

**Phase 1 Archaeological Impact Assessment of a new 19
ha agricultural development on Farm 413 near Keimoes,
NC Province.**

Report prepared by
L Rossouw
National Museum
PO Box 266
Bloemfontein
9300

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Executive Summary

A Phase 1 Archaeological Impact Assessment was carried out for a new 19ha agricultural development on the Farm 413 near Keimoes in the Northern Cape Province. The proposed development footprint is located on fairly degraded terrain resulting from modern farming activities. A cemetery, covering about 300 m², is located outside the western boundary of the footprint. A few singular, isolated and weathered stone tools were recorded as surface occurrences, but no aboveground evidence was found of intact Stone Age archaeological assemblages or sites, prehistoric structures, graves or historically significant structures older than 60 years. Though the cemetery will not be impacted by the proposed development, it is advised that the area should be fenced off and protected by a 20 m buffer zone. The study area is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C. The terrain is not considered archaeologically vulnerable, and there are no major archaeological grounds to suspend the proposed development, provided that all excavation activities are confined to within the confines of the development footprint.

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Introduction

A Phase 1 Archaeological Impact Assessment was carried out for a new 19ha agricultural development on the Farm 413 near Keimoes in the Northern Cape Province (**Fig.1**). 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).

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.

Methodology

The heritage significance of the affected area was evaluated on the basis of 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 publications, aerial photographs (incl. Google Earth) and site records were consulted and integrated with data acquired during the on-site inspection.

Field Rating

Site significance classification standards prescribed by SAHRA (2005) were used to indicate overall significance and mitigation procedures where relevant (**Table 1**).

Locality data

1 : 50 000 scale topographic map 2820DB Keimoes

The 19 ha study area is located 8 km due west of Neilersdrift next to the R359 provincial road and about 1 km south of the Orange River (**Fig. 2**).

Site coordinates:

- A) 28°44'29.63"S 20°53'57.21"E
- B) 28°44'35.27"S 20°54'4.24"E
- C) 28°44'38.22"S 20°54'23.32"E
- D) 28°44'40.74"S 20°54'23.96"E
- E) 28°44'46.17"S 20°53'56.51"E
- F) 28°44'36.48"S 20°53'51.71"E

Background

The presence of Early, Middle and Later Stone Age artefacts on the Middle Orange River landscape bears evidence of long-term human habitation during prehistoric times (Rudner 1969; Beaumont et al 1995). Archaeological and historical evidence also show that the region was extensively occupied by Khoi herders and San hunter-gatherers during the last 2000 years. Khoi groups such as the Einiqua occupied the area around and east of the Augrabies Falls while the Korana occupied the Middle-Upper Orange River further to the east (Burchell 1822; Penn 2005). A large number of burial cairns were excavated near the Orange River in the Kakamas area and appear to be related to Khoekhoen people, specifically the Einiqua, and historical data shows

that a large number of the graves dates to the 18th and early 19th centuries (Dreyer & Meiring 1937; Morris 1992, 1995). Rock engraving sites are known to occur along rocky outcrops within the younger valley fills associated with the Orange River in the region (Van Riet Lowe 1941).

Field Assessment

The proposed development footprint is located on flat and fairly degraded terrain as a result of previous farming activities (**Fig. 3 & 4**). A cemetery, covering about 300 m², is located outside the western boundary of the footprint (centroid coordinates 28°44'42.75"S 20°53'54.42"E (**Fig. 5**). A few singular, isolated and weathered lithics were recorded as surface occurrences (**Fig. 6**), but no aboveground evidence was found of intact Stone Age archaeological assemblages or sites, prehistoric structures, graves or historically significant structures older than 60 years.

Impact Statement and Recommendation

The study areas are located within a region that has previously yielded ample archaeological as well as historical evidence of the early movement and settlement of Khoi herders and San hunter-gatherers along the Orange River during the last 2000 years. However, the proposed development footprint is located on fairly degraded terrain resulting from modern farming activities. Though the cemetery will not be impacted by the proposed development, it is advised that the area should be fenced off and protected by a 20 m buffer zone. The study area is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C. The terrain is not considered archaeologically vulnerable, and there are no major archaeological grounds to suspend the proposed development, provided that all excavation activities are confined to within the confines of the development footprint.

