.83	5.0	-	AISEN, CHILE	
821.	8 19	9	20	48.0	-13.689	-76.662	25	85.98	4.7	-	NEAR COAST OF CENTRAL PERU	
822.	8 19	12	59	40.6	-2.570	-12.250	10	74.58	5.0	-	NORTH OF ASCENSION ISLAND	
823.	8 19	13	12	39.1	0.922	97.565	30	80.11	4.8	-	NIAS REGION, INDONESIA	
824.	8 19	13	30	43.0	-33.876	-178.715	50	73.43	5.1	-	SOUTH OF KERMADEC ISLANDS	
825.	8 19	13	44	5.1	-20.611	169.713	87	83.68	5.6	-	VANUATU	
826.	8 19	16	44	38.8	-31.421	-177.996	41	75.96	5.4	5.0	KERMADEC ISLANDS REGION	
827.	8 19	20	11	44.5	-13.578	-76.376	35	85.99	5.6	-	NEAR THE COAST OF CENTRAL PERU	
828.	8 20	13	46	17.5	6.166	127.426	8	95.19	6.4	6.2	PHILIPPINE ISLANDS REGION	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic	Coordinates	Depth	Epicentral		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb	Ms		
829.	8	21	16	36	45.4	7.996	-38.998	10	93.22	5.2	-	CENTRAL MID-ATLANTIC RIDGE
830.	8	21	21	32	26.0	-13.675	-76.996	35	86.09	5.2	-	NEAR COAST OF CENTRAL PERU
831.	8	22	7	26	24.1	42.014	140.646	123	132.73	5.4	-	HOKKAIDO, JAPAN REGION
832.	8	22	17	25	34.2	-13.920	-76.210	35	85.62	4.6	-	NEAR COAST OF CENTRAL PERU
833.	8	22	22	24	37.3	-16.266	-177.562	10	90.84	5.0	-	FIJI REGION
834.	8	23	9	45	46.9	-13.546	-76.557	26	86.08	4.8	-	NEAR COAST OF CENTRAL PERU
835.	8	23	11	34	24.9	-19.854	-177.738	553	87.30	5.2	-	FIJI REGION
836.	8	24	4	14	22.7	-8.245	107.020	48	74.54	4.8	-	JAVA, INDONESIA
837.	8	24	10	16	52.2	-6.118	129.985	138	84.64	5.1	-	BANDA SEA
838.	8	24	17	24	2.5	-20.729	-178.554	552	86.28	4.6	-	FIJI REGION
839.	8	25	17	3	7.7	14.301	93.996	65	91.80	5.3	-	ANDAMAN ISL, INDIA REGION
840.	8	26	12	37	31.1	-17.336	-174.400	127	90.42	5.9	-	TONGA
841.	8	26	13	47	5.8	-9.815	154.083	35	89.45	5.6	4.7	D'ENTRECASTEAUX ISLANDS REGION
842.	8	26	17	58	22.0	-8.245	-74.328	147	90.38	4.8	-	CENTRAL PERU
843.	8	27	5	37	56.5	-25.663	179.579	488	81.09	5.4	-	SOUTH OF THE FIJI ISLANDS
844.	8	27	21	0	20.5	2.776	127.551	44	92.07	5.1	-	MOLUCCA SEA
845.	8	28	8	51	42.7	-1.562	119.488	49	85.14	5.1	-	SULAWESI, INDONESIA
846.	8	29	8	19	49.1	-8.360	-74.021	166	90.17	4.7	-	C PERU
847.	8	29	16	18	10.6	-20.954	-68.317	134	76.45	5.2	-	POTOSI, BOLIVIA
848.	8	30	7	34	43.7	-49.632	117.392	10	40.71	5.0	-	W INDIAN-ANTARCTIC RIDGE
849.	8	30	10	14	36.5	-11.353	166.087	97	91.60	5.1	-	SANTA CRUZ ISLANDS
850.	8	30	11	7	6.6	1.793	99.271	30	81.47	5.4	-	NORTHERN SUMATRA, INDONESIA
851.	8	30	16	17	37.3	-2.989	129.317	35	87.32	5.2	-	SERAM, INDONESIA
852.	8	31	19	51	52.5	2.412	127.143	38	91.58	5.4	-	MOLUCCA SEA
853.	9	1	15	26	32.1	2.458	127.135	58	91.62	5.5	-	MOLUCCA SEA
854.	9	1	19	14	21.9	24.821	-109.704	10	132.05	5.6	5.9	GULF OF CALIFORNIA
855.	9	2	0	14	37.1	-24.200	-66.563	149	72.84	4.5	-	SALTA, ARGENTINA
856.	9	2	2	34	12.2	-11.863	165.762	35	91.02	5.4	-	SANTA CRUZ ISLANDS
857.	9	2	2	50	1.7	-11.658	165.961	35	91.27	4.8	-	SANTA CRUZ ISLANDS
858.	9	2	11	42	35.1	-11.814	165.924	35	91.11	4.8	-	SANTA CRUZ ISLANDS
859.	9	2	12	32	31.1	-11.392	165.615	35	91.43	4.9	-	SANTA CRUZ ISLANDS
860.	9	2	14	4	33.8	-11.445	166.037	35	91.50	5.1	-	SANTA CRUZ ISLANDS
861.	9	2	16	54	48.8	-11.936	165.844	35	90.98	4.8	-	SANTA CRUZ ISLANDS
862.	9	3	9	45	6.6	-22.029	168.640	10	82.05	5.3	-	NEW CALEDONIA
863.	9	3	16	14	53.7	45.795	150.051	97	139.37	6.3	-	KURIL ISLANDS
864.	9	4	4	50	40.3	-20.436	-68.110	114	76.87	4.7	-	POTOSI, BOLIVIA

Table 2. Continued.

