Figure F1. Map showing heat flow data and ODP/Integrated Ocean Drilling Program transects and sites in the Nankai Trough (modified from Harris et al., 2013). Marine probes (circles), boreholes (stars), and bottom-simulating reflectors (small circles) are color coded by heat flow. On land, circles show borehole values of heat flow.

Figure F2. Cell count plots for Site 1174 with depth and temperature axes (Shipboard Scientific Party, 2001c). First drop of cell counts below detection limit occurs around 550 mbsf, which corresponds to ~65°C. Interestingly, counts exceeded detection limit again in deeper sediment just above the décollement at around 800 mbsf, where temperatures presumably reached 90°C; no cell detection was reported for samples from greater depths.

Figure F3. Regional bathymetry map around Site C0023. Locations of Site C0023 (yellow) and existing nearby ODP drill sites (white) are shown. Black box = area of 3-D seismic reflection volume along Muroto Transect (Bangs et al., 2004; Gulick et al., 2004; Moore, Taira, Klaus, et al., 2001). Inset: general tectonic configuration of Japanese Island system.

Figure F4. Close-up bathymetry map around Site C0023. Yellow circle = Site C0023, white circles = existing nearby ODP drill sites. Red outline = area of 3-D seismic reflection volume of Muroto Transect, yellow dashed lines = cropped seismic sections of In-line (IL) 332 and Cross-line (XL) 781. MCS = multichannel seismic.

Figure F5. Prestack depth migration seismic section of IL 332 cropped into region of interest. Original data are available at **http://www-udc.ig.utexas.edu/sdc/cruise.php?cruiseIn=ew9907**. Blue line = position of Site C0023 (with a depth scale in meters below seafloor), green arrows = horizons of top of décollement zone and oceanic basement. MSL = from mean sea level.

Figure F6. Depth-converted prestack time migration seismic section of IL 781 cropped into region of interest with geological interpretation. Original data are available at **http://www-udc.ig.utexas.edu/sdc/cruise.php?cruiseIn=ew9907**. Blue arrow = projected position of Sites 808 and 1174.

Figure F7. Composite figures of lithology, mineralogy, structural geology, and physical properties, Hole C0023A. XRD = X-ray diffraction. Plag = plagioclase.

Figure F8. Geochemical profiles for sulfate, methane, alkalinity, DIC, and dissolved ferrous iron and manganese, Hole C0023A. Lithostratigraphic units are also shown.

Figure F9. Hydrocarbon gas concentrations, Hole C0023A. Data are from headspace samples taken from dedicated COMGAS WRC slices (sample code 370HS). C_1 from headspace analyses of safety gas samples taken in core cutting area immediately after arrival on catwalk (sample code HS) is also shown.

Figure F10. Schematic overview of drilling fluid pumping and contamination sampling procedure used during Expedition 370. A. Pumping of drilling fluid. B. Injection of PFC tracer into drilling fluid. HPLC = high-pressure liquid chromatography. Sampling scheme for (C) drilling fluid contamination test and (D) MBIO2 WRCs (used for DNA analysis). CC = core catcher. L = liquid, S = scraping, FAL = Falcon tube. IN = interior, MD = middle, EX = exterior.

Figure F11. Preliminary cell count data obtained during Expedition 370, Hole C0023A. Cell counts will be reevaluated postexpedition in light of QC assessments and uncertainty analysis. BD = below detection (dashed line).

Figure F12. Transmission electron micrographs of microorganisms separated and sorted from sediment (C0023A-6F-2; 304 mbsf).