

**Phase 1 Heritage Impact Assessment for extension
of existing Borrow Pit near Stella, Northwest
Province.**

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Summary

A Phase 1 Heritage Impact Assessment was carried out for the extension of an existing Borrow Pit near Stella, Northwest Province. The 4.5 ha surface area is capped by semi- to unconsolidated Kalahari Group soils, made up of a thick mantle of surface calcretes within a red-brown aeolian sand matrix, where no fossils or fossil exposures were observed. A foot survey of the study area show no aboveground evidence of historically significant structures, Iron Age sites, graves or *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. The site has been severely degraded by prior quarrying activities and other forms of informal land use. The underlying basalts and Quaternary overburden are not considered to be palaeontologically sensitive. The study area is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C.

Introduction

A Phase 1 Heritage Impact Assessment was carried out for the extension of an existing Borrow Pit near Stella, Northwest Province (**Fig. 1**). The assessment is required as a prerequisite for new development in terms of the the National Heritage Resources Act (NHRA) No. 25 of 1999. The region's unique and non-renewable heritage sites are 'Generally' protected in terms of the NHRA and may not be damaged or disturbed without a permit from the relevant heritage resources authority (**Table 1**). The task (terms of reference) involved identification of possible archaeological and palaeontological sites or occurrences within the proposed development area(s), an assessment of their significance, possible impact by the proposed development and recommendations for mitigation where relevant.

Methodology

Preliminary evaluation of the affected area(s) was based on field records, database information, published literature and geological maps. This was followed up with a field assessment and foot survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Site significance classification standards, as prescribed by SAHRA, were used for the purpose of this evaluation (Table 2).

Locality data

1 : 50 000 scale topographic map: 2624 DB_Stella.

1 : 250 000 geological map 2624 Vryburg.

The proposed development footprint covers 4.5 ha of low-lying terrain on Farm

Zoutpansfontein 546 IN, situated on the north-western outskirts of Stella (**Fig 2**). The site forms part of an old borrow pit and is also used informally for cattle grazing (**Fig. 3**).

Site coordinates (Fig. 2)

- A) 26°32'41.93"S 24°51'21.07"E
- B) 26°32'40.58"S 24°51'27.39"E
- C) 26°32'45.50"S 24°51'32.17"E
- D) 26°32'47.53"S 24°51'26.90"E
- E) 26°32'47.36"S 24°51'22.17"E

Background

The geology of the study area is shown on the 1: 250 000 geology map 2624 Vryburg (Council for Geoscience, Pretoria) and has been described by Keyser & Du Plessis 1993). The site is underlain by Venterdorp Supergroup volcanic rocks (Allanridge Formation), which are capped by more recent Kalahari Group deposits (**Fig 3**). The Kathu-Kuruman-Taung region situated to the south and southwest of Stella is generally rich in Early, Middle and Later Stone Age open sites / surface scatters. Intact palaeontological and Stone Age archaeological sites are frequent and widespread in the region and include important localities like Taung, Kathu Pan, and Wonderwerk Cave (**Fig. 4**). The archaeological footprint around Dithakong, located between Vryburg and Stella, is primarily represented by stonewall remnants of the early 19th century BaTlaping capital Dithakong, located near the modern village of Dithakong (**Fig. 5**). At the time of the 1801-1803 Borchers and Somerville expedition, Dithakong was an important BaTlaping (BaTswana) capital. It was calculated that the number of huts there were at least not less than 1 500 and the number of occupants at somewhere between 8 000 and 25 000. Iron Age sites found around Stella include Gamohaam, Maropeng, Batlharos and Mahakane as well as Kinderdam, situated halfway between Vryburg and Madibogo (**Fig. 6**). The Stellaland area, which includes the town of Stella, was incorporated as a British protectorate into British Bechuanaland in 1884, which in turn became part of the Cape Colony in 1895 (**Fig. 7**).

Field Assessment, Impact Statement and Recommendations

The site is capped by semi- to unconsolidated Kalahari Group soils made up of a thick mantle of surface calcretes and a red-brown aeolian sand matrix where no fossils or fossil exposures were observed. A foot survey of the study area show no aboveground evidence of historically significant structures, Iron Age sites, graves or *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. The site has been severely degraded

by prior quarrying activities and other forms of informal land use. The underlying basalts and Quaternary overburden are not considered to be palaeontologically sensitive. The study area is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C (**Table 2**).

