

**Phase 1 Archaeological Impact Assessment of a  
proposed new quarry on Portion 9 (of 6) of the farm  
Mimosa Glen 885, Bloemfontein, FS Province.**

Report prepared for Proper Consulting Engineers  
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## **Executive Summary**

A Phase 1 Archaeological Impact Assessment was conducted for the proposed development of a new quarry, situated about 10 km north of Bloemfontein, on the farm Mimoso Glen 885. The study area is located between archaeologically significant alluvial sediments of the Modder River located 5km to the north, and rich cultural remains previously recorded around the northern outskirts of Bloemfontein, including Anglo Boer War remnants, graveyards and historical structures. The proposed development will impact on shallow residual soils and dolerite bedrock material that are considered to be archaeologically sterile. Impact on potential *in situ* archaeological remains, rock art localities or historically significant structures within the study area is considered unlikely. The terrain is not considered archaeologically vulnerable and there are no major archaeological grounds to suspend the proposed development. Both sites are rated Generally Protected C (GP.C).

## **Introduction**

A Phase 1 Archaeological Impact Assessment was conducted for the proposed development of a new quarry, situated about 10 km north of Bloemfontein, on the farm Mimosa Glen 885 (**Fig. 1**). The survey is required as a prerequisite for new development 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 that will change the character of a site exceeding 5 000 m<sup>2</sup> in extent. An initial site visit took place in October 2015. The task involved identification of possible archaeological sites or occurrences in the proposed area of impact, an assessment of their significance, possible impact by the proposed development and recommendations for mitigation where relevant.

## **Methodology**

The archaeological significance of the affected area was evaluated through a desktop study and carried out 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.

## **Field Rating**

Site significance classification standards as prescribed by SAHRA (2005) were used for the purpose of this report (**Table 1**).

## **Site Information**

The study area includes a preferred as well as an alternative site, which is located near an existing quarry, about 10 km north of Bloemfontein on the farm Mimosa Glen 885 (**Fig. 2**). The impact area will cover 5 ha, which is largely made up of open grassland underlain by shallow residual soils and weather-resistant dolerite bedrock (**Fig. 3 & 4**).

1 to 50 000 topographical map: 2826 CD Glen

1 to 250 geological map 2826 Winburg

GPS coordinates of the proposed site (**Fig. 2**):

- A) 28°59'14.17"S 26°15'41.62"E
- B) 28°59'8.61"S 26°15'42.58"E
- C) 28°59'10.90"S 26°15'53.64"E
- D) 28°59'16.00"S 26°15'52.50"E

## **Background**

The study area is located between archaeologically significant alluvial sediments of the Modder River located 5km to the north, and rich cultural remains previously recorded around the northern outskirts of Bloemfontein, including Anglo Boer War remnants, graveyards and historical structures, stone-built kraal structures and dam walls (Dreyer 2004a, 2004b, 2004c, 2004d, 2005; Henderson 2006; Henderson *et al.* 2008; Rossouw 2012). The study area is located close to but outside the south-western periphery of distribution of Late Iron Age stone-walled settlements in the Free State (Maggs 1976). The Stone Age archaeological record of Modder River catchment spans back to the early Middle Stone Age. Prehistoric archaeological remains previously recorded in the region include stone tools and mammal fossil remains from sealed and or exposed contexts. Along much of the course of the Modder River and its tributaries, alluvial deposits contain localized occurrences of *in situ* Middle and Later Stone Age material eroding out of the overbank sediments where they are often found in association with fossil mammal remains (Churchill *et al.* 2000; Rossouw 2006). Localized occurrences of *in situ* Middle and Later Stone Age material are preserved within overbank sediments of the Modder River and its tributaries between Maselspoort and Glen north of Bloemfontein (Rossouw 2006). Widespread traces of prehistoric human habitation, in the form of stone tool scatters and individual surface finds, have previously been recorded around the northern outskirts of Bloemfontein (Goodwin and van Riet Lowe 1929, Henderson *et al.* 2008; Rossouw 2012).

## **Field Assessment**

The pedestrian survey of the terrain revealed no evidence of *in situ* Stone Age archaeological material, capped or distributed as surface scatters on the landscape. There is no indication of prehistoric structures, rock engravings, graves or historical buildings older than 60 years located within the boundaries of the alternative and preferred site.

One circular, brick-built dam (28°59'13.40"S 26°15'50.08"E) and an informal fireplace (28°59'13.62"S 26°15'50.91"E) were recorded halfway between the midpoint and eastern margin of the preferred site (**Fig. 5**).

