ARCHAEOLOGICAL IMPACT ASSESSMENT OF A PROPOSED BORROW PIT AT RIETKUIL 307, BEAUFORT WEST, CENTRAL KAROO 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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MARCH 2012

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 site of a new borrow pit DR2308/36.6/0.05L (Vidamemoria pit number 35), approximately 42 km to the west of Beaufort West, Central Karoo District Municipality. Dr L Webley of ACO Associates acted as the Principal Investigator supervising the study done by M Tusenius of Natura Viva cc.

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 17 February 2012.

The proposed borrow pit is located in a wide, very shallow, headwater valley of an ephemeral water course and is affected by sheet wash. The low density scatters of mixed MSA and LSA artefacts which were observed are in a secondary context and are therefore of low archaeological heritage significance.

No dolerite boulders suitable for rock engravings were found in or near the affected area of the proposed pit.

No significant impact on archaeological resources is expected if the proposed borrow pit is developed. No further archaeological studies or mitigation are recommended for this project.

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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 site of a new borrow pit DR2308/36.6/0.05L (Vidamemoria pit number 35) in the Beaufort West region of the Central Karoo District Municipality. The site lies approximately 42 km to the west of Beaufort West. Material excavated from the pit will be used for the re-gravelling of the adjoining DR02308. No new roads would have to be constructed as access can be gained via existing roads and tracks. The worked-out borrow pit will be used as a water retention facility (dam) to supply water for livestock.

