

D. CLACRETE

Field Note D2c. On the Bredasdorp Group Formations

The Bredasdorp group consists of five formations. Two the formations are shallow marine deposits (De Hoop Vlei and Klein Brak Formations) and three formations are aeolian deposits (Wankoe, Waenhuiskrans and Strandveld Formations). The two shallow marine formations are covered by the calcified aeolian formations (and thus only exposed in vertical cuts) and most of the Holocene Strandveld Formation comprises shifting dunes. So far in this study, calcrete was found on the Wankoe and Waenhuiskrans Formations only.

The geology maps do not reflect the true extent of the calcrete, as shown in Figure 1. This Field Note is about the calcrete on the Wankoe and the Waenhuiskrans Formations.

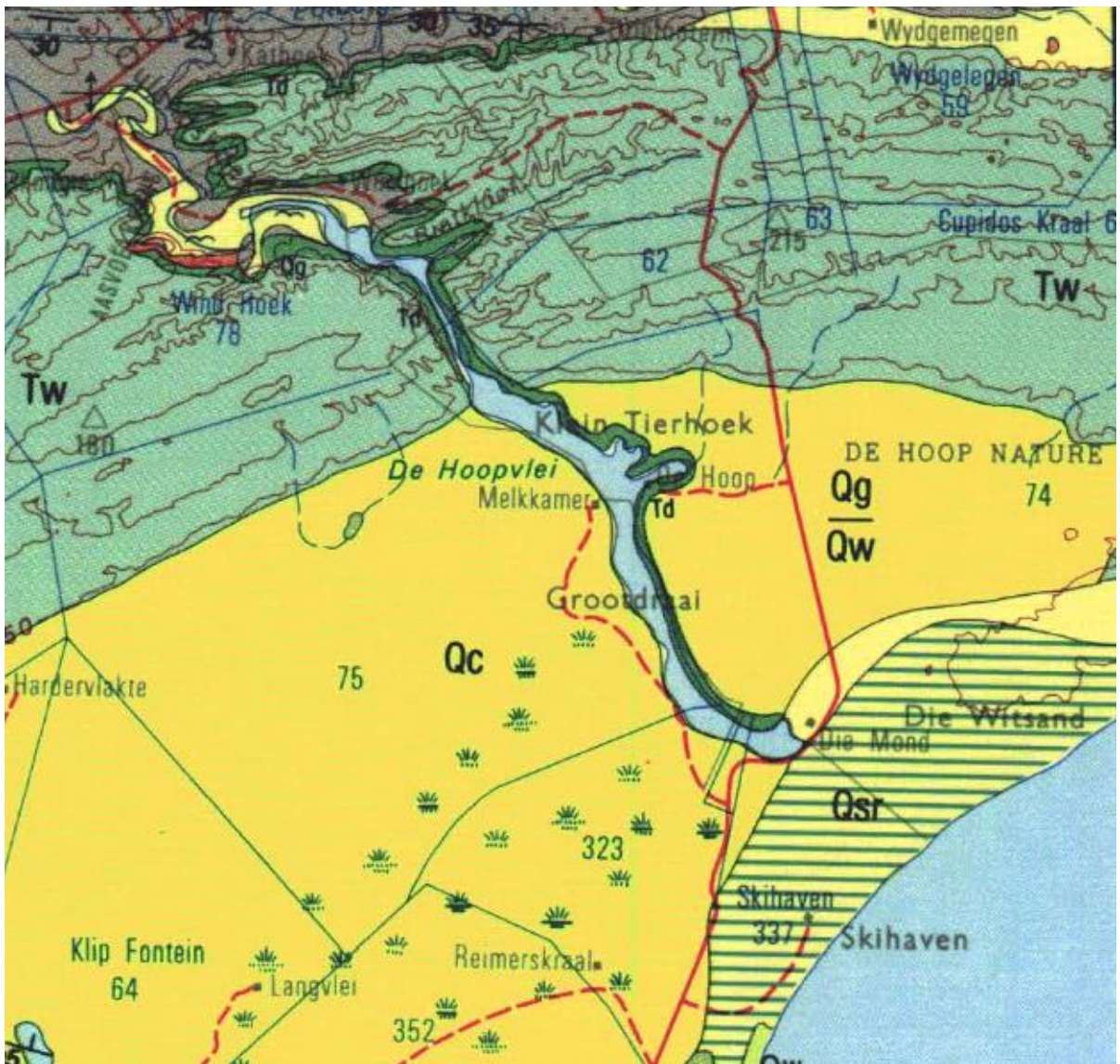


Figure 1. Geology map of part of the Study Area. The symbol Qc is for Quaternary calcrete. It probably covers rocks of the Waenhuiskrans Formation, like the area east of the De Hoop Vlei (the area with the symbol Qg/Qw). The two areas are geologically the same but concrete is not mentioned east of the vlei. The green area is the Hard Dunes of the Wankoe Formation, which is wholly capped with calcrete. See the debate on this issue in Chapter W.

The Wankoe Formation is capped everywhere with calcrete (Figures 2 to 10).