No.	Date	Origin time UTC			Geographic	Coordinates	Depth	Epicentral		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb	Ms		
865.	9	4	6	20	28.7	-22.362	-70.125	35	75.72	5.1	-	ANTOFAGASTA, CHILE
866.	9	4	9	41	56.9	-33.206	-179.380	16	73.96	5.3	-	SOUTH OF KERMADOC ISLANDS
867.	9	5	10	53	9.4	-13.869	-76.735	35	85.83	5.1	-	NEAR COAST OF CENTRAL PERU
868.	9	5	13	36	8.8	-7.120	155.923	105	92.59	4.8	-	SOLOMON ISLANDS
869.	9	6	10	23	34.6	-5.745	127.690	409	84.17	4.9	-	BANDA SEA
870.	9	6	13	41	16.2	-18.483	-174.695	155	89.24	4.8	-	TONGA
871.	9	6	17	51	27.0	24.303	122.234	60	110.23	6.1	-	TAIWAN REGION
872.	9	6	20	20	46.8	5.744	125.537	80	94.12	4.9	-	MINDANAO, PHILIPPINES
873.	9	6	23	43	41.3	-17.756	-174.957	157	89.90	5.1	-	TONGA
874.	9	7	8	52	32.4	-2.653	134.152	10	89.36	5.2	-	NEAR N COAST PAPUA, IND.
875.	9	7	9	25	18.3	7.337	-34.682	10	91.11	5.3	-	CENTRAL MID-ATLANTIC RIDGE
876.	9	7	23	20	0.3	-2.299	28.738	10	67.07	4.6	-	LAC KIVU REGION, DEM. REP. OF THE CONGO
877.	9	7	23	56	23.0	-7.181	103.220	31	74.26	5.2	-	SW OF SUMATRA, INDONESIA
878.	9	8	3	14	47.4	-19.998	-173.934	10	87.89	5.1	-	TONGA
879.	9	8	8	39	38.2	0.283	97.732	26	79.55	5.1	-	NIAS REGION, INDONESIA
880.	9	8	8	51	57.5	-36.471	-98.284	10	69.92	4.7	-	SOUTHEAST OF EASTER ISLAND
881.	9	8	11	31	45.0	0.374	97.762	30	79.65	5.1	-	NIAS REGION, INDONESIA
882.	9	8	14	15	32.9	-2.695	36.121	10	66.34	4.8	-	TANZANIA
883.	9	8	16	53	58.6	-0.339	126.143	35	88.66	5.0	-	MOLOCCA SEA
884.	9	9	4	40	40.4	-15.670	167.361	57	87.81	4.8	-	VANUATU
885.	9	9	22	30	46.2	-13.663	-76.306	10	85.89	5.0	-	NEAR COAST OF CENTRAL PERU
886.	9	10	0	13	8.8	-17.185	-69.507	36	80.38	5.4	-	LA PAZ, BOLIVIA
887.	9	10	21	56	35.9	0.987	126.244	51	89.93	5.0	-	MOLOCCA SEA
888.	9	11	1	55	56.4	4.854	127.556	10	94.01	5.4	-	KEPULAUAN TALAUD, INDONESIA
889.	9	11	16	36	9.7	-5.690	105.523	10	76.43	5.1	4.1	SUNDA STRAIT, INDONESIA
890.	9	12	1	55	40.5	-0.829	146.606	10	95.44	5.0	-	ADMIRALTY ISL REG., P. N. G.
891.	9	12	11	10	26.6	-4.520	101.374	34	76.16	7.0	8.5	SOUTHERN SUMATRA, INDONESIA
892.	9	12	13	2	7.2	-2.945	101.352	35	77.64	5.6	-	SOUTHERN SUMATRA, INDONESIA
893.	9	12	13	17	17.7	-3.308	100.654	33	77.07	5.3	-	KEPULAUAN MENTAWAI REG, IND.
894.	9	12	14	40	2.8	-3.227	101.360	18	77.38	6.0	-	SOUTHERN SUMATRA, INDONESIA
895.	9	12	16	37	1.8	-3.142	101.377	21	77.46	5.9	-	S SUMATRA, IND.
896.	9	12	17	4	33.4	-7.599	126.085	307	81.86	5.3	-	KEPULAUAN BARAT DAYA, IND.
897.	9	12	22	2	23.3	-4.609	101.280	10	76.04	5.1	-	SOUTHERN SUMATRA, INDONESIA
898.	9	12	22	17	17.8	-2.897	100.757	10	77.49	5.4	-	KEPULAUAN MENTAWAI REG, IND.
899.	9	13	1	26	35.4	-1.935	99.775	24	78.09	5.8	-	KEPULAUAN MENTAWAI REGION, INDONESIA
900.	9	13	1	38	8.4	-1.894	99.696	30	78.10	5.2	-	KEPULAUAN MENTAWAI REG, IND.

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude	Coordinates Longitude	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s	(deg)	(deg)	(km)	(deg)	Mb	Ms		
901.	9 13	1	55	48.0	-3.875	101.674	34	76.87	5.0	-	SOUTHERN SUMATRA, INDONESIA	
902.	9 13	2	30	3.7	-1.675	99.700	31	78.31	5.9	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
903.	9 13	2	51	33.6	-2.036	99.793	27	78.00	5.5	-	KEPULAUAN MENTAWAI REG, IND.	
904.	9 13	3	35	28.3	-2.160	99.588	22	77.82	6.4	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
905.	9 13	4	6	14.8	-1.671	99.606	37	78.29	5.1	-	KEPULAUAN MENTAWAI REG, IND.	
906.	9 13	5	23	24.2	-1.686	99.717	39	78.31	5.5	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
907.	9 13	5	53	27.4	-3.949	100.635	35	76.46	5.1	-	KEPULAUAN MENTAWAI REG, IND.	
908.	9 13	9	21	35.0	-2.164	99.748	10	77.86	5.4	-	KEPULAUAN MENTAWAI REG, IND.	
909.	9 13	11	57	17.0	-2.034	99.434	10	77.89	5.0	-	KEPULAUAN MENTAWAI REG, IND.	
910.	9 13	12	12	59.6	-3.691	100.694	10	76.72	5.2	-	KEPULAUAN MENTAWAI REG, IND.	
911.	9 13	13	10	15.7	-2.786	100.863	29	77.63	5.6	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
912.	9 13	15	8	54.3	-4.353	101.212	25	76.26	5.6	-	SOUTHERN SUMATRA, INDONESIA	
913.	9 13	16	9	16.2	-3.225	101.462	50	77.41	6.1	-	SOUTHERN SUMATRA, INDONESIA	
914.	9 13	16	59	24.5	-2.259	99.916	30	77.83	5.5	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
915.	9 13	18	30	38.3	-2.565	99.764	35	77.49	5.0	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
916.	9 13	23	12	31.3	-3.108	100.971	35	77.36	5.3	-	KEPULAUAN MENTAWAI REG, IND.	
917.	9 14	3	7	14.0	-3.010	101.083	39	77.49	5.2	-	SOUTHERN SUMATRA, INDONESIA	
918.	9 14	4	3	44.1	-2.179	100.088	29	77.96	5.4	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
919.	9 14	5	46	42.9	-15.530	-176.104	20	91.85	5.3	-	FIJI REGION	
920.	9 14	6	1	32.0	-4.110	101.154	23	76.48	6.0	-	SOUTHERN SUMATRA, INDONESIA	
921.	9 14	11	51	30.7	-23.497	179.587	553	83.20	5.4	-	SOUTH OF THE FIJI ISLANDS	
922.	9 14	13	7	48.4	-2.953	102.329	35	77.95	5.0	-	SOUTHERN SUMATRA, INDONESIA	
923.	9 14	14	15	16.8	-4.407	100.930	35	76.12	5.3	-	SW OF SUMATRA, INDONESIA	
924.	9 15	1	41	5.1	-2.900	100.222	25	77.41	5.0	-	KEPULAUAN MENTAWAI REG, IND.	
925.	9 15	6	2	20.9	-3.102	100.875	39	77.34	4.9	-	KEPULAUAN MENTAWAI REG, IND.	
926.	9 15	10	30	51.1	17.673	-94.364	163	121.19	5.2	-	VERACRUZ, MEXICO	
927.	9 15	11	34	36.9	-12.020	165.900	35	90.91	5.1	-	SANTA CRUZ ISLANDS	
928.	9 15	13	36	14.6	-8.774	146.876	10	88.06	5.3	-	E NEW GUINEA REG, P. N. G.	
929.	9 15	13	58	9.8	-8.811	146.897	10	88.04	5.2	-	E NEW GUINEA REG, P. N. G.	
930.	9 15	14	27	0.2	-4.199	101.219	35	76.41	5.4	-	S SUMATRA, IND.	
931.	9 15	15	4	45.2	-3.099	100.824	35	77.32	5.1	-	KEPULAUAN MENTAWAI REG, IND.	
932.	9 15	17	59	43.4	14.927	-87.193	34	116.42	5.3	-	HONDURAS	
933.	9 15	18	27	37.4	-1.763	99.663	25	78.22	5.2	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
934.	9 16	7	0	56.3	-5.281	124.160	35	83.33	5.0	-	BANDA SEA	
935.	9 16	9	10	19.2	-2.902	101.023	35	77.58	5.3	4.7	SOUTHERN SUMATRA, INDONESIA	
936.	9 16	11	37	43.6	-2.931	101.112	35	77.58	5.6	5.0	SOUTHERN SUMATRA, INDONESIA	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic	Coordinates		Depth	Epicentral distance		Magnitude	Region
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb	Ms		
937.	9 16	14	1	47.4	-11.812	42.018	2	57.23	5.0	4.2	COMOROS REGION	
938.	9 16	15	21	33.8	-22.653	-175.878	35	84.93	4.7	-	TONGA REGION	
939.	9 16	21	9	38.5	-23.962	-66.740	185	73.12	4.6	-	JUJUY, ARGENTINA	
940.	9 16	21	16	50.8	47.186	155.577	35	142.54	5.2	-	EAST OF THE KURIL ISLANDS	
941.	9 17	5	55	45.1	54.157	169.270	10	153.18	5.2	-	KOMANDORSKIYE OSTROVA, RUSSIA REGION	
942.	9 17	11	52	12.6	-18.265	-175.488	262	89.30	5.0	-	TONGA	
943.	9 17	13	1	30.5	-24.945	179.843	491	81.84	4.5	-	SOUTH OF THE FIJI ISLANDS	
944.	9 17	14	31	49.3	5.640	126.004	109	94.19	5.4	-	MINDANAO, PHILIPPINES	
945.	9 18	2	39	37.0	-13.413	-76.855	35	86.30	4.7	-	NEAR COAST OF CENTRAL PERU	
946.	9 18	10	3	52.6	0.132	97.801	24	79.43	5.1	-	NIAS REGION, INDONESIA	
947.	9 18	23	51	4.7	-24.017	-66.852	187	73.11	4.5	-	JUJUY, ARGENTINA	
948.	9 19	7	27	50.9	-2.724	100.977	35	77.73	6.7	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
949.	9 19	8	7	18.5	-0.896	127.508	35	88.63	4.6	-	HALMAHERA, INDONESIA	
950.	9 19	9	30	48.6	-3.803	101.187	35	76.78	5.1	-	SOUTHERN SUMATRA, INDONESIA	
951.	9 19	12	20	25.2	-46.619	118.769	10	43.75	4.9	-	SOUTH OF AUSTRALIA	
952.	9 19	17	16	46.2	-32.272	-13.944	10	47.08	5.5	-	SOUTHERN MID-ATLANTIC RIDGE	
953.	9 19	23	32	14.1	-4.648	131.336	35	86.49	5.2	-	BANDA SEA	
954.	9 20	0	50	21.2	-4.283	101.257	35	76.35	5.3	-	SOUTHERN SUMATRA, INDONESIA	
955.	9 20	2	24	6.9	-58.555	149.006	6	42.89	5.1	-	WEST OF MACQUARIE ISLAND	
956.	9 20	3	31	9.8	19.229	121.300	38	105.20	5.0	-	BABUYAN ISL REG, PHILIPPINES	
957.	9 20	7	30	38.2	-16.039	-73.715	59	82.82	4.9	-	NR CST S PERU	
958.	9 20	8	31	14.3	-2.022	100.137	30	78.12	6.4	6.5	KEPULAUAN MENTAWAI REGION, INDONESIA	
959.	9 20	8	35	58.0	-14.152	166.507	312	89.04	4.6	-	VANUATU	
960.	9 20	9	29	19.3	-10.190	116.972	35	76.19	5.4	-	SOUTH OF LOMBOK, INDONESIA	
961.	9 20	17	8	45.2	51.608	178.826	68	154.39	5.1	-	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA	
962.	9 21	13	33	10.2	-2.287	99.432	35	77.65	5.1	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
963.	9 23	14	13	42.3	-2.157	99.909	19	77.92	5.6	5.4	KEPULAUAN MENTAWAI REGION, INDONESIA	
964.	9 23	15	29	53.7	-7.792	111.231	155	76.41	4.8	-	JAVA, INDONESIA	
965.	9 23	22	23	57.6	-3.692	100.797	35	76.76	5.3	-	KEPULAUAN MENTAWAI REGION, INDONESIA	
966.	9 23	23	24	5.9	-3.637	100.793	35	76.81	5.0	-	KEPULAUAN MENTAWAI REG, IND.	
967.	9 24	2	25	44.8	-12.575	-71.199	27	85.27	5.1	-	CENTRAL PERU	
968.	9 24	9	33	34.0	-15.159	167.744	10	88.41	5.0	-	VANUATU	
969.	9 24	9	51	6.9	-1.602	100.078	35	78.50	5.4	-	SOUTHERN SUMATRA, INDONESIA	
970.	9 24	10	29	18.3	9.339	126.666	40	97.88	5.0	-	MINDANAO, PHILIPPINES	
971.	9 24	11	55	8.8	-11.791	166.097	57	91.19	5.2	-	SANTA CRUZ ISLANDS	
972.	9 24	12	26	31.2	-4.324	101.542	35	76.40	5.5	-	SOUTHERN SUMATRA, INDONESIA	



