

**ARCHAEOLOGICAL IMPACT ASSESSMENT  
OF THE PROPOSED EXTENSION OF A BORROW PIT ON  
VOORBRUG OUTSPAN 258 NEAR GREAT BRAK RIVER,  
GEORGE DISTRICT, WESTERN CAPE**

(Assessment conducted under Section 38 (8) of the National Heritage Resources Act as part  
of a Heritage Impact Assessment)

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## EXECUTIVE SUMMARY

Natura Viva cc was appointed by Vidamemoria Heritage Consultants on behalf of Aurecon South Africa (Pty) Ltd to undertake an Archaeological Impact Assessment (AIA) of the proposed extension of an existing borrow pit DR01599/5.8/0.9R (Vidamemoria pit no. 130) in the Great Brak River area of the George District. Mossel Bay lies over 20 km to the southwest of the affected area. Material excavated from the pit will be used for the maintenance of gravel roads in the area. Access to the affected area will be by existing roads and farm tracks. The working slopes will be stabilised and the site will be left to re-vegetate naturally after mining activities have ceased.

This study forms part of the Heritage Impact Assessment triggered by the development. The brief for the study was a field visit and short report identifying and assessing archaeological resources and any impact on them, an assessment of significance and recommendations regarding any mitigation required.

The field assessment was conducted on foot on 23 October 2012. The visibility of archaeological material on the ground was poor in a large part of the proposed extension which was covered by short grass. As it was expected that there could be sub-surface archaeological material, attention was therefore given to areas where the underlying soil and rock were exposed, namely the worked slopes of the existing quarry, as well as open patches along the north-western edge of the polygon. In some areas, a layer of medium to coarse, ferruginised sandstone gravel and small cobbles was evident between the base of the topsoil and the weathered granite bedrock. It seemed likely that this would be the horizon containing archaeological material.

Twelve Stone Age artefacts were seen in association with the gravel and in the heaps of dumped, previously-quarried material. The archaeological material mostly consists of a few clearly ESA and MSA quartzite artefacts, as well as several less diagnostic ESA/MSA artefacts. One possible quartz core of indeterminate age was observed.

The presence of Stone Age material indicates that there may be more archaeological remains below the surface of the proposed extension. However, the scarcity of observed artefacts would suggest that the affected area is of low archaeological heritage significance. No significant impact on such resources is expected if the proposed extension is developed. No further archaeological studies or mitigation are recommended.

If any human remains are found during the development of the proposed pits, work in that area must cease and the South African Heritage Resources Agency (SAHRA) must be notified immediately.

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## 1. INTRODUCTION

Natura Viva cc was appointed by Vidamemoria Heritage Consultants on behalf of Aurecon South Africa (Pty) Ltd to undertake an Archaeological Impact Assessment (AIA) of the proposed extension of an existing borrow pit DR01599/5.8/0.9R (Vidamemoria pit no. 130) in the Great Brak River area of the George District (Figure 1). Mossel Bay lies over 20 km to the southwest of the affected area. Material excavated from the pit will be used for the maintenance of gravel roads in the area. Access to the proposed extension will be by existing roads and farm tracks. The working slopes will be stabilised and the site will be left to re-vegetate naturally after mining activities have ceased.

