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The Case Officer
South African Heritage Resources Agency
Submission via SAHRIS

Dear SAHRA

LETTER OF EXEMPTION FROM FURTHER HERITAGE STUDIES: PROPOSED VELD SOLAR ONE (PTY) LTD PV DEVELOPMENT AT COPPERTON, NORTHERN CAPE

The purpose of this letter is to summarise the known heritage resources in and around Copperton and to motivate the contention that an assessment of the impacts on heritage resources is not required for the abovementioned project. The author has worked on several projects in the vicinity and knows the area well. The Copperton area has been a focus of renewable energy development over the last several years and numerous heritage studies have been carried out in the vicinity. This letter makes reference to this body of knowledge.

Project proposal

The proposed solar energy facility would involve the construction of a 5MW photovoltaic (PV) energy facility located on Portion 14 and the Remainder of Farm Vogelstruisbult 104 in Copperton, Northern Cape (Figure 1). The proposed facility would occupy approximately 18ha of degraded land that used to be part of the town of Copperton (Figure 2). The PV array will be built over the areas where the bulldozed house foundations lie, while the existing and now disused town roads will be used for access to the site. An approximately 4.1 km power line will evacuate the power to a substation located alongside the abandoned mine to the south. For most of its length, this alignment follows the route of an old road.

It should be noted that the Department of Environmental Affairs (DEA) have reviewed the proposal and determined that it does not trigger the National Environmental Management Act (NEMA). As such, no NEMA application will be made for this project. Both the area of the proposed PV development and the length of the power line trigger the National Heritage Resources Act (NHRA), however, and a decision is thus required from the relevant heritage authorities.

Copperton history

Copperton is a classic company town in the sense that the whole town owes its existence to the presence of the nearby zinc and copper mine. The mine commenced operation in 1972 and was closed down in 1991. The mining area and town were completely undeveloped in 1969 (Figures 3 & 4) thus proving that all

structures and other built features in the town are less than 47 years of age. The town thrived while it was occupied by mine staff (Figure 5). Subsequent to the mine closure, and probably to prevent illegal occupation, the majority of the houses in the town were demolished.

Heritage resources

Archaeology

Archaeological resources lie widely scattered throughout the region but the vast majority are part of what is referred to as background scatter and are associated with gravel lag deposits. These are artefacts that are dispersed across the landscape and that have likely been moved to some degree by natural processes. They have been recorded in a number of field surveys in the immediate area (Kaplan 2010; Kaplan & Wiltshire 2011; Orton 2011, 2014b, 2015; Orton & Webley 2013; Van der Walt 2012, 2013; Van Ryneveld 2006; Webley 2016). They do not reflect actual occupation sites and have little potential to inform on our understanding of the past. Most of these artefacts are from the Early Stone Age and Middle Stone Age, with the former including a fair number of small hand-axes. *In situ* archaeological sites are rare in the area and are strongly clustered around water sources, be they pans or ephemeral streams. A number of these sites have been excavated to the southwest of the study area and revealed occupation within the last 2000 years (Orton 2014), although we know from the background scatter artefacts that, overall, the area has seen occupation from Early Stone Age times several hundred thousand years ago.

Palaeontology

Although the study area is underlain by sediments deemed to have moderate palaeontological sensitivity on the SAHRIS Palaeosensitivity Map (Figure 6), previous studies indicate that the significance of any impacts is likely to be low. Assessing a wind energy facility on Nelspoortje 103/4 and 103/7, the farm immediately to the east of Vogelstruisbult, Almond (2011:1) stated the following:

“The study area is largely covered by aeolian sands of the Kalahari Group (Quaternary to Recent Gordonia Formation). Permocarboniferous glacially-related rocks of the Dwyka Group (Mbizane Formation) may be present locally in the subsurface. Several rocky inliers of metamorphic rocks assigned to the Proterozoic (Late Precambrian) Uitdraai Formation (Brulpan Group) and the Archaean (Early Precambrian) Spioenkop Formation (Marydale Group) also crop out in the area. The palaeontological sensitivity of all these rock units ranges from zero to low. Impacts on fossil heritage are only likely during the construction phase, if at all. Their scale would be local and their magnitude would be low. The impact significance of the proposed wind energy development as far as fossil heritage is concerned is therefore considered to be LOW and further specialist palaeontological studies or mitigation of this project are not considered necessary.”