Table 2. Continued.

No.	Date	Origin time UTC			Geographic	Coordinates	Depth	Epicentral		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)	(km)	(deg)	Mb	Ms		
973.	9	24	14	48	10.7	51.336	-178.574	35	155.01	5.0	4.2	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
974.	9	24	17	35	25.6	-5.920	105.492	15	76.20	5.2	-	SUNDA STRAIT, INDONESIA
975.	9	24	19	6	38.7	-19.570	-68.487	63	77.80	4.9	-	ORURO, BOLIVIA
976.	9	24	21	25	48.2	-4.419	101.276	35	76.22	5.0	-	SOUTHERN SUMATRA, INDONESIA
977.	9	24	22	42	32.1	-20.603	-178.737	605	86.37	4.7	-	FIJI REGION
978.	9	25	8	27	4.7	-1.788	100.441	35	78.44	5.6	-	SOUTHERN SUMATRA, INDONESIA
979.	9	25	14	44	23.9	-6.816	129.933	112	83.97	4.8	-	BANDA SEA
980.	9	25	17	12	52.5	-30.615	-177.042	35	76.93	4.8	-	KERMADEC ISL, NEW ZEALAND
981.	9	25	21	54	59.2	7.921	126.527	89	96.51	5.1	-	MINDANAO, PHILIPPINES
982.	9	26	4	43	17.4	-3.904	-79.164	99	96.04	6.2	-	NEAR THE COAST OF ECUADOR
983.	9	26	12	50	0.7	-5.039	153.529	69	93.79	5.6	-	NEW IRELAND REG, P.N.G.
984.	9	26	14	39	59.9	-5.175	153.584	10	93.68	5.4	4.8	NEW IRELAND REG, P.N.G.
985.	9	26	15	43	1.4	-1.746	99.515	26	78.19	5.8	6.1	KEPULAUAN MENTAWAI REGION, INDONESIA
986.	9	27	19	57	45.4	-21.278	169.366	21	82.95	6.2	6.3	SOUTHEAST OF THE LOYALTY ISLANDS
987.	9	27	20	25	58.7	-21.205	169.304	10	83.01	5.2	-	SOUTHEAST OF LOYALTY ISLANDS
988.	9	27	20	47	20.4	-21.208	169.274	10	83.00	5.4	-	SOUTHEAST OF LOYALTY ISLANDS
989.	9	27	22	1	13.3	-21.285	169.377	10	82.95	5.4	-	SOUTHEAST OF LOYALTY ISLANDS
990.	9	27	22	10	10.6	-21.187	169.235	10	83.01	4.9	-	SOUTHEAST OF LOYALTY ISLANDS
991.	9	28	1	1	48.2	-21.347	169.420	10	82.90	5.9	6.4	SOUTHEAST OF THE LOYALTY ISLANDS
992.	9	28	1	25	15.5	-21.197	169.426	10	83.05	5.6	-	SOUTHEAST OF LOYALTY ISLANDS
993.	9	28	1	35	51.5	-21.257	169.440	10	82.99	6.1	6.5	SOUTHEAST OF THE LOYALTY ISLANDS
994.	9	28	1	50	59.8	-21.287	169.442	10	82.97	5.3	-	SOUTHEAST OF THE LOYALTY ISLANDS
995.	9	28	2	20	3.9	-21.291	169.411	10	82.95	5.1	-	SOUTHEAST OF LOYALTY ISLANDS
996.	9	28	6	19	13.3	-27.191	-66.995	130	70.20	4.3	-	CATAMARCA, ARGENTINA
997.	9	28	8	21	22.1	-21.308	169.427	10	82.94	5.4	-	SOUTHEAST OF LOYALTY ISLANDS
998.	9	28	11	44	22.3	-19.899	-178.257	559	87.15	5.0	-	FIJI REGION
999.	9	29	5	32	44.4	2.933	95.590	35	81.42	5.6	-	SIMEULUE, INDONESIA
1000.	9	29	6	42	34.2	5.977	127.508	22	95.04	5.6	5.2	PHILIPPINE ISLANDS REGION
1001.	9	29	16	10	7.4	-28.456	-176.989	35	79.04	5.1	-	KERMADEC ISLANDS REGION
1002.	9	29	17	24	58.7	-21.147	169.244	10	83.05	5.3	-	SOUTHEAST OF LOYALTY ISLANDS
1003.	9	29	23	38	0.6	-21.295	170.949	10	83.34	5.1	-	SOUTHEAST OF LOYALTY ISLANDS
1004.	9	30	5	23	34.1	-49.418	163.954	10	54.86	6.4	7.3	AUCKLAND ISLANDS, NEW ZEALAND REGION
1005.	10	1	13	35	26.8	-49.177	164.029	10	55.10	5.0	-	AUCKLAND ISLANDS, NEW ZEALAND REGION
1006.	10	1	13	50	24.4	-3.240	148.216	10	93.72	5.4	5.5	BISMARCK SEA
1007.	10	1	16	19	56.6	-48.910	164.370	10	55.43	4.9	-	OFF W COAST OF S ISL., N.Z.
1008.	10	1	17	31	11.3	-19.920	-174.240	10	87.91	4.7	-	TONGA

