# 3. UNDERWAY GEOPHYSICS[1]

Gregory R. Simmons[2] and Shipboard Scientific Party[3]

## INTRODUCTION

Geophysical data were collected during Leg 115 of the Ocean Drilling Program (ODP). *JOIDES Resolution* was under way for 12.8 days of the 43 days at sea, traveling approximately 3250 nmi between Port Louis, Mauritius, and Colombo, Sri Lanka.

Shipboard geophysical instrumentation includes two precision echo-sounders, a magnetometer, seismic-reflection profilers, and satellite navigation systems. The instruments were maintained and operated by ODP marine technicians, in cooperation with the scientific party and the officers and crew of SEDCO-FOREX, Inc.

Table 1 summarizes the types and amounts of geophysical data collected. Navigation and bathymetric data, as well as magnetic data, were routinely collected while under way, with coverage in each area consisting of approximately 3164 nmi (roughly 97% of the total distance traveled) and approximately 3076 nmi (roughly 95% of the total distance traveled), respectively. Seismic-reflection data, on the other hand, were collected for approximately 183 nmi only, generally on approach to sites, and covered roughly 6% of the total distance traveled.

## NAVIGATION

Navigation data were recorded in the Underway Geophysics Lab by a Magnavox 1107 GPS Transit Satellite Receiver. The previous source of raw data, collected on the bridge by a Magnavox 702A-3 Transit Satellite Receiver, was delegated to back-up use. The Global Positioning System (GPS) data are preferred over transit satellite and dead-reckoning positions because of the continually updated, higher-quality data available during a GPS "window." This "window" was a period of 4–5 hr each day when positioning data from three or more GPS satellites could be received. Routine collection of navigation data includes recording course and speed data by HIGHRES, the shipboard seismic data acquisition and processing software package.

A plot of the general navigation from Leg 115 is shown in Figure 1. This plot was generated from GPS transit satellite positions, course- and speed-change data, and on- and off-site information compiled from the bridge log, the underway geophysical log, and the HIGHRES tape headers. The Geological Data Center at Scripps Institution of Oceanography produced this navigation compilation (see Appendix). The final site locations are an average of all positions collected while on site.

Site approach surveys were generally carried out during GPS windows; therefore, the information used to reconstruct the ship's track around each drill site is entirely GPS data. The GPS fixes were printed to hard copy at a user-specified rate. The sampling density depends on the nature of the survey, generally one fix per 15–30 min in the initial part of the survey, and increasing to one fix per 1–5 min in more critical parts of the survey. The ship's tracks were assumed to proceed from point to point unless suggested otherwise by course-change information listed in the HIGHRES tape headers. The density of points illustrated does not necessarily conform with the amount of data collected, but is sufficient to ensure an accurate reconstruction of the ship's tracks.

## BATHYMETRIC DATA RECORDING

Bathymetric data were obtained with both 3.5-kHz (Raytheon recorder system) and 12-kHz (EDO 248C recorder system) echo-sounders. Unfortunately, because of poor transducer location, the quality of the recorded data was poor when the ship was traveling at speeds greater than 6 kt. Consequently, site surveys requiring detailed bathymetric data were conducted at speeds slower than 6 kt (see site chapters, this volume). Pertinent segments of these bathymetric data are presented in the site chapters and are not included in this chapter. A total of 3163 nmi of bathymetric data was collected on Leg 115 as summarized in Table 1, and a generalized bathymetric profile is presented in Figure 2.

## MAGNETICS

A Geometrics 801 proton procession magnetometer was used to collect a total of 3076 nmi of magnetic data on Leg 115, as summarized in Table 1. A generalized magnetic record is presented in Figure 2.

## SEISMIC-REFLECTION PROFILES

The seismic sources used aboard *JOIDES Resolution* during Leg 115 were two synchronized 80-in.[3] Seismic System, Inc. water guns operating at approximately 1900 psi. One 100-m-long Teledyne streamer containing 60 active sections, combined to produce a single signal, was deployed from the fantail and towed about 500 m behind the vessel.

Seismic data were displayed in real time in analog format on two EDO 550 dry-paper recorders, using only streamers, amplifier, and band-pass filters (Table 2). Seismic data were also recorded using a Masscomp 561 computer, which functions as the central unit to record, process, and display the data. Data were processed and displayed in real time on a 15-in.-wide Printronix high-resolution graphic printer (160 dots/in.). Raw data were recorded on magnetic tapes, using a SEG-Y format and a density of 1600 bits/in. Seismic lines recorded with the Masscomp were reprocessed at ODP headquarters according to the parameters listed in Table 3. The final data were displayed on a 22-in.-wide Versatec plotter (200 dots/in.).

We recorded 12 seismic lines during Leg 115, covering approximately 286 nmi (Table 1); these charts are available from the ODP Data Base Supervisor.

1. Seismic line 1A was collected en route to Site 705 along the track shown in Figure 3. The processed digital seismic profile is shown in Figure 4 (from Julian Day 140/0622 UTC/shotpoint 520 to Julian Day 140/0936 UTC/shotpoint 1491).

2. Seismic line 1B was collected on the approach to Sites 705 and 706 along the track shown in Figure 5. The processed digital

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[1] Backman, J., Duncan, R. A., et al., 1988. *Proc. ODP, Init. Repts.*, 115: College Station, TX (Ocean Drilling Program).

[2] Gregory R. Simmons, Department of Oceanography, Texas A&M University, College Station, TX 77843.

[3] Shipboard Scientific Party is as given in the list of Participants preceding the contents.

**Table 1. Geophysical data coverage.**

| Port Louis, Mauritius | to Sites 705/706 | to Site 707 | to Site 708 | to Site 709 | to Site 710 | to Site 711 | to Sites 712/713 | to Male | to Sites 714/715 | to Site 716 | to Male | to Colombo, Sri Lanka |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Line number | [a] Line 1 | Line 2 | Line 3 | Line 4 | Line 5 | Line 6 | Line 7 | Line 8 | Line 9 | Line 10 | Line 11A | Line 11B |
| Navigation and bathymetric data: | | | | | | | | | | | | |
| Start time | 139/1713 | 145/2101 | 152/2330 | 155/0753 | 159/0759 | 161/1009 | 164/0710 | 171/0842 | 173/1128 | 179/0340 | 180/1435 | 181/0609 |
| End time | 141/1711 | 147/0904 | 153/1306 | 155/2138 | 159/1649 | 161/2026 | 66/1959 | 173/0715 | 173/2254 | 179/0848 | 181/0240 | 182/1900 |
| Shotpoint intervals | 1–3073 | 12799–15887 | 1–1255 | 56–2075 | 1–818 | 1–1056 | 1–3154 | 1–1705 | 1–2217 | 1–882 | 1–448 | 575–5633 |
| Distance | 482.9 | 399.0 | 147.3 | 125.8 | 34.2 | 108.1 | 751.6 | 510.5 | 96.8 | 43.0 | 58.6 | [b] 383.5 |
| Total | 482.9 | 881.9 | 1029.2 | 1155.0 | 1189.2 | 1297.3 | 2048.9 | 2559.4 | 2656.2 | 2699.2 | 2757.8 | 3163.8 |
| Magnetic data: | | | | | | | | | | | | |
| Shotpoint intervals | 96–3064 | 12833–15887 | 19–1255 | 83–2075 | 180–818 | 27–1056 | 35–3130 | 32–1695 | 25–2059 | 28–882 | 218–448 | 575–5633 |
| Distance | 443.9 | 396.8 | 145.9 | 124.0 | 34.2 | 106.9 | 747.7 | 509.2 | 91.9 | 42.1 | 50.7 | 383.5 |
| Total | 443.9 | 840.7 | 986.6 | 1110.6 | 1144.8 | 1251.7 | 1999.4 | 2508.6 | 2600.5 | 2642.6 | 2693.3 | 3076.8 |
| Seismic-reflection data: | | | | | | | | | | | | |
| Shotpoint intervals | 520–1491 and 2738–3070 | 13967–15886 | 475–1251 | 535–2075 | 356–815 | 437–1056 | 2300–3154 | — | 440–2173 | 173–883 | — | — |
| Distance | 21.4 | 31.6 | 15.4 | 31.0 | 9.4 | 12.1 | 17.2 | — | 37.7 | 7.3 | — | — |
| Total | 21.4 | 53.0 | 68.4 | 99.4 | 108.8 | 120.9 | 138.1 | — | 175.8 | 183.1 | — | — |

Note: Times are listed as Julian Day/UTC, and distances are given in nautical miles.
[a] Seismic-reflection coverage for Line 1 consisting of Line 1A and Line 1B.
[b] PDR's on for additional 22.5 nmi.

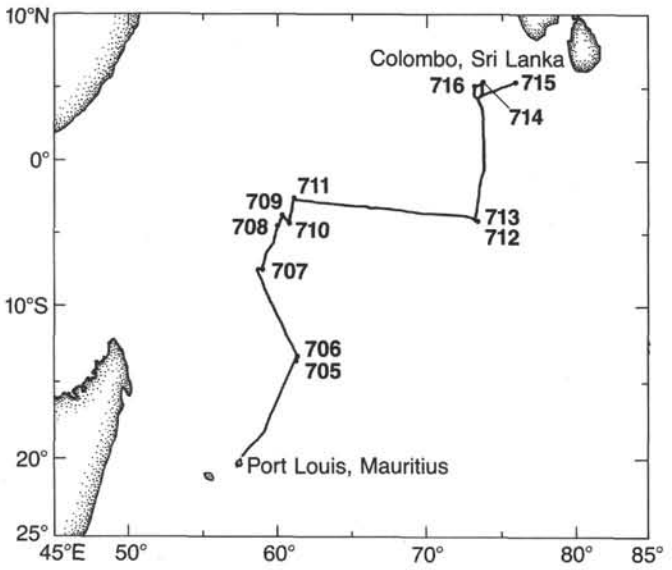


Figure 1. General navigation and site location plot of Leg 115, generated from satellite and course- and speed-change data given in the appendix to this chapter. Detailed navigation plots for seismic lines/site approaches are shown in Figures 3, 5, 7, 9, 11, 13, 15, 17, 19, and 21.

seismic profile is shown in Figure 6 (from Julian Day 141/1605 UTC/shotpoint 2738 to Julian Day 141/1711 UTC/shotpoint 3070).

3. Seismic line 2 was collected on the approach to Site 707 along the track shown in Figure 7. The processed digital seismic profile is shown in Figure 8 (from Julian Day 147/0240 UTC/shotpoint 13967 to Julian Day 147/0904 UTC/shotpoint 15886). Course changes are indicated on the seismic profile.

4. Seismic line 3 was collected en route to Site 708 along the track shown in Figure 9. The processed digital seismic profile is shown in Figure 10 (from Julian Day 153/1030 UTC/shotpoint 475 to Julian Day 153/1306 UTC/shotpoint 1251). Course changes are indicated on the seismic profile.

5. Seismic line 4 was collected on the approach to Site 709 along the track shown in Figure 11. The processed digital seismic profile is shown in Figure 12 (from Julian Day 155/1630 UTC/shotpoint 535 to Julian Day 155/2138 UTC/shotpoint 2075). Course changes are indicated on the seismic profile.

6. Seismic line 5 was collected on our approach to Site 710 along the track shown in Figure 13. The processed digital seismic profile is shown in Figure 14 (from Julian Day 159/1514 UTC/shotpoint 356 to Julian Day 159/1648 UTC/shotpoint 815). Course changes are indicated on the seismic profile.

7. Seismic line 6 was collected on the approach to Site 711 along the track shown in Figure 15. The processed digital seismic profile is shown in Figure 16 (from Julian Day 161/1822 UTC/shotpoint 437 to Julian Day 161/2026 UTC/shotpoint 1056). Course changes are indicated on the seismic profile.

8. Seismic line 7 was collected en route to Sites 712 and 713 along the track shown in Figure 17. The processed digital seismic profile is shown in Figure 18 (from Julian Day 166/1709 UTC/shotpoint 2300 to Julian Day 166/2000 UTC/shotpoint 3154). Course changes are indicated on the seismic profile.

9. Seismic line 9 was collected on the approach to Sites 714 and 715 along the track shown in Figure 19. The processed digital seismic profile is shown in Figure 20 (from Julian Day 173/1659 UTC/shotpoint 440 to Julian Day 173/2245 UTC/shotpoint 2173). Course changes are indicated on the seismic profile.

10. Seismic line 10 was collected on the approach to Site 716 along the track shown in Figure 21. The processed digital seismic profile is shown in Figure 22 (from Julian Day 179/0627 UTC/shotpoint 173 to Julian Day 179/0849 UTC/shotpoint 883). Course changes are indicated on the seismic profile.

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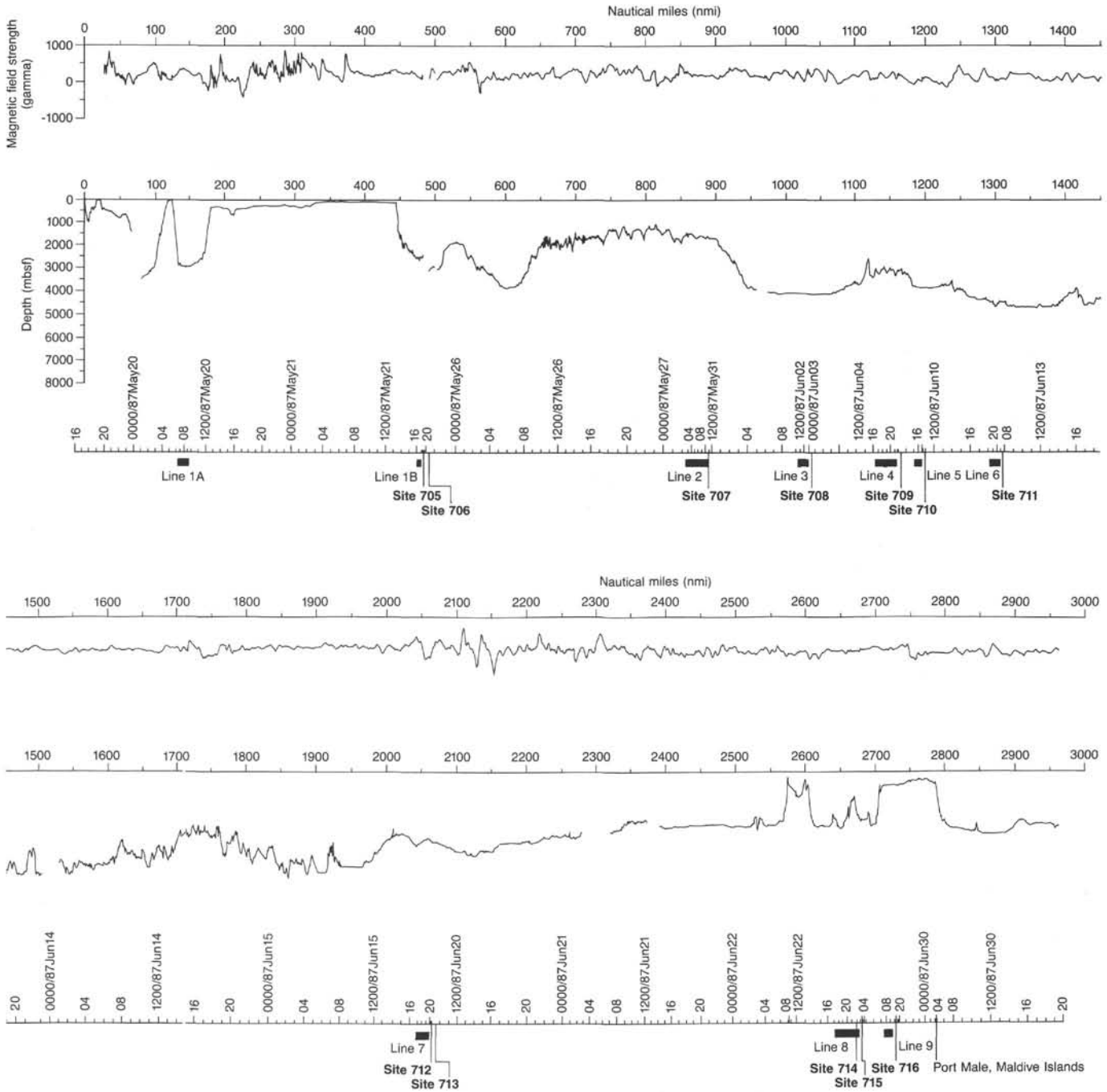



Figure 2. Records of magnetic and bathymetric profiles obtained during Leg 115. Solid bars indicate seismic-reflection coverage. Bottom horizontal scale indicates date and time in hours.

**Table 2. Seismic data, real-time recording parameters.**

| | Line 1A | Line 1B | Line 2 | Line 3 | Line 4 | Line 5 | Line 6 | Line 7 | Line 9 | Line 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Start at | 18°26.10′S 59°03.35′E | 13°16.29′S 61°23.00′E | 07°34.10′S 58°42.10′E | 05°34.41′S 59°55.01′E | 03°59.90′S 60°26.30′E | 04°14.83′S 60°46.74′E | 04°43.77′S 61°09.97′E | 04°01.73′S 73°19.33′E | 05°03.30′N 73°45.52′E | 04°59.90′N 73°23.03′E |
| End at | 18°14.90′S 59°14.00′E | Sites 705/706 | Site 707 | Site 708 | Site 709 | Site 710 | Site 711 | Sites 712/713 | Sites 714/715 | Site 716 |
| Source | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns | Two 80-in.$^3$ water guns |
| Streamer | Port | Port | Port | Port | Port | Port | Port | Port | Port | Port |
| EDO-1: | | | | | | | | | | |
| High cut (Hz) | 300 | 100 | 100 | 100 | 100 | 100 | 110 | 250 | 250 | 110 |
| Low cut (Hz) | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 25 | 25 | 40 |
| Gain: | | | | | | | | | | |
| Amp (db) | 80 | 80 | 70 | 70 | 75 | 75 | 45 | 85 | 45 | 85 |
| EDO-2: | | | | | | | | | | |
| High cut (Hz) | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 250 | 250 | 370 |
| Low cut (Hz) | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 25 | 25 | 40 |
| Gain: | | | | | | | | | | |
| Amp (db) | 80 | 80 | 70 | 70 | 75 | 75 | 40 | 85 | 40 | 85 |

**Table 3. Seismic-data processing and reprocessing parameters.**

| | Line 1A | Line 1B | Line 2 | Line 3 | Line 4 | Line 5 | Line 6 | Line 7 | Line 9 | Line 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Data window (ms): | | | | | | | | | | |
| From | 3000 | 2800 | 1800 | 5000 | 3700 | 4800 | 5700 | 3400 | 2000 | 600 |
| To | 5000 | 5000 | 5000 | 8000 | 6000 | 7000 | 7000 | 6000 | 4800 | 3600 |
| AGC: | | | | | | | | | | |
| Response time (ms) | 100 | 100 | 100 | 150 | 100 | 100 | 150 | 150 | 100 | 100 |
| Start time (ms) | 3400 | 3000 | 1800 | 5200 | 3800 | 4900 | 5700 | 3600 | 1200 | 600 |
| Gain (%) | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Zero-phase band-pass filter: | | | | | | | | | | |
| High cut (Hz) | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| Taper width | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Low cut (Hz) | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Taper width | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |

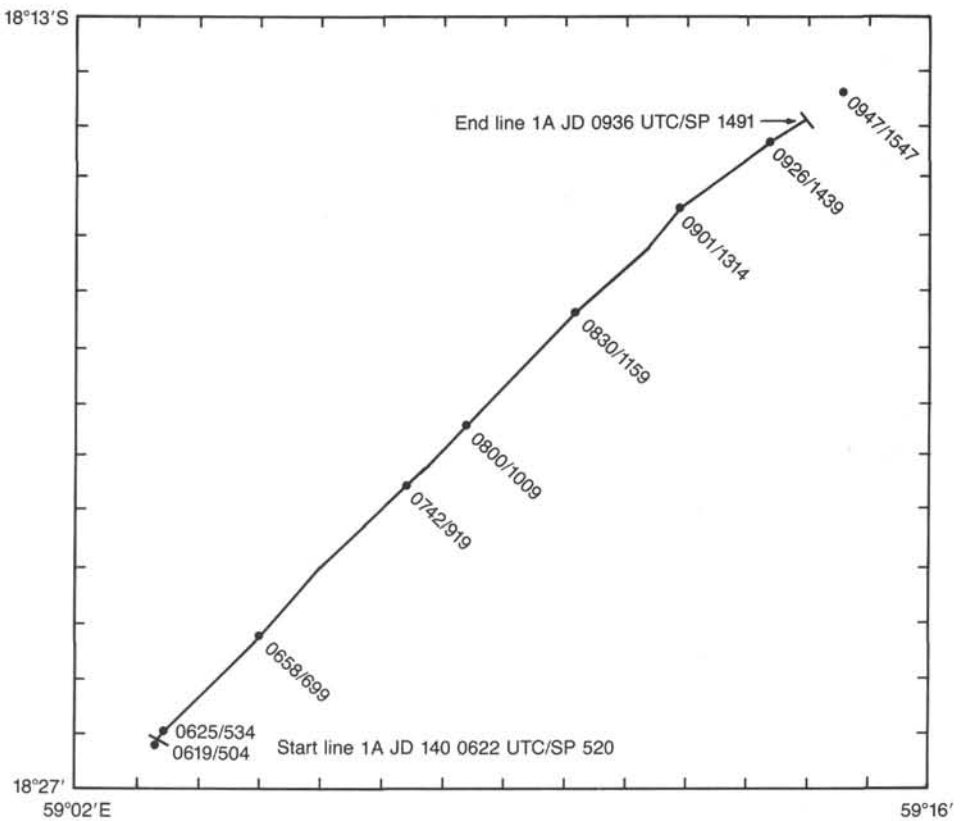



Figure 3. Detailed navigation plot of seismic line 1A, en route to Sites 705 and 706, generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. The processed digital seismic profile is shown in Figure 4.

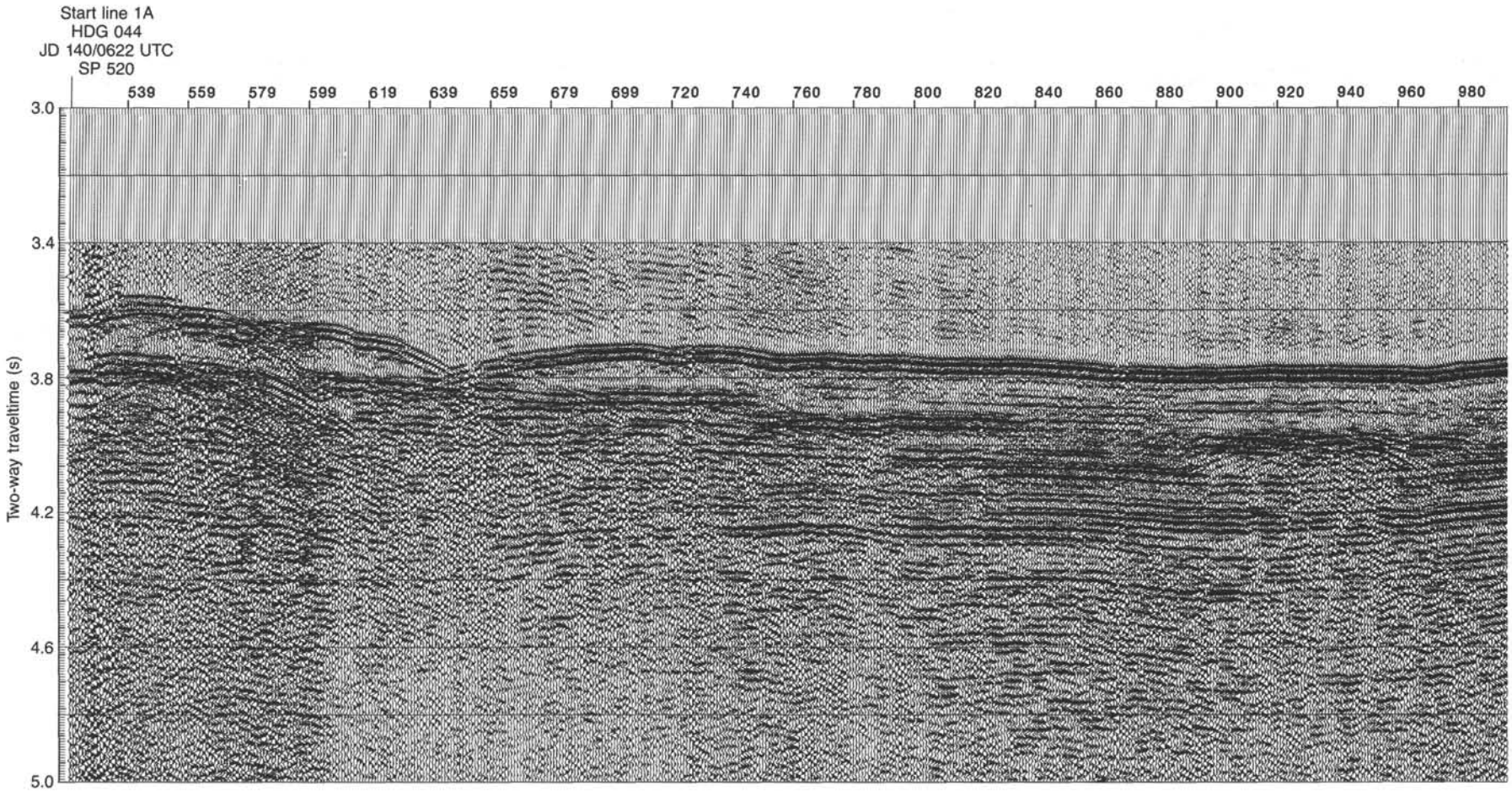



Figure 4. Processed digital seismic profile of line 1A, en route to Sites 705 and 706. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 3.

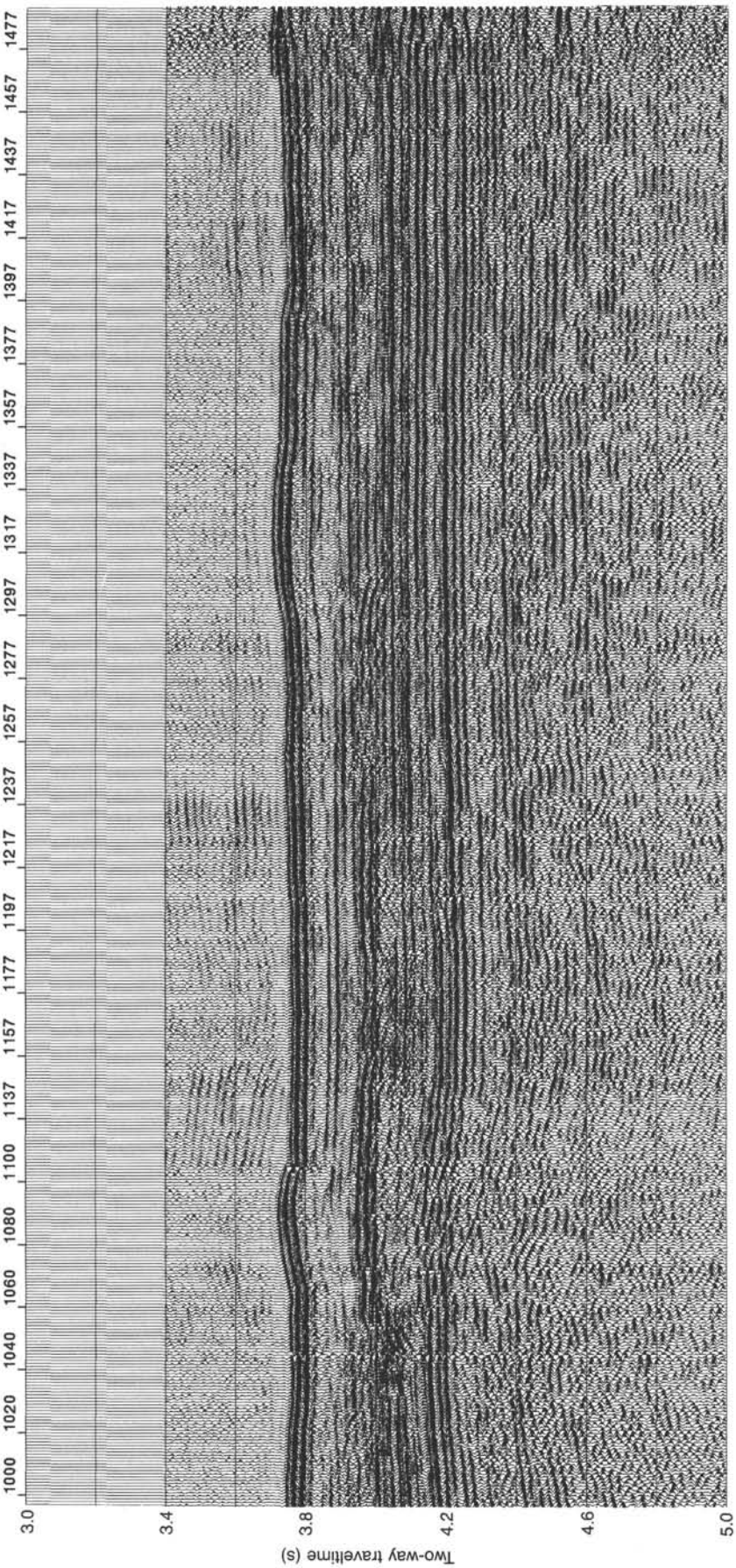



Figure 4 (continued).

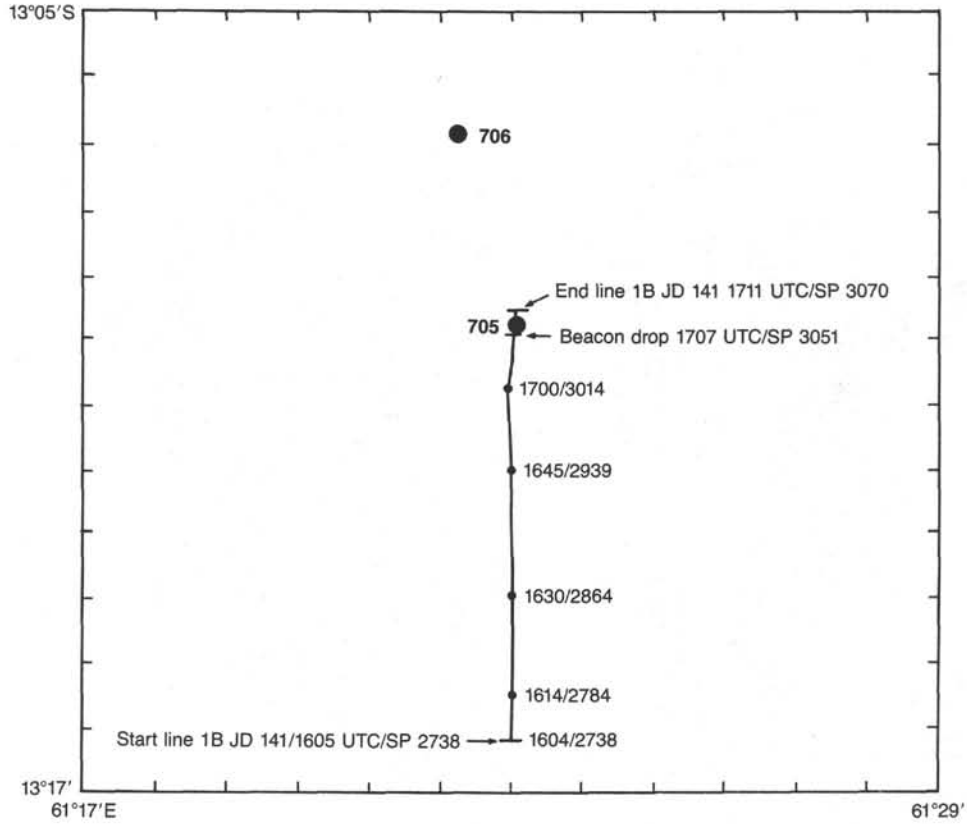



Figure 5. Detailed navigation plot of seismic line 1B, on the approach to Sites 705 and 706 (see "Sites 705 and 706" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Processed digital seismic profile is shown in Figure 6.

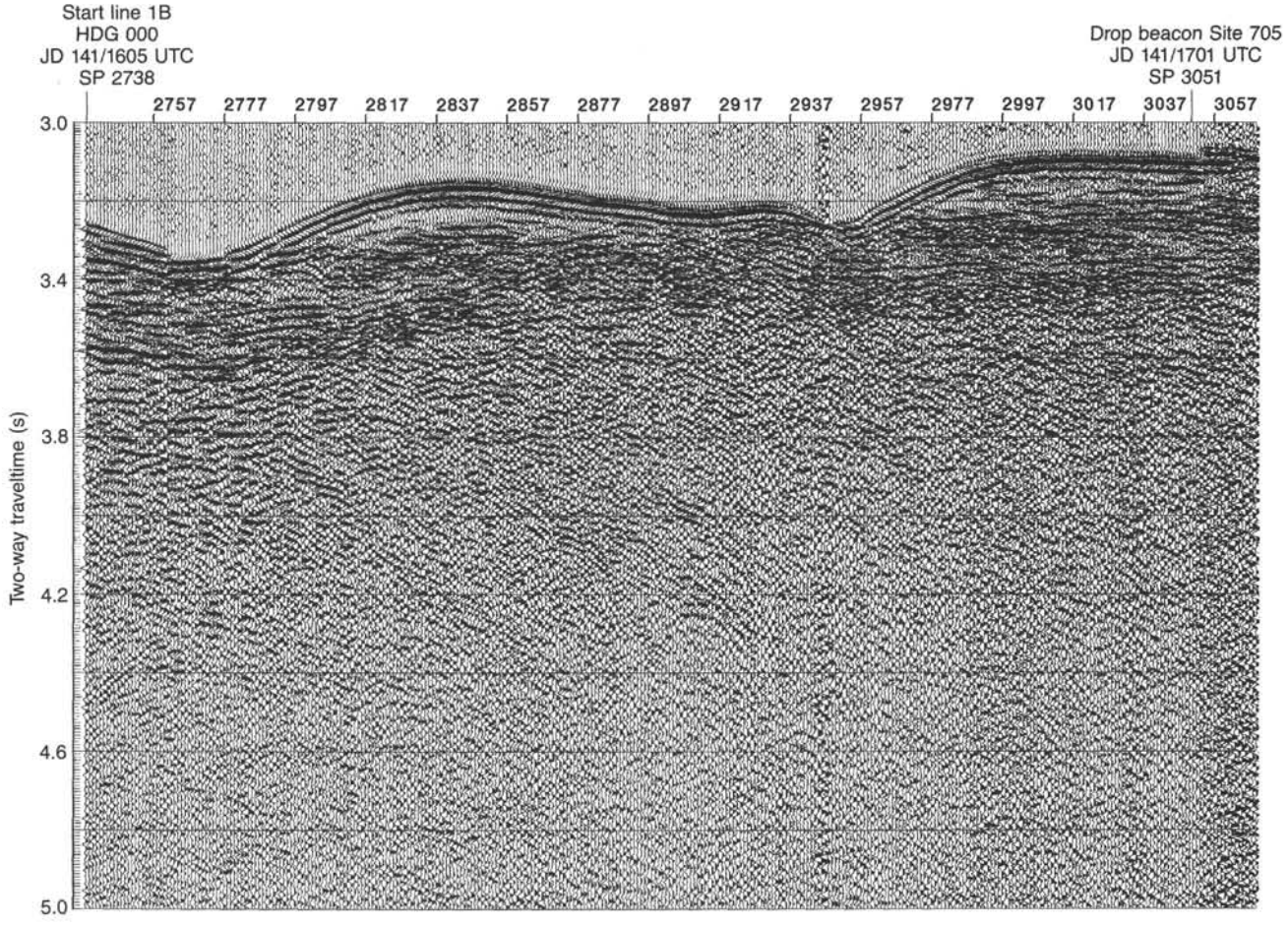



Figure 6. Processed digital seismic profile of line 1B, approaching Sites 705 and 706. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 5.

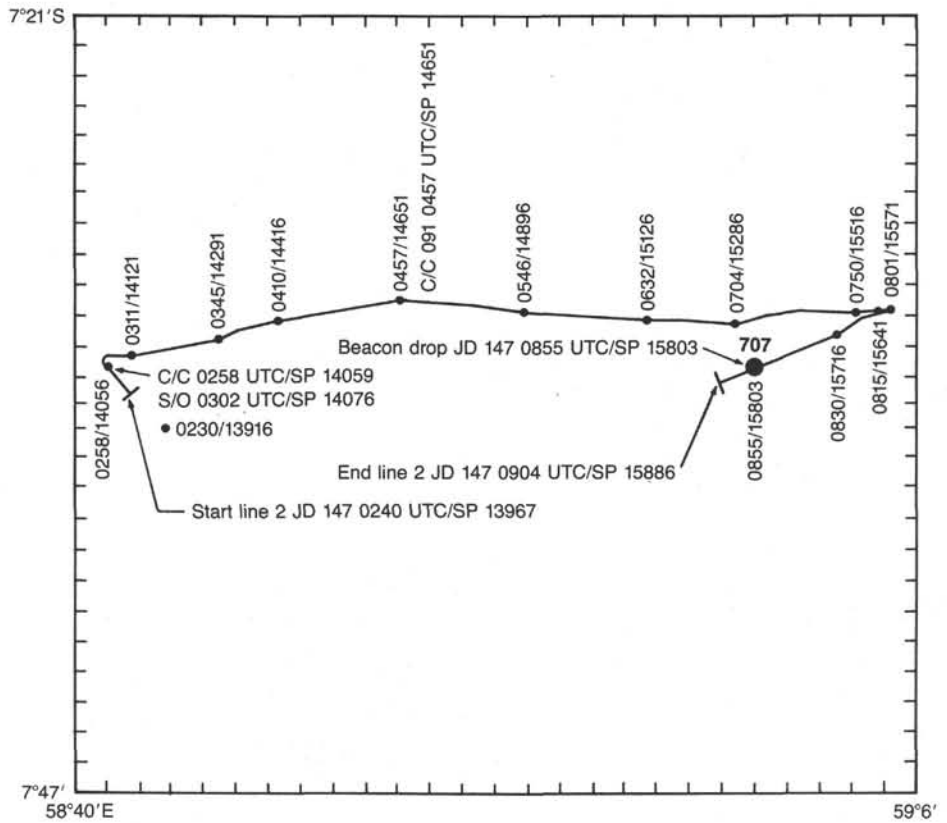



Figure 7. Detailed navigation plot of seismic line 2, on the approach to Site 707 (see "Site 707" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on the processed digital seismic profile shown in Figure 8.

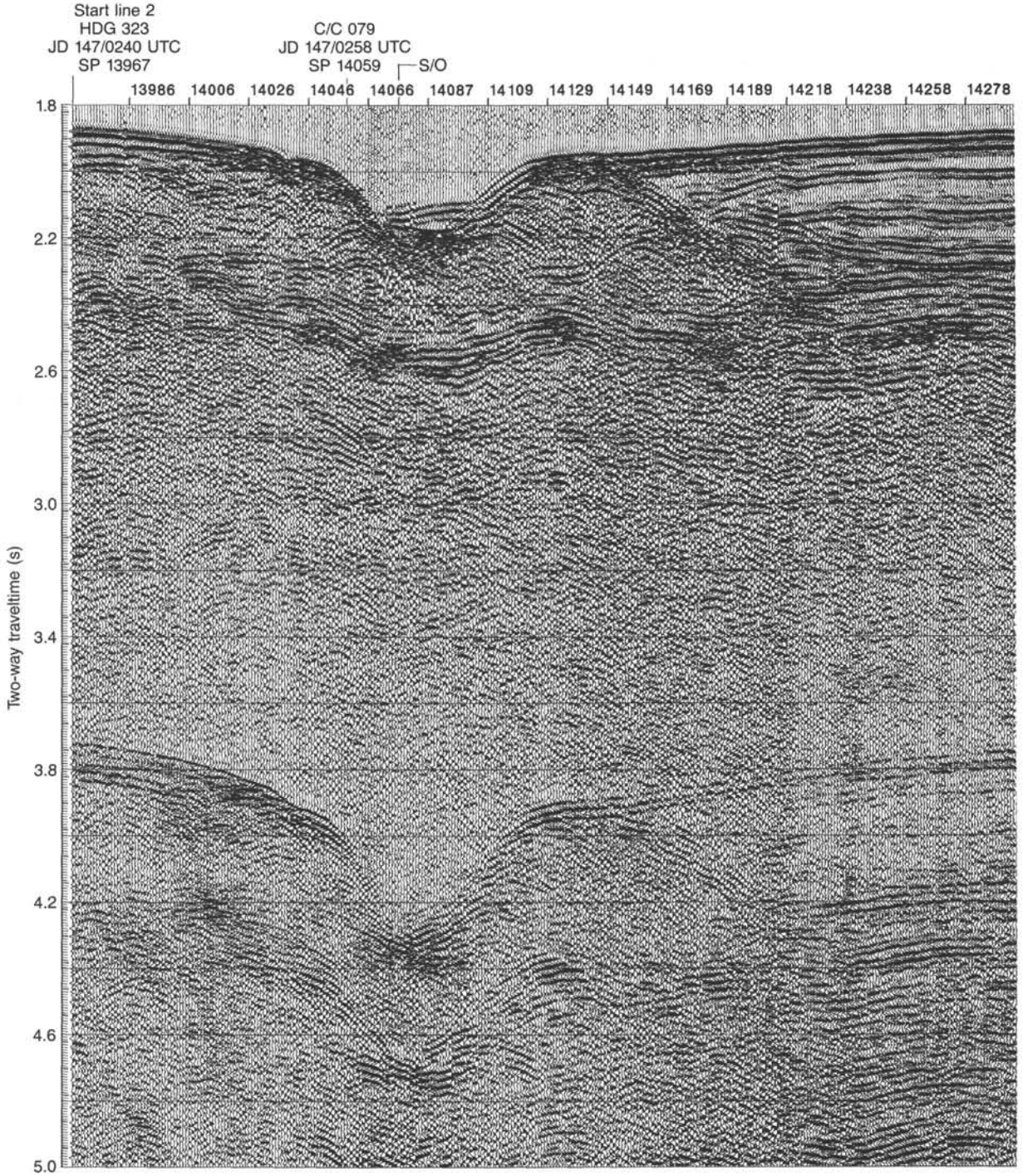



Figure 8. Processed digital seismic profile of line 2, en route to Site 707. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 7.

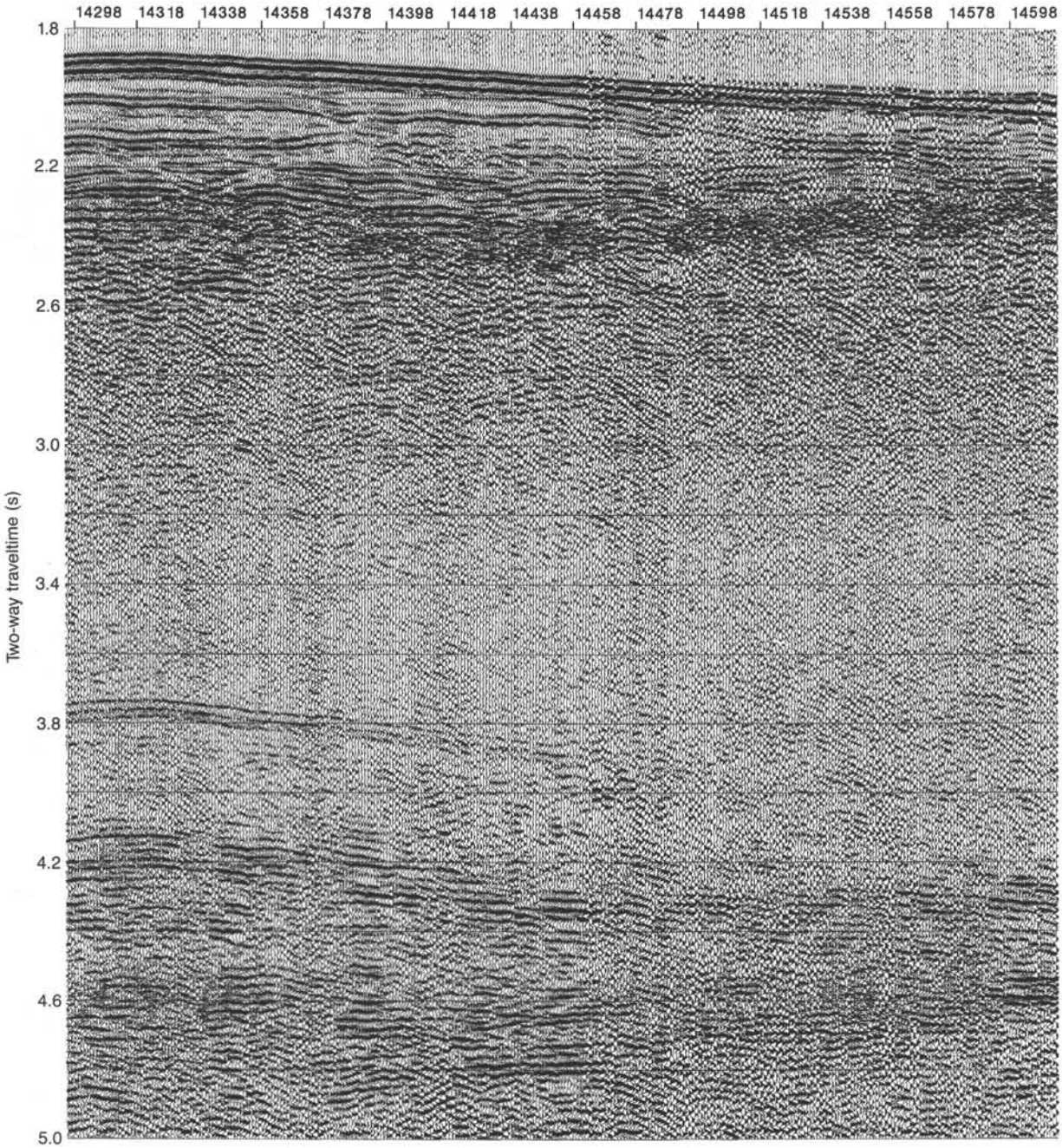



Figure 8 (continued).

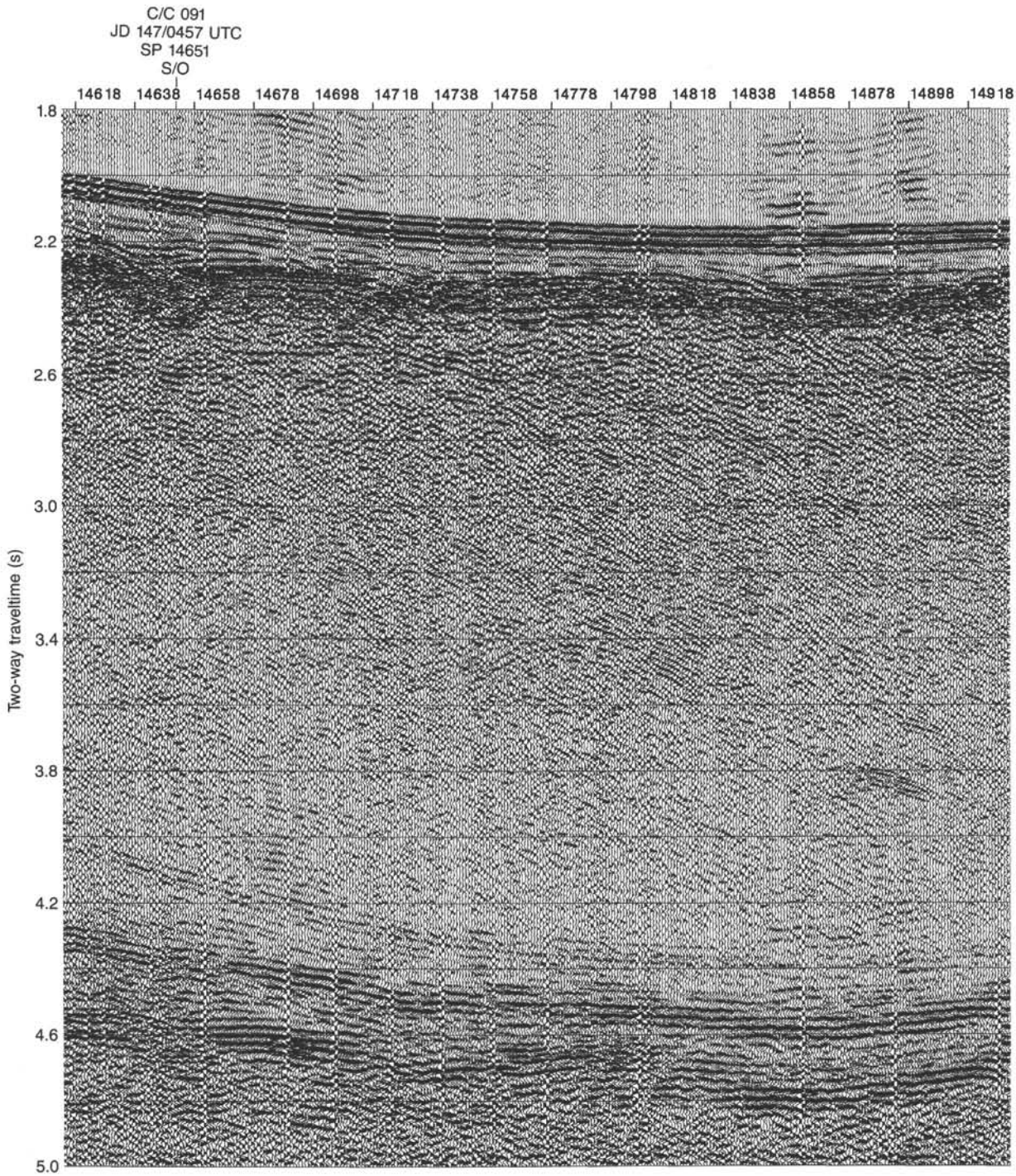



Figure 8 (continued).

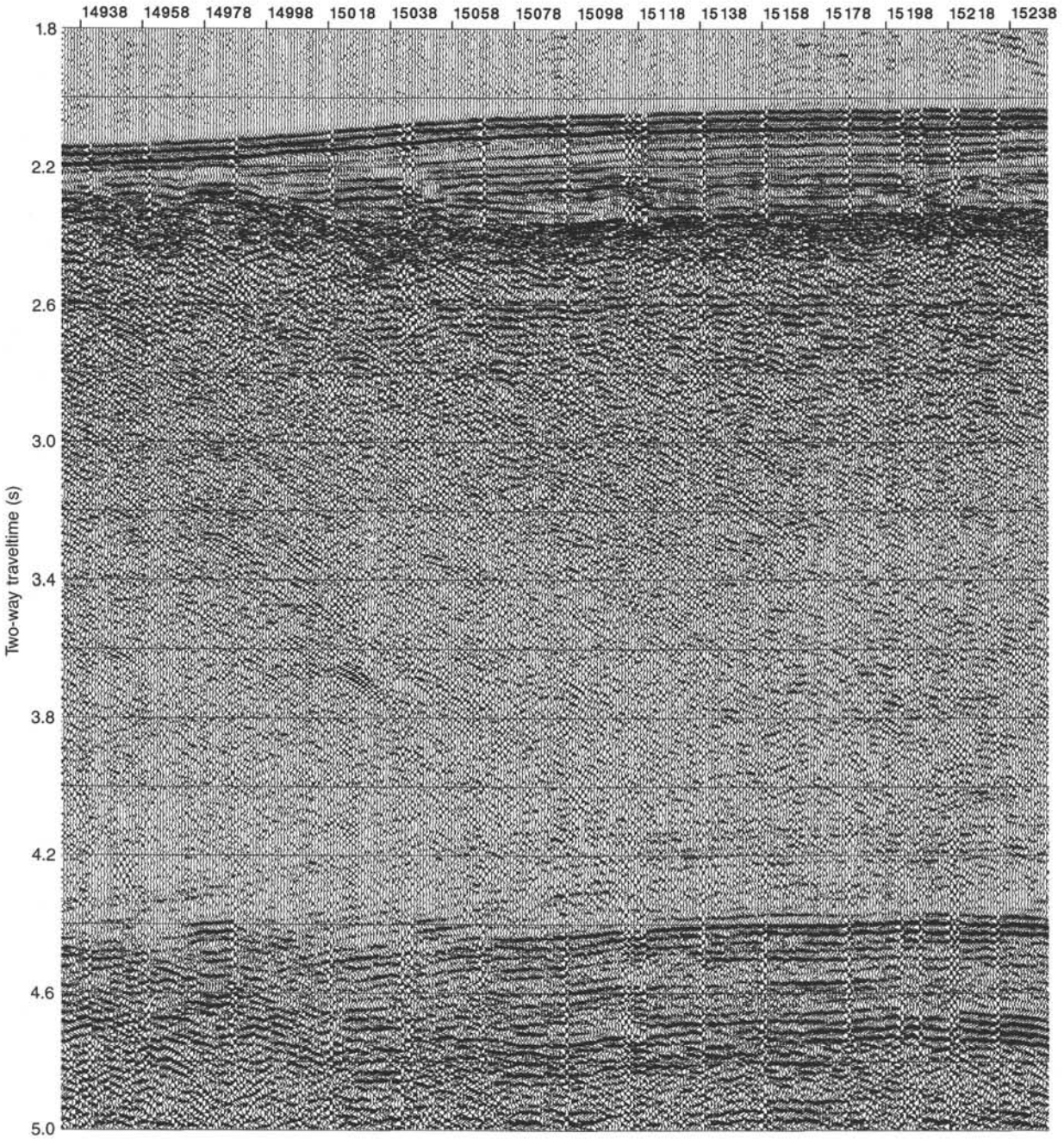



Figure 8 (continued).