Of course it is always possible that isolated fossils could be found but given that the proposed facility is on a site already extensively disturbed by the 1970s construction of the town of Copperton, impacts there are highly unlikely to occur. The excavations for the power line pylons would be very small relative to the broader area and impacts are likely to be minimal to non-existent. Most of the sediments that would be disturbed are “Kalahari Group sediments (calcretes and aeolian sands) mantling the older bedrocks” (Figure 7). Such sediments are generally of low palaeontological sensitivity (Almond 2016:3). Furthermore, Almond and Pether (2009:38) note in their regional review that fossils in the Kalahari Group are “mainly associated with ancient pans, lakes and river systems”.

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Built heritage

There will be no impacts to built heritage features. Although some farm structures in the area are known to be older than 60 years, those at the Vogelstruisbult farm complex (Figures 8 & 9) are 150 m or more away from the proposed power line and will not be unduly affected. The power line has been routed to go around this complex.

Graves

No graves will be impacted by the PV development because it will lie on areas already built over in the recent past. The power line will traverse areas where unmarked precolonial graves may be present, but this can never be known prior to construction. In any case, locating such graves is deemed to be extremely unlikely.

Cultural landscapes

The cultural landscape relates largely to the mining industry with all associated features post-dating 1970. This landscape has no heritage value. A secondary but far older aspect of the cultural landscape of the area is the rural landscape associated with small stock farming. However, the location of the site on an old residential area means that the facility will not impact the rural landscape. The power line will have very little impact and, in any case, a precedent for electrical development has been set in this area with several other projects already authorised and some either already built or due to commence construction imminently.

There are no other aspects of heritage that are considered relevant to the study area and that might be impacted.

Conclusion and Recommendation

The vast majority of the project will take place over land that has already been intensively developed. Although the power line foundations would lie on undeveloped land, their footprints are very small and are of no consequence in terms of the expected heritage in the area. It is therefore recommended that the proposed project be allowed to proceed without the need for any further heritage studies.

Yours sincerely



Jayson Orton

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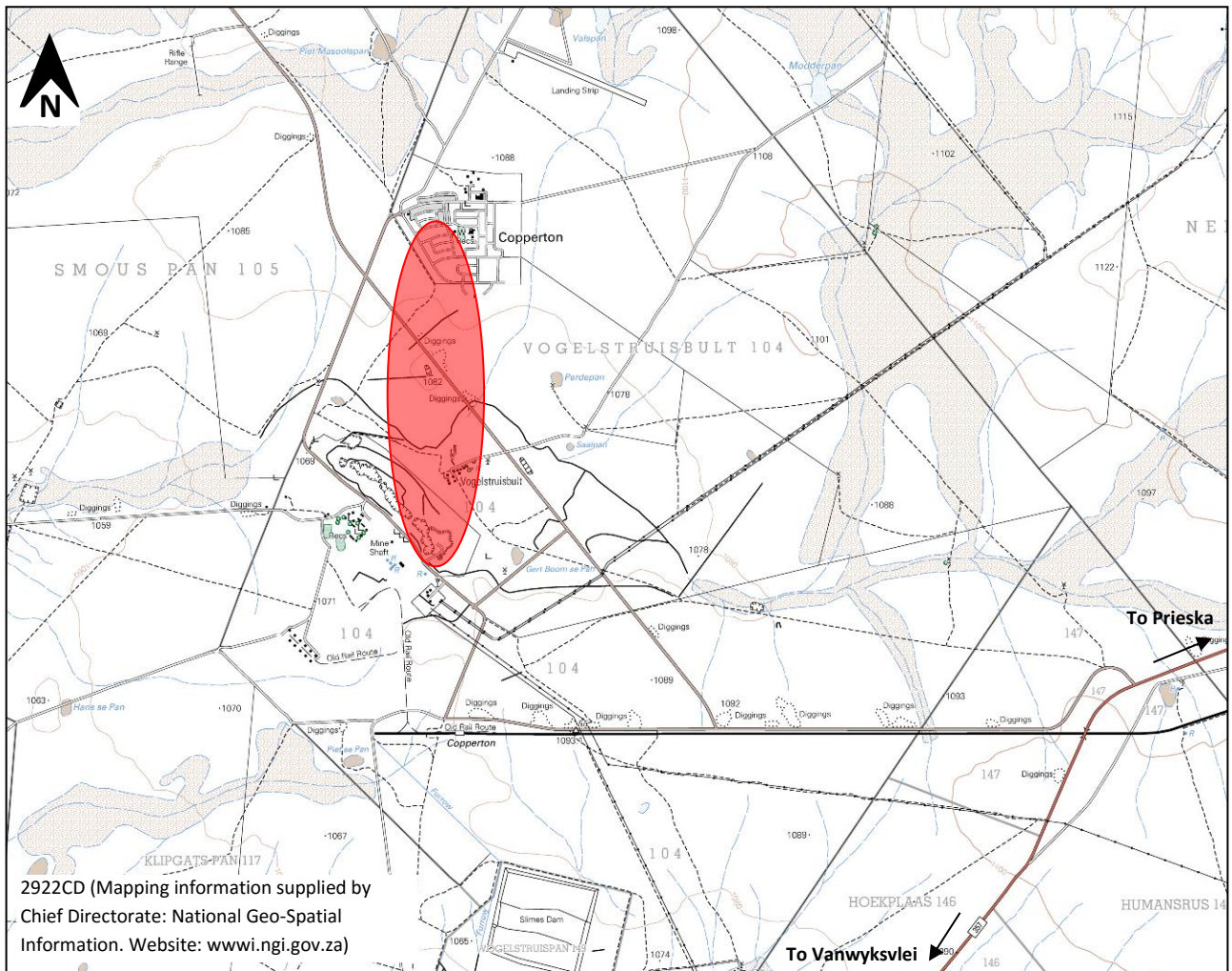