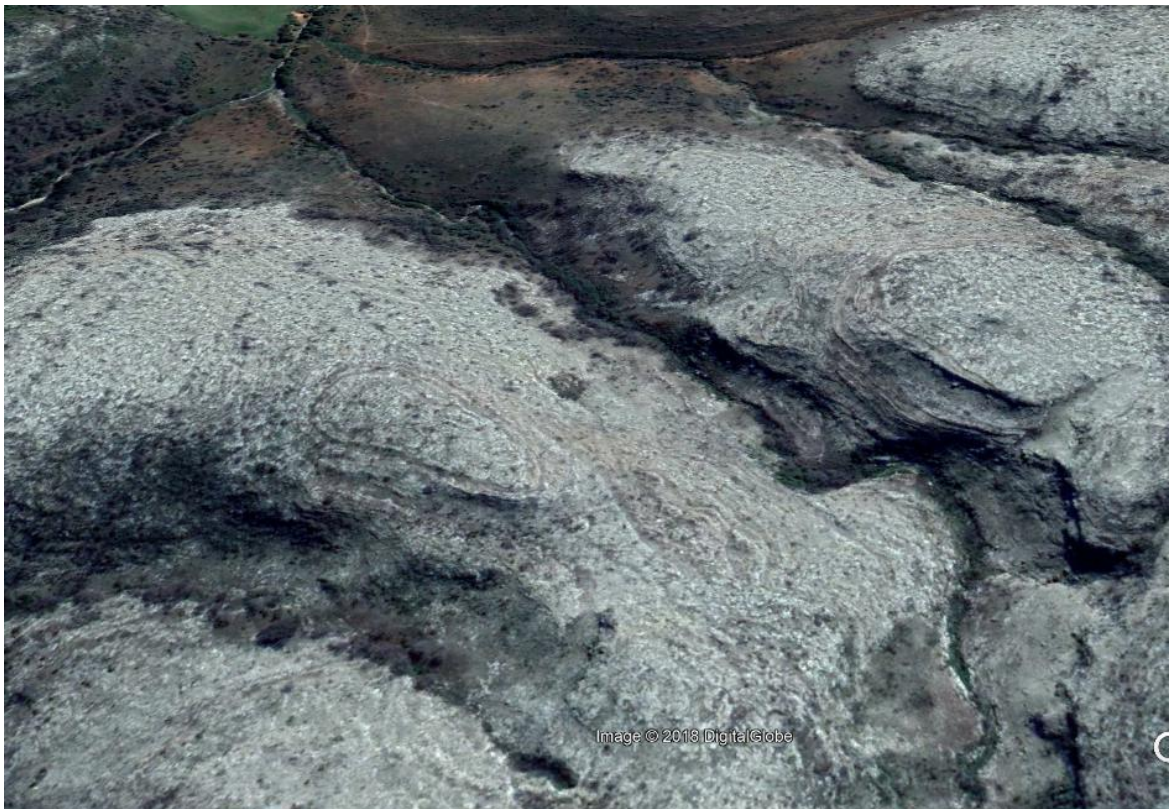
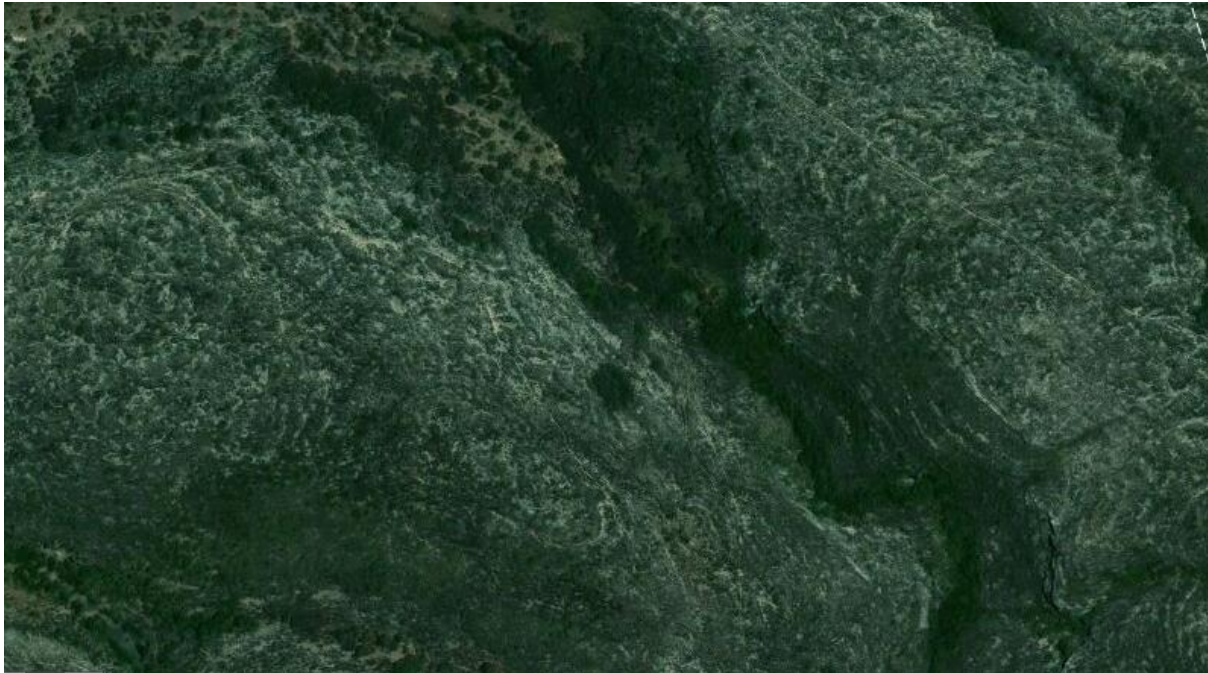


