ARCHAEOLOGICAL IMPACT ASSESSMENT

OF THE PROPOSED EXTENSION OF A BORROW PIT ON WELGUNST 394, NEAR CALITZDORP,

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) of the proposed extension of borrow pit DR01674/4.5/0.05L (Vidamemoria pit no. 282) near Calitzdorp in the Oudtshoorn District of the Eden District Municipality, Western Cape. Material excavated from the pit will be used for the maintenance of gravel roads in this area of the Little Karoo. Access to the proposed extension will be by an existing track from the DR01674 road. It is proposed that the worked pit faces be finished smooth and all possible surfaces be covered with any available topsoil. The landowner has also requested that the existing pit be rehabilitated while additional material is being removed.

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 proposed extension to Pit 282 is situated at the foot of the Gamkaberg on the floodplain of the Gamka River and lies within a much larger polygon. The field assessment was conducted on foot on 22 April 2014 by the author and two assistants. The visibility of archaeological material on the ground was generally good.

The survey revealed that the rectangular structure visible on Google earth images is a modern kraal made of wire fencing rather than an historical stone structure. Some 80 stone artefacts (flaked cobbles, flakes, blades, chunks and cores), mostly manufactured from quartzite cobbles from the Gamka River, were observed as a dispersed background scatter in the alluvial gravels of the flat-lying areas. Most of the cobbles and clasts observed in the gravels over a large area were not flaked. Some of the artefacts appear to originate from the orange-brown semi-consolidated alluvium underlying the finer silty alluvium seen at surface within most of the polygon. The majority of the artefacts appear to be of ESA/MSA origin, with only a few diagnostic broken MSA blades and a MSA point. Several LSA artefacts were also noted. No organic remains, pre-colonial pottery or stone features indicating possible burials were observed.

Although there are likely to be more stone artefacts below the surface of the proposed extension, the relatively low density of mixed ESA/MSA material, with some LSA artefacts, suggests that the archaeological heritage remains are mainly in a secondary context. Due to the fact that there have not been many archaeological studies in the vicinity of Pit 282, the proposed pit extension is graded as having low to medium, rather than negligible, archaeological heritage significance. However, these archaeological remains are not considered to be of sufficient scientific value to warrant mitigation. Although there will be an impact on such resources if the proposed pit extension is developed, no further archaeological studies or mitigation are recommended

If any human remains are found during the development of the proposed extension, 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 borrow pit DR01674/4.5/0.05L (Vidamemoria pit no. 282) near Calitzdorp in the Oudtshoorn District of the Eden District Municipality, Western Cape (Figure 1). Material excavated from the pit will be used for the maintenance of gravel roads in this area of the Little Karoo. Access to the proposed extension will be by an existing track from the DR01674 road. It is proposed that the worked pit faces be finished smooth and all possible surfaces be covered with any available topsoil. The landowner has also requested that the existing pit be rehabilitated while additional material is being removed.

Figure 1: Google earth image showing the location of the proposed extension to borrow pit DR01674/4.5/0.05L (Vidamemoria pit no. 282), the Gamkaberg and Rooiberg and the cultivated floodplains of the Gamka and Olifants Rivers. Oudtshoorn lies some 44 km to the east of Pit 282. The relevant 1:50 000 topographical map is 3321DA Calitzdorp.

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 131011GT27) 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 by the author and two assistants on 22 April 2014. 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). Occurrences of stone artefacts were marked by waypoints which were unfortunately not saved by the device. It was however possible to retrieve the tracks. The site was extensively photographed.

4.2 Limiting factors

The visibility of archaeological material on the ground was generally good.

5. DESCRIPTION OF AFFECTED ENVIRONMENT AND SITE

5.1 Archaeological background:

No Archaeological Impact Assessments are indicated in the immediate vicinity of the proposed borrow pit on the map of impact studies recorded on the SAHRA Archaeology, Palaeontology and Meteorite Unit Report Mapping Project DVD (2009). A couple of impact studies have however been undertaken to the north of Calitzdorp at the proposed Gamka Private Wilderness Reserve by Kaplan (2005) and Halkett (2006). In addition to thinly dispersed occurrences of quartzite Early Stone Age (ESA) and Middle Stone Age (MSA) artefacts, a Later Stone Age (LSA) site was recorded. The material observed consists of flakes, blades, chunks, cores, hammerstones, upper and lower grindstones, a large ostrich eggshell bead, a couple of potsherds and a single fragment of marine shell (Kaplan 2005, Halkett 2006). The stone tools were mostly made of quartz, dolerite and quartzite, but some silcrete and chalcedony were seen. Halkett also noted the presence of three stone features which could indicate colonial age graves. Occasional quartzite stone artefacts, generally of MSA character, were observed by Orton during a field visit to the site of the proposed Gamka substation in Calitzdorp (2012, pers. comm.).

