

Figure F1. APC system used during Expedition 372.

Figure F2. Example VCD sheet, Expedition 372. cps = counts per second.

Figure F3. Graphic patterns and symbols used on VCDs, Expedition 372.

Figure F4. New Zealand Pliocene–Pleistocene timescale calibrated to GTS2012 (Gradstein et al., 2012) after Raine et al. (2015) and used during Expedition 372. GPTS = geomagnetic polarity timescale. Black = normal polarity, white = reversed polarity. Triangles = base (B), inverted triangles = top (T), solid triangles = formally defined stratotype section and point (SSP), open triangles = no formally defined SSP. Taxa in parentheses denote proxy events.

Figure F5. Adopted marine paleoenvironmental classification and environmental thresholds after Hayward et al. (2010) and calibrated paleodepth markers after Crundwell et al. (1994) and GNS Science (unpubl. data) used during Expedition 372.

Figure F6. IODP coordinate systems for archive and working halves and SRM. Data uploaded to LIMS database are given in IODP coordinate convention.

Figure F7. (A) APCT-3 and (B) T2P deployed with MDHDS, Expedition 372.  $\varnothing$  = diameter.

Figure F8. ERS-MDHDS-T2P tool string assembly, Expedition 372. Purple = ERS, brown = MDHDS OBS, green = MDHDS IBS, red = T2P.

Figure F9. Deployment procedures for T2P with ERS and MDHDS, Expedition 372. Brown = MDHDS OBS, green = MDHDS IBS. A. MDHDS lands in BHA. B. ERS (purple) unlatches from MDHDS and is raised in the drill string. C. Drill string is pressurized, MDHDS unlatches, and T2P (red) is driven out of flapper assembly into the formation. D. BHA is raised to provide heave leeway. E. After collecting temperature and pressure dissipation data, ERS is lowered and latched to MDHDS so that tool assembly can be retrieved via wireline.

Figure F10. Schematic of SETP, Expedition 372.

Figure F11. LWD BHA, Site U1517.

Figure F12. Safety decision tree for LWD/MWD pressure monitoring, Expedition 372.

Figure F13. Image orientation to true north for geoVISION tool, Expedition 372.

Figure F14. Resistivity images, Expedition 372. A. Bedding. B. Conductive fracture. C. Resistive fracture.