References

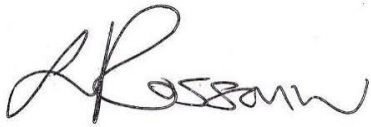
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DECLARATION OF INDEPENDENCE

Paleo Field Services act as an independent specialist consultant and do not 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. Paleo Field Services has no interest in secondary or downstream developments as a result of the authorization of this project.

Yours truly,

A handwritten signature in black ink, appearing to read 'A. Rossouw'. The signature is written in a cursive style with a large initial 'A'.

01 / 12 / 2022

Tables and Figures

Table 1. The NHRA (Act no. 25 of 1999) 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 potentially relevant to the proposed development are listed in Section 34 (1), Section 35 (4), Section 36 (3) and Section 38 (1) of the NHRA and are as follows:

Section 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.
Section 35 (4) No person may, without a permit issued by the responsible heritage resources authority —
<ul style="list-style-type: none"> • destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite; • <i>b)</i> 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—
<ul style="list-style-type: none"> • (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 —
<ul style="list-style-type: none"> • The construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length; • The construction of a bridge or similar structure exceeding 50 m in length; • Any development or other activity which will change the character of the site
a) exceeding 5000 m ² 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;
<ul style="list-style-type: none"> • 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).

Table 2. Field rating categories for heritage sites 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

