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Comment

# ***Interactive comment on “A massive input of coarse-grained siliciclastics in the Pyrenean Basin during the PETM: the missing ingredient of a coeval abrupt change in hydrological regime” by V. Pujalte et al.***

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The review of F. Quesnel has two parts, a long written report and a supplement. The latter is in fact our manuscript, which the referee has annotated to call our attention to typos and to suggest improvements of our text. This supplement will be most helpful in the eventual new version of our paper. The report starts with an accurate summary of our previous articles about the PETM in the Pyrenees, which demonstrates that the referee is well acquainted with our line of approach to this topic. We are therefore glad to see that F. Quesnel assesses positively our new contribution. The referee es-

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timates that “data presented [in the paper] are useful and in the appropriate amount and quality”, and therefore “recommend publication of the manuscript”. But she also indicates that “If the paper can be slightly longer” some parts of it could be expanded, including: “The discussion related to the sedimentological expression of the amplitude of the hydrological change associated to the PETM, i.e. increase in stream power, flow strength, capacity of turbidite currents and volume of fine grained siliciclastics delivered to the deep basin”. “Analyses of the flora or organic content of terrestrial and marine sediments (leaf analyses, pollen and spore,  $\delta D$  of n-alkanes, . . .)” and “paleopalynological or paleobotanical data to support the reconstruction of the dry landscapes and vegetation evolution”. To explore the implications of the “production, transport, and sedimentation of detrital hematite grains”, and of the kaolinite influx during the PETM. At the end of her review Quesnel lists some relevant references, to help us to tackle these issues. All of the suggestions of the referee are sensible, and thus highly appreciated. However, to include the required information in our present contribution we would need not only a longer paper but, more crucial, time to study the relevant literature and to do additional field and laboratory studies. Besides, the suggested lines of research may, or may not, produce immediate results. For instance, a palynological study carried out in the Ermua section provided useful data in support of our contention of a hydrological change during the PETM (Schmitz et al., 2001). However, a similar study attempted in the continental Tresp basin demonstrated that most palynomorphs were either resedimented from Cretaceous rocks or very poorly preserved (Schmitz and Pujalte, unpublished data). In summary, studies such as those suggested by F. Quesnel may indeed refine the understanding of the hydrological change connected with the PETM. For the time being, however, such studies are beyond the scope of our present contribution.

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