

U. SHORES

Field Note U10f2a. Noetsie – Morphology and geology

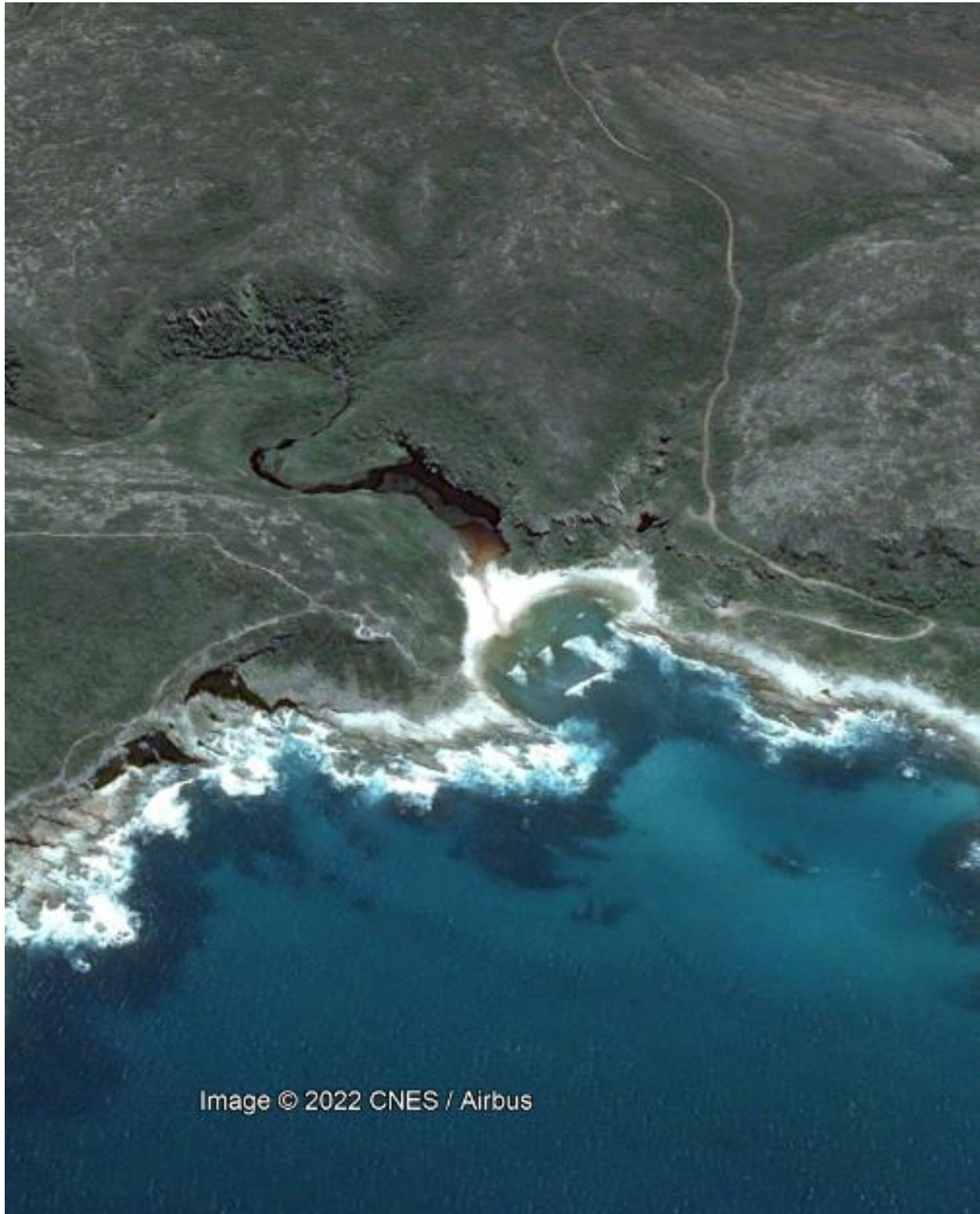


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Oblique aerial view to the north on Noetsie and the Klipdrift Complex.