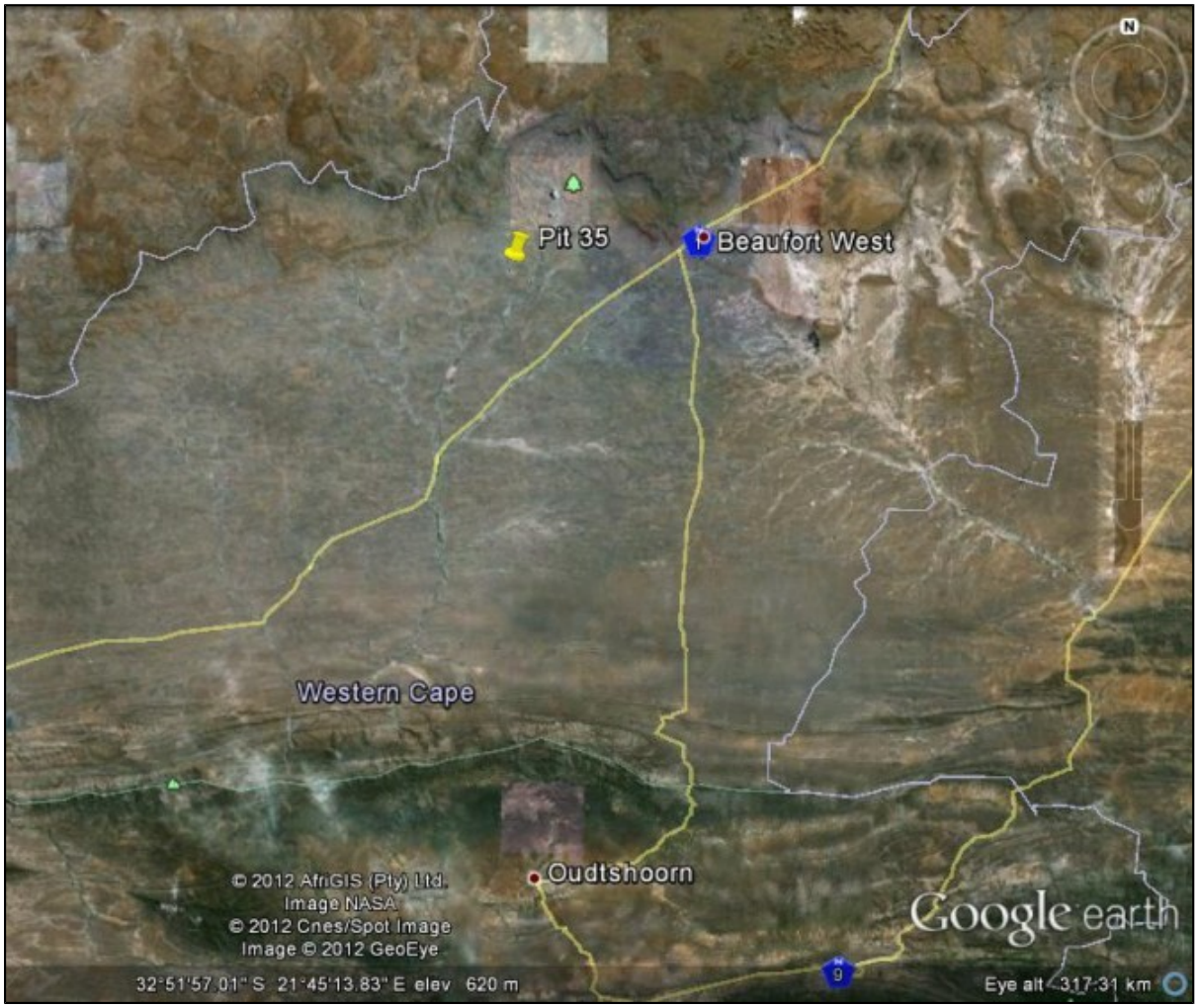


Figure 1: Google earth image showing the location of the proposed new borrow pit DR2308/36.6/0.05L (Vidamemoria pit number 35) approximately 42 km to the west of Beaufort West. The relevant 1:50 000 topographical map is 3222AC Paalhuis.

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 110928JB27) 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. The report was to be overseen by Dr Lita Webley of ACO Associates as the Principal Investigator.

4. STUDY APPROACH

4.1 Methods

Fieldwork was undertaken by the author on 17 February 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 60CSx set on the WGS84 datum (Figure 2). Concentrations of material and some of the more interesting isolated specimens were recorded as waypoints and photographed.

4.2 Limiting factors

Visibility of archaeological remains on the ground was good as the vegetation is sparse or non-existent.

5. DESCRIPTION OF AFFECTED ENVIRONMENT AND SITES

5.1 Archaeological background:

With the notable exception of the research done by Sampson in the Seacow Valley (1985), the rich archaeological heritage of the Karoo has not been systematically studied. Recent Archaeological Impact Assessments, for example, Kaplan (2002), Nilssen (2011), Orton (2010) and PGS (2012) have made a contribution to knowledge about the distribution of Stone Age archaeology in the area around Beaufort West. Sites and scatters of Early, Middle and Late Stone Age (ESA, MSA and LSA) material have been recorded, as well as pastoralist occurences, historical sites, rock paintings and engravings.

A few smaller impact studies have been done in the general vicinity of the proposed borrow pit site, i.e. the area between Beaufort West and Leeu Gamka, approximately 73 km to the

southwest of the former. No archaeological material was found at Leeu Gamka during a survey done by Van Pletzen-Vos and Rust (2010), nor was any observed by Deacon (2005) in a borrow pit study at Grootfontein, approximately 20 km to the northeast of pit 35. Dreyer, however, found scattered and isolated ESA and LSA material close by, at the farms Grootfontein and Bushmaskop (2005). A desktop study of the region surrounding the pit 35 site identified various types of archaeological sites recorded in the data base of Iziko: South African Museum (Patrick and Manhire 2011).

5.2 Borrow pit DR2308/36.6/0.05L (Vidamemoria pit number 35)

Approximate area: 250 m x 250 m
Location: S 32° 24' 58" E 22° 8' 25.29"
Farm name and number: Rietkuil (Riet Kuil 307)

Environment: The proposed borrow pit is located in a wide, very shallow, unsymmetrical, headwater valley of an ephemeral water course that heads downstream in a north-easterly direction. There is a small, sandstone ridge to the northwest of the generally flat-lying terrain which forms the northern boundary of the study area (Figures 2, 3 and 6). The affected area is further bounded by the DR02308 to the south and an existing fence to the west. A breached low earth dam embankment which traverses the valley in a north-south direction was regarded as the eastern boundary for the purpose of the survey. Shallow colluvial and alluvial fine, gravelly, silty sand overlies weathered mudstone of the Abrahamskraal Formation of the Beaufort Group. An apron of coarse gravel, derived from the sandstone ridge, lies down the slope and at the foot of the ridge. A farm track from the southwestern corner of the proposed pit area runs close to the base of the rocky slope of this ridge. Visibility of archaeological material was good as the vegetation is either non-existent in some of the areas affected by sheet wash, or consists of widely dispersed, low karoo bushes. The tallest shrubs occur at the foot of the ridge.

