Mercury isotope evidence for sustained regional volcanism in south China before and after the Permian-Triassic boundary

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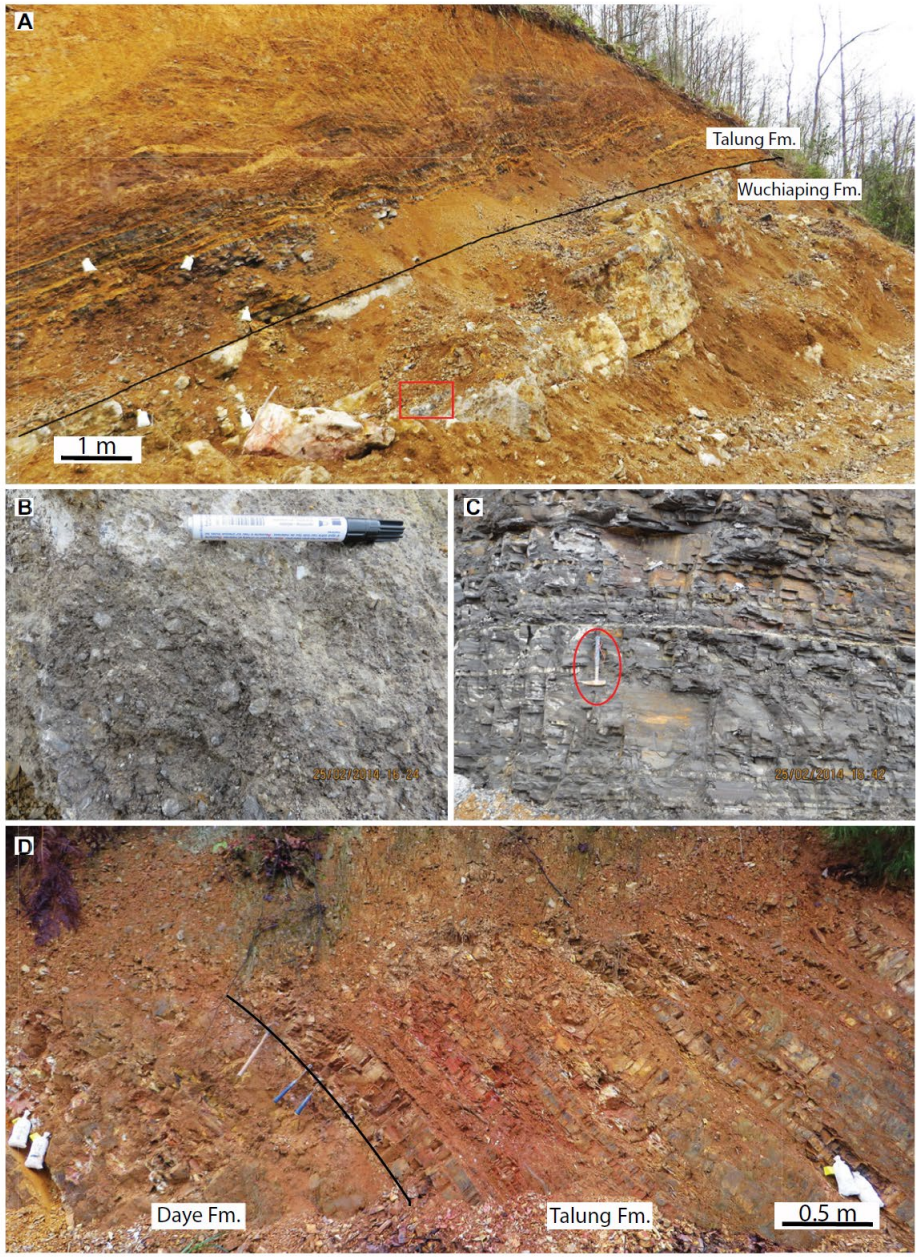

Figure 7. Field photographs of Potuo and Laxian sections. (A) Outcrop photograph of the Wuchiaping-Talung formational boundary at Potuo. (B) Close-up picture of the breccia in the uppermost part of the Wuchiaping Formation (red rectangle in A). Pen in the picture is 14 cm long. (C) Black shales at the base of Early Triassic Daye Formation at Potuo. Hammer in the picture is 32 cm long. (D) Exposure of Talung-Daye formation boundary (Permian-Triassic Boundary) at Laxian.

Figure 1: Outcrop photographs of the studied sections. c.f. Bagherpour et al., (2020).

Reference:

Bagherpour, B., Bucher, H., Vennemann, T., Schneebeli-Hermann, E., Yuan, D. X., Leu, M., Zhang, C., and Shen, S. Z., 2020, Are Late Permian carbon isotope excursions of local or of global significance?: Geological Society of America Bulletin, v. 132, no. 3-4, p. 521-544. https://doi.org/10.1130/B31996.1.