Further afield, a borrow pit survey over 40 km to the east of the present study has recorded the presence of a few quartzite stone artefacts of indeterminate age (Tusenius 2013a), whereas a low density of MSA and LSA material made of a variety of raw materials - quartzite, chert, silcrete and hornfels - was observed near another borrow pit at the western extremity of the Rooiberg, some 43 km to the west (Tusenius 2013b). A possible tip of a

crude ESA biface, a few small pieces of ostrich eggshell, two fragments of pre-colonial pottery, a few pieces of glass and a metal horseshoe were also noted at the site. A cemetery of farm-workers' graves was recorded during the first survey (Tusenius 2013a).

Besides these impact assessments, excavations of terminal Pleistocene and Holocene LSA deposits, covering parts of the last 22 000 years, were undertaken at Buffelskloof Rock Shelter, approximately 20 km to the northeast of Pit 282 (Opperman 1978). Stone artefacts typical of the Albany and Wilton industries, as well as faunal remains, ostrich eggshell fragments including decorated pieces and beads, sparse plant material, one wooden artefact, nine bone artefacts and two marine shell pendants were recorded.

5.2 Borrow pit DR01674/4.5/0.05L (Vidamemoria pit no. 282)

Approximate area: 450m x 100m for the proposed extension, within a larger polygon
Location: S 33° 38' 19.22" E 21° 43' 24.21"
Farm name and number: Welgunst 394

Environment: The proposed extension lies to the west of an existing borrow pit located to the southeast of the DR1674 road and close to its junction with the DR1688 road (Figures 2 and 3). The affected area is situated on the floodplain of the Gamka River, at the foot of a hillslope where the Gamkaberg and Rooiberg meet (Figures 4 - 7, 10, 11). The Gamka River, which flows through Calitzdorp, lies approximately 1 km to the west of Pit 282 (Figure 1). The polygon is an L-shaped area of about 750m x 600m at its greatest extent, but the actual proposed pit extension is an irregular rectangular area in the southern half of the polygon. The latter lies partly on the flat-lying area between the road and hill, and partly on the lower slopes of the hill (Figures 2, 5, 7). An earth dam and two kraals are situated to the north and southeast of the existing pit respectively (Figures 2, 3, 8, 10, 13). A small watercourse runs through the dam from the east towards the west (Figures 2, 8, 9, 11). The land is currently used for grazing.

Coarse alluvial gravels overlain by a veneer of fine silty alluvium with finer quartz clasts cover the flat-lying area, whereas sandstone colluvium occurs on the hill-slopes (Figures 2, 5 - 14). All overlie Bokkeveld mudrocks. The northern part of the polygon, also flat-lying, is mostly covered by alluvium (Figure 12). The vegetation consists of small bushes such as *Pentzia* sp and weedy succulents, with *Acacia karroo* trees near the dam and along the watercourse.

