

N. DE HOOP VLEI GORGE

Field Note N9a. Archaeology – Dams and canals



The gate in the dam wall in Die Mond.

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A historical dam and canal system is located in Die Mond, in the southeasternmost end of the De Hoop Vlei (Figures 1). The area is a shallow depression, named here the Die Mond Depression, which hosts a series of dolines, on a SW-NE direction (See chapter E for dolines).

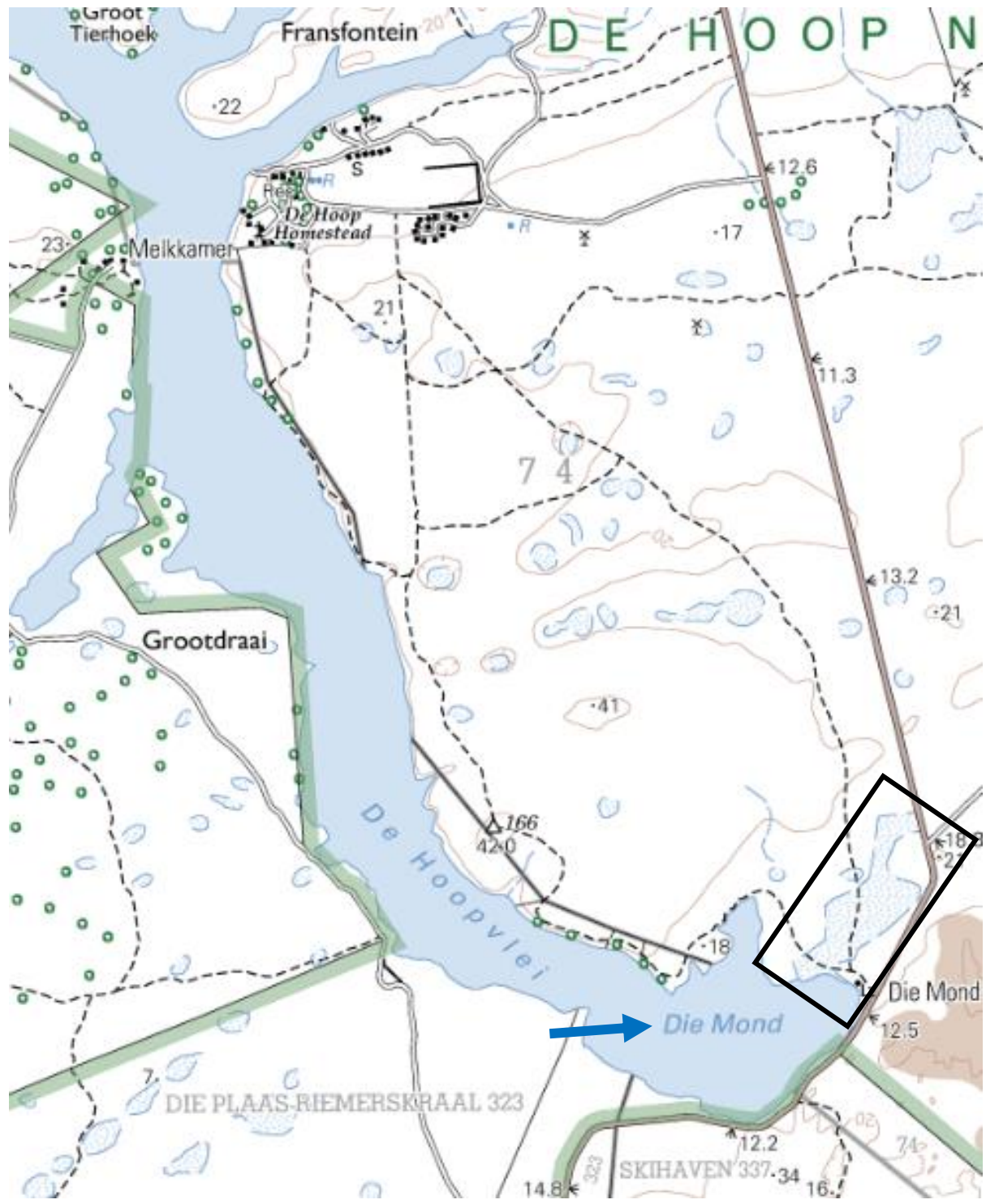


Figure 1. Topography map (1:50,000) of the south part of the De Hoop Vlei Gorge. Arrow points to Die Mond. Box indicates the Die Mond Depression, shown in Figures 2 and 3.

The topography of the Die Mond Depression is shown in Figure 2.



Figure 2. Topography map (1:10,000) of the Die Mond Depression.

Upon the water level in the vlei, the Die Mond Depression is at times full and at times dry (Figures 3 to 5).



Figure 3. Satellite image of the Die Mond Depression after the 2014 flood.



Figure 4. Satellite image of the Die Mond Depression after the May 2021 flood.

Dolines of the dam system in the Die Mond Depression are indicated in Figure 5.



