

## C. GEOLOGY

### Field Note C10e5. Waenhuiskrans Fm – Calcrete capped dunes – Klipfontein Depression



**Satellite image of the Klipfontein Depression (when flooded, 2005).**

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As described in previous Field Notes, the Waenhuiskrans Formation is present in the Study Area between the shoreline and the Wankoe Formation calcarenites in the north and in the west (Figure 1). The various calcrete-capped ridges and dune patterns were discussed in previous Field Notes.

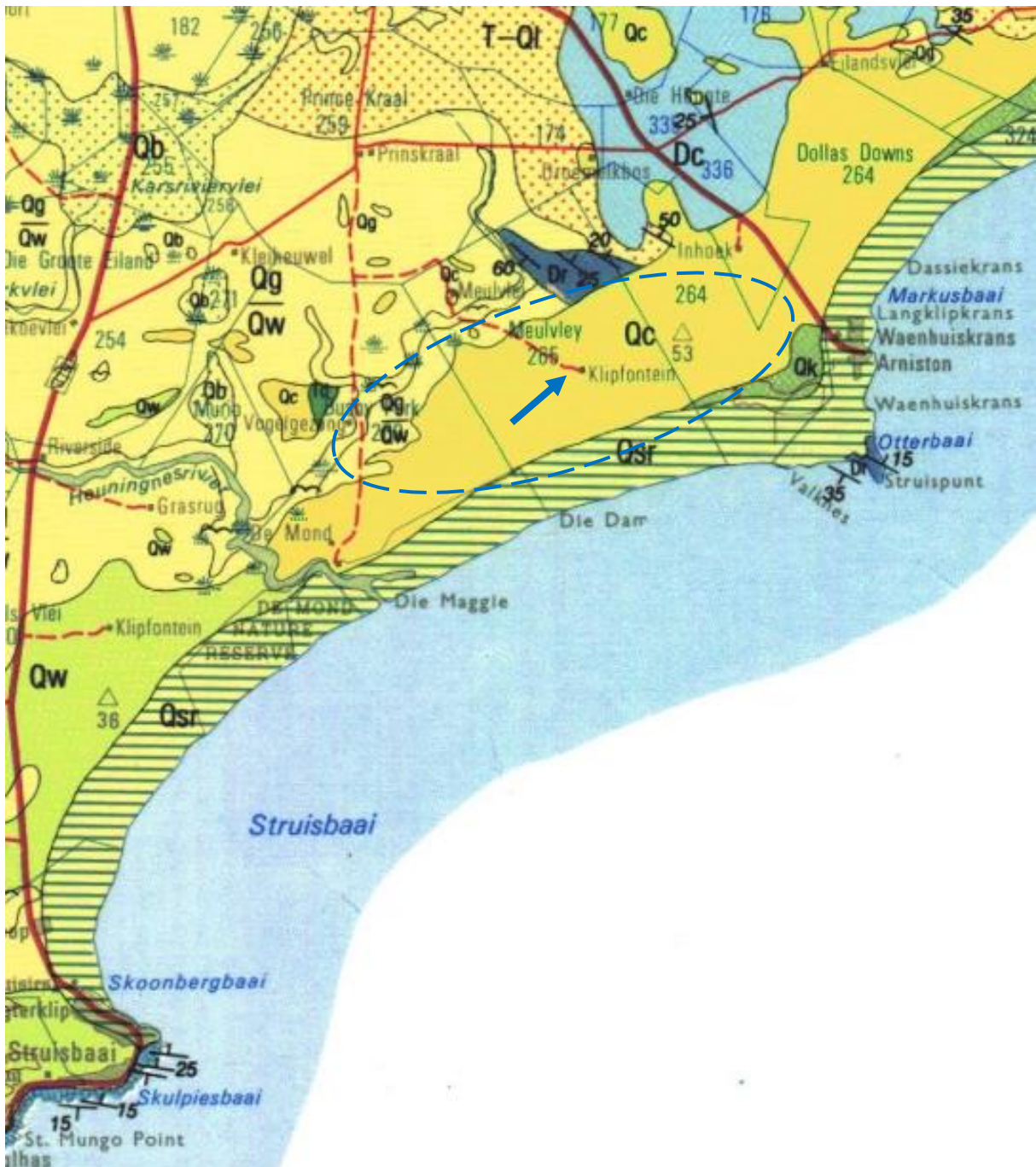


Figure 1. Geology map (Riversdale sheet, 1:250,000) of the area between Struis Bay in the southwest and Struis Point in the northeast. Ellipsoid indicates the area in discussion; arrow points to Klipfontein.