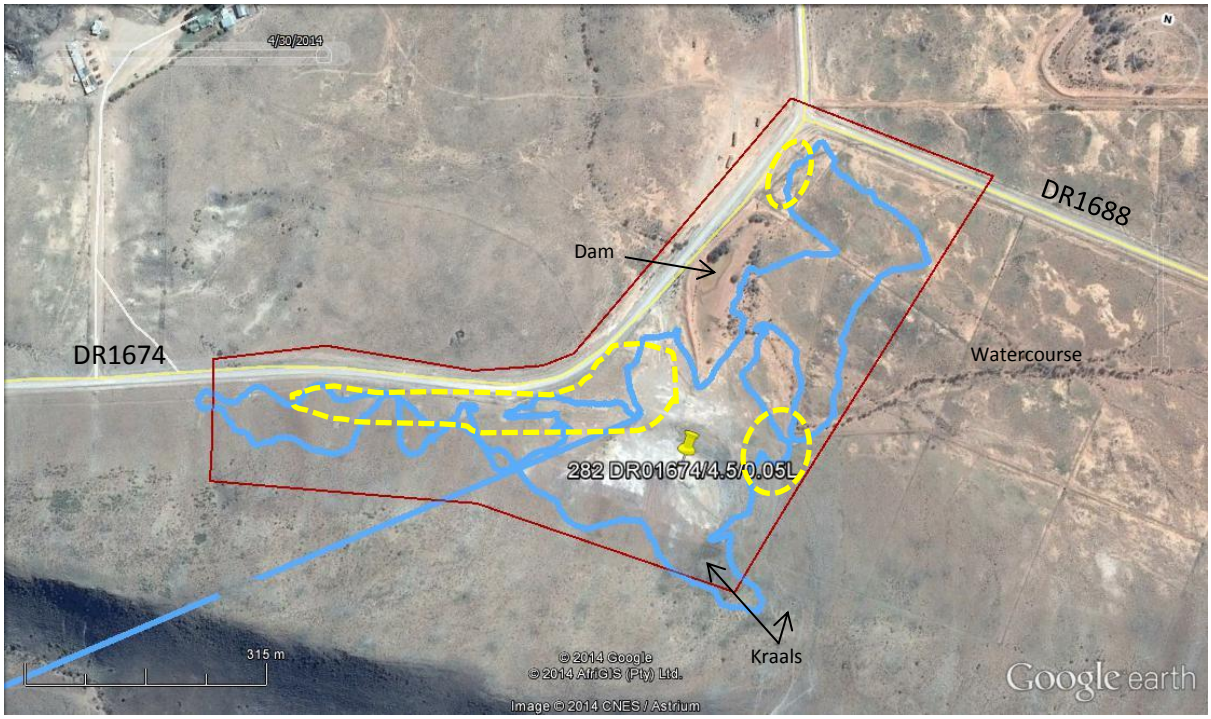

Figure 2: Google earth image showing the proposed extension to borrow pit 282 near the junction of the DR1674 and DR1688, the tracks of the field survey, as well as the position of the existing pit (indicated by the yellow pin), kraals, dam and watercourse. The approximate areas where most of the stone artefacts were observed are delineated by the yellow dashes. Please note that the straight blue line does not indicate a survey track.

