

**ARCHAEOLOGICAL IMPACT ASSESSMENT
OF THE PROPOSED EXTENSION OF AN EXISTING
BORROW PIT AND THE DEVELOPMENT OF A NEW
BORROW PIT NEAR RHEENENDAL, KNYSNA AREA,
EDEN DISTRICT MUNICIPALITY, 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) for the proposed extension of an existing borrow pit, MR00355/50.0/0.01L (Vidamemoria pit no. 128), and the proposed development of a new borrow pit MR00355/50.3/0.1L (Vidamemoria pit no. 127) in plantation land in steep-sided hilly terrain along the MR00355 to the northwest of Knysna and Rheenendal, Eden District Municipality. Material excavated from the pits will be used for the maintenance of gravel roads in the area. Access to the affected areas will largely be by existing roads and forestry tracks, although one short new access track will be required for pit 127. Rehabilitation will consist of cutting the slopes to the final design profile and stabilising them. The sites will be left to re-vegetate naturally.

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 by the author and two assistants on 23 October 2012. Visibility of archaeological remains on the ground was extremely limited due to the dense vegetation in the area, as well as the ground cover of branch, leaf and bark litter in areas not previously quarried. Special attention was paid to areas such as slopes and road cuttings where there were exposures of the underlying geology and it might be possible to observe any horizons which might contain Stone Age material.

There was no such layer evident in the case of existing pit 128 where the colluvium appears to lie directly on the underlying phyllite. An intermittent layer with ferruginised pebbles, quartz fragments and the occasional quartzite/sandstone pebble was revealed in the road-cutting at proposed pit 127, but none of these appeared to be flaked. No archaeological remains were observed anywhere else in the two affected areas.

The absence of any archaeological material indicates that these areas are of low archaeological heritage significance. No significant impact on such resources is expected if the proposed pit and extension of the existing borrow pit are 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, MR00355/50.0/0.01L (Vidamemoria pit no. 128), and the proposed development of a new borrow pit MR00355/50.3/0.1L (Vidamemoria pit no. 127) in plantation land along the MR00355 to the northwest of Knysna and Rheenendal, Eden District Municipality. Material excavated from the pits will be used for the maintenance of gravel roads in the area. Access to the affected areas will largely be by existing roads and forestry tracks, although one short new access track will be required for pit 127. Rehabilitation will consist of cutting the slopes to the final design profile and stabilising them. The sites will be left to re-vegetate naturally.

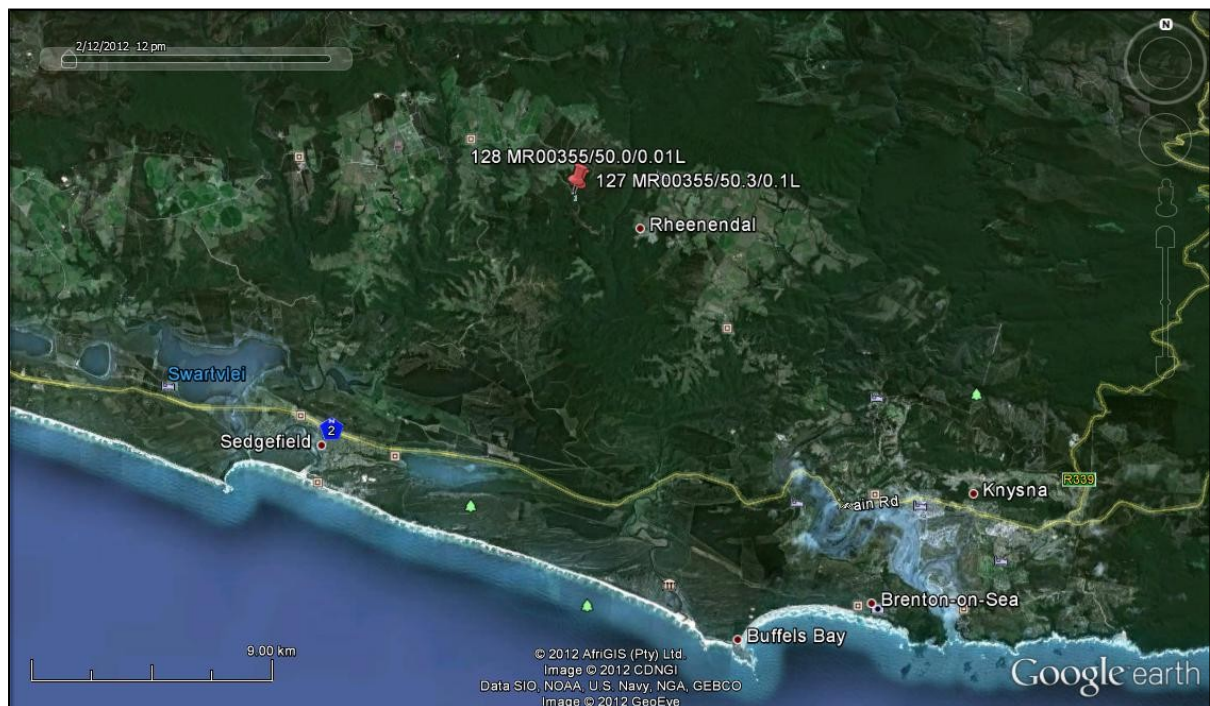


Figure 1: Google earth image showing the location of the proposed extension of an existing borrow pit MR00355/50.0/0.01L (Pit 128), and the development of a new borrow pit MR00355/50.3/0.1L (Pit 127). The relevant 1:50 000 topographical map is 3322DD Karatara.

