Field Excursion Guide-

Chewore Area
Northern Zimbabwe

7-10 September 2018

Excursion Leaders:

Tony Martin
Brent Barber
Tim Broderick
Andrew du Toit

September 2018

Chewore Area - Northern Zimbabwe

Itinerary

Friday 7th September 2018

- Meet 7am at Mazowe Dam
- Travel to Guruve via Mvurwi
- Refuel at Guruve

Stop 1 - Escarpment Viewpoint
Stop2 - Fossil Wood Monument & general description of the rhyncosaur site.
Stop 3 - Angwa Bridge - Potholes
Stop 4 - Manyima Peat

- Set up camp at Usanga Usanga Spring

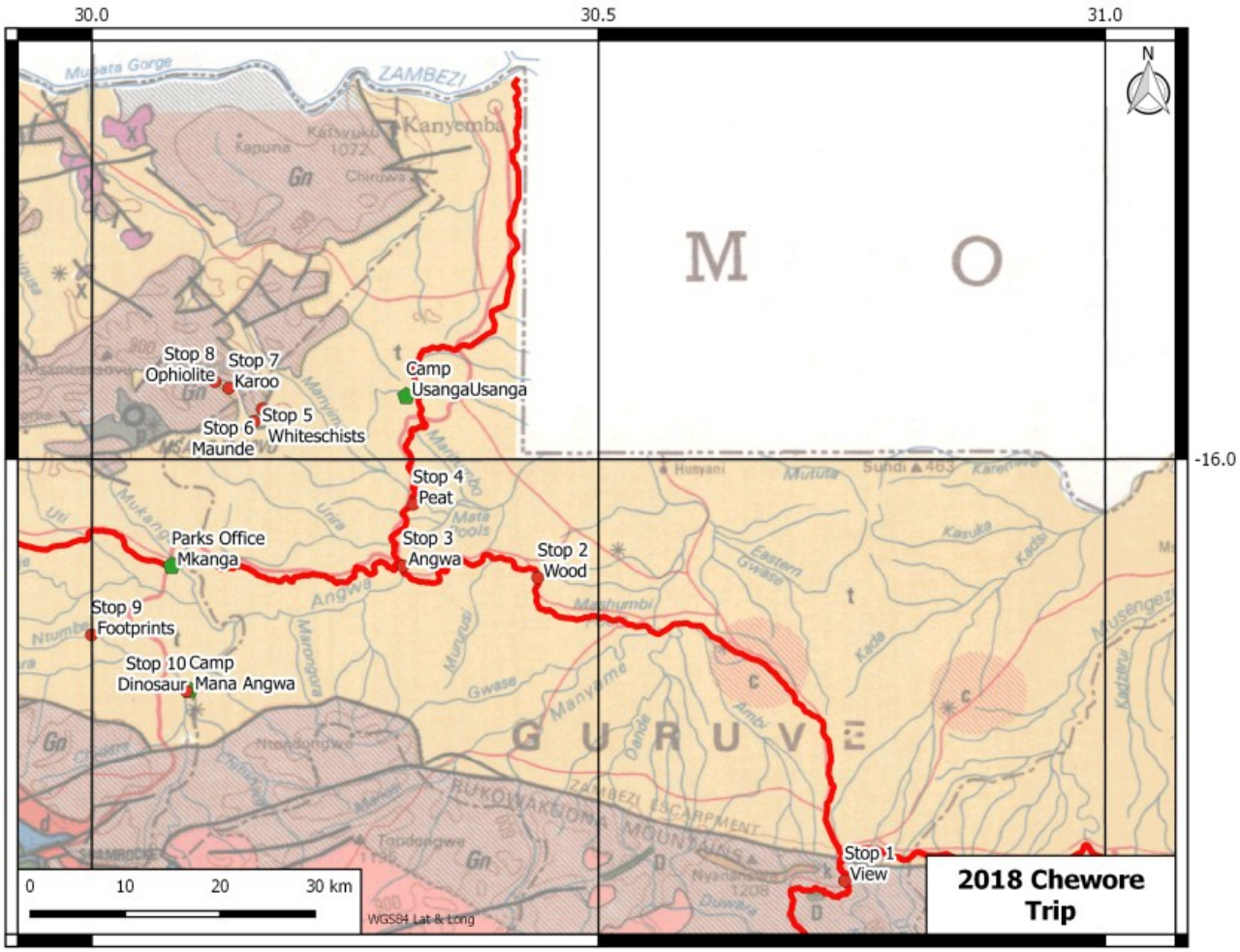


Figure 1 Stop locations in relation to the general geology, Zim. geol. Surv., 1:1m geological map.

8th September 2018

- Depart Usanga Usanga at 7am

Stop 5 - Angwa Sandstones
Stop 6 - Maunde River Crossing - Angwa Sandstone and Mkanga beds

- Park on Maunde River and walk upstream – 7km round trip

Stop 7 – Karoo Outcrops – vitrinite, possible *Glossopteris* etc
Stop 8 - Ophiolite section

- Return to Usanga Usanga for the night

9th September 2018

- Break camp and Depart Usanga Usanga at 7:30am
- Check in at Mkanga Bridge Parks Office