Figure 1: Map showing the location of the proposed development (red ovals). The town of Copperton is at the northern 3end of the study area, while at its southern end is the old copper mine.

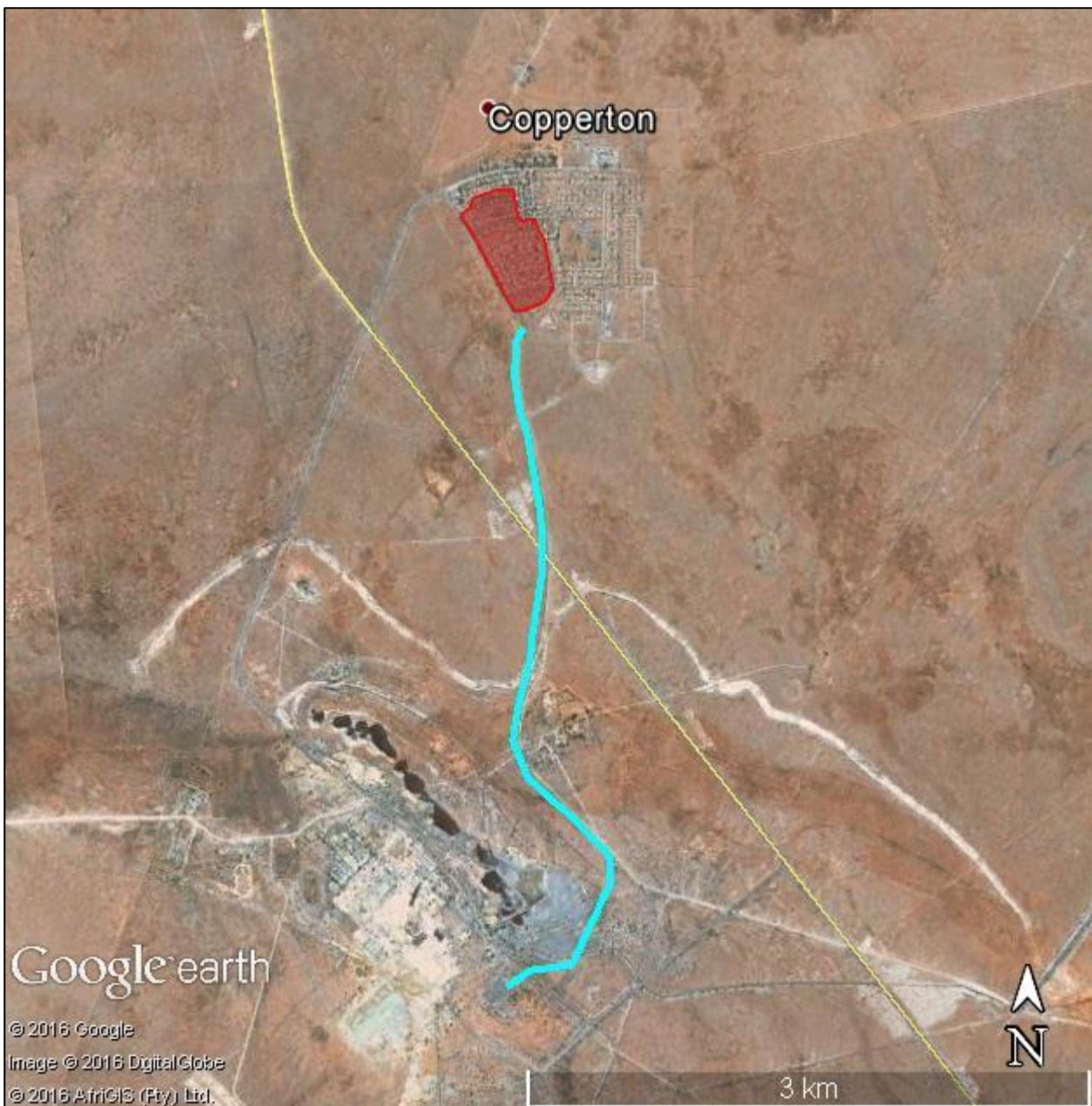


Figure 2: Aerial view of the Copperton area showing the proposed footprint of the PV facility (red polygon) and the