U. SHORES

Field Note U10e1. Lekkerwater – Morphology and geology

Oblique aerial view to the north on Lekkerwater.

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U. SHORES

Field Note U10e1. Lekkerwater

Lekkerwater is a private lodge on the shore of the De Hoop Nature Reserve. It is situated on that strip of the shore, which consists of sand and a few rock outcrops (Figures 1 to 4).

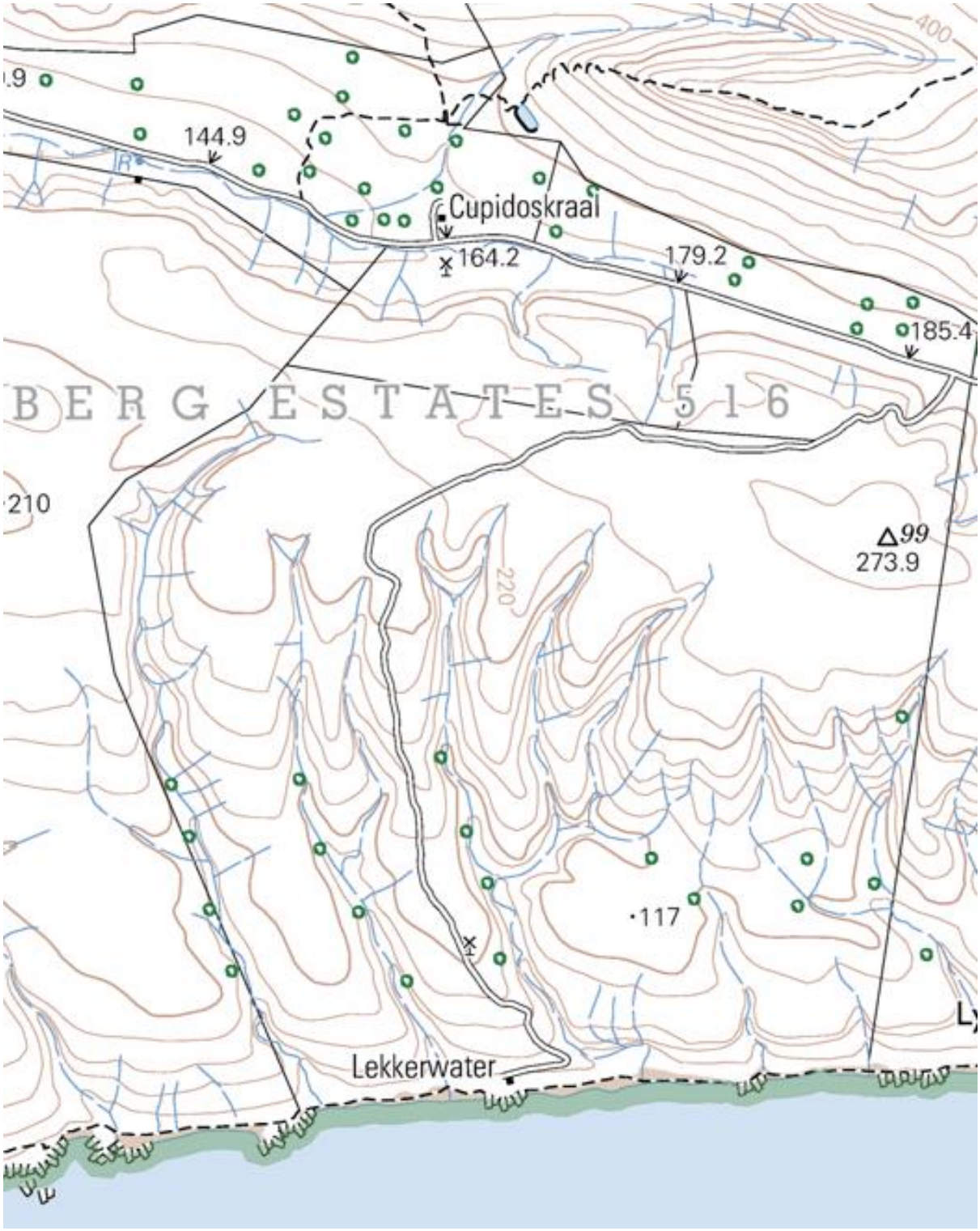

Figure 1. Topography map (1:50,000) of Lekkerwater area. Deep ravines incise the area.