One of the calcrete-capped dune and ridges and patterns in the Study Area is Type C, or the 'Klipfontein Pattern', between the Heuningnes River Estuary (Die Mond Nature Reserve) in the southeast and Struis Point in the northwest (Figures 2 to 4).

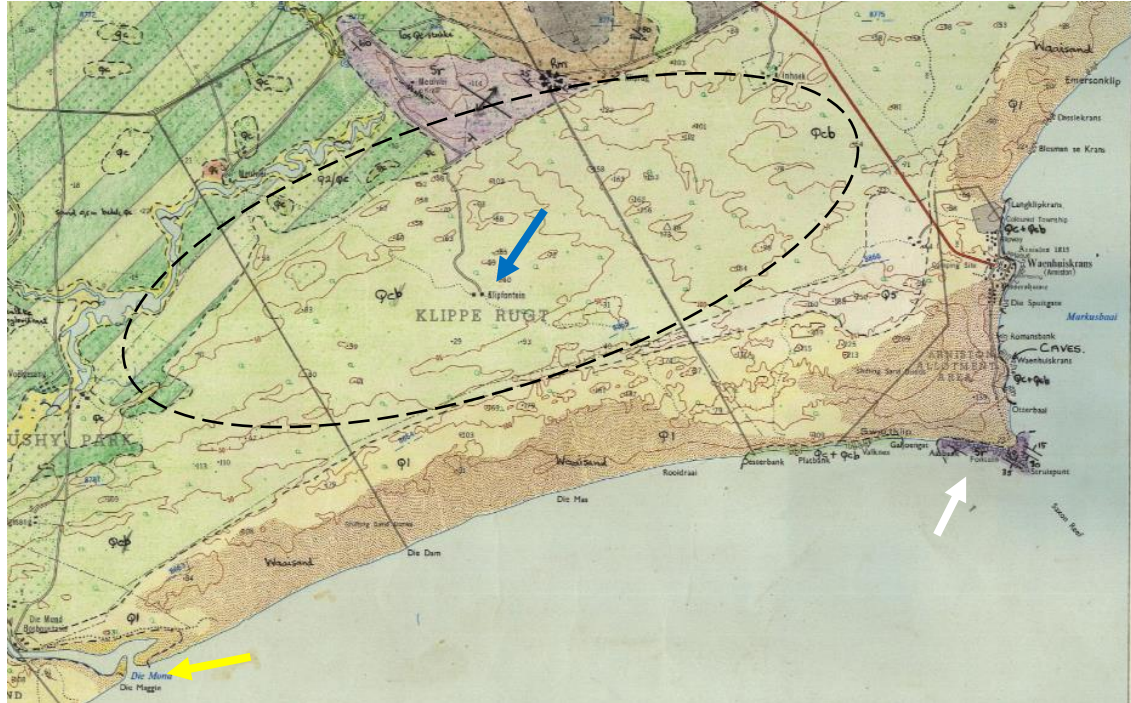
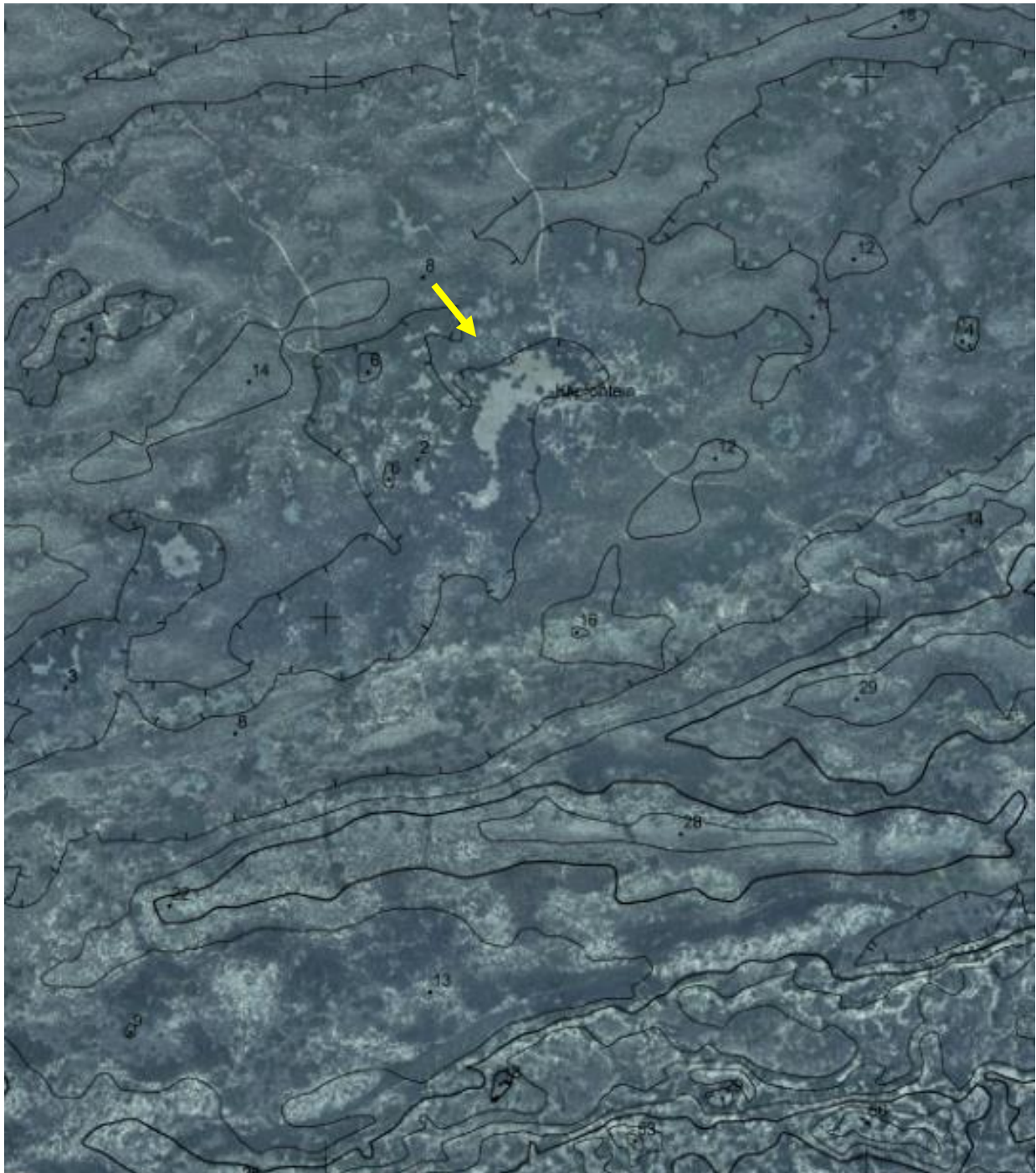