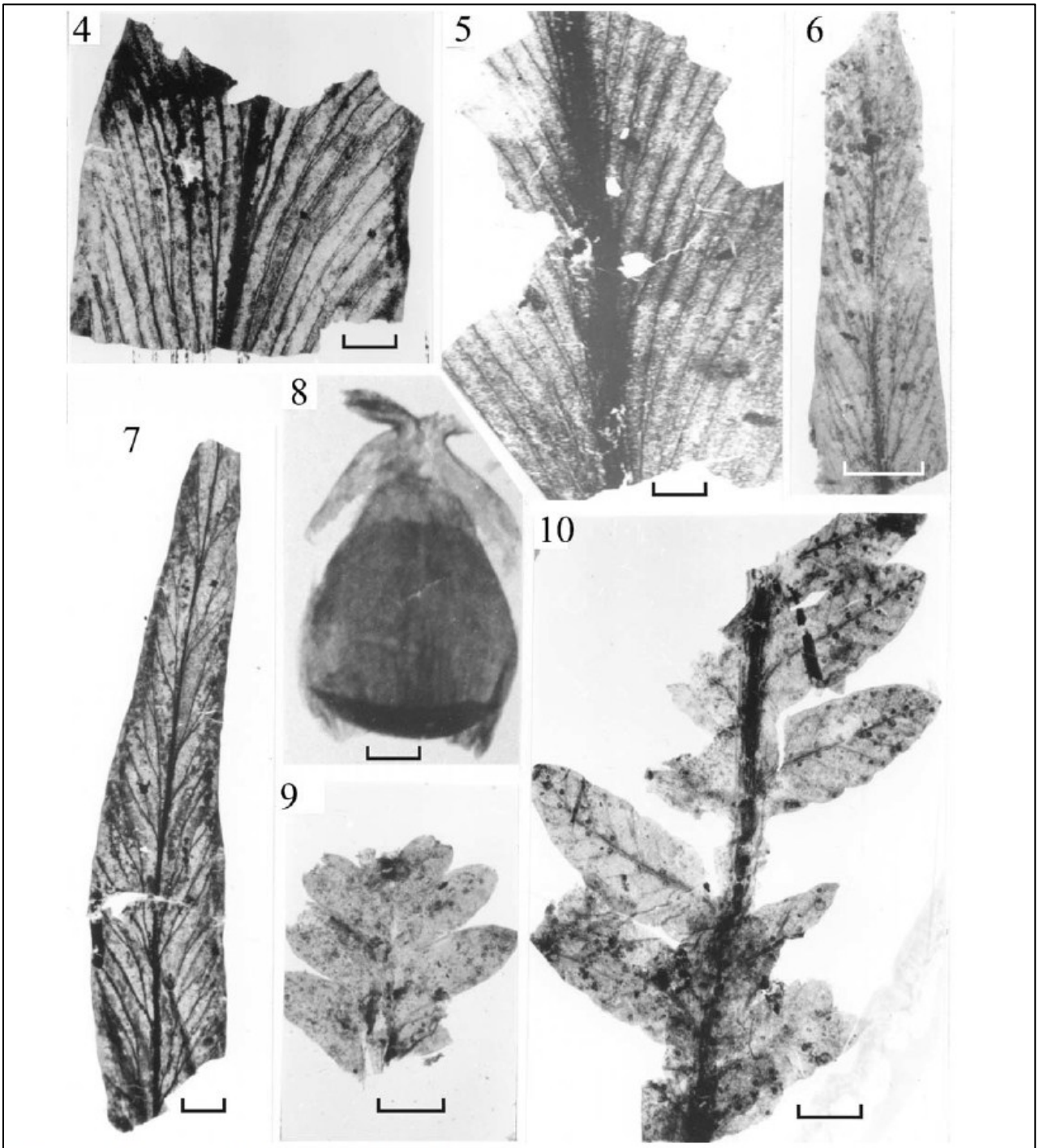
Stop 9 - Ntumbe Dinosaur footprints - walk to various sites round trip – 7km

- Travel to Mana Angwa and set up camp

Stop 10 – Massospondylus fossil near Mana Angwa

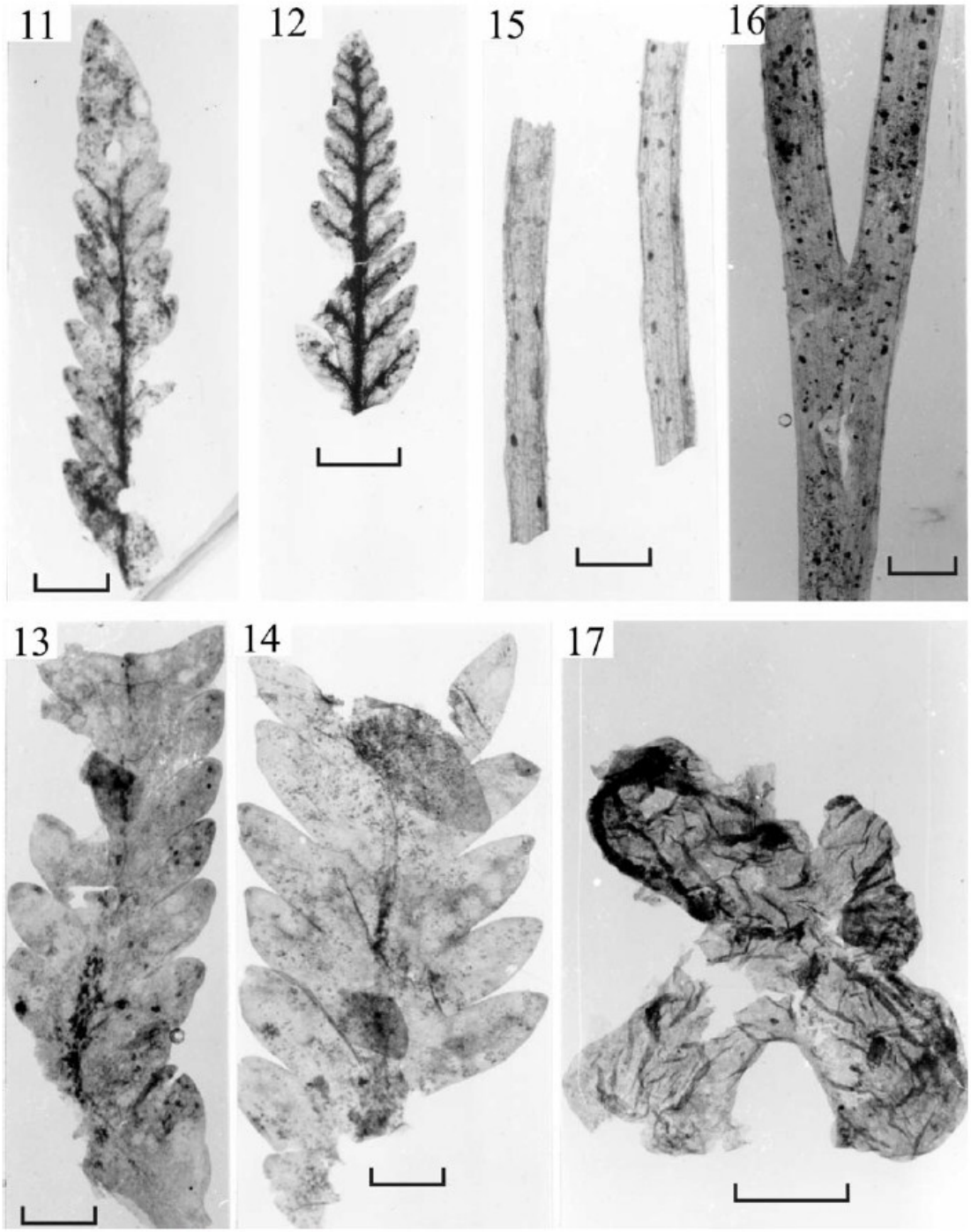
10th September 2018

- Short walk up the Maura River looking for fossils, dune bedding etc.
- Break camp and Depart Mana Angwa
- Return to Harare



Figures 4–10. Macroplant fossils from the Manyima River. **4**, *Dicroidium* sp. A., fragmentary pinnule showing the venation. **5**, *Dicroidium* sp. A, fragmentary pinnule showing the venation. **6**, *Dicroidium* sp. B., distal part of a pinnule. **7**, *Dicroidium* sp. B., distal part of a pinnule showing venation. **8**, ovule showing the bifid micropylar beak, the integument, nucellus and megaspore. **9**, *Lepidopteris* sp., fragmentary pinna. **10**, *Lepidopteris* sp., fragmentary pinna. All scale bars = 2 mm, except for Fig. 8, which = 500 μm.

