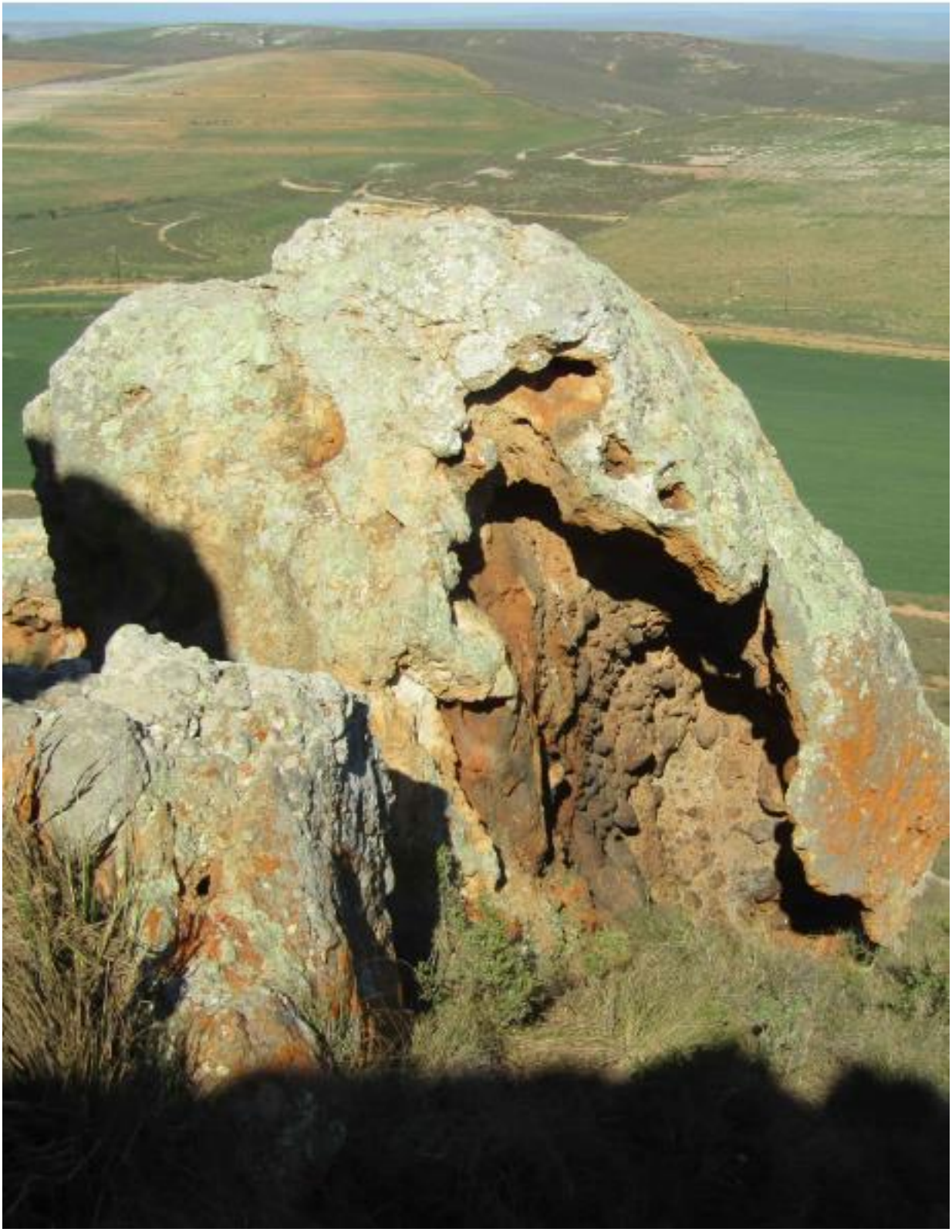
D. DURICRUSTS

Field Note D5b. Ferruginised silcretes



Ferruginised silcrete.

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Field Note D5b. Ferruginised silcretes

Many authors have noted that silcretes may grade from almost pure silica to a highly ferruginous material that borders on ferricrete. DL Roberts (Age, Genesis and significance of South African coastal belt Silcretes, Memoir 95 of the Council for Geoscience, 2003), found that in the southeastern Cape near Riversdale, height-concordant erosional residuals may be capped either by ferricrete or silcrete, or intermediate forms. These silcretes are relatively old (probably Palaeogene). Silcretes and ferricretes also occur in close spatial association and with similar geomorphic expression, flanking modem drainages as little as 2 m above channel base.

