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# ***Interactive comment on “New insights on the occurrence of peperites and sedimentary deposits within the silicic volcanic sequences of the Paraná Magmatic Province, Brazil” by A. C. F. Luchetti et al.***

## **Anonymous Referee #1**

Received and published: 26 December 2013

Dear Editor,

These are my comments on the manuscript entitled “New insights on the occurrence of peperites and sedimentary deposits within the silicic volcanic sequences of the Paraná Magmatic Province, Brazil” by Luchetti and Co-authors.

The authors present interesting evidences of temporal breaks occurring during the emplacement of the Paraná volcanic sequence. The type of volcanic-sediment interaction indicates a change in the environmental conditions from arid to wet. The manuscript is overall well written and contains an adequate description of the textural features of

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the deposits; however, a more exhaustive description of the depositional mechanisms and the interaction between lavas and sediments would certainly improve the quality of the work. Also, there is a clear lack of connection between the geochemical data and the rest of the discussion. Geochemical data are never recalled in the discussion, therefore there is apparently no need of such amount of information.

Specific comments: Line 12: by the occurrence Lines 14-17: this sentence needs clarification Line 85: ... than 0.2 mm). Plagioclase... Line 111: is presented Line 118: the latter plot Line 132: rocks plot in the trachyte field... ATP rocks plot... Line 138: ATP rocks show higher Rb/Ba ... ratios than ATC. Line 141: AT rocks show higher La/Lu ratio... Lines 142-144: please explain better Line 162: it crops out Line 171: remove "volcanic" Line 179: continuous way. This hypothesis... Line 183: is a generic? Line 184: between hot magma and coeval sediments. The magma bodies... Line 185: are lavas intrusive bodies??? Line 185: ...deposits. The sediment... Line 196: complex shapes that may...

Table 1: use a legend for sample names and types, add (wt.%) and (ppm) Figure 1: The map is of difficult interpretation; remove some information (e.g. what is "Areas surrounding Parana' basin?) Figure 2: what is the purpose of these diagrams? Why not use just the TAS and Harker diagrams? Figures 10, 12 and 14: these figures show a high volume fraction of sediments compared to volcanic rocks. These deposits rather look like being formed by deposition of (cold) volcanic clasts in a fine orange-grey matrix. How did these deposits form? (the mineralogy of the matrix and texture-petrography of the volcanic clasts may be used to provide these information)

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Interactive comment on Solid Earth Discuss., 5, 2313, 2013.

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