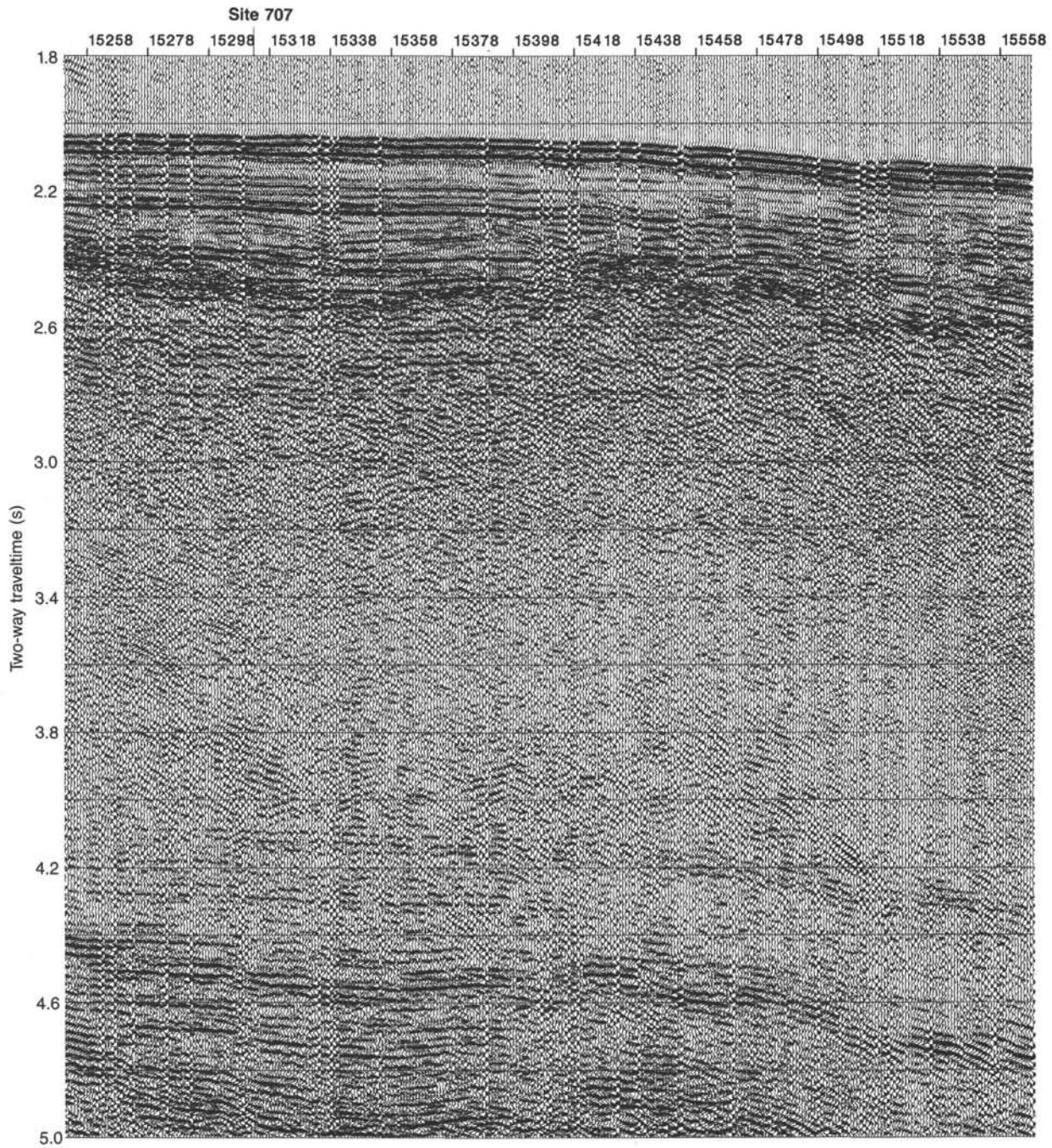



Figure 8 (continued).

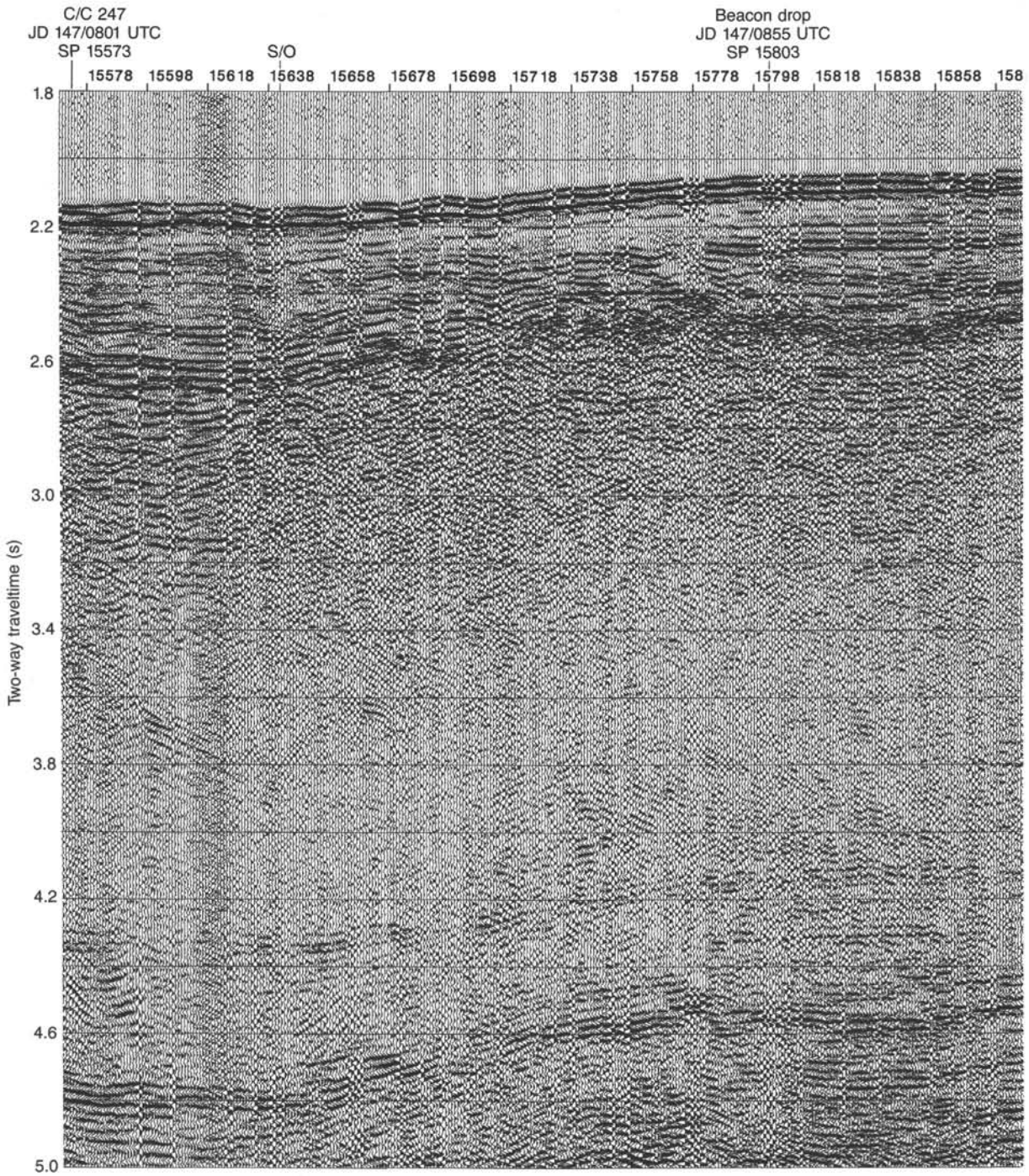



Figure 8 (continued).

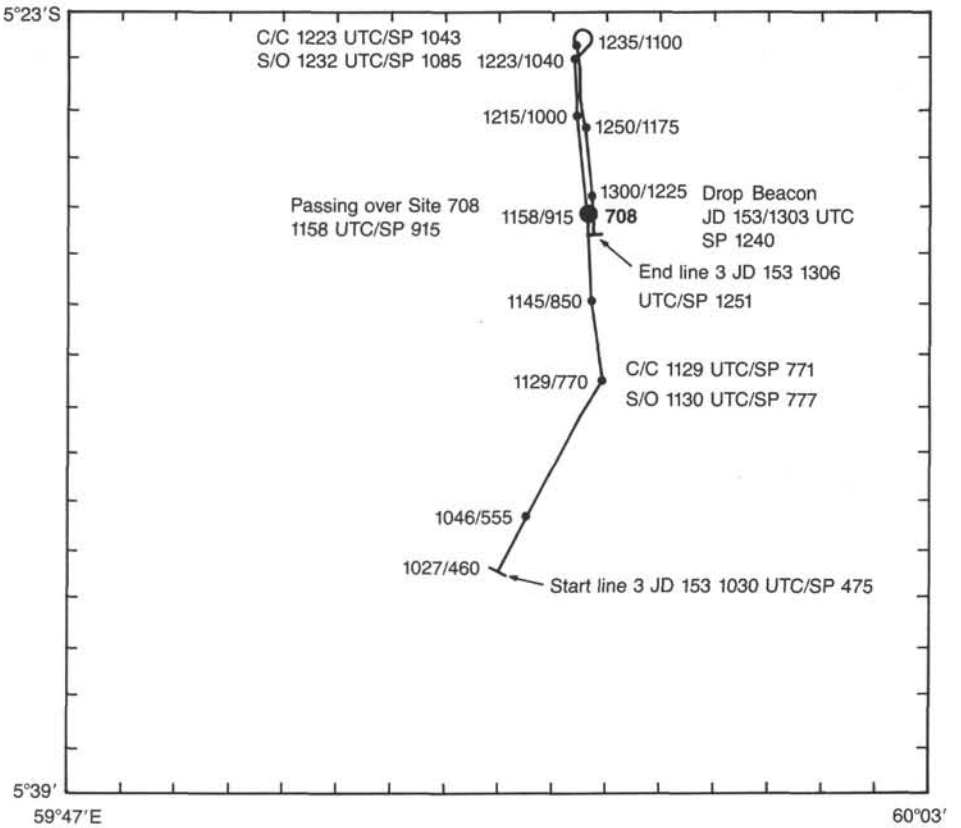



Figure 9. Detailed navigation plot of seismic line 3, on the approach to Site 708 (see "Site 708" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on the processed digital seismic profile shown in Figure 10.

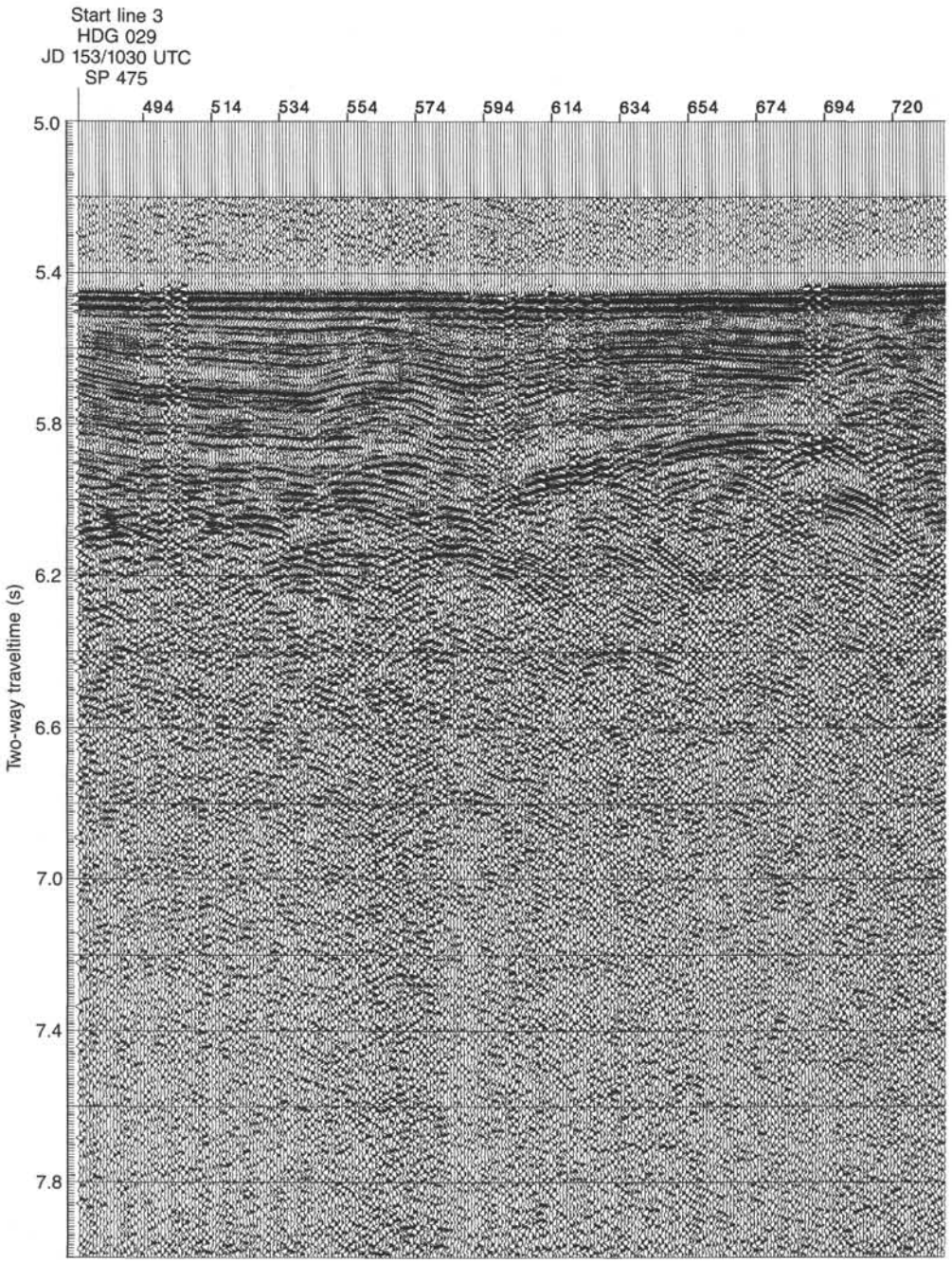
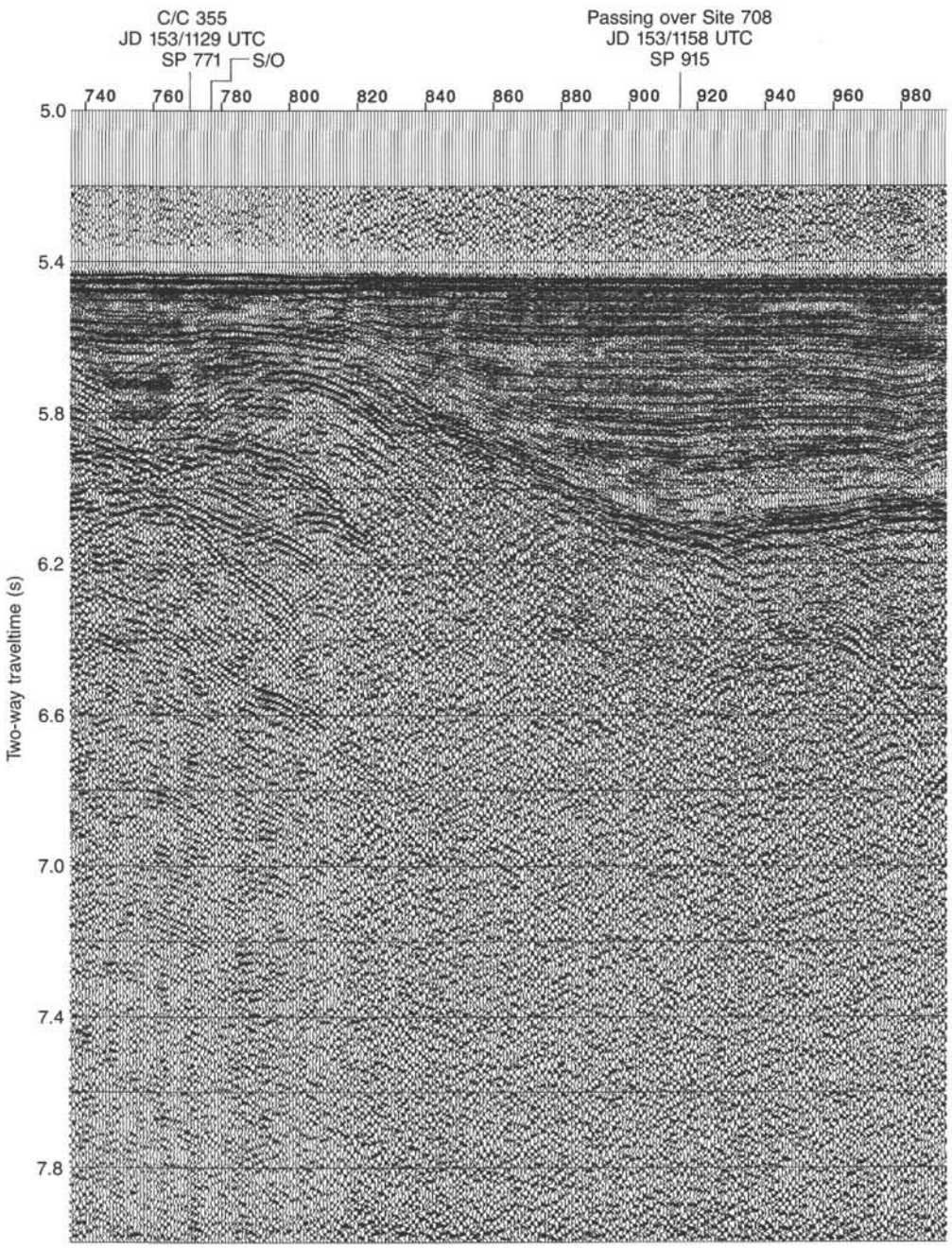



Figure 10. Processed digital seismic profile of line 3, approaching Site 708. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 9.

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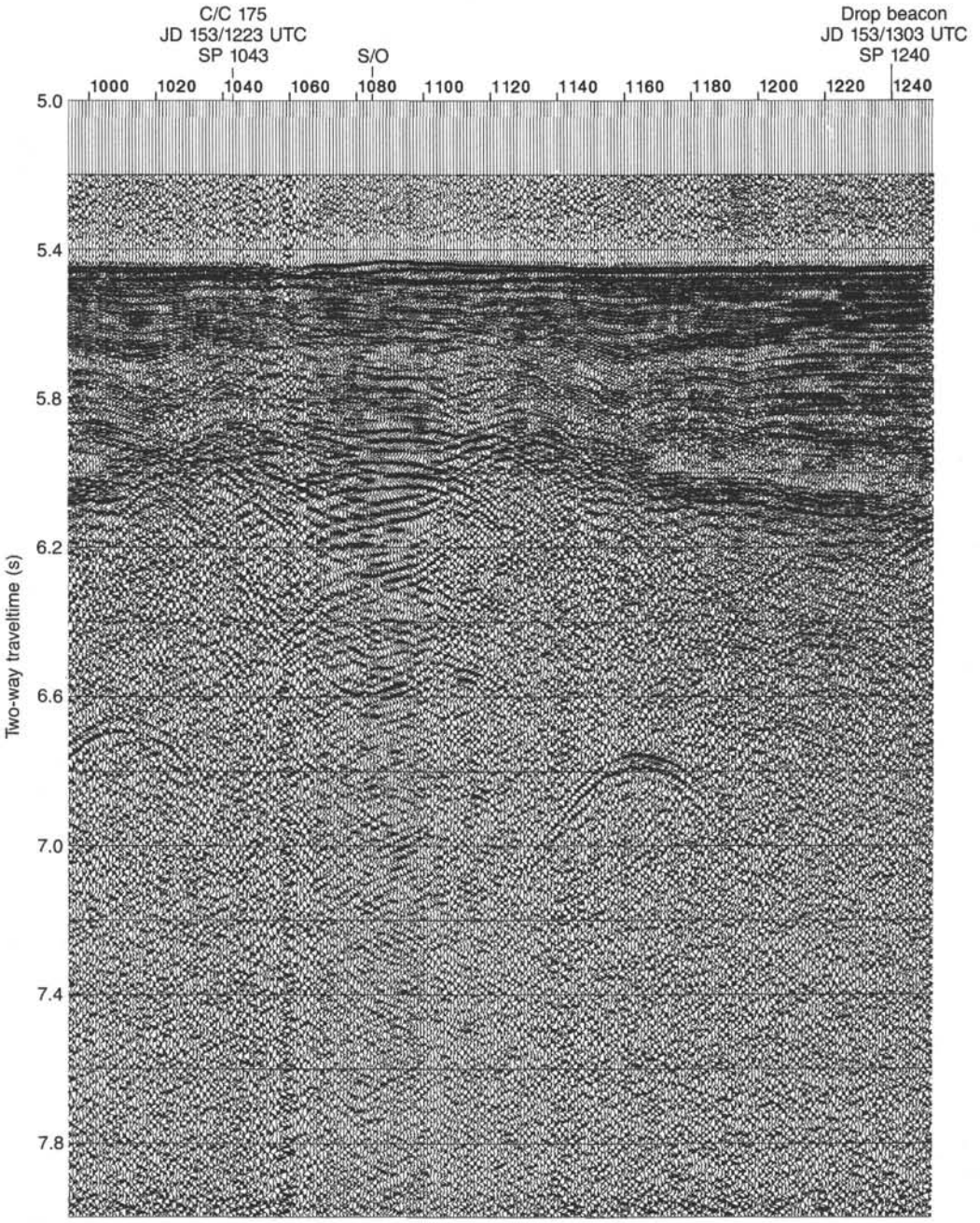


Figure 10 (continued).

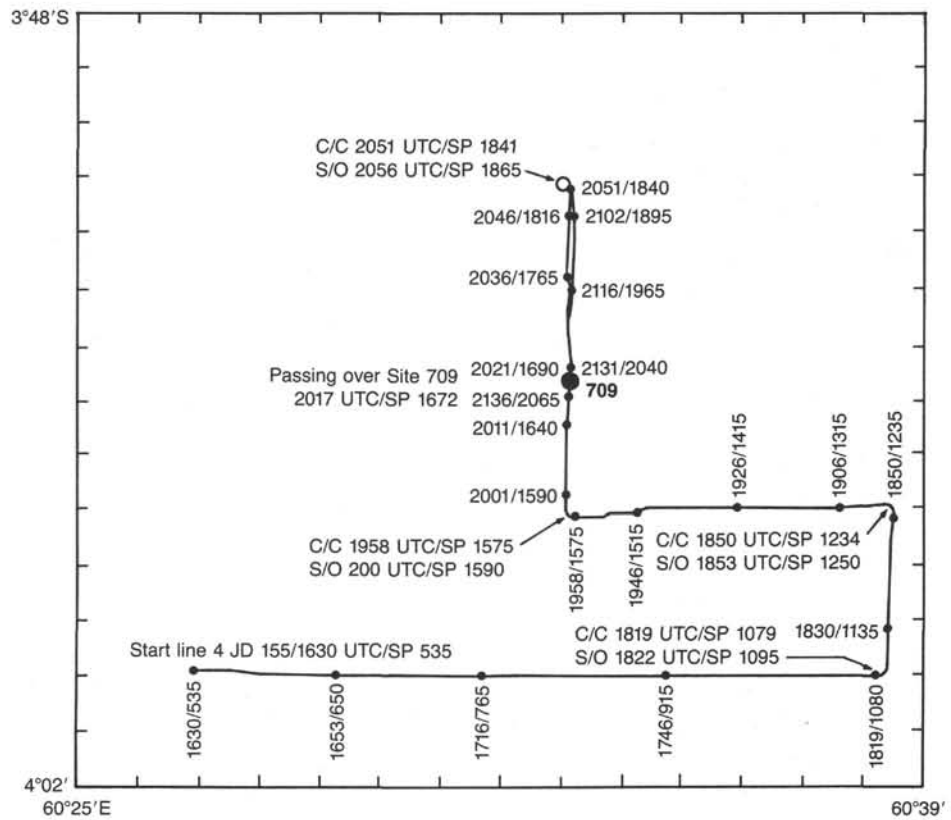


Figure 11. Detailed navigation plot of seismic line 4, on the approach to Site 709 (see "Site 709" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on the processed digital seismic profile shown in Figure 12.

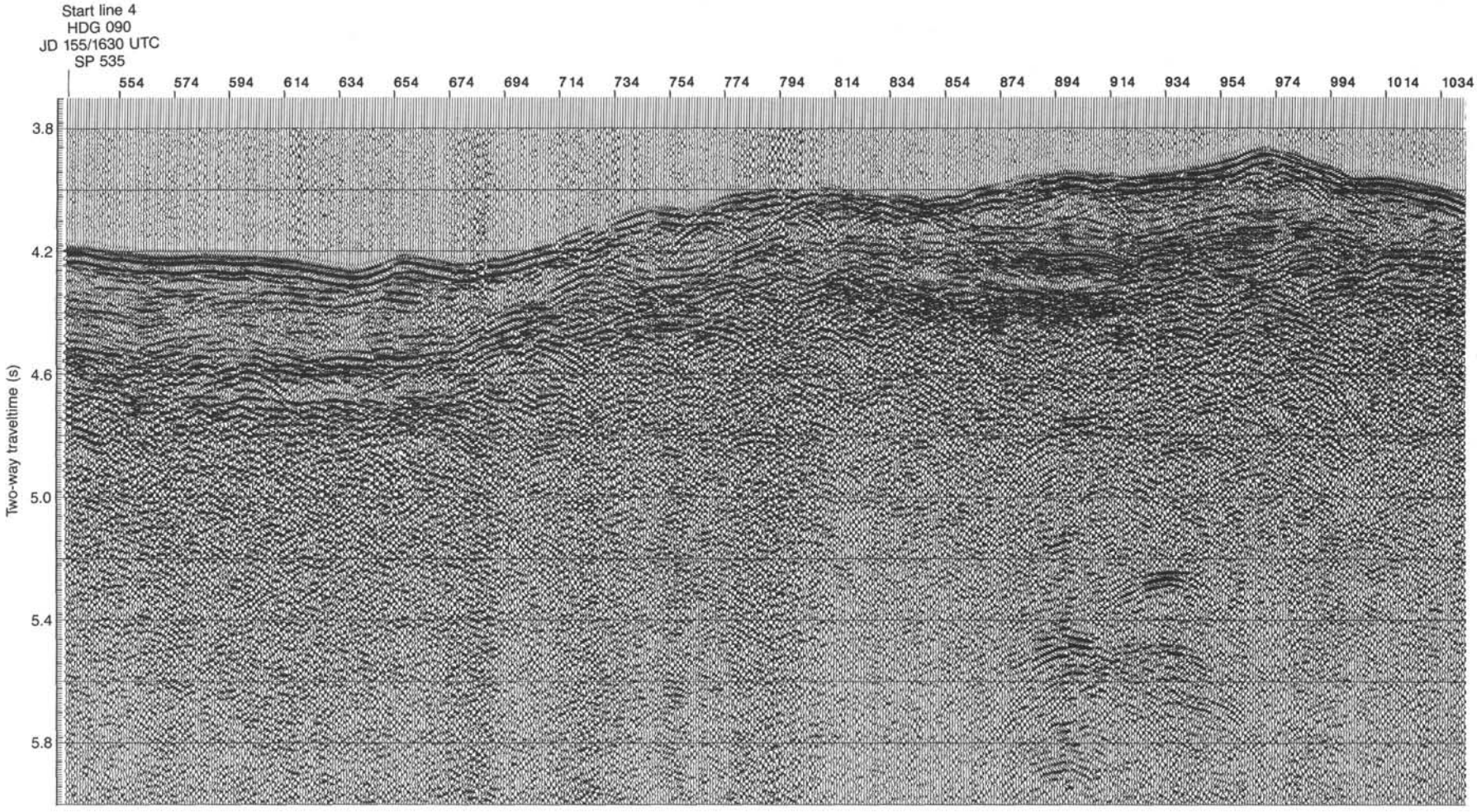


Figure 12. Processed digital seismic profile of line 4, approaching Site 709. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 11.

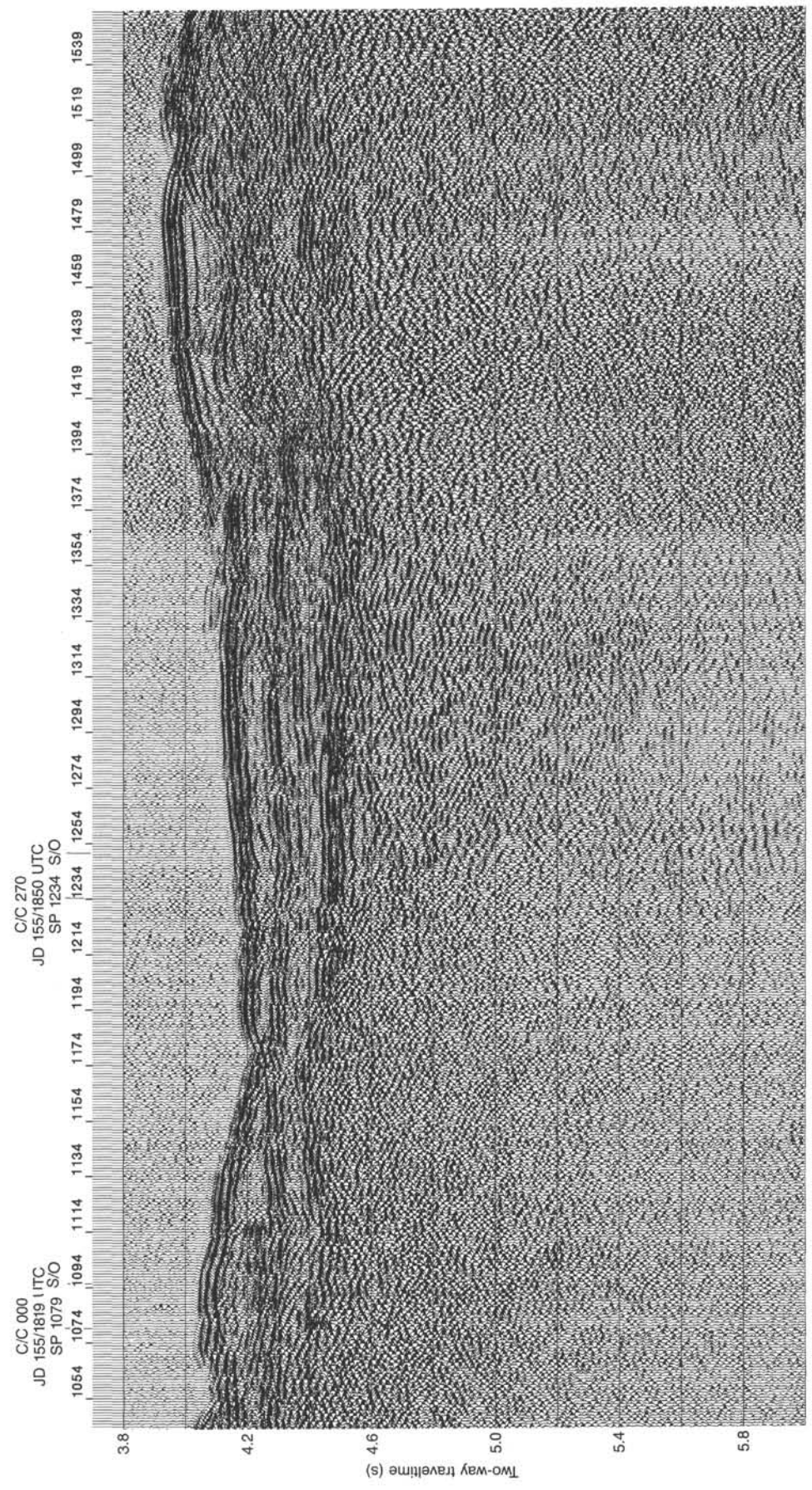


Figure 12 (continued).

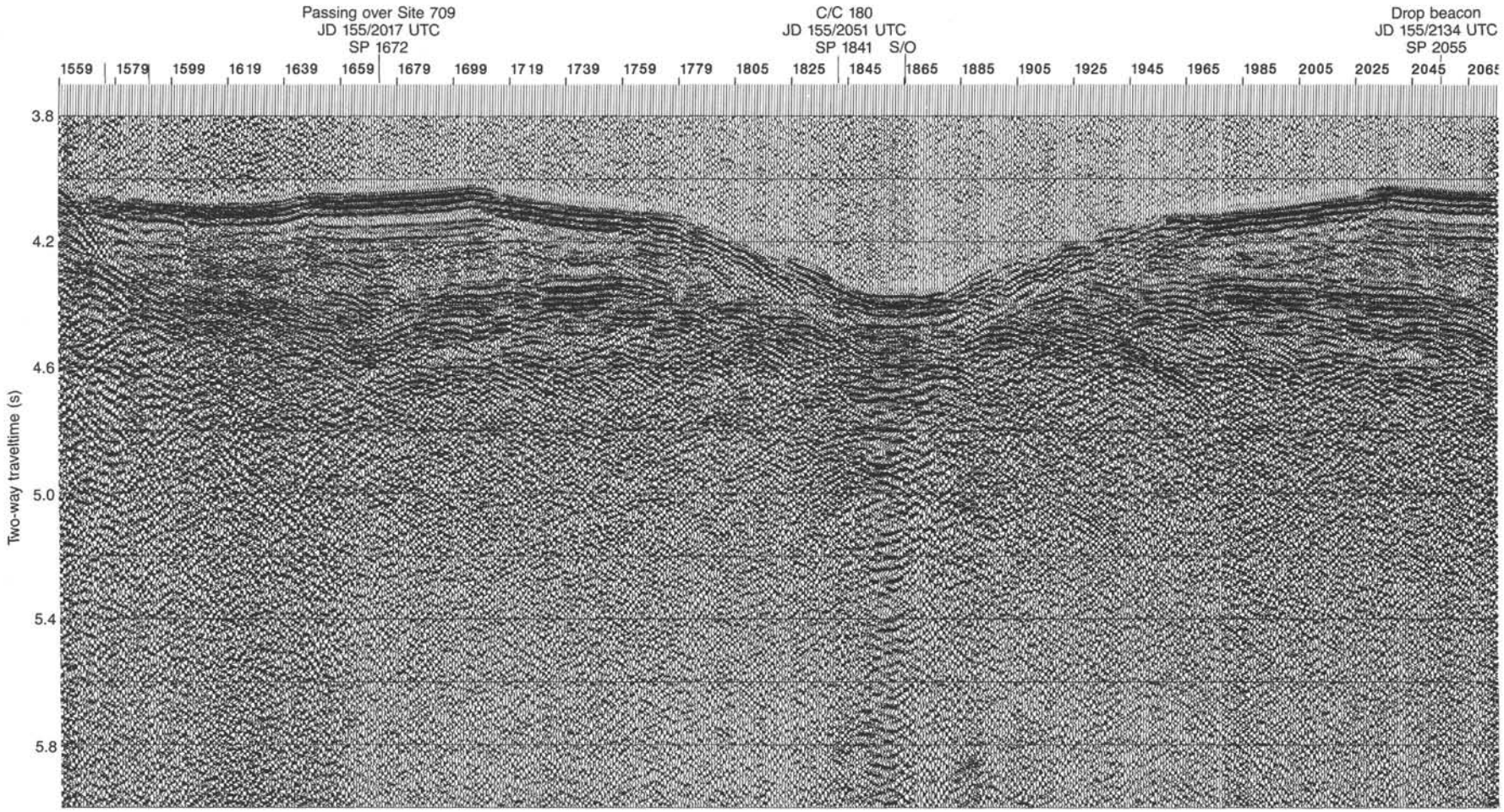


Figure 12 (continued).

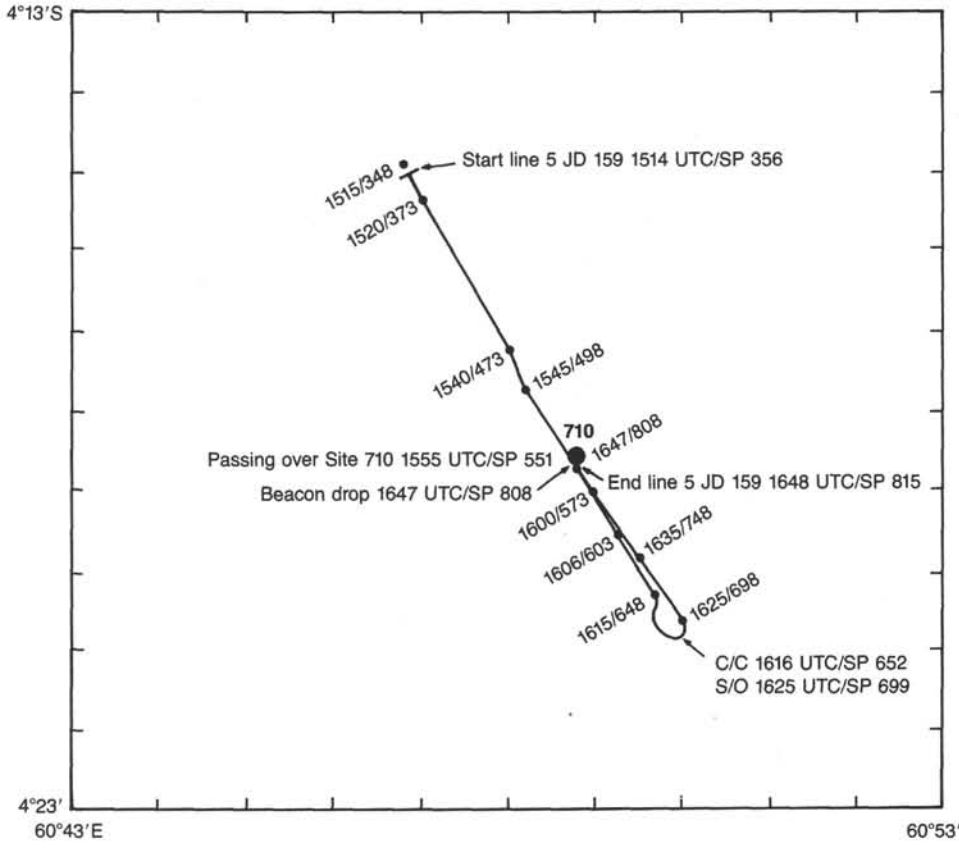


Figure 13. Detailed navigation plot of seismic line 5, on the approach to Site 710 (see "Site 710" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on the processed digital seismic profile shown in Figure 14.

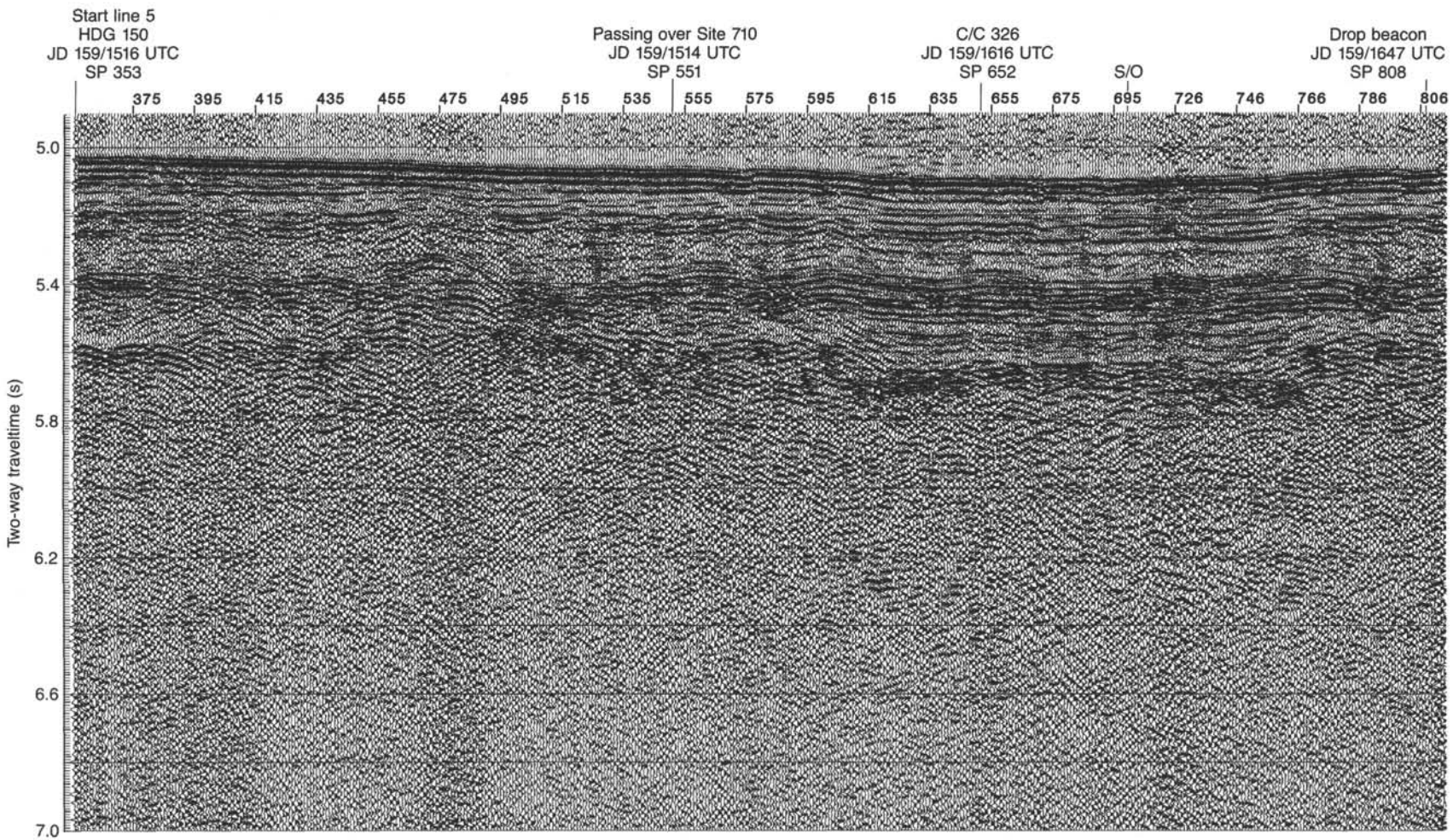


Figure 14. Processed digital seismic profile of line 5, approaching Site 710. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 13.

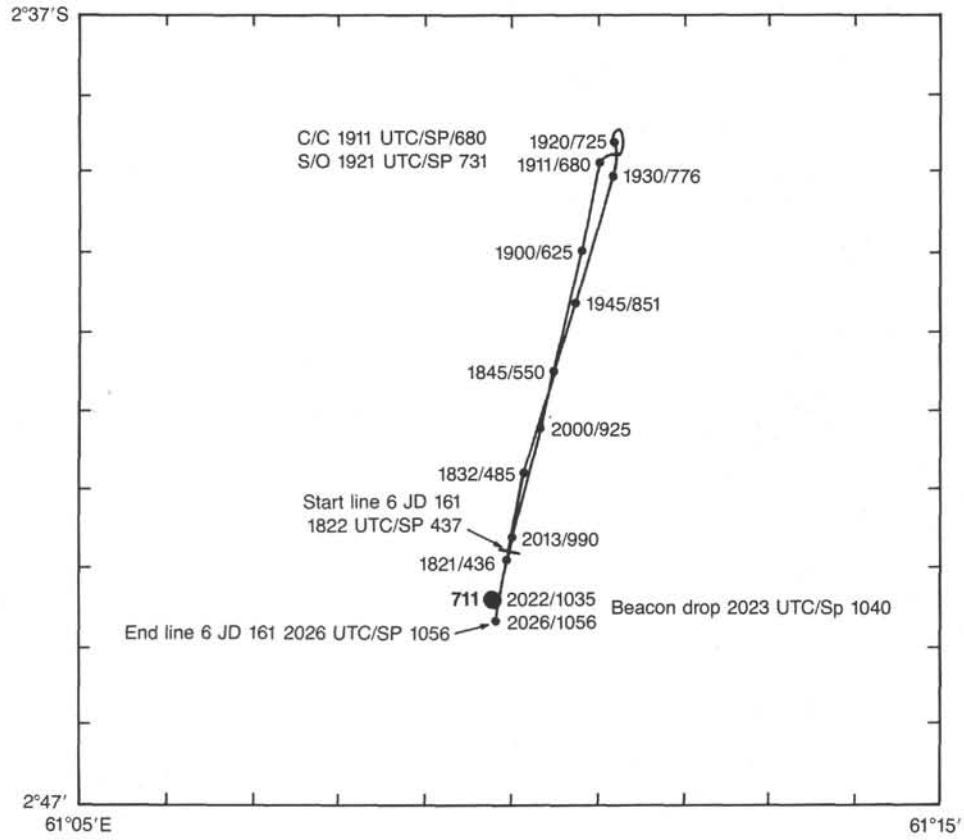


Figure 15. Detailed navigation plot of seismic line 6, on the approach to Site 711 (see "Site 711" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on the processed digital seismic profile shown in Figure 16.

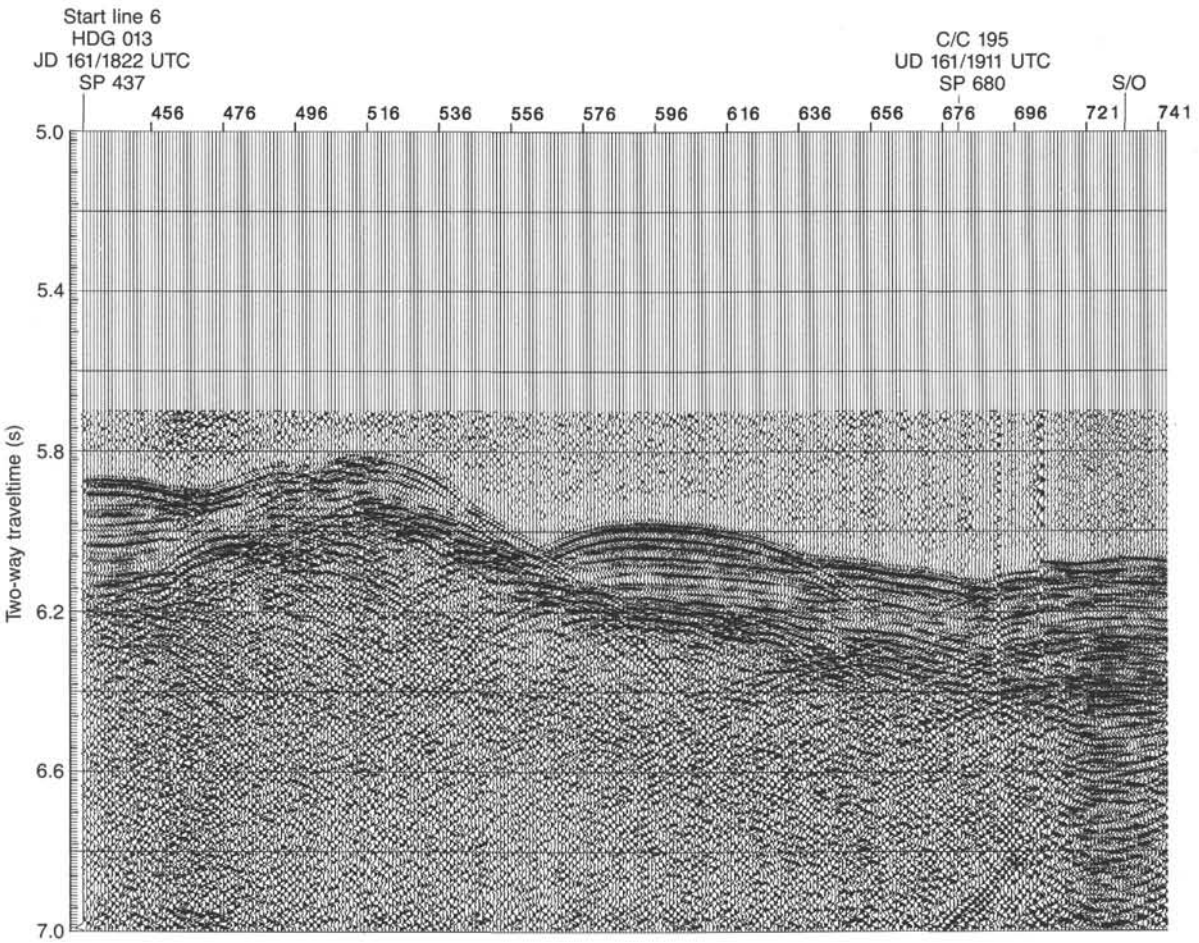


Figure 16. Processed digital seismic profile of line 6, approaching Site 711. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 15.

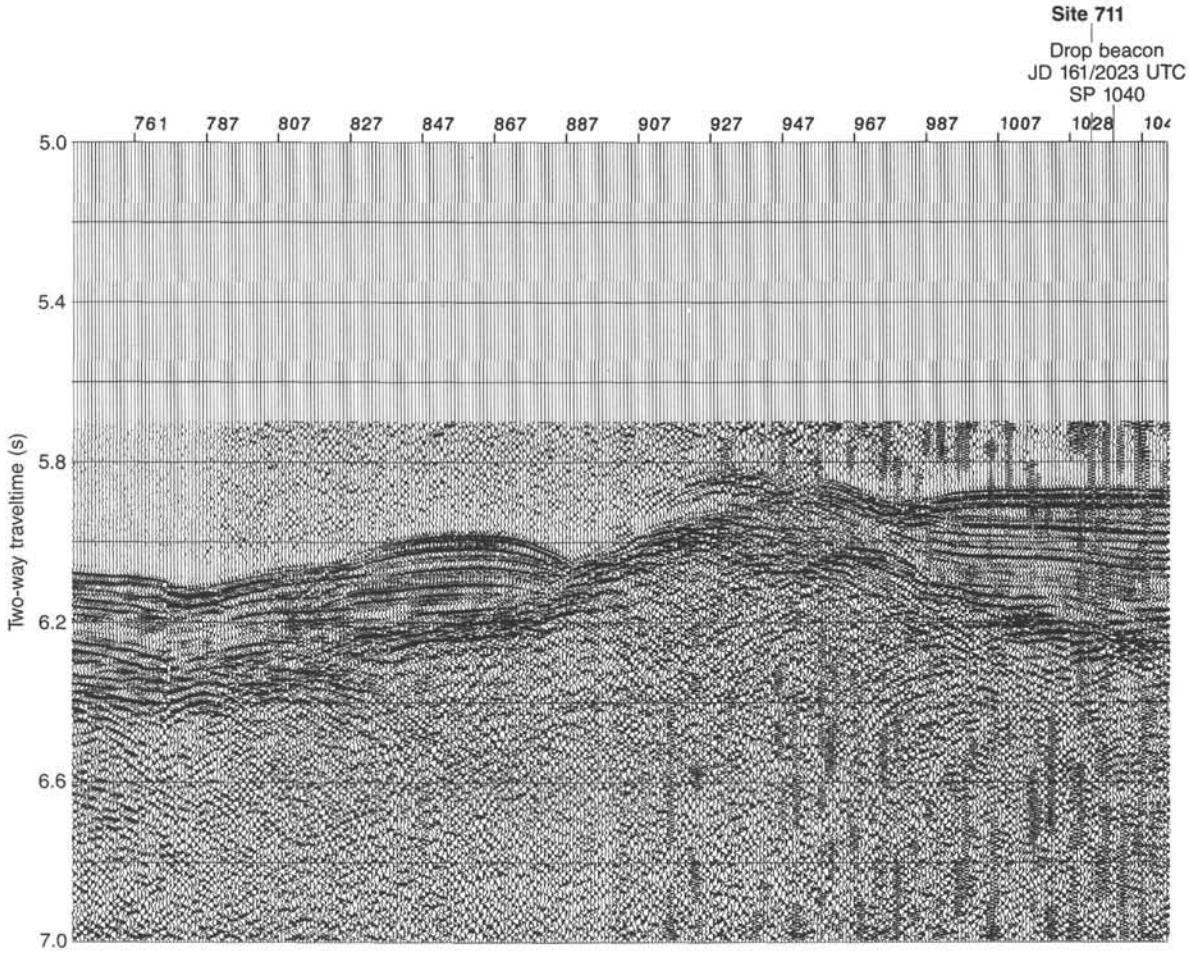


Figure 16 (continued).

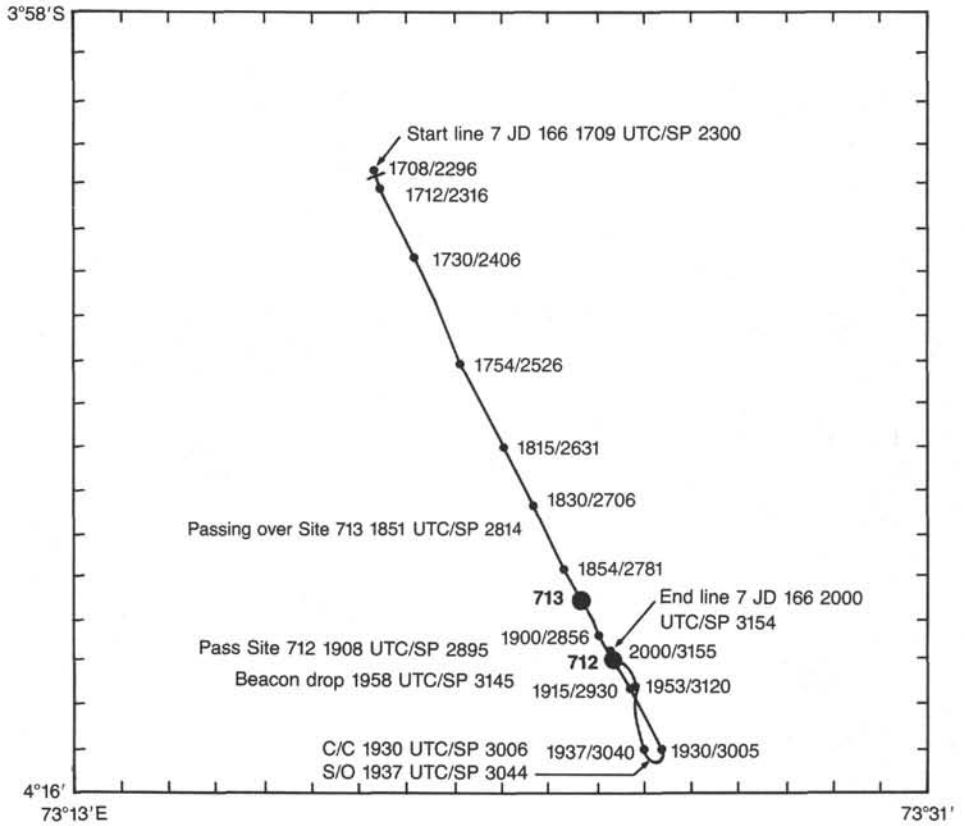


Figure 17. Detailed navigation plot of seismic line 7, on the approach to Sites 712 and 713 (see "Sites 712 and 713" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on processed digital seismic profile shown in Figure 18.

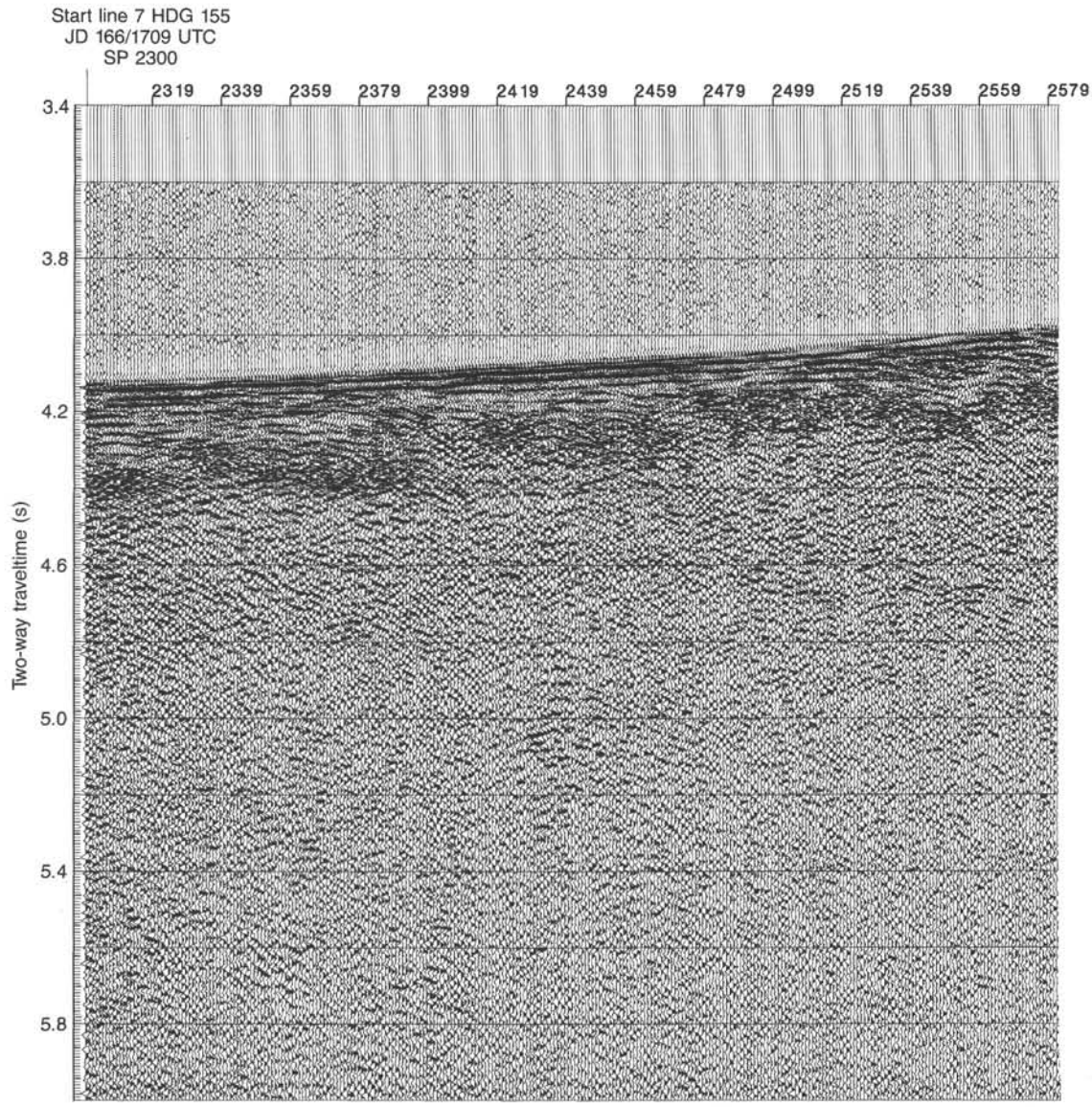


Figure 18. Processed digital seismic profile of line 7, approaching Sites 712 and 713. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 17.

