Phase 1 Heritage Impact Assessment for the proposed development of a new Taxi Rank in Mahikeng, NW Province.

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Summary

A Phase 1 Heritage Impact Assessment was carried out over a 1.7 ha – area designated for the development of a new taxi rank in Mahikeng, North West Province. Located within the CBD, the terrain is moderately to severely degraded and is underlain by Ventersdorp Supergroup volcanics and associated conglomerates (*Rm*), capped by residual soils with a sandy parent material (*Qs*, Kalahari Group). A foot survey of the surrounding veld has indicated no evidence of intact or capped Quaternary fossil remains or Stone Age archaeological material, distributed as surface scatters on the landscape within the study area. Iron Age structures, rock engravings, marked graves or buildings with historical significance older than 60 years are absent within the study area. The proposed development will primarily impact palaeontologically insignificant volcanic rocks (Kameeldoorns Formation) and geologically recent Quaternary deposits . Impact on potential *in situ* palaeontological or archaeological material within the study area is considered unlikely. A large cemetery located next to the site will not be impacted by the proposed development. The study area, is rated *Generally Protected C.*

Contents

Introduction

A Phase 1 Heritage Impact Assessment was carried out over a 1.7 ha – area designated for the development of a new taxi rank in Mahikeng, North West Province (**Fig. 1 & 2**). The assessment 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 (NHRA) 25 of 1999. The region's unique and non-renewable archaeological heritage sites are 'Generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. As many such heritage sites are threatened daily by development, both the environmental and heritage legislation require impact assessment reports that identify all heritage resources in the area to be developed, and that make recommendations for protection or mitigation of the impact of such sites.

The NHRA identifies what is defined as a heritage resource, the criteria for establishing its significance and lists specific activities for which a heritage specialist study may be required. In this regard, categories relevant to the proposed development are listed in Section 34 (1), Section 35 (4), Section 36 (3) and Section 38 (1) of the NHR Act and are as follows:

34. (1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

35 (4) No person may, without a permit issued by the responsible heritage resources authority—

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- *b)* destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph *(a)* or *(b)* any excavation equipment, or any equipment which assists in the detection or recovery of metals.

38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—

- The construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- The construction of a bridge or similar structure exceeding 50m in length;
- Any development or other activity which will change the character of the site

a) exceeding 5000 m² in extent; or

b) involving three or more existing erven or subdivisions thereof; or

c) involving three or more subdivisions thereof which have been consolidated within the past five years;

- The rezoning of a site exceeding 10 000 m²; or
- Any other category of development provided for in regulations by the South African Heritage Resources Agency (SAHRA).

Methodology

The archaeological and palaeontological significance of the affected area were evaluated based on existing field data, database information and published literature. This was followed by a field assessment by means of a pedestrian survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Relevant heritage information, aerial photographs and site records were integrated with data acquired during the on-site inspection. Site significance standards, a prescribed by SAHRA, were used for the purpose of this report (**Table 1**).

Terms of Reference

The task involved the following:

- Identify and map possible heritage sites and occurrences using available resources.

- Determine and assess the potential impacts of the proposed development on potential heritage resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

Locality Data

1 : 50 000 scale topographic map: 2525 DC Mafikeng

1:250 000 scale geological map 2524 Mafikeng

General Site Coordinates (**Fig. 2**): 25°51'30.59"S 25°38'14.55"E

The study area covers 1.7 ha of flat terrain in the CBD at the corner of Carney and Carrington Street (**Fig. 2**).

Geology

The area around Mahikeng is underlain by Basement Complex rocks belonging to the Kraaipan Group (*Zg*), volcanic breccias, and andesitic lavas of the Kameeldoorns (*Rm*) and Allanridge Formations (*Ra*) (Platberg Group, Ventersdorp Supergroup) (**Fig. 3**). Superficial sediments are primarily represented by Tertiary calcretes (*T-Qc*) and residual soils (*Qs*, aeolian sand).