Figure 2 Macroplant fossils from the Manyima River - Barale et al 2006



Figures 11–17. Macroplant fossils from the Manyima River. **11,** *Lepidopteris* sp., fragmentary pinna. **12,** *Lepidopteris* sp., fragmentary pinna. **13,** *Lepidopteris* sp., fragmentary pinna. **14,** *Lepidopteris* sp., fragmentary pinna. **15,** *Sphenobaiera* sp., two fragmentary leaves with resin bodies. **16,** *Sphenobaiera* sp., cuticle showing leaf dichotomy with associated resin bodies. **17,** disassociated plant fragment with cuticle showing the characteristics of *Lepidopteris*. All scale bars = 2 mm.

Figure 3 Macroplant fossils from the Manyima River - Barale et al 2006

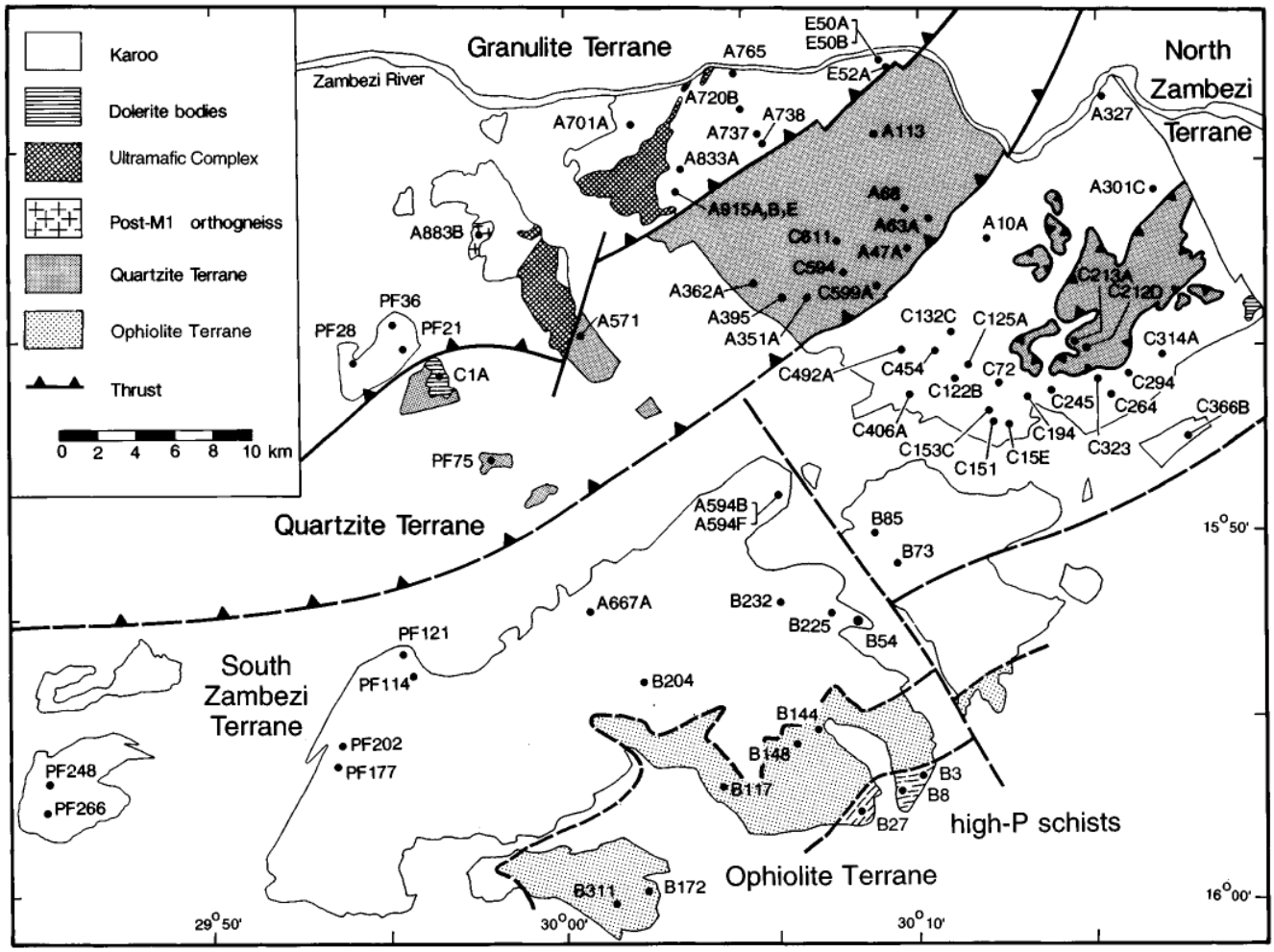


Figure 4 Distribution of geological terranes in the Chewore Inliers and location of samples referred to. The Ophiolite Terrane recognized by Johnson *et al*. (1996) and the outline is based on the mapping of F. Both (Goscombe *et al*., 1994) and Johnson & Oliver (1997) - Goscombe et al 1997