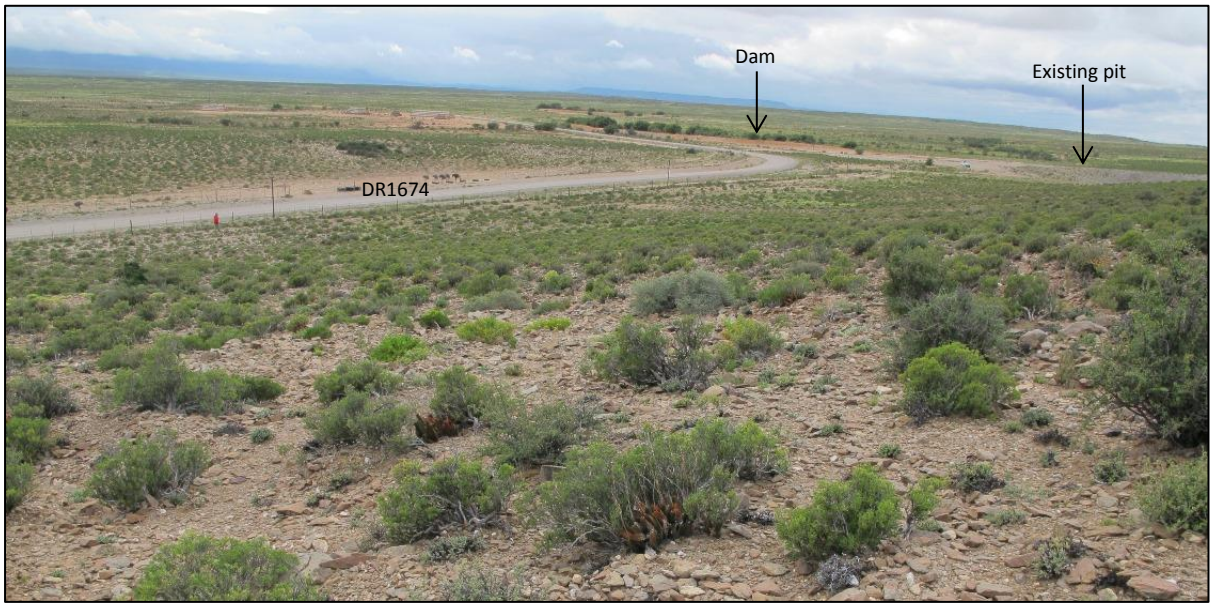

Figure 3: View towards the northeast with the proposed borrow pit extension in the foreground and the remainder of the polygon beyond the existing pit and dam in the top right of the image.

Figure 4: View towards the southwest of the existing pit at the foot of the hill and the alluvium of the northern part of the polygon visible in the foreground.

Figure 5: View towards the west showing the area of the proposed extension. Although the ground in the foreground has been disturbed by the digging of a trench, the coarse alluvial gravels are evident.

Figure 6: View towards the south of the existing pit showing the coarse alluvial gravels in the foreground and the over-lying veneer of fine silty alluvium with finer quartz clasts in the middle ground. The green ruler in the bottom left corner of the image is about 15cm in length.

Figure 7 and 8: View towards the west of the colluvial gravels in the extension area; view towards the northeast of the fine silty alluvium with the dam wall in the background.

Figure 9: View towards the north of the northern part of the polygon with the edge of the existing pit, dam and small tree-lined watercourse evident in the image.

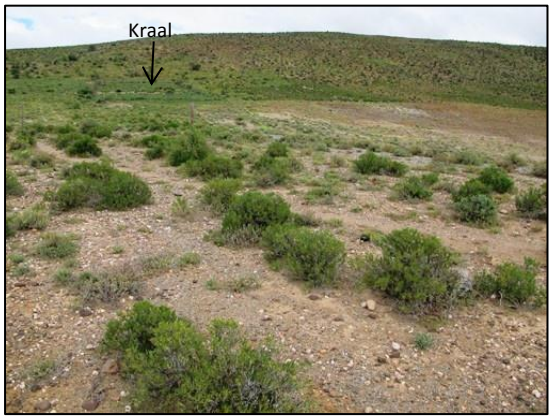

Figure 10: View towards the south showing the alluvial gravels, partly covered by silty alluvium, in the foreground and the position of the kraal in relation to the existing pit; Figure 11: View towards the south from the north-western part of the polygon with exposed alluvial gravels visible in the foreground.

Figure 12: View towards the northwest of the alluvium affected by sheet-wash in the northern part of the polygon.

Results of the survey: The entire polygon was covered but particular attention was paid to the lower slopes of the proposed pit expansion area. The survey revealed that the rectangular structure visible on Google earth images is a modern kraal made of wire fencing rather than an historical stone structure (Figure 13). A similar, smaller, square kraal lies some 90m to the southeast of this (Figure 2). With the exception of fences and the dam, no other structures were observed. Material remains such as a few glass fragments (for example in Figure 8), pieces of wire, a broken horseshoe and a sherd of a dinner plate were noted in the affected area and are probably of modern origin.

Stone artefacts (Figures 14 – 24) were observed as a dispersed background scatter in the alluvial gravels of the flat-lying areas (indicated by the yellow shapes in Figure 2). Some of these appear to originate from the orange-brown semi-consolidated alluvium underlying the finer silty alluvium in the proposed extension area (Figure 14). Sheetwash has exposed some of the gravels in the north-western corner of the polygon and here too several artefacts were noted amongst the cobbles of the Gamka floodplain. The stone artefacts recorded include flaked cobbles, flakes, blades, chunks and cores. Most of them were fairly crudely manufactured from locally available quartzite, mostly in the form of cobbles from the Gamka River. The cortex of the cobbles is clearly visible on many of the chunks and cores (Figures 16, 20, 21, 24). Other raw materials noted were hornfels, possible chert and fairly coarse grey rock which may derive from the local Cango Group (John Almond, pers. comm.). Quartz is common in the gravels but, with one or two exceptions, did not generally appear to have been flaked. While the majority of the artefacts appear to be of ESA/MSA origin only a few are clearly diagnostic, for example several broken MSA blades and a MSA point (Figures 16, 19, 21 – 23). A few LSA artefacts, including a possible hornfels end-scraper and chert flake (Figure 24), were seen in the proposed extension area. No organic remains, pre-colonial pottery or stone features indicating possible burials were observed.

