

Figure F1. Expedition 390/393 drill site locations. Deep Sea Drilling Program Leg 3 sites are included for reference. Figure modified from Teagle et al. (2023). RGR = Rio Grande Rise, ERGR = eastern Rio Grande Rise, MAR = Mid-Atlantic Ridge, TdC = Tristan de Cunha.

Figure F2. Crossplots of common paleoceanographically important elements, Site U1557. Ca, Fe, Ti, Al, Si, K, are from the 10 kV scan, Sr and Br are from the 30 kV scan, and Ba is from the 50 kV scan.

Figure F3. Correlogram of elements above detection limits (>1000 counts/s), Site U1557. Spearman's rank correlation was used to determine the correlation between elements. Correlation is shown on a color gradient from purple to yellow (purple = negative correlation; yellow = positive correlation). Green to blue

colors indicate weak positive and negative correlations, respectively. The more spherical the shape within the correlogram, the less correlated the elements are, whereas an increased ellipticity of the shape is indicative of a higher correlation. The p values for each correlation are plotted in the center of each correlated element pair.

Figure F4. Magnetic susceptibility, spectral gamma ray, and scanning XRF counts of selected elements, Site U1557. Spectral gamma ray data are scaled to concentrations of individual elements: U (parts per million), Th (parts per million), and K (percent). Note the major chemostratigraphic shift at the Unit I/II boundary in the late Eocene. All XRF data are from the 10 kV scan except Zr, which is from the 30 kV scan.