

## ***Interactive comment on “Asian aridification linked to the first step of the Eocene-Oligocene climate Transition (EOT) in obliquity-dominated terrestrial records (Xining Basin, China)” by G. Q. Xiao et al.***

### **Anonymous Referee #2**

Received and published: 2 June 2010

Asian terrestrial records of the Eocene-Oligocene Transition (EOT) are rare. The detailed magnetostratigraphic time control are crucial in understanding the atmospheric impact of this major step in Cenozoic climate. Both cyclostratigraphic and paleomagnetic studies of the upper Eocene succession in the Xining Basin in this paper are interesting and deserve publication. There is however a slight problem of presentation and the paper needs minor corrections.

(1)The authors fail to provide a solid case for a magnetostratigraphic age dating of sediments. The present correlation does not look convincing. At least, a set of different option could be presented and discussed in the paper. In figure 4, the interval of

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N1+R2+N2 is twice than that of C13n, and the interval of N3 is similar to that of C15n, the intervals of R3 is more than three times than that of C13r. Unless the authors are able to provide more convincing independent age control of the studied section, in order to anchor the magnetostratigraphy to the GPTS. I would be surprised that there is no single fossil that can help in anchoring the magnetostratigraphy to the GPTS. Hence, the possibilities to anchor the magstrat to the GPTS are numerous. Please provide such details. (2)Provide details including declination and inclination in fig.4. This is a routine in magnetostratigraphic studies. (3)Provide parameters of reversal test for the ChRM in Fig. 3 (4)There are many open circles below VGP Lat. in Fig. 4, please show the meaning of these open circles. I do not know enough the Eocene-Oligocene climate Transition to have comment on the proposed interpretation.on the Asian aridification in the Xining Baisn.

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