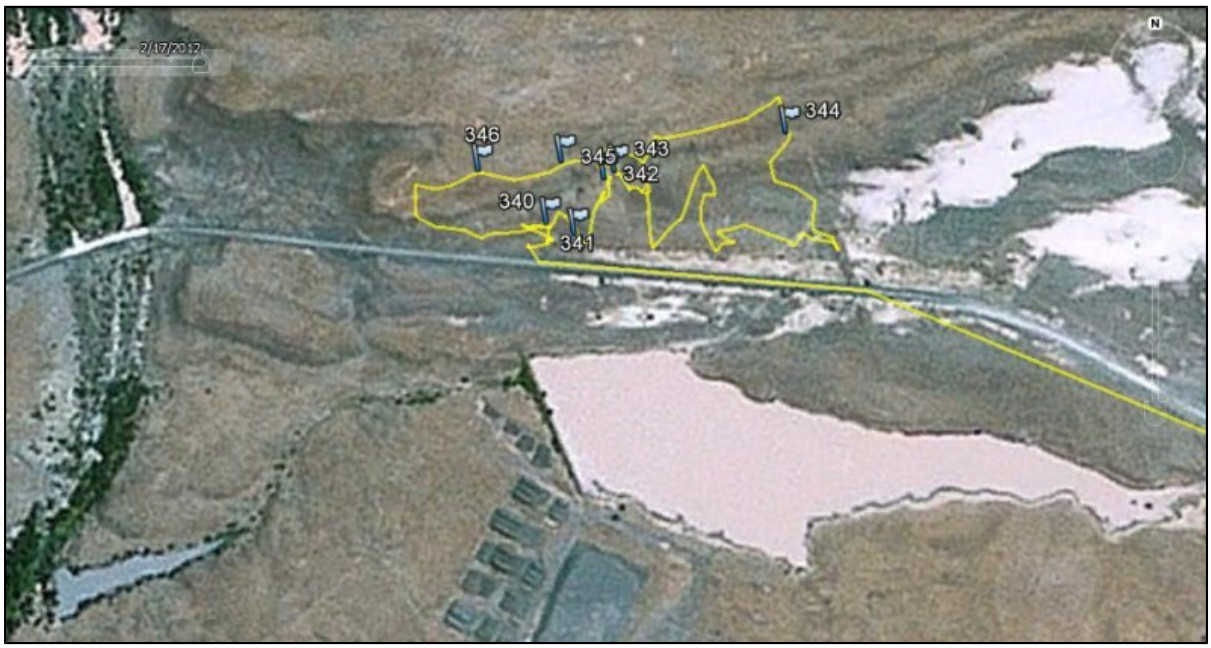


Figure 2: Google earth image showing the proposed new borrow pit 35 and tracks of the field survey. A small ridge lies to the north of the affected area. Rows of test pits and dumps from uranium exploration activities are visible to the south of the road and irrigation dam.

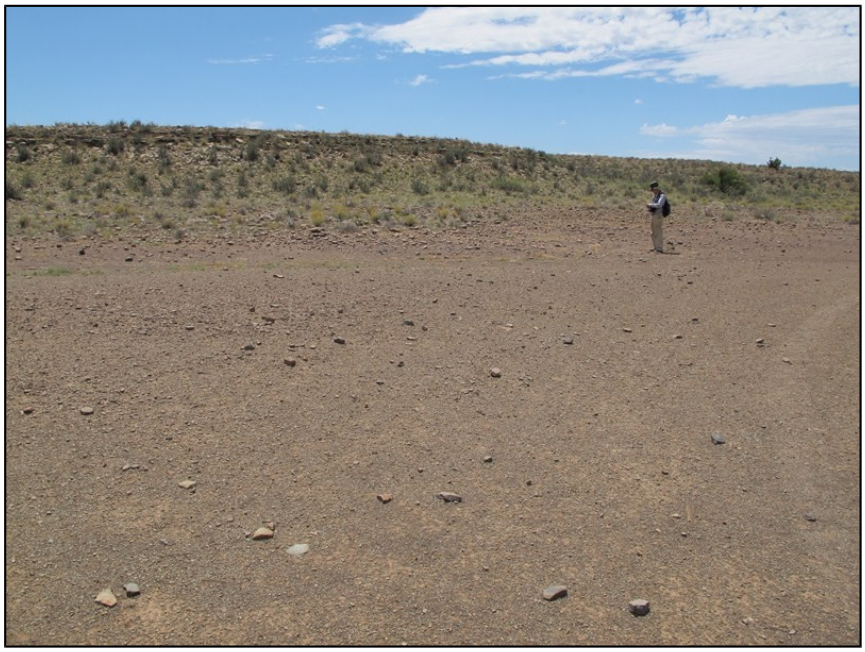
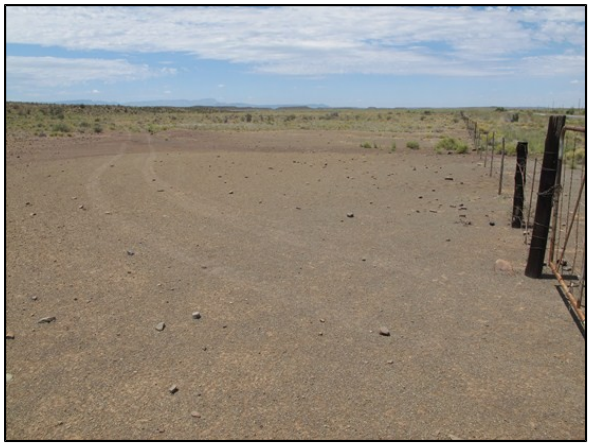
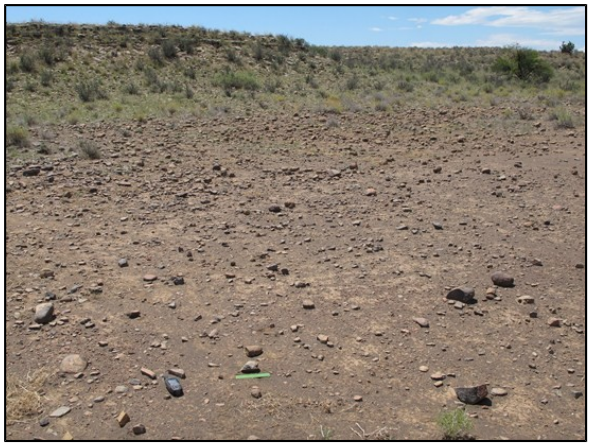