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Noetsie, situated on the rocky shore of the De Hoop Nature Reserve, is an overnight accommodation site of the Whale Trail. It is also the point from which one can access the Klipdrift Complex – a cave and a shelter, used by Stone Age people (see the next Field Note for the archaeology of this site).

Three ravines, incising the hills north of Noetsie, converge into Kleinbaai (Figures 1 to 4).

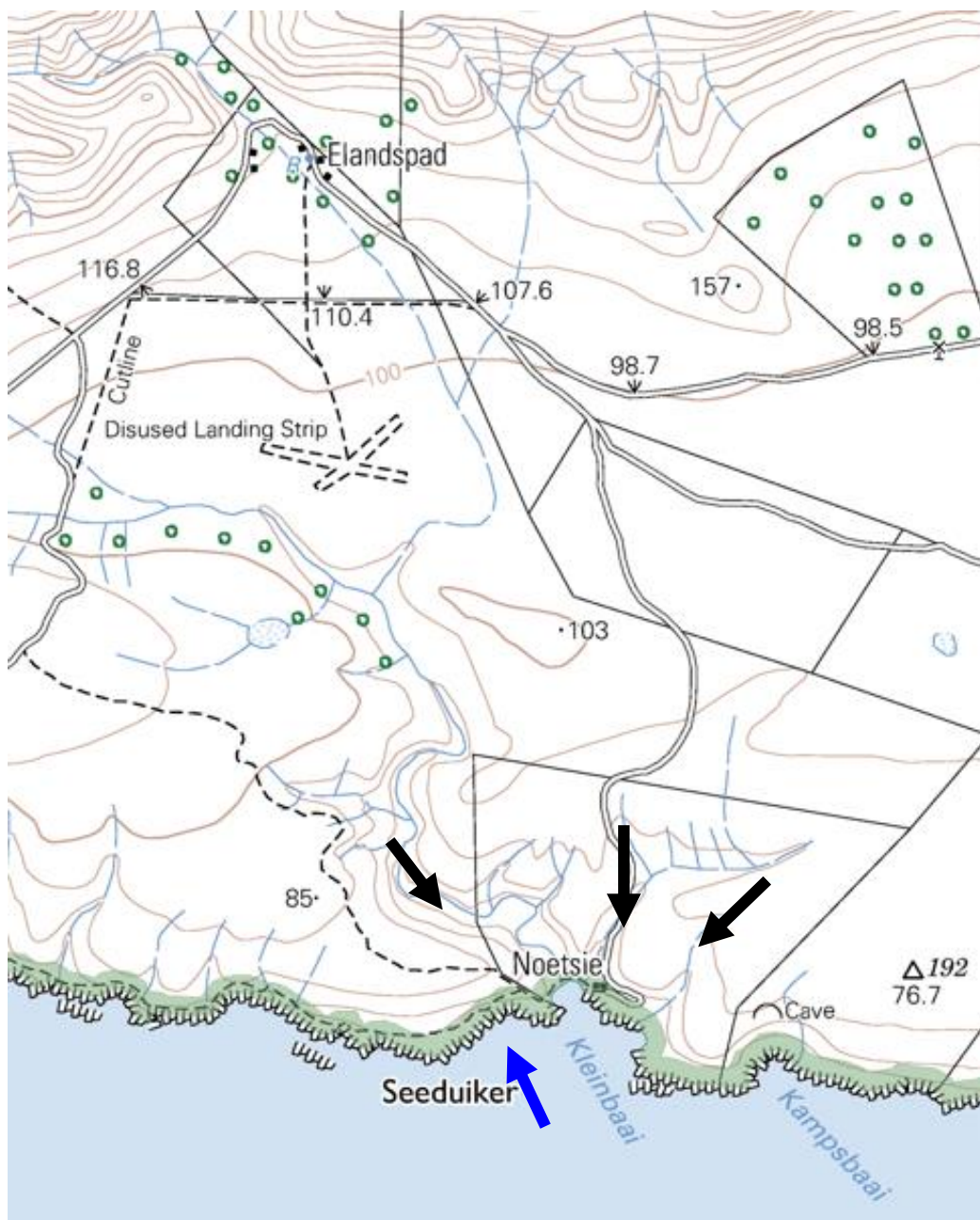


Figure 1. Topography map (1:50,000) of Noetsie area. Blue arrow points to the location of the Stone-Age cave and shelter. (The cave sign east of Noetsie marks a minor overhang). Black arrows indicate the three ravines which converge into Kleinbaai.