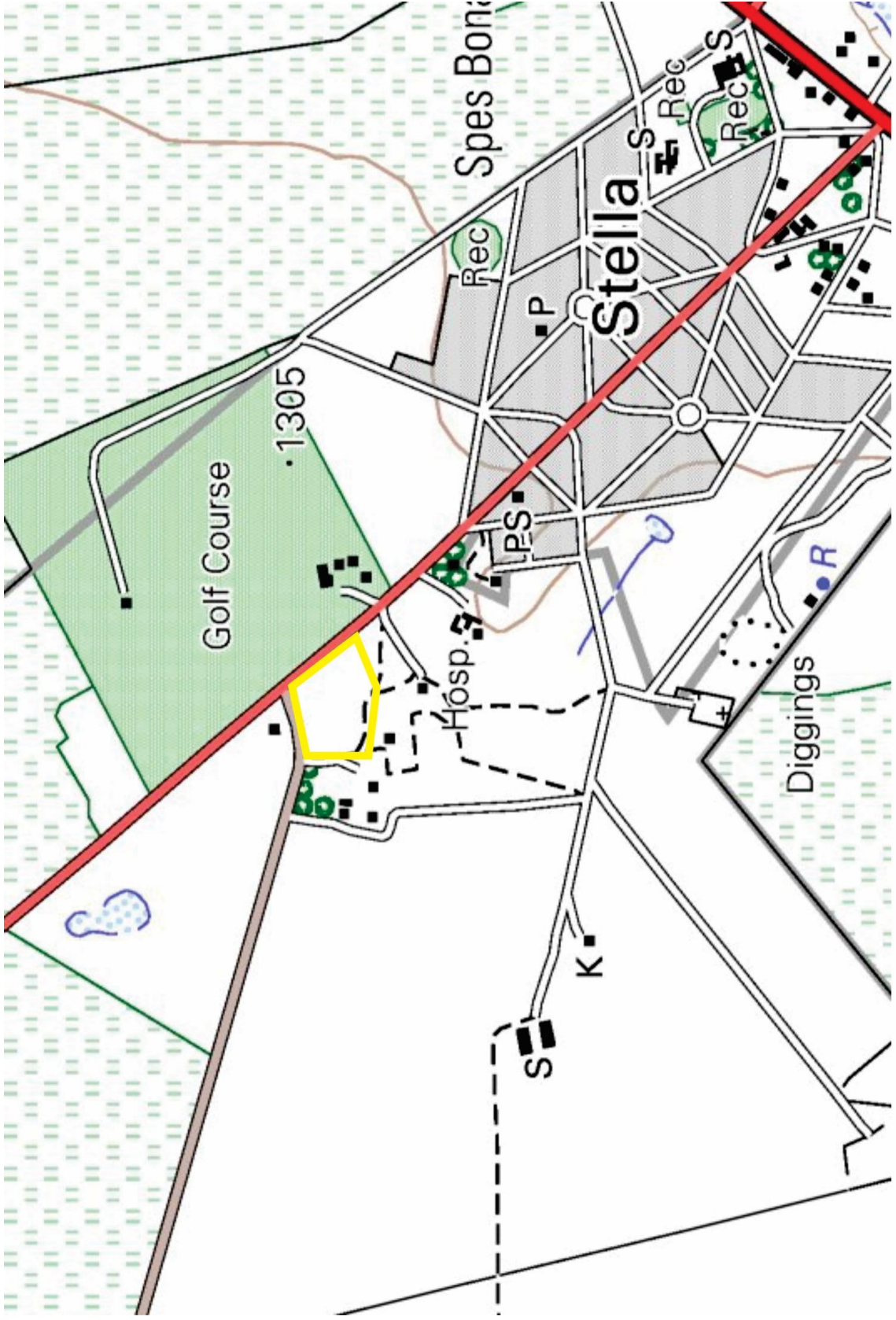


Figure 1. Map of the proposed development (portion of 1:50 000 scale topographic map 2624DB Stella).

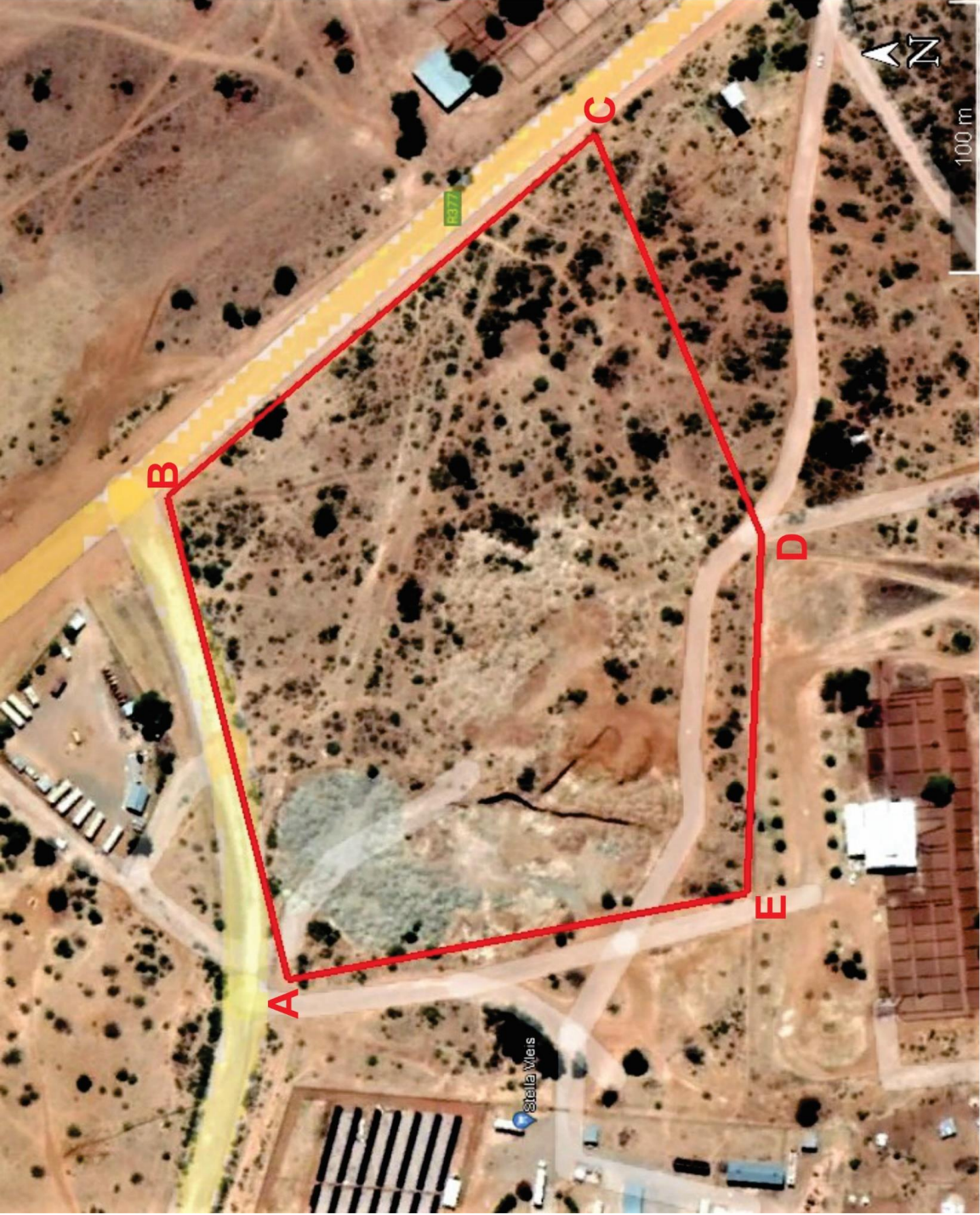


Figure 2. Layout of the Borrow Pit footprint



Figure 3. General view of the site, looking east (above left), west (above right), south (below left) and north (below right)..