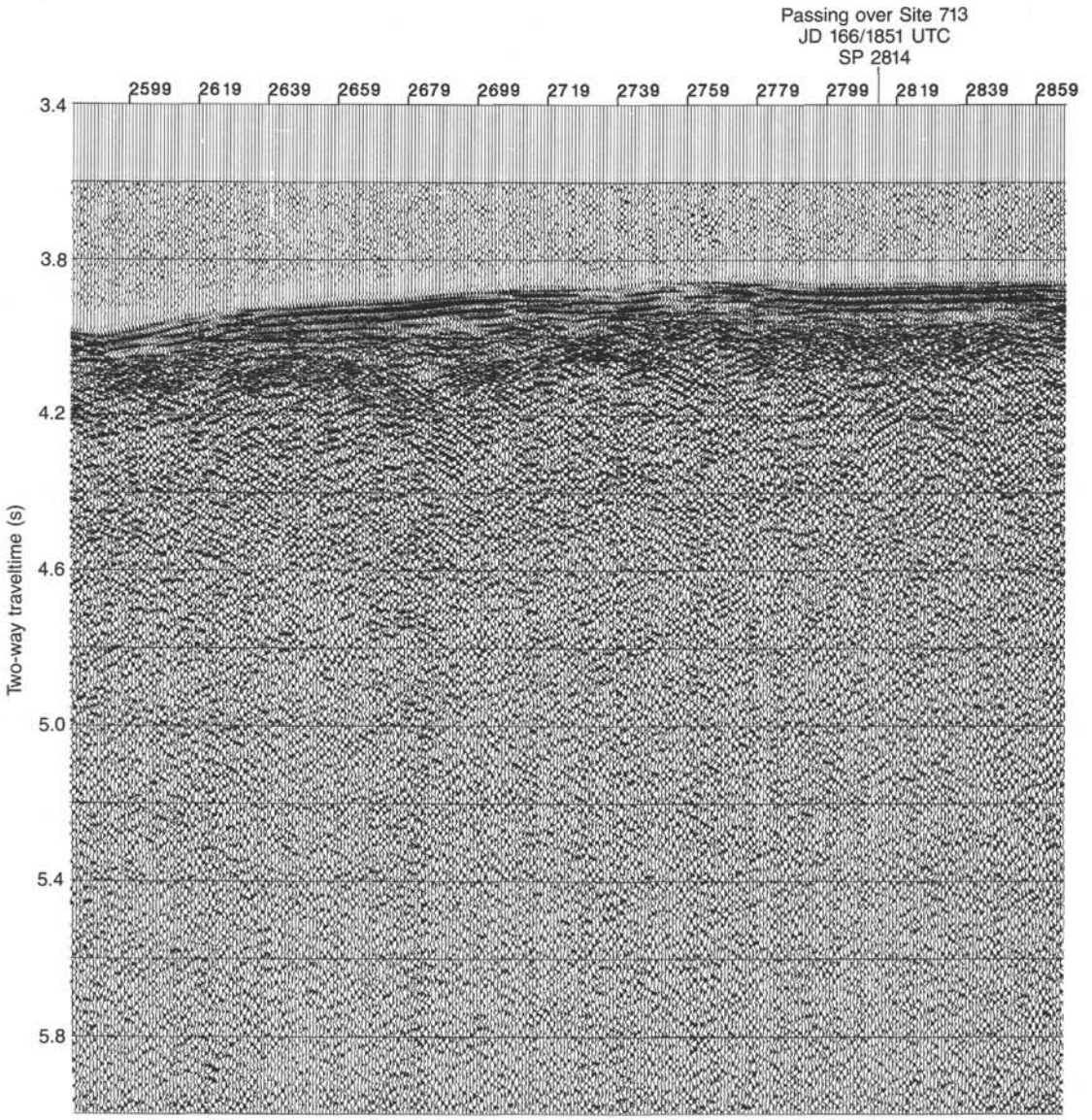


Figure 18 (continued).

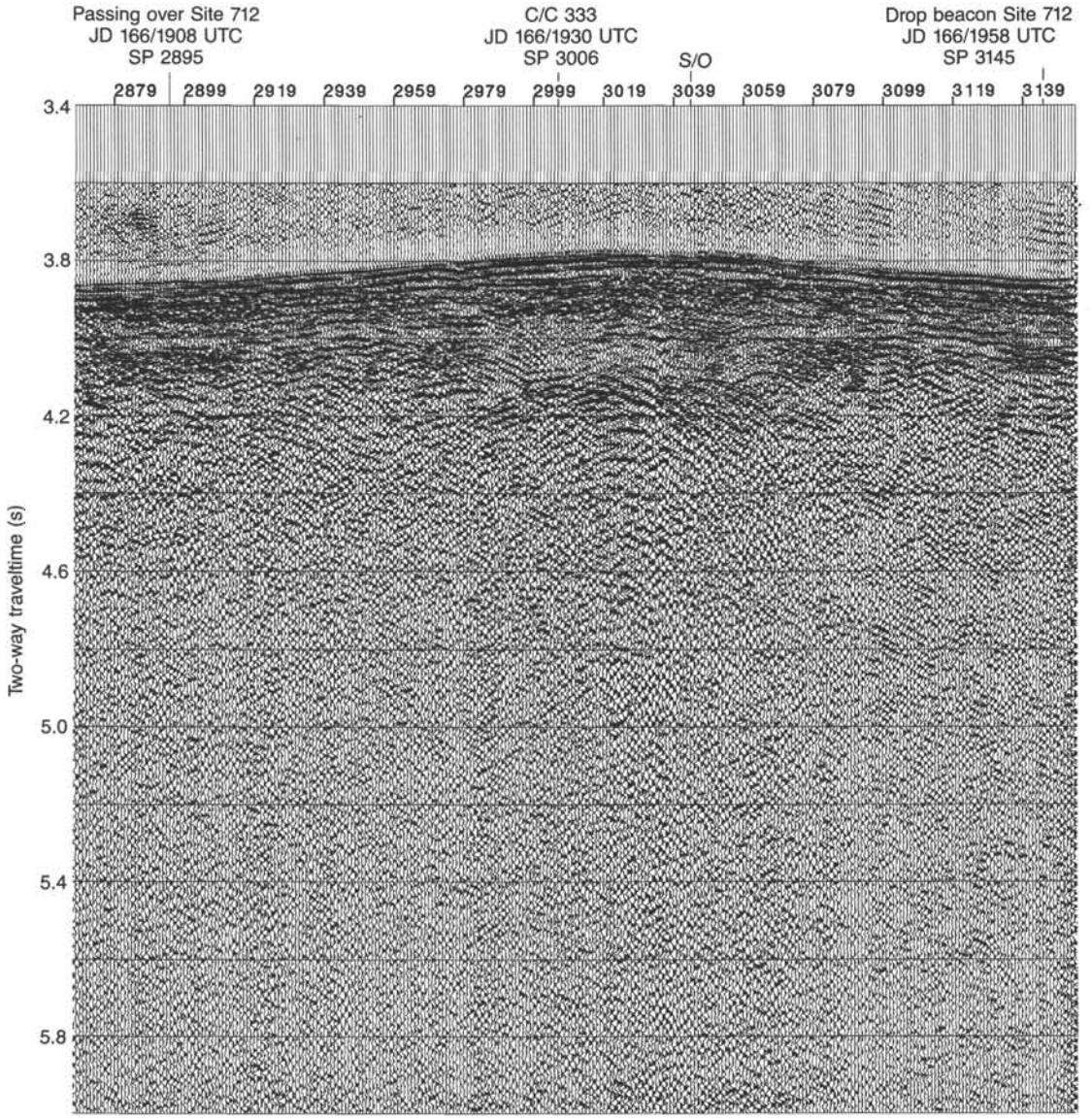


Figure 18 (continued).

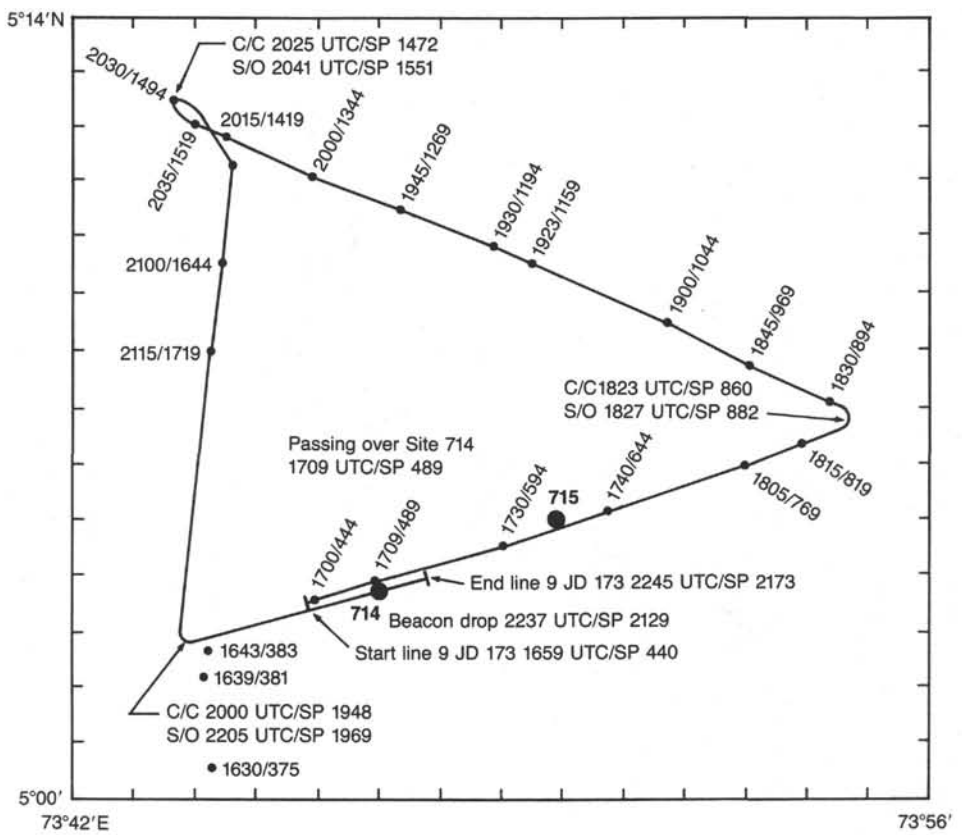


Figure 19. Detailed navigation plot of seismic line 9, on the approach to Sites 714 and 715 (see "Site 714" and "Site 715" chapters, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on the processed digital seismic profile shown in Figure 20.

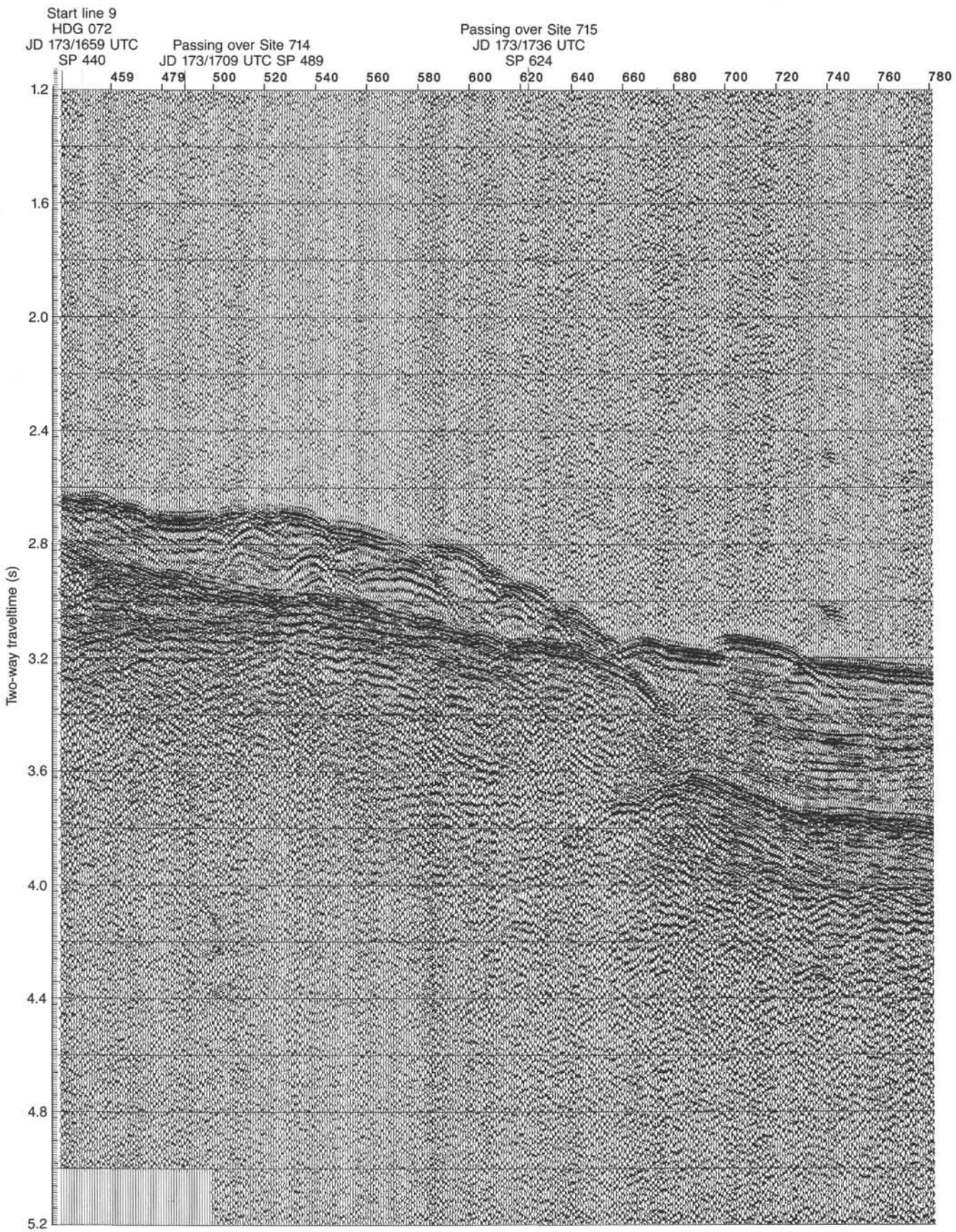


Figure 20. Processed digital seismic profile of line 9, approaching Sites 714 and 715. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 19.

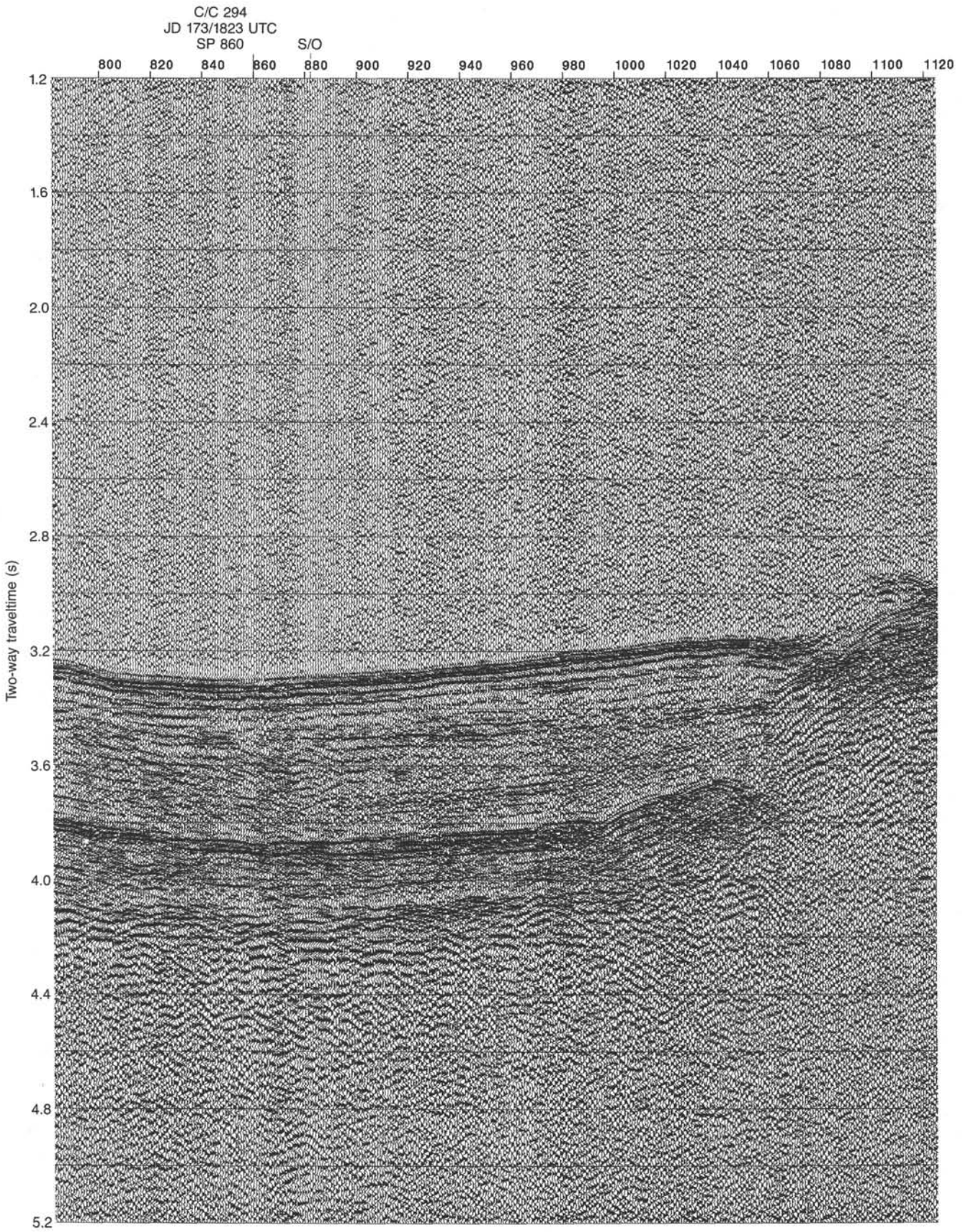


Figure 20 (continued).

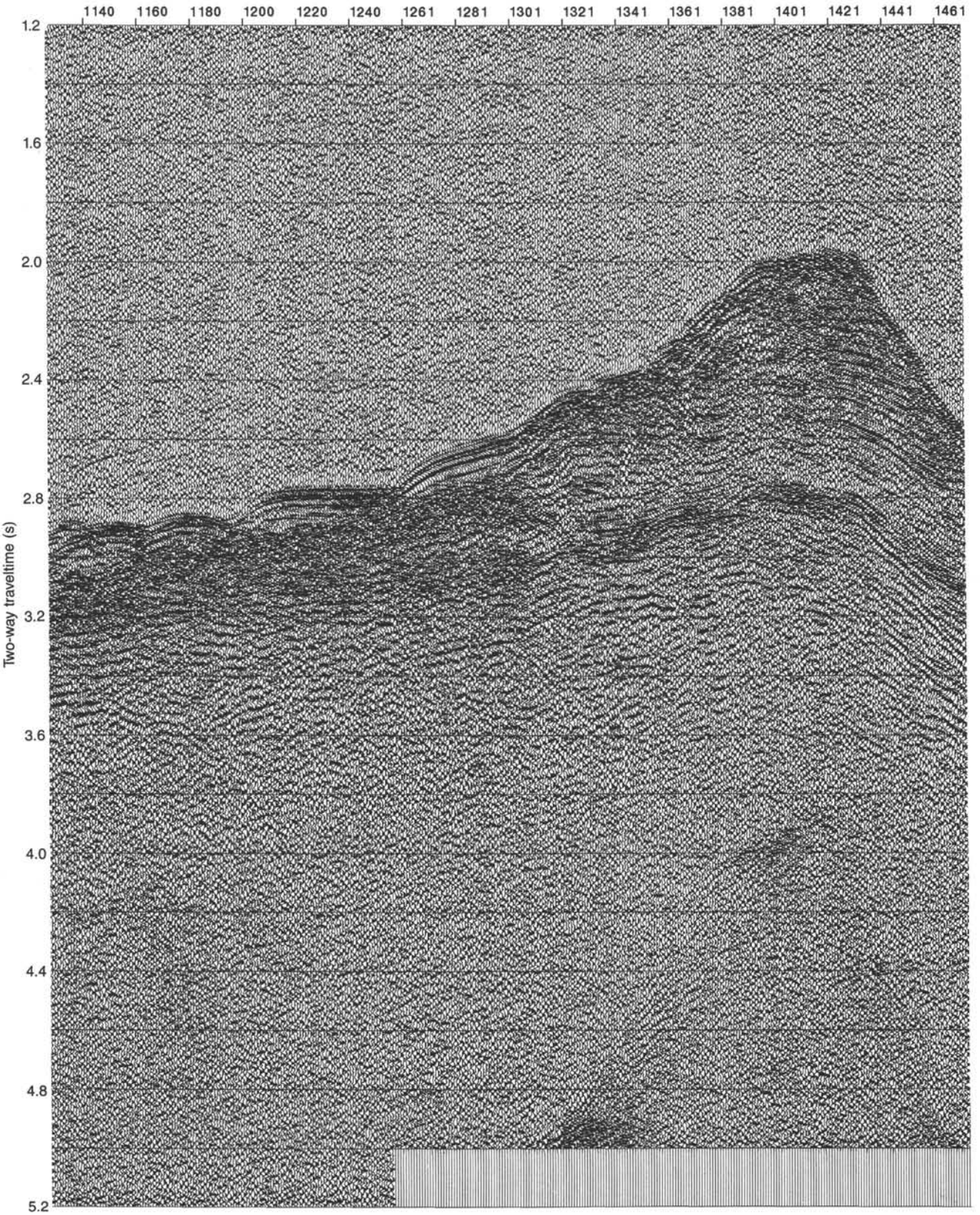


Figure 20 (continued).

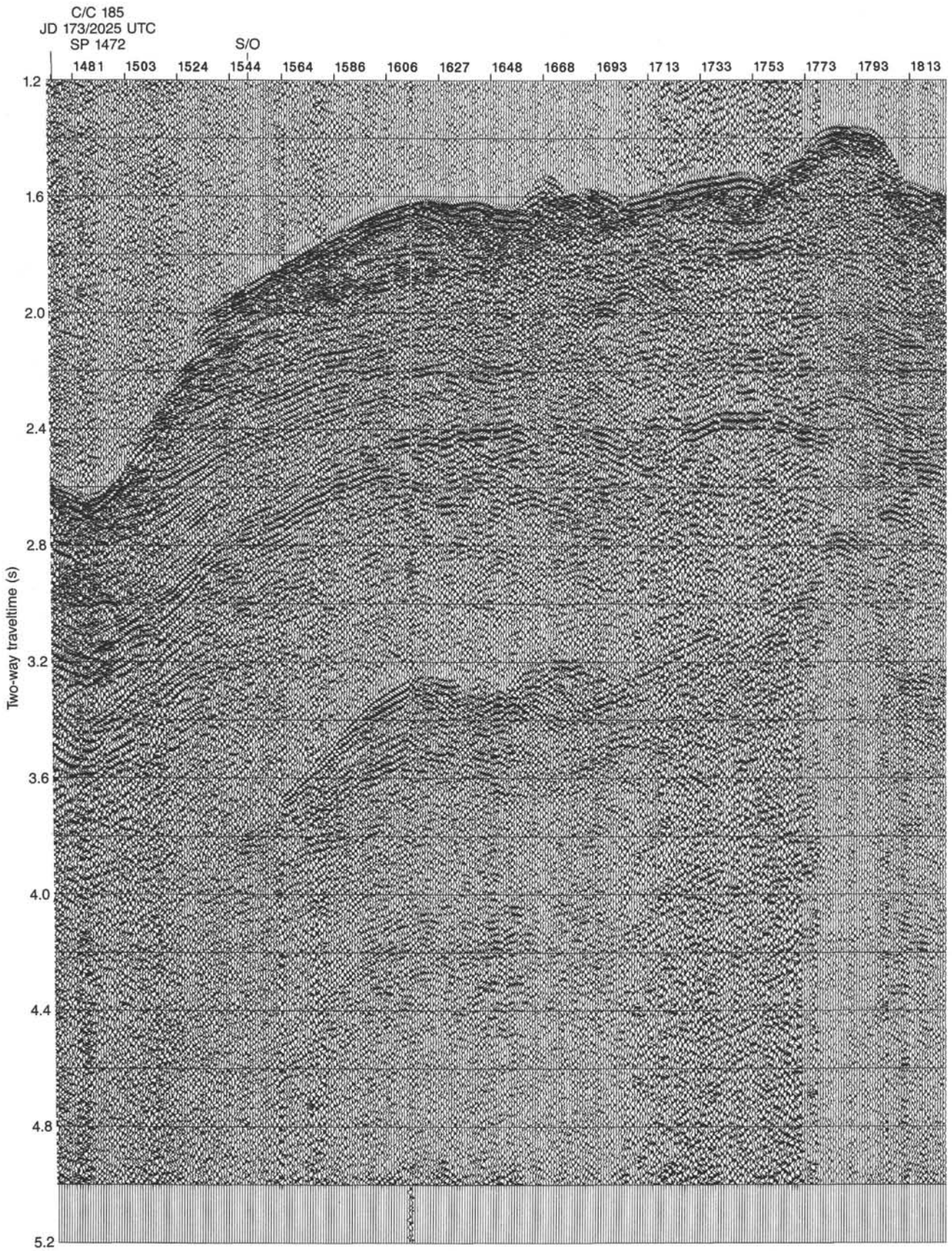


Figure 20 (continued).

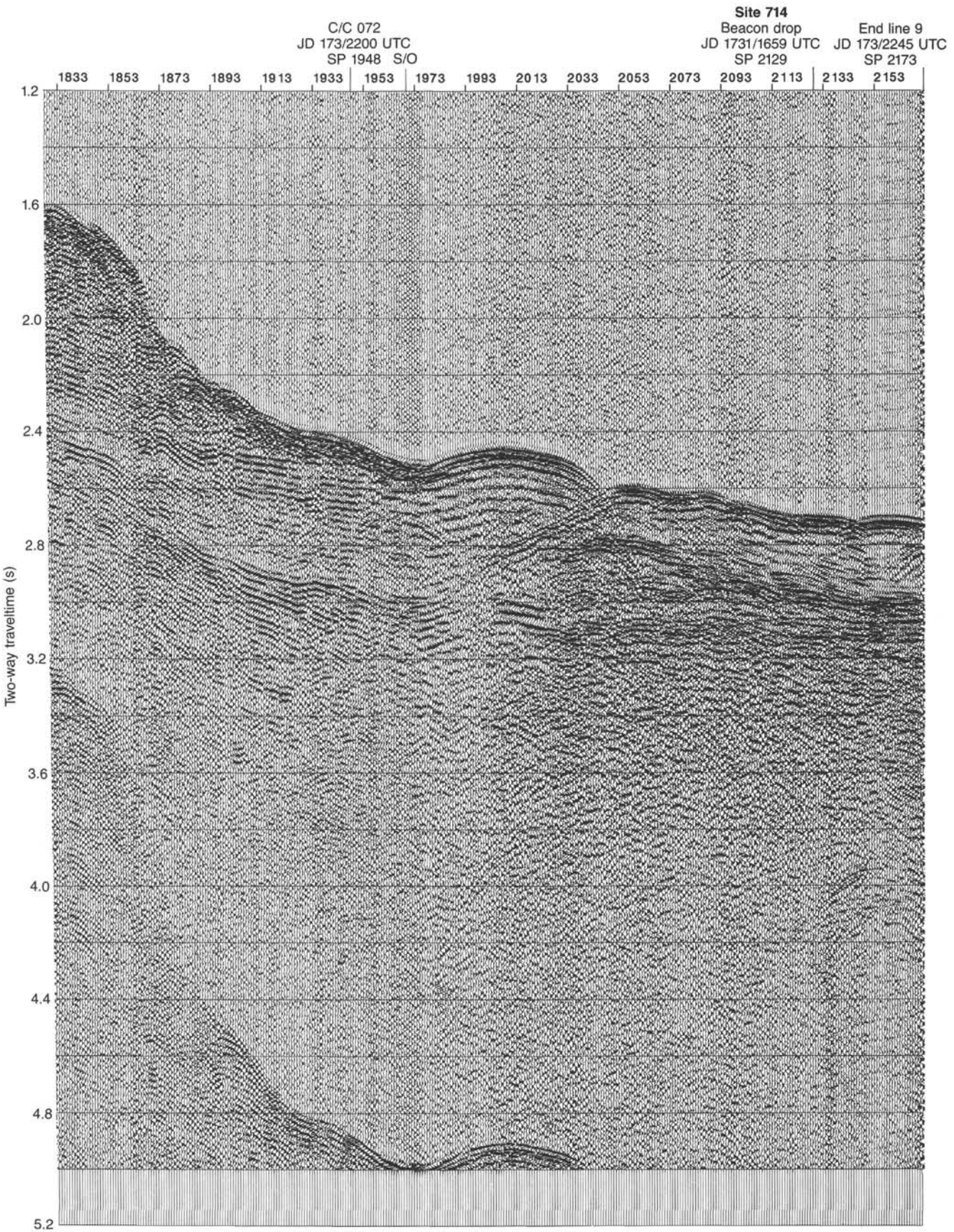


Figure 20 (continued).

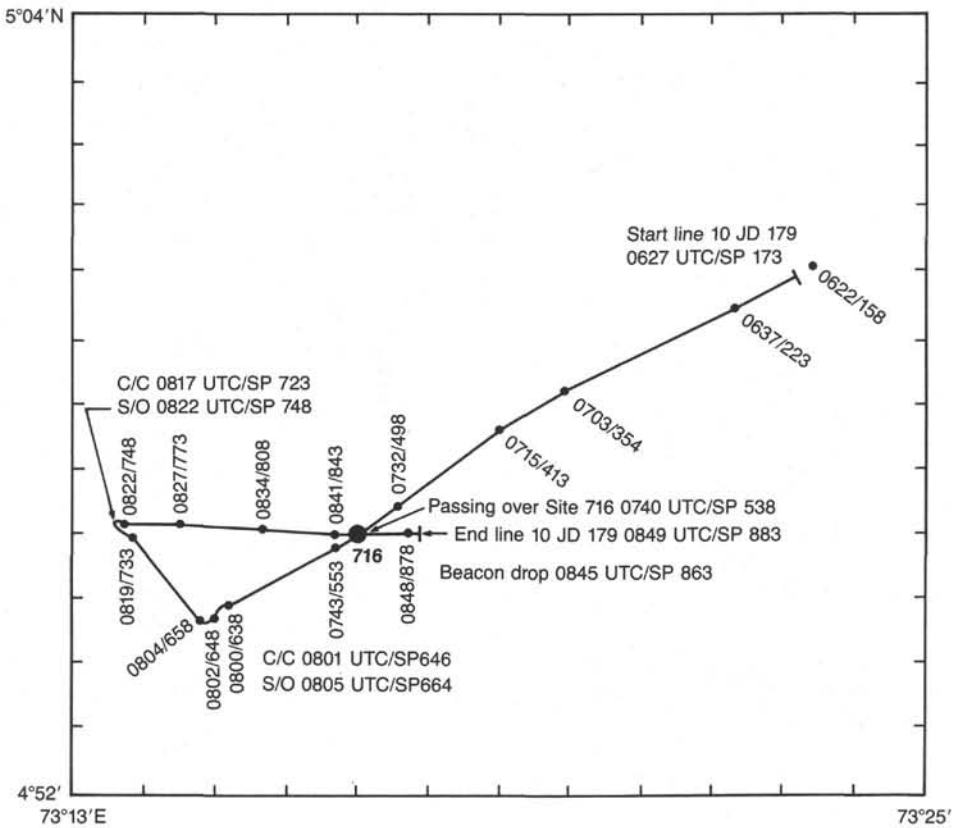


Figure 21. Detailed navigation plot of seismic line 10, on the approach to Site 716 (see "Site 716" chapter, this volume), generated from satellite and navigation data. Ship positions are shown as points and are identified by UTC/shotpoint. Extrapolated positions are shown as tick marks. Course changes are marked on the processed digital seismic profile shown in Figure 22.

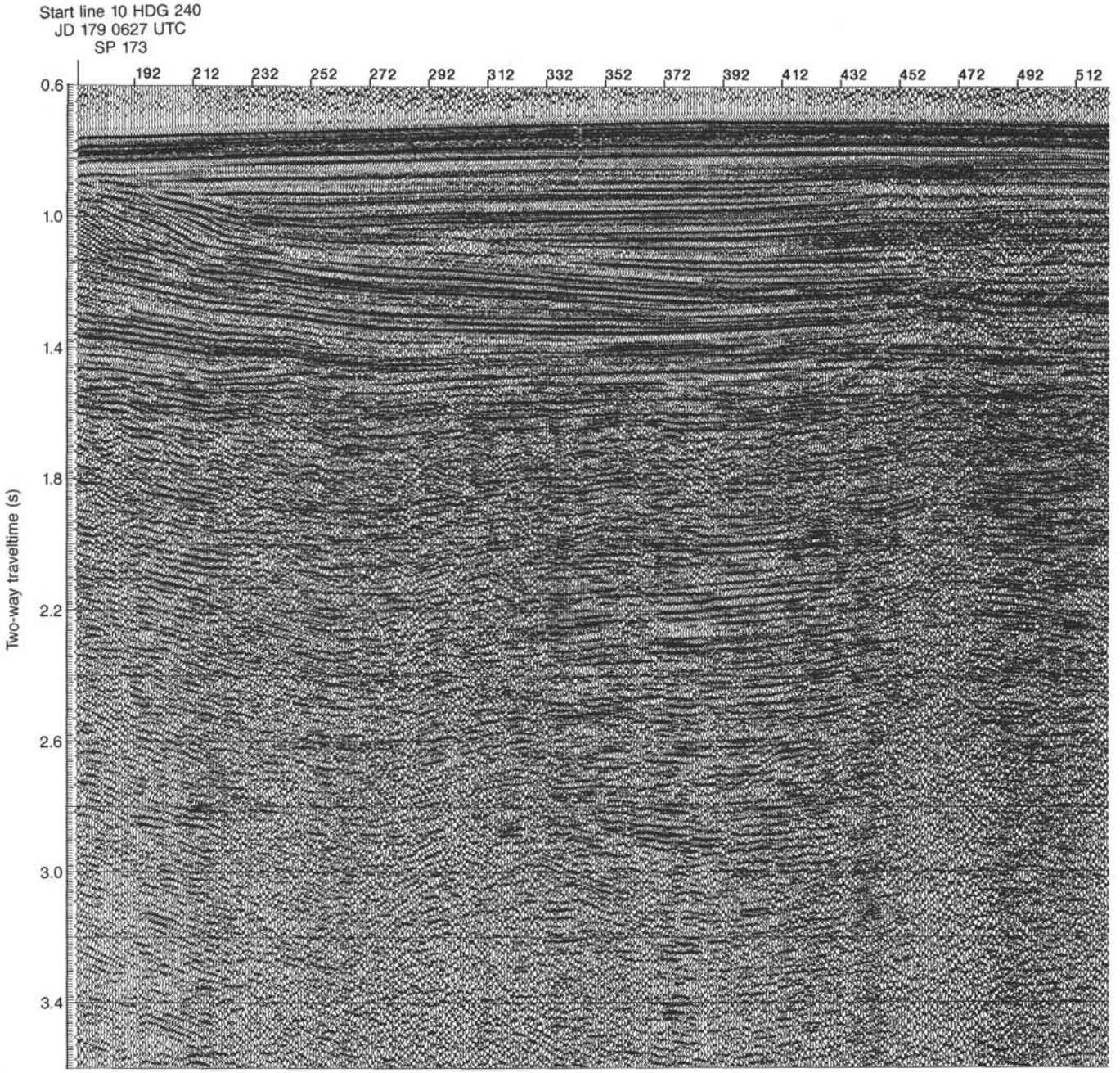


Figure 22. Processed digital seismic profile of line 10, approaching Site 716. The profile was plotted on the Versatec plotter. The processing parameters are given in Table 3, and the ship's track is shown in Figure 21.

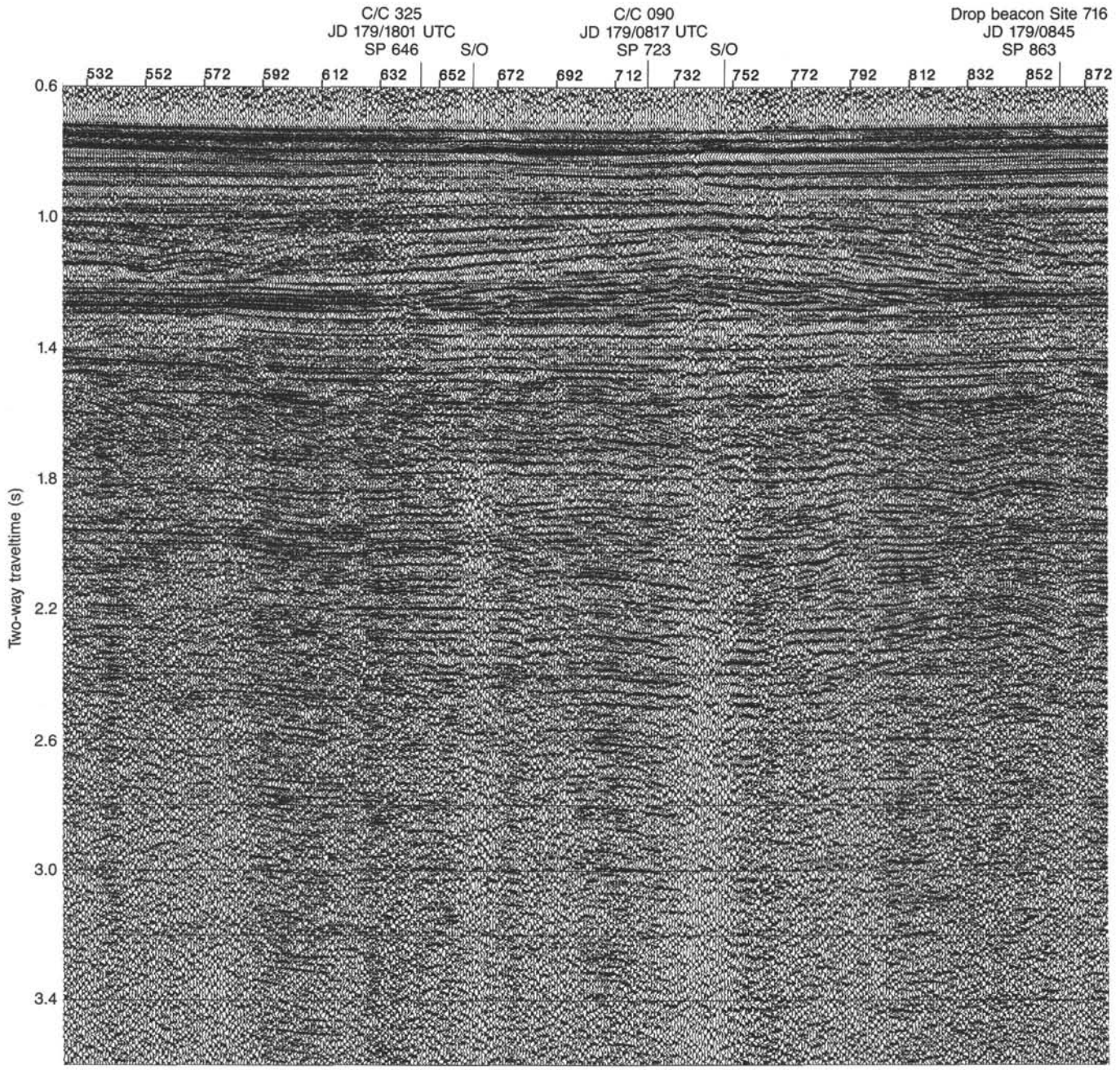


Figure 22 (continued).

