

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Biostratigraphic datums using the Strict Hybrid CONOP model (Cody et al., 2012, ref. 2 Supplementary References).

This uses the methodology of Cody et al. 2012, but includes radiolarian addition to diatom data. The Composite Rank position represents the position within the CONOP composite sequence, while the observed depths of events (IODP U1356 (O)) are placed to revised depths (IODP U1356 (P)) using an iterative approach to correlated to a best fit to the composite sequence. The age model is this paper uses the placed depths of events observed in U1356A.

File Name: Supplementary Data 2

Description: Biostratigraphic datums using the Relaxed Hybrid CONOP model (Cody et al., 2012, ref 2 Supplementary References).

This uses the methodology of Cody et al. (2012), but includes radiolarian addition to diatom data. The Composite Rank position represents the position within the CONOP composite sequence, while the observed depths of events (IODP U1356 (O)) are placed to revised depths (IODP U1356 (P)) using an iterative approach to correlated to a best fit to the composite sequence. The age model is this paper uses the placed depths of events observed in U1356A.

File Name: Supplementary Data 3

Description: Lithological description of the cores. Lithological Units, depth sediments (mbsf), assigned ages, facies and interpretations.

File Name: Supplementary Data 4

Description: Dinoflagellate cyst relative and absolute abundances.

File Name: Supplementary Data 5

Description: Pollen and spore relative abundances.