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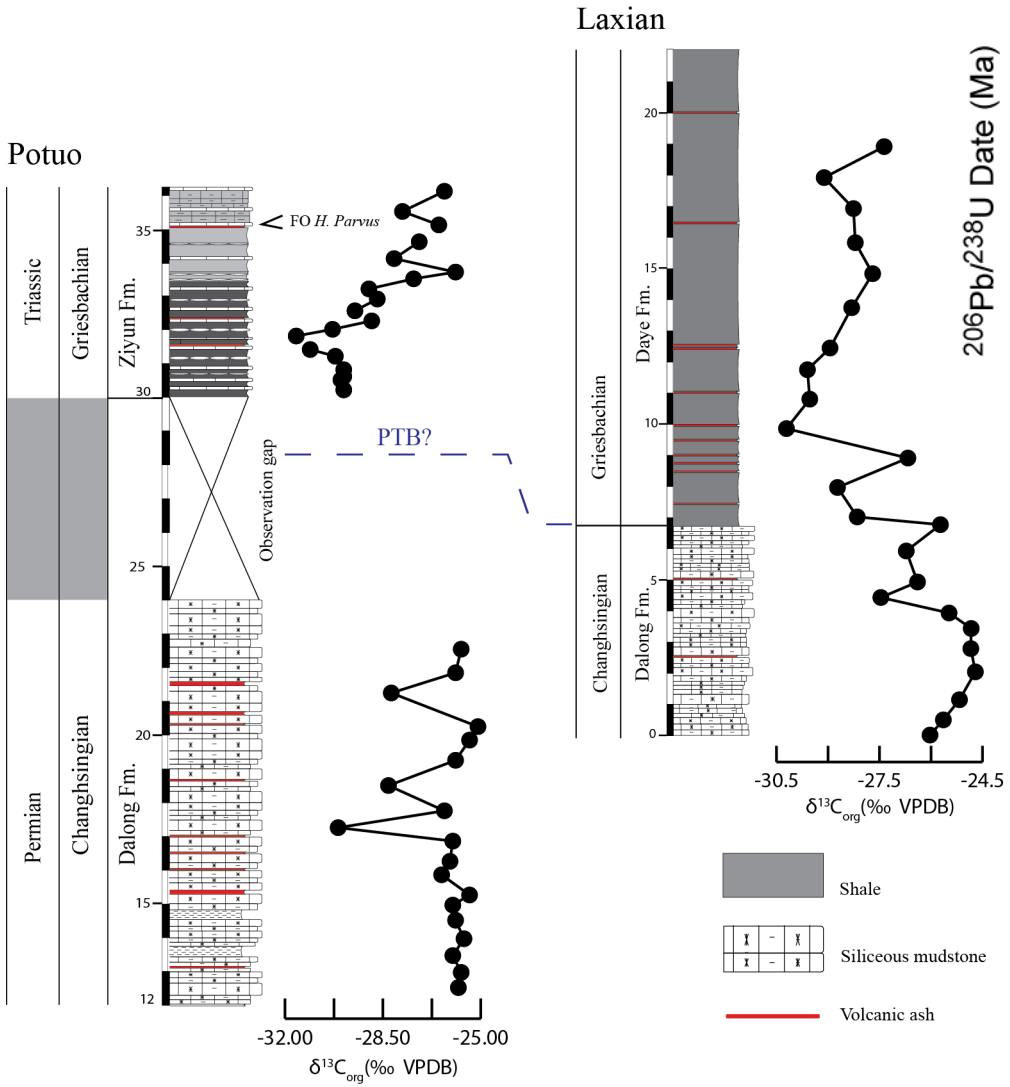

Figure 2. Stratigraphic logs and organic carbon $\delta^{13}C$ records from the 2 studied sections.

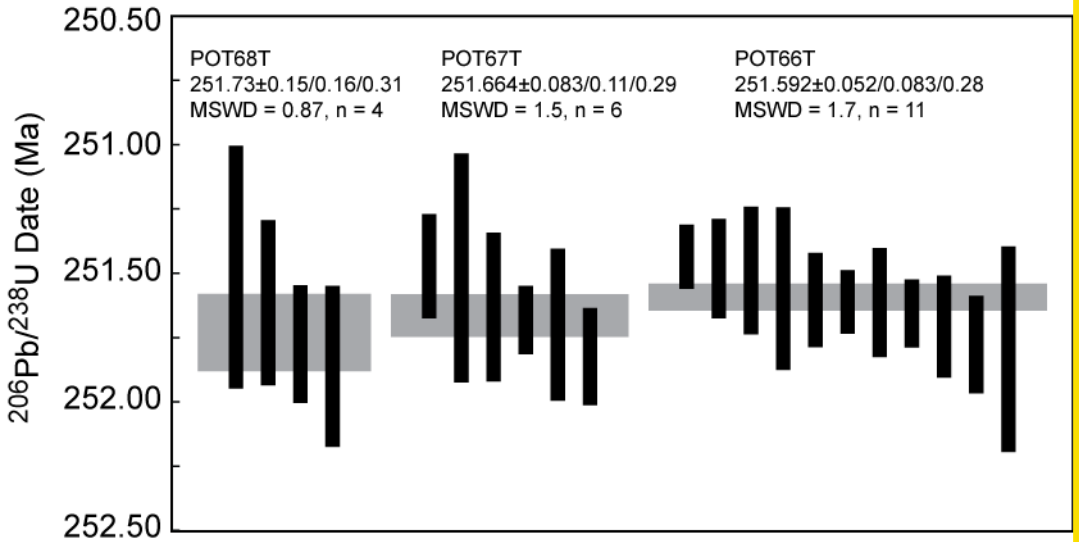

Figure 3. $^{206}Pb/^{238}U$ weighted mean dates for volcanic ash beds straddling the Hg concentration anomaly in the Potuo section.