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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.

A. Rosann

28 / 03 / 2017

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

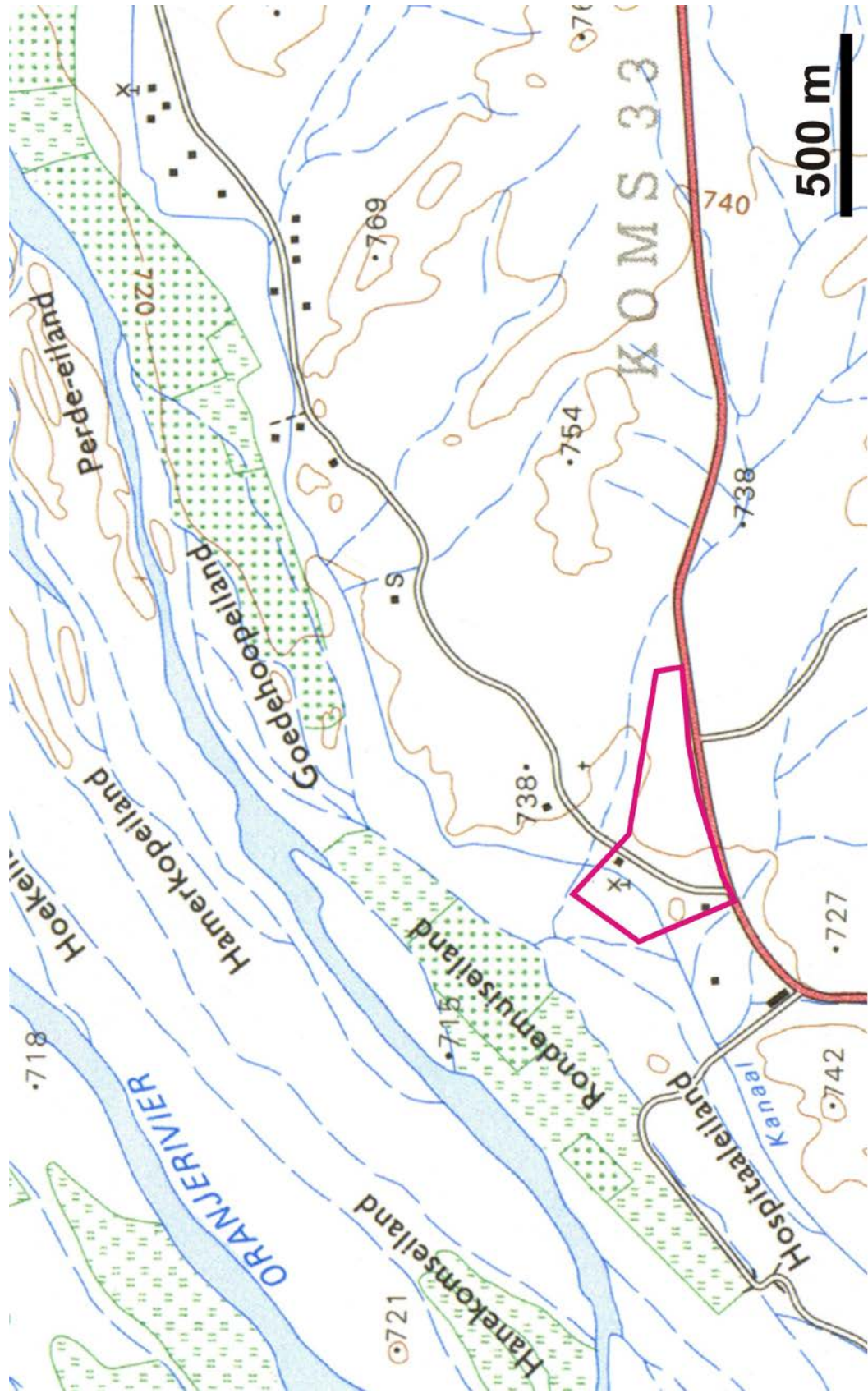


Figure 1. Map of the proposed development footprint (portion of 1:50 000 scale topographic 2820DB Keimoes).

