Figure F1. Bathymetry with seismic lines, Site U1505. Note that the site is not at the exact crossing of seismic Lines 04ec1555 and 15ecLW1. Seismic profiles across Site U1505 are shown in Figures F5 and F6. Common depth point (CDP) numbers are shown along seismic lines.

Figure F2. Bathymetric maps showing Expedition 367/368 sites (stars), and (A) regional and (B) local coverage of multichannel seismic reflection data and OBS data. Thick blue and red lines are key seismic lines used for planning of the drilling transect. A. Magnetic isochrons (orange lines) from Briais et al. (1993). B. Magnetic picks (orange squares) from the same reference, extracted from the Seton et al. (2014) compilation. Chron labels for the picks correspond to the old edge of the normal polarity intervals (see Ogg et al. [2016] timescale for ages). Orange square = Leg 184 Site 1148, yellow squares = Expedition 349 Sites U1432 and U1435.

Figure F3. Lithostratigraphic and biostratigraphic summary, Site U1505.

Figure F4. Data characterizing chemical anomalies associated with the T60 regional seismic marker, Site U1505.

Figure F5. Site U1505 location and penetration depth on seismic dip Line 15ecLW1 (original predrilling interpretation). Seismic stratigraphic T30 (5.3 Ma), T32 (10.0 Ma), T50 (19.1 Ma), T60 (23.0 Ma), T80 (38.0 Ma), T82 (unknown age), and T83 (unknown age) unconformities and acoustic basement Tg reflector are shown (for inferred predrilling ages, see Seismic stratigraphic framework in the Expedition 367/368 methods chapter [Sun et al., 2018]).

Figure F6. Site U1505 seismic strike location and penetration depth on Line 04ec1555 (original and predrilling interpretation). See Figure F5 for description of seismic interpretations. Dashed lines = unconformities, red solid lines = faults.

Figure F7. Lithostratigraphic summary, Site U1505.

Figure F8. Representative images of core sections from three subunits in Unit I, Hole U1505C. A. Dark greenish gray biosiliceous-rich clay with nannofossils. A vague lamination is disrupted by bioturbation. B. Slight variation in texture and color related to changes in the percentage of clay and foraminifers. Upper part is more clay rich than the lower section. C. Light brownish gray clay-rich nannofossil ooze (with foraminifers). As for B, the variation in color and texture in Subunit IC corresponds to variations in the lithology. Mottled color variation is due to bioturbation. D. Nannofossil-rich clay with nannofossils, sponge spicules, radiolarians, and terrigenous grains in Subunit IA.

Figure F9. Bulk mineralogy data from shipboard XRD analysis, Hole U1505C.

Figure F10. A. Pinkish gray ash layer. B. Transparent glass shards dispersed in nannofossil-rich clay. C. Thin black ash layer and dispersed ash. D. Glass shards with clay minerals in the black ash shown in C.

Figure F11. A. Fining-upward interval with foraminiferal silty sand grading upward to nannofossil-rich silty clay and then to nannofossil ooze with foraminifers. B. Two fining-upward intervals with nannofossil-rich silty clay grading upward into nannofossil ooze with clay. C. Fining-upward interval with pyrite-rich silty sand grading upward into clay-rich nannofossil ooze. The interval has been disrupted by bioturbation. Note the green reduced sediment in the silty sand interval and green reduction spots in the clay-rich nannofossil ooze. D. Detail of foraminiferal silty sand shown in A. E. Detail of silty sand shown in C.

Figure F12. A, B. Destruction of sedimentary features caused by drilling disturbance (basal flow-in) that affected Cores 368-U1505C-19H through 47F.

Figure F13. Typical ichnospecies in Subunit IC. A. Large inclined burrow with uneven walls. B. *Chondrites* (Ch), *Planolites* (Pl), and *Zoophycos* (Zo). Note the foraminifers on the core surface. C. Combination of horizontal, vertical, and inclined burrows. D. Inclined *Zoophycos* burrow.

Figure F14. Special features in Unit II. A. Thick lamination rich in glauconite grains interbedded with dark greenish gray silty clay with disseminated glauconite. B. Glauconite grains in silty clay. C. Diagenetic pyrite grains possibly replacing a burrow fill and lamination in heavily bioturbated nannofossil-rich silty clay. D. Organic matter in nannofossil-rich silty clay. E. Bivalve macrofossil in nannofossil-rich silty clay. Note the small shelly fragments on the core surface.

Figure F15. Deformation structures made of en echelon millimeter-scale normal faults and fractures, Unit II. Structures resemble those observed in Subunit IIA at Site U1501 (see Figure F27 in the Site U1501 chapter [Larsen et al., 2018a]).

Figure F16. Age-depth model, Site U1505. Plotted event data are in Tables T4 and T5 (see Paleomagnetism).