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
1009.	10	2	14	39	57.7	-1.929	99.679	30	78.07	5.2	-	KEPULAUAN MENTAWAI REGION, INDONESIA
1010.	10	2	15	33	1.4	-25.894	-70.579	29	72.56	5.0	-	ANTOFAGASTA, CHILE
1011.	10	2	15	38	26.5	-25.858	-70.642	29	72.61	5.4	4.6	ANTOFAGASTA, CHILE
1012.	10	2	16	12	16.3	-20.191	-177.749	530	86.97	4.3	-	FIJI REGION
1013.	10	2	18	0	8.3	54.581	-161.768	48	162.74	6.2	-	ALASKA PENINSULA
1014.	10	2	18	3	54.4	54.440	-161.640	46	162.64	5.8	-	ALASKA PENINSULA
1015.	10	3	15	40	10.0	-21.517	169.325	39	82.71	4.8	-	SOUTHEAST OF LOYALTY ISLANDS
1016.	10	3	19	15	12.6	-41.977	172.962	68	63.92	5.3	-	SOUTH ISLAND OF NEW ZEALAND
1017.	10	3	23	36	11.9	-21.446	168.053	10	82.45	5.4	-	LOYALTY ISLANDS
1018.	10	4	8	42	41.7	-19.971	-177.678	349	87.20	4.8	-	FIJI REGION
1019.	10	4	14	28	36.4	-8.288	116.848	15	77.92	5.7	-	LOMBOK REGION, INDONESIA
1020.	10	4	18	23	55.1	-21.410	-178.980	622	85.53	4.6	-	FIJI REGION
1021.	10	5	7	17	64.7	-25.243	179.414	636	81.46	6.0	-	SOUTH OF THE FIJI ISLANDS
1022.	10	5	9	22	36.9	-4.389	101.306	35	76.26	5.2	-	SOUTHERN SUMATRA, INDONESIA
1023.	10	5	20	29	6.0	-13.578	-76.885	47	86.15	5.0	-	NEAR COAST OF CENTRAL PERU
1024.	10	5	23	5	47.5	-13.651	-77.013	35	86.12	4.9	-	OFF COST CEN PERU
1025.	10	6	2	37	13.9	-11.964	165.925	28	90.97	5.1	-	SANTA CRUZ ISLANDS
1026.	10	6	3	3	41.4	-23.272	-177.255	187	84.06	5.2	-	SOUTH OF THE FIJI ISLANDS
1027.	10	6	12	38	27.5	-19.563	-177.752	342	87.58	4.8	-	FIJI REGION
1028.	10	8	8	18	42.4	-41.832	-16.417	10	39.27	5.1	-	SOUTHERN MID-ATLANTIC RIDGE
1029.	10	8	16	30	20.1	-32.635	-71.533	35	66.57	4.8	-	OFFSHORE VALPARAISO, CHILE
1030.	10	8	17	10	36.2	43.342	146.791	56	136.08	5.8	-	KURIL ISLANDS
1031.	10	9	1	52	24.1	-13.605	-76.295	50	85.94	5.1	-	NEAR COAST OF CENTRAL PERU
1032.	10	9	3	22	37.2	-6.604	71.607	10	65.97	5.2	-	CHAGOS ARCHIPELAGO REGION
1033.	10	9	8	57	33.3	-10.855	162.060	79	90.92	5.2	-	SOLOMON ISLANDS
1034.	10	9	15	3	41.2	-4.794	152.861	43	93.80	5.7	5.7	NEW BRITAIN REGION, PAPUA NEW GUINEA
1035.	10	10	1	50	58.3	-15.380	-173.186	14	92.56	5.2	-	TONGA
1036.	10	10	5	18	59.0	-25.116	179.745	622	81.65	4.8	-	SOUTH OF THE FIJI ISLANDS
1037.	10	10	11	21	26.0	-25.860	179.601	485	80.90	5.0	-	SOUTH OF THE FIJI ISLANDS
1038.	10	10	12	25	37.2	9.715	91.875	30	86.81	5.1	-	NICOBAR ISL, INDIA REGION
1039.	10	10	21	6	46.6	0.575	120.417	52	87.47	5.1	-	MINAHASA, SULAWESI, IND.
1040.	10	10	23	11	49.5	-21.221	170.144	66	83.21	5.3	-	SOUTHEAST OF LOYALTY ISLANDS
1041.	10	11	4	45	48.5	-28.594	-69.919	105	69.83	4.8	-	ATACAMA, CHILE
1042.	10	11	5	31	55.9	-18.442	168.982	220	85.58	5.3	-	VANUATU
1043.	10	11	16	25	5.4	-49.168	164.038	8	55.11	5.4	-	AUCKLAND ISLANDS, NEW ZEALAND REGION
1044.	10	12	8	23	16.3	-17.081	-172.551	35	91.01	4.8	-	TONGA REGION

