

Phase 1 Heritage Impact Assessment of a proposed new
quarry on the farm Tafelkop 2876 near Bloemfontein, FS
Province.



Report prepared for EKO Environmental Consultants by

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Executive Summary

- A Phase 1 Heritage Impact Assessment was carried out for the proposed development of a new quarry located northeast of Bloemfontein, on the farm Tafelkop 2876
- The study area is primarily underlain by an outcrop of igneous dolerite.
- The site is not considered to be palaeontologically sensitive.
- Investigation of exposed topsoils show no evidence of Stone Age archaeological material, capped or distributed as surface scatters on the landscape.
- There is also no evidence for the accumulation and preservation of intact fossil material within the Quaternary sediments (topsoils) covering the underlying sedimentary rocks.
- The remains of two rectangular stone-walled structures are located near the northern boundary of the study area.
- No graves or graveyards were recorded.
- Provided that the two stone-walled structures are preserved and avoided, the rest of the affected area can be accessed for development.

Introduction

EKO Environmental Consultants requested that the author of this report conduct a Phase 1 Heritage Impact Assessment for the proposed development of a new quarry located northeast of Bloemfontein, on the farm Tafelkop 2876 (**Fig. 1**).

The survey is required as a prerequisite for new development in terms of the National Environmental Management Act and is also called for in terms of the National Heritage Resources Act 25 of 1999. In terms of Section 38 of the National Heritage Resources Act 25 of 1999 the survey is required as a prerequisite for any development which will change the character of a site exceeding 5 000 m² in extent. A site visit and subsequent assessment took place in September 2013.

Description of the Affected Area

Details of area surveyed

Locality data

1:50 000 scale topographic map: 2926 AB Maselspoort

1:250 000 scale geological map 2926 Bloemfontein

The study area is situated approximately 13 km northeast of the Bloemfontein CBD next to the N1 national road on route to Winburg. The 3.8 ha site is located on previously disturbed farm land and partially exposed dolerite outcrop on the farm Tafelkop 2876 (**Fig. 2 and 3**). A disused borrow pit is located at the southern boundary of the affected area (**Fig. 4**).

Geology

Sedimentary rocks in the region belong to fossil – bearing sandstones, shales and mudstones of the Adelaide Subgroup (*Pa*, Beaufort Group, Karoo Supergroup). Jurassic-age dolerite intrusions, in the form of sills and dykes, occur extensively in the area (*Jd*). Quaternary to recent residual deposits, comprising unconsolidated soils, alluvial sediments and sheet wash deposits, cover the underlying sedimentary rocks and dolerite intrusions. The modern substrate is comprised of light brown to red calcareous soils of varying depth.

Methodology

A pedestrian survey was conducted in the affected area. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera, were used to record relevant data. Relevant palaeontological and archaeological information were assimilated for the report and integrated with data acquired during the on-site inspection.

Background

Palaeontology

The underlying sedimentary rocks in the region belong to the Beaufort Group of fossil – bearing strata within the Karoo Supergroup. The sedimentary rocks are generally accepted to be Late Permian in age and are assigned to the *Dicynodon* Assemblage Zone. The *Dicynodon* AZ is characterized by the co-occurrence of two therapsids, *Dicynodon* and *Therapsid* as well as a diversity of less dominant vertebrate taxa, while trace fossils of invertebrates and vertebrates as well as *Glossopteris* flora plants have also been described. Quaternary-age vertebrate fossils, assigned to the Pleistocene Period, have been recorded from various localities along the nearby Renosterspruit and Modder River and include the extinct species *Equus capensis*, *Megalotragus priscus*, *Pelorovis antiquus*, *Antidorcas bondi* and *Equus lylei* (**Fig.**).

Archaeology

The archaeological footprint in the region is primarily represented by Stone Age surface occurrences. Surface scatters of Later Stone Age and Middle Stone Age artefacts are frequent archaeological components along erosional gullies from various localities along the nearby Renosterspruit (**Fig. 5**). Structural remnants dating back to the Anglo Boer War and its aftermath, as well as graveyards and other historical structures older dating more than 60 years ago, have been recorded in the area. Widespread military movements occurred around Glen and Karee Stasie, north of the study area after the capture of Bloemfontein by British forces in 1900 during the Anglo-Boer War (**Fig. 6**).

Results of Survey

The study area is primarily underlain by an outcrop of igneous dolerite. Dolerites are not fossiliferous and can be excluded from further consideration in the present assessment.

