

**ARCHAEOLOGICAL IMPACT ASSESSMENT
OF THE PROPOSED EXTENSION OF A BORROW PIT ON
PORTION 12 SCHERPENHEUVEL 481 (KENMOOR),
BREEDE VALLEY 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) for the proposed extraction of material from an existing borrow pit, DR1380/16.0/R/50/A/W7 (Vidamemoria pit no. 123), and from the existing gravel road DR1380 in the Breede Valley District of the Western Cape. The affected area lies approximately 18 km to the southeast of Worcester and 14 km to the east of the Brandvlei Dam. The closest bend of the Breede River is situated approximately 1 km to the southeast of the site. Material excavated from the proposed extension will be used for the re-gravelling of the DR1380. It is proposed to rehabilitate the portion along the road where the excavation of gravel has occurred.

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 20 August 2012.

The existing, large hillside quarry, which is elevated above the alluvial flood plain of the Breede River, is known for its palaeontological heritage. The proposed extension concerns the strip of land adjacent to the road on the southern side of the DR1380. Much of this land has already been quarried and partly rehabilitated, so only part of the extension is undisturbed. Fewer than 10 isolated, mostly weathered MSA and LSA stone artefacts were observed at the bottom of a slope in the eastern portion.

The disturbed, slope-wash context of the stone artefacts at the proposed extension site indicates that the material is in a secondary context and is therefore of low archaeological heritage significance. No significant impact on such resources is expected if the proposed extension is developed further. 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 Nadeson Consulting Services to undertake an Archaeological Impact Assessment (AIA) for the proposed extraction of material from an existing borrow pit, DR1380/16.0/R/50/A/W7 (Vidamemoria pit no. 123), and from the existing gravel road DR1380 in the Breede Valley District of the Western Cape. The affected area lies approximately 18 km to the southeast of Worcester, 14 km to the east of the Brandvlei Dam and some 28 km to the west of Robertson (Figure 1). The Breede River is situated to the south of Pit 123, with the nearest bend in the river about 1 km to the southeast of the site. Material excavated from the proposed extension will be used for the re-gravelling of the DR1380. It is proposed to rehabilitate the portion along the road where the excavation of gravel has occurred.