## APPENDIX

**Satellite navigation and course- and speed-change data used to generate Leg 115 track line plots shown in Figures 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, and 21.**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| May | | | | | | | | | | |
| 19 | 139 | 1718 | 20 | 7.33 | 57 | 28.53 | 0 | 11.3 | 313 | GF |
| 19 | 139 | 1724 | 20 | 6.60 | 57 | 27.70 | 1.1 | 10.6 | 335 | c/cs |
| 19 | 139 | 1726 | 20 | 6.20 | 57 | 27.50 | 1.5 | 10.9 | 356 | c/cs |
| 19 | 139 | 1731 | 20 | 5.30 | 57 | 27.40 | 2.4 | 10.3 | 30 | c/cs |
| 19 | 139 | 1733 | 20 | 5.03 | 57 | 27.60 | 2.7 | 11.8 | 26 | GF |
| 19 | 139 | 1736 | 20 | 4.50 | 57 | 27.90 | 3.3 | 12.5 | 38 | c/cs |
| 19 | 139 | 1740 | 20 | 3.84 | 57 | 28.42 | 4.2 | 12.2 | 37 | GF |
| 19 | 139 | 1747 | 20 | 2.70 | 57 | 29.30 | 5.6 | 12.2 | 40 | c/cs |
| 19 | 139 | 1802 | 20 | 0.40 | 57 | 31.40 | 8.6 | 12.0 | 42 | c/cs |
| 19 | 139 | 1803 | 20 | 0.21 | 57 | 31.56 | 8.8 | 12.4 | 41 | GF |
| 19 | 139 | 1809 | 19 | 59.30 | 57 | 32.40 | 10.1 | 12.1 | 34 | c/cs |
| 19 | 139 | 1822 | 19 | 57.10 | 57 | 34.00 | 12.7 | 11.4 | 36 | GF |
| 19 | 139 | 1828 | 19 | 56.20 | 57 | 34.70 | 13.9 | 11.6 | 34 | c/cs |
| 19 | 139 | 1833 | 19 | 55.37 | 57 | 35.29 | 14.8 | 11.9 | 34 | GF |
| 19 | 139 | 1838 | 19 | 54.50 | 57 | 35.90 | 15.8 | 11.6 | 33 | c/cs |
| 19 | 139 | 1848 | 19 | 52.92 | 57 | 36.99 | 17.8 | 11.7 | 32 | GF |
| 19 | 139 | 1848 | 19 | 52.90 | 57 | 37.00 | 17.8 | 12.1 | 32 | c/cs |
| 19 | 139 | 1853 | 19 | 52.10 | 57 | 37.60 | 18.8 | 11.8 | 34 | c/cs |
| 19 | 139 | 1901 | 19 | 50.80 | 57 | 38.50 | 20.3 | 10.8 | 44 | c/cs |
| 19 | 139 | 1903 | 19 | 50.51 | 57 | 38.77 | 20.7 | 11.0 | 45 | GF |
| 19 | 139 | 1908 | 19 | 49.90 | 57 | 39.50 | 21.6 | 11.5 | 47 | c/cs |
| 19 | 139 | 1918 | 19 | 48.55 | 57 | 40.94 | 23.5 | 11.1 | 47 | GF |
| 19 | 139 | 1918 | 19 | 48.50 | 57 | 40.90 | 23.5 | 10.7 | 47 | c/cs |
| 19 | 139 | 1923 | 19 | 47.90 | 57 | 41.60 | 24.4 | 11.3 | 46 | c/cs |
| 19 | 139 | 1931 | 19 | 46.90 | 57 | 42.80 | 25.9 | 11.2 | 46 | c/cs |
| 19 | 139 | 1933 | 19 | 46.64 | 57 | 43.07 | 26.3 | 10.9 | 46 | GF |
| 19 | 139 | 1936 | 19 | 46.30 | 57 | 43.50 | 26.8 | 10.7 | 47 | c/cs |
| 19 | 139 | 1948 | 19 | 44.80 | 57 | 45.15 | 29.0 | 10.7 | 47 | GF |
| 19 | 139 | 1952 | 19 | 44.30 | 57 | 45.70 | 29.7 | 10.5 | 44 | c/cs |
| 19 | 139 | 1957 | 19 | 43.70 | 57 | 46.40 | 30.6 | 10.9 | 46 | c/cs |
| 19 | 139 | 2003 | 19 | 42.92 | 57 | 47.18 | 31.7 | 10.3 | 47 | GF |
| 19 | 139 | 2007 | 19 | 42.50 | 57 | 47.70 | 32.3 | 9.9 | 46 | c/cs |
| 19 | 139 | 2018 | 19 | 41.19 | 57 | 49.09 | 34.2 | 10.1 | 46 | GF |
| 19 | 139 | 2022 | 19 | 40.70 | 57 | 49.60 | 34.8 | 10.1 | 46 | c/cs |
| 19 | 139 | 2033 | 19 | 39.43 | 57 | 51.01 | 36.7 | 10.2 | 47 | GF |
| 19 | 139 | 2039 | 19 | 38.70 | 57 | 51.80 | 37.7 | 10.3 | 47 | c/cs |
| 19 | 139 | 2048 | 19 | 37.68 | 57 | 53.00 | 39.2 | 10.4 | 47 | GF |
| 19 | 139 | 2050 | 19 | 37.40 | 57 | 53.30 | 39.6 | 10.1 | 46 | c/cs |
| 19 | 139 | 2102 | 19 | 36.00 | 57 | 54.80 | 41.6 | 10.3 | 46 | c/cs |
| 19 | 139 | 2103 | 19 | 35.92 | 57 | 54.94 | 41.8 | 10.4 | 45 | GF |
| 19 | 139 | 2117 | 19 | 34.20 | 57 | 56.70 | 44.2 | 10.2 | 45 | c/cs |
| 19 | 139 | 2118 | 19 | 34.08 | 57 | 56.87 | 44.4 | 10.5 | 44 | GF |
| 19 | 139 | 2128 | 19 | 32.80 | 57 | 58.10 | 46.1 | 10.6 | 42 | c/cs |
| 19 | 139 | 2133 | 19 | 32.16 | 57 | 58.78 | 47.0 | 10.5 | 42 | GF |
| 19 | 139 | 2143 | 19 | 30.90 | 58 | 0.00 | 48.8 | 10.6 | 43 | c/cs |
| 19 | 139 | 2148 | 19 | 30.21 | 58 | 0.67 | 49.6 | 10.6 | 42 | GF |
| 19 | 139 | 2153 | 19 | 29.60 | 58 | 1.30 | 50.5 | 10.9 | 41 | c/cs |
| 19 | 139 | 2158 | 19 | 28.90 | 58 | 1.90 | 51.4 | 10.4 | 42 | c/cs |
| 19 | 139 | 2203 | 19 | 28.23 | 58 | 2.55 | 52.3 | 10.4 | 41 | GF |
| 19 | 139 | 2206 | 19 | 27.80 | 58 | 2.90 | 52.8 | 10.6 | 41 | c/cs |
| 19 | 139 | 2218 | 19 | 26.24 | 58 | 4.39 | 54.9 | 10.5 | 41 | GF |
| 19 | 139 | 2221 | 19 | 25.80 | 58 | 4.80 | 55.5 | 10.4 | 40 | c/cs |
| 19 | 139 | 2231 | 19 | 24.50 | 58 | 5.90 | 57.2 | 10.0 | 40 | c/cs |
| 19 | 139 | 2233 | 19 | 24.26 | 58 | 6.15 | 57.5 | 9.8 | 38 | GF |
| 19 | 139 | 2234 | 19 | 24.10 | 58 | 6.30 | 57.7 | 10.8 | 40 | c/cs |
| 19 | 139 | 2239 | 19 | 23.40 | 58 | 6.90 | 58.6 | 10.4 | 40 | c/cs |
| 19 | 139 | 2247 | 19 | 22.40 | 58 | 7.80 | 60.0 | 10.3 | 40 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 139 | 2248 | 19 | 22.25 | 58 | 7.93 | 60.1 | 10.3 | 39 | GF |
| 19 | 139 | 2254 | 19 | 21.50 | 58 | 8.60 | 61.2 | 11.0 | 38 | c/cs |
| 19 | 139 | 2303 | 19 | 20.16 | 58 | 9.70 | 62.8 | 10.8 | 39 | GF |
| 19 | 139 | 2304 | 19 | 20.00 | 58 | 9.80 | 63.0 | 10.3 | 40 | c/cs |
| 19 | 139 | 2318 | 19 | 18.17 | 58 | 11.44 | 65.4 | 10.3 | 38 | GF |
| 19 | 139 | 2322 | 19 | 17.60 | 58 | 11.90 | 66.1 | 10.6 | 38 | c/cs |
| 19 | 139 | 2329 | 19 | 16.70 | 58 | 12.70 | 67.3 | 10.3 | 39 | c/cs |
| 19 | 139 | 2345 | 19 | 14.50 | 58 | 14.50 | 70.1 | 11.1 | 40 | c/cs |
| 19 | 139 | 2348 | 19 | 14.10 | 58 | 14.90 | 70.6 | 10.3 | 39 | c/cs |
| 19 | 139 | 2358 | 19 | 12.80 | 58 | 16.10 | 72.3 | 10.5 | 39 | c/cs |
| 20 | 140 | 0000 | 19 | 12.50 | 58 | 16.30 | 72.7 | 10.5 | 39 | c/cs |
| 20 | 140 | 0005 | 19 | 11.80 | 58 | 16.90 | 73.5 | 10.3 | 39 | c/cs |
| 20 | 140 | 0012 | 19 | 10.90 | 58 | 17.70 | 74.8 | 10.6 | 40 | c/cs |
| 20 | 140 | 0016 | 19 | 10.40 | 58 | 18.20 | 75.5 | 10.2 | 39 | c/cs |
| 20 | 140 | 0021 | 19 | 9.70 | 58 | 18.70 | 76.3 | 10.6 | 40 | c/cs |
| 20 | 140 | 0026 | 19 | 9.00 | 58 | 19.30 | 77.2 | 10.5 | 40 | c/cs |
| 20 | 140 | 0046 | 19 | 6.30 | 58 | 21.70 | 80.7 | 10.3 | 39 | c/cs |
| 20 | 140 | 0059 | 19 | 4.60 | 58 | 23.20 | 82.9 | 10.3 | 39 | c/cs |
| 20 | 140 | 0116 | 19 | 2.30 | 58 | 25.20 | 85.8 | 10.4 | 38 | c/cs |
| 20 | 140 | 0129 | 19 | 0.60 | 58 | 26.60 | 88.1 | 10.3 | 38 | c/cs |
| 20 | 140 | 0134 | 18 | 59.90 | 58 | 27.20 | 89.0 | 10.7 | 38 | c/cs |
| 20 | 140 | 0151 | 18 | 57.50 | 58 | 29.20 | 92.0 | 10.3 | 39 | c/cs |
| 20 | 140 | 0214 | 18 | 54.50 | 58 | 31.80 | 95.9 | 10.5 | 38 | c/cs |
| 20 | 140 | 0222 | 18 | 53.40 | 58 | 32.80 | 97.3 | 10.1 | 39 | c/cs |
| 20 | 140 | 0225 | 18 | 53.00 | 58 | 33.10 | 97.8 | 9.7 | 46 | c/cs |
| 20 | 140 | 0238 | 18 | 51.50 | 58 | 34.70 | 99.9 | 10.1 | 46 | c/cs |
| 20 | 140 | 0248 | 18 | 50.40 | 58 | 36.00 | 101.6 | 10.8 | 47 | c/cs |
| 20 | 140 | 0253 | 18 | 49.80 | 58 | 36.70 | 102.5 | 9.7 | 48 | c/cs |
| 20 | 140 | 0257 | 18 | 49.30 | 58 | 37.20 | 103.2 | 10.1 | 46 | c/cs |
| 20 | 140 | 0315 | 18 | 47.20 | 58 | 39.50 | 106.2 | 10.3 | 48 | c/cs |
| 20 | 140 | 0333 | 18 | 45.10 | 58 | 41.90 | 109.3 | 10.4 | 46 | c/cs |
| 20 | 140 | 0336 | 18 | 44.80 | 58 | 42.30 | 109.8 | 9.8 | 47 | c/cs |
| 20 | 140 | 0346 | 18 | 43.70 | 58 | 43.60 | 111.4 | 10.2 | 48 | c/cs |
| 20 | 140 | 0356 | 18 | 42.50 | 58 | 44.90 | 113.2 | 9.8 | 47 | c/cs |
| 20 | 140 | 0411 | 18 | 40.90 | 58 | 46.80 | 115.6 | 10.4 | 45 | c/cs |
| 20 | 140 | 0419 | 18 | 39.90 | 58 | 47.90 | 117.0 | 10.4 | 48 | c/cs |
| 20 | 140 | 0432 | 18 | 38.40 | 58 | 49.60 | 119.3 | 10.1 | 46 | c/cs |
| 20 | 140 | 0445 | 18 | 36.80 | 58 | 51.30 | 121.5 | 10.4 | 48 | c/cs |
| 20 | 140 | 0459 | 18 | 35.20 | 58 | 53.20 | 123.9 | 10.5 | 48 | c/cs |
| 20 | 140 | 0507 | 18 | 34.30 | 58 | 54.30 | 125.3 | 10.3 | 46 | c/cs |
| 20 | 140 | 0517 | 18 | 33.10 | 58 | 55.60 | 127.0 | 10.6 | 48 | c/cs |
| 20 | 140 | 0522 | 18 | 32.50 | 58 | 56.30 | 127.9 | 9.7 | 47 | c/cs |
| 20 | 140 | 0530 | 18 | 31.60 | 58 | 57.30 | 129.2 | 10.0 | 49 | c/cs |
| 20 | 140 | 0535 | 18 | 31.10 | 58 | 57.90 | 130.0 | 9.9 | 47 | c/cs |
| 20 | 140 | 0555 | 18 | 28.80 | 59 | 0.50 | 133.3 | 10.2 | 46 | c/cs |
| 20 | 140 | 0611 | 18 | 26.90 | 59 | 2.60 | 136.0 | 10.8 | 46 | c/cs |
| 20 | 140 | 0615 | 18 | 26.40 | 59 | 3.10 | 136.8 | 3.7 | 37 | c/cs |
| 20 | 140 | 0619 | 18 | 26.20 | 59 | 3.30 | 137.0 | 3.0 | 30 | c/cs |
| 20 | 140 | 0625 | 18 | 26.00 | 59 | 3.40 | 137.3 | 3.5 | 35 | c/cs |
| 20 | 140 | 0633 | 18 | 25.60 | 59 | 3.70 | 137.8 | 4.5 | 39 | c/cs |
| 20 | 140 | 0658 | 18 | 24.20 | 59 | 5.00 | 139.6 | 4.7 | 41 | c/cs |
| 20 | 140 | 0718 | 18 | 23.00 | 59 | 6.00 | 141.2 | 4.9 | 42 | c/cs |
| 20 | 140 | 0742 | 18 | 21.50 | 59 | 7.40 | 143.2 | 4.1 | 38 | c/cs |
| 20 | 140 | 0746 | 18 | 21.30 | 59 | 7.60 | 143.5 | 4.8 | 41 | c/cs |
| 20 | 140 | 0748 | 18 | 21.17 | 59 | 7.73 | 143.6 | 4.9 | 42 | GF |
| 20 | 140 | 0800 | 18 | 20.43 | 59 | 8.42 | 144.6 | 5.8 | 41 | GF |
| 20 | 140 | 0803 | 18 | 20.21 | 59 | 8.62 | 144.9 | 5.1 | 40 | GF |
| 20 | 140 | 0808 | 18 | 19.90 | 59 | 8.90 | 145.3 | 4.9 | 39 | c/cs |
| 20 | 140 | 0818 | 18 | 19.25 | 59 | 9.44 | 146.1 | 4.6 | 38 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 140 | 0819 | 18 | 19.20 | 59 | 9.50 | 146.2 | 5.2 | 40 | c/cs |
| 20 | 140 | 0830 | 18 | 18.46 | 59 | 10.13 | 147.2 | 6.2 | 42 | GF |
| 20 | 140 | 0833 | 18 | 18.23 | 59 | 10.35 | 147.5 | 4.8 | 42 | GF |
| 20 | 140 | 0851 | 18 | 17.20 | 59 | 11.40 | 148.9 | 4.8 | 42 | c/cs |
| 20 | 140 | 0900 | 18 | 16.62 | 59 | 11.88 | 149.6 | 4.7 | 51 | GF |
| 20 | 140 | 0901 | 18 | 16.60 | 59 | 11.90 | 149.7 | 4.3 | 50 | c/cs |
| 20 | 140 | 0926 | 18 | 15.40 | 59 | 13.40 | 151.5 | 4.3 | 49 | c/cs |
| 20 | 140 | 0947 | 18 | 14.40 | 59 | 14.60 | 153.0 | 4.7 | 45 | c/cs |
| 20 | 140 | 0950 | 18 | 14.20 | 59 | 14.80 | 153.3 | 6.6 | 12 | c/cs |
| 20 | 140 | 0952 | 18 | 14.00 | 59 | 14.80 | 153.5 | 8.0 | 14 | c/cs |
| 20 | 140 | 0953 | 18 | 13.90 | 59 | 14.80 | 153.6 | 5.9 | 8 | c/cs |
| 20 | 140 | 0955 | 18 | 13.70 | 59 | 14.90 | 153.8 | 10.0 | 19 | c/cs |
| 20 | 140 | 0958 | 18 | 13.20 | 59 | 15.10 | 154.3 | 10.9 | 18 | c/cs |
| 20 | 140 | 1008 | 18 | 11.50 | 59 | 15.60 | 156.1 | 11.1 | 19 | c/cs |
| 20 | 140 | 1013 | 18 | 10.60 | 59 | 16.00 | 157.1 | 11.4 | 17 | c/cs |
| 20 | 140 | 1021 | 18 | 9.18 | 59 | 16.42 | 158.6 | 10.9 | 16 | SF |
| 20 | 140 | 1021 | 18 | 9.20 | 59 | 16.40 | 158.6 | 11.0 | 15 | c/cs |
| 20 | 140 | 1028 | 18 | 7.90 | 59 | 16.80 | 159.9 | 10.6 | 13 | c/cs |
| 20 | 140 | 1041 | 18 | 5.70 | 59 | 17.30 | 162.1 | 10.7 | 16 | c/cs |
| 20 | 140 | 1046 | 18 | 4.90 | 59 | 17.60 | 163.0 | 9.7 | 30 | c/cs |
| 20 | 140 | 1048 | 18 | 4.60 | 59 | 17.80 | 163.4 | 10.4 | 23 | c/cs |
| 20 | 140 | 1054 | 18 | 3.60 | 59 | 18.20 | 164.4 | 11.3 | 23 | c/cs |
| 20 | 140 | 1056 | 18 | 3.30 | 59 | 18.30 | 164.8 | 10.5 | 19 | c/cs |
| 20 | 140 | 1100 | 18 | 2.61 | 59 | 18.58 | 165.5 | 12.6 | 22 | GF |
| 20 | 140 | 1101 | 18 | 2.40 | 59 | 18.70 | 165.7 | 12.5 | 25 | c/cs |
| 20 | 140 | 1103 | 18 | 2.04 | 59 | 18.85 | 166.1 | 10.4 | 25 | GF |
| 20 | 140 | 1107 | 18 | 1.40 | 59 | 19.20 | 166.8 | 10.6 | 24 | c/cs |
| 20 | 140 | 1118 | 17 | 59.65 | 59 | 20.00 | 168.7 | 10.1 | 30 | GF |
| 20 | 140 | 1119 | 17 | 59.50 | 59 | 20.10 | 168.9 | 9.7 | 30 | c/cs |
| 20 | 140 | 1126 | 17 | 58.50 | 59 | 20.70 | 170.0 | 10.3 | 30 | c/cs |
| 20 | 140 | 1130 | 17 | 57.94 | 59 | 21.05 | 170.7 | 11.5 | 15 | GF |
| 20 | 140 | 1134 | 17 | 57.20 | 59 | 21.30 | 171.5 | 11.6 | 15 | c/cs |
| 20 | 140 | 1144 | 17 | 55.30 | 59 | 21.80 | 173.4 | 11.1 | 13 | c/cs |
| 20 | 140 | 1145 | 17 | 55.20 | 59 | 21.80 | 173.6 | 5.8 | 358 | c/cs |
| 20 | 140 | 1147 | 17 | 55.00 | 59 | 21.80 | 173.8 | 11.2 | 14 | c/cs |
| 20 | 140 | 1200 | 17 | 52.61 | 59 | 22.43 | 176.2 | 11.1 | 26 | GF |
| 20 | 140 | 1202 | 17 | 52.30 | 59 | 22.60 | 176.6 | 11.4 | 25 | c/cs |
| 20 | 140 | 1209 | 17 | 51.10 | 59 | 23.20 | 177.9 | 11.1 | 25 | c/cs |
| 20 | 140 | 1212 | 17 | 50.60 | 59 | 23.40 | 178.5 | 4.1 | 18 | c/cs |
| 20 | 140 | 1213 | 17 | 50.50 | 59 | 23.40 | 178.5 | 11.1 | 27 | c/cs |
| 20 | 140 | 1218 | 17 | 49.68 | 59 | 23.89 | 179.5 | 10.0 | 21 | GF |
| 20 | 140 | 1222 | 17 | 49.10 | 59 | 24.10 | 180.1 | 10.1 | 20 | c/cs |
| 20 | 140 | 1228 | 17 | 48.10 | 59 | 24.50 | 181.1 | 10.1 | 20 | c/cs |
| 20 | 140 | 1230 | 17 | 47.79 | 59 | 24.62 | 181.5 | 13.3 | 22 | GF |
| 20 | 140 | 1233 | 17 | 47.17 | 59 | 24.88 | 182.1 | 10.3 | 20 | GF |
| 20 | 140 | 1233 | 17 | 47.20 | 59 | 24.90 | 182.1 | 10.4 | 19 | c/cs |
| 20 | 140 | 1246 | 17 | 45.00 | 59 | 25.60 | 184.4 | 10.8 | 19 | c/cs |
| 20 | 140 | 1251 | 17 | 44.20 | 59 | 25.90 | 185.3 | 10.3 | 18 | c/cs |
| 20 | 140 | 1300 | 17 | 42.71 | 59 | 26.45 | 186.8 | 12.6 | 18 | GF |
| 20 | 140 | 1303 | 17 | 42.11 | 59 | 26.66 | 187.5 | 10.2 | 20 | GF |
| 20 | 140 | 1305 | 17 | 41.80 | 59 | 26.80 | 187.8 | 10.4 | 20 | c/cs |
| 20 | 140 | 1318 | 17 | 39.67 | 59 | 27.58 | 190.1 | 9.9 | 20 | GF |
| 20 | 140 | 1323 | 17 | 38.90 | 59 | 27.90 | 190.9 | 9.8 | 20 | c/cs |
| 20 | 140 | 1330 | 17 | 37.82 | 59 | 28.28 | 192.0 | 12.8 | 21 | GF |
| 20 | 140 | 1333 | 17 | 37.22 | 59 | 28.52 | 192.7 | 10.0 | 19 | GF |
| 20 | 140 | 1341 | 17 | 36.00 | 59 | 29.00 | 194.0 | 10.5 | 19 | c/cs |
| 20 | 140 | 1348 | 17 | 34.80 | 59 | 29.40 | 195.2 | 9.9 | 19 | c/cs |
| 20 | 140 | 1357 | 17 | 33.40 | 59 | 29.90 | 196.7 | 10.0 | 20 | c/cs |
| 20 | 140 | 1400 | 17 | 32.94 | 59 | 30.09 | 197.2 | 12.3 | 17 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 140 | 1403 | 17 | 32.35 | 59 | 30.28 | 197.8 | 10.0 | 19 | GF |
| 20 | 140 | 1409 | 17 | 31.40 | 59 | 30.60 | 198.8 | 9.9 | 21 | c/cs |
| 20 | 140 | 1414 | 17 | 30.60 | 59 | 30.90 | 199.7 | 10.0 | 19 | c/cs |
| 20 | 140 | 1424 | 17 | 29.10 | 59 | 31.50 | 201.3 | 9.9 | 21 | c/cs |
| 20 | 140 | 1430 | 17 | 28.14 | 59 | 31.88 | 202.3 | 11.9 | 20 | GF |
| 20 | 140 | 1433 | 17 | 27.58 | 59 | 32.09 | 202.9 | 10.1 | 21 | GF |
| 20 | 140 | 1439 | 17 | 26.60 | 59 | 32.50 | 203.9 | 9.9 | 21 | c/cs |
| 20 | 140 | 1448 | 17 | 25.24 | 59 | 33.01 | 205.4 | 9.3 | 20 | GF |
| 20 | 140 | 1500 | 17 | 23.49 | 59 | 33.69 | 207.3 | 12.1 | 20 | GF |
| 20 | 140 | 1503 | 17 | 22.92 | 59 | 33.91 | 207.9 | 9.7 | 21 | GF |
| 20 | 140 | 1503 | 17 | 22.90 | 59 | 33.90 | 207.9 | 10.0 | 19 | c/cs |
| 20 | 140 | 1510 | 17 | 21.80 | 59 | 34.30 | 209.0 | 9.7 | 20 | c/cs |
| 20 | 140 | 1518 | 17 | 20.61 | 59 | 34.79 | 210.3 | 9.0 | 22 | GF |
| 20 | 140 | 1518 | 17 | 20.60 | 59 | 34.80 | 210.3 | 9.3 | 21 | c/cs |
| 20 | 140 | 1530 | 17 | 18.88 | 59 | 35.48 | 212.2 | 12.5 | 21 | GF |
| 20 | 140 | 1530 | 17 | 18.90 | 59 | 35.50 | 212.2 | 12.4 | 21 | c/cs |
| 20 | 140 | 1533 | 17 | 18.30 | 59 | 35.71 | 212.8 | 9.8 | 20 | GF |
| 20 | 140 | 1538 | 17 | 17.50 | 59 | 36.00 | 213.6 | 9.6 | 21 | c/cs |
| 20 | 140 | 1548 | 17 | 16.00 | 59 | 36.60 | 215.2 | 9.9 | 21 | c/cs |
| 20 | 140 | 1600 | 17 | 14.19 | 59 | 37.36 | 217.2 | 12.6 | 22 | GF |
| 20 | 140 | 1601 | 17 | 14.00 | 59 | 37.40 | 217.4 | 12.3 | 20 | c/cs |
| 20 | 140 | 1603 | 17 | 13.61 | 59 | 37.59 | 217.8 | 9.4 | 21 | GF |
| 20 | 140 | 1619 | 17 | 11.30 | 59 | 38.50 | 220.3 | 9.7 | 21 | c/cs |
| 20 | 140 | 1626 | 17 | 10.20 | 59 | 38.90 | 221.5 | 9.9 | 22 | c/cs |
| 20 | 140 | 1629 | 17 | 9.70 | 59 | 39.10 | 222.0 | 9.8 | 24 | c/cs |
| 20 | 140 | 1630 | 17 | 9.60 | 59 | 39.21 | 222.1 | 12.9 | 24 | GF |
| 20 | 140 | 1633 | 17 | 9.01 | 59 | 39.48 | 222.8 | 10.0 | 22 | GF |
| 20 | 140 | 1636 | 17 | 8.50 | 59 | 39.70 | 223.3 | 9.8 | 21 | c/cs |
| 20 | 140 | 1647 | 17 | 6.90 | 59 | 40.30 | 225.1 | 9.5 | 20 | c/cs |
| 20 | 140 | 1648 | 17 | 6.72 | 59 | 40.39 | 225.2 | 9.2 | 21 | GF |
| 20 | 140 | 1652 | 17 | 6.10 | 59 | 40.60 | 225.8 | 10.1 | 21 | c/cs |
| 20 | 140 | 1657 | 17 | 5.40 | 59 | 40.90 | 226.7 | 9.5 | 21 | c/cs |
| 20 | 140 | 1703 | 17 | 4.47 | 59 | 41.30 | 227.6 | 9.8 | 25 | GF |
| 20 | 140 | 1719 | 17 | 2.10 | 59 | 42.40 | 230.2 | 9.8 | 25 | c/cs |
| 20 | 140 | 1730 | 17 | 0.46 | 59 | 43.22 | 232.0 | 10.1 | 22 | GF |
| 20 | 140 | 1739 | 16 | 59.10 | 59 | 43.80 | 233.5 | 10.0 | 23 | c/cs |
| 20 | 140 | 1745 | 16 | 58.14 | 59 | 44.22 | 234.5 | 11.7 | 20 | GF |
| 20 | 140 | 1748 | 16 | 57.59 | 59 | 44.43 | 235.1 | 9.2 | 23 | GF |
| 20 | 140 | 1748 | 16 | 57.60 | 59 | 44.40 | 235.1 | 9.6 | 23 | c/cs |
| 20 | 140 | 1800 | 16 | 55.82 | 59 | 45.23 | 237.1 | 12.7 | 22 | GF |
| 20 | 140 | 1803 | 16 | 55.23 | 59 | 45.48 | 237.7 | 10.4 | 23 | GF |
| 20 | 140 | 1805 | 16 | 54.90 | 59 | 45.60 | 238.0 | 10.1 | 23 | c/cs |
| 20 | 140 | 1818 | 16 | 52.89 | 59 | 46.50 | 240.2 | 9.7 | 23 | GF |
| 20 | 140 | 1823 | 16 | 52.10 | 59 | 46.80 | 241.0 | 9.8 | 24 | c/cs |
| 20 | 140 | 1830 | 16 | 51.10 | 59 | 47.32 | 242.2 | 10.2 | 26 | GF |
| 20 | 140 | 1843 | 16 | 49.10 | 59 | 48.30 | 244.4 | 10.1 | 26 | c/cs |
| 20 | 140 | 1849 | 16 | 48.20 | 59 | 48.80 | 245.4 | 9.5 | 26 | c/cs |
| 20 | 140 | 1856 | 16 | 47.20 | 59 | 49.30 | 246.5 | 10.7 | 25 | c/cs |
| 20 | 140 | 1903 | 16 | 46.07 | 59 | 49.85 | 247.8 | 9.5 | 24 | GF |
| 20 | 140 | 1903 | 16 | 46.10 | 59 | 49.90 | 247.8 | 9.2 | 24 | c/cs |
| 20 | 140 | 1918 | 16 | 44.00 | 59 | 50.80 | 250.1 | 9.0 | 25 | c/cs |
| 20 | 140 | 1924 | 16 | 43.20 | 59 | 51.20 | 251.0 | 9.6 | 23 | c/cs |
| 20 | 140 | 1927 | 16 | 42.70 | 59 | 51.40 | 251.5 | 9.2 | 24 | c/cs |
| 20 | 140 | 1930 | 16 | 42.29 | 59 | 51.62 | 251.9 | 10.1 | 23 | GF |
| 20 | 140 | 1944 | 16 | 40.10 | 59 | 52.60 | 254.3 | 10.1 | 26 | c/cs |
| 20 | 140 | 1951 | 16 | 39.10 | 59 | 53.10 | 255.4 | 10.2 | 23 | c/cs |
| 20 | 140 | 2000 | 16 | 37.70 | 59 | 53.70 | 257.0 | 9.8 | 24 | c/cs |
| 20 | 140 | 2003 | 16 | 37.22 | 59 | 53.95 | 257.5 | 10.0 | 24 | GF |
| 20 | 140 | 2007 | 16 | 36.60 | 59 | 54.20 | 258.1 | 10.5 | 23 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 140 | 2014 | 16 | 35.50 | 59 | 54.70 | 259.3 | 10.5 | 23 | c/cs |
| 20 | 140 | 2018 | 16 | 34.85 | 59 | 55.03 | 260.0 | 9.9 | 24 | GF |
| 20 | 140 | 2020 | 16 | 34.60 | 59 | 55.20 | 260.4 | 9.6 | 21 | c/cs |
| 20 | 140 | 2025 | 16 | 33.80 | 59 | 55.50 | 261.2 | 9.8 | 21 | c/cs |
| 20 | 140 | 2030 | 16 | 33.04 | 59 | 55.78 | 262.0 | 10.4 | 21 | GF |
| 20 | 140 | 2037 | 16 | 31.90 | 59 | 56.20 | 263.2 | 10.2 | 22 | c/cs |
| 20 | 140 | 2043 | 16 | 31.00 | 59 | 56.60 | 264.2 | 10.5 | 22 | c/cs |
| 20 | 140 | 2050 | 16 | 29.80 | 59 | 57.10 | 265.5 | 10.3 | 21 | c/cs |
| 20 | 140 | 2100 | 16 | 28.21 | 59 | 57.73 | 267.2 | 13.6 | 22 | GF |
| 20 | 140 | 2103 | 16 | 27.58 | 59 | 58.00 | 267.8 | 10.2 | 22 | GF |
| 20 | 140 | 2105 | 16 | 27.30 | 59 | 58.10 | 268.2 | 10.1 | 22 | c/cs |
| 20 | 140 | 2111 | 16 | 26.30 | 59 | 58.50 | 269.2 | 10.5 | 22 | c/cs |
| 20 | 140 | 2118 | 16 | 25.20 | 59 | 59.00 | 270.4 | 10.1 | 22 | c/cs |
| 20 | 140 | 2126 | 16 | 23.90 | 59 | 59.50 | 271.8 | 10.7 | 23 | c/cs |
| 20 | 140 | 2130 | 16 | 23.28 | 59 | 59.81 | 272.5 | 13.4 | 23 | GF |
| 20 | 140 | 2133 | 16 | 22.66 | 60 | 0.08 | 273.2 | 10.4 | 24 | GF |
| 20 | 140 | 2138 | 16 | 21.90 | 60 | 0.40 | 274.0 | 8.3 | 20 | c/cs |
| 20 | 140 | 2139 | 16 | 21.70 | 60 | 0.50 | 274.2 | 10.2 | 23 | c/cs |
| 20 | 140 | 2149 | 16 | 20.20 | 60 | 1.20 | 275.9 | 9.9 | 22 | c/cs |
| 20 | 140 | 2154 | 16 | 19.40 | 60 | 1.50 | 276.7 | 10.4 | 23 | c/cs |
| 20 | 140 | 2200 | 16 | 18.44 | 60 | 1.92 | 277.7 | 13.1 | 21 | GF |
| 20 | 140 | 2203 | 16 | 17.83 | 60 | 2.17 | 278.4 | 11.1 | 23 | GF |
| 20 | 140 | 2207 | 16 | 17.20 | 60 | 2.50 | 279.1 | 10.5 | 23 | c/cs |
| 20 | 140 | 2217 | 16 | 15.50 | 60 | 3.20 | 280.9 | 10.7 | 23 | c/cs |
| 20 | 140 | 2218 | 16 | 15.38 | 60 | 3.26 | 281.1 | 9.9 | 23 | GF |
| 20 | 140 | 2231 | 16 | 13.40 | 60 | 4.20 | 283.2 | 9.7 | 25 | c/cs |
| 20 | 140 | 2233 | 16 | 13.11 | 60 | 4.29 | 283.5 | 9.9 | 24 | GF |
| 20 | 140 | 2239 | 16 | 12.20 | 60 | 4.70 | 284.5 | 10.2 | 24 | c/cs |
| 20 | 140 | 2254 | 16 | 9.90 | 60 | 5.80 | 287.1 | 10.3 | 24 | c/cs |
| 20 | 140 | 2259 | 16 | 9.10 | 60 | 6.10 | 287.9 | 10.3 | 23 | c/cs |
| 20 | 140 | 2300 | 16 | 8.94 | 60 | 6.21 | 288.1 | 12.9 | 24 | GF |
| 20 | 140 | 2303 | 16 | 8.35 | 60 | 6.48 | 288.7 | 10.4 | 23 | GF |
| 20 | 140 | 2309 | 16 | 7.40 | 60 | 6.90 | 289.8 | 10.2 | 24 | c/cs |
| 20 | 140 | 2318 | 16 | 6.00 | 60 | 7.55 | 291.3 | 9.7 | 25 | GF |
| 20 | 140 | 2318 | 16 | 6.00 | 60 | 7.50 | 291.3 | 9.8 | 24 | c/cs |
| 20 | 140 | 2330 | 16 | 4.20 | 60 | 8.37 | 293.3 | 13.2 | 23 | GF |
| 20 | 140 | 2333 | 16 | 3.59 | 60 | 8.64 | 293.9 | 10.4 | 27 | GF |
| 20 | 140 | 2338 | 16 | 2.80 | 60 | 9.00 | 294.8 | 10.5 | 28 | c/cs |
| 20 | 140 | 2348 | 16 | 1.30 | 60 | 9.90 | 296.5 | 10.0 | 27 | c/cs |
| 21 | 141 | 0000 | 15 | 59.50 | 60 | 10.80 | 298.5 | 10.0 | 27 | c/cs |
| 21 | 141 | 0003 | 15 | 59.00 | 60 | 11.10 | 299.0 | 10.1 | 27 | c/cs |
| 21 | 141 | 0008 | 15 | 58.29 | 60 | 11.48 | 299.9 | 10.4 | 23 | SF |
| 21 | 141 | 0016 | 15 | 57.00 | 60 | 12.10 | 301.3 | 10.6 | 24 | c/cs |
| 21 | 141 | 0024 | 15 | 55.70 | 60 | 12.60 | 302.7 | 10.6 | 24 | c/cs |
| 21 | 141 | 0029 | 15 | 54.90 | 60 | 13.00 | 303.6 | 11.1 | 23 | c/cs |
| 21 | 141 | 0034 | 15 | 54.10 | 60 | 13.40 | 304.5 | 10.7 | 24 | c/cs |
| 21 | 141 | 0044 | 15 | 52.42 | 60 | 14.12 | 306.3 | 11.1 | 22 | SF |
| 21 | 141 | 0049 | 15 | 51.60 | 60 | 14.50 | 307.2 | 11.3 | 22 | c/cs |
| 21 | 141 | 0057 | 15 | 50.20 | 60 | 15.10 | 308.7 | 11.0 | 22 | c/cs |
| 21 | 141 | 0102 | 15 | 49.30 | 60 | 15.40 | 309.6 | 11.3 | 23 | c/cs |
| 21 | 141 | 0112 | 15 | 47.60 | 60 | 16.20 | 311.5 | 11.0 | 22 | c/cs |
| 21 | 141 | 0142 | 15 | 42.50 | 60 | 18.30 | 317.0 | 11.1 | 22 | c/cs |
| 21 | 141 | 0147 | 15 | 41.60 | 60 | 18.70 | 317.9 | 10.9 | 22 | c/cs |
| 21 | 141 | 0203 | 15 | 38.90 | 60 | 19.80 | 320.8 | 10.8 | 21 | c/cs |
| 21 | 141 | 0215 | 15 | 36.90 | 60 | 20.60 | 323.0 | 11.0 | 22 | c/cs |
| 21 | 141 | 0229 | 15 | 34.51 | 60 | 21.56 | 325.6 | 11.2 | 23 | SF |
| 21 | 141 | 0230 | 15 | 34.30 | 60 | 21.60 | 325.8 | 11.2 | 23 | c/cs |
| 21 | 141 | 0245 | 15 | 31.70 | 60 | 22.80 | 328.6 | 11.3 | 23 | c/cs |
| 21 | 141 | 0256 | 15 | 29.80 | 60 | 23.60 | 330.6 | 11.4 | 23 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 141 | 0309 | 15 | 27.60 | 60 | 24.60 | 333.1 | 11.1 | 23 | c/cs |
| 21 | 141 | 0321 | 15 | 25.50 | 60 | 25.50 | 335.3 | 11.4 | 23 | c/cs |
| 21 | 141 | 0336 | 15 | 22.90 | 60 | 26.60 | 338.2 | 11.2 | 23 | c/cs |
| 21 | 141 | 0339 | 15 | 22.40 | 60 | 26.80 | 338.7 | 11.3 | 23 | c/cs |
| 21 | 141 | 0359 | 15 | 18.90 | 60 | 28.30 | 342.5 | 11.4 | 22 | c/cs |
| 21 | 141 | 0407 | 15 | 17.50 | 60 | 28.90 | 344.0 | 11.3 | 24 | c/cs |
| 21 | 141 | 0412 | 15 | 16.60 | 60 | 29.30 | 344.9 | 11.2 | 24 | c/cs |
| 21 | 141 | 0416 | 15 | 15.95 | 60 | 29.63 | 345.7 | 11.4 | 23 | SF |
| 21 | 141 | 0417 | 15 | 15.80 | 60 | 29.70 | 345.9 | 12.0 | 23 | c/cs |
| 21 | 141 | 0420 | 15 | 15.20 | 60 | 29.90 | 346.5 | 11.4 | 23 | c/cs |
| 21 | 141 | 0439 | 15 | 11.90 | 60 | 31.40 | 350.1 | 11.5 | 21 | c/cs |
| 21 | 141 | 0453 | 15 | 9.40 | 60 | 32.40 | 352.8 | 11.7 | 23 | c/cs |
| 21 | 141 | 0503 | 15 | 7.60 | 60 | 33.20 | 354.7 | 11.4 | 22 | c/cs |
| 21 | 141 | 0516 | 15 | 5.30 | 60 | 34.20 | 357.2 | 11.9 | 21 | c/cs |
| 21 | 141 | 0525 | 15 | 3.66 | 60 | 34.87 | 359.0 | 11.9 | 20 | SF |
| 21 | 141 | 0525 | 15 | 3.70 | 60 | 34.90 | 359.0 | 11.4 | 21 | c/cs |
| 21 | 141 | 0536 | 15 | 1.70 | 60 | 35.60 | 361.1 | 11.4 | 21 | c/cs |
| 21 | 141 | 0556 | 14 | 58.10 | 60 | 37.00 | 364.9 | 11.5 | 20 | c/cs |
| 21 | 141 | 0613 | 14 | 55.10 | 60 | 38.20 | 368.2 | 11.2 | 21 | c/cs |
| 21 | 141 | 0619 | 14 | 54.00 | 60 | 38.60 | 369.3 | 11.0 | 21 | c/cs |
| 21 | 141 | 0634 | 14 | 51.40 | 60 | 39.60 | 372.0 | 11.0 | 21 | c/cs |
| 21 | 141 | 0649 | 14 | 48.90 | 60 | 40.60 | 374.8 | 11.4 | 21 | c/cs |
| 21 | 141 | 0703 | 14 | 46.36 | 60 | 41.59 | 377.5 | 11.4 | 21 | GF |
| 21 | 141 | 0710 | 14 | 45.10 | 60 | 42.10 | 378.8 | 12.0 | 22 | c/cs |
| 21 | 141 | 0712 | 14 | 44.70 | 60 | 42.20 | 379.2 | 10.9 | 22 | c/cs |
| 21 | 141 | 0718 | 14 | 43.74 | 60 | 42.66 | 380.3 | 9.9 | 21 | GF |
| 21 | 141 | 0719 | 14 | 43.60 | 60 | 42.70 | 380.4 | 10.5 | 21 | c/cs |
| 21 | 141 | 0730 | 14 | 41.78 | 60 | 43.43 | 382.4 | 15.0 | 21 | GF |
| 21 | 141 | 0733 | 14 | 41.08 | 60 | 43.71 | 383.1 | 11.7 | 21 | GF |
| 21 | 141 | 0738 | 14 | 40.20 | 60 | 44.10 | 384.1 | 11.5 | 21 | c/cs |
| 21 | 141 | 0748 | 14 | 38.38 | 60 | 44.79 | 386.0 | 10.4 | 20 | GF |
| 21 | 141 | 0750 | 14 | 38.10 | 60 | 44.90 | 386.4 | 9.4 | 21 | c/cs |
| 21 | 141 | 0800 | 14 | 36.59 | 60 | 45.49 | 387.9 | 13.2 | 21 | GF |
| 21 | 141 | 0803 | 14 | 35.97 | 60 | 45.73 | 388.6 | 10.0 | 21 | GF |
| 21 | 141 | 0803 | 14 | 36.00 | 60 | 45.70 | 388.6 | 9.6 | 19 | c/cs |
| 21 | 141 | 0808 | 14 | 35.20 | 60 | 46.00 | 389.4 | 10.4 | 20 | c/cs |
| 21 | 141 | 0815 | 14 | 34.10 | 60 | 46.40 | 390.6 | 10.5 | 21 | c/cs |
| 21 | 141 | 0830 | 14 | 31.62 | 60 | 47.38 | 393.2 | 14.1 | 21 | GF |
| 21 | 141 | 0831 | 14 | 31.40 | 60 | 47.50 | 393.5 | 14.5 | 22 | c/cs |
| 21 | 141 | 0833 | 14 | 30.95 | 60 | 47.65 | 394.0 | 10.8 | 23 | GF |
| 21 | 141 | 0841 | 14 | 29.60 | 60 | 48.20 | 395.4 | 10.7 | 23 | c/cs |
| 21 | 141 | 0853 | 14 | 27.70 | 60 | 49.10 | 397.5 | 10.5 | 25 | c/cs |
| 21 | 141 | 0900 | 14 | 26.56 | 60 | 49.64 | 398.7 | 14.7 | 24 | GF |
| 21 | 141 | 0903 | 14 | 25.89 | 60 | 49.95 | 399.5 | 10.8 | 24 | GF |
| 21 | 141 | 0909 | 14 | 24.90 | 60 | 50.40 | 400.6 | 11.0 | 26 | c/cs |
| 21 | 141 | 0930 | 14 | 21.45 | 60 | 52.13 | 404.4 | 14.3 | 25 | GF |
| 21 | 141 | 0933 | 14 | 20.80 | 60 | 52.44 | 405.1 | 11.1 | 26 | GF |
| 21 | 141 | 0934 | 14 | 20.60 | 60 | 52.50 | 405.3 | 11.2 | 25 | c/cs |
| 21 | 141 | 0939 | 14 | 19.80 | 60 | 52.90 | 406.2 | 10.8 | 27 | c/cs |
| 21 | 141 | 0942 | 14 | 19.30 | 60 | 53.20 | 406.8 | 11.1 | 25 | c/cs |
| 21 | 141 | 0947 | 14 | 18.50 | 60 | 53.60 | 407.7 | 11.0 | 26 | c/cs |
| 21 | 141 | 0948 | 14 | 18.31 | 60 | 53.67 | 407.9 | 10.2 | 27 | GF |
| 21 | 141 | 0955 | 14 | 17.20 | 60 | 54.20 | 409.1 | 10.3 | 25 | c/cs |
| 21 | 141 | 1000 | 14 | 16.47 | 60 | 54.60 | 409.9 | 14.8 | 26 | GF |
| 21 | 141 | 1003 | 14 | 15.80 | 60 | 54.93 | 410.7 | 11.2 | 26 | GF |
| 21 | 141 | 1010 | 14 | 14.60 | 60 | 55.50 | 412.0 | 11.3 | 27 | c/cs |
| 21 | 141 | 1015 | 14 | 13.80 | 60 | 56.00 | 412.9 | 10.8 | 24 | c/cs |
| 21 | 141 | 1018 | 14 | 13.29 | 60 | 56.19 | 413.5 | 10.1 | 23 | GF |
| 21 | 141 | 1018 | 14 | 13.30 | 60 | 56.20 | 413.5 | 10.3 | 26 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 141 | 1030 | 14 | 11.43 | 60 | 57.12 | 415.5 | 14.7 | 27 | GF |
| 21 | 141 | 1033 | 14 | 10.77 | 60 | 57.46 | 416.3 | 10.8 | 26 | GF |
| 21 | 141 | 1038 | 14 | 10.00 | 60 | 57.90 | 417.2 | 10.4 | 26 | c/cs |
| 21 | 141 | 1053 | 14 | 7.60 | 60 | 59.10 | 419.8 | 10.9 | 25 | c/cs |
| 21 | 141 | 1100 | 14 | 6.48 | 60 | 59.61 | 421.0 | 14.3 | 25 | GF |
| 21 | 141 | 1103 | 14 | 5.83 | 60 | 59.92 | 421.8 | 10.7 | 28 | GF |
| 21 | 141 | 1108 | 14 | 5.00 | 61 | 0.30 | 422.6 | 10.8 | 29 | c/cs |
| 21 | 141 | 1121 | 14 | 3.00 | 61 | 1.50 | 425.0 | 10.8 | 28 | c/cs |
| 21 | 141 | 1130 | 14 | 1.55 | 61 | 2.28 | 426.6 | 11.5 | 21 | GF |
| 21 | 141 | 1136 | 14 | 0.50 | 61 | 2.70 | 427.8 | 11.2 | 23 | c/cs |
| 21 | 141 | 1146 | 13 | 58.80 | 61 | 3.40 | 429.6 | 11.5 | 22 | c/cs |
| 21 | 141 | 1157 | 13 | 56.80 | 61 | 4.20 | 431.7 | 11.3 | 23 | c/cs |
| 21 | 141 | 1200 | 13 | 56.28 | 61 | 4.47 | 432.3 | 11.6 | 28 | GF |
| 21 | 141 | 1207 | 13 | 55.10 | 61 | 5.10 | 433.6 | 11.3 | 27 | c/cs |
| 21 | 141 | 1214 | 13 | 53.90 | 61 | 5.80 | 435.0 | 10.6 | 27 | c/cs |
| 21 | 141 | 1218 | 13 | 53.29 | 61 | 6.08 | 435.7 | 9.2 | 25 | GF |
| 21 | 141 | 1224 | 13 | 52.50 | 61 | 6.50 | 436.6 | 8.5 | 25 | c/cs |
| 21 | 141 | 1229 | 13 | 51.80 | 61 | 6.80 | 437.3 | 9.2 | 25 | c/cs |
| 21 | 141 | 1230 | 13 | 51.68 | 61 | 6.85 | 437.4 | 9.7 | 25 | GF |
| 21 | 141 | 1234 | 13 | 51.09 | 61 | 7.13 | 438.1 | 10.2 | 23 | GF |
| 21 | 141 | 1240 | 13 | 50.20 | 61 | 7.50 | 439.1 | 10.9 | 24 | c/cs |
| 21 | 141 | 1254 | 13 | 47.80 | 61 | 8.60 | 441.6 | 11.3 | 23 | c/cs |
| 21 | 141 | 1300 | 13 | 46.78 | 61 | 9.05 | 442.8 | 11.4 | 24 | GF |
| 21 | 141 | 1304 | 13 | 46.09 | 61 | 9.37 | 443.5 | 11.3 | 23 | GF |
| 21 | 141 | 1310 | 13 | 45.00 | 61 | 9.80 | 444.7 | 11.4 | 24 | c/cs |
| 21 | 141 | 1327 | 13 | 42.10 | 61 | 11.20 | 447.9 | 11.1 | 24 | c/cs |
| 21 | 141 | 1330 | 13 | 41.59 | 61 | 11.42 | 448.5 | 11.2 | 24 | GF |
| 21 | 141 | 1334 | 13 | 40.91 | 61 | 11.73 | 449.2 | 11.3 | 23 | GF |
| 21 | 141 | 1336 | 13 | 40.60 | 61 | 11.90 | 449.6 | 11.5 | 23 | c/cs |
| 21 | 141 | 1348 | 13 | 38.40 | 61 | 12.80 | 451.9 | 11.4 | 22 | c/cs |
| 21 | 141 | 1356 | 13 | 37.00 | 61 | 13.40 | 453.4 | 11.6 | 22 | c/cs |
| 21 | 141 | 1400 | 13 | 36.32 | 61 | 13.67 | 454.2 | 11.6 | 21 | GF |
| 21 | 141 | 1404 | 13 | 35.60 | 61 | 13.96 | 454.9 | 11.6 | 22 | GF |
| 21 | 141 | 1413 | 13 | 34.00 | 61 | 14.60 | 456.7 | 11.3 | 25 | c/cs |
| 21 | 141 | 1419 | 13 | 32.95 | 61 | 15.11 | 457.8 | 11.3 | 23 | GF |
| 21 | 141 | 1426 | 13 | 31.70 | 61 | 15.70 | 459.1 | 11.2 | 25 | c/cs |
| 21 | 141 | 1430 | 13 | 31.06 | 61 | 15.97 | 459.9 | 11.3 | 25 | GF |
| 21 | 141 | 1434 | 13 | 30.38 | 61 | 16.30 | 460.6 | 11.4 | 25 | GF |
| 21 | 141 | 1441 | 13 | 29.20 | 61 | 16.90 | 462.0 | 11.1 | 32 | c/cs |
| 21 | 141 | 1452 | 13 | 27.50 | 61 | 18.00 | 464.0 | 11.0 | 32 | c/cs |
| 21 | 141 | 1500 | 13 | 26.21 | 61 | 18.79 | 465.5 | 10.9 | 32 | GF |
| 21 | 141 | 1502 | 13 | 25.90 | 61 | 19.00 | 465.8 | 11.7 | 32 | c/cs |
| 21 | 141 | 1504 | 13 | 25.57 | 61 | 19.20 | 466.2 | 11.4 | 32 | GF |
| 21 | 141 | 1530 | 13 | 21.38 | 61 | 21.86 | 471.1 | 11.0 | 31 | GF |
| 21 | 141 | 1534 | 13 | 20.75 | 61 | 22.25 | 471.9 | 12.1 | 23 | GF |
| 21 | 141 | 1545 | 13 | 18.70 | 61 | 23.10 | 474.1 | 9.0 | 347 | c/cs |
| 21 | 141 | 1549 | 13 | 18.12 | 61 | 23.01 | 474.7 | 8.2 | 0 | GF |
| 21 | 141 | 1600 | 13 | 16.62 | 61 | 23.02 | 476.2 | 6.2 | 354 | GF |
| 21 | 141 | 1602 | 13 | 16.40 | 61 | 23.00 | 476.4 | 3.8 | 1 | c/cs |
| 21 | 141 | 1604 | 13 | 16.29 | 61 | 23.00 | 476.5 | 4.8 | 3 | GF |
| 21 | 141 | 1614 | 13 | 15.50 | 61 | 23.00 | 477.3 | 5.8 | 357 | c/cs |
| 21 | 141 | 1622 | 13 | 14.70 | 61 | 23.00 | 478.1 | 5.7 | 0 | c/cs |
| 21 | 141 | 1630 | 13 | 13.96 | 61 | 23.00 | 478.9 | 6.0 | 6 | GF |
| 21 | 141 | 1630 | 13 | 14.00 | 61 | 23.00 | 478.9 | 6.5 | 1 | c/cs |
| 21 | 141 | 1634 | 13 | 13.53 | 61 | 23.01 | 479.3 | 8.1 | 1 | GF |
| 21 | 141 | 1641 | 13 | 12.60 | 61 | 23.00 | 480.2 | 8.5 | 359 | c/cs |
| 21 | 141 | 1645 | 13 | 12.00 | 61 | 23.00 | 480.8 | 8.5 | 1 | c/cs |
| 21 | 141 | 1656 | 13 | 10.50 | 61 | 23.10 | 482.4 | 8.7 | 1 | c/cs |
| 21 | 141 | 1700 | 13 | 9.88 | 61 | 23.07 | 482.9 | 7.7 | 16 | 705 |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 141 | 1700 | 13 | 9.90 | 61 | 23.10 | 482.9 | 0.0 | 90 | c/cs |
| 22 | 142 | 1550 | 13 | 9.88 | 61 | 23.07 | 482.9 | 0.1 | 297 | 705 |
| 22 | 142 | 1600 | 13 | 9.87 | 61 | 23.05 | 483.0 | 1.4 | 290 | GF |
| 22 | 142 | 1605 | 13 | 9.83 | 61 | 22.94 | 483.1 | 1.1 | 329 | GF |
| 22 | 142 | 1610 | 13 | 9.75 | 61 | 22.89 | 483.2 | 1.1 | 348 | GF |
| 22 | 142 | 1615 | 13 | 9.66 | 61 | 22.87 | 483.3 | 1.2 | 346 | GF |
| 22 | 142 | 1625 | 13 | 9.47 | 61 | 22.82 | 483.5 | 1.0 | 346 | GF |
| 22 | 142 | 1630 | 13 | 9.39 | 61 | 22.80 | 483.5 | 1.4 | 345 | GF |
| 22 | 142 | 1635 | 13 | 9.28 | 61 | 22.77 | 483.7 | 1.2 | 344 | GF |
| 22 | 142 | 1640 | 13 | 9.18 | 61 | 22.74 | 483.8 | 1.2 | 354 | GF |
| 22 | 142 | 1645 | 13 | 9.08 | 61 | 22.73 | 483.9 | 1.2 | 337 | GF |
| 22 | 142 | 1650 | 13 | 8.99 | 61 | 22.69 | 484.0 | 1.1 | 329 | GF |
| 22 | 142 | 1655 | 13 | 8.91 | 61 | 22.64 | 484.1 | 1.0 | 331 | GF |
| 22 | 142 | 1700 | 13 | 8.84 | 61 | 22.60 | 484.1 | 1.3 | 339 | GF |
| 22 | 142 | 1705 | 13 | 8.74 | 61 | 22.56 | 484.2 | 1.2 | 349 | GF |
| 22 | 142 | 1710 | 13 | 8.64 | 61 | 22.54 | 484.3 | 1.1 | 348 | GF |
| 22 | 142 | 1715 | 13 | 8.55 | 61 | 22.52 | 484.4 | 1.1 | 354 | GF |
| 22 | 142 | 1720 | 13 | 8.46 | 61 | 22.51 | 484.5 | 1.0 | 346 | GF |
| 22 | 142 | 1725 | 13 | 8.38 | 61 | 22.49 | 484.6 | 1.0 | 0 | GF |
| 22 | 142 | 1730 | 13 | 8.30 | 61 | 22.49 | 484.7 | 1.0 | 346 | GF |
| 22 | 142 | 1735 | 13 | 8.22 | 61 | 22.47 | 484.8 | 0.8 | 0 | GF |
| 22 | 142 | 1740 | 13 | 8.15 | 61 | 22.47 | 484.8 | 0.7 | 351 | GF |
| 22 | 142 | 1745 | 13 | 8.09 | 61 | 22.46 | 484.9 | 0.7 | 351 | GF |
| 22 | 142 | 1750 | 13 | 8.03 | 61 | 22.45 | 485.0 | 0.7 | 355 | GF |
| 22 | 142 | 1800 | 13 | 7.92 | 61 | 22.44 | 485.1 | 1.0 | 353 | GF |
| 22 | 142 | 1805 | 13 | 7.84 | 61 | 22.43 | 485.2 | 0.9 | 337 | GF |
| 22 | 142 | 1810 | 13 | 7.77 | 61 | 22.40 | 485.2 | 0.8 | 352 | GF |
| 22 | 142 | 1815 | 13 | 7.70 | 61 | 22.39 | 485.3 | 1.0 | 353 | GF |
| 22 | 142 | 1820 | 13 | 7.62 | 61 | 22.38 | 485.4 | 0.8 | 343 | GF |
| 22 | 142 | 1830 | 13 | 7.49 | 61 | 22.34 | 485.5 | 1.0 | 353 | GF |
| 22 | 142 | 1835 | 13 | 7.41 | 61 | 22.33 | 485.6 | 0.9 | 345 | GF |
| 22 | 142 | 1840 | 13 | 7.34 | 61 | 22.31 | 485.7 | 0.9 | 345 | GF |
| 22 | 142 | 1845 | 13 | 7.27 | 61 | 22.29 | 485.7 | 0.8 | 0 | GF |
| 22 | 142 | 1850 | 13 | 7.20 | 61 | 22.29 | 485.8 | 0.7 | 0 | GF |
| 22 | 142 | 1855 | 13 | 7.14 | 61 | 22.29 | 485.9 | 0.5 | 13 | GF |
| 22 | 142 | 1900 | 13 | 7.10 | 61 | 22.30 | 485.9 | 0.2 | 316 | GF |
| 22 | 142 | 1905 | 13 | 7.09 | 61 | 22.29 | 485.9 | 0.8 | 0 | GF |
| 22 | 142 | 1910 | 13 | 7.02 | 61 | 22.29 | 486.0 | 1.0 | 0 | GF |
| 22 | 142 | 1915 | 13 | 6.94 | 61 | 22.29 | 486.1 | 1.1 | 334 | GF |
| 22 | 142 | 1920 | 13 | 6.86 | 61 | 22.25 | 486.2 | 0 | 90 | 706 |
| 25 | 145 | 1730 | 13 | 6.86 | 61 | 22.25 | 486.2 | 2.6 | 261 | 706 |
| 25 | 145 | 1800 | 13 | 7.06 | 61 | 20.93 | 487.5 | 1.8 | 284 | GF |
| 25 | 145 | 1819 | 13 | 6.92 | 61 | 20.35 | 488.0 | 1.0 | 263 | GF |
| 25 | 145 | 1900 | 13 | 7.01 | 61 | 19.64 | 488.7 | 0.9 | 294 | GF |
| 25 | 145 | 1919 | 13 | 6.89 | 61 | 19.36 | 489.0 | 0.9 | 313 | GF |
| 25 | 145 | 1949 | 13 | 6.57 | 61 | 19.01 | 489.5 | 1.0 | 318 | GF |
| 25 | 145 | 2000 | 13 | 6.44 | 61 | 18.89 | 489.7 | 1.3 | 318 | GF |
| 25 | 145 | 2019 | 13 | 6.14 | 61 | 18.61 | 490.1 | 1.1 | 316 | GF |
| 25 | 145 | 2049 | 13 | 5.75 | 61 | 18.22 | 490.6 | 0.9 | 291 | GF |
| 25 | 145 | 2100 | 13 | 5.69 | 61 | 18.06 | 490.8 | 1.1 | 216 | GF |
| 25 | 145 | 2101 | 13 | 5.70 | 61 | 18.00 | 490.8 | 3.2 | 178 | c/cs |
| 25 | 145 | 2106 | 13 | 6.00 | 61 | 18.10 | 491.1 | 3.1 | 145 | c/cs |
| 25 | 145 | 2107 | 13 | 6.01 | 61 | 18.09 | 491.1 | 2.0 | 116 | GF |
| 25 | 145 | 2108 | 13 | 6.00 | 61 | 18.10 | 491.2 | 3.6 | 40 | c/cs |
| 25 | 145 | 2109 | 13 | 6.00 | 61 | 18.20 | 491.2 | 6.2 | 340 | c/cs |
| 25 | 145 | 2112 | 13 | 5.69 | 61 | 18.05 | 491.5 | 4.7 | 336 | GF |
| 25 | 145 | 2112 | 13 | 5.70 | 61 | 18.10 | 491.5 | 6.6 | 330 | c/cs |
| 25 | 145 | 2117 | 13 | 5.21 | 61 | 17.77 | 492.1 | 6.2 | 331 | GF |
| 25 | 145 | 2117 | 13 | 5.20 | 61 | 17.80 | 492.1 | 7.0 | 330 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 145 | 2119 | 13 | 5.01 | 61 | 17.65 | 492.3 | 7.6 | 327 | GF |
| 25 | 145 | 2122 | 13 | 4.69 | 61 | 17.44 | 492.7 | 7.9 | 328 | GF |
| 25 | 145 | 2124 | 13 | 4.50 | 61 | 17.30 | 493.0 | 9.6 | 330 | c/cs |
| 25 | 145 | 2127 | 13 | 4.05 | 61 | 17.05 | 493.4 | 9.5 | 330 | GF |
| 25 | 145 | 2129 | 13 | 3.80 | 61 | 16.90 | 493.8 | 10.5 | 330 | c/cs |
| 25 | 145 | 2132 | 13 | 3.32 | 61 | 16.62 | 494.3 | 9.6 | 330 | GF |
| 25 | 145 | 2132 | 13 | 3.30 | 61 | 16.60 | 494.3 | 10.7 | 331 | c/cs |
| 25 | 145 | 2137 | 13 | 2.54 | 61 | 16.17 | 495.2 | 11.7 | 330 | GF |
| 25 | 145 | 2139 | 13 | 2.20 | 61 | 16.00 | 495.6 | 12.7 | 331 | c/cs |
| 25 | 145 | 2142 | 13 | 1.65 | 61 | 15.65 | 496.2 | 10.9 | 331 | GF |
| 25 | 145 | 2142 | 13 | 1.70 | 61 | 15.70 | 496.2 | 11.6 | 331 | c/cs |
| 25 | 145 | 2145 | 13 | 1.14 | 61 | 15.36 | 496.8 | 13.7 | 329 | GF |
| 25 | 145 | 2145 | 13 | 1.10 | 61 | 15.40 | 496.8 | 14.1 | 330 | c/cs |
| 25 | 145 | 2147 | 13 | 0.73 | 61 | 15.12 | 497.3 | 13.0 | 332 | GF |
| 25 | 145 | 2149 | 13 | 0.35 | 61 | 14.91 | 497.7 | 12.9 | 330 | GF |
| 25 | 145 | 2150 | 13 | 0.20 | 61 | 14.80 | 497.9 | 12.2 | 330 | c/cs |
| 25 | 145 | 2152 | 12 | 59.81 | 61 | 14.59 | 498.3 | 12.8 | 334 | GF |
| 25 | 145 | 2200 | 12 | 58.30 | 61 | 13.80 | 500.0 | 12.8 | 332 | c/cs |
| 25 | 145 | 2202 | 12 | 57.90 | 61 | 13.60 | 500.5 | 12.4 | 327 | GF |
| 25 | 145 | 2207 | 12 | 57.03 | 61 | 13.03 | 501.5 | 13.0 | 330 | GF |
| 25 | 145 | 2207 | 12 | 57.00 | 61 | 13.00 | 501.5 | 12.8 | 330 | c/cs |
| 25 | 145 | 2212 | 12 | 56.10 | 61 | 12.49 | 502.6 | 13.2 | 330 | GF |
| 25 | 145 | 2217 | 12 | 55.14 | 61 | 11.93 | 503.7 | 13.7 | 329 | GF |
| 25 | 145 | 2219 | 12 | 54.75 | 61 | 11.69 | 504.1 | 13.1 | 329 | GF |
| 25 | 145 | 2220 | 12 | 54.60 | 61 | 11.60 | 504.3 | 13.5 | 331 | c/cs |
| 25 | 145 | 2222 | 12 | 54.17 | 61 | 11.35 | 504.8 | 13.5 | 331 | GF |
| 25 | 145 | 2225 | 12 | 53.60 | 61 | 11.00 | 505.5 | 13.4 | 330 | c/cs |
| 25 | 145 | 2227 | 12 | 53.20 | 61 | 10.78 | 505.9 | 13.6 | 329 | GF |
| 25 | 145 | 2232 | 12 | 52.23 | 61 | 10.18 | 507.0 | 13.9 | 329 | GF |
| 25 | 145 | 2237 | 12 | 51.24 | 61 | 9.57 | 508.2 | 13.9 | 328 | GF |
| 25 | 145 | 2238 | 12 | 51.00 | 61 | 9.40 | 508.4 | 13.9 | 328 | c/cs |
| 25 | 145 | 2242 | 12 | 50.26 | 61 | 8.94 | 509.3 | 13.9 | 328 | GF |
| 25 | 145 | 2247 | 12 | 49.28 | 61 | 8.31 | 510.5 | 14.1 | 329 | GF |
| 25 | 145 | 2249 | 12 | 48.88 | 61 | 8.06 | 511.0 | 14.2 | 328 | GF |
| 25 | 145 | 2252 | 12 | 48.28 | 61 | 7.67 | 511.7 | 12.6 | 327 | GF |
| 25 | 145 | 2258 | 12 | 47.20 | 61 | 7.00 | 512.9 | 12.8 | 327 | c/cs |
| 25 | 145 | 2300 | 12 | 46.87 | 61 | 6.72 | 513.4 | 15.4 | 326 | GF |
| 25 | 145 | 2303 | 12 | 46.20 | 61 | 6.30 | 514.1 | 15.2 | 327 | c/cs |
| 25 | 145 | 2309 | 12 | 44.97 | 61 | 5.42 | 515.7 | 13.8 | 325 | GF |
| 25 | 145 | 2313 | 12 | 44.20 | 61 | 4.90 | 516.6 | 13.6 | 325 | c/cs |
| 25 | 145 | 2319 | 12 | 43.10 | 61 | 4.08 | 517.9 | 13.7 | 325 | GF |
| 25 | 145 | 2324 | 12 | 42.17 | 61 | 3.41 | 519.1 | 13.1 | 325 | GF |
| 25 | 145 | 2329 | 12 | 41.30 | 61 | 2.80 | 520.2 | 13.4 | 325 | c/cs |
| 25 | 145 | 2339 | 12 | 39.50 | 61 | 1.40 | 522.4 | 13.2 | 325 | c/cs |
| 26 | 146 | 0000 | 12 | 35.70 | 60 | 58.70 | 527.0 | 13.2 | 325 | c/cs |
| 26 | 146 | 0002 | 12 | 35.30 | 60 | 58.40 | 527.5 | 13.2 | 324 | c/cs |
| 26 | 146 | 0012 | 12 | 33.60 | 60 | 57.10 | 529.7 | 13.1 | 324 | c/cs |
| 26 | 146 | 0023 | 12 | 31.63 | 60 | 55.65 | 532.1 | 12.2 | 326 | SF |
| 26 | 146 | 0027 | 12 | 31.00 | 60 | 55.20 | 532.9 | 12.8 | 325 | c/cs |
| 26 | 146 | 0030 | 12 | 30.40 | 60 | 54.80 | 533.5 | 12.3 | 326 | c/cs |
| 26 | 146 | 0040 | 12 | 28.70 | 60 | 53.60 | 535.6 | 12.1 | 326 | c/cs |
| 26 | 146 | 0052 | 12 | 26.70 | 60 | 52.20 | 538.0 | 12.4 | 326 | c/cs |
| 26 | 146 | 0057 | 12 | 25.90 | 60 | 51.60 | 539.0 | 11.9 | 327 | c/cs |
| 26 | 146 | 0105 | 12 | 24.60 | 60 | 50.70 | 540.6 | 12.1 | 327 | c/cs |
| 26 | 146 | 0120 | 12 | 22.00 | 60 | 49.00 | 543.6 | 12.1 | 326 | c/cs |
| 26 | 146 | 0128 | 12 | 20.70 | 60 | 48.10 | 545.2 | 12.1 | 326 | c/cs |
| 26 | 146 | 0136 | 12 | 19.40 | 60 | 47.20 | 546.9 | 12.1 | 326 | c/cs |
| 26 | 146 | 0152 | 12 | 16.70 | 60 | 45.29 | 550.1 | 10.6 | 335 | SF |
| 26 | 146 | 0153 | 12 | 16.50 | 60 | 45.20 | 550.3 | 10.5 | 335 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 146 | 0206 | 12 | 14.50 | 60 | 44.20 | 552.5 | 10.8 | 335 | c/cs |