Investigation of exposed topsoils show no evidence of Stone Age archaeological material, capped or distributed as surface scatters on the landscape. There is also no evidence for the accumulation and preservation of intact fossil material within the Quaternary sediments (topsoils) covering the underlying sedimentary rocks. No graves or graveyards were recorded. The remains of two rectangular stone-walled structures are located near the northern boundary of the study area (GPS coordinates S29 01 14.4 E26 17 38.4 and S29 01 14.9 E26 17 38.7; **Fig. 7 & 8**). These structures are not marked on a British Military map ca. 1913 and older topographic maps of the area (**Fig. 9**).

Statement of Significance

The site is not considered to be palaeontologically sensitive. Except for the two rectangular stone-walled structures, there is no above-ground evidence of building structures or material of cultural significance or archaeological sites within the demarcated area.

Recommendations

The area demarcated for development has been suitably recorded, mapped and documented in accordance with the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999). Provided that the two stone-walled structures are preserved and avoided, the rest of the affected area can be accessed for development.

References

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Figure 2. Aerial view of the affected area.



Figure 3. Panoramic view of the affected area, looking south.



Figure 4. A disused borrow pit located at the southern boundary of the affected area.



- Stone Age artefact scatter(s)
- ★ Graveyard
- Farm Worker dwellings ca. 1953

Figure 5. Surface scatters of Later Stone Age and Middle Stone Age artefacts are frequent archaeological components along erosional gullies from various localities along the nearby Renosterspruit. Structural remnants dating back to the Anglo Boer War and its aftermath, as well as graveyards and other historical structures older dating more than 60 years ago, have also been recorded in the area.

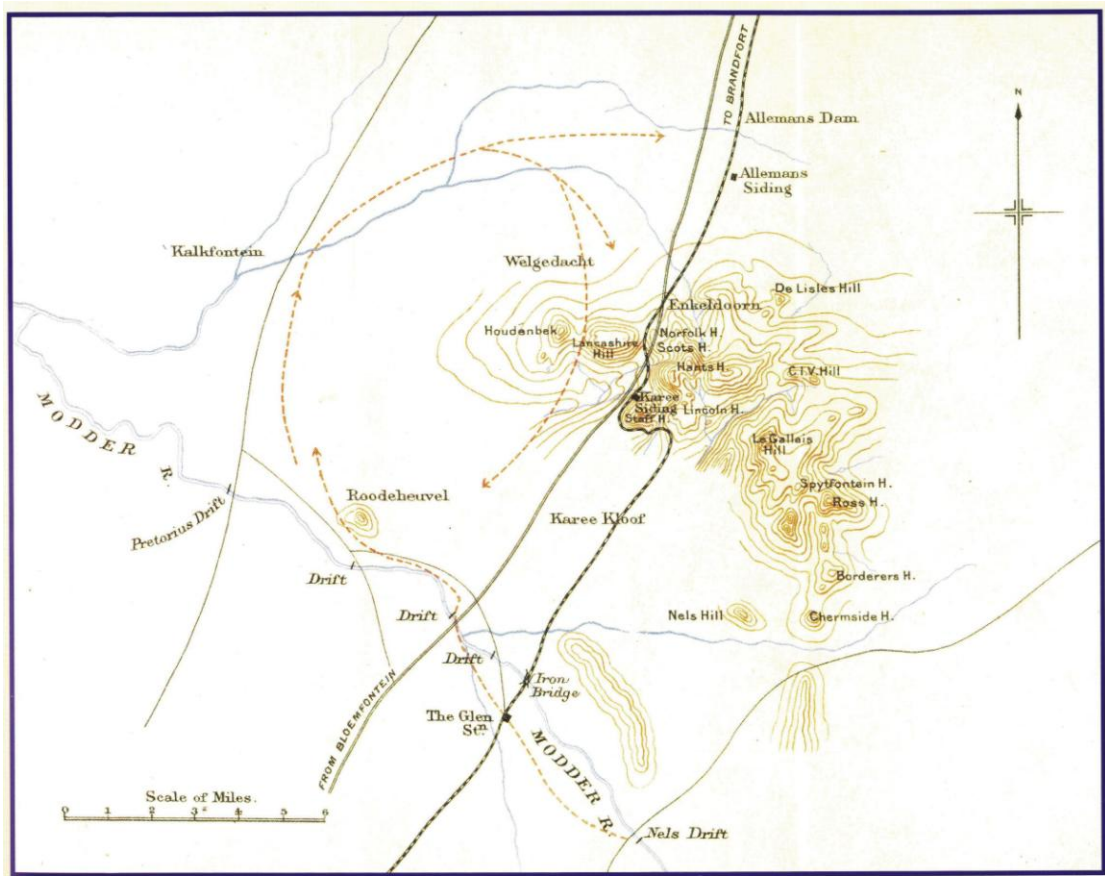


Figure 6. Widespread military movements occurred around Glen and Karee Stasie, north of the study area after the capture of Bloemfontein by British forces in 1900 during the Anglo-Boer War.