Background

Potentially fossiliferous Rietgat Formation outcrop of the Ventersdorp Supergroup is located to the north of Mahikeng. The Rietgat Formation is palaeontologically significant since stromatolite structures have been recorded from borehole samples taken from this unit in the Free State Province (MacRae, 1999). Malmani Subgroup dolomites of the overlying Transvaal Supergroup (Chuniespoort Group) crop out to the east and northeast of Mahikeng. Thick deposits of stromatolitic dolomite, have been described from the Malmani Subgroup near Pretoria (MacRae, 1999).

The archaeological footprint of the region is primarily characterized by stone-walled settlements of early farming communities that are associated with early Tswana speakers who settled in the region between the 14th century and the early 19th century AD (**Fig. 4**). The first residents who can be directly linked to the current people in the Mahikeng area were the BaRolong who were descendants of Morolong, one of the founding ancestors of the Tswana lineage (**Fig. 5**).

Material remains consist of stone-walled complexes, refuse dumps and iron-smelting furnaces. High concentrations of Iron Age settlements are found in the area between Mafikeng, Zeerust and Swartruggens towards Rustenburg in the east (**Fig. 6**). Kraal structures extend along the Klein Marico River and the Baskop Hills south of Zeerust, and at Dithakong south of Mahikeng. Iron-smelting furnaces at Modderfontein and Schietkraal and stone-walled complexes have been recorded on the farms Buispoort, Braklaagte, Riefontein, Honingkrans, Rietvlei, Broekmansfontein, Syferfontein and Bronkhorstfontein in the Marico district. Stone-walled structures are also recorded on the farms Moedwil, Selonskraal, Elandsdrif and Doornlaagte between Rustenburg and Swartruggens. Mega-sites have been recorded at Vergenoegd 279 (Mmakgame) and at Bloemfontein 63 JP (Kaditshwene), which are respectively situated 10km south and 25km northeast of Zeerust.

Field Assessment

Located within the CBD, the terrain is moderately to severely degraded and is underlain by Ventersdorp Supergroup volcanics and associated conglomerates (*Rm*), capped by residual soils with a sandy parent material (*Qs*, Kalahari Group) (**Fig. 7 & 8**). A foot survey of the surrounding veld has indicated no evidence of intact or capped Quaternary fossil remains or Stone Age archaeological material, distributed as surface scatters on the landscape within the study area. Iron Age structures, rock engravings, marked graves or buildings with historical significance older than 60 years are absent within the study area.

Impact Statement and Recommendations

The proposed development will primarily impact palaeontologically insignificant volcanic rocks (Kameeldoorns Formation) and geologically recent Quaternary deposits . Impact on potential *in situ* palaeontological or archaeological material within the study area is considered unlikely. A large cemetery located next to the site will not be impacted by the proposed development (**Fig. 9 & 10**). The study area, is rated *Generally Protected C* **(Table 1).**

References

Boeyens, J.C.A. 2003. The Late Iron Age sequence in the Marico and early Tswana history. *South African Archaeological Bulletin* 58 (178): 63 – 78.

Breutz, P.L. 1956. Stone Kraal settlements in South Africa. *African Studies* 15 (4): 157 – 175.

MacRae, C. 1999. *Life Etched in Stone*. Fossils of South Africa. The Geological Society of South Africa, Johannesburg.

Michaluk, E. Keyser, N. Klop, A.A.C. et al. 1991. Geology of the Mafikeng Area. Geological Survey of South Africa. Pretoria.

Pistorius, J.C. 1992. *Molokwane: an Iron Age Bakwena village. Early Tswana settlement in the western Transvaal*. Department of Anthropology and Archaeology, University of Pretoria. Perskor. Johannesburg.

DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference. I have no interest in secondary or downstream developments as a result of the authorization of this project and have no conflicting interests in the undertaking of the activity.

15 / 06 / 2021

Tables and Figures

Table 1. Field rating categories as prescribed by SAHRA.