| 26 | 146 | 0208 | 12 | 14.16 | 60 | 44.06 | 552.9 | 12.6 | 326 | SF |
| 26 | 146 | 0223 | 12 | 11.50 | 60 | 42.30 | 556.1 | 12.3 | 327 | c/cs |
| 26 | 146 | 0233 | 12 | 9.80 | 60 | 41.10 | 558.1 | 12.4 | 327 | c/cs |
| 26 | 146 | 0251 | 12 | 6.70 | 60 | 39.10 | 561.8 | 12.4 | 327 | c/cs |
| 26 | 146 | 0257 | 12 | 5.60 | 60 | 38.40 | 563.1 | 11.2 | 325 | c/cs |
| 26 | 146 | 0304 | 12 | 4.60 | 60 | 37.60 | 564.4 | 12.6 | 327 | c/cs |
| 26 | 146 | 0311 | 12 | 3.30 | 60 | 36.80 | 565.8 | 12.8 | 326 | c/cs |
| 26 | 146 | 0319 | 12 | 1.90 | 60 | 35.80 | 567.6 | 12.7 | 327 | c/cs |
| 26 | 146 | 0337 | 11 | 58.70 | 60 | 33.80 | 571.4 | 12.8 | 328 | c/cs |
| 26 | 146 | 0338 | 11 | 58.51 | 60 | 33.64 | 571.6 | 12.5 | 330 | SF |
| 26 | 146 | 0347 | 11 | 56.90 | 60 | 32.70 | 573.5 | 12.5 | 329 | c/cs |
| 26 | 146 | 0408 | 11 | 53.10 | 60 | 30.40 | 577.8 | 12.4 | 339 | c/cs |
| 26 | 146 | 0423 | 11 | 50.20 | 60 | 29.30 | 580.9 | 12.4 | 339 | c/cs |
| 26 | 146 | 0443 | 11 | 46.30 | 60 | 27.80 | 585.1 | 12.4 | 338 | c/cs |
| 26 | 146 | 0501 | 11 | 42.90 | 60 | 26.40 | 588.8 | 12.6 | 338 | c/cs |
| 26 | 146 | 0509 | 11 | 41.30 | 60 | 25.70 | 590.5 | 11.7 | 339 | c/cs |
| 26 | 146 | 0514 | 11 | 40.40 | 60 | 25.40 | 591.4 | 12.3 | 339 | c/cs |
| 26 | 146 | 0524 | 11 | 38.50 | 60 | 24.60 | 593.5 | 12.1 | 338 | c/cs |
| 26 | 146 | 0537 | 11 | 36.10 | 60 | 23.60 | 596.1 | 12.8 | 338 | c/cs |
| 26 | 146 | 0542 | 11 | 35.10 | 60 | 23.20 | 597.2 | 12.3 | 339 | c/cs |
| 26 | 146 | 0547 | 11 | 34.10 | 60 | 22.80 | 598.2 | 11.8 | 338 | c/cs |
| 26 | 146 | 0552 | 11 | 33.20 | 60 | 22.40 | 599.2 | 12.1 | 338 | c/cs |
| 26 | 146 | 0602 | 11 | 31.30 | 60 | 21.70 | 601.2 | 12.5 | 338 | c/cs |
| 26 | 146 | 0609 | 11 | 30.00 | 60 | 21.10 | 602.7 | 12.3 | 338 | c/cs |
| 26 | 146 | 0622 | 11 | 27.50 | 60 | 20.10 | 605.3 | 12.6 | 339 | c/cs |
| 26 | 146 | 0627 | 11 | 26.50 | 60 | 19.70 | 606.4 | 12.2 | 339 | c/cs |
| 26 | 146 | 0630 | 11 | 25.97 | 60 | 19.49 | 607.0 | 13.7 | 335 | SF |
| 26 | 146 | 0649 | 11 | 22.04 | 60 | 17.65 | 611.3 | 11.8 | 341 | GF |
| 26 | 146 | 0650 | 11 | 21.90 | 60 | 17.60 | 611.5 | 12.0 | 341 | c/cs |
| 26 | 146 | 0654 | 11 | 21.10 | 60 | 17.32 | 612.3 | 11.7 | 343 | GF |
| 26 | 146 | 0702 | 11 | 19.60 | 60 | 16.90 | 613.9 | 11.8 | 342 | c/cs |
| 26 | 146 | 0709 | 11 | 18.30 | 60 | 16.42 | 615.3 | 11.7 | 343 | GF |
| 26 | 146 | 0716 | 11 | 17.00 | 60 | 16.00 | 616.6 | 11.8 | 343 | c/cs |
| 26 | 146 | 0719 | 11 | 16.43 | 60 | 15.83 | 617.2 | 11.9 | 344 | GF |
| 26 | 146 | 0721 | 11 | 16.00 | 60 | 15.70 | 617.6 | 11.6 | 337 | c/cs |
| 26 | 146 | 0723 | 11 | 15.70 | 60 | 15.60 | 618.0 | 11.5 | 344 | c/cs |
| 26 | 146 | 0724 | 11 | 15.51 | 60 | 15.51 | 618.2 | 11.5 | 343 | GF |
| 26 | 146 | 0728 | 11 | 14.80 | 60 | 15.30 | 619.0 | 11.0 | 343 | c/cs |
| 26 | 146 | 0731 | 11 | 14.20 | 60 | 15.10 | 619.5 | 12.1 | 343 | c/cs |
| 26 | 146 | 0736 | 11 | 13.30 | 60 | 14.80 | 620.5 | 11.7 | 344 | c/cs |
| 26 | 146 | 0739 | 11 | 12.73 | 60 | 14.64 | 621.1 | 11.8 | 343 | GF |
| 26 | 146 | 0749 | 11 | 10.84 | 60 | 14.06 | 623.1 | 10.5 | 344 | GF |
| 26 | 146 | 0751 | 11 | 10.50 | 60 | 14.00 | 623.4 | 11.0 | 343 | c/cs |
| 26 | 146 | 0800 | 11 | 8.93 | 60 | 13.46 | 625.1 | 12.1 | 343 | GF |
| 26 | 146 | 0806 | 11 | 7.80 | 60 | 13.10 | 626.3 | 11.7 | 342 | c/cs |
| 26 | 146 | 0815 | 11 | 6.11 | 60 | 12.55 | 628.0 | 15.1 | 342 | GF |
| 26 | 146 | 0819 | 11 | 5.15 | 60 | 12.24 | 629.0 | 12.1 | 342 | GF |
| 26 | 146 | 0822 | 11 | 4.60 | 60 | 12.00 | 629.6 | 12.5 | 343 | c/cs |
| 26 | 146 | 0824 | 11 | 4.18 | 60 | 11.92 | 630.1 | 12.6 | 342 | GF |
| 26 | 146 | 0827 | 11 | 3.60 | 60 | 11.70 | 630.7 | 12.2 | 346 | c/cs |
| 26 | 146 | 0829 | 11 | 3.20 | 60 | 11.60 | 631.1 | 12.0 | 341 | c/cs |
| 26 | 146 | 0834 | 11 | 2.20 | 60 | 11.30 | 632.1 | 12.4 | 342 | c/cs |
| 26 | 146 | 0839 | 11 | 1.26 | 60 | 10.98 | 633.1 | 12.3 | 342 | GF |
| 26 | 146 | 0839 | 11 | 1.30 | 60 | 11.00 | 633.1 | 12.3 | 342 | c/cs |
| 26 | 146 | 0849 | 10 | 59.31 | 60 | 10.33 | 635.2 | 12.0 | 342 | GF |
| 26 | 146 | 0854 | 10 | 58.36 | 60 | 10.01 | 636.2 | 12.3 | 342 | GF |
| 26 | 146 | 0857 | 10 | 57.80 | 60 | 9.80 | 636.8 | 12.3 | 342 | c/cs |
| 26 | 146 | 0902 | 10 | 56.80 | 60 | 9.50 | 637.8 | 11.5 | 340 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 146 | 0905 | 10 | 56.30 | 60 | 9.30 | 638.4 | 12.3 | 342 | c/cs |
| 26 | 146 | 0909 | 10 | 55.48 | 60 | 9.02 | 639.2 | 12.0 | 340 | GF |
| 26 | 146 | 0910 | 10 | 55.30 | 60 | 9.00 | 639.4 | 12.1 | 334 | c/cs |
| 26 | 146 | 0919 | 10 | 53.67 | 60 | 8.13 | 641.2 | 12.2 | 334 | GF |
| 26 | 146 | 0923 | 10 | 52.90 | 60 | 7.80 | 642.0 | 11.9 | 333 | c/cs |
| 26 | 146 | 0924 | 10 | 52.76 | 60 | 7.68 | 642.2 | 11.7 | 334 | GF |
| 26 | 146 | 0935 | 10 | 50.80 | 60 | 6.70 | 644.4 | 11.9 | 335 | c/cs |
| 26 | 146 | 0945 | 10 | 49.04 | 60 | 5.85 | 646.4 | 15.5 | 334 | GF |
| 26 | 146 | 0945 | 10 | 49.00 | 60 | 5.80 | 646.4 | 15.4 | 335 | c/cs |
| 26 | 146 | 0949 | 10 | 48.11 | 60 | 5.40 | 647.4 | 12.4 | 335 | GF |
| 26 | 146 | 0953 | 10 | 47.40 | 60 | 5.10 | 648.2 | 12.4 | 334 | c/cs |
| 26 | 146 | 0959 | 10 | 46.24 | 60 | 4.50 | 649.5 | 12.1 | 335 | GF |
| 26 | 146 | 1008 | 10 | 44.60 | 60 | 3.70 | 651.3 | 12.1 | 335 | c/cs |
| 26 | 146 | 1009 | 10 | 44.42 | 60 | 3.62 | 651.5 | 11.8 | 335 | GF |
| 26 | 146 | 1018 | 10 | 42.80 | 60 | 2.80 | 653.3 | 11.8 | 334 | c/cs |
| 26 | 146 | 1019 | 10 | 42.64 | 60 | 2.76 | 653.4 | 11.6 | 335 | GF |
| 26 | 146 | 1024 | 10 | 41.77 | 60 | 2.34 | 654.4 | 11.6 | 333 | GF |
| 26 | 146 | 1024 | 10 | 41.80 | 60 | 2.30 | 654.4 | 11.5 | 334 | c/cs |
| 26 | 146 | 1034 | 10 | 40.10 | 60 | 1.50 | 656.3 | 11.6 | 335 | c/cs |
| 26 | 146 | 1038 | 10 | 39.35 | 60 | 1.15 | 657.1 | 11.8 | 334 | GF |
| 26 | 146 | 1041 | 10 | 38.82 | 60 | 0.89 | 657.7 | 11.7 | 334 | GF |
| 26 | 146 | 1043 | 10 | 38.50 | 60 | 0.70 | 658.1 | 12.0 | 333 | c/cs |
| 26 | 146 | 1049 | 10 | 37.40 | 60 | 0.20 | 659.3 | 11.0 | 333 | c/cs |
| 26 | 146 | 1051 | 10 | 37.10 | 59 | 60.00 | 659.6 | 11.9 | 334 | c/cs |
| 26 | 146 | 1055 | 10 | 36.36 | 59 | 59.65 | 660.4 | 12.2 | 335 | GF |
| 26 | 146 | 1059 | 10 | 35.60 | 59 | 59.30 | 661.2 | 12.3 | 333 | c/cs |
| 26 | 146 | 1104 | 10 | 34.70 | 59 | 58.80 | 662.3 | 11.9 | 333 | c/cs |
| 26 | 146 | 1110 | 10 | 33.64 | 59 | 58.28 | 663.5 | 12.3 | 334 | GF |
| 26 | 146 | 1115 | 10 | 32.72 | 59 | 57.83 | 664.5 | 11.8 | 335 | GF |
| 26 | 146 | 1116 | 10 | 32.50 | 59 | 57.70 | 664.7 | 11.8 | 335 | c/cs |
| 26 | 146 | 1120 | 10 | 31.83 | 59 | 57.40 | 665.5 | 12.0 | 334 | GF |
| 26 | 146 | 1125 | 10 | 30.93 | 59 | 56.96 | 666.5 | 11.4 | 335 | GF |
| 26 | 146 | 1130 | 10 | 30.10 | 59 | 56.50 | 667.4 | 10.6 | 335 | c/cs |
| 26 | 146 | 1132 | 10 | 29.70 | 59 | 56.40 | 667.8 | 11.6 | 335 | c/cs |
| 26 | 146 | 1140 | 10 | 28.35 | 59 | 55.73 | 669.3 | 13.2 | 330 | GF |
| 26 | 146 | 1145 | 10 | 27.40 | 59 | 55.20 | 670.4 | 13.1 | 330 | c/cs |
| 26 | 146 | 1150 | 10 | 26.46 | 59 | 54.60 | 671.5 | 12.1 | 333 | GF |
| 26 | 146 | 1155 | 10 | 25.56 | 59 | 54.14 | 672.5 | 11.8 | 334 | GF |
| 26 | 146 | 1157 | 10 | 25.20 | 59 | 54.00 | 672.9 | 11.8 | 335 | c/cs |
| 26 | 146 | 1205 | 10 | 23.80 | 59 | 53.30 | 674.5 | 11.5 | 335 | c/cs |
| 26 | 146 | 1213 | 10 | 22.40 | 59 | 52.60 | 676.0 | 12.0 | 335 | c/cs |
| 26 | 146 | 1218 | 10 | 21.50 | 59 | 52.20 | 677.0 | 11.3 | 332 | c/cs |
| 26 | 146 | 1220 | 10 | 21.16 | 59 | 52.00 | 677.4 | 11.3 | 333 | GF |
| 26 | 146 | 1223 | 10 | 20.70 | 59 | 51.70 | 678.0 | 12.0 | 333 | c/cs |
| 26 | 146 | 1250 | 10 | 15.85 | 59 | 49.28 | 683.3 | 12.0 | 333 | GF |
| 26 | 146 | 1251 | 10 | 15.70 | 59 | 49.20 | 683.5 | 11.8 | 333 | c/cs |
| 26 | 146 | 1301 | 10 | 13.90 | 59 | 48.30 | 685.5 | 12.3 | 332 | c/cs |
| 26 | 146 | 1316 | 10 | 11.20 | 59 | 46.80 | 688.6 | 11.9 | 333 | c/cs |
| 26 | 146 | 1326 | 10 | 9.40 | 59 | 45.90 | 690.6 | 12.1 | 331 | c/cs |
| 26 | 146 | 1344 | 10 | 6.30 | 59 | 44.10 | 694.2 | 11.6 | 332 | c/cs |
| 26 | 146 | 1350 | 10 | 5.23 | 59 | 43.59 | 695.4 | 11.9 | 332 | GF |
| 26 | 146 | 1356 | 10 | 4.20 | 59 | 43.00 | 696.5 | 12.4 | 332 | c/cs |
| 26 | 146 | 1407 | 10 | 2.20 | 59 | 42.00 | 698.8 | 12.0 | 332 | c/cs |
| 26 | 146 | 1419 | 10 | 0.00 | 59 | 40.80 | 701.2 | 12.1 | 331 | c/cs |
| 26 | 146 | 1420 | 9 | 59.86 | 59 | 40.72 | 701.4 | 11.8 | 333 | GF |
| 26 | 146 | 1442 | 9 | 56.00 | 59 | 38.70 | 705.7 | 12.1 | 334 | c/cs |
| 26 | 146 | 1450 | 9 | 54.58 | 59 | 37.99 | 707.3 | 12.0 | 333 | GF |
| 26 | 146 | 1458 | 9 | 53.20 | 59 | 37.30 | 708.9 | 11.3 | 334 | c/cs |
| 26 | 146 | 1503 | 9 | 52.30 | 59 | 36.80 | 709.9 | 11.8 | 333 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 146 | 1507 | 9 | 51.60 | 59 | 36.50 | 710.7 | 11.7 | 334 | c/cs |
| 26 | 146 | 1520 | 9 | 49.34 | 59 | 35.33 | 713.2 | 11.8 | 335 | GF |
| 26 | 146 | 1526 | 9 | 48.30 | 59 | 34.80 | 714.4 | 12.0 | 334 | c/cs |
| 26 | 146 | 1550 | 9 | 43.95 | 59 | 32.73 | 719.2 | 12.3 | 334 | GF |
| 26 | 146 | 1558 | 9 | 42.50 | 59 | 32.00 | 720.8 | 12.3 | 335 | c/cs |
| 26 | 146 | 1606 | 9 | 41.00 | 59 | 31.30 | 722.5 | 11.7 | 341 | c/cs |
| 26 | 146 | 1611 | 9 | 40.10 | 59 | 31.00 | 723.4 | 12.2 | 341 | c/cs |
| 26 | 146 | 1619 | 9 | 38.50 | 59 | 30.40 | 725.1 | 12.0 | 342 | c/cs |
| 26 | 146 | 1620 | 9 | 38.34 | 59 | 30.38 | 725.3 | 12.2 | 338 | GF |
| 26 | 146 | 1639 | 9 | 34.80 | 59 | 28.90 | 729.1 | 12.6 | 340 | c/cs |
| 26 | 146 | 1649 | 9 | 32.80 | 59 | 28.20 | 731.2 | 12.3 | 338 | c/cs |
| 26 | 146 | 1650 | 9 | 32.61 | 59 | 28.12 | 731.4 | 12.5 | 339 | GF |
| 26 | 146 | 1707 | 9 | 29.30 | 59 | 26.80 | 734.9 | 12.5 | 341 | c/cs |
| 26 | 146 | 1715 | 9 | 27.70 | 59 | 26.20 | 736.6 | 12.0 | 341 | c/cs |
| 26 | 146 | 1720 | 9 | 26.80 | 59 | 25.91 | 737.6 | 12.9 | 340 | GF |
| 26 | 146 | 1725 | 9 | 25.80 | 59 | 25.50 | 738.7 | 13.4 | 340 | c/cs |
| 26 | 146 | 1733 | 9 | 24.10 | 59 | 24.90 | 740.5 | 13.2 | 339 | c/cs |
| 26 | 146 | 1753 | 9 | 20.00 | 59 | 23.30 | 744.9 | 13.1 | 339 | c/cs |
| 26 | 146 | 1826 | 9 | 13.30 | 59 | 20.60 | 752.1 | 13.3 | 340 | c/cs |
| 26 | 146 | 1841 | 9 | 10.20 | 59 | 19.50 | 755.4 | 13.1 | 340 | c/cs |
| 26 | 146 | 1849 | 9 | 8.50 | 59 | 18.80 | 757.2 | 13.2 | 339 | c/cs |
| 26 | 146 | 1856 | 9 | 7.10 | 59 | 18.30 | 758.7 | 13.1 | 340 | c/cs |
| 26 | 146 | 1914 | 9 | 3.40 | 59 | 16.90 | 762.7 | 13.3 | 340 | c/cs |
| 26 | 146 | 1939 | 8 | 58.20 | 59 | 15.00 | 768.2 | 13.1 | 339 | c/cs |
| 26 | 146 | 1949 | 8 | 56.10 | 59 | 14.10 | 770.4 | 13.0 | 340 | c/cs |
| 26 | 146 | 2004 | 8 | 53.10 | 59 | 13.00 | 773.6 | 13.0 | 340 | c/cs |
| 26 | 146 | 2018 | 8 | 50.30 | 59 | 11.90 | 776.7 | 12.9 | 340 | c/cs |
| 26 | 146 | 2028 | 8 | 48.20 | 59 | 11.20 | 778.8 | 13.0 | 340 | c/cs |
| 26 | 146 | 2056 | 8 | 42.50 | 59 | 9.10 | 784.9 | 13.0 | 340 | c/cs |
| 26 | 146 | 2108 | 8 | 40.10 | 59 | 8.10 | 787.5 | 13.3 | 339 | c/cs |
| 26 | 146 | 2124 | 8 | 36.80 | 59 | 6.80 | 791.0 | 13.2 | 340 | c/cs |
| 26 | 146 | 2136 | 8 | 34.30 | 59 | 5.90 | 793.7 | 13.2 | 340 | c/cs |
| 26 | 146 | 2146 | 8 | 32.30 | 59 | 5.10 | 795.9 | 13.2 | 340 | c/cs |
| 26 | 146 | 2204 | 8 | 28.60 | 59 | 3.80 | 799.8 | 13.0 | 340 | c/cs |
| 26 | 146 | 2222 | 8 | 24.90 | 59 | 2.40 | 803.7 | 13.0 | 339 | c/cs |
| 26 | 146 | 2232 | 8 | 22.90 | 59 | 1.60 | 805.9 | 13.1 | 340 | c/cs |
| 26 | 146 | 2247 | 8 | 19.80 | 59 | 0.40 | 809.2 | 13.0 | 340 | c/cs |
| 26 | 146 | 2257 | 8 | 17.80 | 58 | 59.70 | 811.3 | 13.4 | 339 | c/cs |
| 26 | 146 | 2313 | 8 | 14.50 | 58 | 58.40 | 814.9 | 13.1 | 340 | c/cs |
| 26 | 146 | 2335 | 8 | 10.00 | 58 | 56.70 | 819.7 | 13.2 | 340 | c/cs |
| 26 | 146 | 2351 | 8 | 6.70 | 58 | 55.50 | 823.2 | 13.2 | 340 | c/cs |
| 27 | 147 | 0000 | 8 | 4.80 | 58 | 54.80 | 825.2 | 13.2 | 340 | c/cs |
| 27 | 147 | 0019 | 8 | 0.90 | 58 | 53.30 | 829.4 | 13.1 | 340 | c/cs |
| 27 | 147 | 0049 | 7 | 54.70 | 58 | 51.00 | 835.9 | 13.0 | 339 | c/cs |
| 27 | 147 | 0125 | 7 | 47.50 | 58 | 48.20 | 843.7 | 13.1 | 340 | c/cs |
| 27 | 147 | 0142 | 7 | 44.00 | 58 | 46.90 | 847.4 | 13.0 | 340 | c/cs |
| 27 | 147 | 0150 | 7 | 42.40 | 58 | 46.20 | 849.2 | 12.9 | 339 | c/cs |
| 27 | 147 | 0158 | 7 | 40.80 | 58 | 45.60 | 850.9 | 13.0 | 340 | c/cs |
| 27 | 147 | 0205 | 7 | 39.30 | 58 | 45.10 | 852.4 | 13.2 | 331 | c/cs |
| 27 | 147 | 0223 | 7 | 35.90 | 58 | 43.10 | 856.4 | 9.3 | 334 | c/cs |
| 27 | 147 | 0225 | 7 | 35.60 | 58 | 43.00 | 856.7 | 6.9 | 326 | c/cs |
| 27 | 147 | 0230 | 7 | 35.10 | 58 | 42.70 | 857.2 | 5.9 | 326 | c/cs |
| 27 | 147 | 0258 | 7 | 32.80 | 58 | 41.10 | 860.0 | 4.8 | 354 | c/cs |
| 27 | 147 | 0300 | 7 | 32.70 | 58 | 41.10 | 860.2 | 3.9 | 45 | c/cs |
| 27 | 147 | 0302 | 7 | 32.60 | 58 | 41.20 | 860.3 | 4.4 | 77 | c/cs |
| 27 | 147 | 0311 | 7 | 32.40 | 58 | 41.80 | 861.0 | 4.6 | 73 | c/cs |
| 27 | 147 | 0331 | 7 | 32.00 | 58 | 43.30 | 862.5 | 4.7 | 73 | c/cs |
| 27 | 147 | 0345 | 7 | 31.70 | 58 | 44.40 | 863.6 | 4.6 | 75 | c/cs |
| 27 | 147 | 0354 | 7 | 31.50 | 58 | 45.00 | 864.3 | 4.9 | 76 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 147 | 0410 | 7 | 31.20 | 58 | 46.30 | 865.6 | 4.8 | 77 | c/cs |
| 27 | 147 | 0440 | 7 | 30.70 | 58 | 48.70 | 868.0 | 4.7 | 78 | c/cs |
| 27 | 147 | 0457 | 7 | 30.40 | 58 | 50.00 | 869.3 | 4.8 | 96 | c/cs |
| 27 | 147 | 0527 | 7 | 30.60 | 58 | 52.40 | 871.7 | 4.8 | 95 | c/cs |
| 27 | 147 | 0546 | 7 | 30.80 | 58 | 53.90 | 873.2 | 4.8 | 94 | c/cs |
| 27 | 147 | 0608 | 7 | 30.90 | 58 | 55.70 | 875.0 | 4.9 | 94 | c/cs |
| 27 | 147 | 0632 | 7 | 31.00 | 58 | 57.70 | 877.0 | 5.1 | 93 | c/cs |
| 27 | 147 | 0643 | 7 | 31.00 | 58 | 58.60 | 877.9 | 5.0 | 95 | c/cs |
| 27 | 147 | 0659 | 7 | 31.20 | 58 | 60.00 | 879.2 | 5.3 | 91 | c/cs |
| 27 | 147 | 0704 | 7 | 31.20 | 59 | 0.40 | 879.7 | 5.0 | 77 | c/cs |
| 27 | 147 | 0711 | 7 | 31.00 | 59 | 1.00 | 880.3 | 4.9 | 67 | c/cs |
| 27 | 147 | 0716 | 7 | 30.90 | 59 | 1.40 | 880.7 | 4.9 | 89 | c/cs |
| 27 | 147 | 0730 | 7 | 30.80 | 59 | 2.50 | 881.8 | 5.0 | 86 | c/cs |
| 27 | 147 | 0750 | 7 | 30.70 | 59 | 4.20 | 883.5 | 5.3 | 86 | c/cs |
| 27 | 147 | 0801 | 7 | 30.70 | 59 | 5.20 | 884.5 | 4.5 | 106 | c/cs |
| 27 | 147 | 0802 | 7 | 30.70 | 59 | 5.30 | 884.5 | 4.1 | 161 | c/cs |
| 27 | 147 | 0805 | 7 | 30.90 | 59 | 5.30 | 884.8 | 3.4 | 123 | c/cs |
| 27 | 147 | 0806 | 7 | 30.90 | 59 | 5.40 | 884.8 | 2.3 | 52 | c/cs |
| 27 | 147 | 0808 | 7 | 30.90 | 59 | 5.50 | 884.9 | 2.8 | 322 | c/cs |
| 27 | 147 | 0810 | 7 | 30.80 | 59 | 5.40 | 885.0 | 4.4 | 279 | c/cs |
| 27 | 147 | 0813 | 7 | 30.80 | 59 | 5.20 | 885.2 | 5.7 | 260 | c/cs |
| 27 | 147 | 0815 | 7 | 30.80 | 59 | 5.00 | 885.4 | 6.3 | 242 | c/cs |
| 27 | 147 | 0822 | 7 | 31.10 | 59 | 4.30 | 886.1 | 6.6 | 241 | c/cs |
| 27 | 147 | 0830 | 7 | 31.60 | 59 | 3.60 | 887.0 | 6.7 | 243 | c/cs |
| 27 | 147 | 0846 | 7 | 32.40 | 59 | 2.00 | 888.8 | 6.7 | 247 | c/cs |
| 27 | 147 | 0854 | 7 | 32.70 | 59 | 1.10 | 889.7 | 6.8 | 253 | c/cs |
| 27 | 147 | 0855 | 7 | 32.74 | 59 | 1.02 | 889.8 | 5.8 | 256 | 707 |
| 27 | 147 | 0855 | 7 | 32.70 | 59 | 1.00 | 889.8 | 0 | 55 | c/cs |
| June | | | | | | | | | | |
| 1 | 152 | 2321 | 7 | 32.60 | 59 | 1.30 | 890.1 | 1.5 | 207 | c/cs |
| 1 | 152 | 2338 | 7 | 33.00 | 59 | 1.10 | 890.5 | 0.8 | 258 | c/cs |
| 1 | 152 | 2340 | 7 | 33.00 | 59 | 1.00 | 890.5 | 3.9 | 315 | c/cs |
| 1 | 152 | 2341 | 7 | 32.90 | 59 | 1.00 | 890.6 | 5.7 | 11 | c/cs |
| 1 | 152 | 2343 | 7 | 32.74 | 59 | 1.02 | 890.8 | 6.0 | 345 | 707 |
| 1 | 152 | 2343 | 7 | 32.70 | 59 | 1.00 | 890.8 | 7.9 | 10 | c/cs |
| 1 | 152 | 2345 | 7 | 32.50 | 59 | 1.10 | 891.0 | 10.5 | 14 | c/cs |
| 1 | 152 | 2353 | 7 | 31.10 | 59 | 1.40 | 892.4 | 10.4 | 15 | c/cs |
| 1 | 152 | 2359 | 7 | 30.10 | 59 | 1.70 | 893.5 | 12.3 | 16 | c/cs |
| 2 | 153 | 0000 | 7 | 29.90 | 59 | 1.80 | 893.7 | 12.3 | 16 | c/cs |
| 2 | 153 | 0004 | 7 | 29.10 | 59 | 2.00 | 894.5 | 12.8 | 17 | c/cs |
| 2 | 153 | 0014 | 7 | 27.10 | 59 | 2.60 | 896.6 | 13.0 | 18 | c/cs |
| 2 | 153 | 0021 | 7 | 25.70 | 59 | 3.10 | 898.2 | 12.5 | 18 | c/cs |
| 2 | 153 | 0039 | 7 | 22.10 | 59 | 4.20 | 901.9 | 12.8 | 17 | c/cs |
| 2 | 153 | 0044 | 7 | 21.10 | 59 | 4.60 | 903.0 | 12.5 | 18 | c/cs |
| 2 | 153 | 0057 | 7 | 18.50 | 59 | 5.40 | 905.7 | 13.1 | 18 | c/cs |
| 2 | 153 | 0100 | 7 | 17.90 | 59 | 5.60 | 906.4 | 12.6 | 17 | c/cs |
| 2 | 153 | 0108 | 7 | 16.20 | 59 | 6.10 | 908.0 | 12.8 | 17 | c/cs |
| 2 | 153 | 0117 | 7 | 14.40 | 59 | 6.70 | 909.9 | 12.9 | 17 | c/cs |
| 2 | 153 | 0142 | 7 | 9.30 | 59 | 8.20 | 915.3 | 12.7 | 17 | c/cs |
| 2 | 153 | 0155 | 7 | 6.60 | 59 | 9.00 | 918.1 | 12.9 | 17 | c/cs |
| 2 | 153 | 0210 | 7 | 3.50 | 59 | 10.00 | 921.3 | 12.9 | 18 | c/cs |
| 2 | 153 | 0223 | 7 | 0.90 | 59 | 10.90 | 924.1 | 12.7 | 17 | c/cs |
| 2 | 153 | 0227 | 7 | 0.10 | 59 | 11.10 | 924.9 | 12.9 | 17 | c/cs |
| 2 | 153 | 0233 | 6 | 58.90 | 59 | 11.50 | 926.2 | 12.8 | 17 | c/cs |
| 2 | 153 | 0250 | 6 | 55.40 | 59 | 12.60 | 929.8 | 12.8 | 17 | c/cs |
| 2 | 153 | 0305 | 6 | 52.30 | 59 | 13.50 | 933.1 | 13.1 | 17 | c/cs |
| 2 | 153 | 0313 | 6 | 50.70 | 59 | 14.00 | 934.8 | 12.6 | 18 | c/cs |
| 2 | 153 | 0328 | 6 | 47.60 | 59 | 15.00 | 938.0 | 12.9 | 17 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 153 | 0336 | 6 | 46.00 | 59 | 15.50 | 939.7 | 12.8 | 17 | c/cs |
| 2 | 153 | 0402 | 6 | 40.70 | 59 | 17.20 | 945.3 | 12.9 | 17 | c/cs |
| 2 | 153 | 0449 | 6 | 31.00 | 59 | 20.10 | 955.3 | 12.3 | 29 | c/cs |
| 2 | 153 | 0459 | 6 | 29.20 | 59 | 21.10 | 957.4 | 12.5 | 29 | c/cs |
| 2 | 153 | 0502 | 6 | 28.70 | 59 | 21.40 | 958.0 | 12.4 | 30 | c/cs |
| 2 | 153 | 0525 | 6 | 24.50 | 59 | 23.80 | 962.8 | 12.4 | 29 | c/cs |
| 2 | 153 | 0553 | 6 | 19.50 | 59 | 26.60 | 968.6 | 12.4 | 29 | c/cs |
| 2 | 153 | 0556 | 6 | 18.94 | 59 | 26.90 | 969.2 | 11.9 | 35 | GF |
| 2 | 153 | 0619 | 6 | 15.20 | 59 | 29.50 | 973.7 | 11.8 | 35 | c/cs |
| 2 | 153 | 0644 | 6 | 11.10 | 59 | 32.30 | 978.7 | 12.1 | 33 | c/cs |
| 2 | 153 | 0654 | 6 | 9.40 | 59 | 33.40 | 980.7 | 12.1 | 33 | c/cs |
| 2 | 153 | 0704 | 6 | 7.70 | 59 | 34.60 | 982.7 | 11.9 | 35 | c/cs |
| 2 | 153 | 0717 | 6 | 5.60 | 59 | 36.00 | 985.3 | 12.0 | 35 | c/cs |
| 2 | 153 | 0732 | 6 | 3.10 | 59 | 37.70 | 988.3 | 12.0 | 35 | c/cs |
| 2 | 153 | 0758 | 5 | 58.90 | 59 | 40.70 | 993.5 | 12.0 | 35 | c/cs |
| 2 | 153 | 0830 | 5 | 53.60 | 59 | 44.40 | 999.9 | 11.9 | 35 | c/cs |
| 2 | 153 | 0848 | 5 | 50.60 | 59 | 46.40 | 1003.5 | 12.1 | 35 | c/cs |
| 2 | 153 | 0901 | 5 | 48.50 | 59 | 47.90 | 1006.1 | 12.2 | 25 | c/cs |
| 2 | 153 | 0916 | 5 | 45.70 | 59 | 49.20 | 1009.2 | 12.3 | 27 | c/cs |
| 2 | 153 | 0934 | 5 | 42.40 | 59 | 50.90 | 1012.9 | 12.1 | 25 | c/cs |
| 2 | 153 | 0952 | 5 | 39.10 | 59 | 52.50 | 1016.5 | 12.4 | 26 | c/cs |
| 2 | 153 | 1005 | 5 | 36.70 | 59 | 53.60 | 1019.2 | 11.9 | 28 | c/cs |
| 2 | 153 | 1007 | 5 | 36.40 | 59 | 53.80 | 1019.6 | 10.9 | 34 | c/cs |
| 2 | 153 | 1009 | 5 | 36.10 | 59 | 54.00 | 1019.9 | 7.9 | 31 | c/cs |
| 2 | 153 | 1013 | 5 | 35.60 | 59 | 54.30 | 1020.5 | 5.9 | 30 | c/cs |
| 2 | 153 | 1019 | 5 | 35.10 | 59 | 54.60 | 1021.0 | 4.8 | 28 | c/cs |
| 2 | 153 | 1027 | 5 | 34.60 | 59 | 54.90 | 1021.7 | 4.4 | 27 | c/cs |
| 2 | 153 | 1046 | 5 | 33.30 | 59 | 55.50 | 1023.1 | 4.4 | 27 | c/cs |
| 2 | 153 | 1116 | 5 | 31.30 | 59 | 56.50 | 1025.3 | 4.3 | 25 | c/cs |
| 2 | 153 | 1129 | 5 | 30.50 | 59 | 56.90 | 1026.2 | 4.9 | 351 | c/cs |
| 2 | 153 | 1130 | 5 | 30.42 | 59 | 56.91 | 1026.3 | 5.0 | 13 | GF |
| 2 | 153 | 1131 | 5 | 30.30 | 59 | 56.90 | 1026.4 | 4.3 | 341 | c/cs |
| 2 | 153 | 1135 | 5 | 30.10 | 59 | 56.80 | 1026.7 | 6.3 | 353 | c/cs |
| 2 | 153 | 1140 | 5 | 29.50 | 59 | 56.80 | 1027.2 | 7.6 | 357 | c/cs |
| 2 | 153 | 1145 | 5 | 28.92 | 59 | 56.74 | 1027.8 | 7.6 | 356 | GF |
| 2 | 153 | 1158 | 5 | 27.30 | 59 | 56.60 | 1029.5 | 7.6 | 355 | c/cs |
| 2 | 153 | 1210 | 5 | 25.76 | 59 | 56.49 | 1031.0 | 7.8 | 356 | GF |
| 2 | 153 | 1215 | 5 | 25.11 | 59 | 56.44 | 1031.6 | 7.8 | 355 | GF |
| 2 | 153 | 1220 | 5 | 24.46 | 59 | 56.38 | 1032.3 | 8.6 | 356 | GF |
| 2 | 153 | 1223 | 5 | 24.00 | 59 | 56.40 | 1032.7 | 8.5 | 1 | c/cs |
| 2 | 153 | 1224 | 5 | 23.90 | 59 | 56.40 | 1032.9 | 7.0 | 39 | c/cs |
| 2 | 153 | 1225 | 5 | 23.80 | 59 | 56.40 | 1033.0 | 7.2 | 66 | c/cs |
| 2 | 153 | 1226 | 5 | 23.70 | 59 | 56.50 | 1033.1 | 7.1 | 45 | c/cs |
| 2 | 153 | 1227 | 5 | 23.70 | 59 | 56.60 | 1033.2 | 5.5 | 354 | c/cs |
| 2 | 153 | 1228 | 5 | 23.60 | 59 | 56.60 | 1033.3 | 4.0 | 305 | c/cs |
| 2 | 153 | 1229 | 5 | 23.50 | 59 | 56.60 | 1033.4 | 3.0 | 253 | c/cs |
| 2 | 153 | 1230 | 5 | 23.55 | 59 | 56.51 | 1033.4 | 3.0 | 272 | GF |
| 2 | 153 | 1231 | 5 | 23.50 | 59 | 56.50 | 1033.5 | 2.2 | 179 | c/cs |
| 2 | 153 | 1234 | 5 | 23.70 | 59 | 56.50 | 1033.6 | 4.3 | 189 | c/cs |
| 2 | 153 | 1235 | 5 | 23.73 | 59 | 56.45 | 1033.7 | 4.2 | 184 | GF |
| 2 | 153 | 1238 | 5 | 23.90 | 59 | 56.40 | 1033.9 | 6.0 | 177 | c/cs |
| 2 | 153 | 1241 | 5 | 24.20 | 59 | 56.50 | 1034.2 | 7.6 | 176 | c/cs |
| 2 | 153 | 1245 | 5 | 24.74 | 59 | 56.49 | 1034.7 | 7.7 | 174 | GF |
| 2 | 153 | 1250 | 5 | 25.38 | 59 | 56.56 | 1035.3 | 7.7 | 175 | GF |
| 2 | 153 | 1253 | 5 | 25.80 | 59 | 56.60 | 1035.7 | 8.0 | 176 | c/cs |
| 2 | 153 | 1300 | 5 | 26.69 | 59 | 56.65 | 1036.6 | 9.2 | 180 | GF |
| 2 | 153 | 1301 | 5 | 26.80 | 59 | 56.70 | 1036.8 | 9.0 | 184 | c/cs |
| 2 | 153 | 1305 | 5 | 27.40 | 59 | 56.60 | 1037.4 | 0 | 360 | c/cs |
| 4 | 155 | 0753 | 5 | 27.10 | 59 | 56.60 | 1037.7 | 0.9 | 168 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 155 | 0800 | 5 | 27.23 | 59 | 56.63 | 1037.8 | 2.8 | 218 | 708 |
| 4 | 155 | 0807 | 5 | 27.50 | 59 | 56.40 | 1038.1 | 3.3 | 188 | c/cs |
| 4 | 155 | 0809 | 5 | 27.60 | 59 | 56.40 | 1038.2 | 1.7 | 108 | c/cs |
| 4 | 155 | 0811 | 5 | 27.60 | 59 | 56.50 | 1038.3 | 3.8 | 8 | c/cs |
| 4 | 155 | 0814 | 5 | 27.40 | 59 | 56.50 | 1038.5 | 5.6 | 13 | c/cs |
| 4 | 155 | 0821 | 5 | 26.80 | 59 | 56.60 | 1039.1 | 5.9 | 12 | c/cs |
| 4 | 155 | 0827 | 5 | 26.20 | 59 | 56.80 | 1039.7 | 7.2 | 12 | c/cs |
| 4 | 155 | 0829 | 5 | 26.00 | 59 | 56.80 | 1040.0 | 10.3 | 15 | c/cs |
| 4 | 155 | 0832 | 5 | 25.50 | 59 | 56.90 | 1040.5 | 11.6 | 17 | c/cs |
| 4 | 155 | 0845 | 5 | 23.10 | 59 | 57.70 | 1043.0 | 11.5 | 17 | c/cs |
| 4 | 155 | 0902 | 5 | 20.00 | 59 | 58.60 | 1046.3 | 11.4 | 16 | c/cs |
| 4 | 155 | 0915 | 5 | 17.60 | 59 | 59.30 | 1048.7 | 11.6 | 12 | c/cs |
| 4 | 155 | 0927 | 5 | 15.30 | 59 | 59.80 | 1051.0 | 11.3 | 12 | c/cs |
| 4 | 155 | 0938 | 5 | 13.30 | 60 | 0.20 | 1053.1 | 11.5 | 12 | c/cs |
| 4 | 155 | 0958 | 5 | 9.50 | 60 | 1.00 | 1056.9 | 11.4 | 12 | c/cs |
| 4 | 155 | 1014 | 5 | 6.60 | 60 | 1.70 | 1060.0 | 11.6 | 12 | c/cs |
| 4 | 155 | 1026 | 5 | 4.30 | 60 | 2.10 | 1062.3 | 11.5 | 16 | c/cs |
| 4 | 155 | 1046 | 5 | 0.60 | 60 | 3.20 | 1066.1 | 11.6 | 14 | c/cs |
| 4 | 155 | 1112 | 4 | 55.80 | 60 | 4.40 | 1071.1 | 12.0 | 15 | c/cs |
| 4 | 155 | 1117 | 4 | 54.80 | 60 | 4.70 | 1072.1 | 11.2 | 17 | c/cs |
| 4 | 155 | 1134 | 4 | 51.80 | 60 | 5.60 | 1075.3 | 11.4 | 17 | c/cs |
| 4 | 155 | 1142 | 4 | 50.30 | 60 | 6.00 | 1076.8 | 11.9 | 16 | c/cs |
| 4 | 155 | 1200 | 4 | 46.90 | 60 | 7.00 | 1080.4 | 11.6 | 17 | c/cs |
| 4 | 155 | 1210 | 4 | 45.03 | 60 | 7.58 | 1082.3 | 11.7 | 22 | GF |
| 4 | 155 | 1213 | 4 | 44.50 | 60 | 7.80 | 1082.9 | 11.7 | 22 | c/cs |
| 4 | 155 | 1225 | 4 | 42.31 | 60 | 8.67 | 1085.3 | 11.9 | 23 | GF |
| 4 | 155 | 1228 | 4 | 41.80 | 60 | 8.90 | 1085.8 | 11.6 | 22 | c/cs |
| 4 | 155 | 1240 | 4 | 39.60 | 60 | 9.76 | 1088.2 | 11.3 | 20 | GF |
| 4 | 155 | 1241 | 4 | 39.40 | 60 | 9.80 | 1088.4 | 11.7 | 21 | c/cs |
| 4 | 155 | 1300 | 4 | 35.97 | 60 | 11.14 | 1092.1 | 12.4 | 21 | GF |
| 4 | 155 | 1301 | 4 | 35.80 | 60 | 11.20 | 1092.3 | 12.4 | 21 | c/cs |
| 4 | 155 | 1310 | 4 | 34.04 | 60 | 11.88 | 1094.1 | 12.0 | 22 | GF |
| 4 | 155 | 1319 | 4 | 32.40 | 60 | 12.60 | 1095.9 | 12.1 | 22 | c/cs |
| 4 | 155 | 1325 | 4 | 31.25 | 60 | 13.01 | 1097.1 | 12.3 | 22 | GF |
| 4 | 155 | 1331 | 4 | 30.10 | 60 | 13.50 | 1098.4 | 12.3 | 20 | c/cs |
| 4 | 155 | 1340 | 4 | 28.39 | 60 | 14.12 | 1100.2 | 12.3 | 19 | GF |
| 4 | 155 | 1354 | 4 | 25.70 | 60 | 15.10 | 1103.1 | 12.2 | 21 | c/cs |
| 4 | 155 | 1355 | 4 | 25.50 | 60 | 15.15 | 1103.3 | 12.4 | 20 | GF |
| 4 | 155 | 1410 | 4 | 22.60 | 60 | 16.22 | 1106.4 | 12.3 | 20 | GF |
| 4 | 155 | 1430 | 4 | 18.77 | 60 | 17.65 | 1110.4 | 13.1 | 20 | GF |
| 4 | 155 | 1430 | 4 | 18.80 | 60 | 17.60 | 1110.4 | 13.1 | 19 | c/cs |
| 4 | 155 | 1438 | 4 | 17.10 | 60 | 18.20 | 1112.2 | 12.6 | 17 | c/cs |
| 4 | 155 | 1440 | 4 | 16.72 | 60 | 18.34 | 1112.6 | 12.1 | 18 | GF |
| 4 | 155 | 1447 | 4 | 15.40 | 60 | 18.80 | 1114.0 | 12.4 | 18 | c/cs |
| 4 | 155 | 1455 | 4 | 13.81 | 60 | 19.30 | 1115.7 | 11.9 | 19 | GF |
| 4 | 155 | 1455 | 4 | 13.80 | 60 | 19.30 | 1115.7 | 12.1 | 19 | c/cs |
| 4 | 155 | 1510 | 4 | 10.94 | 60 | 20.28 | 1118.7 | 11.9 | 20 | GF |
| 4 | 155 | 1523 | 4 | 8.50 | 60 | 21.10 | 1121.3 | 11.7 | 20 | c/cs |
| 4 | 155 | 1531 | 4 | 7.04 | 60 | 21.67 | 1122.8 | 12.2 | 20 | GF |
| 4 | 155 | 1534 | 4 | 6.50 | 60 | 21.90 | 1123.5 | 12.2 | 19 | c/cs |
| 4 | 155 | 1536 | 4 | 6.08 | 60 | 22.01 | 1123.9 | 12.2 | 19 | GF |
| 4 | 155 | 1541 | 4 | 5.12 | 60 | 22.34 | 1124.9 | 12.2 | 19 | GF |
| 4 | 155 | 1546 | 4 | 4.16 | 60 | 22.68 | 1125.9 | 12.1 | 18 | GF |
| 4 | 155 | 1551 | 4 | 3.20 | 60 | 23.00 | 1126.9 | 11.9 | 18 | GF |
| 4 | 155 | 1556 | 4 | 2.26 | 60 | 23.31 | 1127.9 | 12.0 | 21 | GF |
| 4 | 155 | 1557 | 4 | 2.10 | 60 | 23.40 | 1128.1 | 12.0 | 17 | c/cs |
| 4 | 155 | 1600 | 4 | 1.50 | 60 | 23.56 | 1128.7 | 12.6 | 17 | GF |
| 4 | 155 | 1601 | 4 | 1.30 | 60 | 23.62 | 1128.9 | 12.3 | 15 | GF |
| 4 | 155 | 1605 | 4 | 0.50 | 60 | 23.80 | 1129.7 | 12.1 | 16 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 155 | 1606 | 4 | 0.31 | 60 | 23.89 | 1129.9 | 13.4 | 12 | GF |
| 4 | 155 | 1607 | 4 | 0.10 | 60 | 23.90 | 1130.1 | 11.0 | 60 | c/cs |
| 4 | 155 | 1608 | 4 | 0.00 | 60 | 24.10 | 1130.3 | 9.5 | 87 | c/cs |
| 4 | 155 | 1611 | 3 | 59.98 | 60 | 24.57 | 1130.8 | 9.9 | 90 | GF |
| 4 | 155 | 1611 | 3 | 60.00 | 60 | 24.60 | 1130.8 | 8.0 | 86 | c/cs |
| 4 | 155 | 1616 | 3 | 59.93 | 60 | 25.24 | 1131.5 | 8.4 | 85 | GF |
| 4 | 155 | 1616 | 3 | 59.90 | 60 | 25.20 | 1131.5 | 7.7 | 90 | c/cs |
| 4 | 155 | 1624 | 3 | 59.90 | 60 | 26.30 | 1132.5 | 6.4 | 91 | c/cs |
| 4 | 155 | 1630 | 3 | 59.94 | 60 | 26.91 | 1133.1 | 6.5 | 90 | GF |
| 4 | 155 | 1632 | 3 | 59.90 | 60 | 27.10 | 1133.4 | 6.1 | 91 | c/cs |
| 4 | 155 | 1636 | 3 | 59.95 | 60 | 27.54 | 1133.8 | 6.2 | 93 | GF |
| 4 | 155 | 1641 | 3 | 59.98 | 60 | 28.06 | 1134.3 | 6.2 | 91 | GF |
| 4 | 155 | 1651 | 4 | 0.00 | 60 | 29.09 | 1135.3 | 6.2 | 92 | GF |
| 4 | 155 | 1653 | 4 | 0.00 | 60 | 29.30 | 1135.5 | 6.3 | 90 | c/cs |
| 4 | 155 | 1700 | 4 | 0.00 | 60 | 30.03 | 1136.3 | 7.2 | 90 | GF |
| 4 | 155 | 1701 | 4 | 0.00 | 60 | 30.15 | 1136.4 | 6.1 | 92 | GF |
| 4 | 155 | 1706 | 4 | 0.02 | 60 | 30.66 | 1136.9 | 6.1 | 89 | GF |
| 4 | 155 | 1711 | 4 | 0.01 | 60 | 31.17 | 1137.4 | 6.1 | 89 | GF |
| 4 | 155 | 1712 | 4 | 0.00 | 60 | 31.30 | 1137.5 | 6.0 | 89 | c/cs |
| 4 | 155 | 1716 | 4 | 0.00 | 60 | 31.67 | 1137.9 | 6.1 | 89 | GF |
| 4 | 155 | 1721 | 3 | 59.99 | 60 | 32.18 | 1138.4 | 5.9 | 90 | GF |
| 4 | 155 | 1730 | 3 | 59.99 | 60 | 33.07 | 1139.3 | 6.3 | 89 | GF |
| 4 | 155 | 1733 | 3 | 60.00 | 60 | 33.40 | 1139.6 | 6.3 | 91 | c/cs |
| 4 | 155 | 1736 | 3 | 59.99 | 60 | 33.70 | 1139.9 | 6.0 | 91 | GF |
| 4 | 155 | 1741 | 4 | 0.00 | 60 | 34.20 | 1140.4 | 6.4 | 90 | GF |
| 4 | 155 | 1746 | 4 | 0.00 | 60 | 34.73 | 1140.9 | 6.2 | 89 | GF |
| 4 | 155 | 1751 | 3 | 59.99 | 60 | 35.25 | 1141.5 | 6.2 | 89 | GF |
| 4 | 155 | 1756 | 3 | 59.98 | 60 | 35.77 | 1142.0 | 5.8 | 88 | GF |
| 4 | 155 | 1756 | 3 | 60.00 | 60 | 35.80 | 1142.0 | 5.8 | 90 | c/cs |
| 4 | 155 | 1800 | 3 | 59.98 | 60 | 36.16 | 1142.4 | 7.8 | 90 | GF |
| 4 | 155 | 1801 | 3 | 59.98 | 60 | 36.29 | 1142.5 | 6.3 | 90 | GF |
| 4 | 155 | 1806 | 3 | 59.98 | 60 | 36.82 | 1143.0 | 6.4 | 90 | GF |
| 4 | 155 | 1811 | 3 | 59.98 | 60 | 37.35 | 1143.6 | 6.2 | 89 | GF |
| 4 | 155 | 1814 | 3 | 60.00 | 60 | 37.70 | 1143.9 | 6.3 | 91 | c/cs |
| 4 | 155 | 1816 | 3 | 59.98 | 60 | 37.87 | 1144.1 | 6.5 | 95 | GF |
| 4 | 155 | 1819 | 4 | 0.00 | 60 | 38.20 | 1144.4 | 6.4 | 72 | c/cs |
| 4 | 155 | 1820 | 3 | 60.00 | 60 | 38.30 | 1144.5 | 5.0 | 23 | c/cs |
| 4 | 155 | 1821 | 3 | 59.90 | 60 | 38.33 | 1144.6 | 4.5 | 32 | GF |
| 4 | 155 | 1822 | 3 | 59.80 | 60 | 38.40 | 1144.7 | 5.0 | 7 | c/cs |
| 4 | 155 | 1827 | 3 | 59.40 | 60 | 38.40 | 1145.1 | 5.8 | 358 | c/cs |
| 4 | 155 | 1830 | 3 | 59.13 | 60 | 38.41 | 1145.4 | 7.9 | 4 | GF |
| 4 | 155 | 1831 | 3 | 59.00 | 60 | 38.42 | 1145.5 | 6.0 | 1 | GF |
| 4 | 155 | 1836 | 3 | 58.50 | 60 | 38.43 | 1146.0 | 6.0 | 1 | GF |
| 4 | 155 | 1841 | 3 | 58.00 | 60 | 38.44 | 1146.5 | 6.0 | 0 | GF |
| 4 | 155 | 1846 | 3 | 57.50 | 60 | 38.44 | 1147.0 | 6.1 | 2 | GF |
| 4 | 155 | 1850 | 3 | 57.10 | 60 | 38.50 | 1147.4 | 5.9 | 342 | c/cs |
| 4 | 155 | 1851 | 3 | 57.00 | 60 | 38.42 | 1147.5 | 6.6 | 354 | GF |
| 4 | 155 | 1851 | 3 | 57.00 | 60 | 38.40 | 1147.5 | 3.5 | 300 | c/cs |
| 4 | 155 | 1853 | 3 | 56.90 | 60 | 38.30 | 1147.6 | 3.3 | 267 | c/cs |
| 4 | 155 | 1856 | 3 | 56.95 | 60 | 38.15 | 1147.8 | 3.4 | 273 | GF |
| 4 | 155 | 1859 | 3 | 56.90 | 60 | 38.00 | 1148.0 | 3.6 | 271 | c/cs |
| 4 | 155 | 1900 | 3 | 56.94 | 60 | 37.92 | 1148.0 | 4.9 | 277 | GF |
| 4 | 155 | 1901 | 3 | 56.93 | 60 | 37.84 | 1148.1 | 3.5 | 268 | GF |
| 4 | 155 | 1904 | 3 | 56.90 | 60 | 37.70 | 1148.3 | 3.2 | 262 | c/cs |
| 4 | 155 | 1906 | 3 | 56.95 | 60 | 37.56 | 1148.4 | 3.1 | 270 | GF |
| 4 | 155 | 1911 | 3 | 56.95 | 60 | 37.30 | 1148.6 | 3.3 | 262 | GF |
| 4 | 155 | 1915 | 3 | 57.00 | 60 | 37.10 | 1148.9 | 5.4 | 270 | c/cs |
| 4 | 155 | 1916 | 3 | 56.98 | 60 | 36.99 | 1149.0 | 5.4 | 269 | GF |
| 4 | 155 | 1918 | 3 | 57.00 | 60 | 36.80 | 1149.1 | 7.0 | 269 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 155 | 1921 | 3 | 56.99 | 60 | 36.46 | 1149.5 | 6.9 | 267 | GF |
| 4 | 155 | 1924 | 3 | 57.00 | 60 | 36.10 | 1149.8 | 7.0 | 270 | c/cs |
| 4 | 155 | 1926 | 3 | 57.01 | 60 | 35.88 | 1150.1 | 6.6 | 272 | GF |
| 4 | 155 | 1931 | 3 | 56.99 | 60 | 35.33 | 1150.6 | 6.7 | 274 | GF |
| 4 | 155 | 1931 | 3 | 57.00 | 60 | 35.30 | 1150.6 | 5.3 | 271 | c/cs |
| 4 | 155 | 1936 | 3 | 56.98 | 60 | 34.89 | 1151.1 | 5.4 | 278 | GF |
| 4 | 155 | 1936 | 3 | 57.00 | 60 | 34.90 | 1151.1 | 4.1 | 268 | c/cs |
| 4 | 155 | 1941 | 3 | 56.99 | 60 | 34.55 | 1151.4 | 4.0 | 267 | GF |
| 4 | 155 | 1943 | 3 | 57.00 | 60 | 34.40 | 1151.5 | 3.2 | 258 | c/cs |
| 4 | 155 | 1946 | 3 | 57.03 | 60 | 34.26 | 1151.7 | 3.4 | 256 | GF |
| 4 | 155 | 1948 | 3 | 57.10 | 60 | 34.10 | 1151.8 | 5.5 | 272 | c/cs |
| 4 | 155 | 1951 | 3 | 57.05 | 60 | 33.87 | 1152.1 | 5.4 | 262 | GF |
| 4 | 155 | 1953 | 3 | 57.10 | 60 | 33.70 | 1152.3 | 5.8 | 269 | c/cs |
| 4 | 155 | 1958 | 3 | 57.10 | 60 | 33.20 | 1152.7 | 5.7 | 295 | c/cs |
| 4 | 155 | 1959 | 3 | 57.00 | 60 | 33.10 | 1152.8 | 6.3 | 345 | c/cs |
| 4 | 155 | 2000 | 3 | 56.94 | 60 | 33.09 | 1152.9 | 9.1 | 331 | GF |
| 4 | 155 | 2000 | 3 | 56.90 | 60 | 33.10 | 1152.9 | 9.7 | 353 | c/cs |
| 4 | 155 | 2001 | 3 | 56.78 | 60 | 33.07 | 1153.1 | 7.4 | 1 | GF |
| 4 | 155 | 2005 | 3 | 56.30 | 60 | 33.10 | 1153.6 | 8.5 | 1 | c/cs |
| 4 | 155 | 2006 | 3 | 56.14 | 60 | 33.08 | 1153.7 | 7.8 | 1 | GF |
| 4 | 155 | 2011 | 3 | 55.49 | 60 | 33.09 | 1154.4 | 8.4 | 3 | GF |
| 4 | 155 | 2011 | 3 | 55.50 | 60 | 33.10 | 1154.4 | 6.7 | 2 | c/cs |
| 4 | 155 | 2016 | 3 | 54.93 | 60 | 33.11 | 1155.0 | 6.6 | 3 | GF |
| 4 | 155 | 2020 | 3 | .54.50 | 60 | 33.10 | 1155.4 | 6.2 | 358 | c/cs |
| 4 | 155 | 2021 | 3 | 54.39 | 60 | 33.13 | 1155.5 | 6.4 | 358 | GF |
| 4 | 155 | 2026 | 3 | 53.86 | 60 | 33.11 | 1156.0 | 6.2 | 0 | GF |
| 4 | 155 | 2031 | 3 | 53.34 | 60 | 33.11 | 1156.6 | 6.2 | 359 | GF |
| 4 | 155 | 2036 | 3 | 52.82 | 60 | 33.10 | 1157.1 | 6.3 | 1 | GF |
| 4 | 155 | 2039 | 3 | 52.50 | 60 | 33.10 | 1157.4 | 6.4 | 2 | c/cs |
| 4 | 155 | 2041 | 3 | 52.29 | 60 | 33.11 | 1157.6 | 6.5 | 0 | GF |
| 4 | 155 | 2046 | 3 | 51.75 | 60 | 33.11 | 1158.1 | 6.5 | 2 | GF |
| 4 | 155 | 2051 | 3 | 51.21 | 60 | 33.13 | 1158.7 | 7.4 | 3 | GF |
| 4 | 155 | 2051 | 3 | 51.20 | 60 | 33.10 | 1158.7 | 6.4 | 354 | c/cs |
| 4 | 155 | 2052 | 3 | 51.10 | 60 | 33.10 | 1158.8 | 4.2 | 304 | c/cs |
| 4 | 155 | 2053 | 3 | 51.10 | 60 | 33.10 | 1158.9 | 2.8 | 213 | c/cs |
| 4 | 155 | 2055 | 3 | 51.10 | 60 | 33.00 | 1159.0 | 4.5 | 175 | c/cs |
| 4 | 155 | 2057 | 3 | 51.30 | 60 | 33.00 | 1159.1 | 6.0 | 155 | c/cs |
| 4 | 155 | 2101 | 3 | 51.65 | 60 | 33.19 | 1159.5 | 5.6 | 157 | GF |
| 4 | 155 | 2102 | 3 | 51.70 | 60 | 33.20 | 1159.6 | 5.6 | 184 | c/cs |
| 4 | 155 | 2106 | 3 | 52.11 | 60 | 33.20 | 1160.0 | 5.5 | 182 | GF |
| 4 | 155 | 2111 | 3 | 52.57 | 60 | 33.18 | 1160.4 | 5.5 | 183 | GF |
| 4 | 155 | 2116 | 3 | 53.03 | 60 | 33.16 | 1160.9 | 6.2 | 187 | GF |
| 4 | 155 | 2119 | 3 | 53.30 | 60 | 33.10 | 1161.2 | 6.2 | 188 | c/cs |
| 4 | 155 | 2121 | 3 | 53.54 | 60 | 33.09 | 1161.4 | 7.9 | 179 | GF |
| 4 | 155 | 2123 | 3 | 53.80 | 60 | 33.10 | 1161.7 | 8.0 | 174 | c/cs |
| 4 | 155 | 2130 | 3 | 54.73 | 60 | 33.19 | 1162.6 | 6.5 | 190 | 709 |
| 4 | 155 | 2134 | 3 | 55.20 | 60 | 33.10 | 1163.0 | 0.2 | 10 | c/cs |
| 4 | 155 | 2337 | 3 | 54.73 | 60 | 33.19 | 1163.5 | 0 | 90 | 709 |
| 8 | 159 | 1245 | 3 | 54.73 | 60 | 33.19 | 1163.5 | 2.9 | 47 | 709 |
| 8 | 159 | 1248 | 3 | 54.60 | 60 | 33.30 | 1163.6 | 3.5 | 98 | c/cs |
| 8 | 159 | 1251 | 3 | 54.70 | 60 | 33.50 | 1163.8 | 5.3 | 109 | c/cs |
| 8 | 159 | 1259 | 3 | 54.90 | 60 | 34.10 | 1164.5 | 5.8 | 118 | c/cs |
| 8 | 159 | 1303 | 3 | 55.10 | 60 | 34.50 | 1164.9 | 7.7 | 125 | c/cs |
| 8 | 159 | 1306 | 3 | 55.30 | 60 | 34.80 | 1165.3 | 9.7 | 130 | c/cs |
| 8 | 159 | 1311 | 3 | 55.80 | 60 | 35.40 | 1166.1 | 10.8 | 132 | c/cs |
| 8 | 159 | 1323 | 3 | 57.30 | 60 | 37.00 | 1168.2 | 11.8 | 134 | c/cs |
| 8 | 159 | 1325 | 3 | 57.50 | 60 | 37.30 | 1168.6 | 7.1 | 123 | c/cs |
| 8 | 159 | 1326 | 3 | 57.60 | 60 | 37.40 | 1168.7 | 11.7 | 133 | c/cs |
| 8 | 159 | 1332 | 3 | 58.40 | 60 | 38.30 | 1169.9 | 11.2 | 143 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 159 | 1336 | 3 | 58.98 | 60 | 38.72 | 1170.7 | 11.5 | 152 | GF |
| 8 | 159 | 1346 | 4 | 0.70 | 60 | 39.60 | 1172.6 | 11.6 | 153 | c/cs |
| 8 | 159 | 1351 | 4 | 1.53 | 60 | 40.07 | 1173.5 | 11.4 | 153 | GF |
| 8 | 159 | 1354 | 4 | 2.00 | 60 | 40.30 | 1174.1 | 11.5 | 153 | c/cs |
| 8 | 159 | 1400 | 4 | 3.06 | 60 | 40.86 | 1175.3 | 11.3 | 153 | GF |
| 8 | 159 | 1405 | 4 | 3.90 | 60 | 41.30 | 1176.2 | 11.4 | 154 | c/cs |
| 8 | 159 | 1420 | 4 | 6.47 | 60 | 42.53 | 1179.1 | 11.9 | 153 | GF |
| 8 | 159 | 1421 | 4 | 6.65 | 60 | 42.62 | 1179.3 | 11.8 | 155 | GF |
| 8 | 159 | 1426 | 4 | 7.50 | 60 | 43.00 | 1180.2 | 11.5 | 154 | c/cs |
| 8 | 159 | 1437 | 4 | 9.40 | 60 | 44.00 | 1182.3 | 11.7 | 154 | c/cs |
| 8 | 159 | 1440 | 4 | 9.96 | 60 | 44.22 | 1182.9 | 11.5 | 154 | GF |
| 8 | 159 | 1442 | 4 | 10.30 | 60 | 44.40 | 1183.3 | 11.7 | 155 | c/cs |
| 8 | 159 | 1452 | 4 | 12.10 | 60 | 45.20 | 1185.3 | 11.4 | 154 | c/cs |
| 8 | 159 | 1500 | 4 | 13.43 | 60 | 45.88 | 1186.8 | 11.4 | 156 | GF |
| 8 | 159 | 1500 | 4 | 13.40 | 60 | 45.90 | 1186.8 | 10.6 | 151 | c/cs |
| 8 | 159 | 1504 | 4 | 14.00 | 60 | 46.20 | 1187.5 | 5.9 | 150 | c/cs |
| 8 | 159 | 1506 | 4 | 14.22 | 60 | 46.32 | 1187.7 | 6.1 | 150 | GF |
| 8 | 159 | 1508 | 4 | 14.40 | 60 | 46.40 | 1187.9 | 5.5 | 147 | c/cs |
| 8 | 159 | 1515 | 4 | 14.90 | 60 | 46.80 | 1188.5 | 6.1 | 151 | c/cs |
| 8 | 159 | 1520 | 4 | 15.38 | 60 | 47.01 | 1189.0 | 6.6 | 154 | GF |
| 8 | 159 | 1521 | 4 | 15.48 | 60 | 47.06 | 1189.1 | 6.2 | 152 | GF |
| 8 | 159 | 1540 | 4 | 17.21 | 60 | 48.00 | 1191.1 | 6.2 | 152 | GF |
| 8 | 159 | 1545 | 4 | 17.70 | 60 | 48.20 | 1191.6 | 6.1 | 152 | c/cs |
| 8 | 159 | 1600 | 4 | 19.00 | 60 | 48.96 | 1193.1 | 6.2 | 151 | GF |
| 8 | 159 | 1606 | 4 | 19.54 | 60 | 49.26 | 1193.8 | 6.0 | 153 | GF |
| 8 | 159 | 1615 | 4 | 20.30 | 60 | 49.70 | 1194.7 | 5.4 | 168 | c/cs |
| 8 | 159 | 1617 | 4 | 20.50 | 60 | 49.70 | 1194.8 | 5.0 | 195 | c/cs |
| 8 | 159 | 1619 | 4 | 20.70 | 60 | 49.70 | 1195.0 | 4.3 | 125 | c/cs |
| 8 | 159 | 1620 | 4 | 20.72 | 60 | 49.72 | 1195.1 | 5.5 | 131 | GF |
| 8 | 159 | 1621 | 4 | 20.78 | 60 | 49.79 | 1195.2 | 5.7 | 134 | GF |
| 8 | 159 | 1621 | 4 | 20.80 | 60 | 49.80 | 1195.2 | 5.6 | 101 | c/cs |
| 8 | 159 | 1622 | 4 | 20.80 | 60 | 49.90 | 1195.3 | 5.8 | 72 | c/cs |
| 8 | 159 | 1623 | 4 | 20.80 | 60 | 50.00 | 1195.3 | 4.0 | 7 | c/cs |
| 8 | 159 | 1625 | 4 | 20.60 | 60 | 50.00 | 1195.5 | 5.4 | 332 | c/cs |
| 8 | 159 | 1629 | 4 | 20.30 | 60 | 49.80 | 1195.8 | 6.6 | 329 | c/cs |
| 8 | 159 | 1635 | 4 | 19.80 | 60 | 49.50 | 1196.5 | 5.3 | 328 | c/cs |
| 8 | 159 | 1649 | 4 | 18.70 | 60 | 48.80 | 1197.7 | 5.5 | 327 | c/cs |
| 8 | 159 | 1650 | 4 | 18.64 | 60 | 48.77 | 1197.8 | 6.8 | 326 | 710 |
| 8 | 159 | 1650 | 4 | 18.60 | 60 | 48.80 | 1197.8 | 0 | 90 | c/cs |
| 10 | 161 | 0745 | 4 | 18.64 | 60 | 48.77 | 1197.8 | 0.9 | 40 | 710 |
| 10 | 161 | 0940 | 4 | 17.30 | 60 | 49.90 | 1199.5 | 0.8 | 112 | c/cs |
| 10 | 161 | 1000 | 4 | 17.41 | 60 | 50.12 | 1199.8 | 1.0 | 55 | GF |
| 10 | 161 | 1009 | 4 | 17.30 | 60 | 50.20 | 1200.0 | 1.2 | 40 | c/cs |
| 10 | 161 | 1012 | 4 | 17.28 | 60 | 50.28 | 1200.0 | 1.1 | 45 | GF |
| 10 | 161 | 1015 | 4 | 17.24 | 60 | 50.32 | 1200.1 | 1.4 | 65 | GF |
| 10 | 161 | 1030 | 4 | 17.09 | 60 | 50.64 | 1200.4 | 2.3 | 335 | GF |
| 10 | 161 | 1030 | 4 | 17.10 | 60 | 50.60 | 1200.4 | 1.2 | 314 | c/cs |
| 10 | 161 | 1037 | 4 | 17.00 | 60 | 50.50 | 1200.6 | 2.2 | 333 | c/cs |
| 10 | 161 | 1043 | 4 | 16.80 | 60 | 50.40 | 1200.8 | 1.8 | 21 | c/cs |
| 10 | 161 | 1045 | 4 | 16.74 | 60 | 50.46 | 1200.8 | 2.0 | 126 | GF |
| 10 | 161 | 1045 | 4 | 16.70 | 60 | 50.50 | 1200.8 | 4.2 | 60 | c/cs |
| 10 | 161 | 1047 | 4 | 16.70 | 60 | 50.60 | 1201.0 | 5.6 | 9 | c/cs |
| 10 | 161 | 1050 | 4 | 16.40 | 60 | 50.60 | 1201.3 | 7.3 | 14 | c/cs |
| 10 | 161 | 1057 | 4 | 15.60 | 60 | 50.80 | 1202.1 | 7.1 | 12 | c/cs |
| 10 | 161 | 1058 | 4 | 15.50 | 60 | 50.90 | 1202.2 | 10.4 | 11 | c/cs |
| 10 | 161 | 1100 | 4 | 15.12 | 60 | 50.93 | 1202.6 | 9.7 | 10 | GF |
| 10 | 161 | 1100 | 4 | 15.10 | 60 | 50.90 | 1202.6 | 12.5 | 11 | c/cs |
| 10 | 161 | 1105 | 4 | 14.10 | 60 | 51.10 | 1203.6 | 13.2 | 12 | c/cs |
| 10 | 161 | 1115 | 4 | 11.95 | 60 | 51.57 | 1205.8 | 13.1 | 13 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 161 | 1125 | 4 | 9.80 | 60 | 52.10 | 1208.0 | 13.3 | 11 | c/cs |
| 10 | 161 | 1130 | 4 | 8.74 | 60 | 52.26 | 1209.1 | 13.5 | 12 | GF |
| 10 | 161 | 1133 | 4 | 8.10 | 60 | 52.40 | 1209.8 | 13.2 | 13 | c/cs |
| 10 | 161 | 1142 | 4 | 6.15 | 60 | 52.87 | 1211.8 | 12.1 | 12 | GF |