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Figure 2. Topography map (1:10,000) of Lekkerwater, showing the high relief of the area.

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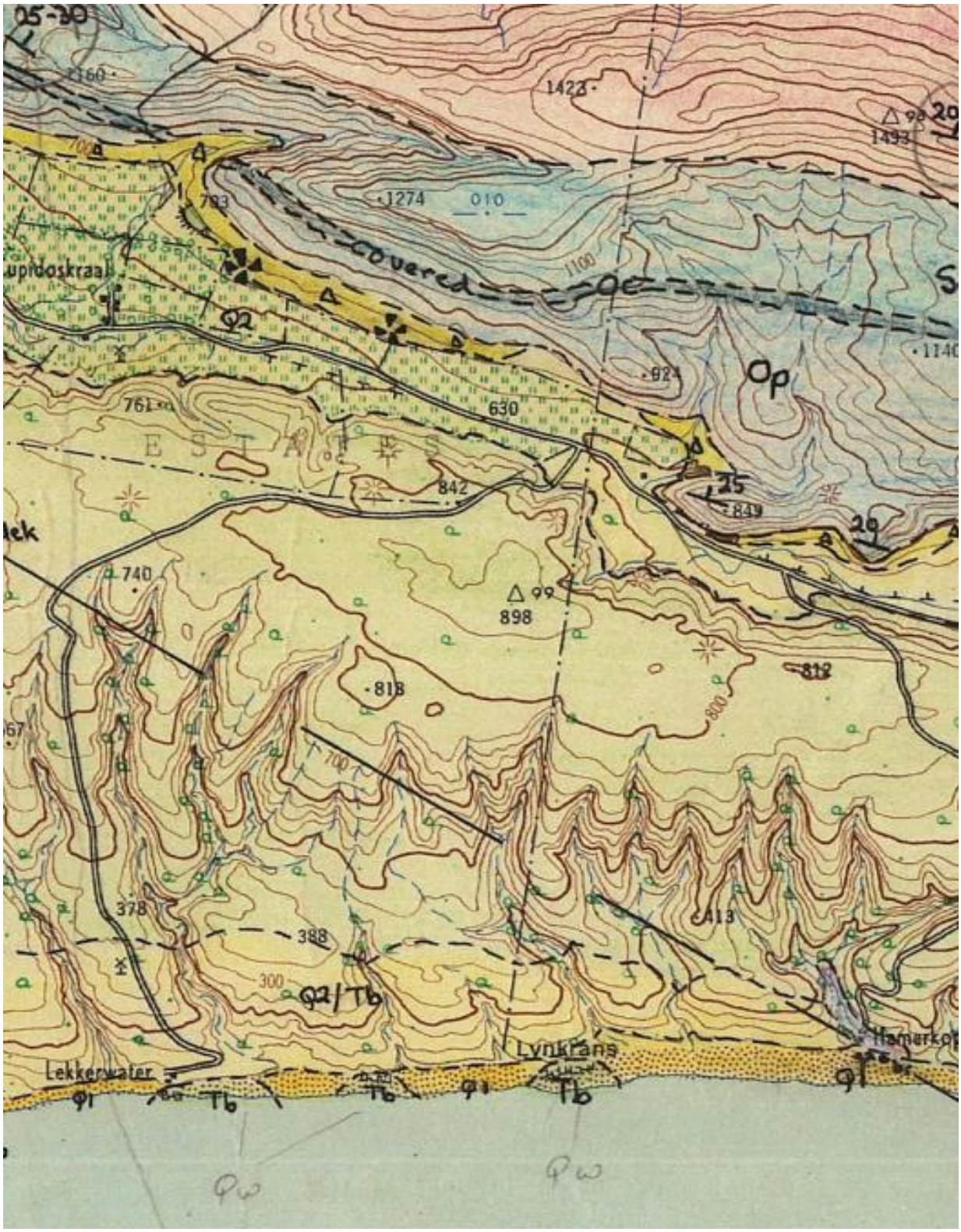