Figure F17. AF demagnetization plots of (A) archive-half section and (B–D) discrete samples, Hole U1505C sedimentary rocks. Zijderveld plots: solid squares = declination, open squares = inclination. Stereographic plots: solid squares = positive (down) inclination, open squares = negative (up) inclination. Calculated ChRM (blue line; red squares = measurements used in calculation) using PCA is also shown. A. Removal of drilling overprint in first step (5 mT). B. Soft demagnetization behavior up to 10 mT associated with removal of drilling overprint, followed by gradual demagnetization from 10 to 60 mT, characteristic of single-domain and pseudosingle-domain magnetite, and negative inclination of sample. C. Soft demagnetization behavior. D. Soft demagnetization behavior. MAD = maximum angular deviation.

Figure F18. Magnetization intensity vs. inclination showing effect of steep drilling overprint and core disturbance in Cores 368-U1505C-48X through 64X. Red dashed line = mean inclination for Cores 48X through 64X, black dashed line = mean inclination for Cores 1H through 47F.

Figure F19. Magnetic measurements, Hole U1505C. Inclination was used to determine polarity. AFD = AF demagnetization. Magnetostratigraphic features are referred to as n1, etc., in a sequential manner for convenience and have no bearing on chrons. Discrete samples are yellow and green. GPTS2016 = geomagnetic polarity timescale of Ogg et al. (2016).

Figure F20. AMS data, Hole U1505C. A. Stereonet of AMS principal directions (lower hemisphere, equal-area projection). K_1 = maximum axis, K_2 = intermediate axis; K_3 = minimum axis. Confidence ellipses at 95% level (same color convention) show dominantly planar and subhorizontal fabric (oblate), consistent with sedimentary fabric acquired in a calm pelagic environment. Tensorial means are shown with larger symbols of same color. B. Degree of magnetic anisotropy (P') vs. magnetic susceptibility (K_m). C. Shape parameter (T) vs. P' showing dominantly oblate symmetry of sedimentary fabric.

Figure F21. Methane, TOC/TN ratio and carbonate, and TOC and TS, Site U1505.

Figure F22. Crossplot of organic geochemical parameters, Site U1505. Solid circles = lithostratigraphic Subunit IA, open squares = Subunit IB, crosses = Subunit IC, open circles = Unit II.

Figure F23. Asphaltene concentrations per gram of sediment for mudline cores, Holes U1505A–U1505D.

Figure F24. Interstitial water alkalinity, major cations, and anions, Site U1505.

Figure F25. Comparison of SMTZs and key biogeochemical elements at Sites U1499, U1501, and U1505. T60 unconformity is a basin-wide regional marker.

Figure F26. Data illustrating sub-T60 unconformity halide interstitial water anomaly at Site U1505 and comparators at Sites U1499 and U1501.

Figure F27. Physical properties, Hole U1505C. cps = counts per second.

Figure F28. Physical properties, Hole U1505D.

Figure F29. MAD bulk density, dry density, grain density, and porosity, Hole U1505C.

Figure F30. Sediment color reflectance parameters L*, a*, and b* for Holes U1505C and U1505D and $CaCO_3$ content for Hole U1505C (see Geochemistry).

Figure F31. RGB values, Holes U1505C and U1505D.

Figure F32. Logging operations summary, Hole U1505C.

Figure F33. Tools used in triple combo tool string, Site U1505.

Figure F34. Downhole logs, Hole U1505C. HSGR = total spectral gamma ray, HCGR = computed (U-free) gamma ray, HROM = high-resolution corrected bulk density, RT = "true" resistivity, MS = magnetic susceptibility, HTHO = HNGS thorium, HURA = HNGS uranium.

Figure F35. Heat flow calculations, Site U1505. A. Sediment temperatures. B. Thermal conductivity data, Hole U1505C. C. Calculated thermal resistance. D. Bullard plot of heat flow calculated from a linear fit of temperature data.

Figure F36. Comparison of a subset of physical properties (MS, velocity, density, resistivity, and NGR) with seismic waveform (converted to depth scale using best-fitting TDR model) and seismic image (in timescale). Red circle = reference point (discussed in text).

Figure F37. Synthetic seismogram, Site U1505. Panels from left to right: PWC seismic velocity used in the calculation, resultant reflection coefficient (RC), real seismic traces with synthetic seismogram inserted in the center, and seismic source function "Ricker 2_25 Hz" used in modeling. TVD = true vertical depth.

Figure F38. A. Site U1505 TDR curve compared to Site U1501 TDR curve. Red circle = reference Point RP1 at 403 m, which coincides with noticeable changes in density and velocity. B. Hole U1505C PWC, logging V_P, and calculated interval velocity model from TDR model.

Figure F39. Seismic section (seismic Line 04ec1555) at Site U1505 with lithostratigraphic units overlain at drill hole location. Also shown are selected core measurements converted to depth scale using best-fitting TDR model.