### **Impact Statement and Recommendation**

The proposed development will impact on shallow residual soils and dolerite bedrock material that are considered to be archaeologically sterile. Impact on potential *in situ* archaeological remains, rock art localities or historically significant structures within the study area is considered unlikely. The terrain is not considered archaeologically vulnerable and there are no major archaeological grounds to suspend the proposed development. Both sites are rated Generally Protected C (GP.C).

### **References**

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## Tables and Figures

**Table 1.** Field rating categories for heritage sites as prescribed by SAHRA.

<b>Field Rating</b>	<b>Grade</b>	<b>Significance</b>	<b>Mitigation</b>
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

**Table 2. Summary of Impacts**

<b>Geological Unit</b>	<b>Rock types and Age</b>	<b>Potential Archaeological heritage</b>	<b>Archaeological Significance</b>	<b>Degree of Impact</b>	<b>Archaeological potential at the site</b>
Superficial deposits	Residual soils Quaternary to Recent	Stone tools Prehistoric structures (IA; Stone Age open sites) Graves Historical structures	High	High	Low
Karoo Dolerite	Intrusive igneous bedrock. Jurassic	Rock engravings; Stone tool quarries near dolerite and mudrock contact zones	Low	High	Low
Adelaide Subgroup sedimentary bedrock	Fluvial and lacustrine mudstones and sandstones. Late Permian	None	None	None	Low



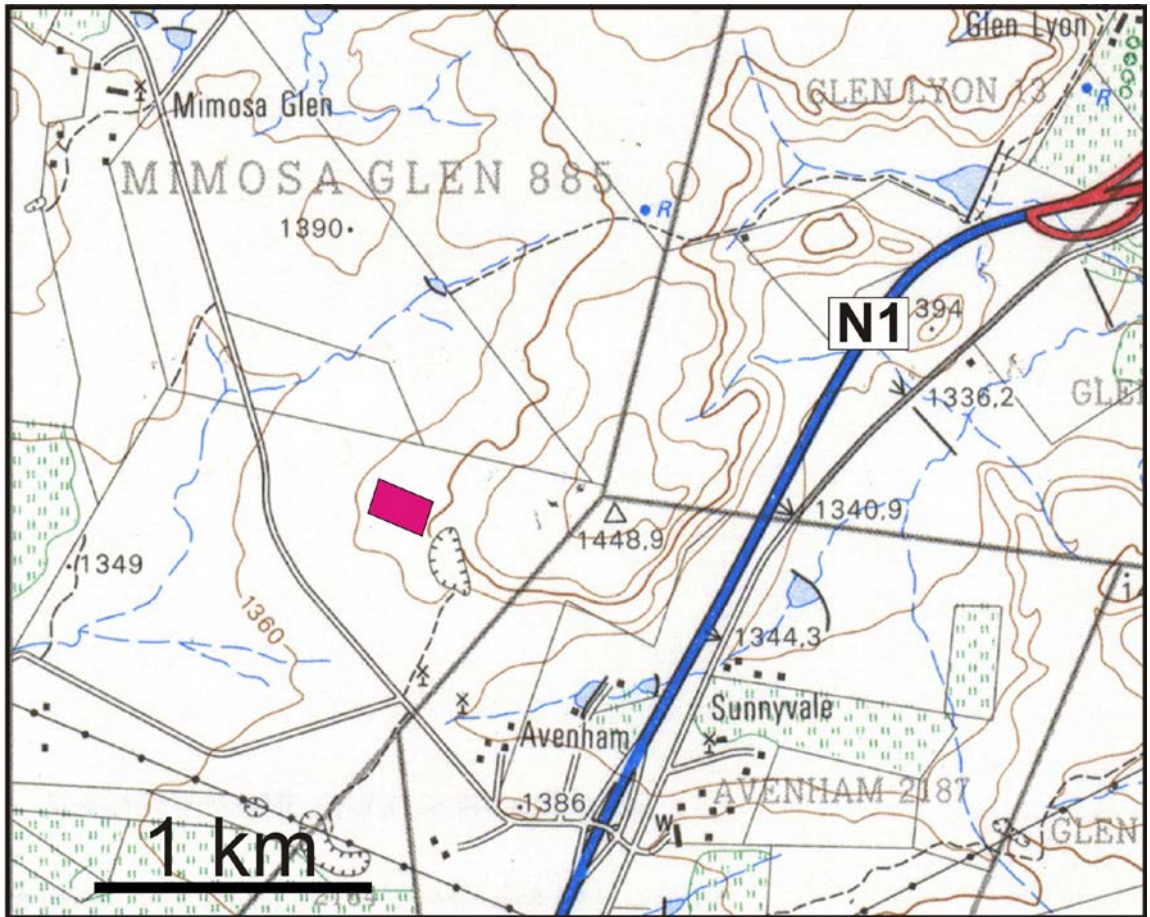


Figure 1. Location of study area marked by the red rectangle (portion of 1:50 000 scale topographic map 2826 Glen).