Figure 3. Geology field sheet (1:50,000, Malan 1984) of Lekkerwater area. Light green and the symbol 'Tb' denotes rocks of the Bredasdorp Group; blue and the symbol 'Op' denotes the sandstone rocks of the Peninsula Formation of the Table Mountain Group (TMG). The symbol 'Q2' indicates Quaternary sand.

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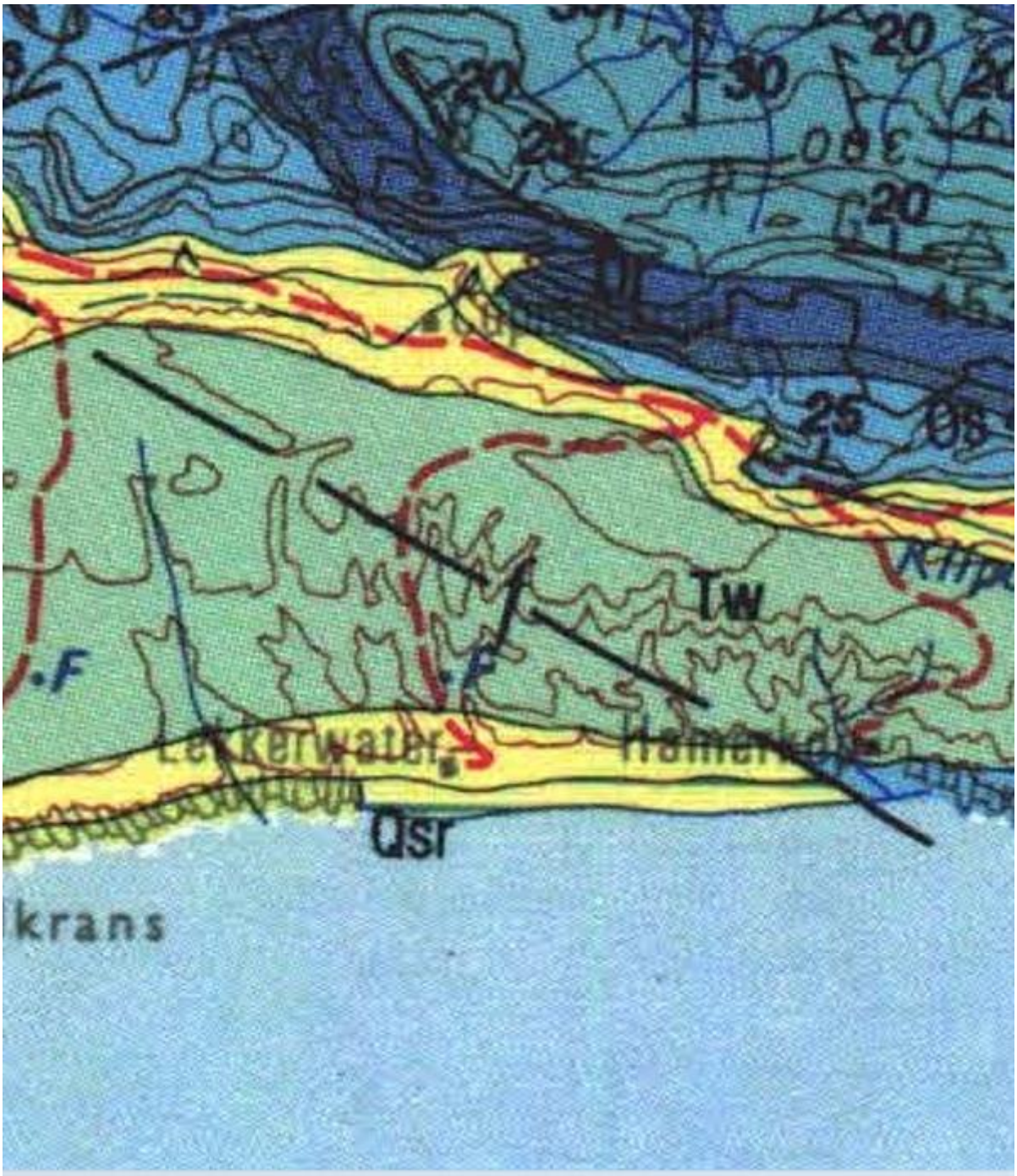

