

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. Site M0087. 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 around Site M0087 in Basin C/N3. Contour interval = 5 m.

Figure F4. Trench-perpendicular Line 386_Underway_095, at the northern end of the basin, showing the acoustic characteristics of Basin C/N3. SP = shotpoint.

Figure F5. Line 386_Underway_051, in the center of Basin C/N3, showing the acoustic character of the basin. SP = shotpoint.

Figure F6. Line 386_Underway_054, at the southern end of the basin, showing the acoustic character of Basin C/N3. SP = shotpoint.

Figure F7. Subbottom profiles around Site M0087 in Basin C/N3.

Figure F8. Line 386_Underway_049, showing the acoustic character at Site M0087 in Basin C/N3. SP = shotpoint.

Figure F9. Line 386_Underway_053, showing the acoustic character south of Site M0087 in Basin C/N3. SP = shotpoint.

Figure F10. Lithostratigraphic summaries, Holes M0087A and M0087B. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second.

Figure F11. Lithostratigraphic summaries, Holes M0087C and M0087D. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second. (Continued on next page.)

Figure F12. Smear slide summaries, Site M0087. The most abundant lithogenics (clay, quartz, feldspar, and pyrite) are in a brown color gradient, the volcanics/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 two pages.)

Figure F13. Ternary diagrams of major components, Site M0087.

Figure F14. Main lithologic components, Site M0087. A. Silty clay including olive-black (7.5Y 3/2) silt patches at ~31 cm. B. Silt parallel laminated gray silty clay (7.5Y 4/1). C. Matrix-supported floating mud clasts in grayish olive (7.5Y 4/2) silty clay. The clasts are relatively bright (7.5Y 5/2) and dark (7.5Y 3/2). Clast size ranges ~2–10 cm in diameter. D. Fining-upward event bed ranging from fine sand to clay. The basal contact of this event is erosive and sharp. A slight bioturbated clay (36.0–39.0 cm) occurs at the top of this event. E. Silty clay that includes ~3 mm sized black spots, indicating slight bioturbation intensity and sparse iron monosulfide intensity.

Figure F15. XRD mineralogy, Hole M0087D.

Figure F16. Core closeup photos of tephra within intervals (brackets) in Basin C/N3, Site M0087. A. M0087B-1H-8, 39 cm (386-M0087B-1H-8, 35–39 cm). B. M0087B-1H-19, 16.4 cm (386-M0087B-1H-19, 15.6–16.4 cm). C. M0087D-1H-20, 87.5 cm (386-M0087D-1H-20, 87–87.5 cm). D. M0087D-1H-24, 87.5 cm (386-M0087D-1H-23, 85 cm, to 1H-24, 87.5 cm).

Figure F17. Smear slides representing tephra. A. Tephra M0087B-1H-8, 39 cm. B. Tephra M0087B-1H-19, 16.4 cm. C. Tephra M0087D-1H-20, 87.5 cm. D. Tephra M0087D-1H-24, 87.5 cm.

Figure F18. IW salinity, total alkalinity, and ammonium (NH_4^+) concentrations, Site M0087.

Figure F19. IW V, Mo, and U concentrations, Site M0087.

Figure F20. IW Li, B, Si, Mn, Fe, Sr, and Ba concentrations, Site M0087.

Figure F21. IW Cl^- , Br^- , and SO_4^{2-} concentrations, Site M0087.

Figure F22. Methane, ethane, and methane to ethane (C_1/C_2) ratios (red diamonds), Holes M0087D and M0087C.

Figure F23. Solid-phase XRF contents of Al, Ca, Fe, Mn, and Si, Site M0087. Open symbols = trigger core samples.

Figure F24. Solid-phase contents of TC, TOC, TIC, and TS, Site M0087.

Figure F25. Physical properties summary, Holes M0087A and M0087B. Bulk density: black and orange curves = MSCL, red and blue dots = MAD. *P*-wave velocity: black and orange curves = MSCL, red and blue dots = laboratory-derived data with error bars of ± 50 m/s. Orange curves and blue dots = trigger core (Hole M0087A), black curves and red dots = GPC core (Hole M0087B). MS = magnetic susceptibility, cps = counts per second.

Figure F26. Physical properties summary, Holes M0087C and M0087D. Bulk density: black and orange curves = MSCL, red and blue dots = MAD. *P*-wave velocity: black and orange curves = MSCL, red and blue dots = laboratory-derived data with error bars of ± 50 m/s. Orange curves and blue dots = trigger core (Hole M0087C), black curves and red dots = GPC core (Hole M0087D). MS = magnetic susceptibility, cps = counts per second.

Figure F27. Undrained shear strength from fall cone and AVS, Site M0087.

Figure F28. MAD data, Holes M0087A (orange) and M0087B (black).

Figure F29. MAD data, Holes M0087C (orange) and M0087D (black).

Figure F30. Color data, Hole M0087B.

Figure F31. Color data, Hole M0087D.

Figure F32. Intensity, inclination, and declination, Holes M0087A and M0087C.

Figure F33. Intensity, Holes M0087B and M0087D.

Figure F34. Declination, Holes M0087B and M0087D.

Figure F35. Corrected declination, Holes M0087B and M0087D.

Figure F36. Inclination, Holes M0087B and M0087D.