

Interactive comment on “Phanerozoic black shales and the Wilson Cycle” by J. Trabucho-Alexandre et al.

J. Trabucho-Alexandre et al.

joao.trabucho@durham.ac.uk

Received and published: 15 November 2011

Dear Dr Jiménez-Berrocoso,

Thank you for reviewing our paper and for your positive and useful comments. We understand from your review, as well as that of Dr Wignall, that there is the perception that our paper discusses the main factors behind the deposition of Phanerozoic black shales in a too rigid framework, i.e. in the context of the Wilson Cycle without giving sufficient attention to other important variables. Whilst we inevitably discuss the factors that lead to black shale formation, our main intended message is that the environments in which ancient black shales were dominantly deposited varied in concert with the Wilson Cycle.

C487

We fully agree that ‘black shales may not be deposited’ even if propitious environments exist. This originates from the fact, as you explain in your review, that a combination of factors rather than a single forcing mechanism leads to black shale formation. We do not intend to argue that basin evolution is the key factor behind the formation of black shales; rather, in the course of a basin’s Wilson Cycle, environments in which black shales may be deposited are more or less dominant, each being characterised by different processes. Different stages of the Wilson Cycle are thus more, or less, favourable to different types of black shales. We argue that it is necessary to consider the palaeogeography of black shale formation in order to make sure that correlations of coeval black shales in terms of processes are appropriate. We shall rewrite the manuscript where necessary and make this clear.

Yours sincerely, João

Interactive comment on Solid Earth Discuss., 3, 743, 2011.

C488