Based on the above observations, Roberts suggests that silicification and ferrugination were approximately synchronous, and that there is a strong spatial, geomorphic and palaeo-environmental association of silcrete, ferricrete and intermediate pedocretes

Many silcrete outcrops, which are heavily ferruginised contain other minerals such as manganese, goethite and magnetite.

With a few exceptions, all the silcrete outcrops in the Study Area, both on hilltops and on hillslopes, are ferruginised to a certain extent, with the ferrugination decreasing upwards; in many cases, the silcretes transformed into ferricretes (Figures 1 to 8).

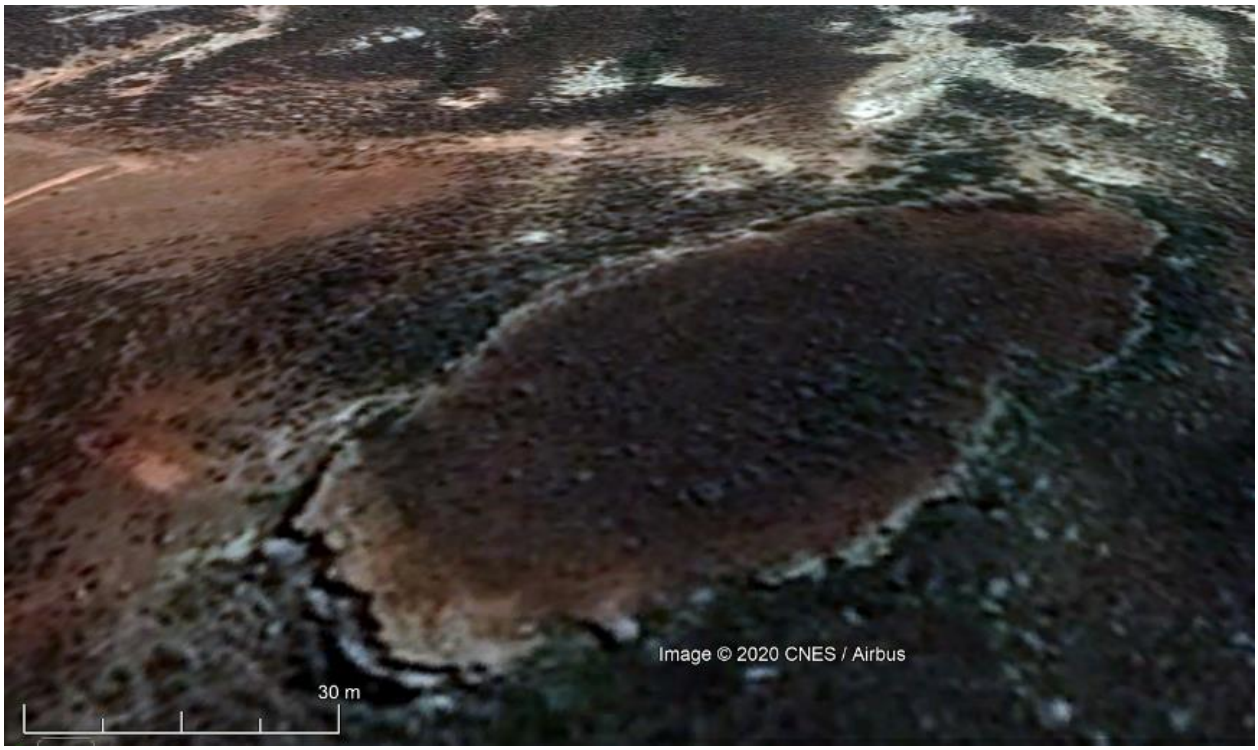

Figure 1. Satellite image: top of a mesa. The red colour is due to the ferrugination of the silcretes.

Figure 2. Top and bottom: ferruginised hilltop silcrete.

Figure 3. Top and bottom: ferruginised hilltop silcrete.

Figure 4. Top and bottom: ferruginised hillslope silcrete.

Figure 5. Top and bottom: ferruginised hilltop silcrete.

Figure 6. Top and bottom - Ferruginised hilltop silcrete.

Figure 7. Ferruginised silcrete boulders.

Figure 8. Heavily ferruginised silcretised gravel.