



ARCHAEOLOGICAL SCOPING, PROPOSED EXTENSION OF AN EXISTING BORROW PIT ON PORTION 5 OF FARM HOL PADS LEEGTE NO. 32 NEAR BRANDVLEI, NORTHERN CAPE PROVINCE

1. Introduction

ACRM was requested to conduct an archaeological scoping assessment for the proposed development of an existing borrow pit on Portion 5 of the Farm Hol Pads Leegte No. 32 near Brandvlei (Hantam Local Municipality) in the Bushmanland region of the Northern Cape Province (Figures 1 & 2).

Gravel excavated from the borrow pit will be used as source material for the development of the new Brandvlei Waste Water Treatment Works. A short access road, about 220m long, from the R353 to a laydown area alongside the older worked-out pit, will also have to be constructed (Figure 3).

The extent of the proposed new borrow pit is less than 1.0ha in extent.

The aim of the study is to assess the archaeological sensitivity of the proposed borrow pit, to assess the significance of archaeological impacts, and to propose measures to mitigate the impact of extraction of gravels from the site.

A palaeontological impact assessment (or PIA) of the proposed development has been undertaken (Almond 2017).

The study forms part of a Basic Assessment process being conducted by EnviroAfrica.

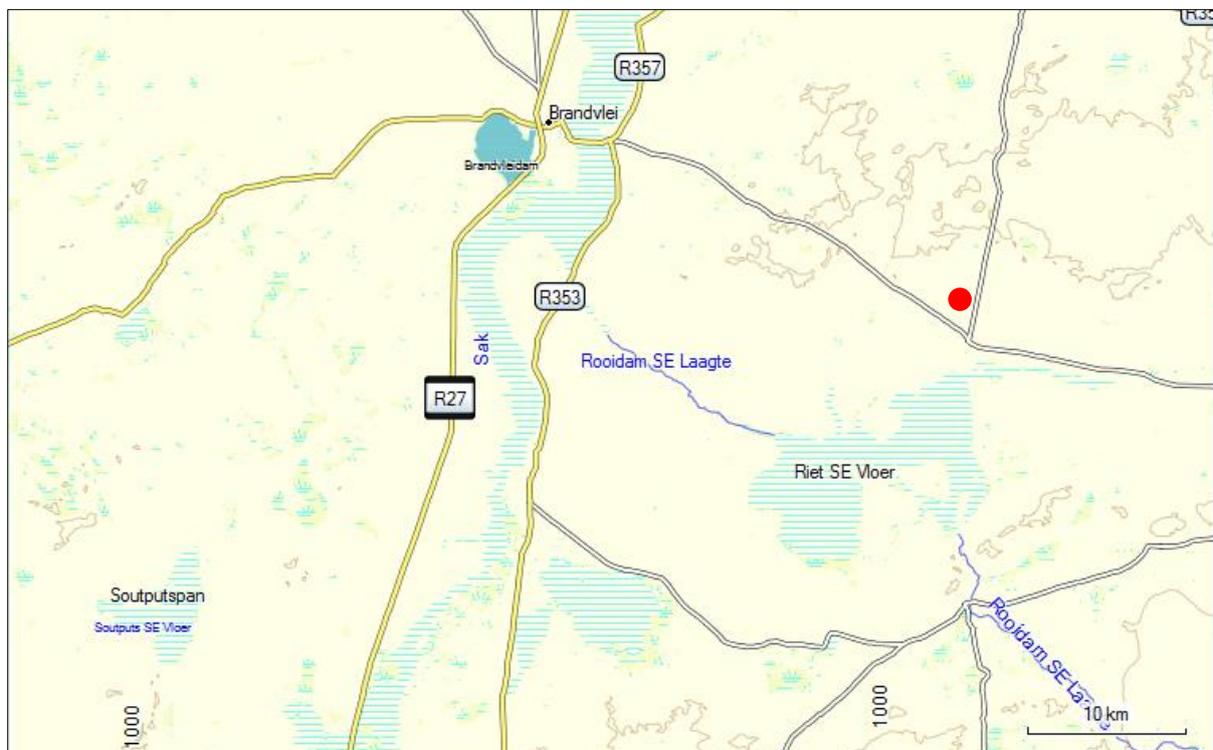


Figure 1. Locality Map. Red polygon indicates the location of the proposed borrow pit in relation to Brandvlei