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
1045.	10	12	11	33	33.5	-5.715	146.030	54	90.65	4.9	-	E NEW GUINEA REG, P. N. G.
1046.	10	13	17	45	53.3	-21.242	169.200	40	82.95	5.8	-	SOUTHEAST OF THE LOYALTY ISLANDS
1047.	10	13	20	20	24.3	-4.582	144.219	98	91.09	4.7	-	NR N CST NEW GUINEA, P. N. G.
1048.	10	14	2	11	4.1	-10.667	165.970	170	92.23	4.6	-	SANTA CRUZ ISLANDS
1049.	10	14	3	48	44.1	-21.245	169.127	110	82.92	5.2	-	SOUTHEAST OF LOYALTY ISLANDS
1050.	10	14	4	58	27.9	-21.075	169.138	43	83.09	5.0	-	SOUTHEAST OF LOYALTY ISLANDS
1051.	10	14	11	2	59.0	0.690	98.661	74	80.23	5.0	-	NTAS REGION, INDONESIA
1052.	10	15	21	39	11.6	-46.254	-75.291	35	55.07	5.2	-	NEAR COAST OF AISEN, CHILE
1053.	10	16	13	37	53.4	-45.935	-76.353	10	55.66	5.2	4.5	OFF COAST OF AISEN, CHILE
1054.	10	16	18	53	56.8	-18.125	167.894	146	85.60	4.8	-	VANUATU
1055.	10	18	23	27	33.3	2.801	127.227	33	91.98	4.6	-	MOLUCCA SEA
1056.	10	19	8	5	50.4	-24.045	-66.528	190	72.98	4.7	-	JUJUY, ARGENTINA
1057.	10	20	8	52	41.9	-15.345	-71.795	133	82.86	4.6	-	SOUTHERN PERU
1058.	10	20	11	58	18.8	-20.915	-178.368	542	86.14	4.6	-	FIJI REGION
1059.	10	20	19	25	34.9	5.315	126.289	61	93.99	5.1	-	MINDANAO, PHILIPPINES
1060.	10	20	19	56	20.8	-36.416	-72.895	36	63.47	5.2	-	OFFSHORE BIO-BIO, CHILE
1061.	10	20	21	40	9.9	-16.509	-174.134	95	91.28	4.9	-	TONGA
1062.	10	20	23	40	33.8	-8.515	111.576	15	75.76	4.8	-	JAVA, INDONESIA
1063.	10	21	10	24	52.1	-6.325	154.753	47	92.97	6.0	5.7	BOUGAINVILLE REGION, PAPUA NEW GUINEA
1064.	10	21	12	40	4.3	-3.303	100.368	10	76.88	5.4	-	KEPULAUAN MENTAWAI REG, IND.
1065.	10	21	14	24	20.0	-3.576	100.769	35	76.86	5.5	5.4	KEPULAUAN MENTAWAI REGION, INDONESIA
1066.	10	21	16	25	34.1	-3.633	100.840	22	76.82	5.3	-	KEPULAUAN MENTAWAI REGION, INDONESIA
1067.	10	22	4	28	10.4	-21.404	168.469	10	82.50	5.1	-	LOYALTY ISLANDS
1068.	10	22	6	11	13.6	-2.946	141.367	60	91.54	5.8	-	NR N CST NEW GUINEA, P. N. G.
1069.	10	22	6	14	42.4	-2.912	141.410	79	91.68	5.2	-	NR N CST NEW GUINEA, P. N. G.
1070.	10	22	10	24	2.7	-15.103	167.311	139	88.34	4.7	-	VANUATU
1071.	10	23	6	41	48.5	-6.292	154.725	65	92.99	5.3	-	BOUGAINVILLE REG, P. N. G.
1072.	10	23	19	56	47.0	-2.022	99.883	30	78.04	5.6	-	KEPULAUAN MENTAWAI REGION, INDONESIA
1073.	10	24	1	43	9.0	-14.998	-177.386	346	92.12	4.9	-	FIJI REGION
1074.	10	24	4	31	56.3	-9.062	106.747	34	73.68	4.8	-	SOUTH OF JAVA, INDONESIA
1075.	10	24	16	45	53.2	-12.029	-75.142	120	87.06	5.0	-	CENTRAL PERU
1076.	10	25	5	25	34.0	-3.478	100.719	33	76.93	5.4	4.9	KEPULAUAN MENTAWAI REG, IND.
1077.	10	25	7	32	6.8	-14.807	-75.472	69	84.54	4.8	-	NR CST CEN PERU
1078.	10	25	13	50	1.6	46.057	154.114	6	141.05	5.9	-	EAST OF THE KURIL ISLANDS
1079.	10	25	15	2	27.2	-28.633	-71.105	43	70.17	4.8	-	ATACAMA, CHILE
1080.	10	27	1	16	52.4	-31.555	-68.885	93	66.75	5.1	-	SAN JUAN, ARGENTINA

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
1081.	10	27	2	48	15.9	-20.276	-177.678	475	86.90	4.5	-	FIJI REGION
1082.	10	27	18	36	34.4	-20.937	-178.927	574	86.00	5.1	-	FIJI REGION
1083.	10	27	23	49	56.3	42.113	133.752	449	130.40	4.3	-	PRIMOR'YE, RUSSIA
1084.	10	28	15	24	5.4	-25.065	179.634	456	81.68	4.7	-	SOUTH OF THE FIJI ISLANDS
1085.	10	29	9	23	15.5	36.898	29.310	10	106.15	5.0	-	WESTERN TURKEY
1086.	10	30	2	49	56.6	-4.831	154.081	401	94.17	5.0	-	BOUGAINVILLE REG, P.N.G.
1087.	10	30	17	58	2.0	-20.102	-68.869	96	77.43	4.8	-	TARAPACA, CHILE
1088.	10	31	13	44	19.5	51.422	-178.426	28	155.13	5.8	5.7	ANDREANOF ISLANDS, ALUTIAN IS., ALASKA
1089.	10	31	15	54	42.6	-2.992	101.263	48	77.57	5.4	4.6	SOUTHERN SUMATRA, INDONESIA
1090.	10	31	21	15	55.4	3.539	-48.121	10	92.28	5.2	-	NORTH ATLANTIC OCEAN
1091.	10	31	22	6	45.8	-32.859	-178.348	35	74.49	5.3	-	SOUTH OF KERMADEC ISLANDS
1092.	11	1	0	5	22.4	-5.060	153.483	79	93.75	5.3	-	NEW IRELAND REGION, PAPUA NEW GUINEA
1093.	11	1	3	20	14.8	-17.678	167.604	88	85.95	4.9	-	VANUATU
1094.	11	3	18	6	25.8	-22.546	171.168	51	82.19	5.0	-	SOUTHEAST OF LOYALTY ISLANDS
1095.	11	4	22	56	54.1	-16.196	167.593	237	87.37	5.2	-	VANUATU
1096.	11	5	14	8	36.1	1.927	126.404	10	90.87	5.7	4.4	MOLUCCA SEA
1097.	11	6	14	10	43.7	-1.009	120.669	35	86.08	5.1	-	SULAWESI, IND.
1098.	11	6	17	28	15.7	-25.347	-179.845	398	81.51	4.5	-	SOUTH OF THE FIJI ISLANDS
1099.	11	7	9	9	52.2	-33.515	-179.431	50	73.65	5.2	-	SOUTH OF KERMADEC ISLANDS
1100.	11	7	15	6	16.4	-24.210	-69.552	73	73.81	5.0	-	ANTOFAGASTA, CHILE
1101.	11	8	6	16	52.0	-21.263	-178.044	409	85.86	4.5	-	FIJI REGION
1102.	11	8	7	44	31.1	-55.929	-27.927	90	31.57	5.3	-	SOUTH SANDWICH ISL REGION
1103.	11	9	6	54	3.1	-6.645	104.500	10	75.19	4.9	-	SUNDA STRAIT, INDONESIA
1104.	11	9	10	39	10.8	-22.869	172.145	35	82.12	5.4	-	SOUTHEAST OF LOYALTY ISLANDS
1105.	11	9	21	26	47.1	-56.236	-27.307	140	31.11	5.1	-	SOUTH SANDWICH ISL REGION
1106.	11	10	2	43	46.6	-8.536	107.884	35	74.56	5.2	-	JAVA, INDONESIA
1107.	11	11	7	37	36.6	-21.572	175.303	37	84.12	5.2	-	SOUTH OF THE FIJI ISLANDS
1108.	11	11	21	58	12.1	-32.048	-68.289	107	66.10	4.6	-	SAN JUAN, ARGENTINA
1109.	11	12	1	36	36.6	3.827	126.061	29	92.52	5.1	-	KEPULAUAN TALAUD, INDONESIA
1110.	11	12	15	24	2.0	-4.074	152.683	35	94.42	4.9	-	NEW BRITAIN REG, P.N.G.
1111.	11	12	18	12	25.3	-14.455	167.203	187	88.94	4.8	-	VANUATU
1112.	11	12	19	52	4.0	-25.477	-179.564	449	81.44	4.3	-	SOUTH OF THE FIJI ISLANDS
1113.	11	12	22	14	27.4	-3.014	141.327	38	91.56	4.8	-	NEW GUINEA, PAPUA NEW GUINEA
1114.	11	14	4	29	55.0	1.500	127.084	100	90.71	5.6	-	HALMAHERA, INDONESIA
1115.	11	14	15	40	50.4	-22.204	-69.869	40	76.79	6.8	7.4	ANTOFAGASTA, CHILE
1116.	11	14	17	18	45.5	-23.147	-70.008	46	74.95	5.0	-	ANTOFAGASTA, CHILE