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 000m², 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 1777-1791 ref. 120327JL27) 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 and extension were undertaken by the author and two assistants on 23 October 2012. Site plans and polygons indicating the affected areas were provided by Aurecon for the Phase 1 survey. Each area was covered on foot and tracks were recorded by a Garmin GPSMAP 62s set on the WGS84 datum (Figure 2). Both sites were extensively photographed.

4.2 Limiting factors

Visibility of archaeological remains on the ground was extremely limited due to the dense vegetation in the area, as well as the ground cover of branch, leaf and bark litter in areas not previously quarried. Only part of the polygon for proposed pit 127 was surveyed by the author as it was felt that this would be representative enough of the entire area. One of the assistants did cover a larger area and reported that visibility of the ground was very poor throughout.

5. DESCRIPTION OF AFFECTED ENVIRONMENT AND SITES

5.1 Archaeological background

The most relevant impact study, partly conducted in a similar context in the foothills of the Outeniqua mountain range, is the Scoping Heritage Impact Assessment of Farm Hoogekraal 182 (Hart & Halkett, 2003) located some 14 km to the west of proposed pits 127 and 128. The Hoogekraal study area lies adjacent to and inland of the Wilderness Lakes National Park and includes the eastern shore of the Swartvlei inlet, the escarpment and a strip of land extending some 6 km inland.

Most of the observations concerned colonial period heritage sites, particularly the remains of dwelling houses relating to the 19th century agricultural activities, as well as a hops processing factory from the 1960s. A hedge and boundary wall, which may date to the late 18th century, were also recorded. No Middle Stone Age (MSA) or Later Stone Age (LSA) material was observed. It was noted that it was partly due to the lack of surface visibility but also to the apparent paucity of caves and rock shelters (Hart & Halkett 2003).

A single occurrence of ESA material was observed in an area where the white sandy topsoil had been removed from the underlying red stony sediments. Several artefacts were

exposed on a cutting behind a dam and along its earth wall. They included a number of large quartzite flakes, a discoid core and a “pick-like sub-classic hand axe”. Hart & Halkett (2003) noted that this exposed ESA scatter may be typical of sub-surface conditions in the area - the depositional environment created by past indigenous forest cover may have buried old land surfaces and any associated archaeological remains. It is therefore possible that stone artefacts may only be exposed where the topsoil has been eroded or removed.

5.2 Affected environment

The general environment in which the proposed pit 127 and the expansion of pit 128 are situated consists of steep-sided hills intersected by deeply-incised river valleys. Pits 128 and 127, which lie within 60m of each other, are situated northeast and east of the MR00355 respectively (Figures 2 and 4). The immediate area of the sites consists of pine plantations and previous plantations which have now been invaded by stands of alien black wattle and blue gum trees, with an understorey of indigenous shrubs (Figures 7 to 10). One small patch of indigenous fynbos vegetation occurs (Figure 5). Small perennial, headwater streams of the Klein Homtini River lie close to the affected area, particularly on the north-eastern and western sides of the MR00355. Reddish-brown silty sand colluvium overlies cleaved, weathered phyllite of the Kaaimans Group (Figures 6, 12 to 15).



Figure 2: Google earth image showing the polygons indicating the proposed extension of Pit 128 and the proposed Pit127 with the tracks of the field survey. Except for the small patch of fynbos vegetation indicated, the rest of the vegetation consists of plantations with alien pine, black wattle and blue gum trees. Please note that the straight blue lines do not indicate survey tracks.

5.2(a) Borrow pit MR00355/50.0/0.01L (Vidamemoria pit no. 128)

Approximate area: Expropriation area 7370m², borrow pit area 4150m²

Location: S 33° 56' 6.54" E 22° 54' 10.16"

Farm name and number: Not clear, possibly Roodekraal 184.

The existing pit lies on a west-facing slope and consists of a water-filled depression at the northern end (Figures 4 and 6) and exposed working faces along the north-eastern and eastern parts of the site (Figures 3 and 6). Previously excavated topsoil has been heaped up around the north-eastern margins of the pit (Figure 6) and blocks off the pine plantation to the north (Figure 7). Visibility of archaeological material on the ground was poor in this latter area. The small patch of fynbos at the top of the eastern slope is so dense that it was impossible to move through it (Figures 3 and 5). Visibility was however good in the disturbed major part of the site and it was possible to look for sections where gravel surfaces with stone artefacts might be exposed.



Figure 3: Pit 128 – View towards the northeast showing the southern part of the existing quarry with dense fynbos vegetation above the working face. The northern part with the water-filled pit lies at the foot of the trees in the background.