Field Rating	**Grade**	**Significance**	**Mitigation**
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

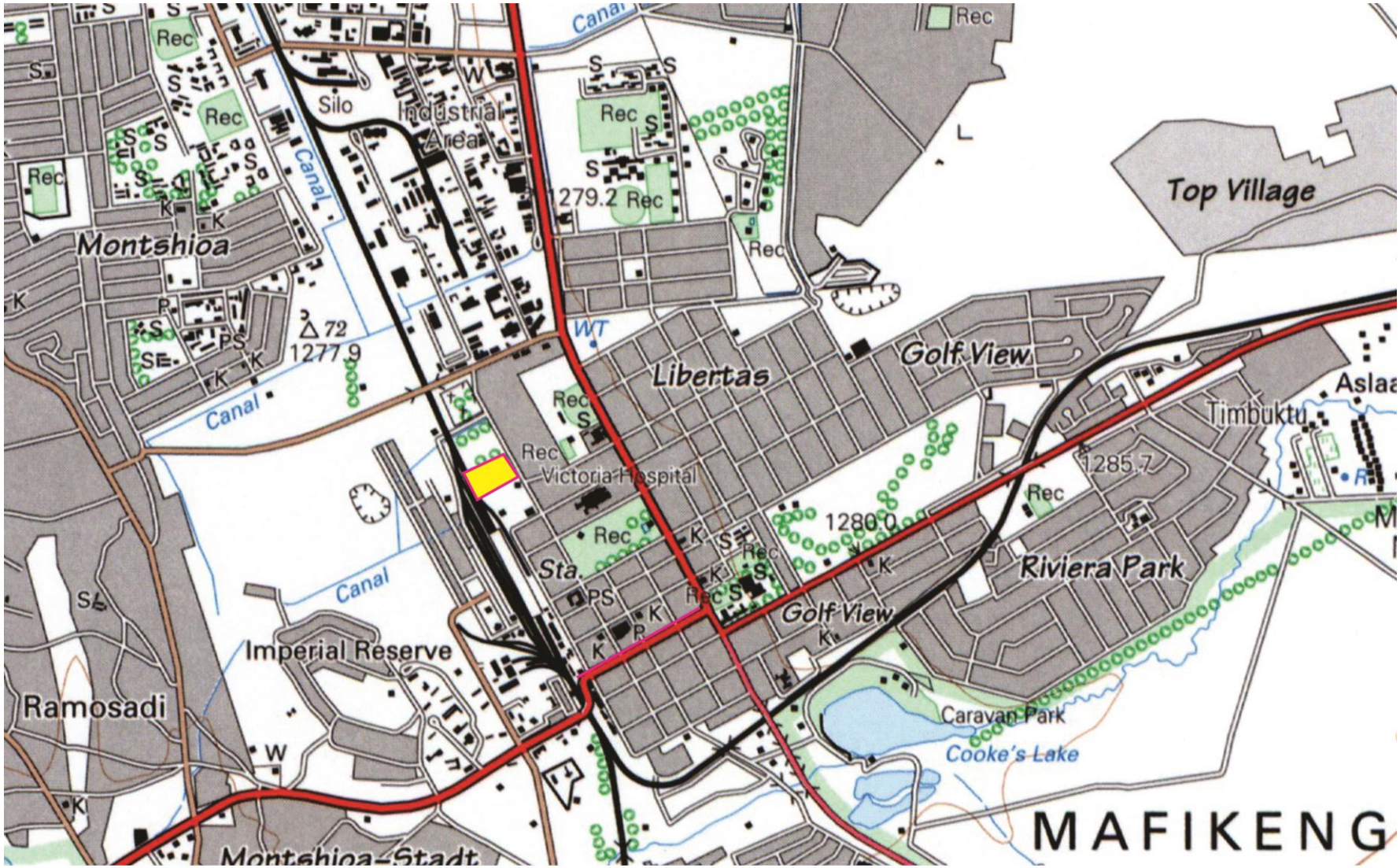

Figure 1. map of the proposed development area (portion of 1:50 000 scale topographic map 2525DC Mafikeng).

Figure 2. Aerial view of the study area.