Figure 2. The area between the Heuningness Estuary (yellow arrow) and Struis Point (white area). The ellipsoid indicates the area discussed in this note. Top – geology map (JA Malan's 1:50,000 field sheet, 1984). Bottom – satellite image, 2018. Blue arrow points to Klipfontein.

This Field Note is about the Klipfontein Depression – the widest and the lowest depression in the dune area (Figure 3).



**Figure 3. Topography map (1:10,000) of the Klipfontein Depression area. The calcrete-capped dunes attain heights of up to 30 m; some of the depressions between these dunes are only a few meters above the present sealevel. Arrow points to Klipfontein.**

The Klipfontein Depression is the only depression in this dune area, which has been inhabited in the past (now part of Meulvlei Farm). The buildings are now abandoned (Figures 4 and 5).

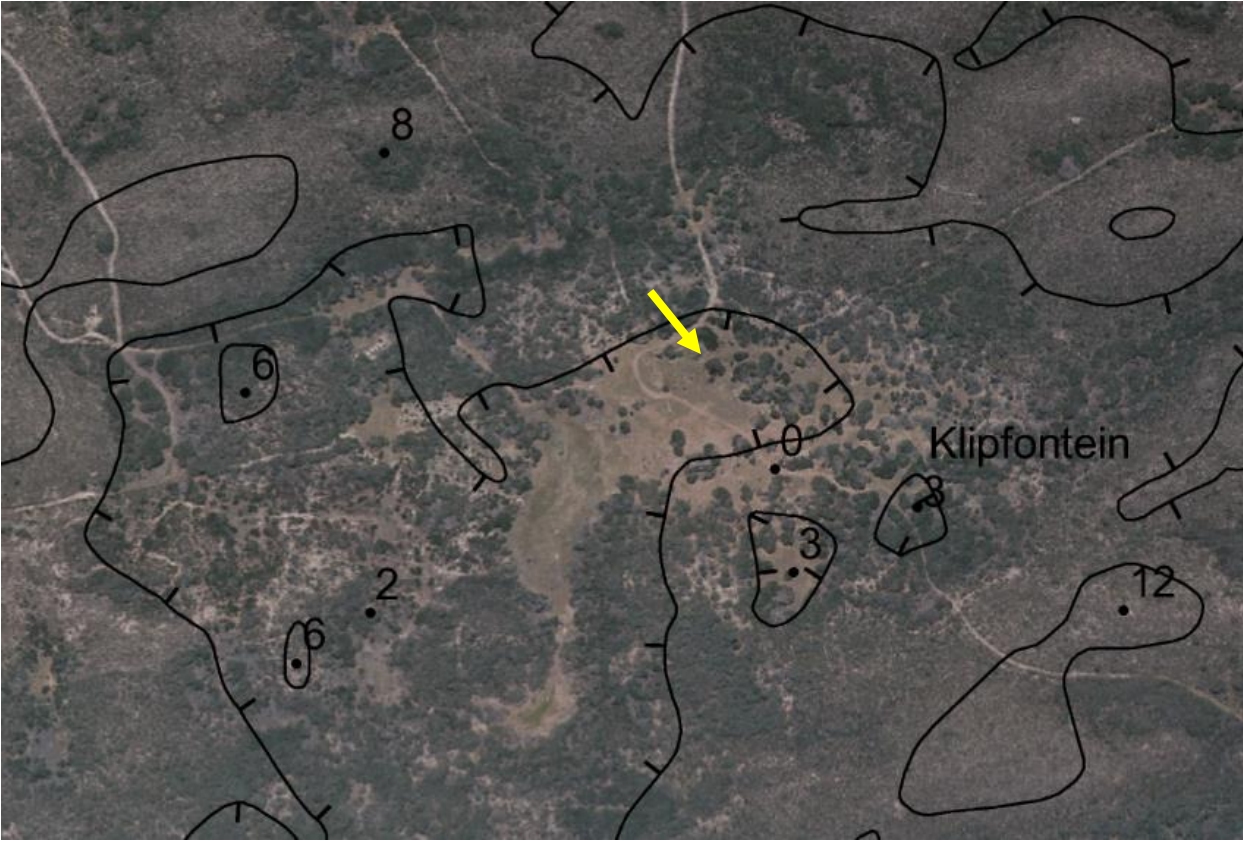


**Figure 4. Top and bottom: satellite images of the Klipfontein Depression. Arrows point to the dilapidated structures (also see following figures).**  
The current owners of Meulvlei Farm do not have any information on the history of this settlement, the structures or the borehole geology records.



**Figure 5. Top and bottom: The structures in the Klipfontein Depression. Views from the west. Calcrete-capped dunes can be seen behind the buildings.**

The Klipfontein Depression is the only depression along the coast of the Study Area, which is lower than the present sealevel (Figure 6), and thus flooded after heavy rains (see satellite image on front page). The fountain is located about 2 m below selevel (Figure 7).



**Figure 6. Topography map of the Klipfontein Depression. Arrow points to the fountain. Note the size of the area which is lower than the 0m contour.**



**Figure 7. The fountain is located in the lowest point of the Klipfontein Depression.** Rocks of shallow marine origin (beach rock) are found in the lowest part of the Klipfontein Depression (Figures 8 and 9).







**Figure 8. Top and bottom: shells, shell fragments and coarse sand, typical of a high-energy beach, comprise the rocks found at the lowest point of the depression.**  
The rocks are indicative of a high-energy beach environment. They were not well-cemented and in part brittle, probably indicating a short cementation period.



**Figure 9. The beach rock in the Klipfontein Depression typically consists of shells, shell fragments and coarse sand. The biggest shell in the middle-right is about 20 mm long.**