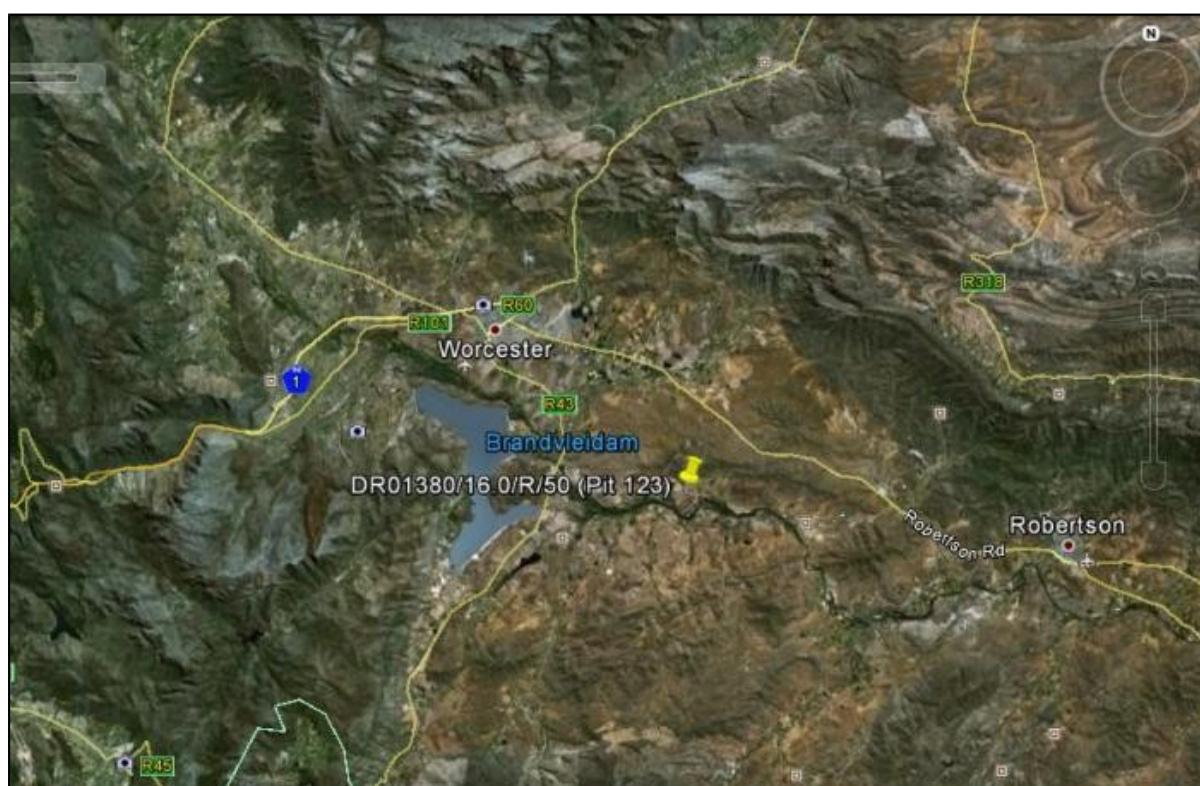


Figure 1: Google earth image showing the location of the proposed extension of an existing borrow pit DR1380/16.0/R/50/A/W7 (Vidamemoria pit no. 123). Worcester and the Brandvlei Dam lie approximately 18 km to the northwest and 14 km to the west of the affected area respectively. The closest bend of the Breede River is situated approximately 1 km to the southeast. The relevant 1:50 000 topographical map is 3319DC Langvlei.

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 number 120130JL08) 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 by the author on 20 August 2012. No site plan or polygon were provided for the Phase 1 survey as the affected area consists of the existing quarry and a portion along the DR1380. The area was covered on foot and tracks were recorded by a Garmin GPSMAP 62s set on the WGS84 datum (Figure 2). The site and finds were extensively photographed.

4.2 Limiting factors

Visibility of archaeological remains on the ground was good.

5. DESCRIPTION OF AFFECTED ENVIRONMENT AND SITES

5.1 Archaeological background:

Archaeological impact studies have provided information on the distribution and categories of Early Stone Age (ESA), Middle Stone Age (MSA), Later Stone Age (LSA) and historical remains which may be encountered in the Worcester to Robertson region, for example, Hart (2003), Kaplan (2008), Lanham (2006), Orton (2004, 2009) and Yates (2006).

Although it was expected that ESA material might have been present on the boulder-strewn flood plain of the Hex and Breede Rivers, no secure observations of such material were made during a heritage impact assessment of a proposed effluent disposal site and pipeline on the eastern side of Worcester (Hart 2003). Hart pointed out that there is the possibility of human burials in alluvial areas where there's enough soil depth to dig a grave. An initial heritage impact assessment for the proposed upgrade of the Bacchus Substation on the alluvial floodplain some 20 km south of Worcester (and south of the Brandvlei Dam) revealed only two quartzite artefacts, probably ESA (Orton 2004). In his report of the survey of the proposed sand mine on the Farm Modder Rivier, to the south of the Brandvlei Dam, Kaplan (2008) mentions that studies undertaken at Quaggaskloof, adjacent to the Brandvlei

Dam, have revealed ESA, MSA and LSA artefacts in disturbed contexts, as well as one rock painting site. During the Modder Rivier survey three quartzite MSA flakes, one quartzite disc core and one large quartzite ESA flake were noted. No archaeological heritage remains other than a walled rock shelter, probably of recent date, were observed during a survey of the proposed extension of the Brewelskloof Quarry approximately 6 km to the north of Worcester by Yates (2006). It was felt that the absence of any archaeological material in the rock shelter, as well as the absence of evidence for the use of a nearby source of flakable stone, implied that the area was only used ephemerally or for purposes other than residence and industry by indigenous people.

Impact studies done closer to Robertson reveal a similar pattern of a sparse presence of stone artefacts. For example, Orton observed four small ESA or possibly MSA flakes during a survey for the proposed new Uitspan substation at Robertson (2009). Isolated, mainly quartzite ESA artefacts and one silcrete re-worked flake of MSA-LSA origin were noted in a study of three potential landfill sites in the Robertson/Bonnievale region (Lanham 2006).