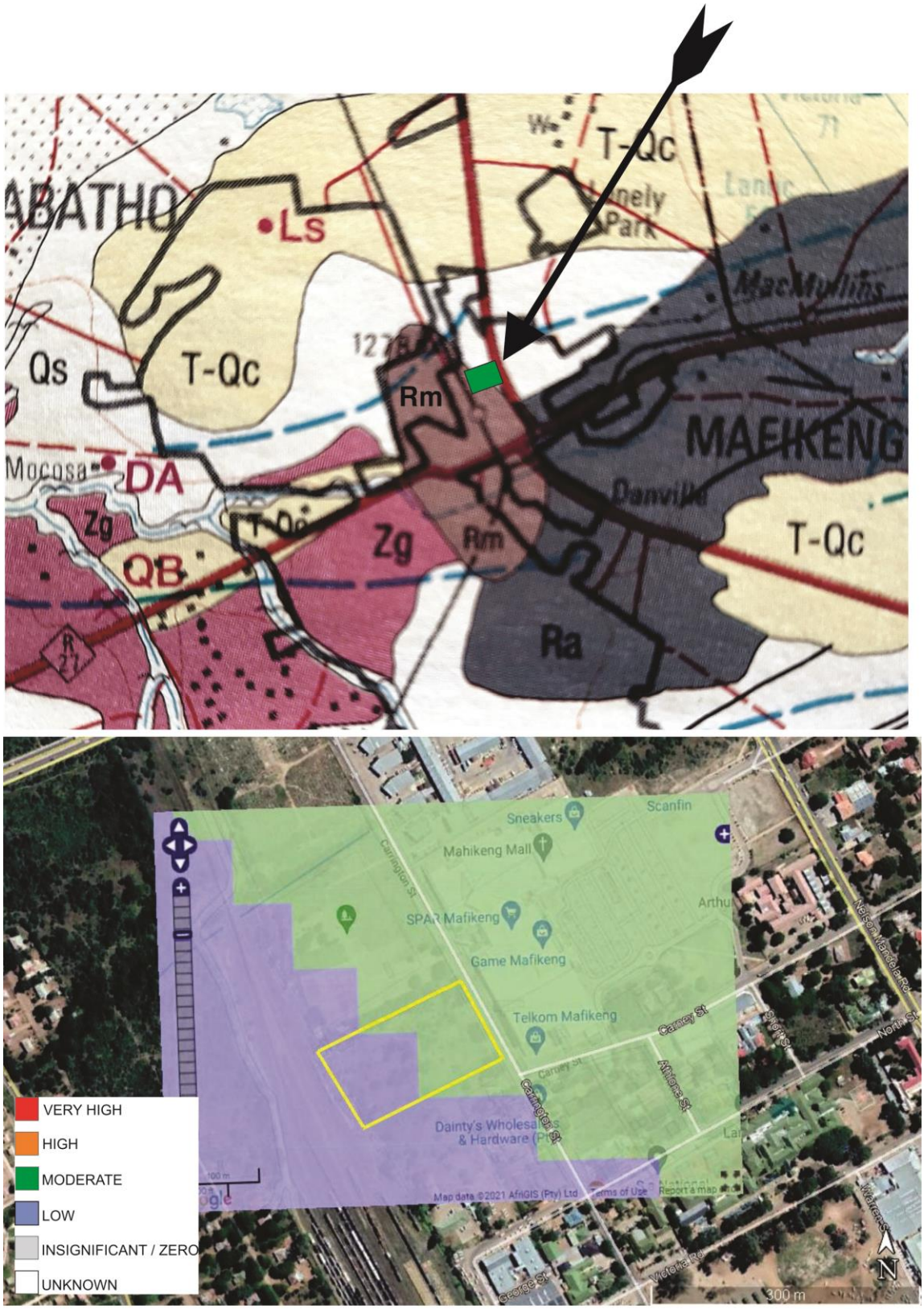

Figure 3. Portion of 1:250 000 scale geological map 2526 Mafikeng, showing site locality (above) and overlay of SAHRIS palaeosensitivity map (below). The site is underlain by Ventersdorp Supergroup volcanics and associated conglomerates (*Rm*)