Figure 2. Satellite images of typical calcrete-capped Wankoe Formation Hard Dunes. Top – before a bushfire; bottom – after the fire. The light-grey colour is typical of the calcrete capping of the Wankoe Formation. Arrow points to Bokkeveld Shales deposits, which are not capped with calcrete. Note the contoured calcrete (see also Figures 3 and 4 below).



Figure 3. Satellite images of calcrete-capped Wankoe Formation western West Hard Dunes, after a bushfire. Note the contoured calcrete capping south of the doline.

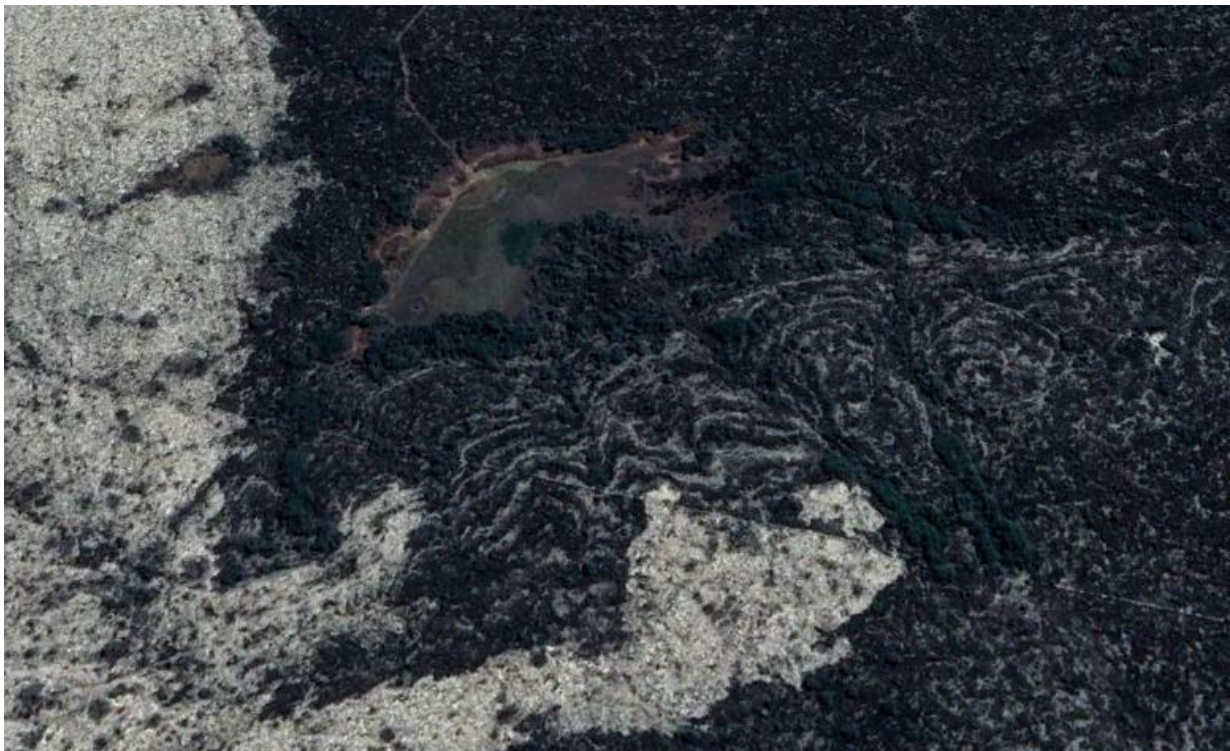


Figure 4. Satellite image of the same area shown in Figure 3. The contours are better visible when the vegetation is higher.



Figure 5. Calcrete capping (arrow) on the Wankoe Formation (at Rooikrans, Salt River Gorge).



Figure 6. Typical, grey, disintegrated calcrete capping on the Wankoe Formation.



Figure 7. Calccrete layer (arrow) on the cross-bedded Wankoe Formation.



Figure 8. Calccrete layer on the Wankoe Formation.



Figure 9. Cracked, disintegrated calcrete capping on the Wankoe Formation.



Figure 10. Cracked, disintegrated calcrete capping on the Wankoe Formation.

Most sections of the Waenhuiskrans Formation ridges are capped with Calcrete (Figures 11 and 12).



Figure 11. Tiny karst features on the calcrete, which caps Waenhuiskrans Formation rocks.



Figure 12. Calcrete on a Waenhuiskrans Formation ridge.