5.2 Borrow pit DR1380/16.0/R/50/A/W7 (Vidamemoria pit no. 123)

Approximate area: 520m x 15m

Location: S 33° 45' 23.92" E 19° 35' 12.27"

Farm name and number: Portion 12 Scherpenheuvel 481 (Kenmoor)

Environment: The affected area consists of the existing, large hillside quarry and the strip of land adjacent to the road on the southern side of the DR1380 which runs in a roughly east-west direction (Figure 2). A fence which is parallel to the road marks the southern extent of the proposed extension along most of the affected area. The present quarry has been used for many years and is well known for its palaeontological interest. Fossils of insects, *Mesosaurus* and *Notocaris* have been observed in the very weathered, laminated mudrocks of the Whitehill Formation of the Ecca Group (J. Almond, pers. comm.). The underlying Prince Albert Formation crops out on the southern side of the road and is overlain by gravelly colluvium. Although the Breede River is not far away, the terrain of the proposed pit extension lies elevated above the alluvial flood plain. It appears that extensive excavating of gravel has already taken place along a portion of the road as most of the area was disturbed and some of it partly rehabilitated (Figures 3, 5 & 6). Only a narrow strip of vegetation was left in some areas along the fence (Figure 6) and at the eastern end of the affected area where the hill-slope has not been fenced off (Figures 4 & 7). The remaining vegetation consists of small karoo bushes and euphorbias.

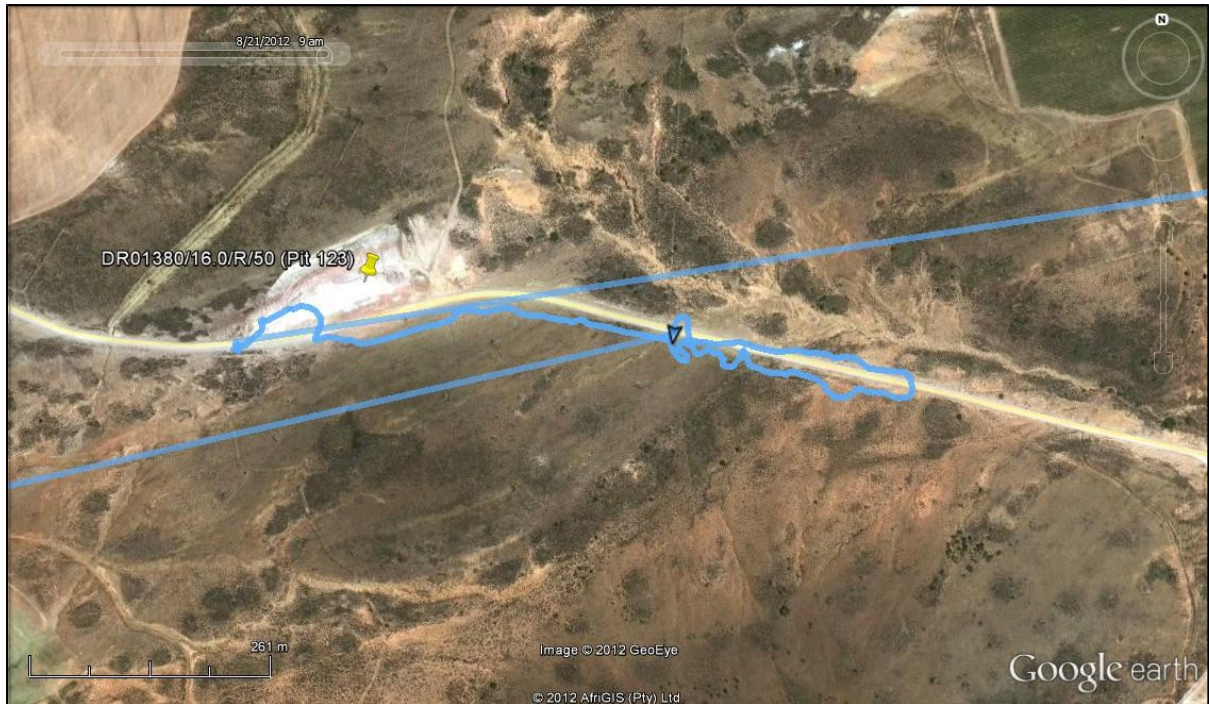


Figure 2: Google earth image showing the proposed extension of the existing borrow pit 123 and tracks of the field survey. No polygon was provided. Please note that the straight blue lines do not indicate survey tracks.