Figure 4. Geology map (Riversdale sheet (1:250,000, 1993) of Lekkerwater area. Blue and the symbol 'Op' are the sandstone rocks of the Peninsula Formation of the Table Mountain Group (TMG). Three formations of the Bredasdorp Group are present: green colour and 'Tw' indicates the limestone rocks of the Wankoe Formation; yellow colour indicates the rocks of the Waenhuiskrans Formation; 'Qsr' indicates sands of the Strandveld Formation.

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Figure 5. Top and bottom: oblique aerial views to the north on Lekkerwater, the shore, the hills and the ravines which incise the area.

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Figure 6. Top - oblique aerial view from the southwest on Lekkerwater; bottom – view of Lekkerwater from the sea. Note the high relief of the hills ('Hard Dunes') and the deep ravines.
Source: The Internet

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The road to Lekkerwater goes on a ridge between two very deep dry valleys of the 'Hard Dunes' (the calcified aeolianites of the Wankoe Formation; see Chapter C) (Figures 7 and 8).

Figure 6. The ravines (dry valleys) run nearly perpendicular to the shore.

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The Hard dunes are capped by calcrete (see Chapter D) which, on the steep slopes of the ravines, is in places devoid of vegetation (Figure 7).

Figure 8. Top and bottom - the calcrete cuirass on the steep slopes of the ravines, which incise the 'Hard Dunes'.

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Close to the shore, the geology changes from the Wankoe Formation to the calcified aeolian ridges of the Waenhuiskrans Formation (Figure 9).

