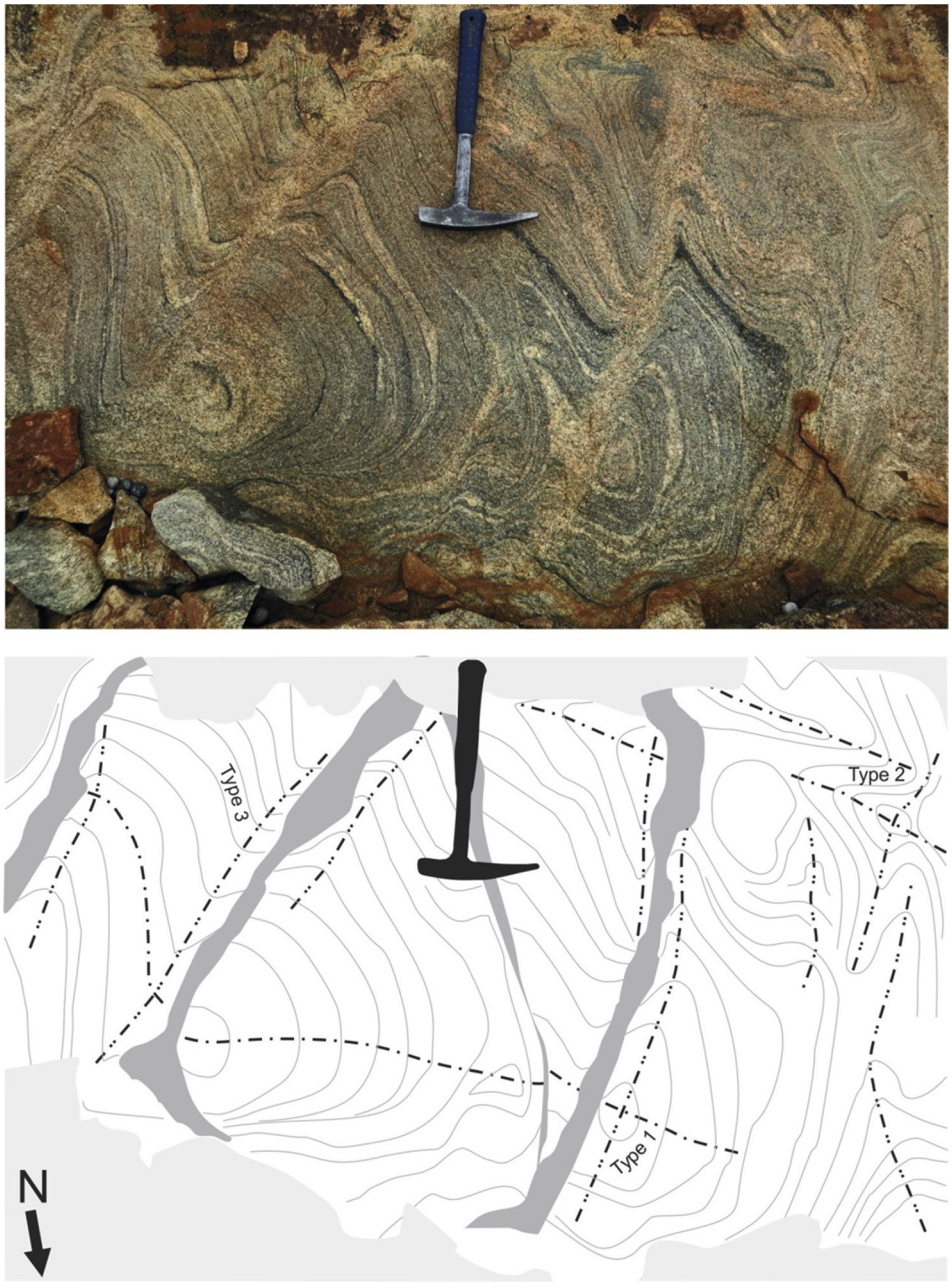
Journal of Structural Geology 91 (2016) iii–iv

Contents lists available at ScienceDirect

Journal of Structural Geology

journal homepage: www.elsevier.com/locate/jsg

Photograph of the month



http://dx.doi.org/10.1016/S0191-8141(16)30146-8
0191-8141

Complex fold pattern superposition in the migmatite core of the Archean Yalgoo Dome, Yilgarn Craton, WA (Myers, J.S. et al., 1985. Geology 13, 778). East-trending F_1 axial traces are folded around N-trending F_2 axial traces, and truncated by S_2, filled with axial planar leucosome. Note that most D_2 leucosomes are subparallel to F_2 axial traces, but not exactly located along them. Fold interference pattern types 1, 2 and 3 (Ramsay, J. G., 1967) seem to coexist in different portions of this platform. The transition between interference types is likely due to the highly non-cylindrical character of F_1 folds. Furthermore, the "dome and basin" pattern, highlighted by ring-shaped layers, results from a subhorizontal cut through the culmination of F_1 sheath folds. Such interpretation is supported by: (i) existence of F_1 sheath folds in areas unaffected by F_2 folds, and (ii) subhorizontal F_2 axes, rather than the vertical observed, would be required in order to generate "dome and basin" pattern by fold superposition. The tonalite protolith of the migmatite was emplaced at c. 2.95Ga, and then deformed together with host greenstones (D_1 event). Layering in the migmatite is due to alternating biotite-rich melanosomes, leucosomes bearing thin selvages, mesocratic tonalite gneiss and pegmatite to aplite veins. The pervasive, E-W trending S_1 is associated with subvertical stretching lineation and is axial planar to subvertical, m- to km-scale highly sheath folds. At c. 2.75Ga, the tonalite-greenstone complex recorded a second episode of syndeformational melting (D_2), accompanied by the emplacement of granites surrounding the tonalite. In migmatites, S_2 occurs as N-trending, subvertical leucosomes and dykes, that are axial planar to N-trending, open to isoclinal vertical folds. 28°42′S, 116°39′E. Photograph© Ivan Zibra and Roberto Weinberg.