Figure 3: Northward view of the study area of pit 35 showing the extensive area affected by sheet wash in the foreground and the sandstone ridge in the background.

Figure 4: View towards the south taken from the top of the ridge to the north of the study area. The irrigation dam and the signs of the uranium exploration activities to the south of the DR02308 are visible in the background.





Figures 5 and 6: View towards the east of the affected area; view of scatter of the coarser gravels and dispersed artefacts close to the ridge, north-eastern view. The ruler is 15 cm in length.

Figures 7, 8 and 9: Various degrees of weathering and patination of stone artefacts are evident in these photos. Hornfels flakes and fresh-looking quartzite flake on the left; fine-grained flaked quartzite cobble in the middle; hornfels core on the right. The scale is in cm.

Figures 10, 11 and 12: A typical MSA blade is shown on the left. Banded sandstone artefacts are shown in the other two photos. The scale is in cm.

Figures 13, 14 and 15: Quartzite flakes found on top of the ridge; metal plaque with part of an inscription ('500 yard…12…"); isolated porcelain fragments observed amongst the surface gravels. The scale is in cm.

Results of survey: Scatters of Stone Age artefacts were observed in most of the affected area, with the greater part of the material being concentrated in the low-lying area marked by waypoints 340 – 343 and 345 (Figure 2). The artefacts are obviously in a secondary context as evidence of sheet wash is ubiquitous and MSA and LSA artefacts are mixed together. Various degrees of weathering and patination on the surface of the specimens indicate that they have been transported by water and have lain on the surface of the landscape for varying lengths of time (Figures 7, 8 and 10). Hornfels is the predominant raw material used but quartzite and banded sandstone are also evident. The quartzite generally appears to be less weathered than the hornfels (Figures 7 and 13). Most of the artefacts are probably LSA but at least one typical MSA blade was observed (Figure 10). It is not certain to which period the relatively large, banded sandstone flakes and chunk belong (Figures 11 and 12). Further evidence of disturbance is provided by the occasional pieces of metal, glass and porcelain which are also found scattered amongst the gravels and flaked material (Figures 14 and 15). Scatters of artefacts and some of the more interesting isolated specimens were photographed and marked as waypoints (see the Appendix). No dolerite boulders suitable for rock engravings were found in or near the affected area of the proposed pit.

6. SIGNIFICANCE AND RECOMMENDATIONS

The low density of scattered, mixed MSA and LSA artefacts in an area affected by sheet wash 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 borrow pit is developed. No further archaeological studies or mitigation are recommended.

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

7. REFERENCES

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8. ACKNOWLEDGEMENTS

Ms Quahnita Samie of Vidamemoria Heritage Consultants is thanked for commissioning this study and providing background information. Dr Lita Webley of ACO Associates acted as supervising Principal Investigator and provided valuable guidance regarding AIA requirements. Dr John Almond, Natura Viva cc, made helpful comments on the draft. Dr M Galimberti (SAHRA), J Orton (ACO) and W Fourie (PGS) kindly provided copies of reports.

9. APPENDIX

Table 1: Pit 35 waypoints

Waypoint (MT)	South	East	Description of material found
340	32 24 59.7	22 08 05.5	Scatter of artefacts including the flaked fine-grained quartzite piece (Figure 8)
341	32 25 00.1	22 08 06.7	Cluster of weathered flakes, including possible snapped blade, pink glass fragment, hornfels core (Figure 7)
342	32 24 58.0	22 08 08.0	Scatter with banded sandstone flakes, metal plaque, glass and porcelain fragments (Figures 11, 12, 14)
343	32 24 57.8	22 08 08.5	Scatter including weathered MSA blade (Figure 10)
344	32 24 56.3	22 08 16.0	Isolated hornfels core (Figure 9)
345	32 24 57.4	22 08 06.2	Single very weathered circular flake on a cobble
346	32 24 57.7	22 08 02.5	Isolated fresh-looking quartzite flakes, coarse sandstone flake with cortex (Figure 13)