

**ARCHAEOLOGICAL IMPACT ASSESSMENT  
OF A PROPOSED BORROW PIT  
ON BUFFELSFONTEIN 250, NEAR VLEESBAAI,  
EDEN 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 Nadeson Consulting Services to undertake an Archaeological Impact Assessment (AIA) of the proposed development of a new borrow pit MR0336/6.5/0.05R (Vidamemoria pit no. 196) in mainly agricultural land some 7km to the northwest of Vleesbaai, Eden District Municipality, Western Cape. Mossel Bay lies approximately 25 km to the east-northeast. Material excavated from the proposed pit will be used for the maintenance of gravel roads in the area. No new roads will have to be constructed as access to the proposed quarry will be via existing roads and tracks. Rehabilitation of the pit after mining activities will consist of smoothing the slopes and then covering them with stock-piled topsoil.

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 22 October 2012. The extent of the survey was limited by the presence of five ostriches and the dense vegetation in a large part of the affected area. The visibility of archaeological remains on the ground was however good in the previously disturbed agricultural land of the upper third (and adjoining land outside the polygon) which was fully surveyed. On the basis of the results of the present study, as well as those of a previous archaeological impact study immediately to the northwest of the proposed pit, I do however feel confident that no dense concentration of artefacts was missed in the lower areas not covered on foot.

Some 20 quartzite ESA, Middle Stone Age (MSA) and indeterminate ESA/MSA artefacts were observed, mostly in the gravels on or close to the crest of the hill, outside the affected area. The gravels may be the remains of pediment gravels of the ancient Gouritz River system associated with an old land surface. The few artefacts seen lower down the slope probably drifted down from the top. The artefacts recorded include flaked cobbles, flakes (some with cortex), chunks and cores. No formal ESA tools such as hand axes were seen. A couple of MSA flake-blades were observed.

Given that most of the sparse archaeological material observed probably derived from the disturbed gravels outside the polygon, it is unlikely that the rest of the affected area will have many stone artefacts. The proposed borrow pit site is therefore deemed to be of low archaeological heritage significance. No further archaeological studies or mitigation are thus 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 Nadeson Consulting Services to undertake an Archaeological Impact Assessment (AIA) of the proposed development of a new borrow pit MR0336/6.5/0.05R (Vidamemoria pit no. 196) in mainly agricultural land some 7km to the northwest of Vleesbaai, Eden District Municipality, Western Cape. Mossel Bay lies approximately 25 km to the east-northeast. Material excavated from the proposed pit will be used for the maintenance of gravel roads in the area. No new roads will have to be constructed as access to the proposed quarry will be via existing roads and tracks. Rehabilitation of the pit after mining activities will consist of smoothing the slopes and then covering them with stock-piled topsoil.

