

**Fig. A5** Route map of the Matsuyama section (Section Ra, Fig. 10) in Matsuyama, Habiro, Ouchi district, Yuri-Honjo City, showing localities of samples Ra01–69 with samples A–D (mudstone clasts in tuffaceous sandstone bed of the basal part of the Funakawa Formation). Location of the route map is shown in Fig. A4.

**a)** Photograph showing the boundary between the Onnagawa and Funakawa formations. **b)** Photograph showing mudstone clasts in the tuffaceous sandstone bed of the basal part of the Funakawa Formation. Arrowheads indicate samples A–D. **c)** Sketch of outcrop showing the boundary between the Onnagawa and Funakawa formations. **d)** Columnar section of the boundary between the Onnagawa and Funakawa formations showing sampling horizons of samples Ra27–33 and samples of mudstone clasts A–D. **e)** Columnar section of the upper part of the Onnagawa Formation, showing the horizons of tuff beds T1–T3 and samples Ra09–16.

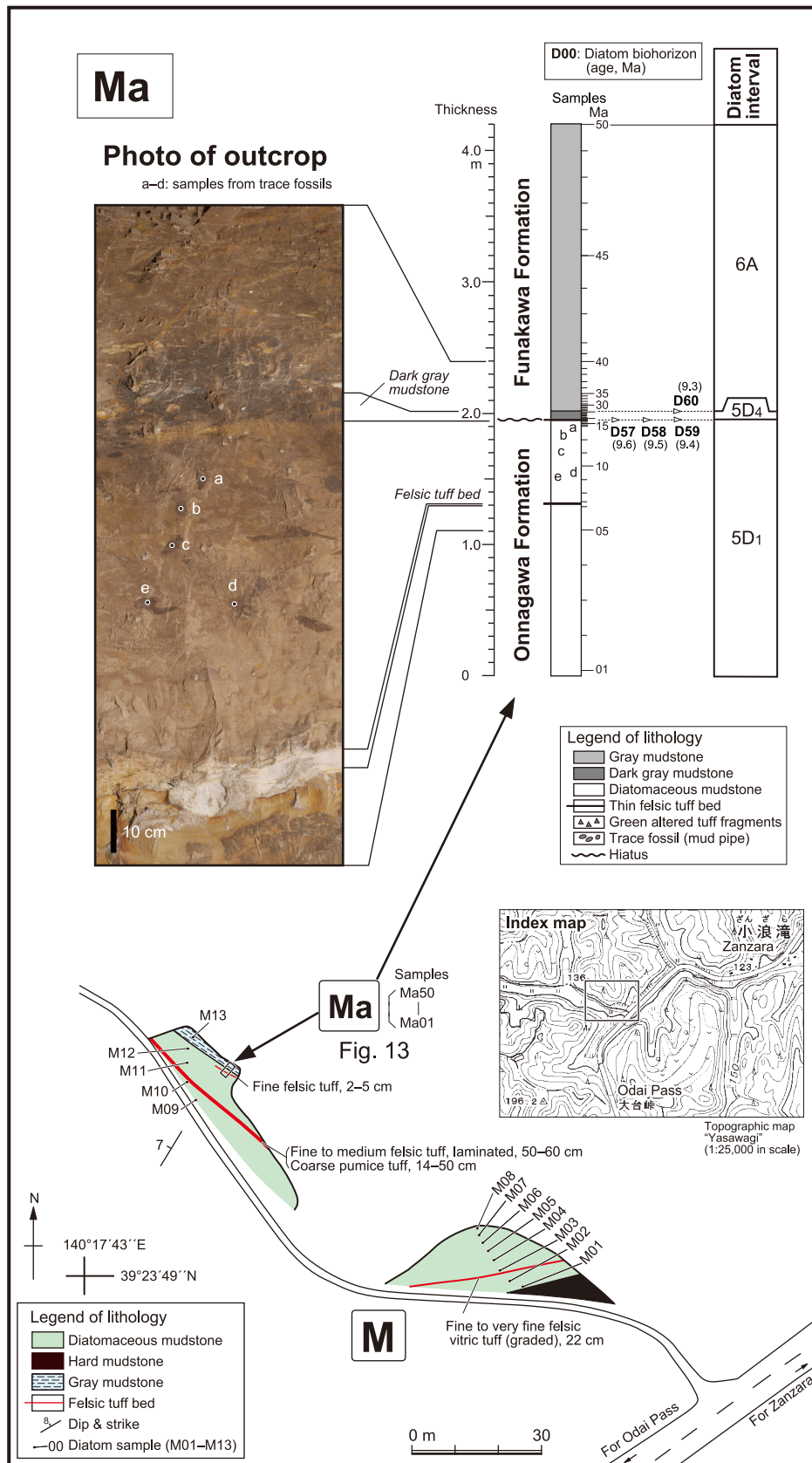


Fig. A6 Route map around stratigraphic section Ma (Fig. 13), to the west of Zanzara, Nangai district, Daisen City. Location of the route map is shown in Fig. A3.