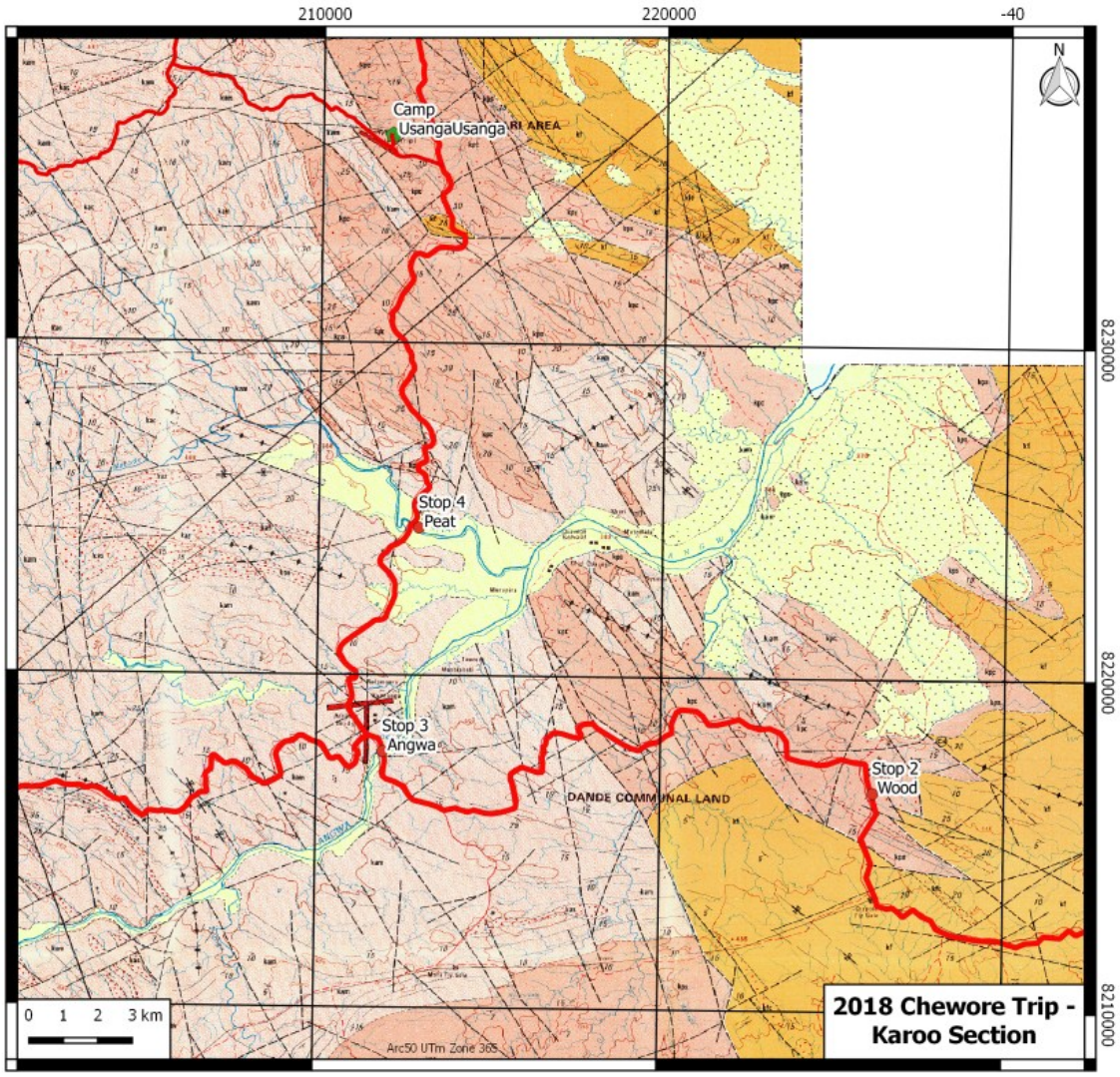


Figure 5 ZGS Bulletin 98 - Dande West P.M.Oestelen 1994

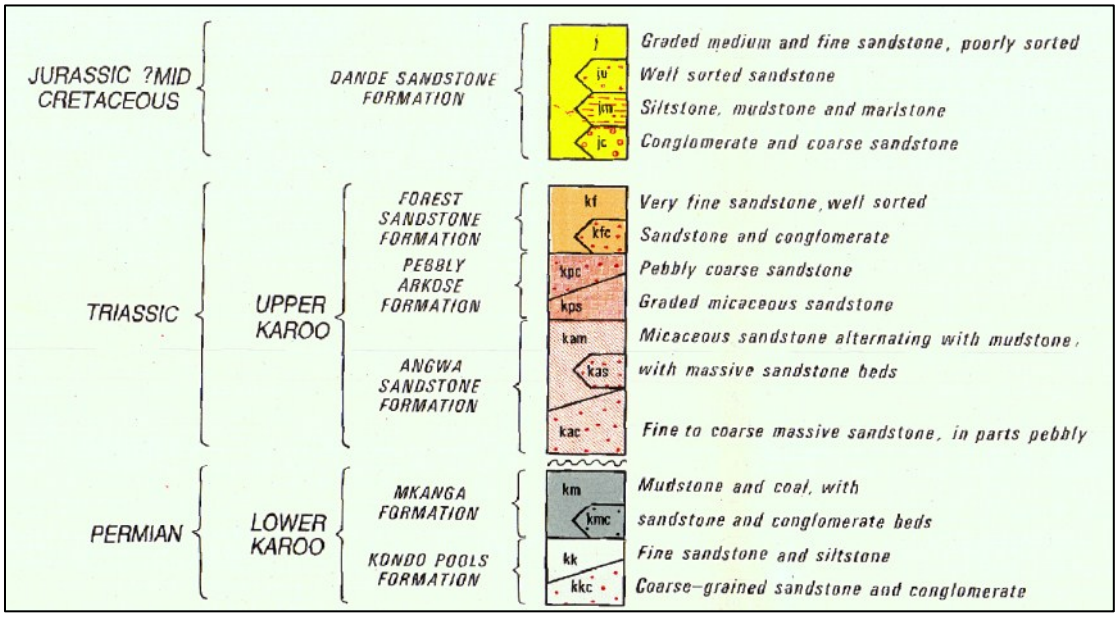


Figure 6 Mesozoic Legend- ZGS Bulletin 98 - Dande West P.M. Oestelen 1994