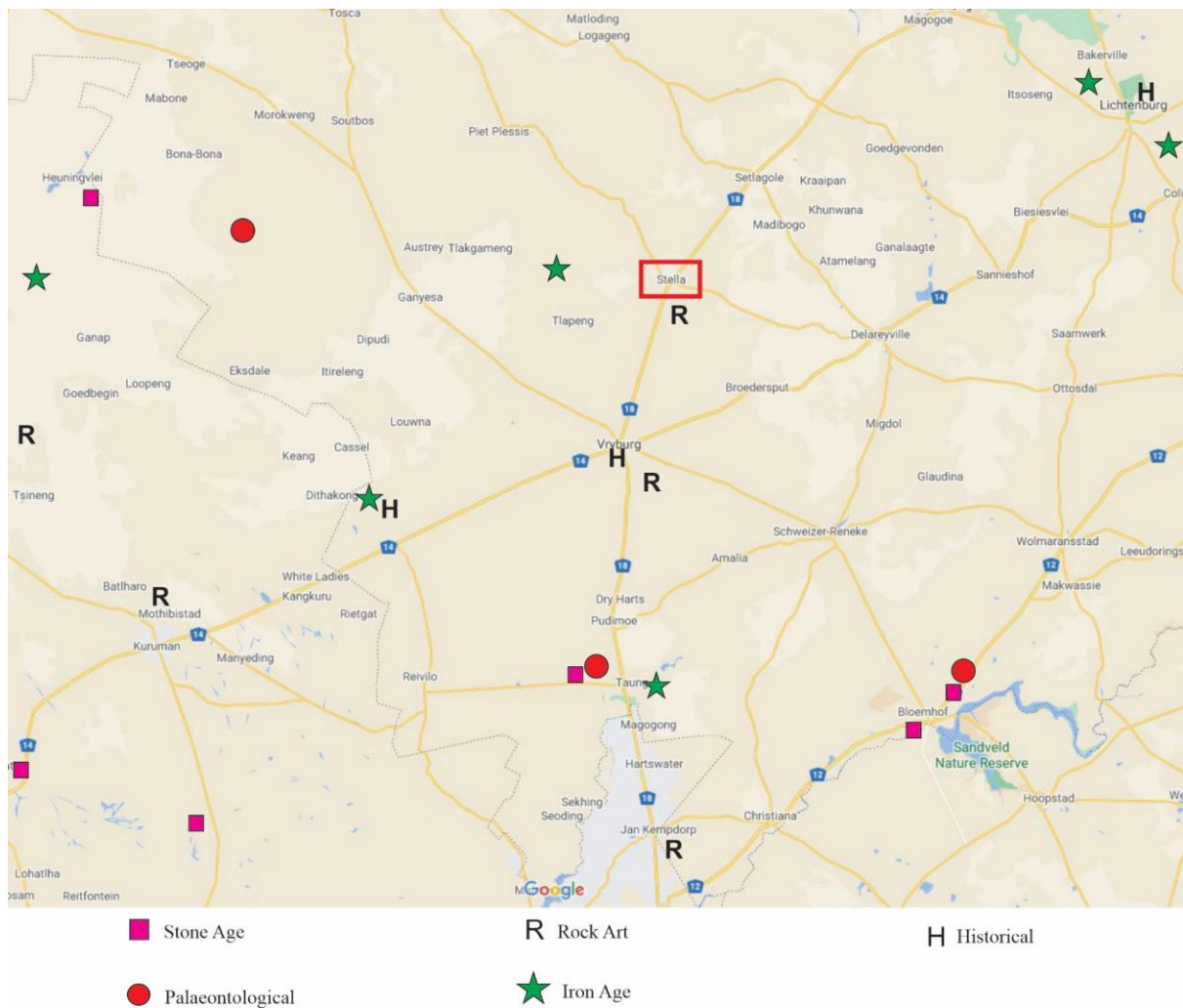


Figure 4. Map showing known historical, archaeological and palaeontological sites in the region.



Figure 5. Extensive stone wall enclosures are found near Dithakong. Archaeological investigations conducted during the 1980's have revealed that the ruins were built during the 15th century A.D.