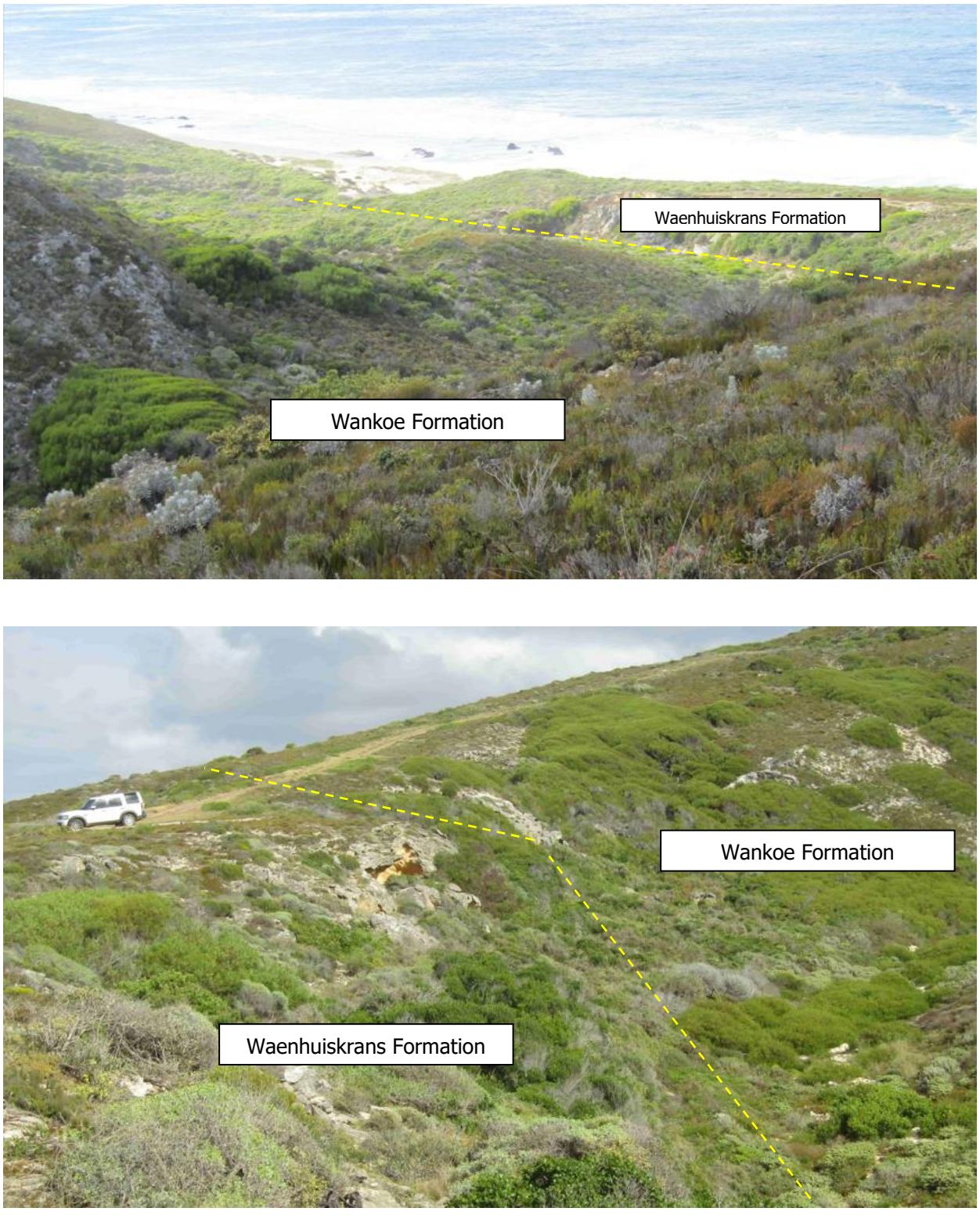

Figure 8. Top and bottom – the rocks along the shores are those of the Waenhuikrans Formation. Thick vegetation covers the contact zone with the Wankoe Formation (the 'Hard Dunes'). The dashed line approximately marks the location of the contact.

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The shore is mainly sandy with protruding rock outcrops of the Waenhuiskrans Formation (Figure 9).

Figure 9. Top and bottom – the rocks along the shores are of the Waenhuikrans Formation.

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Horizontal bedding and cross bedding are typical features of the Waenhuiskrans Formation (Figure 10).

Figure 10. Typical features of aeolianites: top – horizontal bedding; bottom – cross bedding.

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Many dissolution features are present on the Lekkerwater shore Waenhuiskrans Formation outcrops. They include cusps, teeth, pipes, pillars, pinnacles, spurs and other, amorphous features (Figures 11 to 16).

