

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
PROPOSED SAND MINING OPERATION ON THE FARM
DOORKRAAL PROPER NO. 832
MALMESBURY**

Prepared for

NALEDI DEVELOPMENT RESTRUCTURED (PTY) LTD

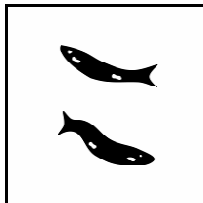
Att: Ms Lizinda Grobbelaar
PO Box 13509
Sinoville
0129

Lizinda@naledidev.co.za

On behalf of:

TIPTRANS RESOURCES (PTY) LTD

By



Jonathan Kaplan

Agency for Cultural Resource Management

P.O. Box 159
Riebeek West
7306

Ph/Fax: 022 461 2755

Cellular: 082 321 0172

E-mail: acrm@wcaccess.co.za

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Executive summary

An Archaeological Impact Assessment of a proposed sand mining operation on the Farm Doornkraal Proper situated close to Malmesbury in the Western Cape has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to proposed, sand mining operations.

The proposed mining application area comprises four parcels of land and (combined) is about 76 ha in extent. There is virtually no natural vegetation on the proposed sites, and it is estimated that more than 95% of the affected landholdings have already been transformed as a result of many years of agricultural activity.

The following findings were made:

- A few Early Stone Age implements were documented during the study, but these occur in a severely disturbed context.

The archaeological remains have been rated as having low local significance

The following recommendations are made:

- Should any unmarked human remains be disturbed, exposed or uncovered during sand mining operations, these should immediately be reported to the archaeologist or the South African Heritage Resources Agency (Dr A. Jerardino 021 462 4502).

The above measures must be included in the Environmental Management Plan (EMP) for the proposed project.

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1. INTRODUCTION

1.1 Background and brief

Naledi Development Restructured (Pty) Ltd on behalf of Tiptrans Resources (Pty) Ltd requested that the Agency for Cultural Resource Management conduct an Archaeological Impact Assessment for a proposed sand mining operation on the farm Doornkraal Proper No. 832 Malmesbury, in the Western Cape.

Proposed mining operations will entail the removal of sand at an average depth of ± 1.5 m. Available top soil will be removed prior to mining and will be stored until it can be replaced after mining. All mined areas will be rehabilitated after sand mining operations and will revert back to agricultural land.

The extent of the proposed development (about 76 ha) falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

The aim of the study is to locate and map archaeological heritage sites/remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

2. TERMS OF REFERENCE

The terms of reference for the archaeological study were:

- to determine whether there are likely to be any archaeological sites of significance within the mining proposed sites;
- to identify and map any sites of archaeological significance within the proposed mining sites;
- to assess the sensitivity and conservation significance of archaeological sites within the proposed mining sites;
- to assess the status and significance of any impacts resulting from the proposed development, and
- to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed mining sites

3. THE STUDY SITE

A locality map is illustrated in Figure 1.

An aerial photograph of the proposed site is illustrated in Figure 2.

The farm Doornkraal (S 33° 34 49.2 E 18° 44 20.5 on map datum WGS84) is located alongside the R302, about 12 kms south of Malmesbury. The proposed mining application permit comprises four parcels of agricultural land (A, B, C and D). Dune mole rat activity is extensive over much of sites A, B and D where the sands are soft and coarse textured. The steep, upper slopes in Site C are heavily contoured. Site D alongside the R302 has been trampled and overgrazed by horses. It is estimated that more than 95% of the subject property has been extensively modified by agricultural activities (Figures 3-24). There is virtually no natural vegetation occurring on any of the proposed sites. There is very little surface stone on all four proposed sites, but on the steep upper slopes of site C (where bedrock is closer to the surface); there is much surface stone, mostly coarser grained quartzites and some Ferricrete. There are no significant landscape features on the affected lands, although a large kopje overlooks site C. Surrounding land use comprises agricultural lands (pastures, wheat and vineyards), some sand mining to the north and a Rainbow Chicken facility alongside Site A.