Figures 4 and 5: Pit 128 – view towards the south showing the water-filled pit, the slope with fynbos vegetation and the location of proposed pit 127; view towards the south of the dense fynbos vegetation in the south-eastern part of the affected area.



Figures 6 and 7: Pit 128 – view towards the north showing part of the water-filled pit and the heaps of soil on top of the original land surface on the northern edge of the pit; view towards the south of the pine plantation to the north of the pit.

5.2(b) Borrow pit MR00355/50.3/0.1L (Vidamemoria pit no. 127)

Approximate area: Expropriation area 21 150m², borrow pit area 14 580m²

Location: S 33° 56' 10.38" E 22° 54' 13.45"

Farm name and number: Not clear, possibly Roodekraal 184.

The proposed pit area is presently covered by dense vegetation - black wattle and blue gum trees, with an understorey of indigenous bushes such as *Metalasia* sp., *Halleria lucida* and *Agathosma* sp. A thick layer of branch, leaf and bark litter obscures the surface of the ground throughout the entire area and results in very poor visibility of any archaeological material which may be present (Figures 9, 10 and 11). The only area where visibility is good is the road-cutting adjacent to the MR00355 (Figures 8 and 12).



Figure 8: Pit 127 – view towards the southeast with the road cutting along the MR00355 evident below the forested surface.



Figures 9 and 10: Pit 127 – views towards the northeast and east respectively showing the understorey of indigenous bushes with branch, leaf and bark litter amongst the black wattles.



Figures 11 and 12: Pit 127 – detail of the litter obscuring the surface of the affected area; view towards the east of part of the road cutting.



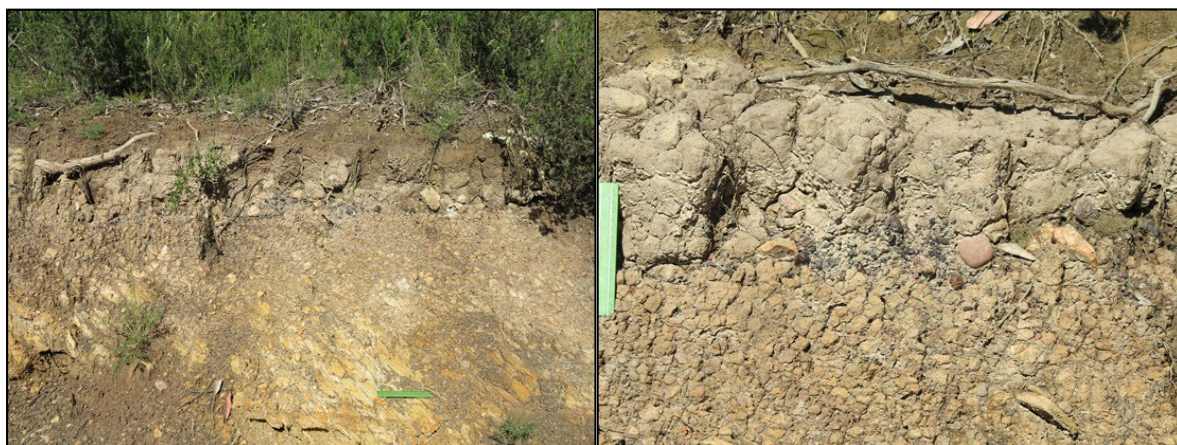
5.3. Results of the survey

Special attention was paid to areas such as slopes and road cuttings where there were exposures of the underlying geology and it might be possible to observe any horizons which might contain Stone Age material, such as that noted in the study by Hart & Halkett (2003). There was no such layer evident in the case of existing pit 128 where the colluvium appears to lie directly on the underlying phyllite.



Figures 13 and 14: Pit 128 – sections showing the reddish-brown colluvium overlying phyllite of the Kaaimans Group along the northern and eastern slopes of the existing pit respectively. The upper brown soil in the photo on the left is from the dump. The ruler is about 15cm in length.

The road-cutting along the western border of proposed pit 127 (Figures 8 and 12) revealed an intermittent layer with ferruginised pebbles, quartz fragments and the occasional quartzite/sandstone pebble (Figures 15 and 16). None of these appeared to be flaked. No other pebbles or cobbles were observed on the surface of the affected area



Figures 15 and 16: Pit 127 – detail of sections of the road cutting showing the layer with ferruginised pebbles, quartz fragments and the occasional quartzite pebble lying between the reddish-brown colluvium and weathered phyllite.

No archaeological remains were observed anywhere else in the two affected areas.

6. SIGNIFICANCE AND RECOMMENDATIONS

The absence of any archaeological material indicates that the affected areas are of low archaeological heritage significance. No significant impact on such resources is expected if the proposed pit and extension of the existing borrow pit are 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

Hart, T.J. & Halkett, D.J. 2003. Scoping Heritage Impact Assessment of Farm Hoogekraal 182 Wilderness Lakes Area, South Western Cape. Unpublished report prepared for Hilland Associates. Archaeology Contracts Office.

8. ACKNOWLEDGEMENTS

Ms Quahnita Samie of Vidamemoria Heritage Consultants is thanked for commissioning this study and providing background information. The assistance of Hedi and Erwin Stummer in the field is gratefully acknowledged.