

K. WEST VALLEYS

Field Note K6c. The Ou Werf Valley - Geology - Overview

The Ou Werf Valley is a gap between two ridges of Hard Dunes, (consisting of the Wankoe Formation) and red sand, which are mostly capped by calcrete. Contrary to the geology map, the valley floor does not comprise wholly of Quaternary sediments. Whereas there are no doubts that Quaternary sediments have been deposited on the valley floor, the bottom of the valley comprises red sand covered in places by calcrete (Figures 1 to 3).

The origin of the red sand on the floor of the valleys, as well as on top of some Hard Dunes is discussed in Chapter W.



Figure 1. Satellite image of the Ou Werf Valley. The reddish areas are red sand dunes.



Figure 2. Satellite image of Hard Dunes east of the Ou Werf Valley. The red sand areas are at elevations of 106 m asl close to (white arrow) and at the corner of (yellow arrow) the fence of the OTR.



Figure 3. View of the red sand, which also forms the floor of the western basin of the Ou Werf Valley and the base of the Hard Dunes, which separate the western basin from the eastern basin. Note the aeolianite cross bedding (Wankoe Formation) in the foreground and the red sand at the base (arrows) of the hills between the two basins. View to the southeast from the Hard Dunes on the west side of the western basin.

The red sand forms the floor of the valley, in places covered with calcrete (Figures 4 to 6).



Figure 4. Calcrete on red sand.



Figure 5. Red sand dunes.



Figure 6. Red sand of the Ou Werf Valley floor. The arrow points to a dune capped by calcrete.

There are two main types of calcrete on the floor of the Ou Werf Valley namely: a. Lumpy (mushrooms) and b. tabular (Figures 7 and 8).



Figure 7. White lumpy ('mushroom') calcrete on the red sand floor of the Ou Werf Valley.



Figure 9. White tabular calcrete on the floor of the Ou Werf Valley.

Read more about calcrete types in the Ou Werf Valley in Field Note K6d and in Chapter D.

Other rocks are also present on the Ou Werf Valley floor (Figures 10 to 12).



Figure 10. Block of silcrete, probably of the Grahamstown Formation, on the floor of the Ou Werf Valley.



Figure 11. Block conglomerate on the floor of the Ou Werf Valley, consists of round and angular clasts.



Figure 12. Samples of various rocks, which can be found on the floor of the Ou Werf Valley.

The red sand dunes, most types of calcrete, other types of rocks and the fossils are unique to the Ou Werf valley and require further investigation. The following four field notes are about the geology of the valley. See Chapter W for discussion.