Figure F1. Site map, Expedition 386. Bathymetric overview map of the Japan Trench (modified after Kioka et al., 2019) between the Daiichi Seamount in the south and the Erimo Seamount in the north.

Figure F2. Sites M0084 and M0085. Left: high-resolution bathymetric map with 5 m contours, site locations, and track lines and locations of previously acquired high-resolution subbottom profiles and short cores during the site survey cruise (Strasser et al., 2019). Right: site survey subbottom profiles showing depths (assuming 1500 m/s *P*-wave velocities) of the 20 and 40 m GPC barrels used to recover cores. Exact hole positions and depths are given in Table T1, Hydroacoustics, and Table T1 in the Expedition 386 methods chapter (Strasser et al., 2023a). SP = shotpoint.

Figure F3. Bathymetry and grid of subbottom profiler lines acquired at Sites M0084 and M0085 in Basin N3. Contour interval = 5 m.

Figure F4. Trench-perpendicular Line 386-Underway_083, toward the north of the basin, showing the acoustic character of Basin N3. SP = shotpoint.

Figure F5. Trench-perpendicular Line 386-Underway_037, which lies in the center of basin and bounds Site M0084, showing the acoustic character of Basin N3. SP = shotpoint.

Figure F6. Trench-perpendicular Line 386-Underway_041, in the southern part of the basin, showing the acoustic character of Basin N3. SP = shotpoint.

Figure F7. Trench-perpendicular Line 386-Underway_046, the southernmost line in the basin, showing the acoustic character of Basin N3. SP = shotpoint.

Figure F8. Subbottom profiles around Site M0084.

Figure F9. Trench-perpendicular Line 386-Underway_038, which lies immediately south of Site M0084, showing the acoustic character at Site M0084. SP = shotpoint.

Figure F10. Trench-parallel Line 386-Underway_029, which intersects Sites M0084 and M0085, showing the acoustic character along the strike of the trench and comparing the full section at Site M0084 with the condensed section at Site M0085. SP = shotpoint.

Figure F11. Subbottom profiles around Site M0085.

Figure F12. Trench-perpendicular Line 386-Underway_033, which intersects Site M0085, showing the acoustic character at Site M0085. SP = shotpoint.

Figure F13. Lithostratigraphic summary, Holes M0084A and M0084B. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second.

Figure F14. Ternary diagrams of major components and grain size, Site M0084.

Figure F15. Smear slide summaries, Holes M0084A and M0084B. The most abundant lithogenics (clay, quartz, feldspar, and pyrite) are in a brown color gradient, the volcaniclastics/vitrics are pink, and the biogenics are in a blue gradient for the siliceous biogenics (diatoms, sponge spicules, and radiolaria) and are green for the calcareous microfossils. See legend in Figure F14 in the Expedition 386 methods chapter (Strasser et al., 2023a). XCT = X-ray CT.

Figure F16. Lithologic and biogenic components, Sites M0084 and M0085.

Figure F17. Lithostratigraphic summary, Holes M0084C and M0084D. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second. (Continued on next page.)

Figure F18. Smear slide summaries, Holes M0084C and M0084D. The most abundant lithogenics (clay, quartz, feldspar and pyrite) are in a brown color gradient, the volcaniclastics/vitrics are pink, and the biogenics are in a blue gradient for the siliceous biogenics (diatoms, sponge spicules, and radiolaria) and are green for the calcareous microfossils. See legend in Figure F14 in the Expedition 386 methods chapter (Strasser et al., 2023a). XCT = X-ray CT. (Continued on next page.)

Figure F19. A–K. Sedimentary structures, Sites M0084 and M0085.

Figure F20. Lithostratigraphic summary, Holes M0084E and M0084F. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second. (Continued on next page.)

Figure F21. Smear slide summaries, Holes M0084E and M0084F. The most abundant lithogenics (clay, quartz, feldspar and pyrite) are in a brown color gradient, the volcaniclastics/vitrics are pink, and the biogenics are in a blue gradient for the siliceous biogenics (diatoms, sponge spicules, and radiolaria) and are green for the calcareous microfossils. See legend in Figure F14 in the Expedition 386 methods chapter (Strasser et al., 2023a). XCT = X-ray CT. (Continued on next page.)

Figure F22. Lithostratigraphic summary, Holes M0085A and M0085B. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second.

Figure F23. Ternary diagrams of major components and grain size, Site M0085.

Figure F24. Smear slide summaries, Holes M0085A and M0085B. The most abundant lithogenics (clay, quartz, feldspar and pyrite) are in a brown color gradient, the volcaniclastics/vitrics are pink, and the biogenics are in a blue gradient for the siliceous biogenics (diatoms, sponge spicules, and radiolaria) and are green for the calcareous microfossils. See legend in Figure F14 in the Expedition 386 methods chapter (Strasser et al., 2023a). XCT = X-ray CT.

Figure F25. Lithostratigraphic summary, Holes M0085C and M0085D. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second. (Continued on next page.)

Figure F26. Smear slide summaries, Holes M0085C and M0085D. The most abundant lithogenics (clay, quartz, feldspar and pyrite) are in a brown color gradient, the volcaniclastics/vitrics are pink, and the biogenics are in a blue gradient for the siliceous biogenics (diatoms, sponge spicules, and radiolaria) and are green for the calcareous microfossils. See legend in Figure F14 in the Expedition 386 methods chapter (Strasser et al., 2023a). XCT = X-ray CT. (Continued on next page.)

Figure F27. XRD mineralogy summary plots, Holes M0084F and M0085D.

Figure F28. A–E. Tephras within intervals (brackets) in Basin N3, Sites M0084 and M0085.

Figure F29. Tephras. A. 386-M0084F-1H-22, 75 cm. B. 386-M0085D-1H-15, 89.5. C. 386-M0085B-1H-15, 85 cm. D. 386-M0085D-1H-33, 65 cm. E. 386-M0085D-1H-34, 33 cm.

Figure F30. SiO_2 versus oxides in volcanic glass shards (386-M0085D-1H-33, 108.5 cm) analyzed by SEM-EDS. Glass shards in this sample are divided into three groups according to K_2O content. Colored symbols depict separation of groups; no interpretation available.

Figure F31. Abundance changes of radiolarian species *L. setosa*, *C. davisiana*, and the *Tetrapyle* group and their probable correlation between Holes M0084D and M0085D. See Micropaleontology in the Expedition 386 methods chapter (Strasser et al., 2023a) for explanations of radiolarian zonation and events.

Figure F32. Parallel laminations where Sample 386-M0085D-1H-28, 98.5–101.5 cm, was taken for foraminifera (marked by white plug).

Figure F33. IW salinity, total alkalinity, and ammonium (NH_4^+) concentrations, Site M0084.

Figure F34. IW salinity, total alkalinity, and ammonium (NH_4^+) concentrations, Site M0085.