

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 M0093. 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, Hydro-acoustics, and Table T1 in the Expedition 386 methods chapter (Strasser et al., 2023a). SP = shotpoint.

Figure F3. Bathymetry and location of the subbottom profile line acquired around Site M0093 in Basin C/N1. Contour interval = 5 m.

Figure F4. Line 386_Underway_055, showing the acoustic character in Basin C/N1 and at Site M0093. SP = shotpoint.

Figure F5. Lithostratigraphic summary, Holes M0093A and M0093B. XCT = X-ray CT, MS = magnetic susceptibility, cps = counts per second. (Continued on next page.)

Figure F6. Smear slide summary, Holes M0093A and M0093B. The most abundant lithogenics (clay, quartz, feldspar and pyrite) are in a brown color gradient, the volcanoclastics/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 F7. Ternary diagrams of major components and composition, Site M0093.

Figure F8. Lithologic and biogenic components, Site M0093.

Figure F9. X-ray CT images and line scans, Site M0093.

Figure F10. Core close-up photos, Site M0093.

Figure F11. XRD mineralogy, Hole M0093B.

Figure F12. IW salinity, total alkalinity, and ammonium (NH_4^+) concentrations, Site M0093.

Figure F13. IW V, Mo, and U concentrations, Site M0093.

Figure F14. IW Li, B, Si, Mn, Fe, Sr, and Ba concentrations, Site M0093.

Figure F15. IW Cl^- , Br^- , and SO_4^{2-} concentrations, Site M0093.

Figure F16. Methane (C_1) and ethane (C_2) concentrations and C_1/C_2 ratios from Hole M0093B and one trigger core sample at 0.665 mbsf in Hole M0093A (red diamonds).

Figure F17. Solid-phase major elements in sediments, Site M0093. Open symbols = trigger core samples.

Figure F18. TC, TOC, TIC, and TS in sediments, Site M0093.

Figure F19. Physical properties summary, Holes M0093A (orange) and M0093B (black). Bulk density: blue = Hole M0093A, red = Hole M0093B. *P*-wave velocity: diamond = Hole M0093A, dots = Hole M0093B, error bars = ± 50 m/s. Undrained shear strength was measured with the handheld penetrometer. MS = magnetic susceptibility, cps = counts per second.

Figure F20. Undrained shear strength from the fall cone penetrometer and AVS, Site M0093.

Figure F21. MAD data, Holes M0093A (orange) and M0093B (black).

Figure F22. Color data, Hole M0093B.

Figure F23. Intensity, inclination, and declination, Hole M0093A.

Figure F24. Intensity, declination, corrected declination, and inclination, Hole M0093B.