Figure 7 Maunde Area - Goscombe unpublished mapping

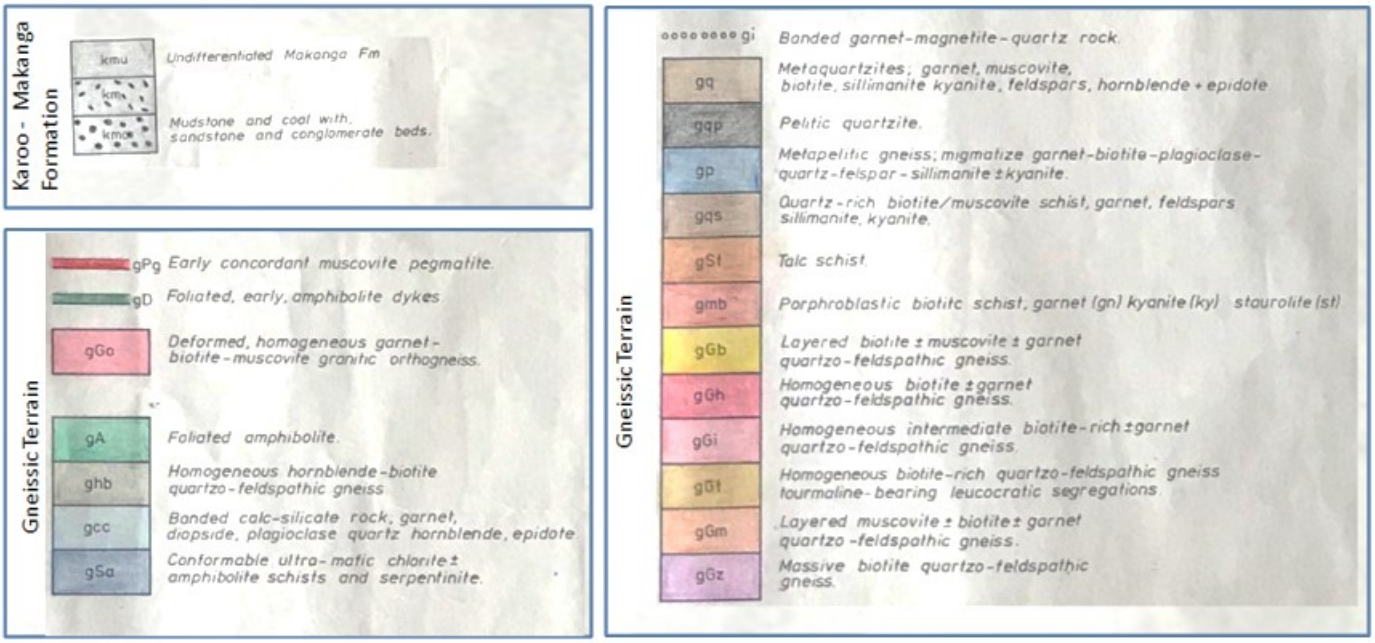


Figure 8 Key to Goscombe Map

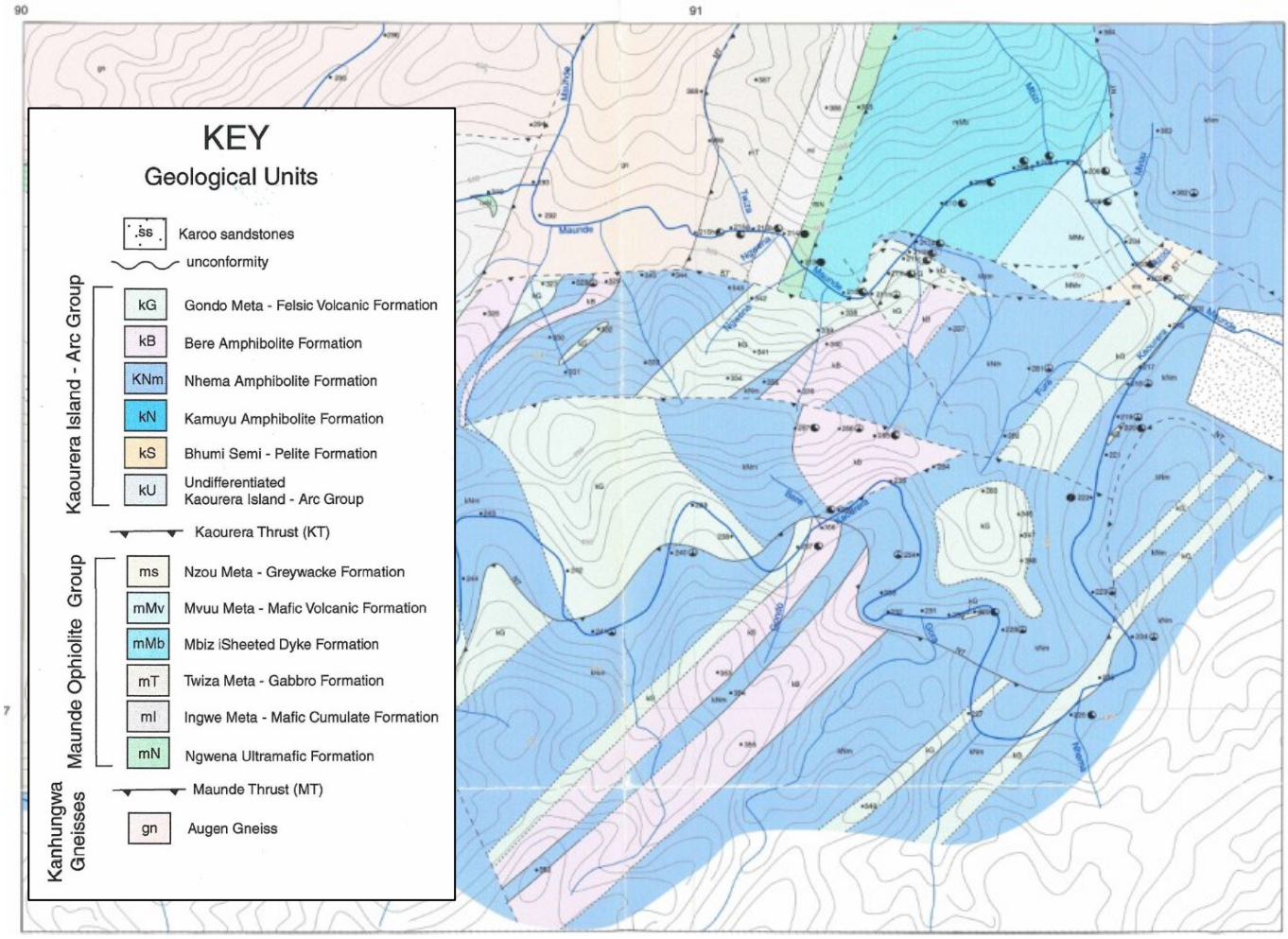


Figure 9 Locality Map of the Maunde Domain - Johnson 1998.