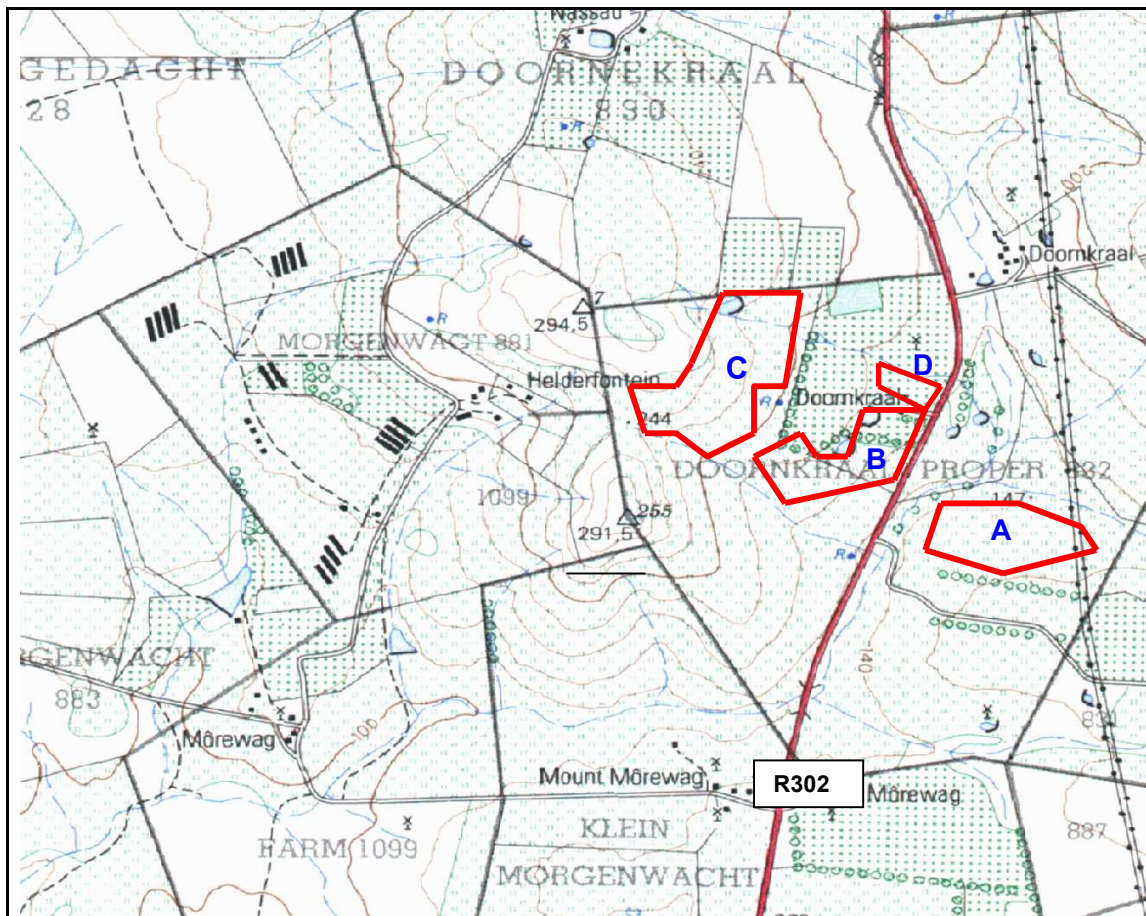


Figure 1. Locality Map (3318DA Philadelphia)



Figure 2. Aerial photograph of the study site

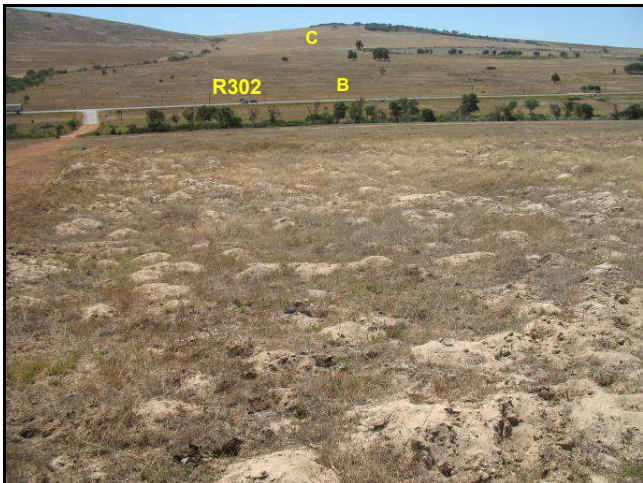


Figure 3. Site A. View facing west



Figure 4. Site A. View facing north west



Figure 5. Site A View facing north east



Figure 8. Site A. View facing north



Figure 6. Site A. View facing east



Figure 9. Site B. View facing south



Figure 7. Site A. View facing north



Figure 10. Site B. View facing south

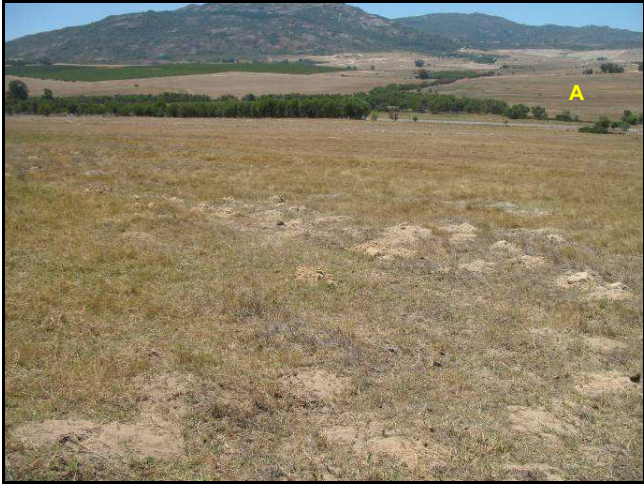


Figure 11. Site B. View facing north east



Figure 14. Site B. View facing east



Figure 12. Site B. View facing north east



Figure 15. Site C. View facing south east



Figure 13. Site B. View facing north east



Figure 16. Site C. View facing north east



Figure 17. Site C. View facing north east



Figure 20. Site C. View facing south west



Figure 18. Site C. View facing north east



Figure 21. Site D. View facing north west



Figure 19. Site C. View facing north east



Figure 22. Site D. View facing west



Figure 23 Site D. View facing south east



Figure 24 Site D. View facing east

4. STUDY APPROACH

4.1 Method

The approach followed in the archaeological study entailed a foot survey of Sites A-D.

