Figure F1. Location maps, Expedition 405. A. Northeastern Japan showing locations of Sites C0019, C0026, and Site 436. White lines = slip contours from 2011 Tohoku-oki earthquake (after Iinuma et al., 2012). NA/OK = North America or Okhotsk plate, PA = Pacific plate. B. Inset map showing major physiographic features of Japan Trench and locations of Sites C0019 and C0026.

Figure F2. Site survey data, Expedition 405. A. Unannotated high-resolution multichannel seismic reflection Profiles HD33B and HDMY001 showing locations of Sites C0019 and C0026. B. Interpreted seismic line from A showing structure of incoming and overriding plate. Seismic units after Nakamura et al. (2013, 2020) and their correlation to Site 436 (Shipboard Scientific Party, 1980). CDP = common depth point, VE = vertical exaggeration.

Figure F3. Summary of units, chronology, and selected IW chemistry data, Site 436 (Shipboard Scientific Party, 1980).

Figure F4. Summary of LWD, core, and observatory data from Expedition 343 Site C0019 that provide information on composition and structures present in the frontal prism. a = Expedition 343/343T Scientists, 2013; b = Regalla et al., 2019; c = Fulton and Brodsky, 2016; d = Rabinowitz et al., 2015; e = Rabinowitz et al., 2020. VCD = visual core description.

Figure F5. Locations of holes drilled during Expedition 405. A. Expedition 405 Holes C0019E–C0019Q; Expedition 343 Holes C0019A–C0019D; and site survey Seismic Lines JDF1, HD33L, HD33B, and HS41. B. Holes C0026A–C0026E and site survey Seismic Lines HDMY001 and JTXC02. Diamonds = position of ship during drilling, circles = locations of sites on seafloor determined from position of UWTV.

Figure F6. Operations, Expedition 405. CBRT = core barrel retrieving tool. RCB = rotary core barrel, HPCS = hydraulic piston coring system, POOH = pull out of hole.

Figure F7. Logging data and visual core description, Site C0026. Gamma ray (GR) and resistivity (medium) measured with LWD tools (dotted horizontal lines = logging unit boundaries). Lithostratigraphic units and summary and structural data are compiled from visual core description of HPCS cores from Holes C0026C–C0026E and SD-RCB cores collected from Hole C0026B. Preliminary biostratigraphic ages from diatom assemblages and initial age-depth profile. Dashed horizontal lines = lithostratigraphic subunit boundaries, solid horizontal lines = lithostratigraphic unit boundaries.

Figure F8. Physical properties and IW geochemistry measurements, Site C0026. Gamma ray (GR) and resistivity (medium) from Figure F7 are shown for reference. Magnetic susceptibility is shown for continuous measurements on archive half (gray) and discrete sample measurements (black circles). Bulk density and porosity are measured from discrete samples. Preliminary biostratigraphic ages from diatom and radiolarian assemblages and initial age-depth profile. Dashed horizontal lines = lithostratigraphic subunit boundaries, solid horizontal lines = lithostratigraphic unit boundaries.

Figure F9. Logging data and visual core description, Site C0019. Gamma Ray (GR) and resistivity (medium) measured with LWD tools (dotted horizontal lines = logging unit boundaries). Lithostratigraphic units and summary and structural data are compiled from visual core description of HPCS cores from Holes C0019L and C0019M and SD-RCB cores collected from Holes C0019J and C0019K. Dashed horizontal lines = lithostratigraphic subunit boundaries, solid horizontal lines = lithostratigraphic unit boundaries, red lines = major faults as detailed in Site C0019.

Figure F10. Physical properties and IW geochemistry measurements, Site C0019. LWD gamma ray (GR) and resistivity (medium) from Figure F9 are shown for reference. Magnetic susceptibility is shown for continuous measurements on archive half (gray) and discrete sample measurements (black circles). Bulk density and porosity are measured from discrete samples. Dashed horizontal lines = lithostratigraphic subunit boundaries, solid horizontal lines = lithostratigraphic unit boundaries, red lines = major faults as detailed in Site C0019.