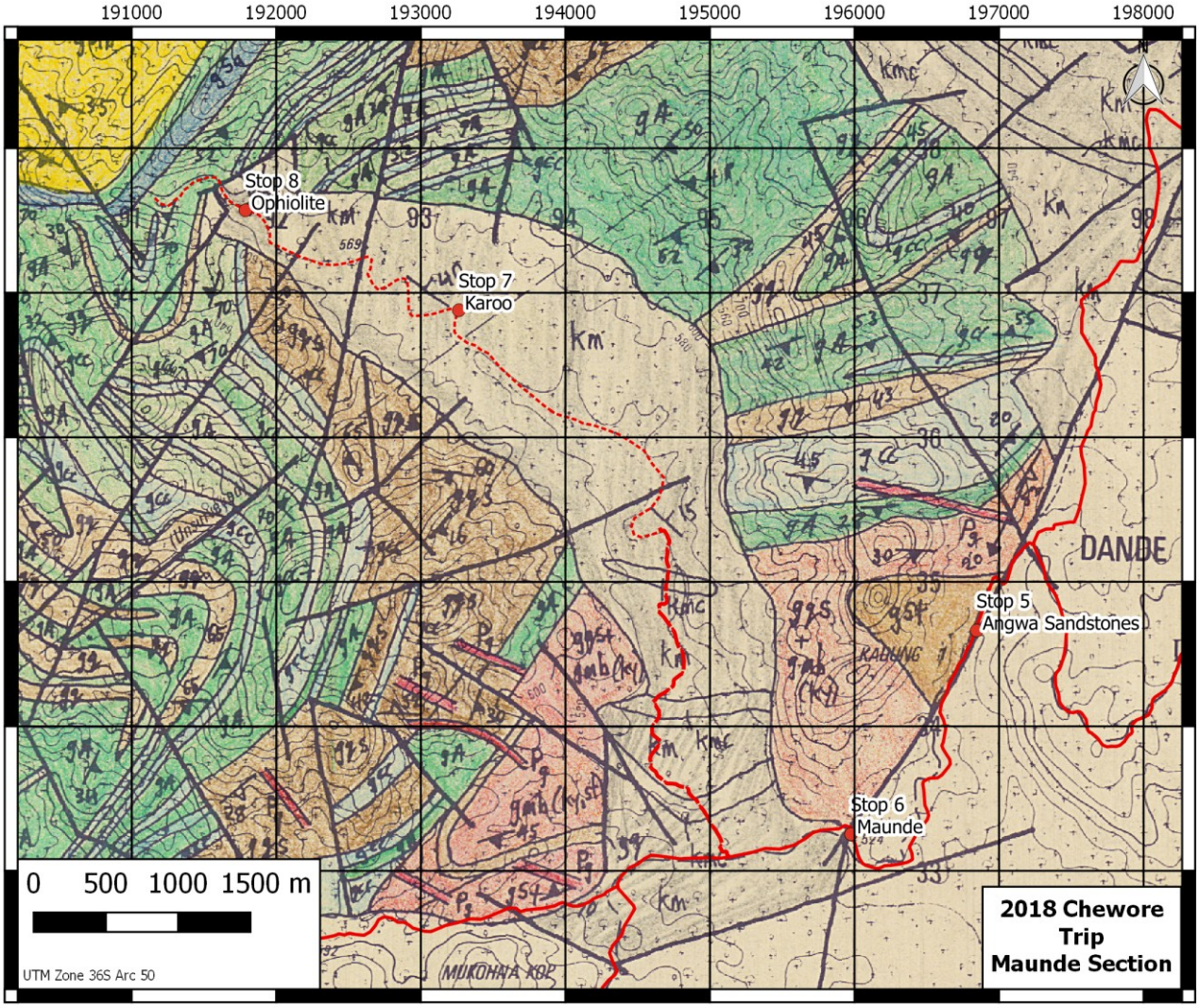


Figure 10 Maunde Area - Goscombe unpublished mapping

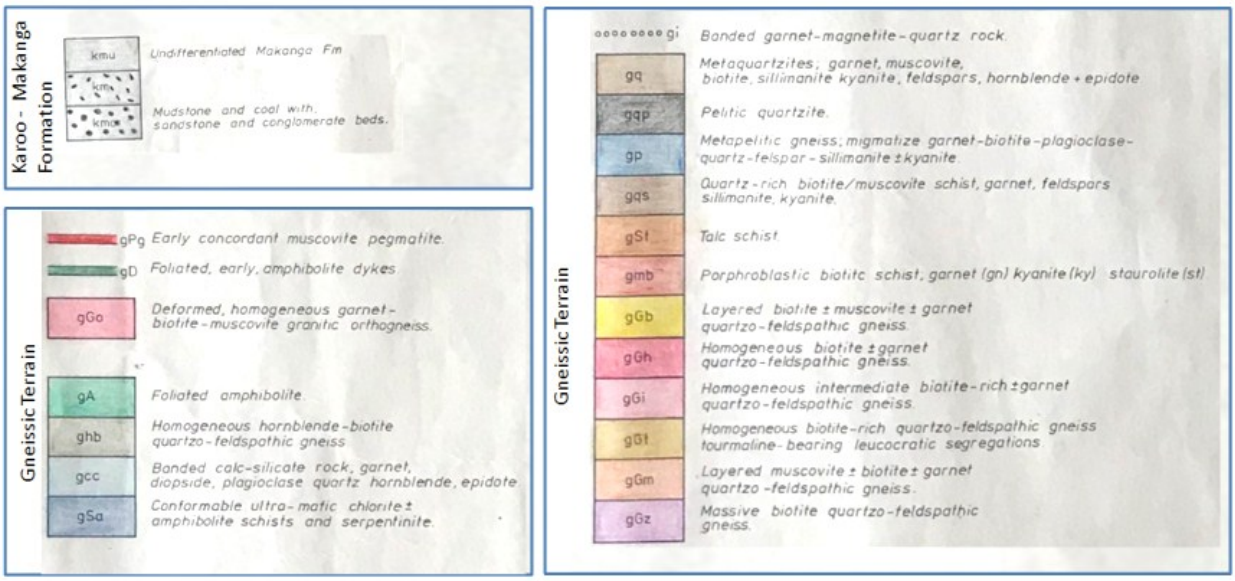


Figure 11 Key to Goscombe Map