Figure 3: View from the existing quarry towards the western part of the affected area on the southern side of the DR1380. View towards the southeast.



Figure 4: View towards the west showing the affected strip along the southern side of the DR 1380. The slope on the left side of the photo is the eastern portion where a few, isolated artefacts were observed. The existing quarry lies beyond the rise in the road, in the top right corner of the image.

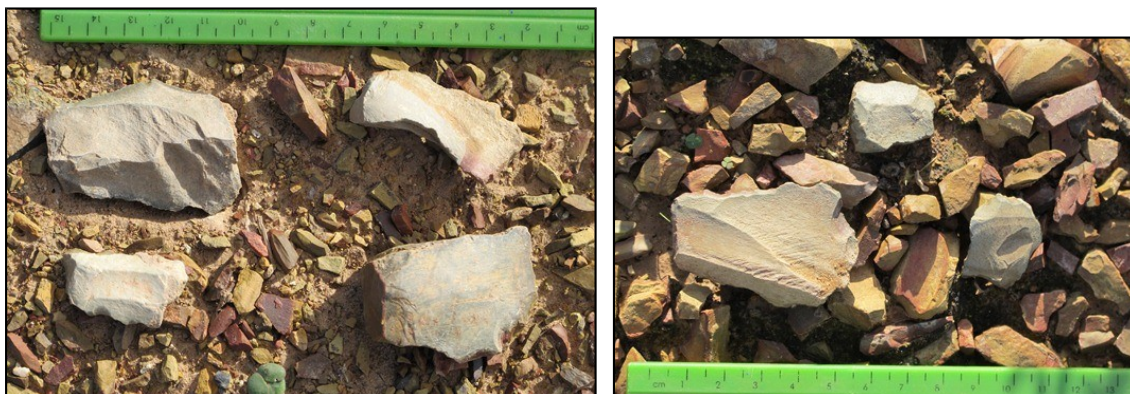


Figure 5: View along the partly-rehabilitated affected area towards the east. The unfenced slope at the eastern end lies beyond the bend in the road.



Figures 6 and 7: View towards the east showing the undisturbed strip between the fence and the partly-rehabilitated area; view towards the northwest with the existing quarry in the top left corner of the photo. This last photo was taken from the unfenced slope in the eastern part of the affected area.

Results of the survey: The existing quarry was not surveyed as no archaeological remains could be expected in such a highly disturbed area. Both the band between the southern margin of the road and the fence, as well as the wider, unfenced area at the eastern end of the affected area were covered by the survey. Fewer than ten isolated MSA and LSA stone artefacts were observed in the less-disturbed eastern part (Figures 4 & 7). With the exception of a fresh-looking quartzite flake (Figure 10), the artefacts are mostly very weathered (Figures 8 & 9) so identification of the raw material used is uncertain. It seems probable that most of them could be manufactured from chert as this would be present in the Lower Ecca Group rocks of the region. The most likely provenance of high-quality cherty raw material for artefacts is the Matjiesfontein Member (chert marker bed), within the lower part of the Collingham Formation, which crops out less than 300 m to the north of the proposed extension (J. Almond, pers. comm.). The artefacts observed all occur in a disturbed context as they appear to have been washed down the slope. There was evidence of water runoff down the slope to the road.



Figures 8 and 9: Examples of the weathered MSA and LSA artefacts, possibly mostly made of Matjiesfontein chert (except for the two on the right of Figure 8). The scale is in cm.



Figure 10: Single quartzite flake. The scale is in cm.

6. SIGNIFICANCE AND RECOMMENDATIONS

The disturbed, slope-wash context of the stone artefacts at the proposed site for Pit 123 indicates that the material is in a secondary context and is therefore of low archaeological heritage significance. No significant impact on such resources is expected if the proposed extension is developed further. 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. 2003. Heritage Impact Assessment of a Proposed Effluent Disposal Site, Worcester. Unpublished report prepared for SRK Consulting. Archaeology Contracts Office.

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8. ACKNOWLEDGEMENTS

Ms Quahnita Samie of Vidamemoria Heritage Consultants is thanked for commissioning this study and providing background information. Dr John Almond, Natura Viva cc, made helpful comments on the draft. J. Orton kindly provided a copy of the Uitspan substation report. The other reports were obtained from SAHRA.