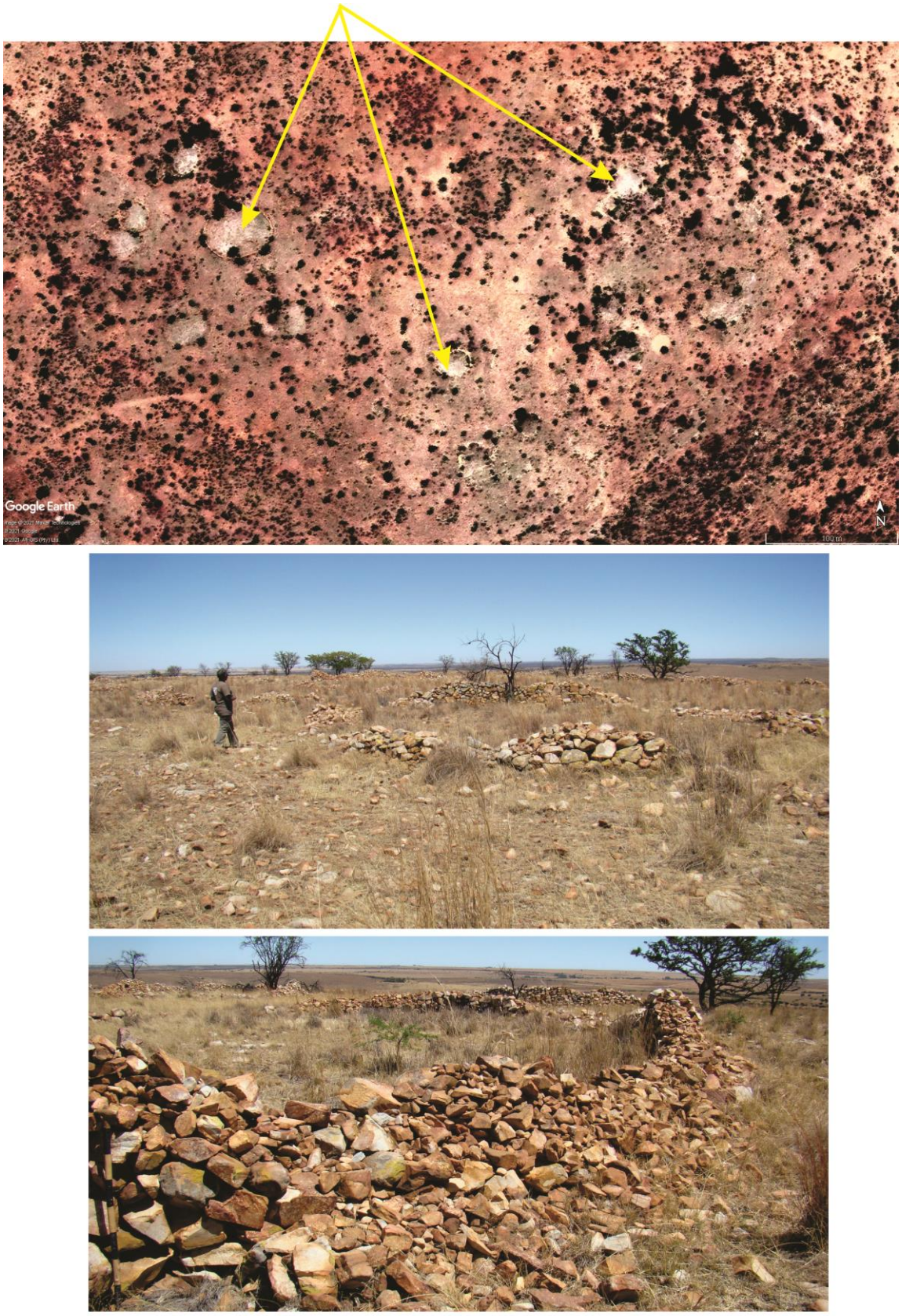

Figure 4. Aerial view of stonewalled settlements (above) and remains of hilltop-situated kraals and enclosures in the region.