| 10 | 161 | 1145 | 4 | 5.56 | 60 | 53.00 | 1212.4 | 13.1 | 13 | GF |
| 10 | 161 | 1146 | 4 | 5.30 | 60 | 53.00 | 1212.6 | 13.0 | 12 | c/cs |
| 10 | 161 | 1157 | 4 | 3.01 | 60 | 53.54 | 1215.0 | 12.9 | 12 | GF |
| 10 | 161 | 1204 | 4 | 1.50 | 60 | 53.90 | 1216.5 | 12.8 | 12 | c/cs |
| 10 | 161 | 1212 | 3 | 59.87 | 60 | 54.21 | 1218.2 | 12.1 | 12 | GF |
| 10 | 161 | 1215 | 3 | 59.28 | 60 | 54.34 | 1218.8 | 12.9 | 12 | GF |
| 10 | 161 | 1224 | 3 | 57.40 | 60 | 54.80 | 1220.7 | 13.0 | 10 | c/cs |
| 10 | 161 | 1230 | 3 | 56.11 | 60 | 54.99 | 1222.0 | 12.9 | 11 | GF |
| 10 | 161 | 1231 | 3 | 55.90 | 60 | 55.00 | 1222.2 | 12.9 | 11 | c/cs |
| 10 | 161 | 1239 | 3 | 54.20 | 60 | 55.40 | 1223.9 | 12.7 | 11 | c/cs |
| 10 | 161 | 1245 | 3 | 52.97 | 60 | 55.61 | 1225.2 | 12.7 | 11 | GF |
| 10 | 161 | 1300 | 3 | 49.86 | 60 | 56.24 | 1228.4 | 12.7 | 13 | GF |
| 10 | 161 | 1300 | 3 | 49.90 | 60 | 56.20 | 1228.4 | 12.7 | 12 | c/cs |
| 10 | 161 | 1315 | 3 | 46.74 | 60 | 56.89 | 1231.6 | 12.9 | 12 | GF |
| 10 | 161 | 1322 | 3 | 45.30 | 60 | 57.20 | 1233.1 | 12.9 | 13 | c/cs |
| 10 | 161 | 1327 | 3 | 44.21 | 60 | 57.43 | 1234.2 | 11.8 | 12 | GF |
| 10 | 161 | 1330 | 3 | 43.63 | 60 | 57.55 | 1234.8 | 12.8 | 12 | GF |
| 10 | 161 | 1333 | 3 | 43.00 | 60 | 57.70 | 1235.4 | 12.8 | 12 | c/cs |
| 10 | 161 | 1345 | 3 | 40.49 | 60 | 58.20 | 1238.0 | 13.0 | 12 | GF |
| 10 | 161 | 1350 | 3 | 39.40 | 60 | 58.40 | 1239.0 | 12.9 | 12 | c/cs |
| 10 | 161 | 1400 | 3 | 37.32 | 60 | 58.86 | 1241.2 | 13.0 | 12 | GF |
| 10 | 161 | 1406 | 3 | 36.00 | 60 | 59.10 | 1242.5 | 13.1 | 13 | c/cs |
| 10 | 161 | 1415 | 3 | 34.14 | 60 | 59.57 | 1244.5 | 13.2 | 13 | GF |
| 10 | 161 | 1426 | 3 | 31.80 | 61 | 0.10 | 1246.9 | 12.9 | 12 | c/cs |
| 10 | 161 | 1430 | 3 | 30.95 | 61 | 0.30 | 1247.7 | 13.0 | 12 | GF |
| 10 | 161 | 1438 | 3 | 29.30 | 61 | 0.60 | 1249.5 | 13.3 | 12 | c/cs |
| 10 | 161 | 1445 | 3 | 27.74 | 61 | 0.96 | 1251.0 | 13.0 | 12 | GF |
| 10 | 161 | 1459 | 3 | 24.80 | 61 | 1.60 | 1254.0 | 13.2 | 12 | c/cs |
| 10 | 161 | 1500 | 3 | 24.55 | 61 | 1.62 | 1254.3 | 13.0 | 12 | GF |
| 10 | 161 | 1515 | 3 | 21.36 | 61 | 2.30 | 1257.5 | 13.0 | 13 | GF |
| 10 | 161 | 1525 | 3 | 19.20 | 61 | 2.80 | 1259.7 | 12.9 | 12 | c/cs |
| 10 | 161 | 1530 | 3 | 18.19 | 61 | 2.99 | 1260.8 | 12.8 | 12 | GF |
| 10 | 161 | 1540 | 3 | 16.10 | 61 | 3.40 | 1262.9 | 13.1 | 12 | c/cs |
| 10 | 161 | 1545 | 3 | 15.03 | 61 | 3.68 | 1264.0 | 13.0 | 12 | GF |
| 10 | 161 | 1600 | 3 | 11.84 | 61 | 4.34 | 1267.3 | 13.2 | 12 | GF |
| 10 | 161 | 1603 | 3 | 11.20 | 61 | 4.50 | 1267.9 | 12.9 | 12 | c/cs |
| 10 | 161 | 1615 | 3 | 8.68 | 61 | 5.01 | 1270.5 | 12.9 | 11 | GF |
| 10 | 161 | 1623 | 3 | 7.00 | 61 | 5.40 | 1272.2 | 12.8 | 11 | c/cs |
| 10 | 161 | 1630 | 3 | 5.53 | 61 | 5.65 | 1273.7 | 12.8 | 11 | GF |
| 10 | 161 | 1645 | 3 | 2.39 | 61 | 6.27 | 1276.9 | 12.8 | 11 | GF |
| 10 | 161 | 1652 | 3 | 0.90 | 61 | 6.60 | 1278.4 | 13.1 | 11 | c/cs |
| 10 | 161 | 1700 | 2 | 59.22 | 61 | 6.91 | 1280.1 | 14.9 | 11 | GF |
| 10 | 161 | 1704 | 2 | 58.20 | 61 | 7.10 | 1281.1 | 14.7 | 11 | c/cs |
| 10 | 161 | 1706 | 2 | 57.76 | 61 | 7.19 | 1281.6 | 12.9 | 10 | GF |
| 10 | 161 | 1711 | 2 | 56.70 | 61 | 7.38 | 1282.7 | 12.7 | 10 | GF |
| 10 | 161 | 1714 | 2 | 56.10 | 61 | 7.50 | 1283.3 | 12.9 | 9 | c/cs |
| 10 | 161 | 1716 | 2 | 55.65 | 61 | 7.56 | 1283.8 | 12.9 | 10 | GF |
| 10 | 161 | 1721 | 2 | 54.59 | 61 | 7.75 | 1284.8 | 12.9 | 10 | GF |
| 10 | 161 | 1731 | 2 | 52.48 | 61 | 8.12 | 1287.0 | 12.9 | 9 | GF |
| 10 | 161 | 1732 | 2 | 52.30 | 61 | 8.20 | 1287.2 | 12.6 | 11 | c/cs |
| 10 | 161 | 1736 | 2 | 51.44 | 61 | 8.32 | 1288.0 | 12.8 | 12 | GF |
| 10 | 161 | 1746 | 2 | 49.36 | 61 | 8.76 | 1290.2 | 12.6 | 11 | GF |
| 10 | 161 | 1751 | 2 | 48.33 | 61 | 8.96 | 1291.2 | 12.6 | 11 | GF |
| 10 | 161 | 1752 | 2 | 48.10 | 61 | 9.00 | 1291.4 | 12.7 | 11 | c/cs |
| 10 | 161 | 1801 | 2 | 46.26 | 61 | 9.37 | 1293.3 | 11.9 | 13 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 161 | 1803 | 2 | 45.90 | 61 | 9.50 | 1293.7 | 9.5 | 12 | c/cs |
| 10 | 161 | 1805 | 2 | 45.60 | 61 | 9.50 | 1294.0 | 6.9 | 15 | c/cs |
| 10 | 161 | 1806 | 2 | 45.45 | 61 | 9.56 | 1294.2 | 7.9 | 15 | GF |
| 10 | 161 | 1808 | 2 | 45.20 | 61 | 9.60 | 1294.4 | 6.4 | 15 | c/cs |
| 10 | 161 | 1815 | 2 | 44.50 | 61 | 9.80 | 1295.2 | 6.1 | 12 | c/cs |
| 10 | 161 | 1816 | 2 | 44.38 | 61 | 9.84 | 1295.3 | 6.4 | 12 | GF |
| 10 | 161 | 1821 | 2 | 43.86 | 61 | 9.95 | 1295.8 | 5.6 | 12 | GF |
| 10 | 161 | 1830 | 2 | 43.04 | 61 | 10.12 | 1296.6 | 6.2 | 14 | GF |
| 10 | 161 | 1832 | 2 | 42.84 | 61 | 10.17 | 1296.8 | 6.3 | 12 | GF |
| 10 | 161 | 1837 | 2 | 42.33 | 61 | 10.28 | 1297.4 | 6.3 | 13 | GF |
| 10 | 161 | 1842 | 2 | 41.82 | 61 | 10.40 | 1297.9 | 6.3 | 13 | GF |
| 10 | 161 | 1845 | 2 | 41.51 | 61 | 10.47 | 1298.2 | 6.5 | 13 | GF |
| 10 | 161 | 1847 | 2 | 41.30 | 61 | 10.52 | 1298.4 | 6.3 | 14 | GF |
| 10 | 161 | 1849 | 2 | 41.10 | 61 | 10.60 | 1298.6 | 6.3 | 13 | c/cs |
| 10 | 161 | 1852 | 2 | 40.79 | 61 | 10.64 | 1298.9 | 6.3 | 11 | GF |
| 10 | 161 | 1900 | 2 | 39.96 | 61 | 10.80 | 1299.8 | 6.4 | 9 | GF |
| 10 | 161 | 1901 | 2 | 39.90 | 61 | 10.80 | 1299.9 | 6.3 | 7 | c/cs |
| 10 | 161 | 1902 | 2 | 39.75 | 61 | 10.83 | 1300.0 | 6.2 | 10 | GF |
| 10 | 161 | 1907 | 2 | 39.24 | 61 | 10.92 | 1300.5 | 6.2 | 5 | GF |
| 10 | 161 | 1911 | 2 | 38.80 | 61 | 11.00 | 1300.9 | 5.5 | 30 | c/cs |
| 10 | 161 | 1912 | 2 | 38.75 | 61 | 11.00 | 1301.0 | 6.2 | 36 | GF |
| 10 | 161 | 1912 | 2 | 38.70 | 61 | 11.00 | 1301.0 | 6.1 | 72 | c/cs |
| 10 | 161 | 1915 | 2 | 38.70 | 61 | 11.30 | 1301.3 | 4.7 | 30 | c/cs |
| 10 | 161 | 1916 | 2 | 38.60 | 61 | 11.30 | 1301.4 | 3.1 | 338 | c/cs |
| 10 | 161 | 1917 | 2 | 38.54 | 61 | 11.31 | 1301.5 | 4.5 | 342 | GF |
| 10 | 161 | 1918 | 2 | 38.50 | 61 | 11.30 | 1301.5 | 1.8 | 271 | c/cs |
| 10 | 161 | 1920 | 2 | 38.50 | 61 | 11.20 | 1301.6 | 2.2 | 193 | c/cs |
| 10 | 161 | 1922 | 2 | 38.54 | 61 | 11.21 | 1301.7 | 3.1 | 184 | GF |
| 10 | 161 | 1923 | 2 | 38.60 | 61 | 11.20 | 1301.7 | 4.2 | 179 | c/cs |
| 10 | 161 | 1928 | 2 | 38.90 | 61 | 11.20 | 1302.1 | 4.9 | 194 | c/cs |
| 10 | 161 | 1930 | 2 | 39.10 | 61 | 11.17 | 1302.2 | 5.2 | 204 | GF |
| 10 | 161 | 1932 | 2 | 39.26 | 61 | 11.10 | 1302.4 | 4.8 | 193 | GF |
| 10 | 161 | 1932 | 2 | 39.30 | 61 | 11.10 | 1302.4 | 6.1 | 195 | c/cs |
| 10 | 161 | 1937 | 2 | 39.75 | 61 | 10.97 | 1302.9 | 5.8 | 196 | GF |
| 10 | 161 | 1937 | 2 | 39.80 | 61 | 11.00 | 1302.9 | 6.6 | 196 | c/cs |
| 10 | 161 | 1945 | 2 | 40.60 | 61 | 10.72 | 1303.8 | 7.1 | 195 | GF |
| 10 | 161 | 1947 | 2 | 40.83 | 61 | 10.66 | 1304.0 | 6.9 | 193 | GF |
| 10 | 161 | 1952 | 2 | 41.39 | 61 | 10.53 | 1304.6 | 6.7 | 195 | GF |
| 10 | 161 | 1956 | 2 | 41.80 | 61 | 10.40 | 1305.1 | 6.5 | 193 | c/cs |
| 10 | 161 | 2000 | 2 | 42.24 | 61 | 10.32 | 1305.5 | 7.3 | 189 | GF |
| 10 | 161 | 2002 | 2 | 42.48 | 61 | 10.28 | 1305.7 | 6.4 | 194 | GF |
| 10 | 161 | 2007 | 2 | 43.00 | 61 | 10.15 | 1306.3 | 6.4 | 193 | GF |
| 10 | 161 | 2013 | 2 | 43.60 | 61 | 10.00 | 1306.9 | 5.3 | 191 | c/cs |
| 10 | 161 | 2015 | 2 | 43.80 | 61 | 9.97 | 1307.1 | 5.9 | 195 | GF |
| 10 | 161 | 2017 | 2 | 43.99 | 61 | 9.92 | 1307.3 | 5.2 | 192 | GF |
| 10 | 161 | 2022 | 2 | 44.41 | 61 | 9.83 | 1307.7 | 5.4 | 194 | GF |
| 10 | 161 | 2022 | 2 | 44.40 | 61 | 9.80 | 1307.7 | 5.1 | 193 | c/cs |
| 10 | 161 | 2026 | 2 | 44.70 | 61 | 9.80 | 1308.1 | 5.4 | 195 | c/cs |
| 10 | 161 | 2030 | 2 | 45.09 | 61 | 9.66 | 1308.4 | 6.2 | 194 | GF |
| 10 | 161 | 2032 | 2 | 45.29 | 61 | 9.61 | 1308.6 | 5.7 | 195 | GF |
| 10 | 161 | 2037 | 2 | 45.75 | 61 | 9.49 | 1309.1 | 2.2 | 176 | GF |
| 10 | 161 | 2037 | 2 | 45.80 | 61 | 9.50 | 1309.1 | 1.6 | 66 | c/cs |
| 10 | 161 | 2045 | 2 | 45.66 | 61 | 9.69 | 1309.3 | 10.7 | 13 | GF |
| 10 | 161 | 2047 | 2 | 45.31 | 61 | 9.77 | 1309.7 | 10.1 | 12 | GF |
| 10 | 161 | 2052 | 2 | 44.49 | 61 | 9.94 | 1310.5 | 1.0 | 231 | GF |
| 10 | 161 | 2100 | 2 | 44.57 | 61 | 9.84 | 1310.6 | 0 | 90 | GF |
| 10 | 161 | 2102 | 2 | 44.57 | 61 | 9.84 | 1310.6 | 0.4 | 56 | GF |
| 10 | 161 | 2107 | 2 | 44.55 | 61 | 9.87 | 1310.7 | 0.9 | 48 | GF |
| 10 | 161 | 2115 | 2 | 44.47 | 61 | 9.96 | 1310.8 | 1.3 | 45 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 161 | 2117 | 2 | 44.44 | 61 | 9.99 | 1310.8 | 1.3 | 265 | GF |
| 10 | 161 | 2127 | 2 | 44.46 | 61 | 9.77 | 1311.1 | 3.0 | 205 | 711 |
| 10 | 161 | 2127 | 2 | 44.50 | 61 | 9.80 | 1311.1 | 0 | 321 | c/cs |
| 13 | 164 | 0710 | 2 | 44.50 | 61 | 9.80 | 1311.1 | 0.1 | 141 | c/cs |
| 13 | 164 | 0715 | 2 | 44.46 | 61 | 9.77 | 1311.1 | 3.3 | 111 | 711 |
| 13 | 164 | 0732 | 2 | 44.80 | 61 | 10.70 | 1312.0 | 4.2 | 106 | c/cs |
| 13 | 164 | 0735 | 2 | 44.90 | 61 | 10.90 | 1312.2 | 4.4 | 97 | c/cs |
| 13 | 164 | 0740 | 2 | 44.90 | 61 | 11.20 | 1312.6 | 5.6 | 102 | c/cs |
| 13 | 164 | 0742 | 2 | 44.90 | 61 | 11.40 | 1312.8 | 7.3 | 104 | c/cs |
| 13 | 164 | 0743 | 2 | 45.00 | 61 | 11.50 | 1312.9 | 10.0 | 101 | c/cs |
| 13 | 164 | 0745 | 2 | 45.04 | 61 | 11.85 | 1313.2 | 7.4 | 96 | GF |
| 13 | 164 | 0747 | 2 | 45.10 | 61 | 12.10 | 1313.5 | 11.1 | 95 | c/cs |
| 13 | 164 | 0752 | 2 | 45.20 | 61 | 13.00 | 1314.4 | 13.2 | 96 | c/cs |
| 13 | 164 | 0800 | 2 | 45.35 | 61 | 14.76 | 1316.2 | 12.7 | 96 | GF |
| 13 | 164 | 0803 | 2 | 45.40 | 61 | 15.40 | 1316.8 | 13.1 | 96 | c/cs |
| 13 | 164 | 0815 | 2 | 45.69 | 61 | 18.00 | 1319.4 | 12.7 | 96 | GF |
| 13 | 164 | 0816 | 2 | 45.70 | 61 | 18.20 | 1319.6 | 12.9 | 96 | c/cs |
| 13 | 164 | 0828 | 2 | 46.00 | 61 | 20.80 | 1322.2 | 12.9 | 96 | c/cs |
| 13 | 164 | 0830 | 2 | 46.05 | 61 | 21.21 | 1322.7 | 13.4 | 96 | GF |
| 13 | 164 | 0838 | 2 | 46.23 | 61 | 22.99 | 1324.4 | 12.9 | 96 | GF |
| 13 | 164 | 0845 | 2 | 46.40 | 61 | 24.49 | 1325.9 | 13.0 | 97 | GF |
| 13 | 164 | 0900 | 2 | 46.78 | 61 | 27.73 | 1329.2 | 13.1 | 96 | GF |
| 13 | 164 | 0908 | 2 | 46.97 | 61 | 29.47 | 1331.0 | 13.0 | 96 | GF |
| 13 | 164 | 0911 | 2 | 47.00 | 61 | 30.10 | 1331.6 | 13.3 | 96 | c/cs |
| 13 | 164 | 0914 | 2 | 47.10 | 61 | 30.80 | 1332.3 | 12.7 | 96 | c/cs |
| 13 | 164 | 0923 | 2 | 47.33 | 61 | 32.67 | 1334.2 | 13.3 | 96 | GF |
| 13 | 164 | 0924 | 2 | 47.40 | 61 | 32.90 | 1334.4 | 13.4 | 96 | c/cs |
| 13 | 164 | 0937 | 2 | 47.67 | 61 | 35.79 | 1337.3 | 11.6 | 96 | GF |
| 13 | 164 | 0941 | 2 | 47.75 | 61 | 36.56 | 1338.1 | 12.2 | 96 | GF |
| 13 | 164 | 0942 | 2 | 47.80 | 61 | 36.80 | 1338.3 | 12.1 | 96 | c/cs |
| 13 | 164 | 0954 | 2 | 48.01 | 61 | 39.17 | 1340.7 | 12.9 | 96 | GF |
| 13 | 164 | 1000 | 2 | 48.10 | 61 | 40.50 | 1342.0 | 13.0 | 96 | c/cs |
| 13 | 164 | 1008 | 2 | 48.33 | 61 | 42.18 | 1343.7 | 12.2 | 95 | GF |
| 13 | 164 | 1010 | 2 | 48.40 | 61 | 42.60 | 1344.1 | 12.6 | 94 | c/cs |
| 13 | 164 | 1023 | 2 | 48.56 | 61 | 45.32 | 1346.9 | 12.8 | 95 | GF |
| 13 | 164 | 1033 | 2 | 48.80 | 61 | 47.50 | 1349.0 | 12.4 | 95 | c/cs |
| 13 | 164 | 1038 | 2 | 48.86 | 61 | 48.48 | 1350.0 | 12.7 | 95 | GF |
| 13 | 164 | 1045 | 2 | 49.00 | 61 | 50.00 | 1351.5 | 12.9 | 95 | c/cs |
| 13 | 164 | 1053 | 2 | 49.16 | 61 | 51.67 | 1353.2 | 12.8 | 96 | GF |
| 13 | 164 | 1103 | 2 | 49.40 | 61 | 53.80 | 1355.4 | 12.8 | 96 | c/cs |
| 13 | 164 | 1108 | 2 | 49.48 | 61 | 54.86 | 1356.4 | 12.9 | 96 | GF |
| 13 | 164 | 1123 | 2 | 49.81 | 61 | 58.08 | 1359.7 | 12.8 | 95 | GF |
| 13 | 164 | 1126 | 2 | 49.90 | 61 | 58.70 | 1360.3 | 13.0 | 95 | c/cs |
| 13 | 164 | 1130 | 2 | 49.95 | 61 | 59.58 | 1361.2 | 13.1 | 96 | GF |
| 13 | 164 | 1138 | 2 | 50.13 | 62 | 1.32 | 1362.9 | 13.0 | 96 | GF |
| 13 | 164 | 1200 | 2 | 50.62 | 62 | 6.07 | 1367.7 | 13.2 | 96 | GF |
| 13 | 164 | 1201 | 2 | 50.60 | 62 | 6.30 | 1367.9 | 13.3 | 96 | c/cs |
| 13 | 164 | 1208 | 2 | 50.79 | 62 | 7.83 | 1369.5 | 13.2 | 95 | GF |
| 13 | 164 | 1219 | 2 | 51.00 | 62 | 10.20 | 1371.9 | 13.2 | 95 | c/cs |
| 13 | 164 | 1223 | 2 | 51.08 | 62 | 11.12 | 1372.8 | 13.0 | 95 | GF |
| 13 | 164 | 1230 | 2 | 51.21 | 62 | 12.63 | 1374.3 | 13.2 | 95 | GF |
| 13 | 164 | 1238 | 2 | 51.36 | 62 | 14.39 | 1376.0 | 12.9 | 94 | GF |
| 13 | 164 | 1240 | 2 | 51.40 | 62 | 14.80 | 1376.5 | 12.3 | 95 | c/cs |
| 13 | 164 | 1253 | 2 | 51.61 | 62 | 17.47 | 1379.1 | 12.2 | 95 | GF |
| 13 | 164 | 1300 | 2 | 51.74 | 62 | 18.89 | 1380.5 | 12.5 | 95 | GF |
| 13 | 164 | 1305 | 2 | 51.80 | 62 | 19.90 | 1381.6 | 11.6 | 95 | c/cs |
| 13 | 164 | 1308 | 2 | 51.89 | 62 | 20.50 | 1382.2 | 11.4 | 95 | GF |
| 13 | 164 | 1308 | 2 | 51.90 | 62 | 20.50 | 1382.2 | 11.4 | 94 | c/cs |
| 13 | 164 | 1312 | 2 | 51.90 | 62 | 21.30 | 1382.9 | 12.7 | 96 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 164 | 1315 | 2 | 52.00 | 62 | 21.90 | 1383.6 | 11.1 | 94 | c/cs |
| 13 | 164 | 1318 | 2 | 52.10 | 62 | 22.40 | 1384.1 | 10.4 | 96 | c/cs |
| 13 | 164 | 1323 | 2 | 52.10 | 62 | 23.30 | 1385.0 | 12.5 | 96 | c/cs |
| 13 | 164 | 1330 | 2 | 52.29 | 62 | 24.76 | 1386.4 | 12.9 | 96 | GF |
| 13 | 164 | 1338 | 2 | 52.47 | 62 | 26.47 | 1388.2 | 12.4 | 95 | GF |
| 13 | 164 | 1338 | 2 | 52.50 | 62 | 26.50 | 1388.2 | 12.5 | 95 | c/cs |
| 13 | 164 | 1400 | 2 | 52.90 | 62 | 31.05 | 1392.7 | 12.9 | 95 | GF |
| 13 | 164 | 1403 | 2 | 53.00 | 62 | 31.70 | 1393.4 | 12.8 | 96 | c/cs |
| 13 | 164 | 1408 | 2 | 53.07 | 62 | 32.76 | 1394.5 | 12.5 | 96 | GF |
| 13 | 164 | 1424 | 2 | 53.40 | 62 | 36.10 | 1397.8 | 12.5 | 96 | c/cs |
| 13 | 164 | 1430 | 2 | 53.55 | 62 | 37.32 | 1399.0 | 13.0 | 96 | GF |
| 13 | 164 | 1438 | 2 | 53.74 | 62 | 39.05 | 1400.8 | 12.7 | 96 | GF |
| 13 | 164 | 1444 | 2 | 53.90 | 62 | 40.30 | 1402.1 | 12.6 | 96 | c/cs |
| 13 | 164 | 1453 | 2 | 54.06 | 62 | 42.20 | 1403.9 | 12.4 | 96 | GF |
| 13 | 164 | 1500 | 2 | 54.22 | 62 | 43.64 | 1405.4 | 13.0 | 96 | GF |
| 13 | 164 | 1508 | 2 | 54.41 | 62 | 45.36 | 1407.1 | 12.5 | 96 | GF |
| 13 | 164 | 1522 | 2 | 54.70 | 62 | 48.30 | 1410.0 | 12.5 | 96 | c/cs |
| 13 | 164 | 1530 | 2 | 54.87 | 62 | 49.92 | 1411.7 | 13.0 | 96 | GF |
| 13 | 164 | 1538 | 2 | 55.05 | 62 | 51.64 | 1413.4 | 12.4 | 95 | GF |
| 13 | 164 | 1540 | 2 | 55.10 | 62 | 52.10 | 1413.8 | 12.7 | 96 | c/cs |
| 13 | 164 | 1553 | 2 | 55.39 | 62 | 54.78 | 1416.6 | 12.7 | 97 | GF |
| 13 | 164 | 1600 | 2 | 55.56 | 62 | 56.25 | 1418.1 | 13.1 | 96 | GF |
| 13 | 164 | 1600 | 2 | 55.60 | 62 | 56.30 | 1418.1 | 13.3 | 96 | c/cs |
| 13 | 164 | 1608 | 2 | 55.75 | 62 | 58.01 | 1419.8 | 12.8 | 96 | GF |
| 13 | 164 | 1630 | 2 | 56.26 | 63 | 2.68 | 1424.5 | 13.2 | 97 | GF |
| 13 | 164 | 1631 | 2 | 56.30 | 63 | 2.90 | 1424.7 | 13.2 | 97 | c/cs |
| 13 | 164 | 1638 | 2 | 56.46 | 63 | 4.43 | 1426.3 | 12.8 | 96 | GF |
| 13 | 164 | 1653 | 2 | 56.82 | 63 | 7.62 | 1429.5 | 12.5 | 97 | GF |
| 13 | 164 | 1700 | 2 | 56.99 | 63 | 9.07 | 1430.9 | 13.2 | 96 | GF |
| 13 | 164 | 1703 | 2 | 57.10 | 63 | 9.70 | 1431.6 | 13.2 | 96 | c/cs |
| 13 | 164 | 1708 | 2 | 57.18 | 63 | 10.82 | 1432.7 | 13.1 | 97 | GF |
| 13 | 164 | 1714 | 2 | 57.30 | 63 | 12.10 | 1434.0 | 13.0 | 97 | c/cs |
| 13 | 164 | 1723 | 2 | 57.55 | 63 | 14.06 | 1436.0 | 12.5 | 97 | GF |
| 13 | 164 | 1730 | 2 | 57.72 | 63 | 15.51 | 1437.4 | 13.1 | 97 | GF |
| 13 | 164 | 1734 | 2 | 57.80 | 63 | 16.40 | 1438.3 | 13.5 | 97 | c/cs |
| 13 | 164 | 1738 | 2 | 57.94 | 63 | 17.27 | 1439.2 | 13.2 | 97 | GF |
| 13 | 164 | 1742 | 2 | 58.00 | 63 | 18.10 | 1440.1 | 12.8 | 97 | c/cs |
| 13 | 164 | 1752 | 2 | 58.30 | 63 | 20.30 | 1442.2 | 12.9 | 97 | c/cs |
| 13 | 164 | 1753 | 2 | 58.31 | 63 | 20.48 | 1442.4 | 12.3 | 96 | GF |
| 13 | 164 | 1800 | 2 | 58.47 | 63 | 21.91 | 1443.8 | 13.1 | 96 | GF |
| 13 | 164 | 1808 | 2 | 58.65 | 63 | 23.65 | 1445.6 | 12.7 | 96 | GF |
| 13 | 164 | 1827 | 2 | 59.10 | 63 | 27.60 | 1449.6 | 12.4 | 96 | c/cs |
| 13 | 164 | 1830 | 2 | 59.15 | 63 | 28.26 | 1450.2 | 13.0 | 97 | GF |
| 13 | 164 | 1838 | 2 | 59.35 | 63 | 29.99 | 1452.0 | 12.8 | 96 | GF |
| 13 | 164 | 1853 | 2 | 59.70 | 63 | 33.17 | 1455.2 | 12.4 | 96 | GF |
| 13 | 164 | 1853 | 2 | 59.70 | 63 | 33.20 | 1455.2 | 12.5 | 96 | c/cs |
| 13 | 164 | 1900 | 2 | 59.86 | 63 | 34.62 | 1456.6 | 13.2 | 97 | GF |
| 13 | 164 | 1908 | 3 | 0.06 | 63 | 36.37 | 1458.4 | 12.8 | 96 | GF |
| 13 | 164 | 1920 | 3 | 0.30 | 63 | 38.90 | 1460.9 | 12.9 | 96 | c/cs |
| 13 | 164 | 1923 | 3 | 0.41 | 63 | 39.57 | 1461.6 | 12.4 | 97 | GF |
| 13 | 164 | 1930 | 3 | 0.59 | 63 | 41.01 | 1463.0 | 13.0 | 97 | GF |
| 13 | 164 | 1936 | 3 | 0.70 | 63 | 42.30 | 1464.3 | 13.0 | 96 | c/cs |
| 13 | 164 | 1938 | 3 | 0.78 | 63 | 42.74 | 1464.8 | 12.6 | 96 | GF |
| 13 | 164 | 2000 | 3 | 1.28 | 63 | 47.35 | 1469.4 | 13.0 | 96 | GF |
| 13 | 164 | 2008 | 3 | 1.47 | 63 | 49.08 | 1471.1 | 12.8 | 96 | GF |
| 13 | 164 | 2019 | 3 | 1.70 | 63 | 51.40 | 1473.5 | 12.8 | 96 | c/cs |
| 13 | 164 | 2023 | 3 | 1.82 | 63 | 52.26 | 1474.3 | 12.7 | 96 | GF |
| 13 | 164 | 2038 | 3 | 2.14 | 63 | 55.43 | 1477.5 | 12.3 | 98 | GF |
| 13 | 164 | 2039 | 3 | 2.20 | 63 | 55.60 | 1477.7 | 12.3 | 98 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 164 | 2100 | 3 | 2.77 | 63 | 59.92 | 1482.0 | 13.1 | 96 | GF |
| 13 | 164 | 2100 | 3 | 2.80 | 63 | 59.90 | 1482.0 | 13.1 | 97 | c/cs |
| 13 | 164 | 2108 | 3 | 2.98 | 64 | 1.66 | 1483.8 | 12.7 | 97 | GF |
| 13 | 164 | 2112 | 3 | 3.10 | 64 | 2.50 | 1484.6 | 12.5 | 96 | c/cs |
| 13 | 164 | 2130 | 3 | 3.51 | 64 | 6.24 | 1488.4 | 13.3 | 96 | GF |
| 13 | 164 | 2130 | 3 | 3.50 | 64 | 6.20 | 1488.4 | 13.4 | 97 | c/cs |
| 13 | 164 | 2145 | 3 | 3.90 | 64 | 9.58 | 1491.8 | 11.9 | 97 | GF |
| 13 | 164 | 2208 | 3 | 4.44 | 64 | 14.13 | 1496.3 | 12.9 | 96 | SF |
| 13 | 164 | 2208 | 3 | 4.40 | 64 | 14.10 | 1496.3 | 13.0 | 96 | c/cs |
| 13 | 164 | 2251 | 3 | 5.40 | 64 | 23.40 | 1505.7 | 13.0 | 96 | c/cs |
| 13 | 164 | 2302 | 3 | 5.70 | 64 | 25.80 | 1508.0 | 13.1 | 96 | c/cs |
| 13 | 164 | 2336 | 3 | 6.50 | 64 | 33.17 | 1515.5 | 12.6 | 98 | SF |
| 13 | 164 | 2340 | 3 | 6.60 | 64 | 34.00 | 1516.3 | 12.4 | 97 | c/cs |
| 13 | 164 | 2352 | 3 | 6.90 | 64 | 36.50 | 1518.8 | 12.7 | 97 | c/cs |
| 14 | 165 | 0000 | 3 | 7.10 | 64 | 38.20 | 1520.5 | 12.7 | 97 | c/cs |
| 14 | 165 | 0010 | 3 | 7.40 | 64 | 40.30 | 1522.6 | 12.4 | 97 | c/cs |
| 14 | 165 | 0011 | 3 | 7.38 | 64 | 40.48 | 1522.8 | 12.3 | 96 | SF |
| 14 | 165 | 0027 | 3 | 7.70 | 64 | 43.80 | 1526.1 | 12.4 | 96 | c/cs |
| 14 | 165 | 0035 | 3 | 7.90 | 64 | 45.40 | 1527.8 | 12.4 | 96 | c/cs |
| 14 | 165 | 0051 | 3 | 8.20 | 64 | 48.70 | 1531.1 | 12.5 | 96 | c/cs |
| 14 | 165 | 0111 | 3 | 8.60 | 64 | 52.90 | 1535.2 | 12.7 | 96 | c/cs |
| 14 | 165 | 0121 | 3 | 8.86 | 64 | 54.97 | 1537.4 | 12.9 | 94 | SF |
| 14 | 165 | 0134 | 3 | 9.10 | 64 | 57.80 | 1540.2 | 12.9 | 94 | c/cs |
| 14 | 165 | 0149 | 3 | 9.30 | 65 | 1.00 | 1543.4 | 12.9 | 94 | c/cs |
| 14 | 165 | 0157 | 3 | 9.45 | 65 | 2.70 | 1545.1 | 12.8 | 96 | SF |
| 14 | 165 | 0204 | 3 | 9.60 | 65 | 4.20 | 1546.6 | 12.7 | 96 | c/cs |
| 14 | 165 | 0222 | 3 | 10.00 | 65 | 8.00 | 1550.4 | 12.8 | 96 | c/cs |
| 14 | 165 | 0247 | 3 | 10.50 | 65 | 13.30 | 1555.7 | 12.8 | 96 | c/cs |
| 14 | 165 | 0315 | 3 | 11.10 | 65 | 19.20 | 1561.7 | 12.7 | 96 | c/cs |
| 14 | 165 | 0332 | 3 | 11.47 | 65 | 22.82 | 1565.3 | 13.1 | 94 | SF |
| 14 | 165 | 0335 | 3 | 11.50 | 65 | 23.50 | 1565.9 | 13.1 | 94 | c/cs |
| 14 | 165 | 0345 | 3 | 11.70 | 65 | 25.60 | 1568.1 | 13.1 | 94 | c/cs |
| 14 | 165 | 0356 | 3 | 11.90 | 65 | 28.00 | 1570.5 | 13.1 | 94 | c/cs |
| 14 | 165 | 0406 | 3 | 12.00 | 65 | 30.20 | 1572.7 | 13.0 | 94 | c/cs |
| 14 | 165 | 0426 | 3 | 12.40 | 65 | 34.60 | 1577.1 | 13.1 | 94 | c/cs |
| 14 | 165 | 0451 | 3 | 12.79 | 65 | 40.01 | 1582.5 | 13.6 | 95 | SF |
| 14 | 165 | 0504 | 3 | 13.00 | 65 | 42.90 | 1585.4 | 13.4 | 95 | c/cs |
| 14 | 165 | 0529 | 3 | 13.50 | 65 | 48.50 | 1591.0 | 13.3 | 95 | c/cs |
| 14 | 165 | 0605 | 3 | 14.10 | 65 | 56.50 | 1599.0 | 13.6 | 95 | c/cs |
| 14 | 165 | 0606 | 3 | 14.15 | 65 | 56.70 | 1599.2 | 13.0 | 94 | SF |
| 14 | 165 | 0626 | 3 | 14.50 | 66 | 1.00 | 1603.6 | 12.9 | 94 | c/cs |
| 14 | 165 | 0638 | 3 | 14.63 | 66 | 3.62 | 1606.1 | 12.7 | 94 | SF |
| 14 | 165 | 0709 | 3 | 15.10 | 66 | 10.20 | 1612.7 | 12.4 | 94 | c/cs |
| 14 | 165 | 0711 | 3 | 15.20 | 66 | 10.60 | 1613.1 | 12.2 | 101 | c/cs |
| 14 | 165 | 0713 | 3 | 15.20 | 66 | 11.00 | 1613.5 | 12.0 | 122 | c/cs |
| 14 | 165 | 0730 | 3 | 17.02 | 66 | 13.90 | 1616.9 | 13.3 | 119 | GF |
| 14 | 165 | 0734 | 3 | 17.50 | 66 | 14.70 | 1617.8 | 13.6 | 119 | c/cs |
| 14 | 165 | 0738 | 3 | 17.90 | 66 | 15.47 | 1618.7 | 12.8 | 119 | GF |
| 14 | 165 | 0741 | 3 | 18.20 | 66 | 16.00 | 1619.4 | 12.6 | 119 | c/cs |
| 14 | 165 | 0749 | 3 | 19.00 | 66 | 17.50 | 1621.1 | 12.7 | 115 | c/cs |
| 14 | 165 | 0800 | 3 | 20.02 | 66 | 19.60 | 1623.4 | 13.4 | 114 | GF |
| 14 | 165 | 0805 | 3 | 20.50 | 66 | 20.60 | 1624.5 | 13.5 | 89 | c/cs |
| 14 | 165 | 0808 | 3 | 20.46 | 66 | 21.30 | 1625.2 | 12.4 | 90 | GF |
| 14 | 165 | 0810 | 3 | 20.50 | 66 | 21.70 | 1625.6 | 13.3 | 88 | c/cs |
| 14 | 165 | 0830 | 3 | 20.33 | 66 | 26.15 | 1630.0 | 14.0 | 90 | GF |
| 14 | 165 | 0838 | 3 | 20.33 | 66 | 28.02 | 1631.9 | 13.2 | 90 | GF |
| 14 | 165 | 0845 | 3 | 20.30 | 66 | 29.60 | 1633.4 | 13.2 | 90 | c/cs |
| 14 | 165 | 0900 | 3 | 20.36 | 66 | 32.88 | 1636.7 | 14.1 | 90 | GF |
| 14 | 165 | 0908 | 3 | 20.37 | 66 | 34.76 | 1638.6 | 13.4 | 90 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 165 | 0923 | 3 | 20.40 | 66 | 38.10 | 1642.0 | 13.3 | 90 | c/cs |
| 14 | 165 | 0930 | 3 | 20.38 | 66 | 39.66 | 1643.5 | 14.4 | 90 | GF |
| 14 | 165 | 0931 | 3 | 20.40 | 66 | 39.90 | 1643.7 | 14.5 | 96 | c/cs |
| 14 | 165 | 0938 | 3 | 20.55 | 66 | 41.58 | 1645.4 | 12.2 | 92 | GF |
| 14 | 165 | 1000 | 3 | 20.73 | 66 | 46.05 | 1649.9 | 13.0 | 94 | GF |
| 14 | 165 | 1009 | 3 | 20.90 | 66 | 48.00 | 1651.8 | 13.0 | 94 | c/cs |
| 14 | 165 | 1023 | 3 | 21.07 | 66 | 51.04 | 1654.9 | 12.3 | 95 | GF |
| 14 | 165 | 1030 | 3 | 21.20 | 66 | 52.47 | 1656.3 | 13.5 | 95 | GF |
| 14 | 165 | 1037 | 3 | 21.30 | 66 | 54.00 | 1657.9 | 13.7 | 95 | c/cs |
| 14 | 165 | 1038 | 3 | 21.36 | 66 | 54.27 | 1658.1 | 12.9 | 95 | GF |
| 14 | 165 | 1053 | 3 | 21.66 | 66 | 57.49 | 1661.4 | 13.1 | 95 | GF |
| 14 | 165 | 1108 | 3 | 21.95 | 67 | 0.76 | 1664.6 | 12.9 | 94 | GF |
| 14 | 165 | 1112 | 3 | 22.00 | 67 | 1.60 | 1665.5 | 13.0 | 95 | c/cs |
| 14 | 165 | 1123 | 3 | 22.23 | 67 | 4.00 | 1667.9 | 12.2 | 95 | GF |
| 14 | 165 | 1130 | 3 | 22.35 | 67 | 5.42 | 1669.3 | 13.2 | 94 | GF |
| 14 | 165 | 1138 | 3 | 22.48 | 67 | 7.18 | 1671.1 | 13.1 | 95 | GF |
| 14 | 165 | 1140 | 3 | 22.50 | 67 | 7.60 | 1671.5 | 12.8 | 95 | c/cs |
| 14 | 165 | 1153 | 3 | 22.78 | 67 | 10.38 | 1674.3 | 12.2 | 95 | GF |
| 14 | 165 | 1156 | 3 | 22.80 | 67 | 11.00 | 1674.9 | 12.5 | 96 | c/cs |
| 14 | 165 | 1200 | 3 | 22.93 | 67 | 11.82 | 1675.7 | 14.0 | 96 | GF |
| 14 | 165 | 1208 | 3 | 23.12 | 67 | 13.68 | 1677.6 | 13.0 | 96 | GF |
| 14 | 165 | 1213 | 3 | 23.20 | 67 | 14.80 | 1678.7 | 13.1 | 96 | c/cs |
| 14 | 165 | 1224 | 3 | 23.50 | 67 | 17.20 | 1681.1 | 12.8 | 96 | c/cs |
| 14 | 165 | 1230 | 3 | 23.62 | 67 | 18.44 | 1682.4 | 13.9 | 96 | GF |
| 14 | 165 | 1238 | 3 | 23.80 | 67 | 20.29 | 1684.2 | 13.4 | 97 | GF |
| 14 | 165 | 1244 | 3 | 24.00 | 67 | 21.60 | 1685.6 | 13.3 | 97 | c/cs |
| 14 | 165 | 1253 | 3 | 24.18 | 67 | 23.61 | 1687.6 | 12.7 | 97 | GF |
| 14 | 165 | 1300 | 3 | 24.37 | 67 | 25.08 | 1689.0 | 14.1 | 96 | GF |
| 14 | 165 | 1307 | 3 | 24.50 | 67 | 26.70 | 1690.7 | 14.2 | 95 | c/cs |
| 14 | 165 | 1308 | 3 | 24.56 | 67 | 26.96 | 1690.9 | 12.9 | 95 | GF |
| 14 | 165 | 1327 | 3 | 24.90 | 67 | 31.10 | 1695.0 | 12.8 | 95 | c/cs |
| 14 | 165 | 1330 | 3 | 24.95 | 67 | 31.69 | 1695.7 | 13.7 | 94 | GF |
| 14 | 165 | 1337 | 3 | 25.10 | 67 | 33.30 | 1697.3 | 13.7 | 96 | c/cs |
| 14 | 165 | 1338 | 3 | 25.10 | 67 | 33.51 | 1697.5 | 12.7 | 97 | GF |
| 14 | 165 | 1353 | 3 | 25.47 | 67 | 36.67 | 1700.7 | 11.8 | 96 | GF |
| 14 | 165 | 1400 | 3 | 25.62 | 67 | 38.04 | 1702.0 | 13.3 | 96 | GF |
| 14 | 165 | 1400 | 3 | 25.60 | 67 | 38.00 | 1702.0 | 13.2 | 96 | c/cs |
| 14 | 165 | 1408 | 3 | 25.80 | 67 | 39.80 | 1703.8 | 12.3 | 97 | GF |
| 14 | 165 | 1423 | 3 | 26.20 | 67 | 42.90 | 1706.9 | 12.1 | 97 | c/cs |
| 14 | 165 | 1430 | 3 | 26.36 | 67 | 44.26 | 1708.3 | 13.4 | 97 | GF |
| 14 | 165 | 1438 | 3 | 26.58 | 67 | 46.04 | 1710.1 | 12.4 | 96 | GF |
| 14 | 165 | 1440 | 3 | 26.60 | 67 | 46.50 | 1710.5 | 12.6 | 96 | c/cs |
| 14 | 165 | 1500 | 3 | 27.10 | 67 | 50.62 | 1714.7 | 13.6 | 96 | GF |
| 14 | 165 | 1508 | 3 | 27.30 | 67 | 52.42 | 1716.5 | 12.7 | 96 | GF |
| 14 | 165 | 1516 | 3 | 27.50 | 67 | 54.10 | 1718.2 | 12.5 | 96 | c/cs |
| 14 | 165 | 1529 | 3 | 27.80 | 67 | 56.80 | 1720.9 | 12.5 | 96 | c/cs |
| 14 | 165 | 1530 | 3 | 27.81 | 67 | 57.01 | 1721.1 | 13.7 | 97 | GF |
| 14 | 165 | 1538 | 3 | 28.02 | 67 | 58.83 | 1722.9 | 13.2 | 97 | GF |
| 14 | 165 | 1553 | 3 | 28.42 | 68 | 2.11 | 1726.2 | 12.5 | 97 | GF |
| 14 | 165 | 1600 | 3 | 28.59 | 68 | 3.56 | 1727.7 | 14.2 | 97 | GF |
| 14 | 165 | 1602 | 3 | 28.60 | 68 | 4.00 | 1728.2 | 14.3 | 97 | c/cs |
| 14 | 165 | 1608 | 3 | 28.81 | 68 | 5.45 | 1729.6 | 13.4 | 97 | GF |
| 14 | 165 | 1619 | 3 | 29.10 | 68 | 7.90 | 1732.0 | 13.3 | 97 | c/cs |
| 14 | 165 | 1623 | 3 | 29.21 | 68 | 8.78 | 1732.9 | 12.4 | 97 | GF |
| 14 | 165 | 1630 | 3 | 29.38 | 68 | 10.22 | 1734.4 | 14.2 | 97 | GF |
| 14 | 165 | 1638 | 3 | 29.61 | 68 | 12.10 | 1736.3 | 13.4 | 97 | GF |
| 14 | 165 | 1639 | 3 | 29.60 | 68 | 12.30 | 1736.5 | 13.5 | 97 | c/cs |
| 14 | 165 | 1653 | 3 | 30.00 | 68 | 15.46 | 1739.6 | 12.7 | 96 | GF |
| 14 | 165 | 1700 | 3 | 30.16 | 68 | 16.94 | 1741.1 | 14.3 | 97 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 165 | 1708 | 3 | 30.38 | 68 | 18.84 | 1743.0 | 13.0 | 96 | GF |
| 14 | 165 | 1713 | 3 | 30.50 | 68 | 19.90 | 1744.1 | 13.4 | 96 | c/cs |
| 14 | 165 | 1723 | 3 | 30.73 | 68 | 22.14 | 1746.3 | 12.4 | 97 | GF |
| 14 | 165 | 1725 | 3 | 30.80 | 68 | 22.60 | 1746.8 | 11.9 | 96 | c/cs |
| 14 | 165 | 1730 | 3 | 30.89 | 68 | 23.54 | 1747.8 | 13.9 | 97 | GF |
| 14 | 165 | 1733 | 3 | 31.00 | 68 | 24.20 | 1748.4 | 14.1 | 97 | c/cs |
| 14 | 165 | 1738 | 3 | 31.11 | 68 | 25.40 | 1749.6 | 12.7 | 97 | GF |
| 14 | 165 | 1800 | 3 | 31.69 | 68 | 30.02 | 1754.3 | 13.7 | 97 | GF |
| 14 | 165 | 1804 | 3 | 31.80 | 68 | 30.90 | 1755.2 | 13.6 | 96 | c/cs |
| 14 | 165 | 1808 | 3 | 31.91 | 68 | 31.83 | 1756.1 | 13.0 | 97 | GF |
| 14 | 165 | 1823 | 3 | 32.33 | 68 | 35.06 | 1759.3 | 12.1 | 98 | GF |
| 14 | 165 | 1830 | 3 | 32.52 | 68 | 36.46 | 1760.7 | 14.0 | 98 | GF |
| 14 | 165 | 1838 | 3 | 32.79 | 68 | 38.31 | 1762.6 | 13.2 | 97 | GF |
| 14 | 165 | 1841 | 3 | 32.90 | 68 | 39.00 | 1763.3 | 13.1 | 97 | c/cs |
| 14 | 165 | 1847 | 3 | 33.00 | 68 | 40.30 | 1764.6 | 13.1 | 98 | c/cs |
| 14 | 165 | 1853 | 3 | 33.22 | 68 | 41.57 | 1765.9 | 13.1 | 97 | GF |
| 14 | 165 | 1908 | 3 | 33.63 | 68 | 44.83 | 1769.2 | 12.9 | 97 | GF |
| 14 | 165 | 1919 | 3 | 33.90 | 68 | 47.20 | 1771.5 | 13.1 | 96 | c/cs |
| 14 | 165 | 1930 | 3 | 34.14 | 68 | 49.58 | 1773.9 | 14.1 | 96 | GF |
| 14 | 165 | 1938 | 3 | 34.34 | 68 | 51.45 | 1775.8 | 13.0 | 96 | GF |
| 14 | 165 | 1953 | 3 | 34.70 | 68 | 54.70 | 1779.1 | 13.0 | 96 | c/cs |
| 14 | 165 | 2000 | 3 | 34.85 | 68 | 56.20 | 1780.6 | 14.0 | 96 | GF |
| 14 | 165 | 2008 | 3 | 35.04 | 68 | 58.06 | 1782.5 | 13.1 | 96 | GF |
| 14 | 165 | 2013 | 3 | 35.20 | 68 | 59.10 | 1783.5 | 13.4 | 95 | c/cs |
| 14 | 165 | 2021 | 3 | 35.30 | 69 | 0.90 | 1785.3 | 13.0 | 95 | c/cs |
| 14 | 165 | 2023 | 3 | 35.34 | 69 | 1.37 | 1785.8 | 12.3 | 94 | GF |
| 14 | 165 | 2030 | 3 | 35.44 | 69 | 2.81 | 1787.2 | 13.8 | 97 | GF |
| 14 | 165 | 2038 | 3 | 35.65 | 69 | 4.64 | 1789.1 | 12.8 | 95 | GF |
| 14 | 165 | 2041 | 3 | 35.70 | 69 | 5.30 | 1789.7 | 12.9 | 94 | c/cs |
| 14 | 165 | 2049 | 3 | 35.80 | 69 | 7.00 | 1791.4 | 13.0 | 95 | c/cs |
| 14 | 165 | 2100 | 3 | 36.06 | 69 | 9.37 | 1793.8 | 13.7 | 94 | GF |
| 14 | 165 | 2108 | 3 | 36.19 | 69 | 11.19 | 1795.6 | 12.7 | 95 | GF |
| 14 | 165 | 2109 | 3 | 36.20 | 69 | 11.40 | 1795.8 | 12.4 | 95 | c/cs |
| 14 | 165 | 2121 | 3 | 36.40 | 69 | 13.90 | 1798.3 | 13.0 | 95 | c/cs |
| 14 | 165 | 2130 | 3 | 36.58 | 69 | 15.82 | 1800.3 | 13.3 | 94 | GF |
| 14 | 165 | 2145 | 3 | 36.82 | 69 | 19.15 | 1803.6 | 13.4 | 95 | SF |
| 14 | 165 | 2147 | 3 | 36.90 | 69 | 19.60 | 1804.0 | 13.5 | 95 | c/cs |
| 14 | 165 | 2202 | 3 | 37.10 | 69 | 23.00 | 1807.4 | 13.5 | 95 | c/cs |
| 14 | 165 | 2228 | 3 | 37.62 | 69 | 28.80 | 1813.2 | 13.3 | 94 | SF |
| 14 | 165 | 2238 | 3 | 37.80 | 69 | 31.00 | 1815.5 | 13.1 | 94 | c/cs |
| 14 | 165 | 2308 | 3 | 38.30 | 69 | 37.60 | 1822.0 | 13.1 | 94 | c/cs |
| 14 | 165 | 2326 | 3 | 38.50 | 69 | 41.50 | 1825.9 | 12.9 | 94 | c/cs |
| 14 | 165 | 2341 | 3 | 38.80 | 69 | 44.70 | 1829.2 | 13.1 | 94 | c/cs |
| 15 | 166 | 0000 | 3 | 39.10 | 69 | 48.80 | 1833.3 | 13.1 | 94 | c/cs |
| 15 | 166 | 0007 | 3 | 39.20 | 69 | 50.40 | 1834.8 | 13.1 | 95 | c/cs |
| 15 | 166 | 0012 | 3 | 39.30 | 69 | 51.50 | 1835.9 | 12.4 | 95 | c/cs |
| 15 | 166 | 0013 | 3 | 39.30 | 69 | 51.67 | 1836.1 | 12.6 | 94 | SF |
| 15 | 166 | 0030 | 3 | 39.60 | 69 | 55.20 | 1839.7 | 12.6 | 94 | c/cs |
| 15 | 166 | 0037 | 3 | 39.70 | 69 | 56.70 | 1841.2 | 12.6 | 95 | c/cs |
| 15 | 166 | 0057 | 3 | 40.10 | 70 | 0.90 | 1845.4 | 12.7 | 95 | c/cs |
| 15 | 166 | 0131 | 3 | 40.80 | 70 | 8.10 | 1852.6 | 12.8 | 95 | c/cs |
| 15 | 166 | 0221 | 3 | 41.80 | 70 | 18.70 | 1863.2 | 12.8 | 94 | c/cs |
| 15 | 166 | 0254 | 3 | 42.30 | 70 | 25.70 | 1870.2 | 12.6 | 94 | c/cs |
| 15 | 166 | 0315 | 3 | 42.70 | 70 | 30.10 | 1874.6 | 12.9 | 95 | c/cs |
| 15 | 166 | 0332 | 3 | 42.90 | 70 | 33.80 | 1878.3 | 12.8 | 93 | c/cs |
| 15 | 166 | 0352 | 3 | 43.20 | 70 | 38.10 | 1882.6 | 12.9 | 93 | c/cs |
| 15 | 166 | 0415 | 3 | 43.50 | 70 | 42.99 | 1887.5 | 13.3 | 93 | SF |
| 15 | 166 | 0423 | 3 | 43.60 | 70 | 44.80 | 1889.3 | 13.4 | 93 | c/cs |
| 15 | 166 | 0431 | 3 | 43.70 | 70 | 46.50 | 1891.1 | 13.1 | 94 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[c] |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 166 | 0443 | 3 | 43.90 | 70 | 49.20 | 1893.7 | 13.0 | 96 | c/cs |
| 15 | 166 | 0454 | 3 | 44.20 | 70 | 51.60 | 1896.1 | 13.0 | 96 | c/cs |
| 15 | 166 | 0521 | 3 | 44.80 | 70 | 57.40 | 1901.9 | 13.0 | 95 | c/cs |
| 15 | 166 | 0602 | 3 | 45.60 | 71 | 6.30 | 1910.8 | 13.2 | 96 | c/cs |
| 15 | 166 | 0603 | 3 | 45.59 | 71 | 6.49 | 1911.1 | 12.4 | 95 | SF |
| 15 | 166 | 0627 | 3 | 46.10 | 71 | 11.50 | 1916.0 | 12.2 | 95 | c/cs |
| 15 | 166 | 0716 | 3 | 47.00 | 71 | 21.40 | 1926.0 | 12.1 | 95 | c/cs |
| 15 | 166 | 0728 | 3 | 47.20 | 71 | 23.80 | 1928.5 | 11.9 | 95 | c/cs |
| 15 | 166 | 0730 | 3 | 47.22 | 71 | 24.24 | 1928.9 | 13.4 | 95 | GF |
| 15 | 166 | 0736 | 3 | 47.30 | 71 | 25.60 | 1930.2 | 13.3 | 95 | c/cs |
| 15 | 166 | 0738 | 3 | 47.37 | 71 | 26.02 | 1930.6 | 12.4 | 95 | GF |
| 15 | 166 | 0753 | 3 | 47.64 | 71 | 29.12 | 1933.7 | 11.2 | 96 | GF |
| 15 | 166 | 0800 | 3 | 47.77 | 71 | 30.42 | 1935.0 | 13.4 | 96 | GF |
| 15 | 166 | 0808 | 3 | 47.96 | 71 | 32.20 | 1936.8 | 12.0 | 95 | GF |
| 15 | 166 | 0816 | 3 | 48.10 | 71 | 33.80 | 1938.4 | 12.0 | 96 | c/cs |
| 15 | 166 | 0830 | 3 | 48.42 | 71 | 36.59 | 1941.2 | 13.6 | 97 | GF |
| 15 | 166 | 0837 | 3 | 48.60 | 71 | 38.20 | 1942.8 | 13.8 | 97 | c/cs |
| 15 | 166 | 0838 | 3 | 48.65 | 71 | 38.40 | 1943.1 | 12.4 | 97 | GF |
| 15 | 166 | 0850 | 3 | 49.00 | 71 | 40.90 | 1945.5 | 12.6 | 96 | c/cs |
| 15 | 166 | 0900 | 3 | 49.20 | 71 | 42.95 | 1947.6 | 14.0 | 97 | GF |
| 15 | 166 | 0907 | 3 | 49.40 | 71 | 44.60 | 1949.3 | 14.0 | 96 | c/cs |
| 15 | 166 | 0908 | 3 | 49.41 | 71 | 44.81 | 1949.5 | 12.2 | 95 | GF |
| 15 | 166 | 0948 | 3 | 50.10 | 71 | 52.90 | 1957.6 | 12.1 | 95 | c/cs |
| 15 | 166 | 0953 | 3 | 50.14 | 71 | 53.95 | 1958.6 | 11.3 | 96 | GF |
| 15 | 166 | 1000 | 3 | 50.27 | 71 | 55.26 | 1960.0 | 13.8 | 95 | GF |
| 15 | 166 | 1001 | 3 | 50.30 | 71 | 55.50 | 1960.2 | 13.6 | 95 | c/cs |
| 15 | 166 | 1008 | 3 | 50.44 | 71 | 57.07 | 1961.8 | 12.2 | 96 | GF |
| 15 | 166 | 1013 | 3 | 50.60 | 71 | 58.10 | 1962.8 | 12.0 | 96 | c/cs |
| 15 | 166 | 1021 | 3 | 50.70 | 71 | 59.70 | 1964.4 | 9.5 | 95 | c/cs |
| 15 | 166 | 1024 | 3 | 50.80 | 72 | 0.10 | 1964.9 | 8.5 | 95 | c/cs |
| 15 | 166 | 1026 | 3 | 50.80 | 72 | 0.40 | 1965.1 | 10.2 | 97 | c/cs |
| 15 | 166 | 1029 | 3 | 50.90 | 72 | 0.90 | 1965.7 | 11.5 | 97 | c/cs |
| 15 | 166 | 1030 | 3 | 50.88 | 72 | 1.13 | 1965.8 | 13.2 | 96 | GF |
| 15 | 166 | 1038 | 3 | 51.06 | 72 | 2.88 | 1967.6 | 11.3 | 96 | GF |
| 15 | 166 | 1039 | 3 | 51.10 | 72 | 3.10 | 1967.8 | 10.1 | 98 | c/cs |
| 15 | 166 | 1041 | 3 | 51.10 | 72 | 3.40 | 1968.1 | 11.8 | 94 | c/cs |
| 15 | 166 | 1052 | 3 | 51.30 | 72 | 5.60 | 1970.3 | 12.0 | 96 | c/cs |
| 15 | 166 | 1059 | 3 | 51.40 | 72 | 7.00 | 1971.7 | 11.6 | 95 | c/cs |
| 15 | 166 | 1100 | 3 | 51.45 | 72 | 7.15 | 1971.9 | 13.0 | 96 | GF |
| 15 | 166 | 1106 | 3 | 51.60 | 72 | 8.40 | 1973.2 | 13.7 | 97 | c/cs |
| 15 | 166 | 1108 | 3 | 51.64 | 72 | 8.90 | 1973.6 | 12.4 | 96 | GF |
| 15 | 166 | 1123 | 3 | 51.96 | 72 | 11.98 | 1976.7 | 11.3 | 96 | GF |
| 15 | 166 | 1130 | 3 | 52.09 | 72 | 13.29 | 1978.0 | 13.5 | 96 | GF |
| 15 | 166 | 1138 | 3 | 52.28 | 72 | 15.08 | 1979.8 | 12.5 | 97 | GF |
| 15 | 166 | 1142 | 3 | 52.40 | 72 | 15.90 | 1980.7 | 12.3 | 97 | c/cs |
| 15 | 166 | 1153 | 3 | 52.64 | 72 | 18.15 | 1982.9 | 11.2 | 97 | GF |
| 15 | 166 | 1200 | 3 | 52.79 | 72 | 19.45 | 1984.2 | 13.3 | 97 | GF |
| 15 | 166 | 1208 | 3 | 53.02 | 72 | 21.21 | 1986.0 | 12.1 | 97 | GF |
| 15 | 166 | 1210 | 3 | 53.10 | 72 | 21.60 | 1986.4 | 11.9 | 97 | c/cs |
| 15 | 166 | 1228 | 3 | 53.50 | 72 | 25.20 | 1990.0 | 12.0 | 97 | c/cs |
| 15 | 166 | 1230 | 3 | 53.55 | 72 | 25.56 | 1990.4 | 13.6 | 97 | GF |
| 15 | 166 | 1238 | 3 | 53.78 | 72 | 27.36 | 1992.2 | 12.3 | 97 | GF |
| 15 | 166 | 1243 | 3 | 53.90 | 72 | 28.40 | 1993.2 | 12.3 | 97 | c/cs |
| 15 | 166 | 1251 | 3 | 54.10 | 72 | 30.00 | 1994.8 | 12.3 | 96 | c/cs |
| 15 | 166 | 1253 | 3 | 54.15 | 72 | 30.42 | 1995.3 | 11.0 | 96 | GF |
| 15 | 166 | 1300 | 3 | 54.29 | 72 | 31.70 | 1996.5 | 13.3 | 96 | GF |
| 15 | 166 | 1308 | 3 | 54.49 | 72 | 33.47 | 1998.3 | 12.1 | 95 | GF |
| 15 | 166 | 1311 | 3 | 54.50 | 72 | 34.10 | 1998.9 | 11.8 | 95 | c/cs |
| 15 | 166 | 1328 | 3 | 54.90 | 72 | 37.40 | 2002.3 | 12.1 | 94 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 166 | 1330 | 3 | 54.89 | 72 | 37.80 | 2002.7 | 13.8 | 95 | GF |
| 15 | 166 | 1338 | 3 | 55.06 | 72 | 39.63 | 2004.5 | 12.1 | 95 | GF |
| 15 | 166 | 1344 | 3 | 55.20 | 72 | 40.80 | 2005.7 | 11.8 | 97 | c/cs |
| 15 | 166 | 1354 | 3 | 55.40 | 72 | 42.80 | 2007.7 | 12.1 | 96 | c/cs |
| 15 | 166 | 1400 | 3 | 55.52 | 72 | 44.00 | 2008.9 | 13.6 | 96 | GF |
| 15 | 166 | 1402 | 3 | 55.60 | 72 | 44.50 | 2009.3 | 13.6 | 97 | c/cs |
| 15 | 166 | 1408 | 3 | 55.73 | 72 | 45.80 | 2010.7 | 11.9 | 97 | GF |
| 15 | 166 | 1414 | 3 | 55.90 | 72 | 47.00 | 2011.9 | 11.7 | 97 | c/cs |
| 15 | 166 | 1430 | 3 | 56.25 | 72 | 50.10 | 2015.0 | 13.3 | 97 | GF |
| 15 | 166 | 1438 | 3 | 56.46 | 72 | 51.87 | 2016.8 | 12.1 | 96 | GF |
| 15 | 166 | 1447 | 3 | 56.70 | 72 | 53.70 | 2018.6 | 12.1 | 96 | c/cs |
| 15 | 166 | 1453 | 3 | 56.80 | 72 | 54.88 | 2019.8 | 12.2 | 97 | GF |
| 15 | 166 | 1508 | 3 | 57.18 | 72 | 57.91 | 2022.9 | 12.5 | 97 | GF |
| 15 | 166 | 1508 | 3 | 57.20 | 72 | 57.90 | 2022.9 | 13.0 | 97 | c/cs |
| 15 | 166 | 1511 | 3 | 57.30 | 72 | 58.60 | 2023.5 | 12.1 | 97 | c/cs |
| 15 | 166 | 1516 | 3 | 57.40 | 72 | 59.60 | 2024.5 | 11.9 | 97 | c/cs |
| 15 | 166 | 1523 | 3 | 57.55 | 73 | 0.94 | 2025.9 | 10.7 | 96 | GF |
| 15 | 166 | 1523 | 3 | 57.60 | 73 | 0.90 | 2025.9 | 10.9 | 96 | c/cs |
| 15 | 166 | 1530 | 3 | 57.69 | 73 | 2.21 | 2027.2 | 13.2 | 97 | GF |
| 15 | 166 | 1538 | 3 | 57.89 | 73 | 3.96 | 2028.9 | 11.6 | 96 | GF |
| 15 | 166 | 1543 | 3 | 58.00 | 73 | 4.90 | 2029.9 | 12.0 | 96 | c/cs |
| 15 | 166 | 1600 | 3 | 58.38 | 73 | 8.31 | 2033.3 | 13.4 | 97 | GF |
| 15 | 166 | 1601 | 3 | 58.40 | 73 | 8.50 | 2033.5 | 13.7 | 98 | c/cs |
| 15 | 166 | 1607 | 3 | 58.60 | 73 | 9.90 | 2034.9 | 13.3 | 99 | c/cs |
| 15 | 166 | 1608 | 3 | 58.62 | 73 | 10.11 | 2035.1 | 12.3 | 99 | GF |
| 15 | 166 | 1622 | 3 | 59.10 | 73 | 12.90 | 2038.0 | 12.0 | 99 | c/cs |
| 15 | 166 | 1623 | 3 | 59.09 | 73 | 13.14 | 2038.2 | 10.5 | 99 | GF |
| 15 | 166 | 1629 | 3 | 59.30 | 73 | 14.20 | 2039.2 | 11.0 | 100 | c/cs |
| 15 | 166 | 1630 | 3 | 59.29 | 73 | 14.36 | 2039.4 | 13.9 | 100 | GF |
| 15 | 166 | 1632 | 3 | 59.40 | 73 | 14.80 | 2039.9 | 13.6 | 101 | c/cs |
| 15 | 166 | 1637 | 3 | 59.60 | 73 | 15.90 | 2041.0 | 13.8 | 100 | c/cs |
| 15 | 166 | 1638 | 3 | 59.63 | 73 | 16.16 | 2041.2 | 12.1 | 101 | GF |
| 15 | 166 | 1645 | 3 | 59.90 | 73 | 17.60 | 2042.6 | 11.9 | 101 | c/cs |
| 15 | 166 | 1650 | 4 | 0.10 | 73 | 18.50 | 2043.6 | 7.4 | 156 | c/cs |
| 15 | 166 | 1653 | 4 | 0.44 | 73 | 18.68 | 2044.0 | 7.1 | 151 | GF |
| 15 | 166 | 1653 | 4 | 0.40 | 73 | 18.70 | 2044.0 | 5.1 | 147 | c/cs |
| 15 | 166 | 1658 | 4 | 0.80 | 73 | 18.90 | 2044.4 | 4.9 | 156 | c/cs |
| 15 | 166 | 1700 | 4 | 0.95 | 73 | 18.98 | 2044.6 | 6.4 | 156 | GF |
| 15 | 166 | 1708 | 4 | 1.73 | 73 | 19.33 | 2045.5 | 5.9 | 157 | GF |
| 15 | 166 | 1712 | 4 | 2.10 | 73 | 19.50 | 2045.8 | 6.4 | 158 | c/cs |
| 15 | 166 | 1723 | 4 | 3.17 | 73 | 19.93 | 2047.0 | 5.3 | 156 | GF |
| 15 | 166 | 1730 | 4 | 3.74 | 73 | 20.18 | 2047.6 | 7.0 | 157 | GF |
| 15 | 166 | 1738 | 4 | 4.60 | 73 | 20.55 | 2048.6 | 5.9 | 159 | GF |
| 15 | 166 | 1738 | 4 | 4.60 | 73 | 20.50 | 2048.6 | 5.9 | 156 | c/cs |
| 15 | 166 | 1754 | 4 | 6.04 | 73 | 21.18 | 2050.1 | 6.3 | 156 | GF |
| 15 | 166 | 1800 | 4 | 6.62 | 73 | 21.44 | 2050.8 | 6.3 | 156 | GF |
| 15 | 166 | 1801 | 4 | 6.70 | 73 | 21.50 | 2050.9 | 6.1 | 155 | c/cs |
| 15 | 166 | 1815 | 4 | 8.00 | 73 | 22.07 | 2052.3 | 6.0 | 155 | GF |
| 15 | 166 | 1815 | 4 | 8.00 | 73 | 22.10 | 2052.3 | 6.1 | 155 | c/cs |
| 15 | 166 | 1830 | 4 | 9.38 | 73 | 22.71 | 2053.8 | 6.1 | 157 | GF |
| 15 | 166 | 1835 | 4 | 9.80 | 73 | 22.90 | 2054.3 | 6.3 | 156 | c/cs |
| 15 | 166 | 1845 | 4 | 10.80 | 73 | 23.34 | 2055.4 | 6.3 | 155 | GF |
| 15 | 166 | 1858 | 4 | 12.00 | 73 | 23.90 | 2056.7 | 6.4 | 154 | c/cs |
| 15 | 166 | 1900 | 4 | 12.24 | 73 | 24.01 | 2057.0 | 6.3 | 154 | GF |
| 15 | 166 | 1915 | 4 | 13.66 | 73 | 24.69 | 2058.5 | 6.2 | 154 | GF |
| 15 | 166 | 1928 | 4 | 14.90 | 73 | 25.30 | 2059.9 | 6.0 | 160 | c/cs |
| 15 | 166 | 1930 | 4 | 15.06 | 73 | 25.34 | 2060.1 | 7.1 | 162 | GF |
| 15 | 166 | 1931 | 4 | 15.20 | 73 | 25.40 | 2060.2 | 5.5 | 209 | c/cs |
| 15 | 166 | 1932 | 4 | 15.30 | 73 | 25.30 | 2060.3 | 5.3 | 244 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 166 | 1933 | 4 | 15.30 | 73 | 25.30 | 2060.4 | 5.1 | 277 | c/cs |
| 15 | 166 | 1934 | 4 | 15.30 | 73 | 25.20 | 2060.5 | 5.7 | 306 | c/cs |
| 15 | 166 | 1935 | 4 | 15.20 | 73 | 25.10 | 2060.6 | 6.1 | 343 | c/cs |
| 15 | 166 | 1937 | 4 | 15.00 | 73 | 25.00 | 2060.8 | 7.2 | 346 | c/cs |
| 15 | 166 | 1939 | 4 | 14.80 | 73 | 24.97 | 2061.0 | 7.0 | 343 | GF |