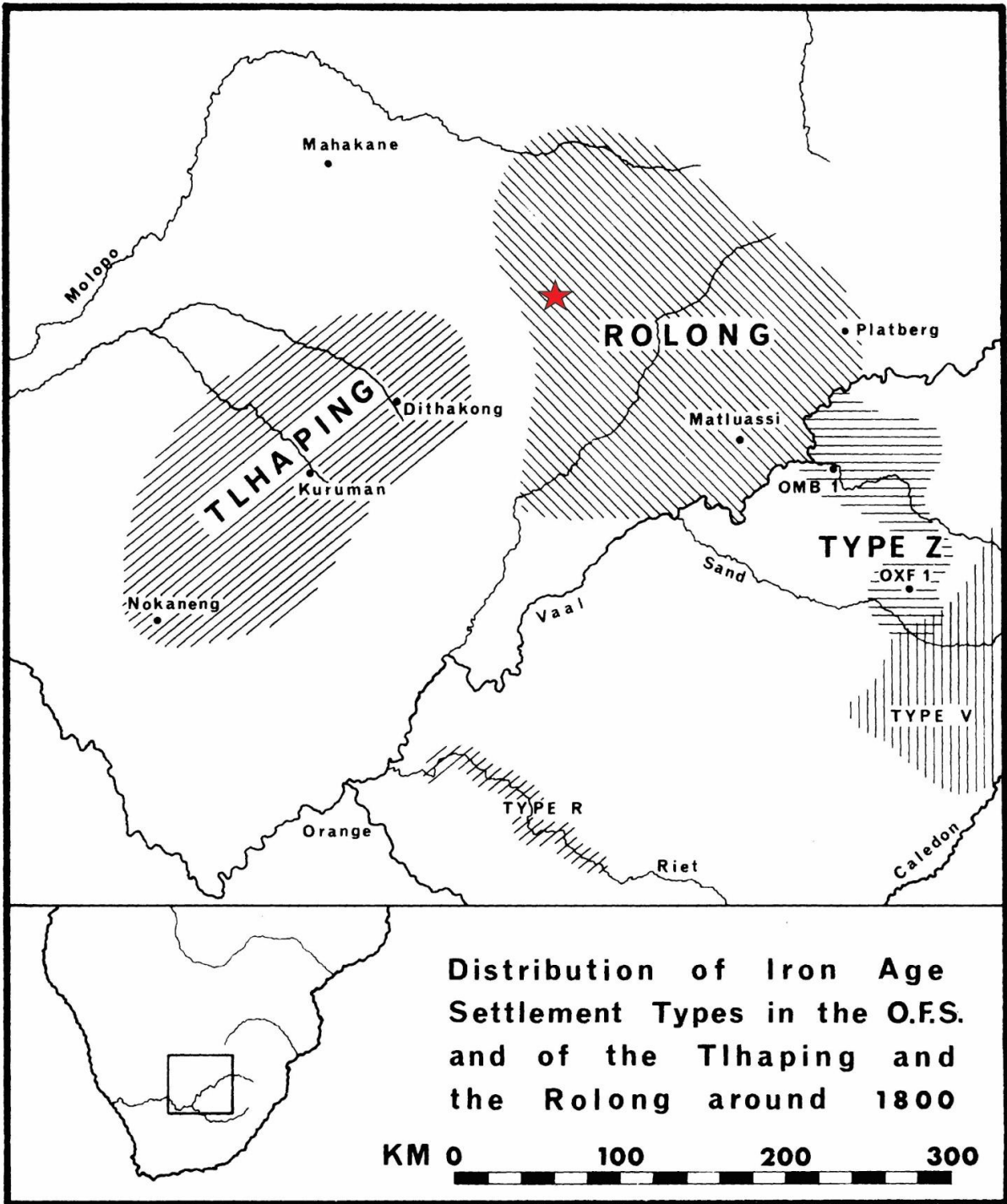


Figure 6. Distribution of the Tlhaping and Rolong in the region at the beginning of the 19th century according to Maggs (1972). Position of Stella indicated by red star.

