Reply to comment by L. D. Stott on "Anomalous radiocarbon ages for foraminifera shells": A correction to the western tropical Pacific MD9821-81 record

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[1] In a recent paper [*Broecker et al.*, 2006] we reported several new ^{14}C measurements from core MD98-2181 from the Morotai Basin, western equatorial Pacific. Our results highlighted the consequences of sediment reworking for attaining reliable radiocarbon dates for foraminifera shells [*Broecker et al.*, 2006, section 6, Figure 4]. In a comment on our paper, *Stott* [2007] informs us that the interval in which we attained particularly anomalous ^{14}C results (reported as 1046–1052 cm in our paper) was inadvertently mislabeled by the core repository staff who supplied the samples. In fact, the interval actually covered by these samples was centered on 950 cm rather than 1050 cm. Additional measurements made by Stott's group also define the 950 cm interval as anomalous. This news, while frustrating in light of how much time and effort was spent processing and measuring these samples, makes little difference to the conclusions of our paper. In fact, the age offset between expected and measured ^{14}C ages is actually made worse by assigning the samples to a shallower interval. A minor consolation is that the wood ages we attained from within this interval no longer need to be considered as being particularly young. We must acknowledge that had we been aware that the interval surrounding 950 cm in MD98-2181 was anomalous, we would not have requested samples from this portion of the core. We would also have been more particular as to the alignment of samples requested and those received.

[2] We would like to thank L. Stott for pursuing this issue and M. Rincon for discovering the accidental mistake made by an otherwise invaluable resource. We are also pleased that more of core MD98-2181 may be considered free of reworking although it remains clear that sediments such as these are prone to the (potentially significant) effects of reworking.

References

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