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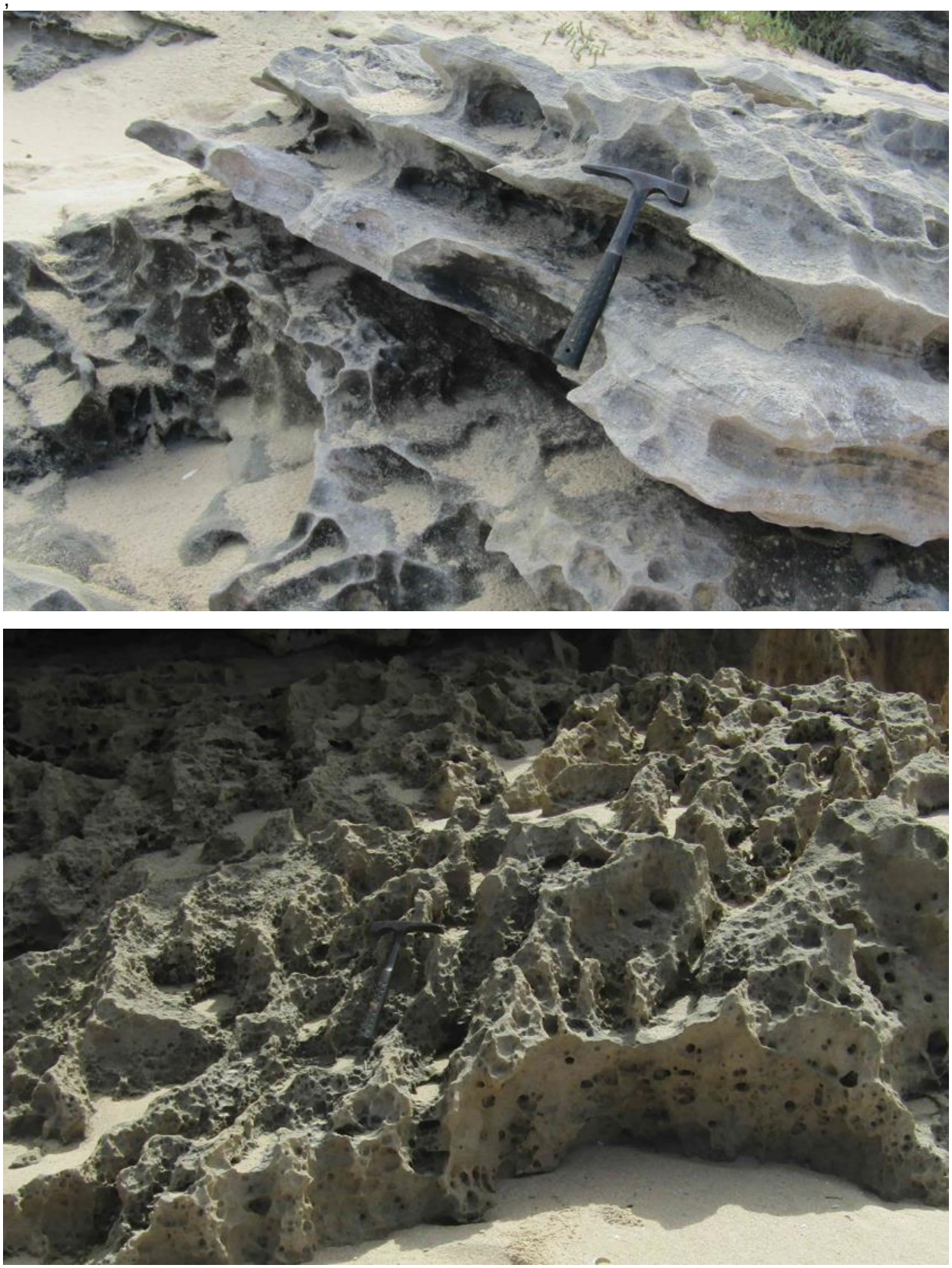

Figure 11. Dissolution features. Top – cusps; bottom – teeth.

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Figure 12. Top and bottom – dissolution pipes.

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Figure 13. Top and bottom – dissolution pillars.

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Figure 14. Top and bottom – miniature pinnacles.

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Figure 15. Top and bottom – dissolution features – spurs.

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Figure 16. Top and bottom – amorphous dissolution features.

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Abrasion tables and offshore dissolution features are also present (Figure 17).