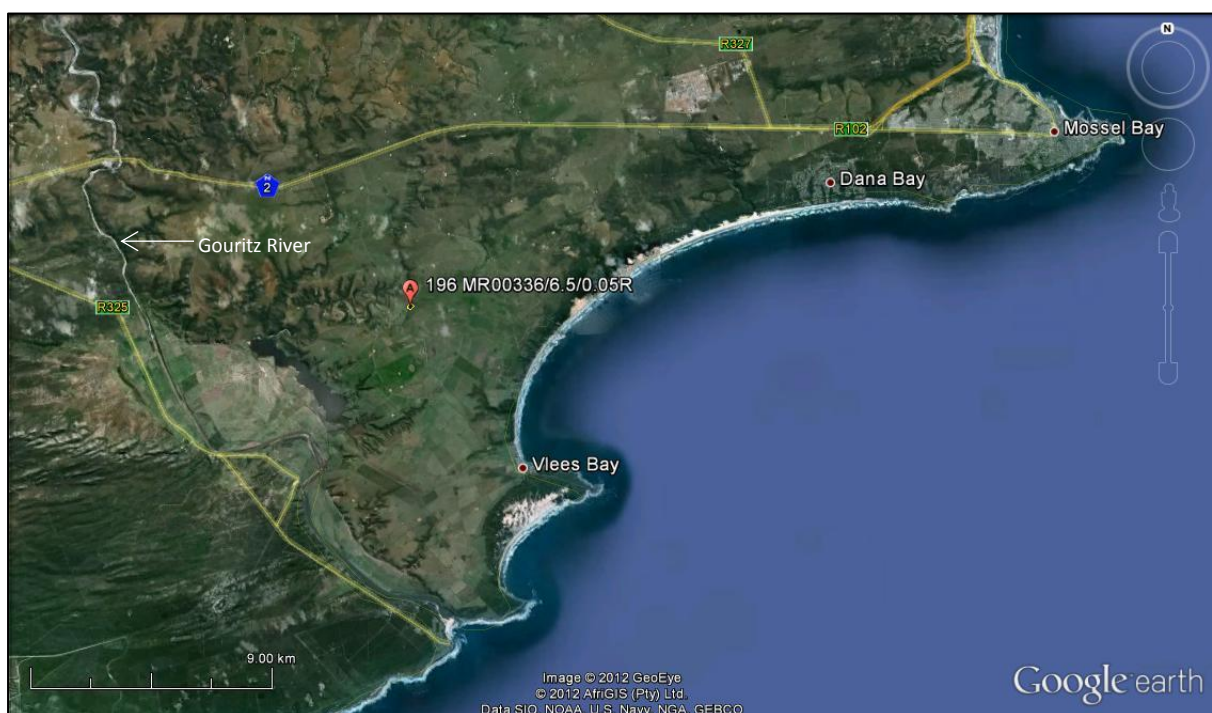


Figure 1: Google earth image showing the location of the proposed new borrow pit MR0336/6.5/0.05R (Vidamemoria pit no. 196). The relevant 1:50 000 topographical map is 3421BB Herbertsdale.

## 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 1912-2002 ref. 120726TS37) 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 was undertaken on 22 October 2012. A site plan indicating the affected area was provided by Nadeson for the Phase 1 survey. The area was covered on foot by the author and two assistants and the author's 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 main limiting factor in terms of the ground covered was the presence of five ostriches in a large part of the affected area, as well as dense vegetation in the middle third of the polygon. The visibility of archaeological remains on the ground was however good in the upper third which was fully surveyed.

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

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

The areas of two previous archaeological impact studies overlap with that of proposed pit 196, namely a survey along the proposed route of the Proteus-Vleesbaai power line (Avery & Avery 2006) and a survey for the proposed Sondereind Wind Energy Farm near Vleesbaai (Kaplan 2012). The former recorded the sparse and patchy distribution of Early Stone Age (ESA) artefacts in contexts previously disturbed by agricultural activity (ploughing and trampling) and natural erosional processes (Avery & Avery 2006). The material observed included small and large hand axes, cores, flaked chunks and cobbles, as well as small and large flakes. These artefacts were often found in association with angular clasts, calcareous clasts, pebbles and cobbles. Most were made of quartzite, although some silcrete was seen.

Kaplan's study (2012) revealed more than 150 ESA artefacts and a few Middle Stone Age (MSA) tools spread randomly and unevenly throughout the study area. No Later Stone Age (LSA) artefacts, pottery or organic material such as bone and ostrich eggshell were observed. Kaplan noted that most, if not all, of the archaeological material occurs *ex situ* and that it is only a small (but probably representative) sample of what once occurred on, or just below, the ground surface (2012). Most of the quartzite and silcrete artefacts comprised single, isolated occurrences but several low density scatters of tools were also noted. The ESA lithics consisted of a variety of flakes, angular fragments, cores, flaked chunks, cobble

fragments and large manuports. Formal tools recorded included bifacial, unifacial and incomplete handaxes, as well as several cleavers. The MSA artefacts included triangular-shaped flakes and prepared cores.