| 15 | 166 | 1945 | 4 | 14.13 | 73 | 24.77 | 2061.7 | 5.6 | 358 | GF |
| 15 | 166 | 1946 | 4 | 14.00 | 73 | 24.80 | 2061.8 | 4.2 | 360 | c/cs |
| 15 | 166 | 1953 | 4 | 13.60 | 73 | 24.80 | 2062.3 | 3.5 | 348 | c/cs |
| 15 | 166 | 1957 | 4 | 13.30 | 73 | 24.70 | 2062.5 | 3.3 | 329 | c/cs |
| 15 | 166 | 2000 | 4 | 13.18 | 73 | 24.63 | 2062.7 | 6.0 | 320 | 712 |
| 15 | 166 | 2000 | 4 | 13.20 | 73 | 24.60 | 2062.7 | 0 | 90 | c/cs |
| 16 | 167 | 1615 | 4 | 13.18 | 73 | 24.63 | 2062.7 | 1.6 | 320 | 712 |
| 16 | 167 | 1635 | 4 | 12.76 | 73 | 24.28 | 2063.2 | 0.9 | 334 | GF |
| 16 | 167 | 1645 | 4 | 12.62 | 73 | 24.21 | 2063.4 | 1.0 | 330 | GF |
| 16 | 167 | 1650 | 4 | 12.55 | 73 | 24.17 | 2063.5 | 1.0 | 336 | GF |
| 16 | 167 | 1715 | 4 | 12.17 | 73 | 24.00 | 2063.9 | 1.0 | 330 | GF |
| 16 | 167 | 1720 | 4 | 12.10 | 73 | 23.96 | 2064.0 | 1.0 | 335 | GF |
| 16 | 167 | 1745 | 4 | 11.74 | 73 | 23.79 | 2064.4 | 4.6 | 350 | GF |
| 16 | 167 | 1800 | 4 | 10.60 | 73 | 23.59 | 2065.5 | 0 | 336 | 713 |
| 20 | 171 | 0842 | 4 | 10.30 | 73 | 23.50 | 2065.8 | 1.0 | 156 | c/cs |
| 20 | 171 | 0900 | 4 | 10.60 | 73 | 23.59 | 2066.1 | 0.8 | 303 | 713 |
| 20 | 171 | 0903 | 4 | 10.60 | 73 | 23.60 | 2066.1 | 1.2 | 329 | c/cs |
| 20 | 171 | 0908 | 4 | 10.50 | 73 | 23.50 | 2066.2 | 3.9 | 8 | c/cs |
| 20 | 171 | 0910 | 4 | 10.40 | 73 | 23.50 | 2066.4 | 6.3 | 359 | c/cs |
| 20 | 171 | 0912 | 4 | 10.20 | 73 | 23.50 | 2066.6 | 9.0 | 3 | c/cs |
| 20 | 171 | 0913 | 4 | 10.00 | 73 | 23.50 | 2066.7 | 11.8 | 6 | c/cs |
| 20 | 171 | 0915 | 4 | 9.60 | 73 | 23.60 | 2067.1 | 13.8 | 6 | c/cs |
| 20 | 171 | 0923 | 4 | 7.80 | 73 | 23.80 | 2069.0 | 14.3 | 6 | c/cs |
| 20 | 171 | 0925 | 4 | 7.30 | 73 | 23.80 | 2069.4 | 12.0 | 304 | c/cs |
| 20 | 171 | 0928 | 4 | 7.00 | 73 | 23.30 | 2070.0 | 14.5 | 303 | c/cs |
| 20 | 171 | 0931 | 4 | 6.60 | 73 | 22.70 | 2070.8 | 11.3 | 15 | c/cs |
| 20 | 171 | 0933 | 4 | 6.20 | 73 | 22.80 | 2071.1 | 13.1 | 11 | c/cs |
| 20 | 171 | 0940 | 4 | 4.70 | 73 | 23.10 | 2072.7 | 13.7 | 9 | c/cs |
| 20 | 171 | 0958 | 4 | 0.60 | 73 | 23.80 | 2076.8 | 13.9 | 10 | c/cs |
| 20 | 171 | 1021 | 3 | 55.40 | 73 | 24.70 | 2082.1 | 13.8 | 9 | c/cs |
| 20 | 171 | 1030 | 3 | 53.35 | 73 | 25.07 | 2084.2 | 12.3 | 14 | GF |
| 20 | 171 | 1034 | 3 | 52.60 | 73 | 25.30 | 2085.0 | 12.5 | 16 | c/cs |
| 20 | 171 | 1038 | 3 | 51.75 | 73 | 25.50 | 2085.9 | 11.6 | 14 | GF |
| 20 | 171 | 1047 | 3 | 50.10 | 73 | 25.90 | 2087.6 | 11.7 | 14 | c/cs |
| 20 | 171 | 1100 | 3 | 47.61 | 73 | 26.56 | 2090.1 | 12.4 | 15 | GF |
| 20 | 171 | 1106 | 3 | 46.40 | 73 | 26.90 | 2091.4 | 12.4 | 15 | c/cs |
| 20 | 171 | 1108 | 3 | 46.01 | 73 | 26.98 | 2091.8 | 11.8 | 15 | GF |
| 20 | 171 | 1115 | 3 | 44.70 | 73 | 27.30 | 2093.2 | 11.9 | 15 | c/cs |
| 20 | 171 | 1122 | 3 | 43.30 | 73 | 27.70 | 2094.5 | 12.2 | 13 | c/cs |
| 20 | 171 | 1125 | 3 | 42.80 | 73 | 27.80 | 2095.1 | 11.9 | 14 | c/cs |
| 20 | 171 | 1130 | 3 | 41.79 | 73 | 28.07 | 2096.1 | 12.5 | 13 | GF |
| 20 | 171 | 1135 | 3 | 40.80 | 73 | 28.30 | 2097.2 | 12.3 | 7 | c/cs |
| 20 | 171 | 1138 | 3 | 40.16 | 73 | 28.38 | 2097.8 | 11.8 | 8 | GF |
| 20 | 171 | 1145 | 3 | 38.80 | 73 | 28.60 | 2099.2 | 12.2 | 8 | c/cs |
| 20 | 171 | 1158 | 3 | 36.20 | 73 | 28.90 | 2101.8 | 12.2 | 7 | c/cs |
| 20 | 171 | 1200 | 3 | 35.79 | 73 | 29.00 | 2102.2 | 12.7 | 8 | GF |
| 20 | 171 | 1208 | 3 | 34.11 | 73 | 29.24 | 2103.9 | 12.2 | 8 | GF |
| 20 | 171 | 1213 | 3 | 33.10 | 73 | 29.40 | 2104.9 | 12.1 | 9 | c/cs |
| 20 | 171 | 1223 | 3 | 31.11 | 73 | 29.69 | 2106.9 | 11.5 | 9 | GF |
| 20 | 171 | 1226 | 3 | 30.50 | 73 | 29.80 | 2107.5 | 11.5 | 8 | c/cs |
| 20 | 171 | 1230 | 3 | 29.78 | 73 | 29.89 | 2108.3 | 12.6 | 9 | GF |
| 20 | 171 | 1235 | 3 | 28.70 | 73 | 30.10 | 2109.3 | 12.9 | 8 | c/cs |
| 20 | 171 | 1238 | 3 | 28.11 | 73 | 30.15 | 2110.0 | 12.5 | 7 | GF |
| 20 | 171 | 1238 | 3 | 28.10 | 73 | 30.20 | 2110.0 | 11.7 | 9 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 171 | 1243 | 3 | 27.10 | 73 | 30.30 | 2111.0 | 12.2 | 9 | c/cs |
| 20 | 171 | 1300 | 3 | 23.74 | 73 | 30.81 | 2114.4 | 12.5 | 9 | GF |
| 20 | 171 | 1301 | 3 | 23.50 | 73 | 30.80 | 2114.6 | 12.8 | 8 | c/cs |
| 20 | 171 | 1308 | 3 | 22.05 | 73 | 31.05 | 2116.1 | 12.3 | 7 | GF |
| 20 | 171 | 1308 | 3 | 22.10 | 73 | 31.10 | 2116.1 | 12.2 | 8 | c/cs |
| 20 | 171 | 1316 | 3 | 20.40 | 73 | 31.30 | 2117.7 | 11.6 | 8 | c/cs |
| 20 | 171 | 1327 | 3 | 18.30 | 73 | 31.60 | 2119.9 | 12.0 | 9 | c/cs |
| 20 | 171 | 1330 | 3 | 17.75 | 73 | 31.66 | 2120.5 | 12.9 | 8 | GF |
| 20 | 171 | 1338 | 3 | 16.05 | 73 | 31.89 | 2122.2 | 12.0 | 8 | GF |
| 20 | 171 | 1349 | 3 | 13.90 | 73 | 32.20 | 2124.4 | 12.1 | 8 | c/cs |
| 20 | 171 | 1400 | 3 | 11.68 | 73 | 32.51 | 2126.6 | 12.9 | 8 | GF |
| 20 | 171 | 1408 | 3 | 9.98 | 73 | 32.74 | 2128.3 | 12.2 | 8 | GF |
| 20 | 171 | 1410 | 3 | 9.60 | 73 | 32.80 | 2128.7 | 12.0 | 8 | c/cs |
| 20 | 171 | 1429 | 3 | 5.80 | 73 | 33.30 | 2132.5 | 12.3 | 8 | c/cs |
| 20 | 171 | 1430 | 3 | 5.62 | 73 | 33.34 | 2132.7 | 12.8 | 8 | GF |
| 20 | 171 | 1438 | 3 | 3.93 | 73 | 33.57 | 2134.4 | 12.1 | 8 | GF |
| 20 | 171 | 1443 | 3 | 2.90 | 73 | 33.70 | 2135.4 | 11.8 | 8 | c/cs |
| 20 | 171 | 1458 | 3 | 0.00 | 73 | 34.10 | 2138.4 | 11.5 | 7 | c/cs |
| 20 | 171 | 1500 | 2 | 59.63 | 73 | 34.14 | 2138.7 | 12.3 | 7 | GF |
| 20 | 171 | 1506 | 2 | 58.40 | 73 | 34.30 | 2140.0 | 12.6 | 7 | c/cs |
| 20 | 171 | 1508 | 2 | 57.99 | 73 | 34.34 | 2140.4 | 12.0 | 7 | GF |
| 20 | 171 | 1515 | 2 | 56.60 | 73 | 34.50 | 2141.8 | 12.0 | 7 | c/cs |
| 20 | 171 | 1523 | 2 | 55.02 | 73 | 34.70 | 2143.4 | 11.4 | 7 | GF |
| 20 | 171 | 1530 | 2 | 53.70 | 73 | 34.87 | 2144.7 | 12.6 | 7 | GF |
| 20 | 171 | 1531 | 2 | 53.50 | 73 | 34.90 | 2144.9 | 13.0 | 7 | c/cs |
| 20 | 171 | 1538 | 2 | 51.99 | 73 | 35.07 | 2146.4 | 12.3 | 7 | GF |
| 20 | 171 | 1541 | 2 | 51.40 | 73 | 35.10 | 2147.0 | 12.2 | 7 | c/cs |
| 20 | 171 | 1600 | 2 | 47.55 | 73 | 35.60 | 2150.9 | 13.0 | 8 | GF |
| 20 | 171 | 1606 | 2 | 46.30 | 73 | 35.80 | 2152.2 | 13.1 | 7 | c/cs |
| 20 | 171 | 1608 | 2 | 45.83 | 73 | 35.84 | 2152.6 | 12.5 | 8 | GF |
| 20 | 171 | 1614 | 2 | 44.60 | 73 | 36.00 | 2153.9 | 12.2 | 9 | c/cs |
| 20 | 171 | 1623 | 2 | 42.78 | 73 | 36.30 | 2155.7 | 11.4 | 9 | GF |
| 20 | 171 | 1624 | 2 | 42.60 | 73 | 36.30 | 2155.9 | 11.9 | 9 | c/cs |
| 20 | 171 | 1630 | 2 | 41.42 | 73 | 36.52 | 2157.1 | 13.2 | 10 | GF |
| 20 | 171 | 1638 | 2 | 39.69 | 73 | 36.81 | 2158.9 | 12.3 | 10 | GF |
| 20 | 171 | 1653 | 2 | 36.65 | 73 | 37.32 | 2161.9 | 12.4 | 9 | GF |
| 20 | 171 | 1708 | 2 | 33.59 | 73 | 37.83 | 2165.0 | 12.5 | 10 | GF |
| 20 | 171 | 1714 | 2 | 32.40 | 73 | 38.00 | 2166.3 | 12.6 | 9 | c/cs |
| 20 | 171 | 1720 | 2 | 31.10 | 73 | 38.20 | 2167.6 | 12.1 | 11 | c/cs |
| 20 | 171 | 1725 | 2 | 30.10 | 73 | 38.40 | 2168.6 | 12.5 | 10 | c/cs |
| 20 | 171 | 1730 | 2 | 29.10 | 73 | 38.62 | 2169.6 | 13.4 | 9 | GF |
| 20 | 171 | 1738 | 2 | 27.34 | 73 | 38.89 | 2171.4 | 12.6 | 9 | GF |
| 20 | 171 | 1738 | 2 | 27.30 | 73 | 38.90 | 2171.4 | 12.3 | 9 | c/cs |
| 20 | 171 | 1745 | 2 | 25.90 | 73 | 39.10 | 2172.8 | 12.5 | 9 | c/cs |
| 20 | 171 | 1756 | 2 | 23.70 | 73 | 39.50 | 2175.1 | 12.4 | 9 | c/cs |
| 20 | 171 | 1800 | 2 | 22.84 | 73 | 39.59 | 2175.9 | 13.3 | 9 | GF |
| 20 | 171 | 1808 | 2 | 21.09 | 73 | 39.87 | 2177.7 | 12.4 | 10 | GF |
| 20 | 171 | 1823 | 2 | 18.00 | 73 | 40.40 | 2180.8 | 12.8 | 10 | c/cs |
| 20 | 171 | 1830 | 2 | 16.56 | 73 | 40.63 | 2182.3 | 14.1 | 10 | GF |
| 20 | 171 | 1831 | 2 | 16.30 | 73 | 40.70 | 2182.5 | 13.6 | 10 | c/cs |
| 20 | 171 | 1838 | 2 | 14.77 | 73 | 40.94 | 2184.1 | 12.4 | 9 | GF |
| 20 | 171 | 1839 | 2 | 14.60 | 73 | 41.00 | 2184.3 | 12.5 | 9 | c/cs |
| 20 | 171 | 1851 | 2 | 12.10 | 73 | 41.40 | 2186.8 | 12.8 | 9 | c/cs |
| 20 | 171 | 1900 | 2 | 10.21 | 73 | 41.67 | 2188.7 | 13.7 | 10 | GF |
| 20 | 171 | 1904 | 2 | 9.30 | 73 | 41.80 | 2189.7 | 13.4 | 9 | c/cs |
| 20 | 171 | 1908 | 2 | 8.43 | 73 | 41.96 | 2190.5 | 12.4 | 9 | GF |
| 20 | 171 | 1911 | 2 | 7.80 | 73 | 42.10 | 2191.2 | 12.7 | 10 | c/cs |
| 20 | 171 | 1922 | 2 | 5.50 | 73 | 42.50 | 2193.5 | 12.6 | 9 | c/cs |
| 20 | 171 | 1930 | 2 | 3.86 | 73 | 42.72 | 2195.2 | 13.8 | 9 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 171 | 1937 | 2 | 2.30 | 73 | 43.00 | 2196.8 | 13.8 | 8 | c/cs |
| 20 | 171 | 1938 | 2 | 2.04 | 73 | 42.99 | 2197.0 | 13.0 | 8 | GF |
| 20 | 171 | 1953 | 1 | 58.82 | 73 | 43.46 | 2200.3 | 12.0 | 8 | GF |
| 20 | 171 | 1954 | 1 | 58.60 | 73 | 43.50 | 2200.5 | 12.0 | 8 | c/cs |
| 20 | 171 | 2000 | 1 | 57.43 | 73 | 43.66 | 2201.7 | 14.0 | 9 | GF |
| 20 | 171 | 2007 | 1 | 55.80 | 73 | 43.90 | 2203.3 | 14.2 | 10 | c/cs |
| 20 | 171 | 2008 | 1 | 55.58 | 73 | 43.96 | 2203.5 | 12.7 | 8 | GF |
| 20 | 171 | 2013 | 1 | 54.50 | 73 | 44.10 | 2204.6 | 11.9 | 7 | c/cs |
| 20 | 171 | 2018 | 1 | 53.60 | 73 | 44.20 | 2205.6 | 12.3 | 7 | c/cs |
| 20 | 171 | 2030 | 1 | 51.11 | 73 | 44.54 | 2208.1 | 13.7 | 9 | GF |
| 20 | 171 | 2035 | 1 | 50.00 | 73 | 44.70 | 2209.2 | 13.7 | 9 | c/cs |
| 20 | 171 | 2038 | 1 | 49.31 | 73 | 44.82 | 2209.9 | 12.5 | 8 | GF |
| 20 | 171 | 2051 | 1 | 46.60 | 73 | 45.20 | 2212.6 | 12.3 | 8 | c/cs |
| 20 | 171 | 2100 | 1 | 44.80 | 73 | 45.48 | 2214.4 | 12.8 | 8 | GF |
| 20 | 171 | 2111 | 1 | 42.50 | 73 | 45.80 | 2216.8 | 12.7 | 8 | c/cs |
| 20 | 171 | 2125 | 1 | 39.53 | 73 | 46.20 | 2219.8 | 12.0 | 7 | GF |
| 20 | 171 | 2126 | 1 | 39.30 | 73 | 46.20 | 2220.0 | 12.3 | 7 | c/cs |
| 20 | 171 | 2130 | 1 | 38.52 | 73 | 46.33 | 2220.8 | 14.3 | 7 | GF |
| 20 | 171 | 2134 | 1 | 37.60 | 73 | 46.40 | 2221.7 | 14.0 | 7 | c/cs |
| 20 | 171 | 2138 | 1 | 36.65 | 73 | 46.55 | 2222.7 | 13.0 | 7 | DR |
| 20 | 171 | 2146 | 1 | 34.90 | 73 | 46.80 | 2224.4 | 13.3 | 7 | c/cs |
| 20 | 171 | 2202 | 1 | 31.40 | 73 | 47.20 | 2227.9 | 13.1 | 7 | c/cs |
| 20 | 171 | 2208 | 1 | 30.13 | 73 | 47.40 | 2229.2 | 13.0 | 8 | DR |
| 20 | 171 | 2220 | 1 | 27.50 | 73 | 47.70 | 2231.8 | 13.2 | 8 | c/cs |
| 20 | 171 | 2227 | 1 | 26.00 | 73 | 47.90 | 2233.4 | 13.0 | 8 | c/cs |
| 20 | 171 | 2238 | 1 | 23.65 | 73 | 48.26 | 2235.8 | 12.9 | 7 | DR |
| 20 | 171 | 2240 | 1 | 23.20 | 73 | 48.30 | 2236.2 | 12.6 | 7 | c/cs |
| 20 | 171 | 2300 | 1 | 19.07 | 73 | 48.86 | 2240.4 | 12.7 | 8 | DR |
| 20 | 171 | 2313 | 1 | 16.30 | 73 | 49.20 | 2243.1 | 12.6 | 8 | c/cs |
| 20 | 171 | 2330 | 1 | 12.79 | 73 | 49.69 | 2246.7 | 12.9 | 7 | DR |
| 20 | 171 | 2331 | 1 | 12.60 | 73 | 49.70 | 2246.9 | 12.3 | 7 | c/cs |
| 20 | 171 | 2353 | 1 | 8.09 | 73 | 50.29 | 2251.5 | 10.8 | 13 | DR |
| 21 | 172 | 0000 | 1 | 6.90 | 73 | 50.60 | 2252.7 | 10.8 | 13 | c/cs |
| 21 | 172 | 0004 | 1 | 6.20 | 73 | 50.70 | 2253.4 | 11.1 | 13 | c/cs |
| 21 | 172 | 0019 | 1 | 3.50 | 73 | 51.30 | 2256.2 | 11.3 | 13 | c/cs |
| 21 | 172 | 0031 | 1 | 1.30 | 73 | 51.80 | 2258.5 | 11.1 | 13 | c/cs |
| 21 | 172 | 0100 | 0 | 56.00 | 73 | 53.00 | 2263.8 | 10.4 | 13 | c/cs |
| 21 | 172 | 0114 | 0 | 53.70 | 73 | 53.60 | 2266.2 | 10.2 | 13 | c/cs |
| 21 | 172 | 0133 | 0 | 50.50 | 73 | 54.30 | 2269.5 | 9.8 | 14 | c/cs |
| 21 | 172 | 0148 | 0 | 48.20 | 73 | 54.90 | 2271.9 | 9.6 | 9 | c/cs |
| 21 | 172 | 0200 | 0 | 46.30 | 73 | 55.20 | 2273.8 | 9.2 | 9 | c/cs |
| 21 | 172 | 0213 | 0 | 44.30 | 73 | 55.50 | 2275.8 | 9.4 | 9 | c/cs |
| 21 | 172 | 0231 | 0 | 41.50 | 73 | 56.00 | 2278.7 | 9.9 | 9 | c/cs |
| 21 | 172 | 0253 | 0 | 37.90 | 73 | 56.60 | 2282.3 | 9.1 | 9 | c/cs |
| 21 | 172 | 0304 | 0 | 36.30 | 73 | 56.80 | 2284.0 | 9.8 | 9 | c/cs |
| 21 | 172 | 0317 | 0 | 34.20 | 73 | 57.20 | 2286.1 | 9.3 | 9 | c/cs |
| 21 | 172 | 0327 | 0 | 32.70 | 73 | 57.40 | 2287.6 | 9.1 | 9 | c/cs |
| 21 | 172 | 0339 | 0 | 30.90 | 73 | 57.70 | 2289.4 | 9.0 | 10 | c/cs |
| 21 | 172 | 0352 | 0 | 28.90 | 73 | 58.00 | 2291.4 | 9.4 | 9 | c/cs |
| 21 | 172 | 0404 | 0 | 27.10 | 73 | 58.30 | 2293.3 | 9.8 | 9 | c/cs |
| 21 | 172 | 0405 | 0 | 26.90 | 73 | 58.40 | 2293.4 | 8.5 | 351 | c/cs |
| 21 | 172 | 0414 | 0 | 25.70 | 73 | 58.20 | 2294.7 | 9.2 | 352 | c/cs |
| 21 | 172 | 0423 | 0 | 24.30 | 73 | 58.00 | 2296.1 | 8.8 | 351 | c/cs |
| 21 | 172 | 0442 | 0 | 21.50 | 73 | 57.50 | 2298.9 | 9.0 | 352 | c/cs |
| 21 | 172 | 0458 | 0 | 19.20 | 73 | 57.20 | 2301.3 | 9.1 | 352 | c/cs |
| 21 | 172 | 0508 | 0 | 17.70 | 73 | 57.00 | 2302.8 | 9.3 | 353 | c/cs |
| 21 | 172 | 0520 | 0 | 15.80 | 73 | 56.70 | 2304.7 | 9.5 | 354 | c/cs |
| 21 | 172 | 0528 | 0 | 14.50 | 73 | 56.60 | 2305.9 | 9.6 | 353 | c/cs |
| 21 | 172 | 0541 | 0 | 12.50 | 73 | 56.30 | 2308.0 | 9.5 | 353 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 172 | 0557 | 0 | 10.00 | 73 | 56.00 | 2310.6 | 9.1 | 353 | c/cs |
| 21 | 172 | 0616 | 0 | -7.10 | 73 | 55.70 | 2313.4 | 9.5 | 355 | c/cs |
| 21 | 172 | 0621 | 0 | -6.30 | 73 | 55.60 | 2314.2 | 10.2 | 2 | c/cs |
| 21 | 172 | 0642 | 0 | -2.70 | 73 | 55.70 | 2317.8 | 10.4 | 2 | c/cs |
| 21 | 172 | 0707 | 0 | 1.60 | 73 | 55.90 | 2322.1 | 10.4 | 3 | c/cs |
| 21 | 172 | 0715 | 0 | 3.00 | 73 | 55.90 | 2323.5 | 10.3 | 2 | c/cs |
| 21 | 172 | 0728 | 0 | 5.20 | 73 | 56.00 | 2325.8 | 10.6 | 3 | c/cs |
| 21 | 172 | 0755 | 0 | 10.00 | 73 | 56.30 | 2330.5 | 10.9 | 3 | c/cs |
| 21 | 172 | 0819 | 0 | 14.40 | 73 | 56.50 | 2334.9 | 11.0 | 3 | c/cs |
| 21 | 172 | 0839 | 0 | 18.00 | 73 | 56.60 | 2338.6 | 10.6 | 2 | c/cs |
| 21 | 172 | 0851 | 0 | 20.10 | 73 | 56.70 | 2340.7 | 9.9 | 3 | c/cs |
| 21 | 172 | 0857 | 0 | 21.10 | 73 | 56.80 | 2341.7 | 10.6 | 2 | c/cs |
| 21 | 172 | 0904 | 0 | 22.36 | 73 | 56.79 | 2342.9 | 10.6 | 4 | SF |
| 21 | 172 | 0909 | 0 | 23.20 | 73 | 56.90 | 2343.8 | 10.3 | 5 | c/cs |
| 21 | 172 | 0927 | 0 | 26.30 | 73 | 57.10 | 2346.9 | 10.0 | 5 | c/cs |
| 21 | 172 | 0942 | 0 | 28.80 | 73 | 57.30 | 2349.4 | 9.7 | 5 | c/cs |
| 21 | 172 | 0948 | 0 | 29.80 | 73 | 57.40 | 2350.4 | 10.0 | 5 | c/cs |
| 21 | 172 | 1005 | 0 | 32.60 | 73 | 57.70 | 2353.2 | 10.1 | 5 | c/cs |
| 21 | 172 | 1018 | 0 | 34.80 | 73 | 57.80 | 2355.4 | 9.5 | 5 | c/cs |
| 21 | 172 | 1021 | 0 | 35.30 | 73 | 57.90 | 2355.9 | 9.4 | 357 | c/cs |
| 21 | 172 | 1033 | 0 | 37.13 | 73 | 57.79 | 2357.7 | 10.3 | 358 | GF |
| 21 | 172 | 1038 | 0 | 37.99 | 73 | 57.76 | 2358.6 | 9.2 | 356 | GF |
| 21 | 172 | 1043 | 0 | 38.80 | 73 | 57.70 | 2359.4 | 9.1 | 355 | c/cs |
| 21 | 172 | 1048 | 0 | 39.50 | 73 | 57.70 | 2360.1 | 8.8 | 358 | c/cs |
| 21 | 172 | 1100 | 0 | 41.27 | 73 | 57.59 | 2361.9 | 10.4 | 355 | GF |
| 21 | 172 | 1104 | 0 | 42.00 | 73 | 57.50 | 2362.6 | 10.7 | 356 | c/cs |
| 21 | 172 | 1108 | 0 | 42.67 | 73 | 57.48 | 2363.3 | 8.9 | 358 | GF |
| 21 | 172 | 1114 | 0 | 43.60 | 73 | 57.50 | 2364.2 | 9.2 | 357 | c/cs |
| 21 | 172 | 1123 | 0 | 44.90 | 73 | 57.40 | 2365.6 | 8.8 | 358 | c/cs |
| 21 | 172 | 1130 | 0 | 45.98 | 73 | 57.34 | 2366.6 | 9.9 | 359 | GF |
| 21 | 172 | 1132 | 0 | 46.30 | 73 | 57.30 | 2366.9 | 10.0 | 359 | c/cs |
| 21 | 172 | 1138 | 0 | 47.31 | 73 | 57.31 | 2367.9 | 8.7 | 0 | GF |
| 21 | 172 | 1142 | 0 | 47.90 | 73 | 57.30 | 2368.5 | 9.0 | 358 | c/cs |
| 21 | 172 | 1154 | 0 | 49.70 | 73 | 57.20 | 2370.3 | 8.7 | 359 | c/cs |
| 21 | 172 | 1200 | 0 | 50.55 | 73 | 57.22 | 2371.2 | 10.1 | 359 | GF |
| 21 | 172 | 1202 | 0 | 50.90 | 73 | 57.20 | 2371.5 | 10.4 | 357 | c/cs |
| 21 | 172 | 1208 | 0 | 51.92 | 73 | 57.16 | 2372.5 | 8.9 | 357 | GF |
| 21 | 172 | 1225 | 0 | 54.40 | 73 | 57.00 | 2375.1 | 8.8 | 357 | c/cs |
| 21 | 172 | 1230 | 0 | 55.18 | 73 | 56.99 | 2375.8 | 10.0 | 358 | GF |
| 21 | 172 | 1233 | 0 | 55.70 | 73 | 57.00 | 2376.3 | 10.2 | 357 | c/cs |
| 21 | 172 | 1238 | 0 | 56.53 | 73 | 56.93 | 2377.2 | 9.1 | 355 | GF |
| 21 | 172 | 1238 | 0 | 56.50 | 73 | 56.90 | 2377.2 | 8.7 | 358 | c/cs |
| 21 | 172 | 1248 | 0 | 58.00 | 73 | 56.90 | 2378.6 | 8.8 | 358 | c/cs |
| 21 | 172 | 1300 | 0 | 59.75 | 73 | 56.81 | 2380.4 | 10.1 | 358 | GF |
| 21 | 172 | 1300 | 0 | 59.80 | 73 | 56.80 | 2380.4 | 9.6 | 357 | c/cs |
| 21 | 172 | 1303 | -1 | 0.20 | 73 | 56.80 | 2380.9 | 10.3 | 357 | c/cs |
| 21 | 172 | 1308 | -1 | 1.08 | 73 | 56.74 | 2381.7 | 9.0 | 356 | GF |
| 21 | 172 | 1316 | -1 | 2.30 | 73 | 56.70 | 2382.9 | 9.1 | 356 | c/cs |
| 21 | 172 | 1321 | -1 | 3.00 | 73 | 56.60 | 2383.7 | 8.7 | 357 | c/cs |
| 21 | 172 | 1328 | -1 | 4.00 | 73 | 56.60 | 2384.7 | 9.2 | 356 | c/cs |
| 21 | 172 | 1330 | -1 | 4.35 | 73 | 56.54 | 2385.0 | 10.3 | 356 | GF |
| 21 | 172 | 1338 | -1 | 5.72 | 73 | 56.45 | 2386.4 | 9.3 | 356 | GF |
| 21 | 172 | 1339 | -1 | 5.90 | 73 | 56.40 | 2386.5 | 9.0 | 358 | c/cs |
| 21 | 172 | 1358 | -1 | 8.70 | 73 | 56.30 | 2389.4 | 8.8 | 356 | c/cs |
| 21 | 172 | 1400 | -1 | 9.00 | 73 | 56.30 | 2389.7 | 10.0 | 357 | GF |
| 21 | 172 | 1406 | -1 | 10.00 | 73 | 56.30 | 2390.7 | 10.0 | 357 | c/cs |
| 21 | 172 | 1408 | -1 | 10.33 | 73 | 56.24 | 2391.0 | 9.0 | 357 | GF |
| 21 | 172 | 1417 | -1 | 11.70 | 73 | 56.20 | 2392.3 | 9.4 | 357 | c/cs |
| 21 | 172 | 1430 | -1 | 13.72 | 73 | 56.04 | 2394.4 | 10.9 | 357 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 172 | 1431 | -1 | 13.90 | 73 | 56.00 | 2394.6 | 10.9 | 357 | c/cs |
| 21 | 172 | 1438 | -1 | 15.17 | 73 | 55.96 | 2395.8 | 9.6 | 357 | GF |
| 21 | 172 | 1442 | -1 | 15.80 | 73 | 55.90 | 2396.5 | 9.8 | 357 | c/cs |
| 21 | 172 | 1454 | -1 | 17.80 | 73 | 55.80 | 2398.4 | 9.4 | 357 | c/cs |
| 21 | 172 | 1500 | -1 | 18.70 | 73 | 55.77 | 2399.4 | 10.7 | 358 | GF |
| 21 | 172 | 1508 | -1 | 20.12 | 73 | 55.72 | 2400.8 | 9.5 | 358 | GF |
| 21 | 172 | 1515 | -1 | 21.20 | 73 | 55.70 | 2401.9 | 9.4 | 357 | c/cs |
| 21 | 172 | 1525 | -1 | 22.80 | 73 | 55.60 | 2403.5 | 10.0 | 356 | c/cs |
| 21 | 172 | 1530 | -1 | 23.62 | 73 | 55.52 | 2404.3 | 11.6 | 354 | GF |
| 21 | 172 | 1538 | -1 | 25.16 | 73 | 55.37 | 2405.8 | 10.3 | 354 | GF |
| 21 | 172 | 1538 | -1 | 25.20 | 73 | 55.40 | 2405.8 | 9.9 | 356 | c/cs |
| 21 | 172 | 1545 | -1 | 26.30 | 73 | 55.30 | 2407.0 | 10.3 | 354 | c/cs |
| 21 | 172 | 1600 | -1 | 28.86 | 73 | 55.02 | 2409.6 | 11.5 | 354 | GF |
| 21 | 172 | 1606 | -1 | 30.00 | 73 | 54.90 | 2410.7 | 11.6 | 354 | c/cs |
| 21 | 172 | 1608 | -1 | 30.39 | 73 | 54.85 | 2411.1 | 10.1 | 354 | GF |
| 21 | 172 | 1629 | -1 | 33.90 | 73 | 54.50 | 2414.6 | 10.2 | 354 | c/cs |
| 21 | 172 | 1630 | -1 | 34.07 | 73 | 54.45 | 2414.8 | 11.8 | 354 | GF |
| 21 | 172 | 1638 | -1 | 35.64 | 73 | 54.29 | 2416.4 | 10.4 | 354 | GF |
| 21 | 172 | 1646 | -1 | 37.00 | 73 | 54.10 | 2417.8 | 10.5 | 354 | c/cs |
| 21 | 172 | 1700 | -1 | 39.46 | 73 | 53.88 | 2420.2 | 11.7 | 354 | GF |
| 21 | 172 | 1704 | -1 | 40.20 | 73 | 53.80 | 2421.0 | 12.1 | 356 | c/cs |
| 21 | 172 | 1708 | -1 | 41.04 | 73 | 53.73 | 2421.8 | 10.7 | 355 | GF |
| 21 | 172 | 1717 | -1 | 42.60 | 73 | 53.60 | 2423.4 | 10.5 | 358 | c/cs |
| 21 | 172 | 1727 | -1 | 44.40 | 73 | 53.50 | 2425.2 | 10.6 | 358 | c/cs |
| 21 | 172 | 1730 | -1 | 44.92 | 73 | 53.52 | 2425.7 | 11.9 | 358 | GF |
| 21 | 172 | 1738 | -1 | 46.51 | 73 | 53.47 | 2427.3 | 10.2 | 358 | GF |
| 21 | 172 | 1750 | -1 | 48.50 | 73 | 53.40 | 2429.3 | 10.4 | 358 | c/cs |
| 21 | 172 | 1800 | -1 | 50.28 | 73 | 53.33 | 2431.1 | 10.4 | 357 | GF |
| 21 | 172 | 1808 | -1 | 51.70 | 73 | 53.20 | 2432.4 | 10.5 | 357 | c/cs |
| 21 | 172 | 1825 | -1 | 54.60 | 73 | 53.10 | 2435.4 | 10.5 | 357 | c/cs |
| 21 | 172 | 1830 | -1 | 55.49 | 73 | 53.02 | 2436.3 | 11.6 | 356 | GF |
| 21 | 172 | 1838 | -1 | 57.03 | 73 | 52.91 | 2437.8 | 10.2 | 355 | GF |
| 21 | 172 | 1900 | -2 | 0.77 | 73 | 52.61 | 2441.6 | 11.7 | 356 | GF |
| 21 | 172 | 1908 | -2 | 2.32 | 73 | 52.50 | 2443.1 | 10.4 | 357 | GF |
| 21 | 172 | 1911 | -2 | 2.80 | 73 | 52.50 | 2443.6 | 10.4 | 360 | c/cs |
| 21 | 172 | 1930 | -2 | 6.12 | 73 | 52.45 | 2446.9 | 12.0 | 0 | GF |
| 21 | 172 | 1938 | -2 | 7.72 | 73 | 52.46 | 2448.5 | 10.5 | 358 | GF |
| 21 | 172 | 1938 | -2 | 7.70 | 73 | 52.50 | 2448.5 | 10.4 | 360 | c/cs |
| 21 | 172 | 2000 | -2 | 11.52 | 73 | 52.44 | 2452.3 | 11.7 | 359 | GF |
| 21 | 172 | 2008 | -2 | 13.08 | 73 | 52.40 | 2453.9 | 10.7 | 0 | GF |
| 21 | 172 | 2022 | -2 | 15.60 | 73 | 52.40 | 2456.4 | 10.8 | 359 | c/cs |
| 21 | 172 | 2030 | -2 | 17.01 | 73 | 52.37 | 2457.8 | 12.6 | 357 | GF |
| 21 | 172 | 2038 | -2 | 18.68 | 73 | 52.27 | 2459.5 | 10.8 | 356 | GF |
| 21 | 172 | 2048 | -2 | 20.50 | 73 | 52.10 | 2461.3 | 10.7 | 357 | c/cs |
| 21 | 172 | 2100 | -2 | 22.62 | 73 | 52.02 | 2463.4 | 12.5 | 358 | GF |
| 21 | 172 | 2103 | -2 | 23.20 | 73 | 52.00 | 2464.1 | 12.9 | 357 | c/cs |
| 21 | 172 | 2108 | -2 | 24.32 | 73 | 51.95 | 2465.1 | 11.4 | 357 | GF |
| 21 | 172 | 2108 | -2 | 24.30 | 73 | 52.00 | 2465.1 | 11.6 | 359 | c/cs |
| 21 | 172 | 2123 | -2 | 27.22 | 73 | 51.91 | 2468.0 | 11.2 | 359 | GF |
| 21 | 172 | 2128 | -2 | 28.20 | 73 | 51.90 | 2469.0 | 10.7 | 359 | c/cs |
| 21 | 172 | 2130 | -2 | 28.51 | 73 | 51.88 | 2469.3 | 10.8 | 359 | GF |
| 21 | 172 | 2143 | -2 | 30.80 | 73 | 51.80 | 2471.7 | 10.8 | 359 | c/cs |
| 21 | 172 | 2159 | -2 | 33.70 | 73 | 51.70 | 2474.5 | 10.3 | 360 | c/cs |
| 21 | 172 | 2208 | -2 | 35.30 | 73 | 51.70 | 2476.1 | 10.6 | 359 | c/cs |
| 21 | 172 | 2226 | -2 | 38.40 | 73 | 51.70 | 2479.3 | 11.0 | 359 | c/cs |
| 21 | 172 | 2239 | -2 | 40.80 | 73 | 51.60 | 2481.6 | 11.2 | 358 | c/cs |
| 21 | 172 | 2252 | -2 | 43.20 | 73 | 51.50 | 2484.1 | 10.8 | 359 | c/cs |
| 21 | 172 | 2319 | -2 | 48.10 | 73 | 51.40 | 2488.9 | 11.1 | 359 | c/cs |
| 21 | 172 | 2343 | -2 | 52.50 | 73 | 51.30 | 2493.4 | 11.5 | 360 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 173 | 0000 | -2 | 55.80 | 73 | 51.30 | 2496.6 | 11.3 | 358 | c/cs |
| 22 | 173 | 0028 | -3 | 1.10 | 73 | 51.10 | 2501.9 | 11.1 | 359 | c/cs |
| 22 | 173 | 0041 | -3 | 3.50 | 73 | 51.10 | 2504.3 | 11.2 | 358 | c/cs |
| 22 | 173 | 0056 | -3 | 6.30 | 73 | 51.00 | 2507.1 | 11.2 | 357 | c/cs |
| 22 | 173 | 0121 | -3 | 11.00 | 73 | 50.80 | 2511.8 | 11.1 | 357 | c/cs |
| 22 | 173 | 0142 | -3 | 14.80 | 73 | 50.60 | 2515.7 | 11.3 | 358 | c/cs |
| 22 | 173 | 0209 | -3 | 19.90 | 73 | 50.50 | 2520.7 | 11.3 | 358 | c/cs |
| 22 | 173 | 0219 | -3 | 21.80 | 73 | 50.42 | 2522.6 | 11.9 | 358 | SF |
| 22 | 173 | 0220 | -3 | 22.00 | 73 | 50.40 | 2522.8 | 12.1 | 1 | c/cs |
| 22 | 173 | 0258 | -3 | 29.70 | 73 | 50.50 | 2530.5 | 12.3 | 1 | c/cs |
| 22 | 173 | 0301 | -3 | 30.30 | 73 | 50.60 | 2531.1 | 12.0 | 348 | c/cs |
| 22 | 173 | 0303 | -3 | 30.70 | 73 | 50.50 | 2531.5 | 11.6 | 334 | c/cs |
| 22 | 173 | 0333 | -3 | 35.90 | 73 | 47.90 | 2537.3 | 11.3 | 334 | c/cs |
| 22 | 173 | 0351 | -3 | 38.90 | 73 | 46.40 | 2540.7 | 10.2 | 332 | c/cs |
| 22 | 173 | 0359 | -3 | 40.10 | 73 | 45.80 | 2542.1 | 10.8 | 335 | c/cs |
| 22 | 173 | 0414 | -3 | 42.60 | 73 | 44.60 | 2544.8 | 11.1 | 336 | c/cs |
| 22 | 173 | 0450 | -3 | 48.70 | 73 | 41.90 | 2551.5 | 11.2 | 336 | c/cs |
| 22 | 173 | 0515 | -3 | 52.90 | 73 | 39.90 | 2556.2 | 11.6 | 336 | c/cs |
| 22 | 173 | 0533 | -3 | 56.10 | 73 | 38.50 | 2559.6 | 11.7 | 336 | c/cs |
| 22 | 173 | 0538 | -3 | 57.00 | 73 | 38.10 | 2560.6 | 11.6 | 341 | c/cs |
| 22 | 173 | 0553 | -3 | 59.80 | 73 | 37.20 | 2563.5 | 11.8 | 342 | c/cs |
| 22 | 173 | 0608 | -4 | 2.60 | 73 | 36.30 | 2566.5 | 10.8 | 341 | c/cs |
| 22 | 173 | 0618 | -4 | 4.30 | 73 | 35.70 | 2568.3 | 11.5 | 341 | c/cs |
| 22 | 173 | 0633 | -4 | 7.00 | 73 | 34.80 | 2571.1 | 11.0 | 323 | c/cs |
| 22 | 173 | 0638 | -4 | 7.70 | 73 | 34.20 | 2572.1 | 11.5 | 325 | c/cs |
| 22 | 173 | 0649 | -4 | 9.50 | 73 | 33.00 | 2574.2 | 11.4 | 324 | c/cs |
| 22 | 173 | 0652 | -4 | 9.90 | 73 | 32.70 | 2574.7 | 11.1 | 310 | c/cs |
| 22 | 173 | 0657 | -4 | 10.50 | 73 | 32.00 | 2575.7 | 8.2 | 309 | c/cs |
| 22 | 173 | 0659 | -4 | 10.70 | 73 | 31.80 | 2575.9 | 6.4 | 299 | c/cs |
| 22 | 173 | 0701 | -4 | 10.80 | 73 | 31.60 | 2576.1 | 3.0 | 279 | c/cs |
| 22 | 173 | 0704 | -4 | 10.80 | 73 | 31.40 | 2576.3 | 1.5 | 275 | c/cs |
| 22 | 173 | 0707 | -4 | 10.80 | 73 | 31.40 | 2576.4 | 1.0 | 218 | c/cs |
| 22 | 173 | 0710 | -4 | 10.80 | 73 | 31.30 | 2576.4 | 1.1 | 169 | c/cs |
| 22 | 173 | 0909 | -4 | 8.68 | 73 | 31.73 | 2578.5 | 0.9 | 83 | SF |
| 22 | 173 | 0939 | -4 | 8.74 | 73 | 32.20 | 2579.0 | 0.4 | 219 | GF |
| 22 | 173 | 1000 | -4 | 8.63 | 73 | 32.11 | 2579.2 | 1.6 | 235 | GF |
| 22 | 173 | 1009 | -4 | 8.49 | 73 | 31.91 | 2579.4 | 0.5 | 48 | GF |
| 22 | 173 | 1030 | -4 | 8.60 | 73 | 32.03 | 2579.6 | 0.9 | 69 | GF |
| 22 | 173 | 1039 | -4 | 8.65 | 73 | 32.16 | 2579.7 | 1.5 | 78 | GF |
| 22 | 173 | 1100 | -4 | 8.76 | 73 | 32.68 | 2580.2 | 1.4 | 79 | GF |
| 22 | 173 | 1109 | -4 | 8.80 | 73 | 32.89 | 2580.4 | 0.7 | 64 | GF |
| 22 | 173 | 1115 | -4 | 8.80 | 73 | 33.00 | 2580.5 | 4.7 | 66 | c/cs |
| 22 | 173 | 1130 | -4 | 9.32 | 73 | 34.04 | 2581.7 | 4.4 | 68 | GF |
| 22 | 173 | 1130 | -4 | 9.30 | 73 | 34.00 | 2581.7 | 12.6 | 43 | c/cs |
| 22 | 173 | 1139 | -4 | 10.71 | 73 | 35.32 | 2583.6 | 12.5 | 37 | GF |
| 22 | 173 | 1200 | -4 | 14.19 | 73 | 37.96 | 2588.0 | 11.7 | 41 | GF |
| 22 | 173 | 1200 | -4 | 14.20 | 73 | 38.00 | 2588.0 | 12.8 | 36 | c/cs |
| 22 | 173 | 1209 | -4 | 15.73 | 73 | 39.10 | 2589.9 | 12.8 | 36 | GF |
| 22 | 173 | 1230 | -4 | 19.34 | 73 | 41.74 | 2594.3 | 13.1 | 36 | GF |
| 22 | 173 | 1239 | -4 | 20.92 | 73 | 42.90 | 2596.3 | 12.4 | 33 | GF |
| 22 | 173 | 1309 | -4 | 26.10 | 73 | 46.33 | 2602.5 | 11.0 | 34 | GF |
| 22 | 173 | 1315 | -4 | 27.00 | 73 | 47.00 | 2603.6 | 11.8 | 344 | c/cs |
| 22 | 173 | 1330 | -4 | 29.84 | 73 | 46.15 | 2606.5 | 10.8 | 356 | GF |
| 22 | 173 | 1339 | -4 | 31.45 | 73 | 46.05 | 2608.2 | 11.6 | 355 | GF |
| 22 | 173 | 1400 | -4 | 35.50 | 73 | 45.70 | 2612.2 | 8.6 | 358 | c/cs |
| 22 | 173 | 1409 | -4 | 36.78 | 73 | 45.69 | 2613.5 | 10.4 | 356 | GF |
| 22 | 173 | 1424 | -4 | 39.38 | 73 | 45.49 | 2616.1 | 8.7 | 355 | GF |
| 22 | 173 | 1430 | -4 | 40.20 | 73 | 45.40 | 2617.0 | 11.0 | 355 | c/cs |
| 22 | 173 | 1439 | -4 | 41.88 | 73 | 45.28 | 2618.6 | 10.0 | 355 | GF |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 173 | 1500 | -4 | 45.35 | 73 | 44.97 | 2622.1 | 10.7 | 357 | GF |
| 22 | 173 | 1500 | -4 | 45.30 | 73 | 45.00 | 2622.1 | 10.4 | 356 | c/cs |
| 22 | 173 | 1509 | -4 | 46.90 | 73 | 44.87 | 2623.7 | 10.1 | 357 | GF |
| 22 | 173 | 1530 | -4 | 50.42 | 73 | 44.71 | 2627.2 | 10.4 | 357 | GF |
| 22 | 173 | 1539 | -4 | 51.98 | 73 | 44.62 | 2628.7 | 10.4 | 357 | GF |
| 22 | 173 | 1600 | -4 | 55.63 | 73 | 44.45 | 2632.4 | 12.2 | 355 | GF |
| 22 | 173 | 1600 | -4 | 55.60 | 73 | 44.50 | 2632.4 | 10.9 | 358 | c/cs |
| 22 | 173 | 1609 | -4 | 57.27 | 73 | 44.40 | 2634.0 | 9.4 | 358 | GF |
| 22 | 173 | 1630 | -5 | 0.57 | 73 | 44.26 | 2637.3 | 10.3 | 356 | GF |
| 22 | 173 | 1639 | -5 | 2.11 | 73 | 44.15 | 2638.9 | 8.8 | 2 | GF |
| 22 | 173 | 1643 | -5 | 2.70 | 73 | 44.20 | 2639.5 | 6.8 | 66 | c/cs |
| 22 | 173 | 1700 | -5 | 3.49 | 73 | 45.93 | 2641.4 | 7.1 | 71 | GF |
| 22 | 173 | 1709 | -5 | 3.84 | 73 | 46.94 | 2642.5 | 6.2 | 72 | GF |
| 22 | 173 | 1730 | -5 | 4.52 | 73 | 49.00 | 2644.6 | 8.5 | 61 | GF |
| 22 | 173 | 1730 | -5 | 4.50 | 73 | 49.00 | 2644.6 | 7.2 | 69 | c/cs |
| 22 | 173 | 1745 | -5 | 5.16 | 73 | 50.70 | 2646.4 | 7.3 | 70 | GF |
| 22 | 173 | 1805 | -5 | 5.99 | 73 | 52.99 | 2648.9 | 10.7 | 79 | GF |
| 22 | 173 | 1810 | -5 | 6.20 | 73 | 53.90 | 2649.8 | 2.1 | 11 | c/cs |
| 22 | 173 | 1815 | -5 | 6.34 | 73 | 53.90 | 2649.9 | 3.5 | 31 | GF |
| 22 | 173 | 1830 | -5 | 7.10 | 73 | 54.36 | 2650.8 | 6.0 | 297 | GF |
| 22 | 173 | 1845 | -5 | 7.78 | 73 | 53.03 | 2652.3 | 6.2 | 301 | GF |
| 22 | 173 | 1900 | -5 | 8.59 | 73 | 51.69 | 2653.9 | 5.7 | 298 | GF |
| 22 | 173 | 1900 | -5 | 8.60 | 73 | 51.70 | 2653.9 | 6.3 | 294 | c/cs |
| 22 | 173 | 1923 | -5 | 9.58 | 73 | 49.48 | 2656.3 | 5.9 | 295 | GF |
| 22 | 173 | 1930 | -5 | 9.87 | 73 | 48.85 | 2657.0 | 6.4 | 292 | GF |
| 22 | 173 | 1945 | -5 | 10.47 | 73 | 47.37 | 2658.6 | 6.3 | 294 | GF |
| 22 | 173 | 2000 | -5 | 11.12 | 73 | 45.92 | 2660.1 | 5.6 | 288 | GF |
| 22 | 173 | 2000 | -5 | 11.10 | 73 | 45.90 | 2660.1 | 6.4 | 298 | c/cs |
| 22 | 173 | 2015 | -5 | 11.86 | 73 | 44.50 | 2661.7 | 4.5 | 309 | GF |
| 22 | 173 | 2030 | -5 | 12.56 | 73 | 43.62 | 2662.9 | 8.3 | 297 | GF |
| 22 | 173 | 2030 | -5 | 12.60 | 73 | 43.60 | 2662.9 | 6.5 | 127 | c/cs |
| 22 | 173 | 2035 | -5 | 12.20 | 73 | 44.10 | 2663.4 | 6.7 | 149 | c/cs |
| 22 | 173 | 2045 | -5 | 11.28 | 73 | 44.62 | 2664.5 | 8.4 | 132 | GF |
| 22 | 173 | 2045 | -5 | 11.30 | 73 | 44.60 | 2664.5 | 6.9 | 186 | c/cs |
| 22 | 173 | 2100 | -5 | 9.57 | 73 | 44.44 | 2666.2 | 7.2 | 185 | GF |
| 22 | 173 | 2100 | -5 | 9.60 | 73 | 44.40 | 2666.2 | 6.3 | 187 | c/cs |
| 22 | 173 | 2115 | -5 | 8.00 | 73 | 44.26 | 2667.8 | 8.8 | 208 | GF |
| 22 | 173 | 2130 | -5 | 6.10 | 73 | 43.20 | 2670.0 | 9.3 | 204 | c/cs |
| 22 | 173 | 2148 | -5 | 3.50 | 73 | 42.10 | 2672.8 | 9.2 | 191 | c/cs |
| 22 | 173 | 2201 | -5 | 1.60 | 73 | 41.70 | 2674.8 | 9.5 | 193 | c/cs |
| 22 | 173 | 2202 | -5 | 1.40 | 73 | 41.60 | 2675.0 | 7.4 | 157 | c/cs |
| 22 | 173 | 2203 | -5 | 1.30 | 73 | 41.70 | 2675.1 | 4.5 | 123 | c/cs |
| 22 | 173 | 2204 | -5 | 1.30 | 73 | 41.70 | 2675.2 | 3.4 | 57 | c/cs |
| 22 | 173 | 2207 | -5 | 1.40 | 73 | 41.90 | 2675.3 | 4.2 | 44 | c/cs |
| 22 | 173 | 2219 | -5 | 2.00 | 73 | 42.50 | 2676.2 | 4.1 | 43 | c/cs |
| 22 | 173 | 2226 | -5 | 2.30 | 73 | 42.80 | 2676.6 | 4.6 | 68 | c/cs |
| 22 | 173 | 2235 | -5 | 2.60 | 73 | 43.40 | 2677.3 | 4.1 | 77 | c/cs |
| 22 | 173 | 2241 | -5 | 2.70 | 73 | 43.80 | 2677.7 | 2.6 | 42 | c/cs |
| 22 | 173 | 2244 | -5 | 2.80 | 73 | 43.90 | 2677.9 | 2.2 | 13 | c/cs |
| 22 | 173 | 2247 | -5 | 2.90 | 73 | 44.00 | 2678.0 | 4.5 | 55 | c/cs |
| 22 | 173 | 2249 | -5 | 3.00 | 73 | 44.10 | 2678.1 | 5.1 | 69 | c/cs |
| 22 | 173 | 2252 | -5 | 3.00 | 73 | 44.30 | 2678.4 | 4.5 | 80 | c/cs |
| 22 | 173 | 2254 | -5 | 3.10 | 73 | 44.50 | 2678.5 | 4.3 | 76 | c/cs |
| 22 | 173 | 2330 | -5 | 3.69 | 73 | 46.99 | 2681.1 | 6.6 | 62 | 714 |
| 22 | 173 | 2330 | -5 | 3.70 | 73 | 47.00 | 2681.1 | 0 | 90 | c/cs |
| 24 | 175 | 0810 | -5 | 3.69 | 73 | 46.99 | 2681.1 | 0.8 | 68 | 714 |
| 24 | 175 | 1200 | -5 | 4.87 | 73 | 49.92 | 2684.3 | 0 | 90 | 715 |
| 27 | 178 | 2300 | -5 | 4.87 | 73 | 49.92 | 2684.3 | 0.2 | 158 | 715 |
| 28 | 179 | 0340 | -5 | 4.10 | 73 | 50.20 | 2685.2 | 1.1 | 251 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 | 179 | 0349 | -5 | 4.00 | 73 | 50.10 | 2685.3 | 4.4 | 259 | c/cs |
| 28 | 179 | 0351 | -5 | 4.00 | 73 | 49.90 | 2685.5 | 6.2 | 258 | c/cs |
| 28 | 179 | 0352 | -5 | 3.90 | 73 | 49.80 | 2685.6 | 9.0 | 257 | c/cs |
| 28 | 179 | 0354 | -5 | 3.90 | 73 | 49.50 | 2685.9 | 10.4 | 261 | c/cs |
| 28 | 179 | 0405 | -5 | 3.60 | 73 | 47.70 | 2687.8 | 10.9 | 262 | c/cs |
| 28 | 179 | 0434 | -5 | 2.80 | 73 | 42.40 | 2693.1 | 10.9 | 266 | c/cs |
| 28 | 179 | 0445 | -5 | 2.70 | 73 | 40.40 | 2695.1 | 10.7 | 267 | c/cs |
| 28 | 179 | 0500 | -5 | 2.60 | 73 | 37.70 | 2697.7 | 11.0 | 267 | c/cs |
| 28 | 179 | 0516 | -5 | 2.40 | 73 | 34.80 | 2700.7 | 11.0 | 267 | c/cs |
| 28 | 179 | 0525 | -5 | 2.30 | 73 | 33.10 | 2702.3 | 10.9 | 260 | c/cs |
| 28 | 179 | 0541 | -5 | 1.80 | 73 | 30.30 | 2705.2 | 10.8 | 257 | c/cs |
| 28 | 179 | 0603 | -5 | 0.90 | 73 | 26.40 | 2709.2 | 10.9 | 258 | c/cs |
| 28 | 179 | 0615 | -5 | 0.50 | 73 | 24.20 | 2711.4 | 10.3 | 242 | c/cs |
| 28 | 179 | 0618 | -5 | 0.30 | 73 | 23.80 | 2711.9 | 6.4 | 242 | c/cs |
| 28 | 179 | 0622 | -5 | 0.10 | 73 | 23.40 | 2712.3 | 5.1 | 242 | c/cs |
| 28 | 179 | 0637 | -4 | 59.50 | 73 | 22.30 | 2713.6 | 6.1 | 242 | c/cs |
| 28 | 179 | 0703 | -4 | 58.20 | 73 | 19.90 | 2716.2 | 5.6 | 237 | c/cs |
| 28 | 179 | 0715 | -4 | 57.60 | 73 | 19.00 | 2717.4 | 6.4 | 229 | c/cs |
| 28 | 179 | 0732 | -4 | 56.40 | 73 | 17.60 | 2719.2 | 6.3 | 237 | c/cs |
| 28 | 179 | 0733 | -4 | 56.38 | 73 | 17.51 | 2719.3 | 6.1 | 235 | GF |
| 28 | 179 | 0743 | -4 | 55.80 | 73 | 16.70 | 2720.3 | 6.2 | 238 | c/cs |
| 28 | 179 | 0800 | -4 | 54.87 | 73 | 15.17 | 2722.0 | 6.7 | 234 | GF |
| 28 | 179 | 0802 | -4 | 54.70 | 73 | 15.00 | 2722.3 | 5.8 | 255 | c/cs |
| 28 | 179 | 0804 | -4 | 54.69 | 73 | 14.80 | 2722.5 | 5.6 | 281 | GF |
| 28 | 179 | 0804 | -4 | 54.70 | 73 | 14.80 | 2722.5 | 6.2 | 321 | c/cs |
| 28 | 179 | 0819 | -4 | 55.90 | 73 | 13.81 | 2724.0 | 4.1 | 330 | GF |
| 28 | 179 | 0822 | -4 | 56.10 | 73 | 13.70 | 2724.2 | 9.0 | 91 | c/cs |
| 28 | 179 | 0827 | -4 | 56.10 | 73 | 14.50 | 2725.0 | 10.3 | 90 | c/cs |
| 28 | 179 | 0834 | -4 | 56.05 | 73 | 15.67 | 2726.2 | 8.6 | 96 | GF |
| 28 | 179 | 0834 | -4 | 56.10 | 73 | 15.70 | 2726.2 | 8.5 | 93 | c/cs |
| 28 | 179 | 0841 | -4 | 56.00 | 73 | 16.70 | 2727.2 | 8.9 | 92 | c/cs |
| 28 | 179 | 0848 | -4 | 56.00 | 73 | 17.70 | 2728.2 | 8.5 | 92 | c/cs |
| 28 | 179 | 0849 | -4 | 55.96 | 73 | 17.85 | 2728.4 | 8.4 | 93 | GF |
| 28 | 179 | 0849 | -4 | 56.00 | 73 | 17.90 | 2728.4 | 5.4 | 95 | c/cs |
| 28 | 179 | 0855 | -4 | 55.90 | 73 | 18.40 | 2728.9 | 0.6 | 147 | c/cs |
| 28 | 179 | 0911 | -4 | 55.77 | 73 | 18.48 | 2729.1 | 0 | 90 | 716 |
| 29 | 180 | 1435 | -4 | 55.77 | 73 | 18.48 | 2729.1 | 1.4 | 100 | 716 |
| 29 | 180 | 1435 | -4 | 55.80 | 73 | 18.50 | 2729.1 | 2.4 | 193 | c/cs |
| 29 | 180 | 1450 | -4 | 55.20 | 73 | 18.30 | 2729.7 | 1.8 | 216 | c/cs |
| 29 | 180 | 1500 | -4 | 54.90 | 73 | 18.20 | 2730.0 | 0.9 | 173 | c/cs |
| 29 | 180 | 1513 | -4 | 54.70 | 73 | 18.20 | 2730.2 | 0.9 | 170 | c/cs |
| 29 | 180 | 1532 | -4 | 54.40 | 73 | 18.20 | 2730.5 | 1.3 | 110 | c/cs |
| 29 | 180 | 1550 | -4 | 54.30 | 73 | 18.60 | 2730.9 | 1.4 | 105 | c/cs |
| 29 | 180 | 1616 | -4 | 54.20 | 73 | 19.20 | 2731.4 | 1.1 | 152 | c/cs |
| 29 | 180 | 1623 | -4 | 54.00 | 73 | 19.20 | 2731.6 | 1.7 | 194 | c/cs |
| 29 | 180 | 1646 | -4 | 53.40 | 73 | 19.10 | 2732.2 | 1.4 | 202 | c/cs |
| 29 | 180 | 1730 | -4 | 52.50 | 73 | 18.70 | 2733.2 | 0.2 | 248 | c/cs |
| 29 | 180 | 1757 | -4 | 52.50 | 73 | 18.60 | 2733.3 | 0.4 | 200 | c/cs |
| 29 | 180 | 1802 | -4 | 52.40 | 73 | 18.60 | 2733.3 | 1.0 | 178 | c/cs |
| 29 | 180 | 1808 | -4 | 52.30 | 73 | 18.60 | 2733.4 | 0.5 | 187 | c/cs |
| 29 | 180 | 1815 | -4 | 52.30 | 73 | 18.60 | 2733.5 | 1.0 | 192 | c/cs |
| 29 | 180 | 1836 | -4 | 51.90 | 73 | 18.50 | 2733.8 | 0.9 | 205 | c/cs |
| 29 | 180 | 1911 | -4 | 51.50 | 73 | 18.30 | 2734.4 | 1.0 | 209 | c/cs |
| 29 | 180 | 1959 | -4 | 50.70 | 73 | 17.90 | 2735.2 | 1.1 | 212 | c/cs |
| 29 | 180 | 2006 | -4 | 50.60 | 73 | 17.80 | 2735.3 | 2.4 | 209 | c/cs |
| 29 | 180 | 2007 | -4 | 50.60 | 73 | 17.80 | 2735.4 | 4.9 | 213 | c/cs |
| 29 | 180 | 2010 | -4 | 50.40 | 73 | 17.70 | 2735.6 | 7.3 | 201 | c/cs |
| 29 | 180 | 2012 | -4 | 50.20 | 73 | 17.60 | 2735.9 | 8.4 | 209 | c/cs |
| 29 | 180 | 2015 | -4 | 49.80 | 73 | 17.40 | 2736.3 | 10.1 | 208 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 180 | 2029 | -4 | 47.70 | 73 | 16.30 | 2738.6 | 10.3 | 208 | c/cs |
| 29 | 180 | 2043 | -4 | 45.60 | 73 | 15.20 | 2741.0 | 10.9 | 183 | c/cs |
| 29 | 180 | 2050 | -4 | 44.30 | 73 | 15.10 | 2742.3 | 11.2 | 182 | c/cs |
| 29 | 180 | 2110 | -4 | 40.60 | 73 | 15.00 | 2746.0 | 11.3 | 181 | c/cs |
| 29 | 180 | 2131 | -4 | 36.60 | 73 | 14.90 | 2750.0 | 11.0 | 181 | c/cs |
| 29 | 180 | 2143 | -4 | 34.40 | 73 | 14.90 | 2752.2 | 10.4 | 180 | c/cs |
| 29 | 180 | 2146 | -4 | 33.90 | 73 | 14.80 | 2752.7 | 9.2 | 179 | c/cs |
| 29 | 180 | 2211 | -4 | 30.10 | 73 | 14.90 | 2756.5 | 9.1 | 179 | c/cs |
| 29 | 180 | 2232 | -4 | 26.90 | 73 | 14.90 | 2759.7 | 9.3 | 180 | c/cs |
| 29 | 180 | 2242 | -4 | 25.30 | 73 | 14.90 | 2761.3 | 8.5 | 179 | c/cs |
| 29 | 180 | 2317 | -4 | 20.40 | 73 | 15.00 | 2766.2 | 8.6 | 179 | c/cs |
| 29 | 180 | 2335 | -4 | 17.80 | 73 | 15.10 | 2768.8 | 7.8 | 171 | c/cs |
| 29 | 180 | 2337 | -4 | 17.60 | 73 | 15.10 | 2769.1 | 7.3 | 137 | c/cs |
| 29 | 180 | 2353 | -4 | 16.10 | 73 | 16.50 | 2771.0 | 7.6 | 136 | c/cs |
| 30 | 181 | 0000 | -4 | 15.50 | 73 | 17.10 | 2771.9 | 7.6 | 136 | c/cs |
| 30 | 181 | 0011 | -4 | 14.50 | 73 | 18.10 | 2773.3 | 8.1 | 137 | c/cs |
| 30 | 181 | 0048 | -4 | 10.80 | 73 | 21.50 | 2778.3 | 7.8 | 122 | c/cs |
| 30 | 181 | 0049 | -4 | 10.70 | 73 | 21.60 | 2778.4 | 7.7 | 107 | c/cs |
| 30 | 181 | 0053 | -4 | 10.60 | 73 | 22.10 | 2778.9 | 8.3 | 108 | c/cs |
| 30 | 181 | 0101 | -4 | 10.30 | 73 | 23.10 | 2780.0 | 8.3 | 97 | c/cs |
| 30 | 181 | 0104 | -4 | 10.20 | 73 | 23.50 | 2780.5 | 8.4 | 92 | c/cs |
| 30 | 181 | 0124 | -4 | 10.10 | 73 | 26.30 | 2783.3 | 8.4 | 91 | c/cs |
| 30 | 181 | 0144 | -4 | 10.10 | 73 | 29.10 | 2786.1 | 7.2 | 74 | c/cs |
| 30 | 181 | 0145 | -4 | 10.10 | 73 | 29.30 | 2786.2 | 5.0 | 62 | c/cs |
| 30 | 181 | 0149 | -4 | 10.30 | 73 | 29.60 | 2786.5 | 3.8 | 106 | c/cs |
| 30 | 181 | 0150 | -4 | 10.30 | 73 | 29.60 | 2786.6 | 1.8 | 123 | c/cs |
| 30 | 181 | 0154 | -4 | 10.20 | 73 | 29.70 | 2786.7 | 1.4 | 105 | c/cs |
| 30 | 181 | 0237 | -4 | 9.90 | 73 | 30.70 | 2787.7 | 1.1 | 160 | c/cs |
| 30 | 181 | 0240 | -4 | 9.90 | 73 | 30.70 | 2787.7 | 0.5 | 273 | c/cs |
| 30 | 181 | 0243 | -4 | 9.90 | 73 | 30.70 | 2787.8 | 1.9 | 287 | c/cs |
| 30 | 181 | 0248 | -4 | 9.90 | 73 | 30.50 | 2787.9 | 2.7 | 279 | c/cs |
| 30 | 181 | 0256 | -4 | 10.00 | 73 | 30.20 | 2788.3 | 2.5 | 272 | c/cs |
| 30 | 181 | 0300 | -4 | 10.00 | 73 | 30.00 | 2788.5 | 3.4 | 274 | MALE |
| 30 | 181 | 0300 | -4 | 10.00 | 73 | 30.00 | 2788.5 | 0.4 | 103 | c/cs |
| 30 | 181 | 0600 | -4 | 9.70 | 73 | 31.10 | 2789.6 | 0.7 | 142 | c/cs |
| 30 | 181 | 0611 | -4 | 9.60 | 73 | 31.20 | 2789.7 | 4.3 | 85 | c/cs |
| 30 | 181 | 0614 | -4 | 9.70 | 73 | 31.40 | 2790.0 | 7.2 | 93 | c/cs |
| 30 | 181 | 0619 | -4 | 9.60 | 73 | 32.00 | 2790.6 | 10.4 | 90 | c/cs |
| 30 | 181 | 0621 | -4 | 9.60 | 73 | 32.40 | 2790.9 | 12.1 | 66 | c/cs |
| 30 | 181 | 0626 | -4 | 10.00 | 73 | 33.30 | 2791.9 | 12.7 | 67 | c/cs |
| 30 | 181 | 0646 | -4 | 11.70 | 73 | 37.20 | 2796.1 | 12.5 | 67 | c/cs |
| 30 | 181 | 0701 | -4 | 12.90 | 73 | 40.08 | 2799.3 | 13.1 | 66 | GF |
| 30 | 181 | 0701 | -4 | 12.90 | 73 | 40.10 | 2799.3 | 12.8 | 79 | c/cs |
| 30 | 181 | 0707 | -4 | 13.10 | 73 | 41.30 | 2800.5 | 13.1 | 74 | c/cs |
| 30 | 181 | 0712 | -4 | 13.40 | 73 | 42.40 | 2801.6 | 13.2 | 66 | c/cs |
| 30 | 181 | 0730 | -4 | 15.03 | 73 | 46.03 | 2805.6 | 13.2 | 63 | GF |
| 30 | 181 | 0742 | -4 | 16.20 | 73 | 48.40 | 2808.2 | 13.3 | 65 | c/cs |
| 30 | 181 | 0746 | -4 | 16.61 | 73 | 49.19 | 2809.1 | 12.4 | 66 | GF |
| 30 | 181 | 0800 | -4 | 17.77 | 73 | 51.86 | 2812.0 | 13.4 | 68 | GF |
| 30 | 181 | 0813 | -4 | 18.90 | 73 | 54.60 | 2814.9 | 13.3 | 68 | c/cs |
| 30 | 181 | 0830 | -4 | 20.26 | 73 | 58.08 | 2818.7 | 12.1 | 60 | GF |
| 30 | 181 | 0836 | -4 | 20.90 | 73 | 59.10 | 2819.9 | 12.4 | 52 | c/cs |
| 30 | 181 | 0841 | -4 | 21.50 | 73 | 59.90 | 2820.9 | 12.4 | 47 | c/cs |
| 30 | 181 | 0845 | -4 | 22.10 | 74 | 0.60 | 2821.8 | 12.2 | 60 | c/cs |
| 30 | 181 | 0900 | -4 | 23.58 | 74 | 3.19 | 2824.8 | 13.0 | 66 | GF |
| 30 | 181 | 0914 | -4 | 24.80 | 74 | 6.00 | 2827.8 | 13.1 | 66 | c/cs |
| 30 | 181 | 0930 | -4 | 26.21 | 74 | 9.17 | 2831.3 | 13.2 | 69 | GF |
| 30 | 181 | 0942 | -4 | 27.20 | 74 | 11.60 | 2834.0 | 13.1 | 69 | c/cs |