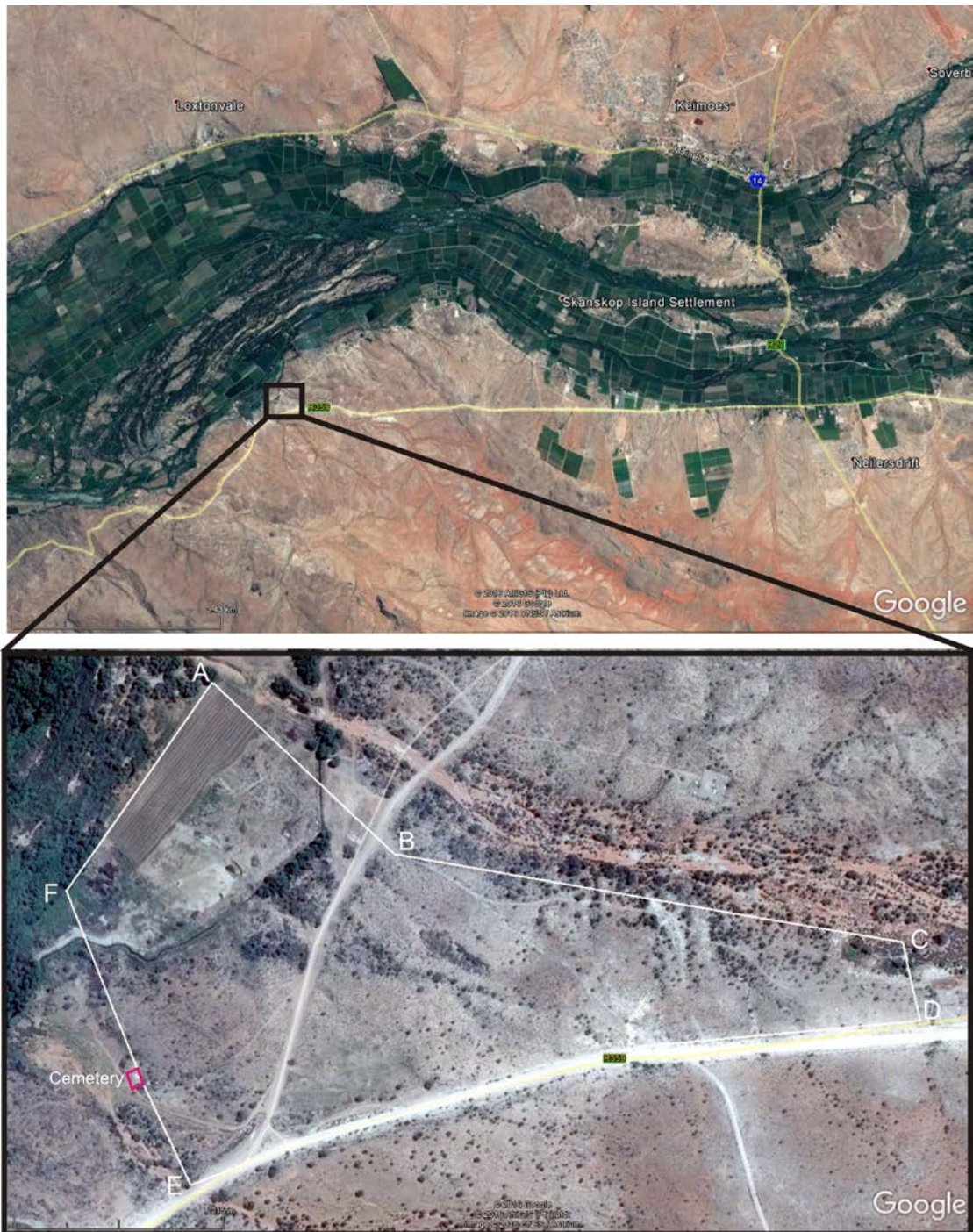


Figure 2. Aerial view of the study area.



Figure 3. General view of the study area, looking east-southeast (top) and northeast (below).



Figure 4. The study area is located on fairly degraded terrain resulting from recent farming activities.



Figure 5. The cemetery includes modern and historical graves with formal as well as informal headstones.



Figure 6. Isolated stone tools include flakes (below) and mostly informal chunks left behind on downwasted overburden (top).