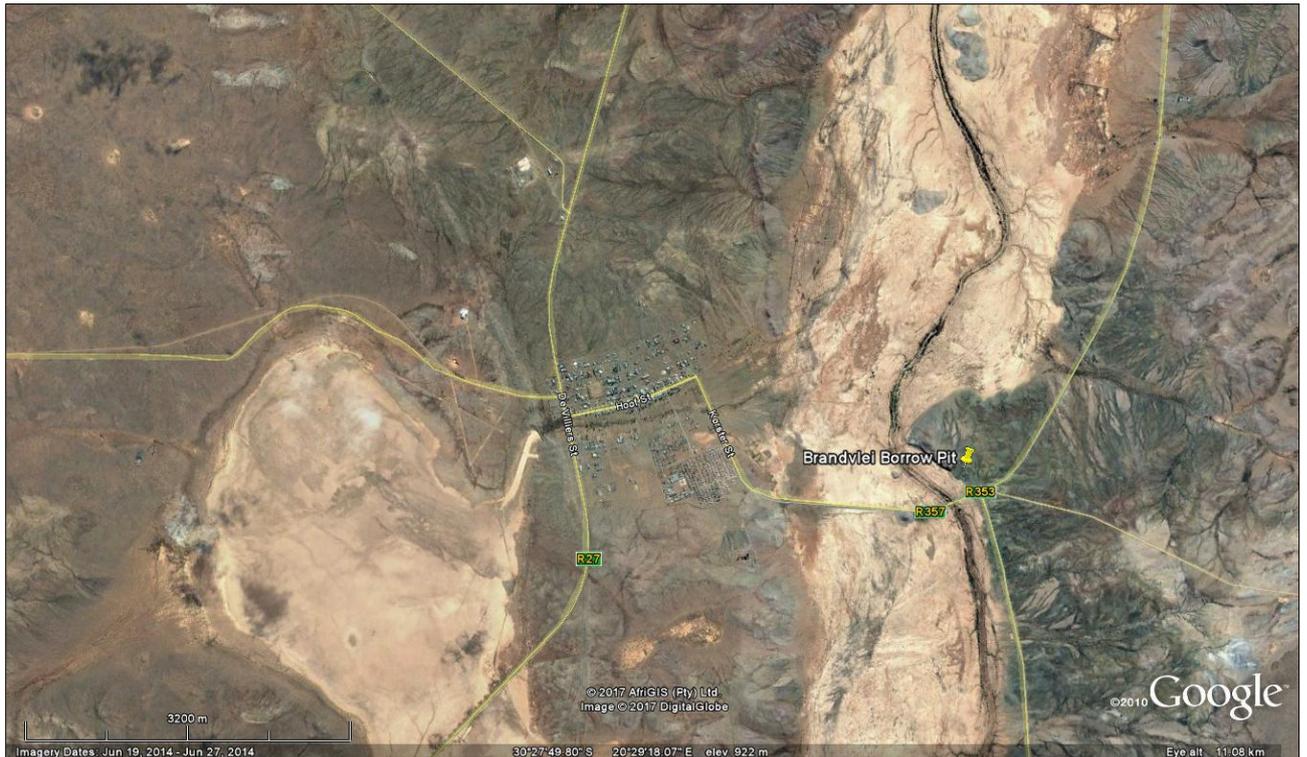


Figure 2. Google satellite map indicating the location of the borrow pit (yellow pin) in relation to Brandvlei



Figure 3. Google satellite map of the borrow pit study area (red polygon) on the eastern side of the Sak River, showing the location of the existing pit as well as the proposed new excavation area (orange rectangle), as well as the access road to the tar road (EnviroAfrica 2017).



2. Legal framework

The National Heritage Resources Act (No 25 of 1999) makes provision for a compulsory Heritage Impact Assessment (HIA) when an area exceeding 5000 m² is being developed. This is to determine if the area contains heritage sites and to take the necessary steps to ensure that they are not damaged or destroyed during development.

3. Study site

Brandvlei is located on the R27 between Calvinia and Kenhardt. The proposed borrow pit is located \pm 3kms east of Brandvlei, on the eastern side of the Sak River, just to the north of the R353 gravel road to Vanwyksvlei. The proposed site is located behind a small hillock (Figures 4-9). The vegetation comprises mainly Bushmanland shrub and dry grass. The borrow pit has been previously mined for gravel. Surrounding land use comprises mainly marginal sheep grazing.