**APPENDIX (continued)**

| Date 1987 | Julian day | Time (UTC) | South latitude (deg) | (min) | East longitude (deg) | (min) | Distance (nmi) | Actual speed (kt) | course (deg) | Comments[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 181 | 0954 | -4 | 28.10 | 74 | 14.10 | 2836.6 | 13.2 | 67 | c/cs |
| 30 | 181 | 1000 | -4 | 28.62 | 74 | 15.31 | 2837.9 | 13.2 | 68 | GF |
| 30 | 181 | 1030 | -4 | 31.04 | 74 | 21.46 | 2844.5 | 13.6 | 69 | GF |
| 30 | 181 | 1030 | -4 | 31.00 | 74 | 21.50 | 2844.5 | 13.6 | 69 | c/cs |
| 30 | 181 | 1110 | -4 | 34.30 | 74 | 30.00 | 2853.6 | 13.6 | 69 | c/cs |
| 30 | 181 | 1146 | -4 | 37.22 | 74 | 37.61 | 2861.7 | 13.3 | 70 | GF |
| 30 | 181 | 1156 | -4 | 38.00 | 74 | 39.70 | 2863.9 | 13.4 | 70 | c/cs |
| 30 | 181 | 1200 | -4 | 38.28 | 74 | 40.54 | 2864.8 | 13.9 | 70 | GF |
| 30 | 181 | 1204 | -4 | 38.60 | 74 | 41.40 | 2865.8 | 13.7 | 66 | c/cs |
| 30 | 181 | 1222 | -4 | 40.20 | 74 | 45.20 | 2869.9 | 13.7 | 65 | c/cs |
| 30 | 181 | 1230 | -4 | 41.00 | 74 | 46.85 | 2871.7 | 13.6 | 67 | GF |
| 30 | 181 | 1245 | -4 | 42.40 | 74 | 50.00 | 2875.1 | 13.7 | 67 | c/cs |
| 30 | 181 | 1255 | -4 | 43.30 | 74 | 52.10 | 2877.4 | 13.7 | 67 | c/cs |
| 30 | 181 | 1300 | -4 | 43.71 | 74 | 53.13 | 2878.5 | 13.6 | 64 | GF |
| 30 | 181 | 1307 | -4 | 44.40 | 74 | 54.60 | 2880.1 | 13.4 | 65 | c/cs |
| 30 | 181 | 1327 | -4 | 46.30 | 74 | 58.60 | 2884.6 | 13.7 | 67 | c/cs |
| 30 | 181 | 1330 | -4 | 46.55 | 74 | 59.27 | 2885.3 | 13.4 | 66 | GF |
| 30 | 181 | 1348 | -4 | 48.20 | 75 | 3.00 | 2889.3 | 13.3 | 66 | c/cs |
| 30 | 181 | 1400 | -4 | 49.29 | 75 | 5.40 | 2892.0 | 13.3 | 67 | GF |
| 30 | 181 | 1421 | -4 | 51.10 | 75 | 9.70 | 2896.6 | 13.4 | 67 | c/cs |
| 30 | 181 | 1430 | -4 | 51.93 | 75 | 11.53 | 2898.6 | 13.4 | 67 | GF |
| 30 | 181 | 1446 | -4 | 53.34 | 75 | 14.83 | 2902.2 | 12.5 | 66 | GF |
| 30 | 181 | 1454 | -4 | 54.00 | 75 | 16.30 | 2903.9 | 12.4 | 67 | c/cs |
| 30 | 181 | 1500 | -4 | 54.51 | 75 | 17.49 | 2905.1 | 12.9 | 66 | GF |
| 30 | 181 | 1507 | -4 | 55.10 | 75 | 18.90 | 2906.6 | 12.8 | 66 | c/cs |
| 30 | 181 | 1524 | -4 | 56.60 | 75 | 22.20 | 2910.2 | 12.9 | 66 | c/cs |
| 30 | 181 | 1530 | -4 | 57.12 | 75 | 23.39 | 2911.5 | 12.9 | 66 | GF |
| 30 | 181 | 1534 | -4 | 57.50 | 75 | 24.20 | 2912.4 | 12.9 | 66 | c/cs |
| 30 | 181 | 1552 | -4 | 59.00 | 75 | 27.70 | 2916.3 | 12.9 | 66 | c/cs |
| 30 | 181 | 1600 | -4 | 59.72 | 75 | 29.33 | 2918.0 | 13.0 | 67 | GF |
| 30 | 181 | 1622 | -5 | 1.60 | 75 | 33.70 | 2922.8 | 13.0 | 67 | c/cs |
| 30 | 181 | 1630 | -5 | 2.30 | 75 | 35.33 | 2924.5 | 13.0 | 67 | GF |
| 30 | 181 | 1658 | -5 | 4.70 | 75 | 40.90 | 2930.6 | 13.1 | 66 | c/cs |
| 30 | 181 | 1700 | -5 | 4.89 | 75 | 41.34 | 2931.0 | 13.0 | 65 | GF |
| 30 | 181 | 1723 | -5 | 7.00 | 75 | 45.90 | 2936.0 | 12.9 | 65 | c/cs |
| 30 | 181 | 1730 | -5 | 7.62 | 75 | 47.24 | 2937.5 | 13.2 | 66 | GF |
| 30 | 181 | 1746 | -5 | 9.10 | 75 | 50.50 | 2941.0 | 13.2 | 66 | c/cs |
| 30 | 181 | 1759 | -5 | 10.30 | 75 | 53.10 | 2943.9 | 13.2 | 67 | c/cs |
| 30 | 181 | 1800 | -5 | 10.34 | 75 | 53.28 | 2944.1 | 13.2 | 67 | GF |
| 30 | 181 | 1822 | -5 | 12.20 | 75 | 57.80 | 2949.0 | 13.2 | 67 | c/cs |
| 30 | 181 | 1830 | -5 | 12.90 | 75 | 59.41 | 2950.7 | 13.3 | 66 | GF |
| 30 | 181 | 1857 | -5 | 15.30 | 76 | 4.90 | 2956.7 | 11.2 | 67 | c/cs |
| 30 | 181 | 1900 | -5 | 15.52 | 76 | 5.42 | 2957.3 | 11.5 | 67 | GF |
| 30 | 181 | 1900 | -5 | 15.50 | 76 | 5.40 | 2957.3 | 10.5 | 67 | c/cs |
| 30 | 181 | 1916 | -5 | 16.60 | 76 | 8.02 | 2960.1 | 9.9 | 67 | GF |
| 30 | 181 | 1930 | -5 | 17.49 | 76 | 10.16 | 2962.4 | 9.9 | 67 | GF |

Note: UTC = Universal Time Coordinated.
[a]GF = global fix; SF = satellite fix; and c/cs = change of course.