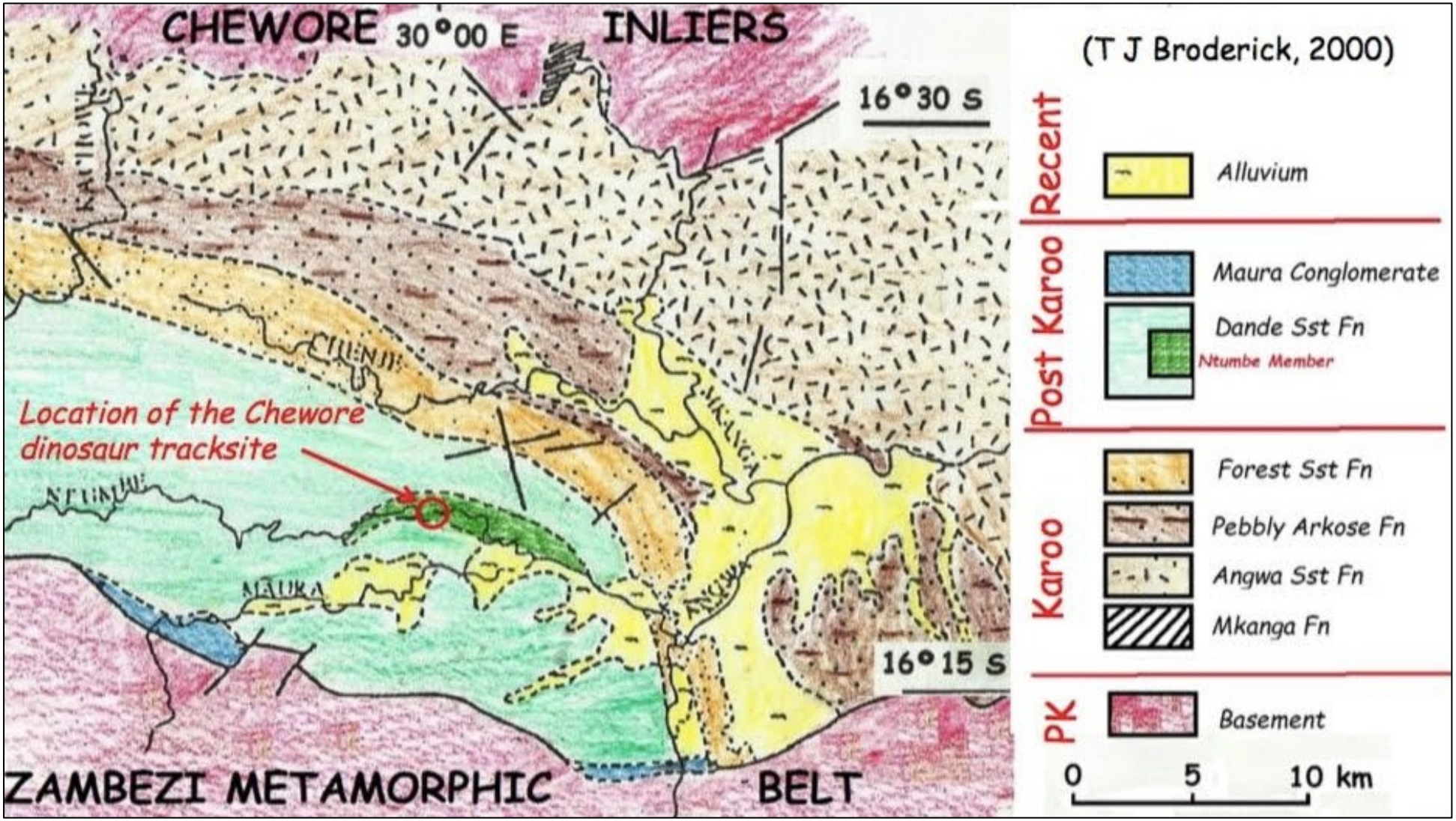


Figure 12 Ntumbe Dinosaur Trackways - Local Geology

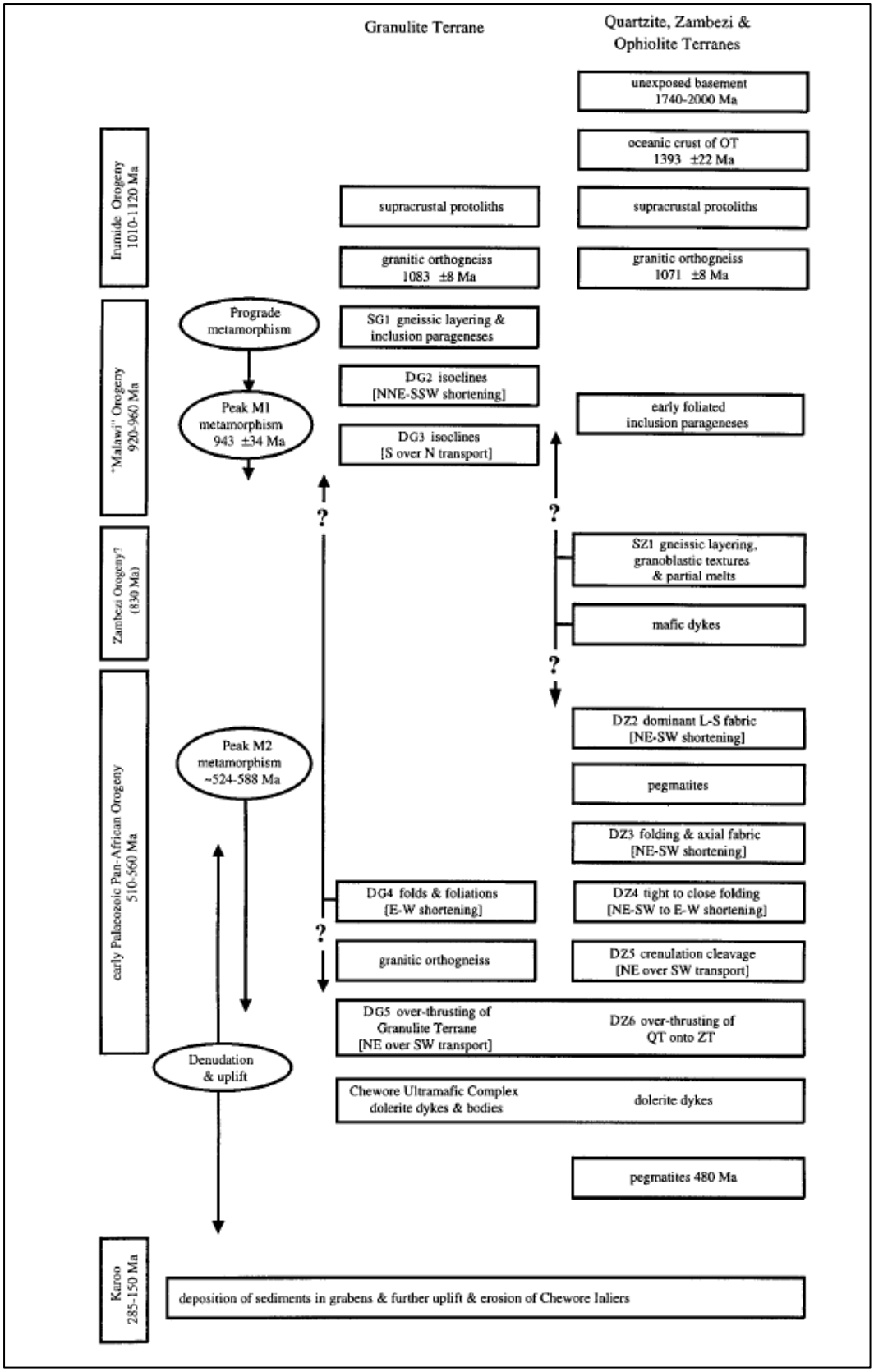
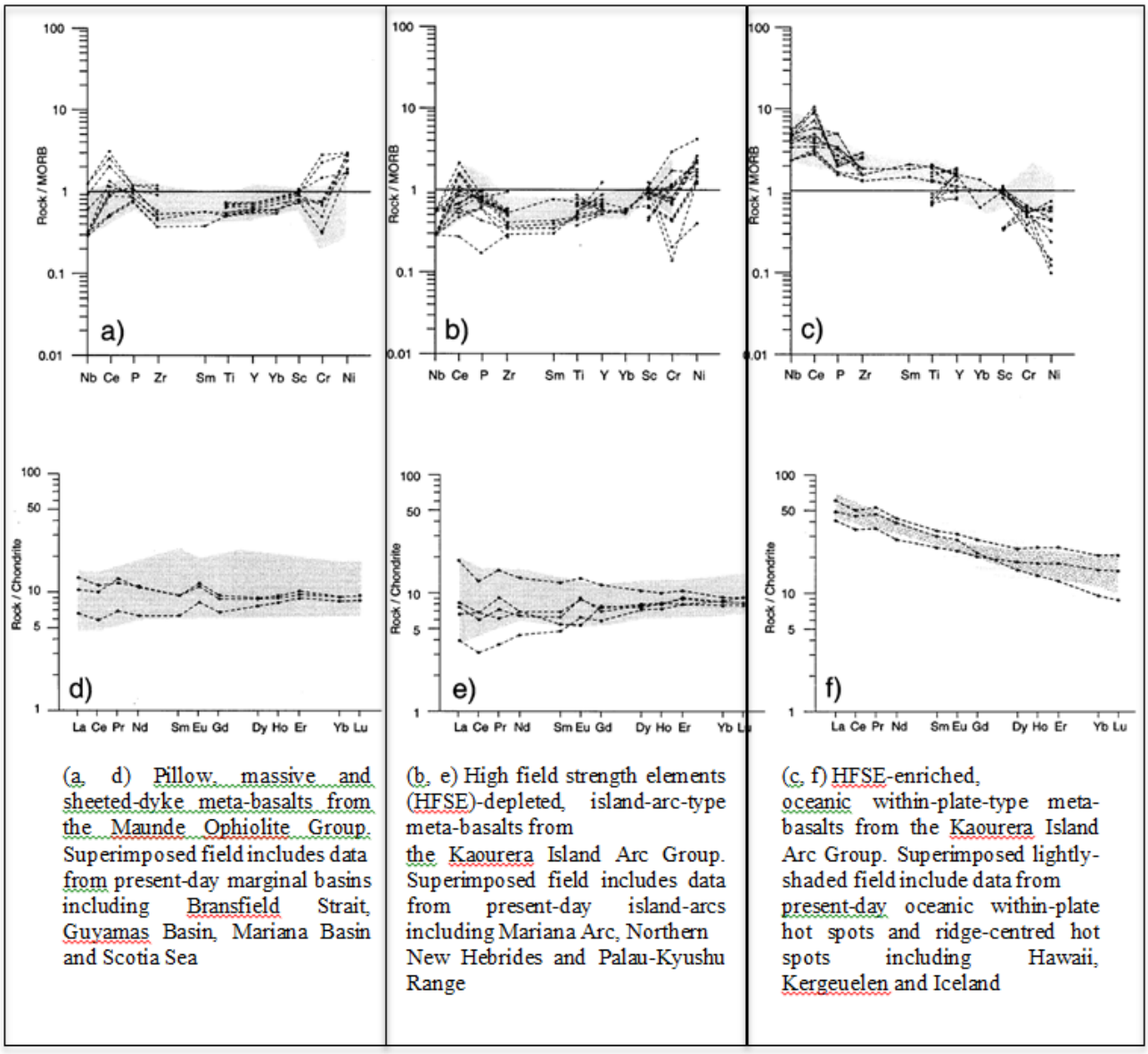