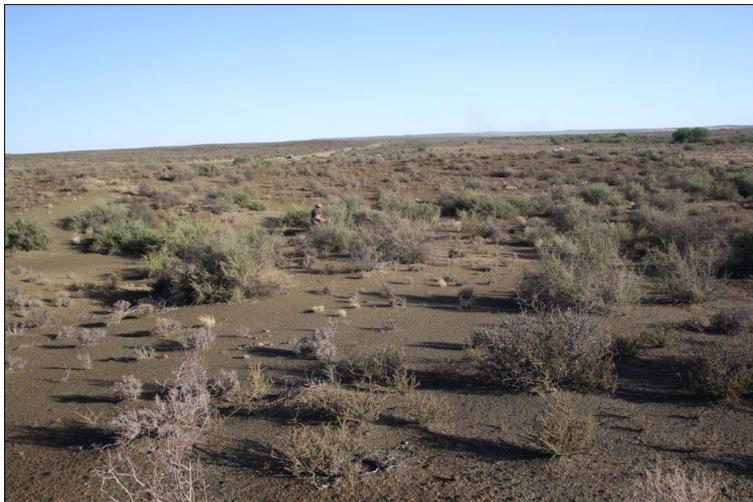


Figure 4. View of the proposed site facing southwest



Figure 6. View of the proposed site facing southwest



Figure 5. View of the proposed new borrow pit facing northwest



Figure 7. View of the proposed new borrow pit site facing north



Figure 8. View taken from the kopje facing southwest



Figure 9. Laydown area and face of the proposed new borrow pit. View facing northwest

4. Approach to the study

The scoping field study was not done by the ACRM. Instead, ACRM requested archaeologist Madelon Tusenius to assess the archaeological sensitivity of the proposed new borrow pit.

Scoping was done at the same time as the field based PIA study, in May 2017.

Archaeological remains were recorded using a hand held GPS device set on the map datum WGS 84.

A detailed study of the proposed borrow pit was not done. Track paths were not created.

A literature survey was carried out to assess the heritage context surrounding the proposed development site.

This report has been written up by ACRM, with notes, photographs and waypoints of archaeological finds supplied by Ms Tusenius.

5. Heritage context

There is very little archaeological information available of the area around Brandvlei, compared to Kenhardt (150kms north) and Loeriesfontein (120kms southwest), for example, where a number of commercial archaeological surveys have taken place (Halkett & Orton 2011; Morris 2007, 2013; Orton 2014; Kaplan 2010, 2012a, b, 2011a, b, c, 2013; Pelsner 2011; Van der Walt 2012; Van Schalkwyk 2011; Webley & Halkett 2010a; Webley & Halkett 2012a, b).

Rock engravings are known to occur near Brandvlei (J. Deacon pers. comm.), while Webley and Orton (2012) documented a dispersed scatter of 20th Century dump material to the south and east of the Brandvlei reservoir. Webley & Halkett (2010b) also recorded dispersed scatters of Middle Stone Age (MSA) tools around the Katkop Hills to the west of Brandvlei. Kaplan (2013) recorded exceptionally high density scatters of MSA tools covering 10's of thousands of square meters about 40kms east of Brandvlei. A well preserved Later Stone Age (LSA) Khoekhoen herder site with large numbers of stone tools, hundreds of fragments of ostrich eggshell, and 19th Century colonial household ware were recorded on a dolerite ridge a little further west of the dense MSA scatter.



Bushmanland was also one of the last regions of the Cape Province to be settled by early European farmers, partly because it is so dry and partly because it was so far from Cape Town and produce markets. The result was that it became a last outpost of the /Xam Bushman who still hunted and gathered there in the last decades of the 19th Century (Deacon 1986, 1997). Research undertaken by Deacon (1996) suggests that the 'Grass Bushmen' may have lived between Kenhardt and Brandvlei, while the 'Flat Bushmen' lived between Vanwyksvlei and Kenhardt. LSA (or Wilton) microlithic stone implements, pottery and ostrich eggshell litter the occupation areas visited by Deacon (1986) in her quest to locate sites described by /Xam informants in the 1870's and 1880's. Many of the sites visited were documented in this vast, seemingly featureless region, close to pans, springs, and among sand dunes near dry river beds, while the round dolerite boulders scattered over the flat landscape and on mountain tops and kopjes contain many different types of rock engravings.

6. Results

Site 1: S 30°28'18.20" E 20°31'11.90"

Tusenius recorded a high density scatter of Later Stone Age (LSA) implements more or less in the centre of the proposed borrow pit site (Figure 10). The material is concentrated among the gravels at the bottom of the slope (probably 40 to 50 pieces per m² in a small area), becoming less dense and finally petering out higher up the gravel slope. Fluvial activity indicates some possible movement of tools downslope.

Tools recorded on Site 1 include small round, cylindrical and bladelet cores, bladelets, chips, chunks, utilized and retouched pieces (no formal tools were described), in fine grained chert, flint, chalcedony's/opaline and some hornfels. In addition, fragments of ostrich eggshell, a single sherd of pottery and some bone were also found. Some historical archaeological material is also present which points to some 19th Century European contact (refer to Figures 11-20). Historical literature confirms that this part of Bushmanland was occupied by San hunter-gatherers during the early part of the 19th Century.