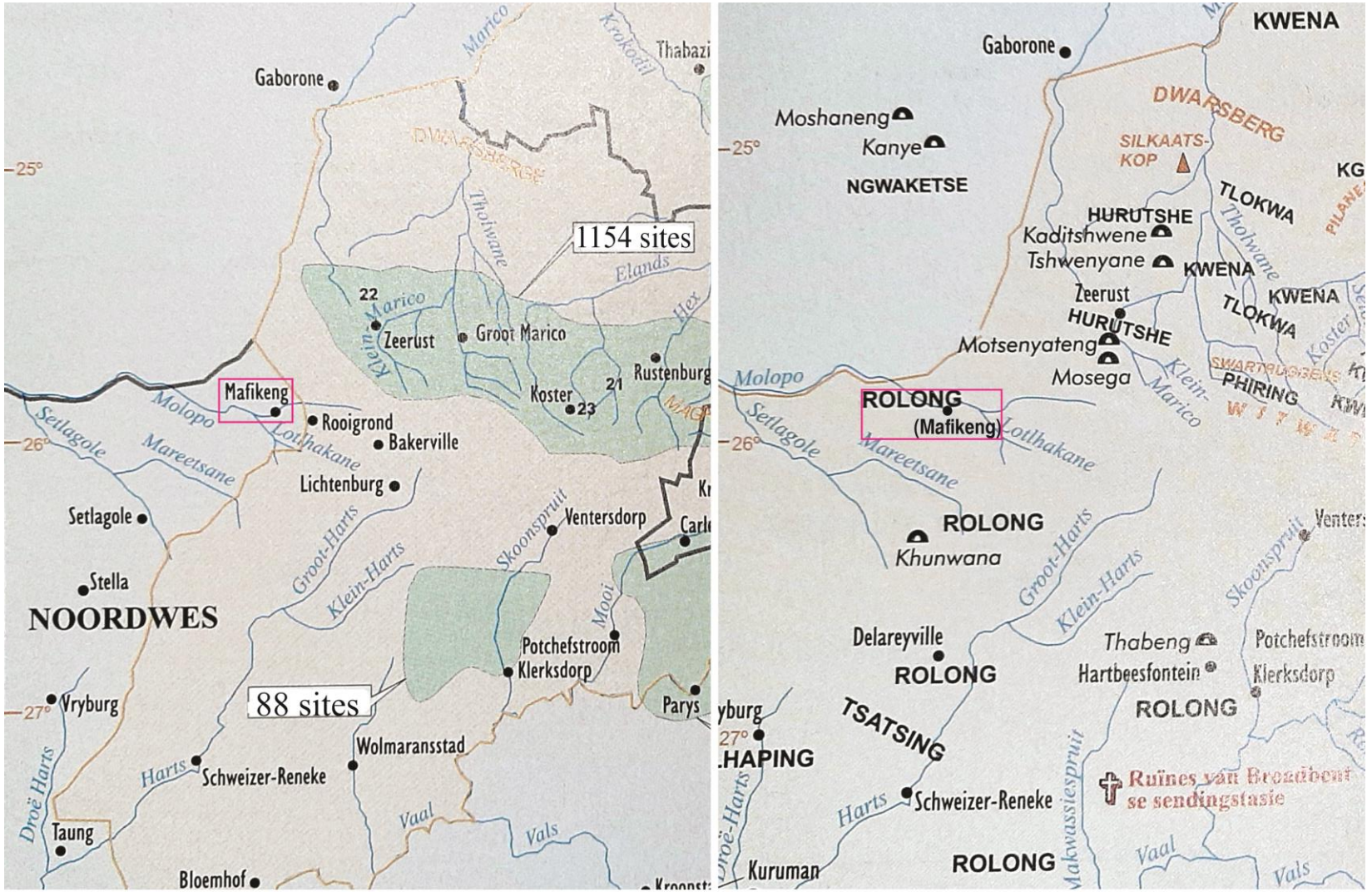

Figure 5. Later Iron Age sites marked by green areas in the region (left) and agricultural communities at the beginning of the 19th century (right) (after Bergh 1998).