Figure 13 Summary of tectonothermal events experienced during evolution of the Chewore Inliers - Goscombe et al 1998



(a, d) Pillow, massive and sheeted-dyke meta-basalts from the Maunde Ophiolite Group. Superimposed field includes data from present-day marginal basins including Bransfield Strait, Guyamas Basin, Mariana Basin and Scotia Sea

(b, e) High field strength elements (HFSE)-depleted, island-arc-type meta-basalts from the Kaourera Island Arc Group. Superimposed field includes data from present-day island-arcs including Mariana Arc, Northern New Hebrides and Palau-Kyushu Range

(c, f) HFSE-enriched, oceanic within-plate-type meta-basalts from the Kaourera Island Arc Group. Superimposed lightly-shaded field include data from present-day oceanic within-plate hot spots and ridge-centred hot spots including Hawaii, Kergeuelen and Iceland

Figure 14 MORB-normalised spider plots and chondrite-normalised rare earth elements (REE) plots - Johnson et al 2000

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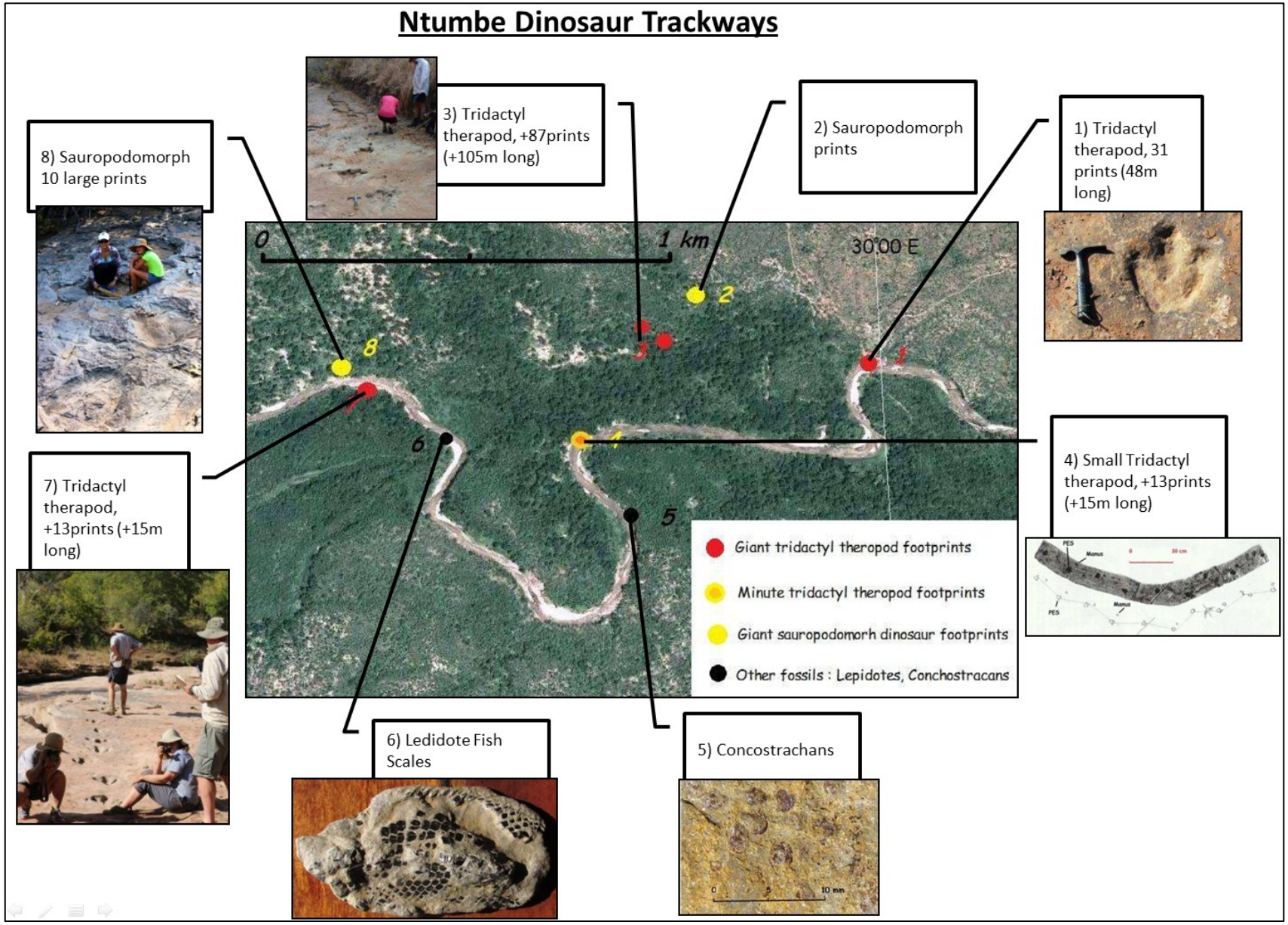

Figure 15 Stop 9 Ntumbe Trackways