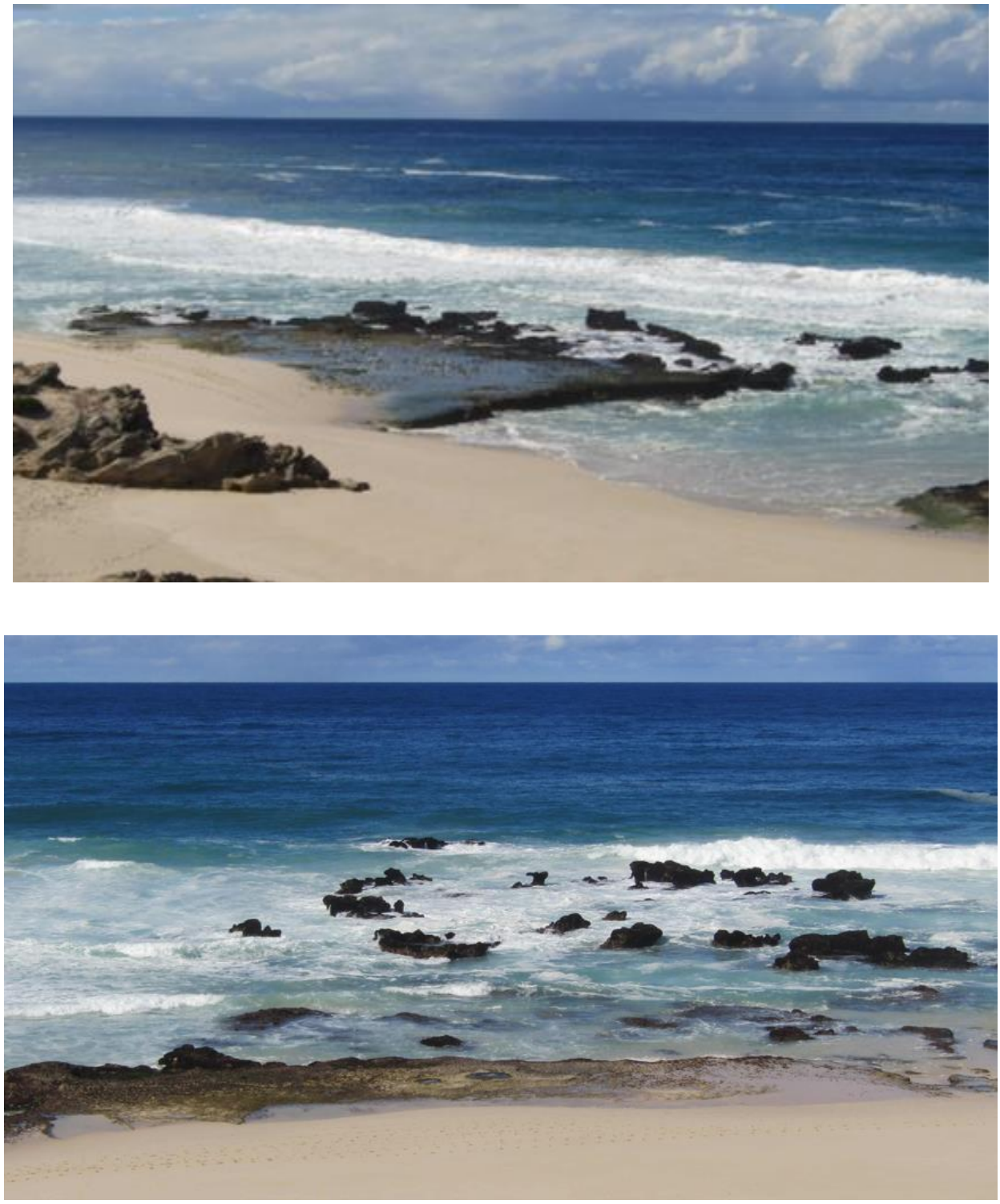

Figure 17. Features along the shore of Lekkerwater. Top – abrasion table; bottom – offshore dissolution features.

More on the Waenhuiskrans Formation dissolution features can be found in the Field Notes on Arniston shores, earlier in this chapter.

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