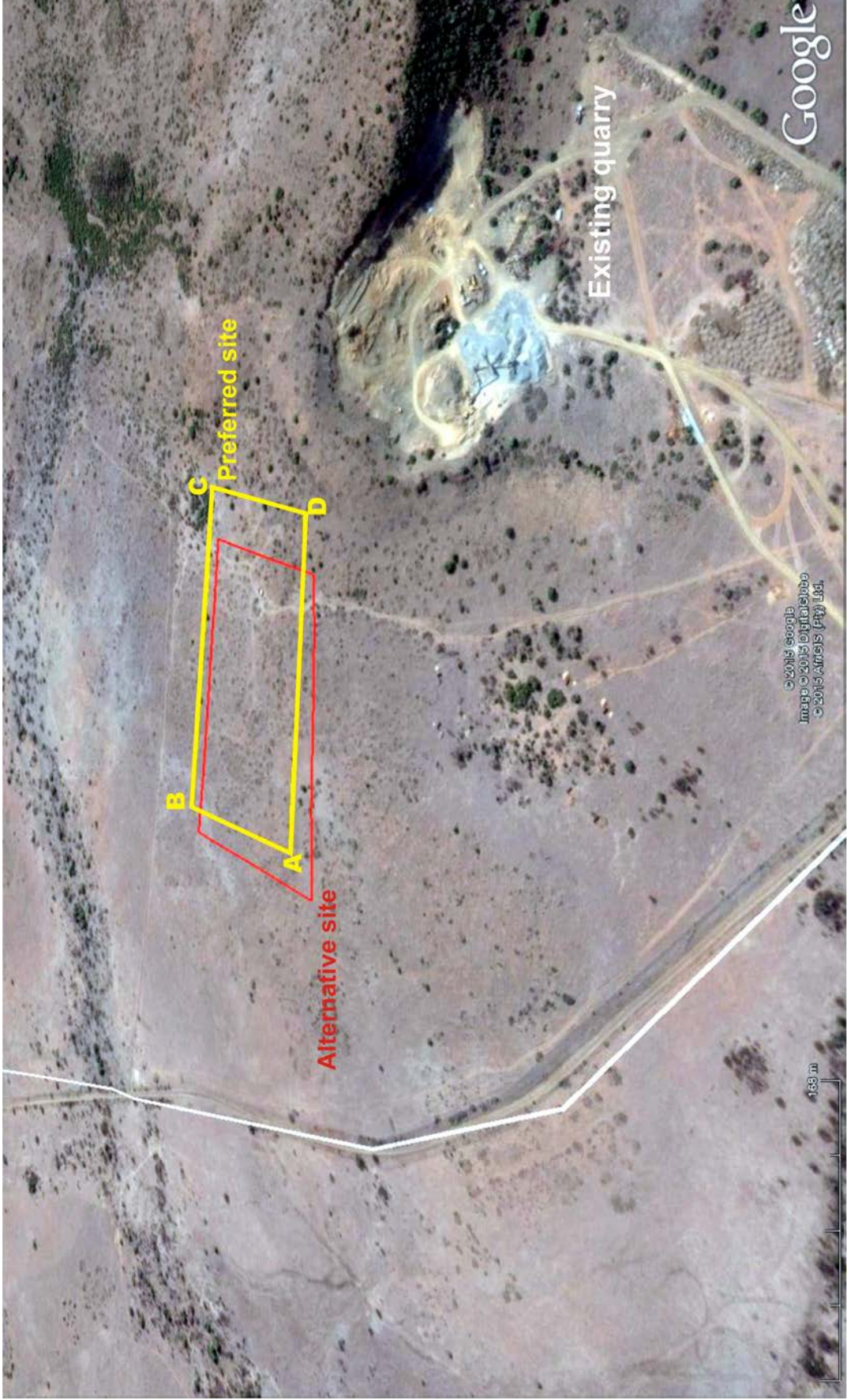


Figure 2. Aerial view of the study area, looking north.

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Figure 4. General view of the study area, looking east.



The topsoil component at the site is considered to be sterile in terms of Stone Age open sites (looking north-east).  
Scale 1 = 10 cm.



Figure 5. Modern man-made features recorded within the boundaries of the study area include a brick-built dam (top) and a recently used fireplace (bottom).  
Scale 1 = 10 cm.