

Figure F1. Expedition 401 site locations in Atlantic Ocean and Mediterranean Sea. Star = Site U1611 in Alborán Sea. ODP = Ocean Drilling Program, DSDP = Deep Sea Drilling Project.

Figure F2. Shipboard MS and NGR with select XRF elemental counts, Hole U1611B. Blue dots = elemental counts (Al, Si, Ti, Fe, Rb, Zr, Ca, Sr, Mn, and Ba), black lines = a 3-point moving average. X-axes for select elements have been limited to ensure plot readability for 99% of data (excluding outlier data points). Amplitude of variability for terrigenous elements (e.g., Al, Si, Ti, Fe, Rb, and Zr) changes at ~840, 870, 900, and 940 m CSF-A. Zanc = Zanclean. Red dashed box = data shown in Figure F3. cps = counts per second.

Figure F3. Close-up of MS, NGR, and select XRF elemental counts demonstrating somewhat inverse relationship between predominantly terrigenous and biogenic minerals with minimal cyclicity patterns, Core 401-U1611B-12R (red box in Figure F2). For explanation, see Figure F2. cps = counts per second.

Figure F4. Shipboard MS and NGR with select XRF elemental counts, Hole U1611A. Blue dots = elemental counts (Al, Si, Ti, Fe, Rb, Zr, Ca, Sr, Mn, and Ba), black lines = a 3-point moving average. X-axes for select elements have been limited to ensure plot readability for 99% of data (excluding outlier data points). Hole U1611A was only scanned during overnight scans at very high resolution,

so there is not currently a continuous record for this hole. Zan = Zanclean. cps = counts per second.

Figure F5. MS, NGR, and select XRF elemental counts in Figure F4 zoomed in to scanned cores (i.e., portions of Cores 401-U1611A-18R, 22R–24R, 28R, 30R, 34R, 36R, and 74R). Red dashed box = data shown in Figure F6. cps = counts per second.

Figure F6. Close-up MS, NGR, and select XRF elemental counts demonstrating somewhat inverse relationship between predominantly terrigenous and biogenic minerals with minimal cyclicity patterns, Core 401-U1611A-18R (red box in Figure F5). For explanation, see Figure F4. cps = counts per second.

Figure F7. Correlation plots, (A) Hole U1611B and (B) Hole U1611A. Lower left: crossplots of select elements (Al, Si, Ti, Ca, Sr, Mn, and Ba) with linear regression. Plots along diagonal are kernel density estimation plots of distribution of data for each element. Upper right: heatmap displaying Spearman's rank correlation coefficient between elements ranging between +1 and -1, colored by degree and direction of correlation. Note that Mn appears to flatline for Hole U1611B because scale is set by distribution of data, which includes Mn outliers that may be difficult to see.