Figure 7. The remains of two rectangular stone-walled structures are located near the northern boundary of the study area.

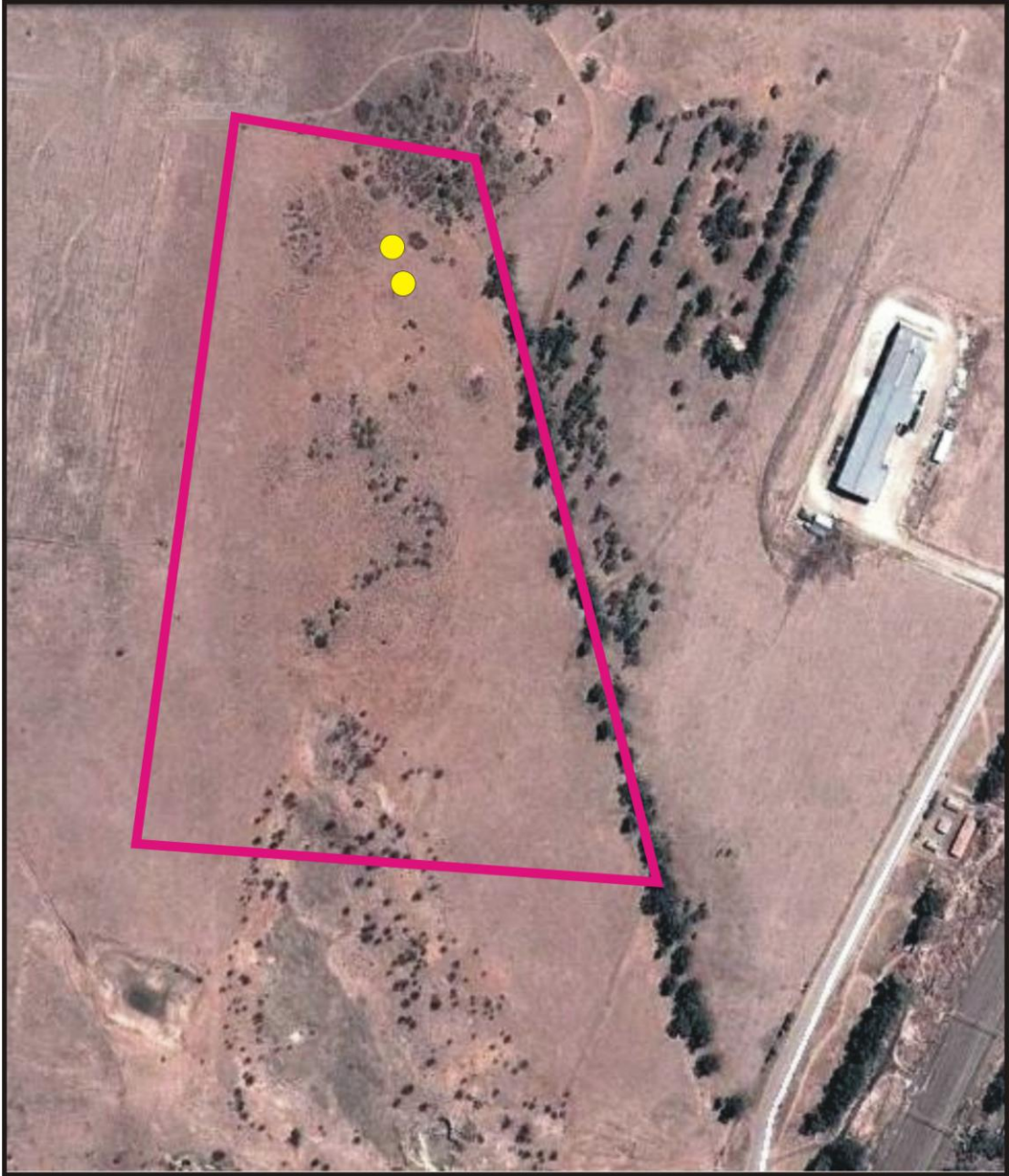


Figure 8. Two rectangular stone-walled structures located near the northern boundary of the study area (yellow circles).