The Brandvlei finds are comparable to scatters of LSA tools recorded by Webley and Halkett (2012) on a series of small kopjes alongside a dry stream bed north of Loeriesfontein. Tools identified included scrapers, backed pieces, grooved stones, pottery and ostrich eggshell fragments. According to Webley and Halkett (2012) the sites they recorded are considered unique, which have not been recorded in combination in Western Bushmanland before. 'The sites have the potential to inform us on a regional pattern of Later Stone Age settlement and the sites are therefore considered to be of medium to high significance' (Webley & Halket 2017:16). Site 1 appears to complement this regional pattern of LSA settlement, located on a kopje, close to the floodplain of the Sak River.

Site 1 has been graded as having medium to potentially high significance.

Site 2: S 30°28'17.70" E 20°31'9.80"

Site 2 falls outside the proposed borrow pit footprint area (Figure 10). It comprises a dispersed (i. e. low density) scatter of MSA tools in weathered indurated shale, mainly flakes and chunks on a loose gravel substrate, possibly an old watercourse (Figures 21 & 22). Many of the commercial archaeological surveys undertaken in Western Bushmanland (refer to references cited above) document mostly ephemeral traces of MSA tools across the landscape. An exception is the extraordinary dense scatter of MSA tools documented by Kaplan (2013) about 40kms east of the proposed borrow pit site.



Site 2 has been graded as having low archaeological significance.



Figure 10. Google satellite indicating location of Sites 1 and 2 and the boundary of the proposed borrow pit (yellow polygon). The red polygon is the proposed laydown area. The yellow line is the proposed 250m long access road

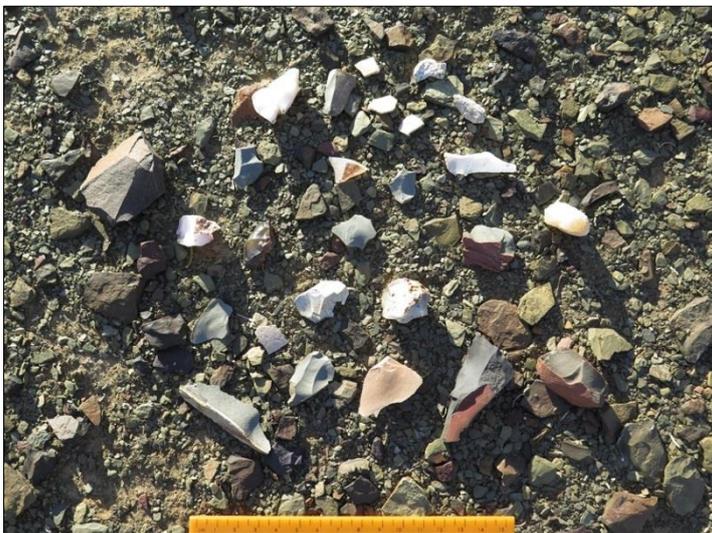


Figure 11. Site 1. Collection of tools. Scale is in cm



Figure 12. Site 1. LSA tools and ostrich eggshell. Scale is in cm



Figure 13. Site 1. Collection of tools. Scale is in cm



Figure 16. Site 1. Collections of tools and ostrich eggshell fragments. Scale is in cm



Figure 14. Site 1. Collection of tools. Scale is in cm



Figure 17. Site 1. Collection of tools. Scale is in cm



Figure 15. Site 1. Collection of tools. Scale is in cm



Figure 18. Site 1. Collection of tools. Scale is in cm



Figure 19. Site 1. Chert cores. Scale is in cm



Figure 21. Site 2. Collection of MSA tools



Figure 20. Site 1. Tools and European earthenware



Figure 22. Site 2 is located outside the proposed footprint area.

7. Discussion

The contents and context of Site 1 is comparable to a scatter of LSA tools and cultural remains recorded by Webley and Halkett (2012) north of Loeriesfontein who, consider such sites unique, and offers the potential to inform on a regional archaeological pattern not previously recorded in this part of Bushmanland.

8. Conclusion

Indications are that Site 1, which has been rated as having medium to potentially high local significance, will be directly impacted by proposed development of the Brandvlei borrow pit.

The impact caused by development will be negative, severe and irreversible.

Sites such as Site 1 are considered to be rare, in a landscape that appears to be dominated by MSA elements.



9. Recommendations

With regard to the proposed development of a borrow pit on Portion 5 of the Farm Hol Pads Leegte No. 32 near Brandvlei, the following recommendations are made

1. Site 1 must be subjected to a targeted and systematic collection of archaeological remains prior to any construction/mining operations commencing.
2. A permit to collect archaeological remains must be requested from the South African Heritage Resources Agency (SAHRA).



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