proposed power line route to the south (turquoise line).

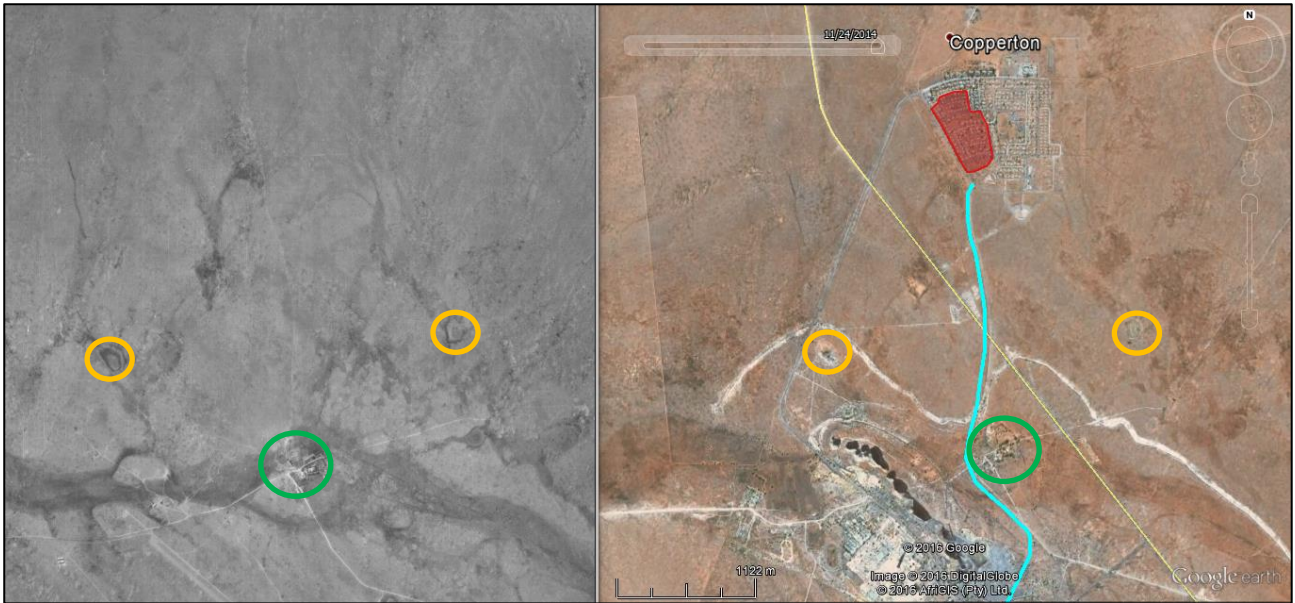


Figure 3: Comparative aerial views of the broader Copperton area on 24th August 1969 (left; Job 643, Strip 008, photo 00468) and 23rd June 2013 (right; Google Earth). The Vogelstruisbult farmstead (green circle) and two pans (orange circles) are indicated.

