Figure F1. A. Bathymetric map of South China Sea region. Solid yellow circles = Expedition 349 sites. Solid pink circles = ODP Leg 184 sites. Yellow dashed line = inferred continent/ocean boundary, blue lines = fossil South China Sea spreading center, white-flagged line = Manila Trench. B. Detailed bathymetry around Site U1432 (red box in A) showing nearby continental shelf, the Manila Trench, and inferred continent/ocean boundary.

Figure F2. Shaded map of magnetic anomalies near Site U1432 (data from Ishihara and Kisimoto, 1996). Black lines mark 3000 m isobaths outlining the continental shelf and seamounts. Symbols are magnetic picks from Briais et al. (1993).

Figure F3. A. Regional contoured bathymetric map showing seismic reflection profiles (yellow and red lines) and the location of Sites U1432 and U1435 and ODP Site 1148. Contour interval = 100 m. B. Seismic profile Line 08ec1573 with location of Site U1432. SP = shotpoint. Green line = interpreted top of basement, blue line = interpreted Oligocene/Miocene boundary.

Figure F4. Lithostratigraphy summary.

Figure F5. Pyrite nodule in a clay layer (349-U1432C-7H-2A). A. Close-up showing nodule shape. B. Reflected-light thin section showing microcrystals of pyrite and shapes of foraminifers (113–117 cm; TS64).

Figure F6. Very thin, upward-fining, sharp-based silt layers, Hole U1432C (12H-1A, 100–113 cm).

Figure F7. Magnetic susceptibility and reflectance spectroscopy profiles (after 10-point running average), Site U1432. The shaded area correlates with a prominent sand layer.

Figure F8. Correlation of lithology with magnetic susceptibility and reflectance spectroscopy (349-U1432C-11H-6A).

Figure F9. Sand in Unit I of Hole U1432C consisting mainly of quartz, feldspar, volcanic glass, and foraminifer fragments (6H-5A, 90 cm).

Figure F10. Light-colored ash layer, Hole U1432C (7H-5A, 23–32 cm).

Figure F11. Two types of green layers, Hole U1432C. A. Graded silt layer with very thin bedded green layer (11H-3A, 60–67 cm). B. Green layer in mud layer with strong bioturbation (12H-4A, 29–36 cm).

Figure F12. Age-depth model.

Figure F13. Interstitial water chloride, bromide, sodium, and potassium. Blue dashed lines = modern seawater values.

Figure F14. Interstitial water sulfate, alkalinity, ammonium, and phosphate. Blue dashed lines = modern seawater values.

Figure F15. Interstitial water calcium, magnesium, strontium, and boron. Blue dashed lines = modern seawater value.

Figure F16. Interstitial water iron, manganese, lithium, and silica. Blue dashed line = modern seawater value.

Figure F17. Headspace methane, Hole U1432C.

Figure F18. Calcium carbonate, TOC, TN, and C/N ratios.

Figure F19. Microbiology whole-round and interface samples and contamination testing samples.

Figure F20. Paleomagnetic measurements of NRM inclination and intensity on archive core sections after 0 mT (red) and 20 mT (blue) AF demagnetization for Hole U1432C.

Figure F21. Representative vector endpoint diagrams (Zijderveld, 1967) for sediment samples through stepwise AF demagnetization. A, C. Normal polarity. B, D. Reversed polarity. Most samples display a normal vertical component of drilling-induced magnetization that is removed after 10 mT AF demagnetization.

Figure F22. Magnetostratigraphic results, Hole U1432C. Paleomagnetic inclination after 20 mT AF demagnetization. Green arrows indicate steep characteristic remanent magnetization inclinations at the end of each core caused by overprints of drilling-induced magnetization. For polarity and GPTS (Gradstein et al., 2012), black = normal polarity and white = reversed polarity.

Figure F23. Comparison of magnetic susceptibility curves. Thin dashed lines show interpreted correlation between ash layers in the 2 holes. Note the different depth scales in these 2 plots, indicating that the sedimentation rate for Site U1432 is ~2 times higher than that of Site U1431 for the same age interval.

Figure F24. Physical property measurements, Hole U1432C. Red arrows = ash layers, yellow arrows = thin sand/silt layers. Shaded yellow bar corresponds to a sand layer between 52 and 54 mbsf with higher *P*-wave velocity, lower magnetic susceptibility, and lower NGR than the clay. Porosity was measured on discrete samples, and thermal conductivity was measured on whole-round sections.

Figure F25. APCT-3 temperature-time series with extrapolated formation temperature estimates, Site U1432.

Figure F26. Heat flow calculations, Site U1432. A. APCT-3 sediment temperatures. B. Thermal conductivity data from Hole U1432C (circles and dashed line) with calculated thermal resistance (solid line). C. Bullard plot of heat flow calculated from a linear fit of the temperature data.