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
1117.	11 14	17	44	4.3	-23.215	-70.526	38	75.05	5.7	-	ANTOFAGASTA, CHILE	
1118.	11 14	17	53	29.8	-23.243	-70.538	34	75.03	4.9	-	ANTOFAGASTA, CHILE	
1119.	11 14	17	56	51.2	-23.230	-70.501	49	75.03	4.6	-	ANTOFAGASTA, CHILE	
1120.	11 14	18	47	53.2	-11.526	166.205	63	91.47	5.3	-	SANTA CRUZ ISLANDS	
1121.	11 14	18	55	49.3	-22.736	-70.350	32	75.44	5.0	-	OFFSHORE ANTOFAGASTA, CHILE	
1122.	11 14	19	17	24.6	-22.374	-69.933	48	75.65	4.8	-	ANTOFAGASTA, CHILE	
1123.	11 15	1	46	35.4	-23.181	-70.515	14	75.08	6.0	-	ANTOFAGASTA, CHILE	
1124.	11 15	5	10	9.5	-31.020	59.355	10	39.74	4.8	-	SOUTHWEST INDIAN RIDGE	
1125.	11 15	11	14	51.3	-23.175	-70.766	27	75.17	5.0	-	OFFSHORE ANTOFAGASTA, CHILE	
1126.	11 15	15	3	8.7	-22.813	-70.314	27	75.36	5.9	-	OFFSHORE ANTOFAGASTA, CHILE	
1127.	11 15	15	15	49.1	-22.641	-70.162	28	75.47	5.6	-	ANTOFAGASTA, CHILE	
1128.	11 15	15	45	49.8	-22.989	-70.647	36	75.30	4.8	-	OFFSHORE ANTOFAGASTA, CHILE	
1129.	11 15	17	18	22.5	-22.842	-175.199	40	84.87	5.8	-	TONGA REGION	
1130.	11 15	21	12	25.8	-22.877	-70.679	35	75.42	4.9	-	OFFSHORE ANTOFAGASTA, CHILE	
1131.	11 16	3	13	0.0	-2.271	-77.804	123	97.16	6.3	-	PERU-ECUADOR BORDER REGION	
1132.	11 16	7	52	21.0	-5.528	151.686	41	92.72	5.3	-	NEW BRITAIN REG, P.N.C.	
1133.	11 16	8	42	41.0	-22.504	-70.321	22	75.65	6.4	-	OFFSHORE ANTOFAGASTA, CHILE	
1134.	11 16	14	34	7.2	-23.381	-70.466	29	74.88	5.0	-	ANTOFAGASTA, CHILE	
1135.	11 16	17	5	22.2	-22.074	-69.828	61	75.90	4.7	-	ANTOFAGASTA, CHILE	
1136.	11 16	22	12	14.8	-23.726	-179.849	481	83.09	4.9	-	SOUTH OF THE FIJI ISLANDS	
1137.	11 17	3	7	32.5	-22.970	-70.195	33	75.18	5.4	-	ANTOFAGASTA, CHILE	
1138.	11 17	18	4	38.9	-23.197	-70.717	29	75.13	4.9	-	OFFSHORE ANTOFAGASTA, CHILE	
1139.	11 17	18	13	13.4	-23.176	-70.624	10	75.12	5.2	-	OFFSHORE ANTOFAGASTA, CHILE	
1140.	11 17	19	59	23.3	-23.186	-70.688	36	75.13	4.7	-	OFFSHORE ANTOFAGASTA, CHILE	
1141.	11 17	22	17	32.7	-23.106	-70.505	32	75.15	5.0	-	ANTOFAGASTA, CHILE	
1142.	11 18	0	31	59.2	-21.637	-176.590	161	85.78	4.8	-	FIJI REGION	
1143.	11 18	7	2	38.3	-18.518	-69.461	64	79.11	5.5	-	TARAPACA, CHILE	
1144.	11 18	14	42	56.8	-54.990	-129.670	10	55.72	4.9	-	PACIFIC-ANTARCTIC RIDGE	
1145.	11 18	15	24	53.2	-22.912	-70.716	17	75.40	5.1	-	OFFSHORE ANTOFAGASTA, CHILE	
1146.	11 18	22	42	12.4	-27.343	-63.388	564	68.87	4.4	-	SANTIAGO DEL ESTERO, ARG.	
1147.	11 19	15	20	3.5	-21.960	173.439	10	83.31	5.5	5.7	VANUATU REGION	
1148.	11 19	18	19	19.9	-22.923	-70.643	15	75.36	4.9	-	OFFSHORE ANTOFAGASTA, CHILE	
1149.	11 19	20	21	8.3	-22.989	-70.692	17	75.32	4.8	-	OFFSHORE ANTOFAGASTA, CHILE	
1150.	11 19	20	32	47.9	-43.541	-127.507	10	153.59	5.4	5.2	OFF THE COAST OF OREGON	
1151.	11 20	0	51	10.2	-23.036	-70.070	35	75.07	4.9	-	ANTOFAGASTA, CHILE	
1152.	11 20	4	56	24.7	-21.891	-70.009	51	76.13	5.1	-	ANTOFAGASTA, CHILE	

Table 2. Continued.