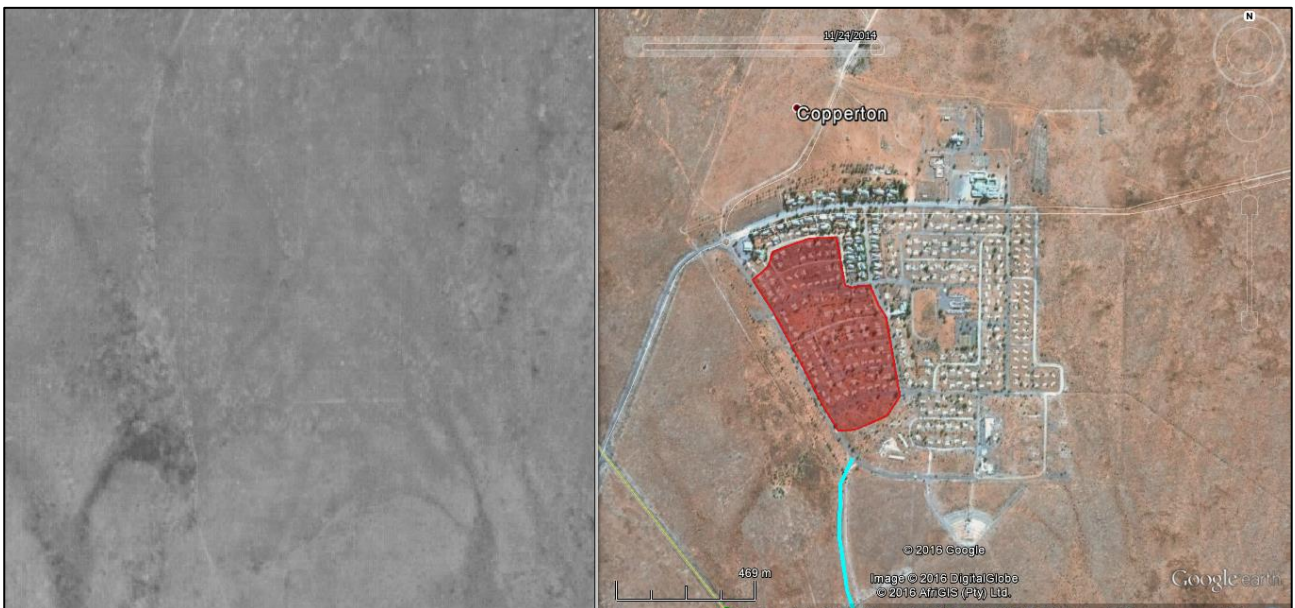


Figure 4: Comparative aerial views of the Copperton town area in 1969 (left; Job 643, Strip 008, photo 00468) and 2013 (right; Google Earth).



Figure 5: Copperton as seen from the air in 1980 (Photo by Chris Smit, sourced from Veld Renewables n.d.).