RESULTS

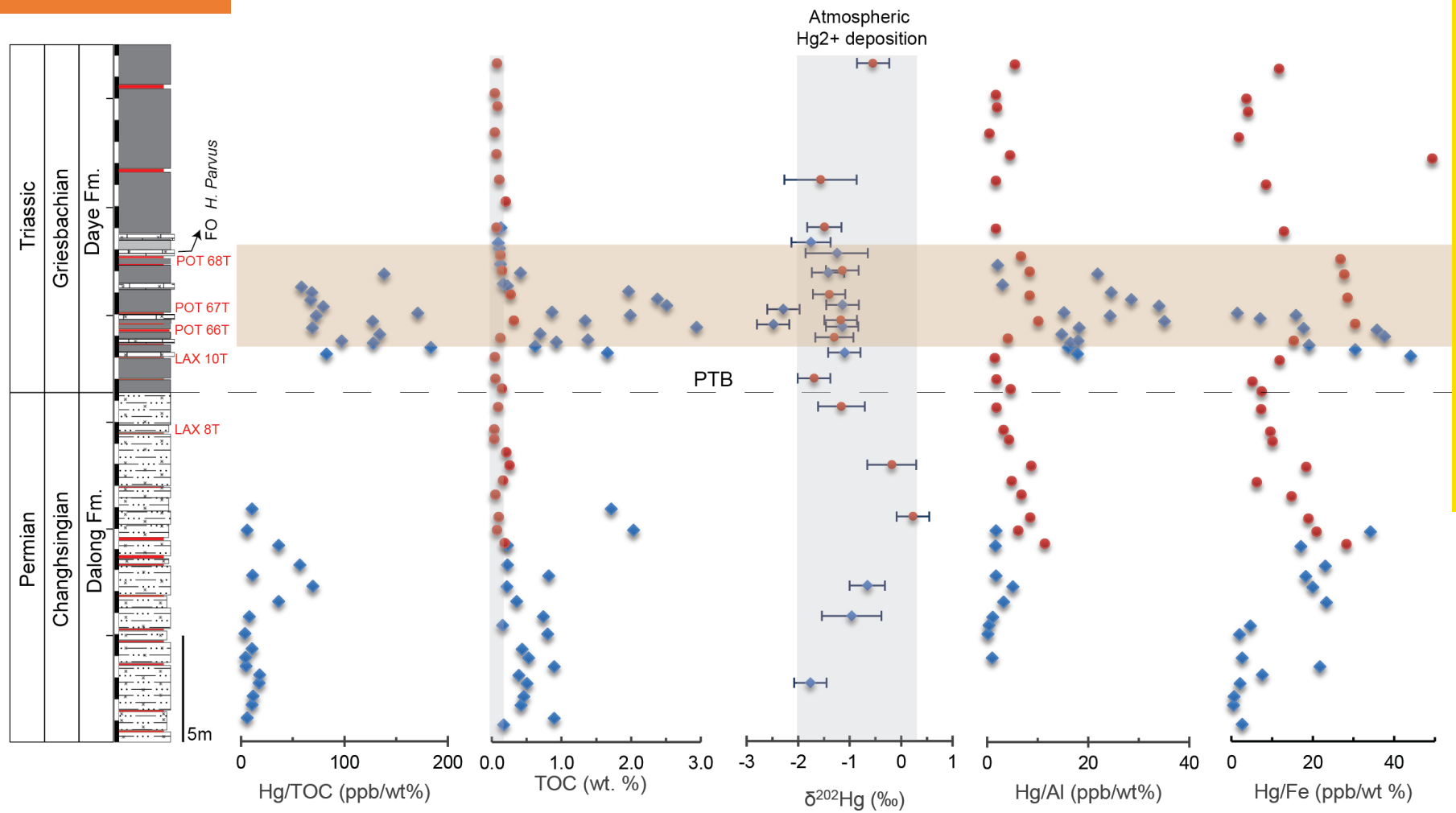

Figure 4. Composite plot of Hg/TOC, TOC, Hg MDF, Hg/Al and Hg/Fe records from Potuo and Laxian. Vertical grey band on $\delta^{202}Hg$ plot depicts range of volcanic $\delta^{202}Hg$ values (Zambardi et al., 2009), and that on TOC plot shows samples with ≤ 0.2 wt.% TOC. Horizontal brown band depicts interval of Hg concentration spike.

Reference:

Zambardi, T., Sonke, J. E., Toutain, J. P., Sortino, F., and Shinohara, H., 2009, Mercury emissions and stable isotopic compositions at Vulcano Island (Italy): Earth and Planetary Science Letters, v. 277, no. 1-2, p. 236-243. https://doi.org/10.1016/j.epsl.2008.10.023.