## **5.2 Borrow pit MR0336/6.5/0.05R (Vidamemoria pit no. 196):**

**Approximate area:** 8500m<sup>2</sup>

**Location:** S 34° 14' 19.32" E 21° 52' 10.92"

**Farm name and number:** Buffelsfontein 250

**Environment:** The proposed borrow pit lies on the lower, moderately steep margins of an alluvial floodplain eroded by the Buffels River and its tributaries. It is located immediately to the east of the MR0336 which connects Vleesbaai to the N2 further northwards (Figure 1). The polygon of the affected area has three components, namely a flat-lying field close to a small stream in the lower north-western third, a densely-vegetated northwest-facing slope with bushes and shrubs in the middle and an upper, south-eastern third consisting of a previously-ploughed grassy field and patch of shrubs close to the access gate beyond the southwest corner (Figures 2 to 7). It is bounded by the road on the southwest and a fence on the northeast. The north-western and south-eastern boundaries lie roughly parallel to the strip with dense shrubs. A fence separates the top third from the other two thirds (Figures 4 and 6).

The terrain is covered by reddish-brown, silty sand with gravel of quartzitic clasts, calcrete nodules, pebbles and cobbles of various sizes. This gravel is concentrated on the crest of the hill, outside the polygon. Isolated cobbles, calcrete and other rock fragments have drifted down the slope and are dispersed within the topsoil. A concentration of larger cobbles occurs in the shrubby patch within the upper third. Where heaps of soil from test pits excavated in the middle section were visible, red soil with some cobbles was evident.