Figure 2. Topography map (1:10,000) of Noetsie, showing the high relief of the area. Yellow arrow points to the location of the cave and the shelter). White arrows point to the three ravines, which converge into Kleinbaai.



Figure 3. Geology field sheet (1:50,000, Malan 1984) of Noetsie area. Arrow points to the location of the Klipdrift Complex. [The cave symbol (Strandlopergrotte) east of Noetsie is a mistake]. Light green and the symbol 'Tb' are rocks of the Bredasdorp Group; blue and the symbol 'Op' are the sandstone rocks of the Peninsula Formation of the Table Mountain Group (TMG). The symbol 'Q2' indicates Quaternary sediments.



Figure 4. Geology map (Riversdale sheet 1:250,000, 1993) of Noetsie area. Arrow points to the location of the Klipdrift Complex. [The cave symbol (Strandlopergrotte) east of Noetsie is a mistake]. Light green and the symbol 'Tw' are rocks of the Wankoe Formation; dark green and the symbol 'Td' are rocks of the De Hoop Vlei Formation; blue and the symbol 'Op' are the sandstone rocks of the Peninsula Formation of the Table Mountain Group (TMG). The symbol 'Qg' indicates Quaternary sediments.

The road to Noetsie meanders on the Wankoe Formation hills and Table Mountain Peninsula Formation rocks (Figure 5).



Figure 5. Oblique aerial view to the north on Noetsie, the hills and the three ravines, which flow into Kleinbaai. The ravine which comes from the NW is the outlet of the Klipdriftfonteinspruit, draining the valley which separates the Wankoe hills from the Potberg Mountains. The Peninsula Formation sandstone strata (arrow) can easily be distinguished from the surrounding limestones.



Closer to the shore, the road to Noetsie goes east of the middle ravine, which cuts into the Peninsula Formation sandstones (Figure 6).



Figure 6. Top and bottom - views on Kleinbaai through the middle ravine.

The Klipdriftfonteinspruit River, which was probably a perennial source of water for the Stone Age people, forms a small lake behind the sandy berm of Kleinbaai (Figure 7).