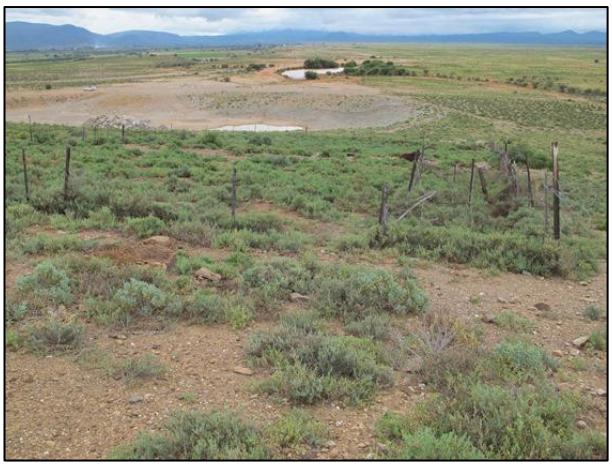

Figure 13: View towards the north with the fence kraal in the foreground and the existing pit, dam and watercourse beyond. Figure 14: Detail of the older semi-consolidated alluvium which may be the source of some of the artefacts. The ruler is about 15cm in length.

Figure 15: Unifacially flaked quartzite artefact. The scale is in cm. Figure 16: Examples of flaked quartzite of various colours with a MSA blade bottom right. The ruler is about 15cm in length.

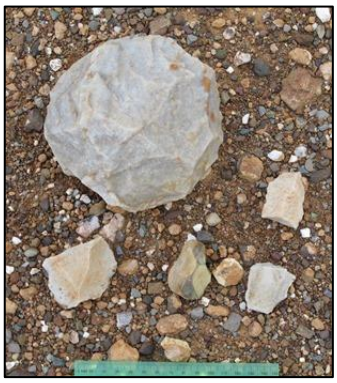

Figure 17: Flaked piece of possible Cango Group rock with subsequent formation of calcrete on the chunk. The scale is in cm. Figure 18: Hornfels (top and bottom left), piece of glass (far right) amongst quartzite artefacts. Figure 19: Quartzite artefacts including a core and blade fragments. The ruler is about 15cm in length.

Figure 20: Quartzite flake and flaked cobble. Figure 21: Quartzite artefacts including MSA blades. The ruler is about 15cm in length.

Figure 22: MSA point observed in the alluvium in the northern part of the polygon. Figure 23: Quartzite core, broken MSA flake and chert flake. Figure 24: LSA artefacts - possible end-scraper made of hornfels and chert flake. The scale is in cm.

6. SIGNIFICANCE AND RECOMMENDATIONS

Although at least 80 stone artefacts were observed, mainly amongst the coarse alluvial gravels between the foot of the hill and the dam (Figure 2), most of the cobbles and clasts observed were not flaked or artefactual. Given the large area surveyed, this would indicate a low density background scatter of archaeological remains. Whilst some of the ESA/MSA material may originate from the semi-consolidated alluvium underlying the gravels, the mixture of ESA, MSA and LSA artefacts suggests that some of the archaeological remains have probably been washed into the area by flooding and sheet erosion, a not uncommon occurrence in this part of the Little Karoo.

Although the exposure of Stone Age material below the alluvium indicates that there are likely to be more archaeological remains below the surface of the proposed extension, the relatively low density of mixed ESA/MSA material, with some LSA artefacts, suggests that the archaeological heritage remains are mainly in a secondary context. Due to the fact that there have not been many archaeological studies in the vicinity of Pit 282, the proposed pit extension is graded as having low to medium, rather than negligible, archaeological heritage significance.

However, these archaeological remains are not considered to be of sufficient scientific value to warrant mitigation. Although there will be an impact on such resources if the proposed pit extension is developed, no further archaeological studies or mitigation are recommended.

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

7. REFERENCES

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