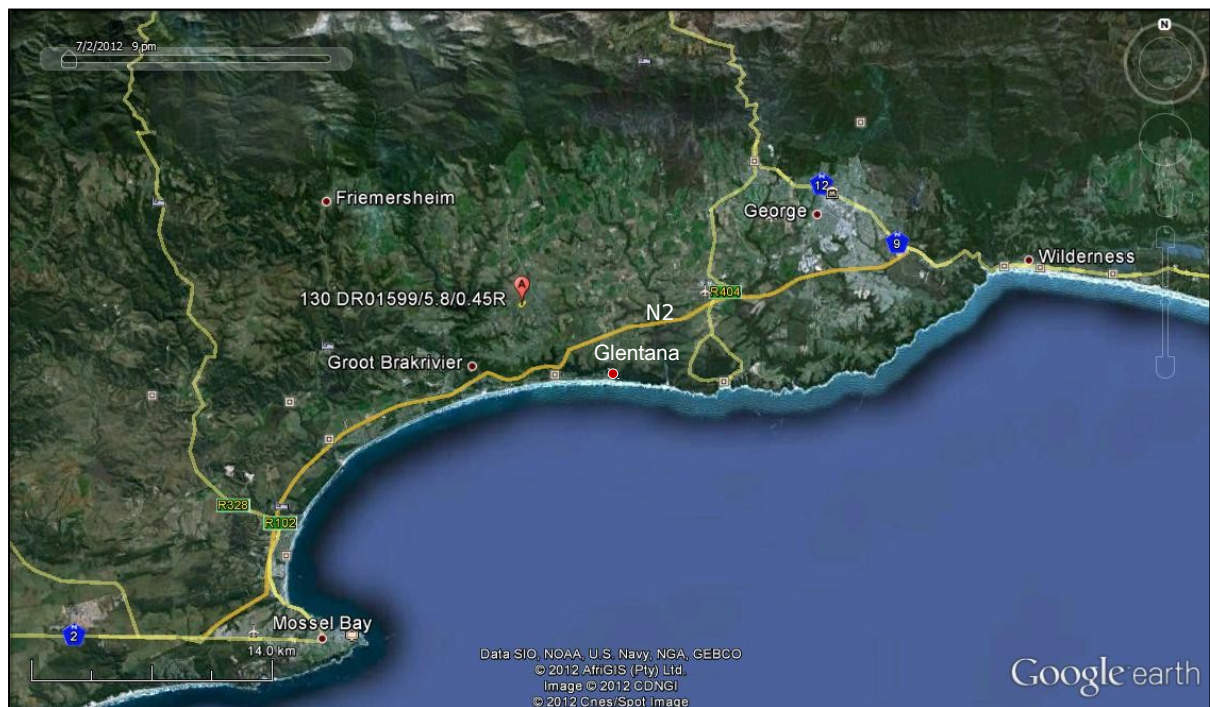


Figure 1: Google earth image showing the location of the proposed extension of borrow pit DR01599/5.8/0.9R (Pit 130) close to Great Brak River (Groot Brakrivier). The relevant 1:50 000 topographical map is 3422AB Pacaltsdorp.

## 2. LEGAL FRAMEWORK

Section 38 of the National Heritage Resources Act (Act 25 of 1999) is triggered by certain types of development, including changes of character to an area exceeding 5 000m<sup>2</sup>, and makes provision for compulsory Heritage Impact Assessments to assess the potential impacts of such proposed developments on heritage resources. In terms of Section 38(1), a Notification of Intent to Develop (NID) form was submitted to Heritage Western Cape (HWC) by Vidamemoria. Following comment from HWC (case 1779-1793 ref 120327JL29) an AIA was included amongst the requirements according to Section 38(8) of the Act.

### **3. TERMS OF REFERENCE**

The terms of reference for the AIA stipulated a field visit to locate and map archaeological resources, a short report dealing with the field observations, an assessment regarding the significance of the resources (in the context of other studies in the area) and any impacts on them, as well as recommendations regarding any mitigation required.

### **4. STUDY APPROACH**

#### **4.1 Methods**

Fieldwork for the proposed pit extension was undertaken on 23 October 2012. A site plan indicating the affected area was provided by Aurecon for the Phase 1 survey. The area was covered on foot and the tracks were recorded by a Garmin GPSMAP 62s set on the WGS84 datum (Figure 2). The site was extensively photographed.

#### **4.2 Limiting factors**

The visibility of archaeological material on the ground was poor in a large part of the proposed extension which was covered by short grass. It was generally good in the remainder of the affected area.

### **5. DESCRIPTION OF AFFECTED ENVIRONMENT AND SITE**

#### **5.1 Archaeological background:**

According to the SAHRA Archaeology, Palaeontology and Meteorite Unit Report Mapping Project DVD (2009), the only archaeological impact study mapped close to the present study for pit 130 is that of the proposed Lagoon Bay Lifestyle Estate near Glentana, George (Kaplan 2005). The site lies closer to the coast, some 5 to 7 km to the southeast of pit 130, but most of the archaeological material observed came from grazing lands just south of the N2 so it does give some indication of the sort of archaeology which might occur in the region. The remains observed in Kaplan's survey consisted of between 60 and 70 quartzite Early Stone Age (ESA) and Middle Stone Age (MSA) tools which included large side-struck flakes, smaller prepared flakes, large chunks and cores, several flaked cobbles, a cleaver, at least two hand axes, several hammerstones and large manuports. Several thinly dispersed Stone Age artefacts were noted in other disturbed contexts in the proposed development area (Kaplan 2005). Further observations of ESA and MSA material have been made inland of the coast in the Mossel Bay area, over 20 km to the southeast of pit 130 (for example Nilssen 2005a, 2005b, 2006). Coastal sites such as those at Pinnacle Point are not directly relevant to the present study.

## 5.2 Borrow pit DR01599/5.8/0.9R (Vidamemoria pit no. 130)

**Approximate area:** 110m x 200m

**Location:** S 34° 0' 39.05" E 22° 15' 48.42"

**Farm name and number:** Voorbrug Outspan 258

**Environment:** The existing borrow pit lies in hilly agricultural land currently used for cattle grazing. The pit has been excavated into a north-west facing slope of a hill located to the southeast of a shallow valley. It is proposed to extend the pit to the south (Figures 2, 3 and 5) and the northeast (Figures 4, 6 and 10). A small, semi-permanent stream curves around the pit and flows southwards (Figure 2). It lies outside the western border of the proposed extension. A fence indicates the south-western and eastern boundaries, whereas the north-western border is indicated by the sloping edge of the otherwise flat-lying north-eastern extension. The north-eastern limit of the site is not clear on the ground. The area around the existing pit is highly disturbed and surrounded by heaps of previously-quarried material which has been dumped (Figures 5, 8 and 10). Fine, gravelly, silty sand overlies weathered granite of the Rooiklip Facies of the George Granite Pluton. Short grass covers most of the proposed extension area, as well as some of the heaps of dumped soil.