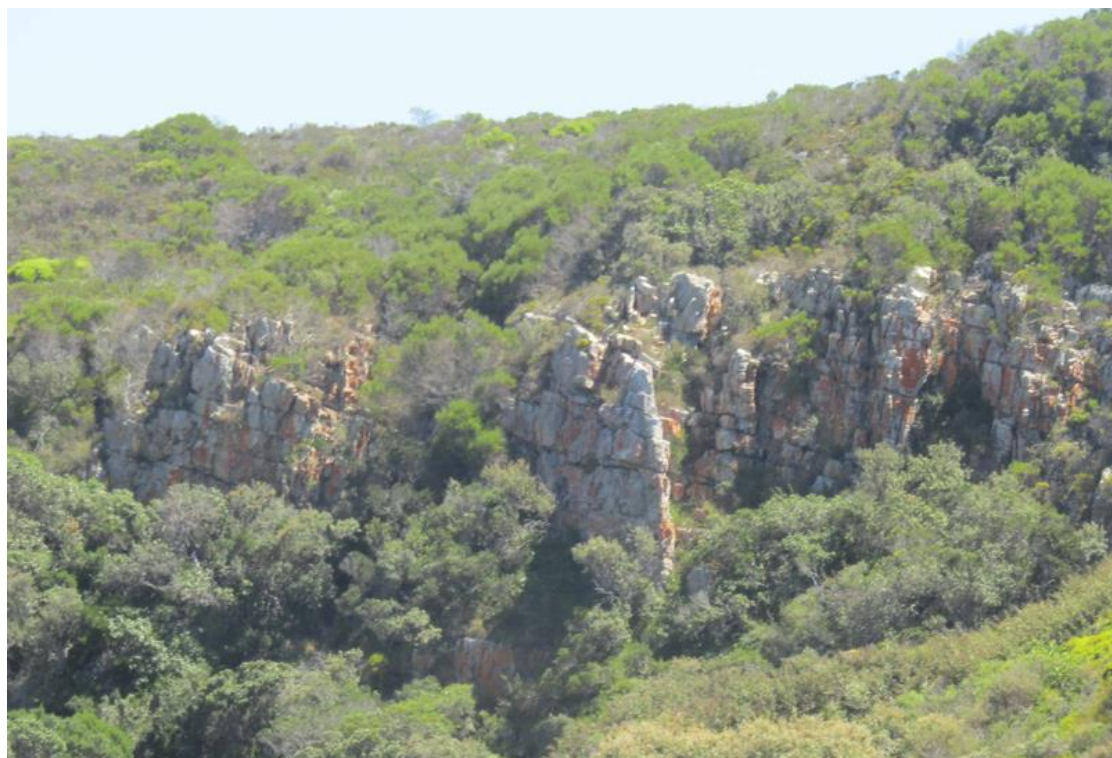


Figure 7. Top – the small lake at the back of Kleinbaai. Bottom – the sandstone cliffs and pinnacles above the lake.

Kleinbaai shore consists of rounded sandstone boulders and a sand berm (Figure 8).