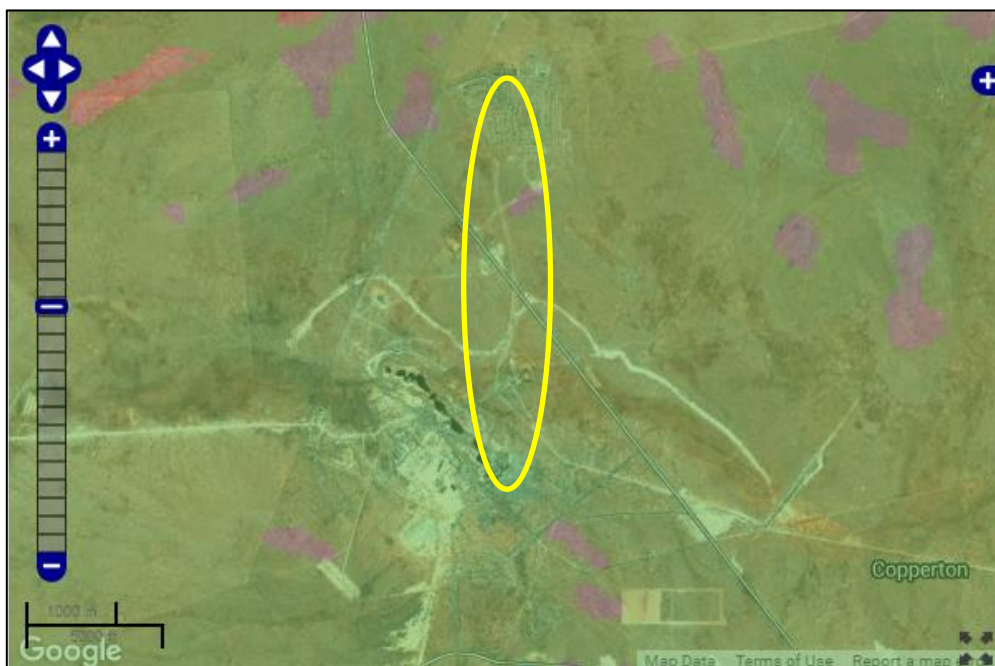


Figure 6: Extract from the SAHRIS Palaeosensitivity Map showing the Copperton area to be underlain by sediments of potentially moderate palaeontological sensitivity (green shading). There are also areas of zero sensitivity (grey shading) in the vicinity.

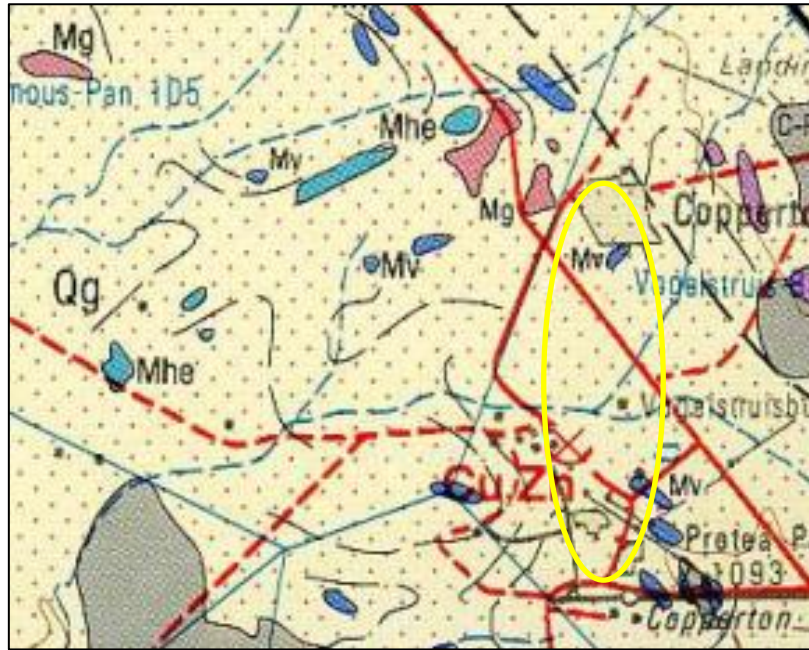


Figure 7: Geological map extract showing the entire study area (yellow oval) to be mantled with aeolian sand (pale yellow with dots (Qg)). This is the Gordonia Formation (Kalahari Group). Extracted from Almond (2011).



Figure 8: Comparative aerial views of the Copperton town area in 1944 (left; Job 84, Strip 043, photo 07926) and 2013 (right; Google Earth). The Vogelstruisbult farm complex is indicated by the yellow circle in each case.



Figure 9: Comparative aerial views of the Vogelstruisbult farm complex in 1944 (left; Job 84, Strip 043, photo 07926) and 2013 (right; Google Earth). The buildings present in 1944 are indicated by the yellow ovals in each case.