Figure 5. Satellite image of the Die Mond Depression when it is dry. Colour of boxes indicate: red – front doline; white – middle dolines; yellow – back dolines.

The canals and dykes of the dam system are shown in Figure 6.



Figure 6. Satellite image of the features of the dam system in the Die Mond Depression. Arrows point to: white – front canal; yellow – middle canal; blue – back canal; red - dyke.

Dolines, dykes and canals in the Die Mond Depression are shown in Figures 7 to 11.



Figure 7. Enlargement of the red box in Figure 6. Yellow arrow points to the front canal, which delivered water to the front doline (blue arrow). White arrow points to the dyke.



Figure 8. The canal (arrow) to the front doline is easily discerned when the depression is nearly totally flooded. White arrow points to the dyke.



Figure 9. The front canal, delivering water from the vlei to the front doline. View to the west. The wall cladding was eroded.



Figure 10. The walls of the canal were cladded with stones, to prevent erosion. The cladding disintegrated with time.



Figure 11. Views on the dolines. Top – from the south on the front (arrow) and middle dolines; middle - from the south on the back dolines; bottom – from the road to Die Mond, looking south on the northernmost back doline.

To store water in the depression, a dyke was built across it and a canal was dug, to deliver water from the vlei to the dolines (Figures 12 to 18).



Figure 12. Satellite image of the dolines, containing water.



Figure 13. The middle dolines, the dyke (yellow arrow) and the canal (blue arrow).



Figure 14. The dyke. View to the northwest. The depression is on the right, the vlei on the left.



Figure 15. The dyke was cladded on the west (vlei) side. View to the east. The depression is on the left, the vlei on the right.



Figure 16. The vlei side of the gate in the dyke.



Figure 17. The depression side of the gate in the dyke.



Figure 18. The canal extends from the dyke (arrow) into the middle dolines. View to the south-southwest. (This is probably “Cloete’s Sloop”; read last page of this Field Note).

The back dolines were also walled, and a canal was cut into them, from the middle dolines (Figures 19 and 20).



Figure 19a. The area between the middle and the back dolines, before the May 2021 flood.

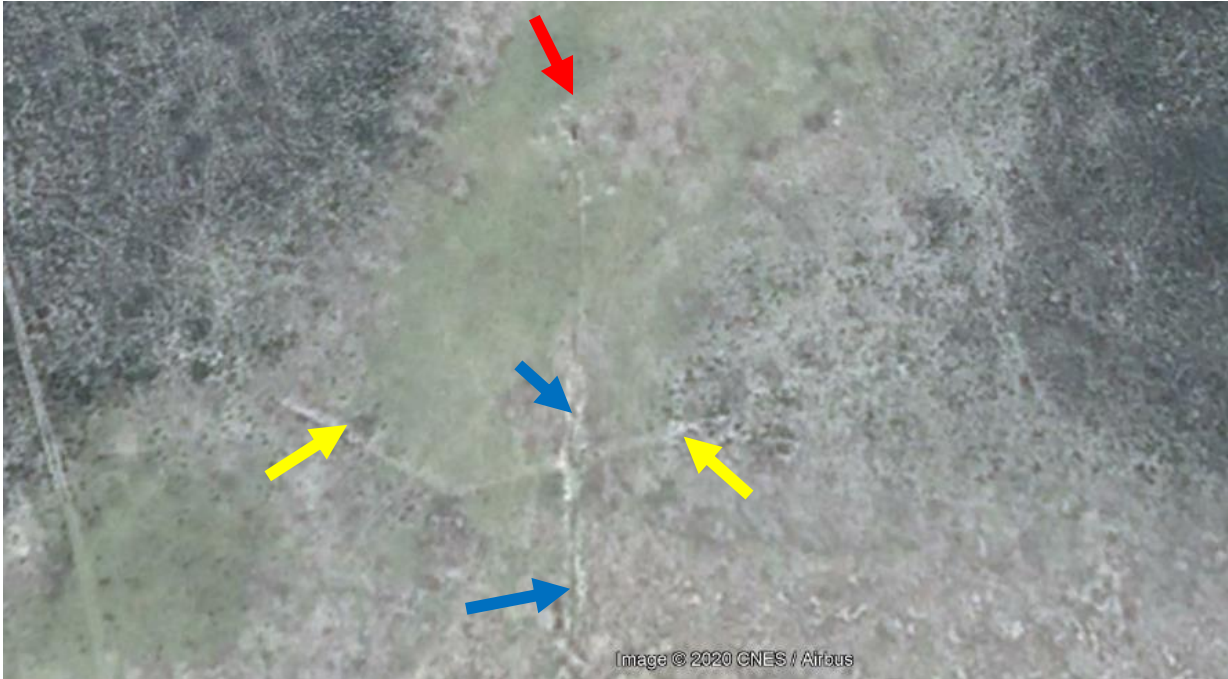


Figure 19b. Enlargement of the boxed area in Figure 19a. The low dyke (yellow arrows) and the canal (blue arrows) can be easily recognised. Red arrow points to a sinkhole (Figure 18).