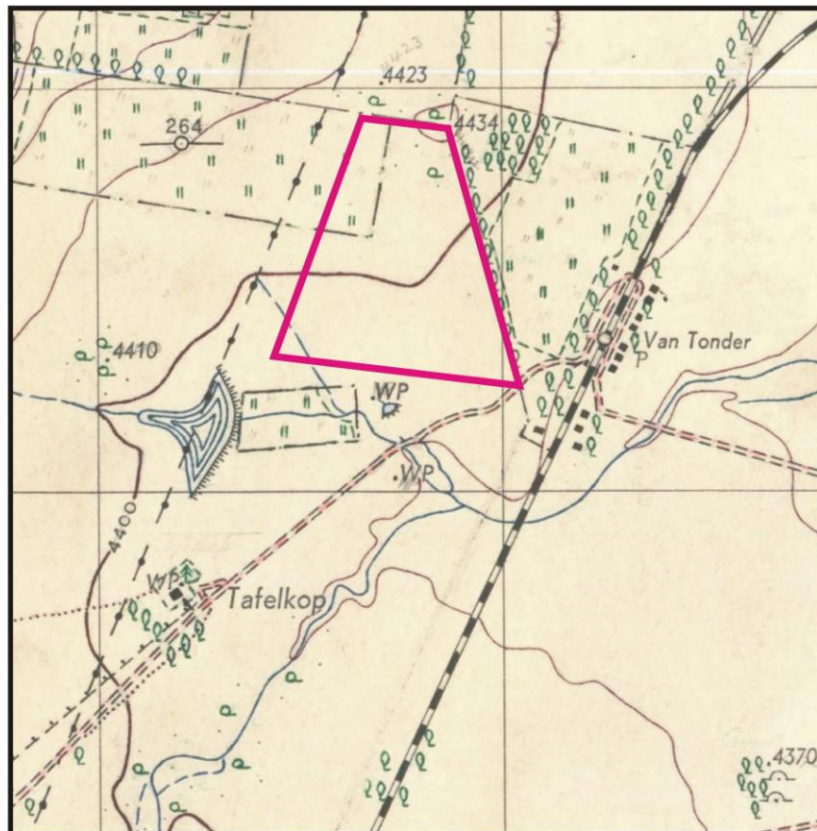
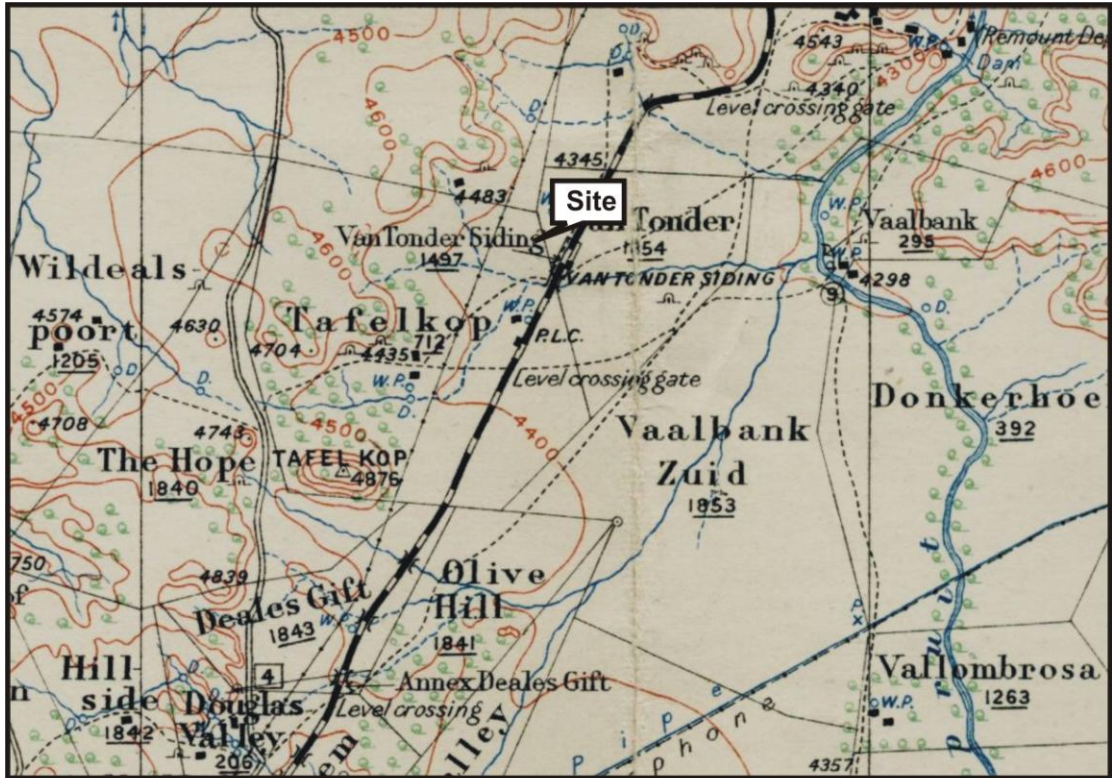


Figure 9. The site indicated on a portion of a British Military map ca. 1913 (above) and a portion of a topographic map, dated 1953 (below).