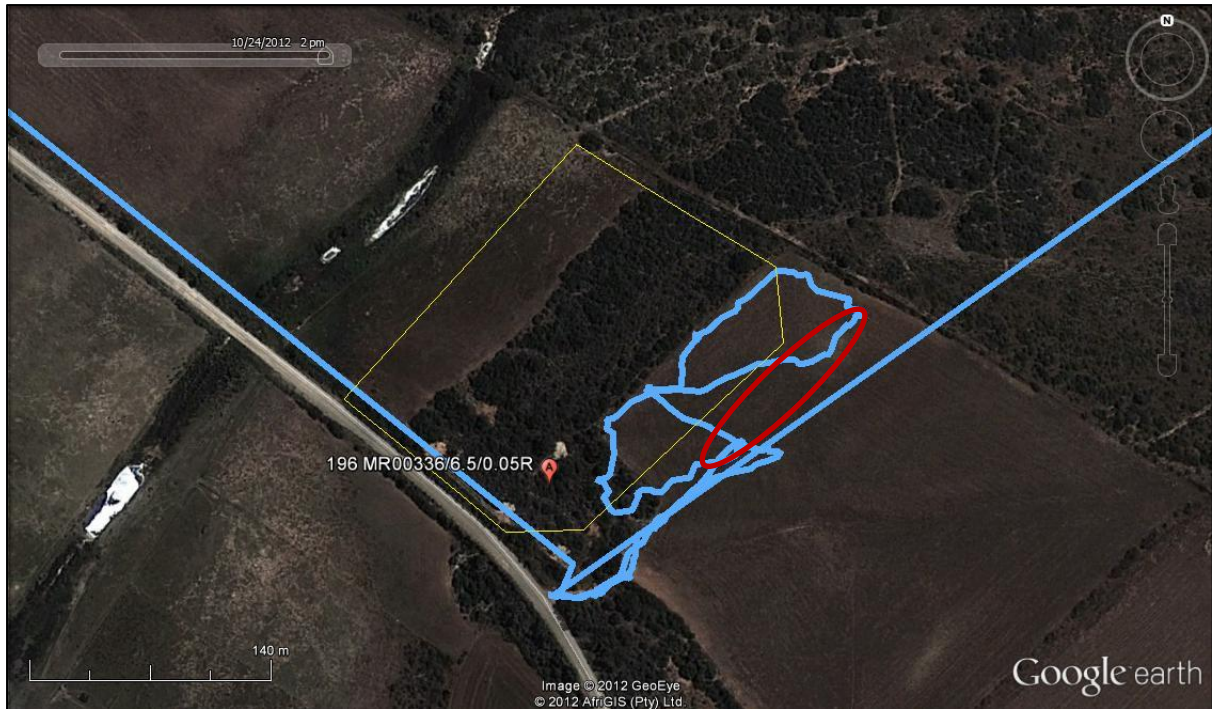


Figure 2: Google earth image showing the proposed borrow pit MR0336/6.5/0.05R (Vidamemoria pit no. 196), the polygon (in yellow) and the tracks of the field survey. The red ellipse indicates the area where most of the stone artefacts were observed. The presence of ostriches and the dense vegetation limited the extent of the field survey. Please note that the straight blue lines do not indicate survey tracks.



Figure 3: View towards the east showing the three bands of terrain of the polygon – the lower and upper grassy thirds on either side of the densely-vegetated middle third.



Figure 4: View towards the west taken from the upper third of the study area, with the densely-vegetated middle band visible in the middle ground and the lower third (with ostriches) beyond that.



Figure 5: View towards the northeast of the previously ploughed field in the upper third of the polygon and the crest of the hill which lies outside it.





Figures 6 and 7: View towards the southwest of the densely-vegetated middle third of the study area; view towards the northwest of the area with large cobbles in the shrubby part of the upper third of the polygon.

### **Results of the survey:**

The presence of five ostriches in the lower two thirds of the polygon limited the survey to the upper third, where an area outside the polygon was also examined. Although most of the previously-disturbed agricultural terrain was covered by grass, herbs and a few low bushes, it was possible to see the calcrete nodules, clasts, pebbles and cobbles of the gravels, as well as any archaeological material (Figures 4, 5, 7 and 8). Most of the rocks were not flaked but some 20 quartzite artefacts were observed (Figures 9 to 13). The majority of these were observed as isolated specimens or very low density clusters of artefacts in the gravels outside the affected area, on or close to the crest of the hill which may be the remains of pediment gravels of the ancient Gouritz River system associated with an old land surface (Figures 2, 3, 5 and 8). The few artefacts seen lower down the slope probably drifted down from the top.

The artefacts recorded include flaked cobbles, flakes (some with cortex), chunks and cores (Figures 9 to 13). Some of these are likely to be ESA (e.g. Figure 10), with some indeterminate ESA/MSA. No formal ESA tools such as hand axes were seen. A couple of diagnostic MSA flake-blades were observed (Figure 12). No flaked material was noted amongst the large cobbles in the shrubby part of the upper third of the study area (Figure 7), nor were any artefacts seen in the heaps of soil dug up by dune molerats. Only isolated ESA material was noted in the vicinity of the proposed pit in the Avery & Avery survey (2006) so I feel confident that no dense concentration of artefacts was missed in the lower areas not covered on foot.



Figures 8 and 9: View towards the northeast showing the possible pediment surface on the crest of the hill; a cluster of quartzite artefacts from the ellipse shown in Figure 2. The scale is in cm.



Figures 10 and 11: A cluster of quartzite artefacts; flaked cobble. The scale is in cm.



Figures 12 and 13: Quartzite MSA artefacts; flaked cobble and flake. The scale is in cm.

## **6. SIGNIFICANCE AND RECOMMENDATIONS**

Given that most of the sparse archaeological material observed probably derived from the disturbed gravels of the pediment surface on the crest of the hill outside the polygon, it is unlikely that the rest of the affected area will have many stone artefacts. The proposed borrow pit site is therefore deemed to be of low archaeological heritage significance. No further archaeological studies or mitigation are thus 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**

Avery, G. & Avery, D.M. 2006. Archaeological Assessment: Proposed 66 KV Eskom Power line between Proteus and Vleesbaai. Unpublished report prepared for SHE Cape Environmental cc. Iziko Museums of Cape Town.

Kaplan, J. 2012. Archaeological Impact Assessment The proposed Sondereind Wind Energy Farm near Vleesbaai, Western Cape. Unpublished report prepared for CSIR Environmental Management Services. Agency for Cultural Resource Management.

## **8. ACKNOWLEDGEMENTS**

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