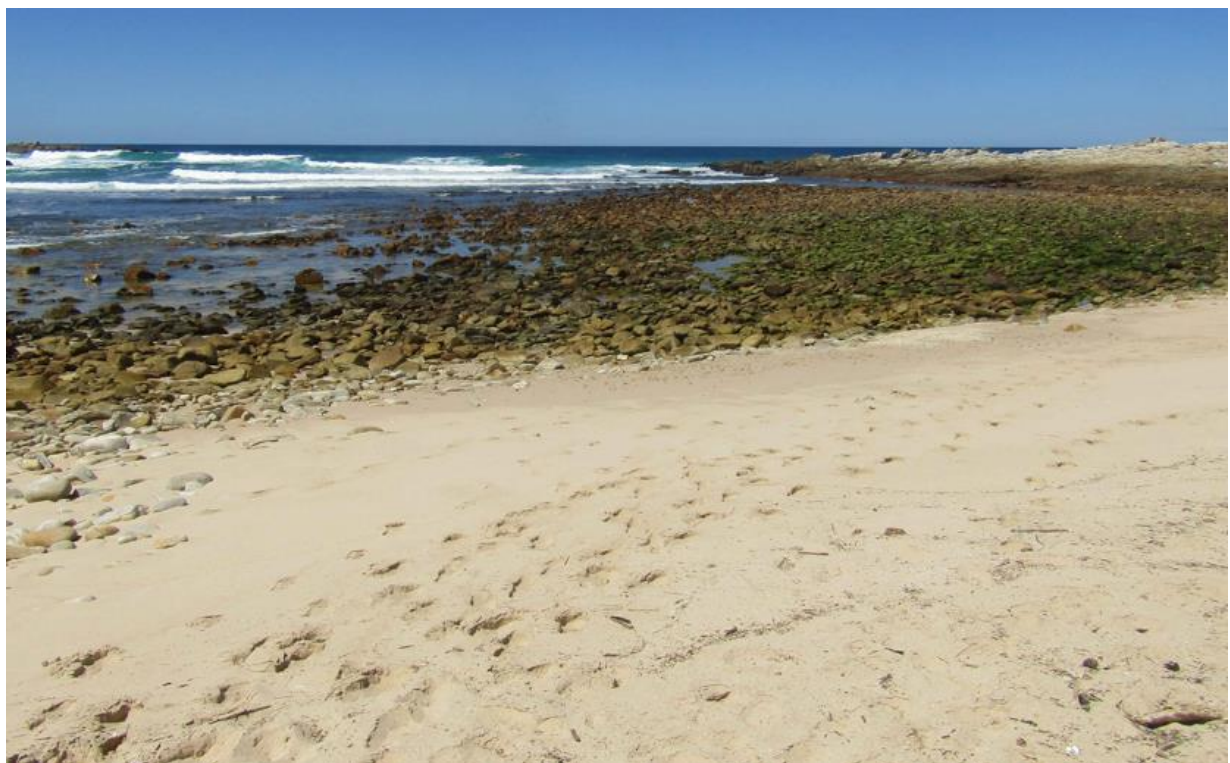


Figure 8. Views on Kleinbaai shore: top – to the east; bottom – to the west; the sandy berm is at the foreground.

At the west side of Kleinbaai, a path is climbing the cliff and goes over the Klipdrift Complex (Figure 9).



Figure 9. Top - The path (white arrow) which goes over the Klipdrift Complex (yellow arrow). Top – oblique aerial view. Bottom – view from the start of the path, which climbs up the sandstone cliff, from the south end of Kleinbaai shore.

Conglomerate and breccia of huge and tiny clasts, with no shells or other marine organisms, are overlying the sandstones, at the foot of the cliff along the bottom path to the Complex [The geology map says the De Hoop Vlei Formation is present, but these outcrops are definitely not it]. These outcrops are present along a ~100 m section of the shore, and they are very different from each other (Figures 10 to 12).



Figure 10. Top and bottom - conglomerate overlying the sandstone rocks.



Figure 11. Top and bottom - conglomerate and breccia overlying the sandstone rocks.



Figure 12. Top and bottom – conglomerate and breccia overlying the sandstone rocks. Note the dark matrix (ferricrete?) which is quite unusual in this environment.

The path at the foot of the cliff, above the boulders west of Kleinbaai, leads to the Klipdrift Complex (Figure 13).



Figure 13. The lower path to the Klipdrift Complex.

The shore consists of abraded strata of the Peninsula Formation sandstones (Figure 14).



Figure 14. Top and bottom - the shore consists of sandstone strata and boulders.

The cave and the shelter were formed within the Peninsula Formation and are overlain by the limestones of the Bredasdorp Formations (Figure 15).



Figure 15. The Klipdrift Complex (right chamber is the shelter; left chamber is the cave) within the sandstone formation. Arrow points to a limestone layer, of the Bredasdorp Group.

Bredasdorp Group limestones are present around the Klipdrift Complex (Figures 15 and 16).



Figure 15. Limestones of the Bredasdorp Group. Top – calcified aeolian sediment below the Complex. Bottom – limestone draping the layers above the Complex.



Figure 16. Detached limestone blocks of the Bredasdorp Group Wankoe Formation on the slopes east of the Complex.

The contact between the TMG sandstones and the Bredasdorp Group limestones is easily discerned (Figures 17 and 18).



Figure 17. Views of the Bredasdorp group limestones overlying the TMG rocks over the Complex. The approximate contact line is indicated by the dashed line.



Figure 18. Views of the Bredasdorp group limestones overlying the TMG rocks next to the Complex. The approximate contact line is indicated by the dashed line.

The formation of the Klipdrift Complex, the field relations between the TMG sandstones and the Bredasdorp Group limestones and the presence of conglomerate and breccia along the shore are yet to be studied.

The Klipdrift Complex setting is similar to that of the cave in Die Kelders near Gansbaai, (where the overlying limestones are of the Waenhuiskrans Formation), which is also a Stone Age archaeology site (Figure 19).