Figure 2: Google earth image showing the proposed extension to borrow pit 130 and the tracks of the field survey. Please note that the straight blue lines do not indicate survey tracks.



Figure 3: View towards the east showing the existing pit and part of the proposed southern extension.

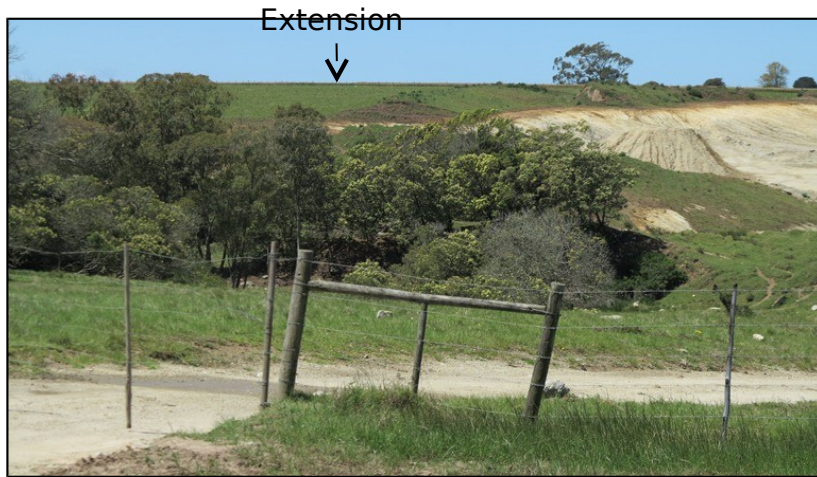


Figure 4: View towards the northeast showing the area of the proposed north-eastern extension.



Figures 5 and 6: View towards the east showing the area of the proposed south-eastern extension and several heaps of previously-quarried material; view towards the northeast of the proposed north-eastern extension



Figure 7 and 8: View towards the southwest of the slope where there is exposure of the underlying ground; view towards the northeast with the ferruginised gravel layer visible in the foreground.

### Results of the survey:

As it was expected that there could be sub-surface archaeological material, attention was given to areas where the underlying soil and rock were exposed, namely the worked slopes of the existing quarry (Figures 8 and 10) as well as open patches along the north-western edge of the polygon - where it slopes down towards the stream (Figure 7). In some areas, a layer of medium to coarse, ferruginised sandstone gravel and small cobbles was evident between the base of the topsoil and the weathered granite bedrock (Figures 8 to 10). It could be observed *in situ* at the edges of the worked slopes (Figures 8 and 9). It had been partly removed from some surfaces and dumped, together with the topsoil, in heaps close by (Figure 10). Chunks of naturally-occurring vein quartz were evident on the gravel surface and in the heaps. It seems likely that this gravel layer would be the horizon containing archaeological material.



Figures 9 and 10: Detail of the ferruginised gravel layer situated between the topsoil and the weathered granite bedrock; view towards the north showing the scraped gravel layer, heaps of previously dumped material and part of the flat-lying proposed extension area. The ruler is about 15cm in length.



Twelve Stone Age artefacts were seen in association with the gravel and in the heaps throughout the affected area. Although cobbles were noted in the heaps of soil, they were not abundant. The archaeological material mostly consists of quartzite artefacts, some clearly ESA (Figures 11 and 12) or MSA (Figures 15 and 16), whereas others are likely to be ESA and/or MSA in origin (Figures 13 and 14). Only the MSA point (Figure 16) was noted along the north-western edge of the affected area. Except for a possible core (Figure 16), no convincing artefactual flaking of quartz was observed. All the material was in a disturbed, secondary context due to quarrying activities.



Figures 11 and 12: Examples of ESA artefacts. The scale is in cm.



Figures 13 and 14: ESA/MSA artefacts – core and flaked cobbles. The scale is in cm.



Figures 15 and 16: MSA blade and point. The scale is in cm.



Figure 16: Possible quartz core. The scale is in cm.

## 6. SIGNIFICANCE AND RECOMMENDATIONS

The presence of Stone Age material indicates that there may be more archaeological remains below the surface of the proposed extension. However, if previous mining had disturbed a rich ESA or MSA site, it seems likely that a high proportion of the observed cobbles would have been flaked. The scarcity of artefacts observed would suggest that the proposed extension is of low archaeological heritage significance. No significant impact on such resources is expected if the proposed extension is developed. No further archaeological studies or mitigation are recommended.

If any human remains are found during the development of the proposed pits, work in that area must cease and the South African Heritage Resources Agency (SAHRA) must be notified immediately.

## 7. REFERENCES

Kaplan, J.M. 2005. Phase 1 Archaeological Impact Assessment Proposed Development Lagoon Bay Lifestyle Estate George Southern Cape. Unpublished report prepared for Dennis Moss Partnership. Agency for Cultural Resource Management.

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## **8. ACKNOWLEDGEMENTS**

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