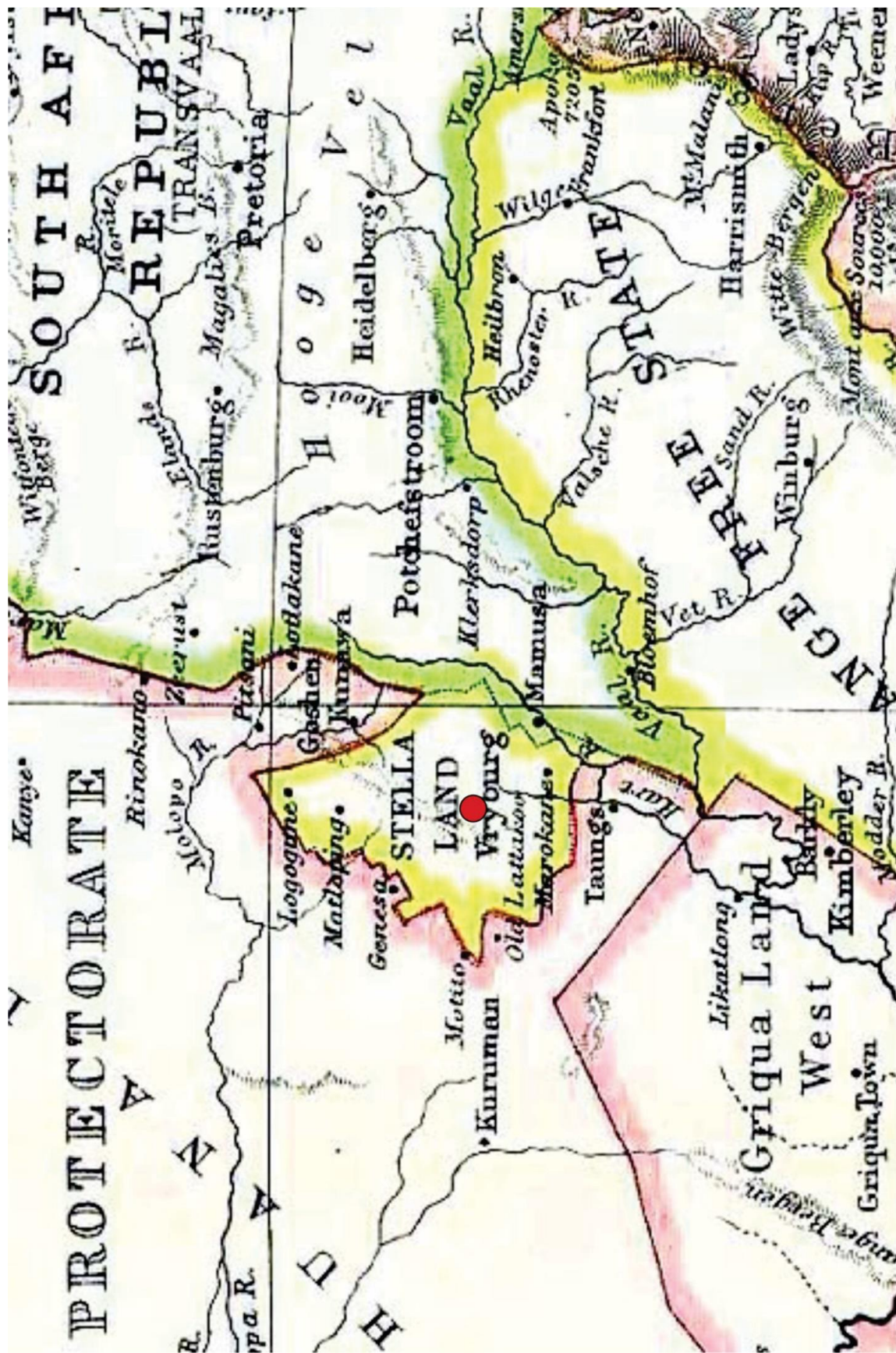


Figure 7. Contemporary map of Stellaland prior to its incorporation as a British protectorate in 1884.

Appendix 1: Survey Track Log

Index	Coordinates
1	S26 32 40.1 E24 51 27.0
2	S26 32 40.9 E24 51 24.5
3	S26 32 41.3 E24 51 22.7
4	S26 32 41.4 E24 51 21.8
5	S26 32 42.8 E24 51 23.6
6	S26 32 42.6 E24 51 25.8
7	S26 32 44.2 E24 51 27.8
8	S26 32 43.8 E24 51 29.3
9	S26 32 44.9 E24 51 30.7
10	S26 32 45.8 E24 51 29.4
11	S26 32 41.6 E24 51 27.2
12	S26 32 42.1 E24 51 22.6
13	S26 32 44.4 E24 51 22.5
14	S26 32 45.3 E24 51 24.2
15	S26 32 45.7 E24 51 27.0