No.	Date		Origin time UTC			Geographic Latitude	Coordinates Longitude	Depth (km)	Epicentral distance		Magnitude		Region
	h	m	s	(deg)	(deg)	(km)	(deg)	Mb	Ms				
1153.	11	20	11	46	28.8	32.671	140.756	43	124.43	5.2	-	IZU ISLANDS, JAPAN REGION	
1154.	11	20	13	10	49.6	-22.747	-66.266	228	74.10	4.6	-	JUJUY, ARGENTINA	
1155.	11	20	15	28	29.0	-29.744	-177.925	59	77.61	5.9	-	KERMADEC ISLANDS, NEW ZEALAND	
1156.	11	20	16	44	32.2	-23.157	-70.460	39	75.09	5.2	-	ANTOFAGASTA, CHILE	
1157.	11	20	17	55	53.0	-22.848	-70.447	24	75.37	5.7	-	OFFSHORE ANTOFAGASTA, CHILE	
1158.	11	20	22	38	33.0	-22.945	-70.643	35	75.34	4.8	-	OFFSHORE ANTOFAGASTA, CHILE	
1159.	11	20	22	59	28.5	-4.338	101.260	35	76.29	5.4	-	SOUTHERN SUMATRA, INDONESIA	
1160.	11	21	3	30	13.2	3.054	96.340	41	81.76	5.1	-	NORTHERN SUMATRA, INDONESIA	
1161.	11	21	6	48	29.6	-21.055	-179.232	606	85.82	4.8	-	FIJI REGION	
1162.	11	21	8	9	14.4	-32.889	-179.232	53	74.29	5.2	-	SOUTH OF KERMADEC ISLANDS	
1163.	11	21	12	55	5.4	-24.807	-68.397	116	72.88	5.6	-	SALTA, ARGENTINA	
1164.	11	21	14	39	56.2	2.441	127.801	77	91.85	5.0	-	MOLUCCA SEA	
1165.	11	21	19	4	1.4	7.688	93.678	35	85.39	4.9	-	NICOBAR ISL., INDIA REGION	
1166.	11	21	20	30	4.4	1.553	126.421	41	90.52	5.2	-	MOLUCCA SEA	
1167.	11	22	8	48	29.7	-5.795	147.113	73	90.94	6.0	-	EASTERN NEW GUINEA REG, PAPUA NEW GUINEA	
1168.	11	22	10	38	55.7	51.183	-179.755	47	154.49	5.4	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA	
1169.	11	22	20	30	19.3	-19.131	168.793	32	84.87	5.1	-	VANUATU	
1170.	11	23	12	38	51.3	-17.699	-174.924	35	89.96	5.3	-	TONGA	
1171.	11	23	19	18	47.4	-53.201	9.440	10	20.90	5.1	4.9	SOUTHWEST OF AFRICA	
1172.	11	24	5	2	7.6	-23.742	-68.759	95	73.99	5.6	-	ANTOFAGASTA, CHILE	
1173.	11	24	10	4	2.4	-2.026	128.047	35	87.76	5.3	-	CERAM SEA, INDONESIA	
1174.	11	24	10	46	9.2	-56.582	158.114	10	46.90	5.3	-	MACQUARIE ISLAND REGION	
1175.	11	25	1	48	38.7	-7.327	156.088	118	92.45	4.7	-	SOLOMON ISLANDS	
1176.	11	25	11	26	14.1	-25.735	178.230	654	80.73	5.0	-	SOUTH OF THE FIJI ISLANDS	
1177.	11	25	16	2	18.7	-8.294	118.360	43	78.45	6.2	6.3	SUMBAWA REGION, INDONESIA	
1178.	11	25	20	28	25.4	-16.166	-173.047	35	91.81	5.1	-	TONGA	
1179.	11	25	21	18	4.8	-29.493	-179.093	251	77.63	4.9	-	KERMADEC ISLANDS REGION	
1180.	11	25	22	50	33.6	-16.248	-172.922	35	91.76	5.3	-	SAMOA ISLANDS REGION	
1181.	11	26	2	31	58.2	-8.221	118.592	35	78.60	5.4	-	SUMBAWA REGION, INDONESIA	
1182.	11	26	6	14	55.0	-22.486	-69.929	28	75.54	5.0	-	ANTOFAGASTA, CHILE	
1183.	11	26	6	44	6.4	0.330	97.021	37	79.37	5.1	-	NIAS REGION, INDONESIA	
1184.	11	26	6	58	54.1	-22.772	-70.549	36	75.47	4.8	-	OFFSHORE ANTOFAGASTA, CHILE	
1185.	11	26	8	14	54.4	-8.189	118.710	35	78.67	5.4	-	SUMBAWA REGION, INDONESIA	
1186.	11	26	11	3	48.6	-2.228	100.452	35	78.03	5.2	-	KEPULAUAN MENTAWAI REG, IND.	
1187.	11	26	13	51	39.4	37.407	141.572	39	128.98	5.7	5.5	NEAR THE EAST COAST OF HONSHU, JAPAN	
1188.	11	27	0	48	39.8	-22.870	-70.607	35	75.40	5.1	-	OFFSHORE ANTOFAGASTA, CHILE	

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s				(deg)	(deg)	Mb	Ms	
1189.	11	27	3	34	12.3	-22.944	-70.181	30	75.20	5.0	-	ANTOFAGASTA, CHILE
1190.	11	27	9	24	12.5	-19.255	-177.752	556	87.88	5.2	-	FIJI REGION
1191.	11	27	10	13	49.9	-1.296	-13.208	12	76.08	5.6	-	NORTH OF ASCENSION ISLAND
1192.	11	27	12	52	52.0	-7.409	128.593	156	82.94	5.0	-	KEPULAUAN BARAT DAYA, IND.
1193.	11	27	15	46	10.8	-1.588	100.471	35	78.64	5.3	-	SOUTHERN SUMATRA, INDONESIA
1194.	11	28	10	5	69.2	-2.348	100.437	52	77.91	5.0	-	KEPULAUAN MENTAWAI REG, IND.
1195.	11	29	2	59	10.3	-21.129	33.147	10	48.01	5.2	-	MOZAMBIQUE
1196.	11	29	8	46	38.0	-56.332	-28.276	188	31.38	5.1	-	SOUTH SANDWICH ISL REGION
1197.	11	29	9	3	14.7	4.428	127.884	107	93.73	5.0	-	KEPULAUAN TALAUD, INDONESIA
1198.	11	29	19	0	19.1	14.943	-61.244	146	107.60	5.8	-	MARTINIQUE REGION, WINDWARD ISLANDS
1199.	11	30	1	11	47.1	-11.023	162.294	46	90.83	5.2	-	SOLOMON ISLANDS
1200.	11	30	17	2	49.6	-3.649	131.375	29	87.44	4.8	-	CERAM SEA, INDONESIA
1201.	12	1	1	44	32.3	1.997	97.908	46	81.23	5.7	-	NIAS REGION, INDONESIA
1202.	12	1	3	35	40.7	-54.317	159.086	10	49.18	5.3	-	MACQUARIE ISLAND REGION
1203.	12	1	16	9	57.2	-21.488	-176.310	76	86.98	5.1	-	FIJI REGION
1204.	12	1	23	1	27.4	-7.184	105.793	42	75.12	5.3	-	JAVA, INDONESIA
1205.	12	1	23	49	27.8	-16.863	-173.601	45	91.03	5.1	-	TONGA
1206.	12	2	6	33	17.8	-2.273	100.507	51	78.00	5.4	-	KEPULAUAN MENTAWAI REGION, INDONESIA
1207.	12	2	15	57	41.4	-21.048	-179.011	596	85.87	4.8	-	FIJI REGION
1208.	12	4	3	37	8.8	1.992	126.203	97	90.86	5.6	-	MOLUCCA SEA
1209.	12	4	15	48	45.6	-8.625	122.507	142	79.62	5.1	-	FLORES REGION, INDONESIA
1210.	12	4	19	56	57.5	-17.540	-70.205	47	80.27	5.2	-	S PERU
1211.	12	5	8	16	13.1	-56.538	-28.081	259	31.15	4.7	-	SOUTH SANDWICH ISL REGION
1212.	12	6	1	11	12.1	-23.261	-70.525	26	75.01	5.1	-	ANTOFAGASTA, CHILE
1213.	12	6	16	1	31.6	-7.264	155.972	40	92.47	5.1	-	SOLOMON ISLANDS
1214.	12	6	21	43	47.2	12.276	125.427	39	100.17	5.4	-	SAMAR, PHILIPPINES
1215.	12	7	10	45	53.7	-10.026	113.482	10	75.11	5.4	-	SOUTH OF JAVA, INDONESIA
1216.	12	7	18	24	42.3	-4.468	144.141	98	91.17	4.9	-	NR N CST NEW GUINEA, P.N.G.
1217.	12	8	8	16	57.9	-19.101	-68.883	118	78.37	4.5	-	TARAPACA, CHILE
1218.	12	10	12	13	33.2	-3.656	144.330	35	92.00	5.5	-	NR N CST NEW GUINEA, P.N.G.
1219.	12	10	14	28	9.5	-7.486	-75.728	131	91.55	4.7	-	NORTHERN PERU
1220.	12	10	22	4	24.2	-15.666	173.274	10	89.35	5.0	-	FIJI REGION
1221.	12	11	17	20	58.5	-62.060	-66.155	36	38.66	5.7	5.4	SOUTHERN PACIFIC OCEAN
1222.	12	11	17	46	1.1	-30.198	-177.845	63	77.18	5.1	-	KERMADEC ISL, NEW ZEALAND
1223.	12	12	6	29	23.4	51.239	150.600	501	144.15	4.6	-	SEA OF OKHOTSK
1224.	12	12	17	35	5.8	50.738	173.390	10	151.82	5.1	4.7	SOUTH OF THE ALEUTIAN ISLANDS

Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude	Coordinates Longitude	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s	(deg)	(deg)	(deg)	Mb	Ms			
1225.	12 13	1	8	33.2	-30.208	-177.511	31	77.23	5.0	-	KERMADEC ISL., NEW ZEALAND	
1226.	12 13	2	59	42.8	-26.790	-176.482	40	80.77	4.9	-	SOUTH OF THE FIJI ISLANDS	
1227.	12 13	5	20	25.5	-23.167	-70.540	41	75.10	5.5	6.8	ANTOFAGASTA, CHILE	
1228.	12 13	5	35	26.8	-23.091	-70.531	37	75.17	5.3	-	ANTOFAGASTA, CHILE	
1229.	12 13	7	11	58.1	-3.084	129.812	35	87.41	4.9	-	SERAM, INDONESIA	
1230.	12 13	15	51	29.4	-15.178	-172.402	33	92.90	6.0	5.9	SAMOA ISLANDS REGION	
1231.	12 21	3	10	57.2	-57.727	-141.394	10	53.26	5.0	-	PACIFIC-ANTARCTIC RIDGE	
1232.	12 21	7	23	36.4	51.265	-178.970	35	154.82	5.7	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA	
1233.	12 21	7	24	35.6	51.335	-178.963	35	154.88	6.0	6.1	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA	
1234.	12 22	2	22	7.8	-22.977	-114.232	10	85.99	5.5	-	EASTER ISLAND REGION	
1235.	12 22	4	50	43.3	-17.211	-174.069	84	90.60	5.1	-	TONGA	
1236.	12 22	7	11	9.3	-2.373	139.092	27	91.38	6.0	6.1	NEAR THE NORTH COAST OF PAPUA, INDONESIA	
1237.	12 22	12	26	18.8	2.108	96.836	32	81.01	5.6	5.9	SOUTHERN SUMATRA, INDONESIA	
1238.	12 23	12	56	13.3	-4.044	39.215	10	64.96	5.0	-	KENYA	
1239.	12 23	13	10	29.2	-8.942	123.730	118	79.77	5.4	-	FLORES REGION, INDONESIA	
1240.	12 23	13	45	27.5	-2.755	36.158	10	66.28	5.4	4.6	TANZANIA	
1241.	12 23	15	47	22.2	4.048	125.290	179	92.45	4.9	-	KEPULAUAN SANGIHE, INDONESIA	
1242.	12 24	7	42	5.7	53.911	161.351	36	150.15	5.0	-	OFF E CST KAMCHATKA, RUSSIA	
1243.	12 24	10	43	48.4	-26.628	-176.100	45	81.00	5.2	-	SOUTH OF THE FIJI ISLANDS	
1244.	12 24	20	56	20.6	-4.464	101.092	35	76.12	5.2	-	SOUTHERN SUMATRA, INDONESIA	
1245.	12 24	21	21	54.4	-4.273	101.248	38	76.35	5.3	-	SOUTHERN SUMATRA, INDONESIA	
1246.	12 25	1	48	50.3	-17.649	-178.451	508	89.31	5.0	-	FIJI REGION	
1247.	12 25	12	16	56.4	-22.995	-70.133	50	75.13	4.9	-	ANTOFAGASTA, CHILE	
1248.	12 25	16	20	52.4	-19.457	-69.050	113	78.10	5.7	-	TARAPACA, CHILE	
1249.	12 26	5	6	8.2	-22.049	-176.441	154	85.41	5.3	-	SOUTH OF THE FIJI ISLANDS	
1250.	12 26	6	38	25.6	-6.557	153.235	171	92.26	4.7	-	NEW BRITAIN REG, P.N.G.	
1251.	12 26	14	57	1.9	-23.802	-179.599	477	83.07	4.7	-	SOUTH OF THE FIJI ISLANDS	
1252.	12 26	15	37	5.0	-7.447	130.685	10	83.65	4.7	-	KEPULAUAN TANIMBAR REG, IND.	
1253.	12 26	17	12	45.2	-5.392	131.178	17	85.74	5.5	-	BANDA SEA	
1254.	12 26	23	40	52.7	-22.345	-68.330	97	75.15	5.7	-	ANTOFAGASTA, CHILE	
1255.	12 27	5	36	1.4	-5.476	147.074	199	91.23	4.9	-	E NEW GUINEA REG, P.N.G.	
1256.	12 27	11	44	29.0	-63.134	150.047	10	39.22	5.1	-	BALLENY ISLANDS REGION	
1257.	12 27	13	27	49.2	-23.573	179.881	523	83.18	4.7	-	SOUTH OF THE FIJI ISLANDS	
1258.	12 27	16	13	6.0	52.362	-168.335	20	159.01	5.2	-	FOX ISLANDS, ALEUTIAN ISLANDS, ALASKA	
1259.	12 27	15	27	2.6	52.425	-168.314	35	159.07	5.2	-	FOX ISLANDS, ALEUTIAN ISLANDS, ALASKA	
1260.	12 27	15	53	44.5	51.642	178.640	85	154.35	5.4	-	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA	



Table 2. Continued.

No.	Date	Origin time UTC			Geographic Latitude	Coordinates Longitude	Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s	(deg)	(deg)	(deg)	Mb	Ms			
1261.	12 27	17	52	16.3	9.585	126.205	75	97.94	5.4	-	MINDANAO, PHILIPPINES	
1262.	12 28	4	11	20.8	-13.641	166.551	44	89.54	5.3	5.4	VANUATU	
1263.	12 28	5	24	16.4	5.410	95.924	21	83.88	5.2	-	NORTHERN SUMATRA, INDONESIA	
1264.	12 28	5	24	16.4	5.410	95.924	21	83.88	5.2	-	NORTHERN SUMATRA, INDONESIA	
1265.	12 28	18	3	37.7	-38.760	176.281	89	67.71	5.0	-	NORTH ISLAND OF NEW ZEALAND	
1266.	12 28	21	59	42.0	-19.434	-173.977	35	88.44	5.0	-	TONGA	
1267.	12 30	4	26	25.7	-5.795	130.125	169	84.99	4.9	-	BANDA SEA	
1268.	12 30	6	24	2.5	-19.390	-173.866	38	88.50	5.3	-	TONGA	
1269.	12 31	9	36	5.5	-9.237	114.473	41	76.20	4.7	-	SOUTH OF BALI, INDONESIA	
1270.	12 31	10	39	44.1	-14.747	-75.349	28	84.56	5.0	-	NEAR THE COAST OF CENTRAL PERU	
1271.	12 31	10	59	3.4	-14.719	-75.374	32	84.60	5.0	-	NEAR THE COAST OF CENTRAL PERU	