DIE KELDERS CAVES

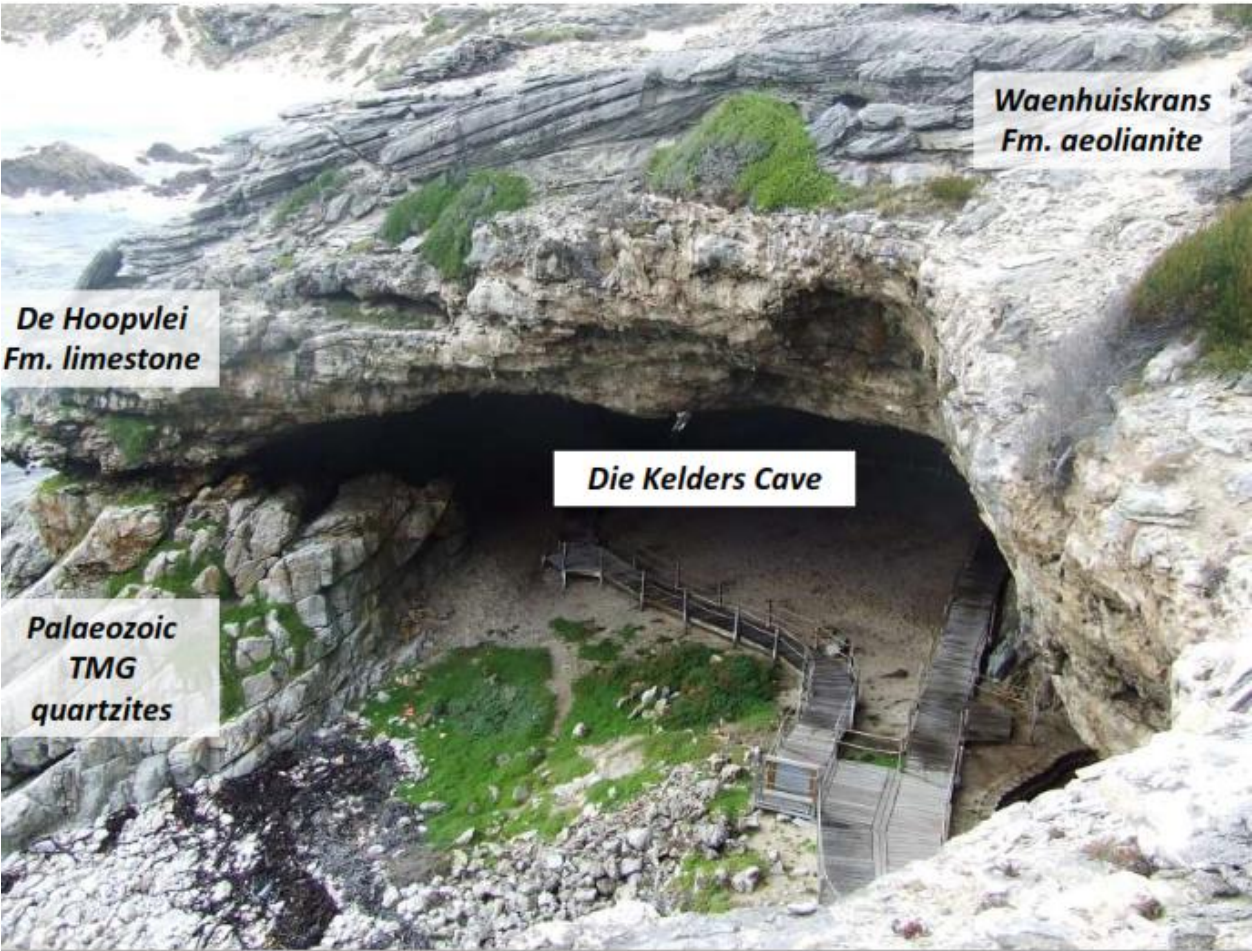


Figure 19. View on the cave in Die Kelders, which is set in the TMG rocks, below the Bredasdorp Group Waenhuiskrans Formation limestones. Note that ‘De Hoopvlei Fm’ is a mistake and should read ‘Klein Brak Fm’.

Source: HC Cawthra, Presentation to the Overberg Geoscientists Group, 2021.