Figure F1. A. Tectonic and magmatic elements of the Jan Mayen Corridor. Insets: (B) Kolga High (see Figures F2 and F3), (C) Modgunn Arch (see Figures F1 and F2 in the Sites U1567 and U1568 chapter [Planke et al., 2023b]), and (D) Mimir High (see Figures F1 and F2 in the Sites U1569 and U1570 chapter [Planke et al., 2023c]) regions.

Figure F2. Interpreted seismic profile showing the regional setting of the Kolga High at the western termination of the Møre Basin. The profile is modified from Zastrozhnov et al. (2020) and located in Figure F1. ? = subbasalt terrain of uncertain lithology, white arrows = inferred detachment direction.

Figure F3. High-resolution 2-D Seismic Line CAGE-2 across the outer Kolga High (Bünz et al., 2020). Basalt flows sampled in Hole U1566A pinch out toward the summit of the high, where highly weathered granites were found beneath a thin veneer of Quaternary sediments in Holes U1565A and U1565B. See Figure F1 for location.

Figure F4. Lithostratigraphic summary, Site U1565. Images from the Unit I–II transition are included for each hole. Red symbols = stratigraphic position. Depths for Cores 396-U1565A-2R and below are shifted vertically (downward) to preliminarily align Unit I/II boundaries for the two holes using a single tie and do not correspond to the CSF-A depth scale. Hole U1565B is plotted versus a CSF-A scale. In Hole U1565A, polymetallic concentric nodules are observed above the unit boundary. In Hole U1565B, gravelly clays with sand are observed above the unit boundary.

Figure F5. Sediment and matrix material. A–D. Unit I sediment, Holes U1565A and U1565B. E, F. Matrix material from the gravelly clay with sand at the base of Unit I, Hole U1565B. Left: plane-polarized light (PPL), right: cross-polarized light (XPL).

Figure F6. Unit II macroscopic observations, Hole U1565A. Top: presence of centimeter-scale enclave is highlighted. Bottom: dominant mineralogy is shown with quartz (qtz), plagioclase (pl), alkali feldspar (kfs), and biotite (bt).

Figure F7. Microstructure of monzogranite (Unit II; 396-U1565A-3R-1, 30–32 cm). A, B. Contact between light-colored enclave and the granitic host (A = PPL, B = XPL). C, D. Alteration features of the alkali-feldspar in the monzogranite: (C) zeolite corona surrounding alkali-feldspar grain partly altered in clay mineral (PPL); (D) coarse grain of alkali-feldspar fully altered into clay mineral (XPL). E, F. Subophiotic texture in the enclave including a large anhedral grain of quartz with intergrowth of smaller prismatic plagioclase grains (E = PPL; F = XPL). Bt = biotite, qtz = quartz, pl = plagioclase, fsd = feldspar.

Figure F8. A–O. Magnetic parameters measured on the SRM, Hole U1565A. Paleomagnetic intensities are on a logarithmic scale.

Figure F9. A–O. Magnetic parameters measured on the SRM, Hole U1565B. Paleomagnetic intensities are on a logarithmic scale.

Figure F10. Magnetic coercivity parameter measured on the SRM, Hole U1565A. The granite shows relatively low magnetic coercivity (<0.4), whereas the upper sedimentary units have higher coercivities (>0.4).

Figure F11. Top left: stereonet of paleomagnetic directions from AF demagnetization of NRM (up to 90 mT), Sample 396-U1565B-1R-3, 40–42 (sediment). Equal area projection in geographic framework. Top right: orthographic projection of demagnetization experiments. Bottom: normalized magnetization intensity as a function of applied field in AF demagnetization experiments, showing magnetically hard demagnetization behavior.

Figure F12. Top left: stereonet of paleomagnetic directions from AF demagnetization of NRM (up to 100 mT), Sample 396-U1565A-3R-1, 52–54 (granite). Equal area projection in geographic framework. Top right: orthographic projection of demagnetization experiments. Bottom: normalized magnetization intensity as a function of applied field in AF demagnetization experiments, showing magnetically soft demagnetization behavior.

Figure F13. Top left: stereonet of paleomagnetic directions from AF demagnetization of NRM (up to 100 mT), Sample 396-U1565A-4R-1, 55–57 (granite). Equal area projection in geographic framework. Top right: orthographic projection of demagnetization experiments. Bottom: normalized magnetization intensity as a function of applied field in AF demagnetization experiments, showing magnetically soft demagnetization behavior. Demagnetization behavior suggests the presence of two distinct magnetization events: one magnetically reverse component carried by a weakly coercive phase (<~15 mT) and one normal component carried by a more coercive phase.

Figure F14. IW chemical profiles, Hole U1565B.

Figure F15. (A) Alkali-lime index ($Na_2O + K_2O - CaO$) vs. SiO_2 and (B) FeO*/(FeO + MgO) vs. SiO_2, Hole U1565A.

Figure F16. Deconvolved NGR spectra, Holes U1565A and U1565B.

Figure F17. Inorganic carbon, calcium carbonate, total carbon, total nitrogen, and organic carbon, Holes U1565A and U1565B.

Figure F18. Physical properties summary, Hole U1565A. Filtered point data is presented alongside interpolated traces for selected data with a running average of 50 cm and a maximum interpolation gap of 50 cm applied (denoted "r" in headers). ROP calculated from the RigWatch drilling data is plotted to highlight the depth at which the basement was intersected. cps = counts per second, G. = SHMG, WR = WRMSL.

Figure F19. Physical properties summary, Hole U1565B. Filtered point data is presented alongside interpolated traces for selected data with a running average of 50 cm and a maximum interpolation gap of 50 cm applied (denoted "r" in headers). ROP calculated from the RigWatch drilling data is plotted to highlight the depth at which the basement was intersected. cps = counts per second, G. = SHMG, WR = WRMSL.