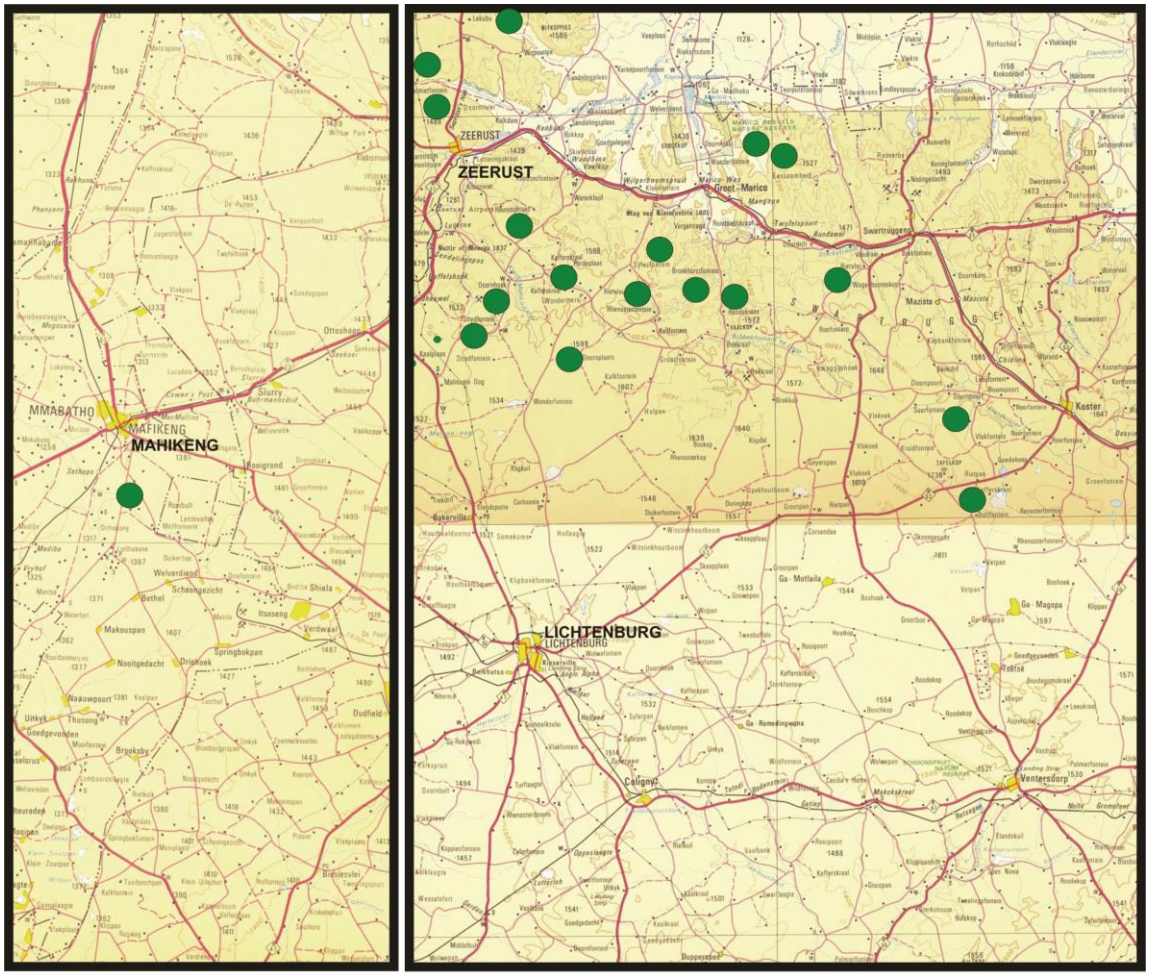

Figure 6. Distribution of well-known Iron Age stone-walled structures between Mahikeng, Zeerust and Lichtenburg.

Figure 7. General view of the study area, looking west (above) and northwest (below).

Figure 8. General view of open veld conditions and cuttings located about 2 km north of the study area.

Figure 9. Aerial view and layout of cemetery

Figure 10. General view of cemetery, looking west