The site visit and assessment took place on the 30th January and 05th February, 2009.

A desktop study was also undertaken.

4.2 Constraints and limitations

There were no constraints or limitations associated with the study.

4.3 Identification of potential risks

There are no potential risks associated with the project.

4.4. Results of the desk top study

Early Stone Age (ESA) and Middle Stone Age (MSA) tools in Malmesbury were first documented during a study of the proposed Schoonspruit development, a large mixed use development situated within the urban edge of the town (Kaplan 2006a, 2007a). A few ESA tools were also documented on land identified for the planned Mount Royal Golf Estate (Kaplan 2004) situated alongside the N7 and the proposed Malmesbury Regional Shopping Centre (Kaplan 2008), while several ESA tools were found on the farm Rooidraai about 5 kms further to the north west (Kaplan 2006b). ESA tools have also been recorded on the Farm Klipfontein inside the urban edge (Kaplan 2007b). Marginal scatters of MSA and ESA tools were documented on the Farm Rozenburg, alongside the R302 (2007d). ESA tools have been found on the Farm Amoskuil, about 2.5 kms south of Malmesbury (Kaplan 2007c) and Later Stone Age tools and pottery have been recorded on the Farm Olyvenhoek situated about 10 km south of Malmesbury on the Malmesbury-Kalbaskraal road (Kaplan 2006c). ESA tools have been found on

several smallholdings at Tierfontein about 10 kms south west of Malmesbury and on several farms surrounding the Perdeberg Mountain (pers. observation). All the above tools have been located in disturbed and mostly highly transformed landscapes.

Studies undertaken to date in the Malmesbury region indicate that the region is not an area of pre-colonial archaeological importance. This may have much to do with the fact that the region (the Swartland) has been characterised by intensive agriculture activities (mainly wheat farming) for more than 150 years and that the archaeological landscape has already been largely destroyed. Also, the local geology is underlain by shale bedrock which provides very poor quality material for making stone artefacts.

5. LEGISLATIVE REQUIREMENTS

5.1 The National Heritage Resources Act (Act No. 25 of 1999)

The National Heritage Resources (NHR) Act requires that "...any development or other activity which will change the character of a site exceeding 5 000m², or the rezoning or change of land use of a site exceeding 10 000 m², requires an archaeological impact assessment"

The relevant sections of the Act are briefly outlined below.

5.2 Archaeology (Section 35 (4))

Section 35 (4) of the NHR stipulates that no person may, without a permit issued by HWC, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.

5.3 Burial grounds and graves (Section 36 (3))

Section 36 (3) of the HHR stipulates that no person may, without a permit issued by the South African Heritage Resources Agency (SAHRA), destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority.

6. FINDINGS

6.1 Site A:

No archaeological remains were found in Site A

6.2 Site B

No archaeological remains were found in Site B

6.3 Site C

A low density scatter of Early Stone Age tools was found on the steep, contoured upper slopes of Site C, where surface stone is quite extensive. The tools comprise mostly large crude flakes (n = 6), and several chunks and broken/flaked cobbles (Figure 25). All the tools are in quartzite. No formal tools were found and the remains all occur in a severely disturbed context.

The archaeological remains have been rated as having low local significance.

6.4 Site D

No archaeological remains were found in Site D.



**Figure 25. Early Stone Age tools from Site C.
Scale is in cm**

7. IMPACT STATEMENT

The Archaeological Impact Assessment of proposed sand mining on the Farm Doornkraal Proper near Malmesbury has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to proposed, mining operations.

8. RECOMMENDATIONS

With regard to proposed sand mining operations on the farm Doornkraal Proper, the following recommendations are made.

- Should any unmarked human remains be disturbed, exposed or uncovered during sand mining operations, these should immediately be reported to the archaeologist or the South African Heritage Resources Agency (Dr A. Jerardino 021 462 4502).

These measures must be included in the Environmental Management Plan (EMP) for the proposed project.

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Kaplan, J. 2007a. Phase 1 Archaeological Impact Assessment proposed development Precinct 2, 3, 4, 5 and 6 Malmesbury Western Cape. Portion of Erf 317, a Portion of Erf 7455, a Portion of Farm Oranje Fontein 1113, Portion of Farm 771 Rozenburg, Portion of Portion 1 of Farm 697 and a Portion of Portion 2 of Farm 695 Malmesbury. Report prepared for CK Rumboll and Partners. Agency for Cultural Resource Management.

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