A year after the May 2021 flood, the features in discussion are more clearly visible (Figure 20).



Figure 20a. The area between the middle and the back dolines



Figure 20b. Enlargement of the boxed area in Figure 20a. The low dyke (yellow arrows) and the canal (blue arrows) can be easily recognised. Red arrow points to a sinkhole (Figure 21).

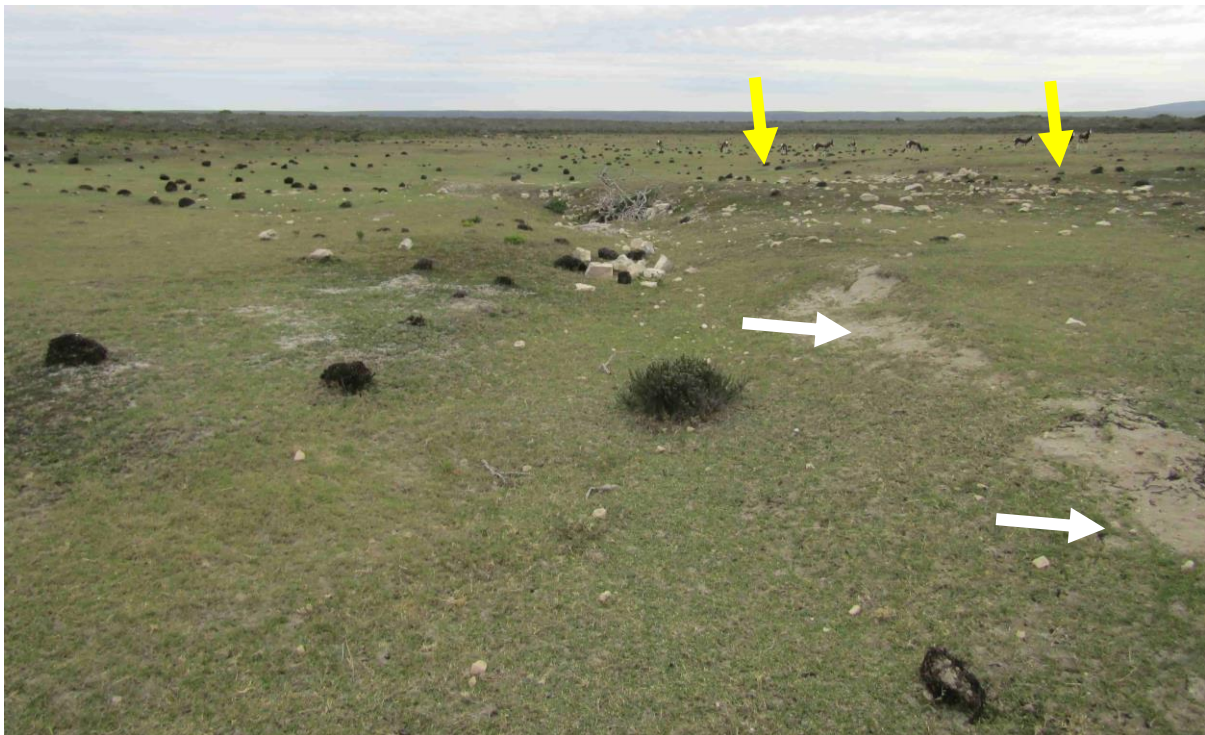


Figure 21. The low dyke (yellow arrows) of, and the canal (white arrows) to, the back dolines.



Figure 22. Sinkhole at the back dolines. When a stone was dropped into the hole (Feb 2020) it hit water. Such sinkholes are at the core of the debate on the drainage of the De Hoop Vlei (read below). See also Field Note on karst landforms in this chapter and Chapter W.

The dyke, gate, canal and sinkhole are most probably the historical features mentioned in the following paragraph (From the introduction to Shirley E Butcher's MSc thesis "Environmental factors and the water regime of De Hoop Vlei", 1993):

doubtful whether this ineffectual-looking ditch could play any significant role in flood control.

To compensate for the supposed blockage of the original sinkhole, two channels were dug. The timing and sequence of these attempts is uncertain. A channel known as "Cloete's sloop" was dug in an easterly direction near to Die Mond to drain into another sinkhole which, it is claimed, is connected to the same underground watercourse as others in the area (and possibly the original sinkhole) (J. Blacquiere, pers. comm.). It is even possible that "Cloete's sloop" was dug many years previously for irrigation purposes during a period of high water levels, as Cloete was no longer associated with De Hoop at the time of the 1906 flood. The remains of this channel are still evident and "Cloete's sloop" is now operated by a sluice gate in the dyke constructed by the Cape Department of Nature Conservation in 1958 (Van der Merwe, 1976). It is still regarded as an overflow outlet and its last recorded use was during the winter of 1962 according to the diary kept by the Nature Conservation Officer at De Hoop. The channel does not have an even downward gradient and it is