

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
PROPOSED SAND MINING ON A PART OF THE FARM
OLYVENHOEK 818, REMAINDER
MALMESBURY
WESTERN CAPE PROVINCE**

Prepared for:

AMATHEMBA Environmental Management Consulting CC

Att: Mr Stephen Davey
8 Feldhausen Road
Claremont, 7708
Ph: 671 1272
Fax: 671 9841

Client: Atlantic Sands (Pty) Ltd

By

Agency for Cultural Resource Management

Att: Jonathan Kaplan
P.O. Box 159
Riebeeck West
7306
Ph/Fax: 022 461 2755
Cellular: 082 321 0172
E-mail: acrm@wcaccess.co.za

**AUGUST
2006**

Executive summary

Amathemba Environmental Management Consulting CC, on behalf of Atlantic Sands (Pty) Ltd, requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed sand mining operation on a part of the Farm Olyvenhoek 818, Remainder, situated in the Malmesbury District, Western Cape Province.

An existing farm road to the proposed sand mining site will also have to be upgraded to provide access to the property.

The extent of the proposed development (about 131 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).

131 ha

The aim of the study is to locate and map archaeological heritage sites and 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.

A Notification of Intent to Develop (NID) checklist has been completed by the archaeologist and submitted to Heritage Western Cape Built Environment and Landscape Committee (BELCOM) for comment, together with a copy of the specialist archaeological impact report.

→ no
objections
raised by
BELCOM

The proposed site (currently zoned Agriculture) is located on a hill, about 4.5 kms northeast of Kalbaskraal and 10 km south of Malmesbury. The subject property is flat and has previously been ploughed. In the more recent past, the land has been used for seasonal grazing. Very little natural vegetation occurs on the property and it is surrounded by vast tracts of similarly transformed farmland. Other than some remnant (vegetated) sand dunes situated near the northern boundary of the property, there are no significant landscape features occurring on the proposed site. The predominant land use of the surrounding properties is agriculture and sand mining immediately to the south.

Several low density scatters of archaeological heritage remains were located on the subject property. These occur as thin scatters of Later Stone Age (LSA) stone artefacts, situated alongside the eastern and north eastern boundaries of the proposed site. A few LSA tools were also encountered over the remainder of the site, including several pieces of Cape coastal pottery.

Although the above archaeological heritage remains occur in a fairly severely disturbed (albeit probably primary) context, they have been graded medium-low local significance.

Two Early Stone Age flakes (including one partially retouched flake) and one heavily patinated irregular core were also located in agricultural fields alongside the existing access road to the proposed mining site. The proposed new access road will cut across the above fields.

The archaeological heritage remains in the proposed access road occur in a severely disturbed context and have been graded low local significance.



Proposed sand mining operations and associated activities will likely impact negatively on Later Stone Age artefact scatters in the north eastern and eastern portions of the proposed sand mining site.

In addition, Early Stone Age artefacts may be exposed on underlying ferruginous gravels and clay, once the topsoil has been stripped from the site.

Human burials may also be uncovered or exposed during sand mining operations in the north eastern portion of the proposed site.

With regard to proposed sand mining operations on a part of the Farm Olyvenhoek 818, Remainder, situated in the Malmesbury District, the following recommendations are made

- Later Stone Age artefact scatters must be collected as a reference sample.
- Monitoring of sand mining operations is required in case Early Stone Age tools are exposed on ferruginous gravels and clays underlying the topsoil.
- Should any human remains be disturbed, exposed or uncovered during excavations and earthworks for the proposed project, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie 462 4502), or Heritage Western Cape (Dr A. Jerardino 483 9692). Burial remains should not be disturbed or removed until inspected by the archaeologist.

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1. INTRODUCTION

1.1 Background and brief

Amathemba Environmental Management Consulting CC, on behalf of Atlantic Sands (Pty) Ltd, requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed sand mining operation on a part of the Farm Olyvenhoek 818, Remainder, situated in the Malmesbury District, Western Cape Province.

An existing farm road to the proposed sand mining site will also have to be upgraded to provide access to the property.

The extent of the proposed development (about 131 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 and 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.

A Notification of Intent to Develop (NID) checklist has been completed by the archaeologist and submitted to the Heritage Western Cape Built Environment and Landscape Committee (BELCOM) for comment, together with a copy of the archaeological impact report.

2. TERMS OF REFERENCE

The terms of reference for the archaeological study were:

1. to determine whether there are likely to be any archaeological sites within the proposed site and the proposed access road;
2. to identify any sites of archaeological significance within the proposed site and the proposed access road;
3. to assess the sensitivity and conservation significance of archaeological sites;
4. to assess the status and significance of any impacts resulting from the proposed development; and
5. to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed site and the proposed access road.

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 subject property (currently zoned Agriculture) is located on a hill about 4.5 kms northeast of Kalbaskraal and 10 km south of Malmesbury. The property has previously been ploughed and has, in the more recent past, been used for seasonal grazing. Dune mole rat and animal burrowing is extensive over the area. A portion of land in the north west is infested with alien vegetation, while a small Blue Gum plantation occurs alongside the southern boundary. Sand mining has previously taken place in the western portion, and this area is severely degraded. Some natural vegetation occurs on the south eastern boundary of the property, where there is a small outcropping of Sandstone and Ferricrete. The property is surrounded by vast tracts of similarly transformed farmland. Other than some remnant (vegetated) dunes near the north eastern boundary, there are no significant landscape features occurring on the property. There are also no old buildings or structures on the land. The predominant land use of the surrounding properties is agriculture and sand mining immediately to the south.

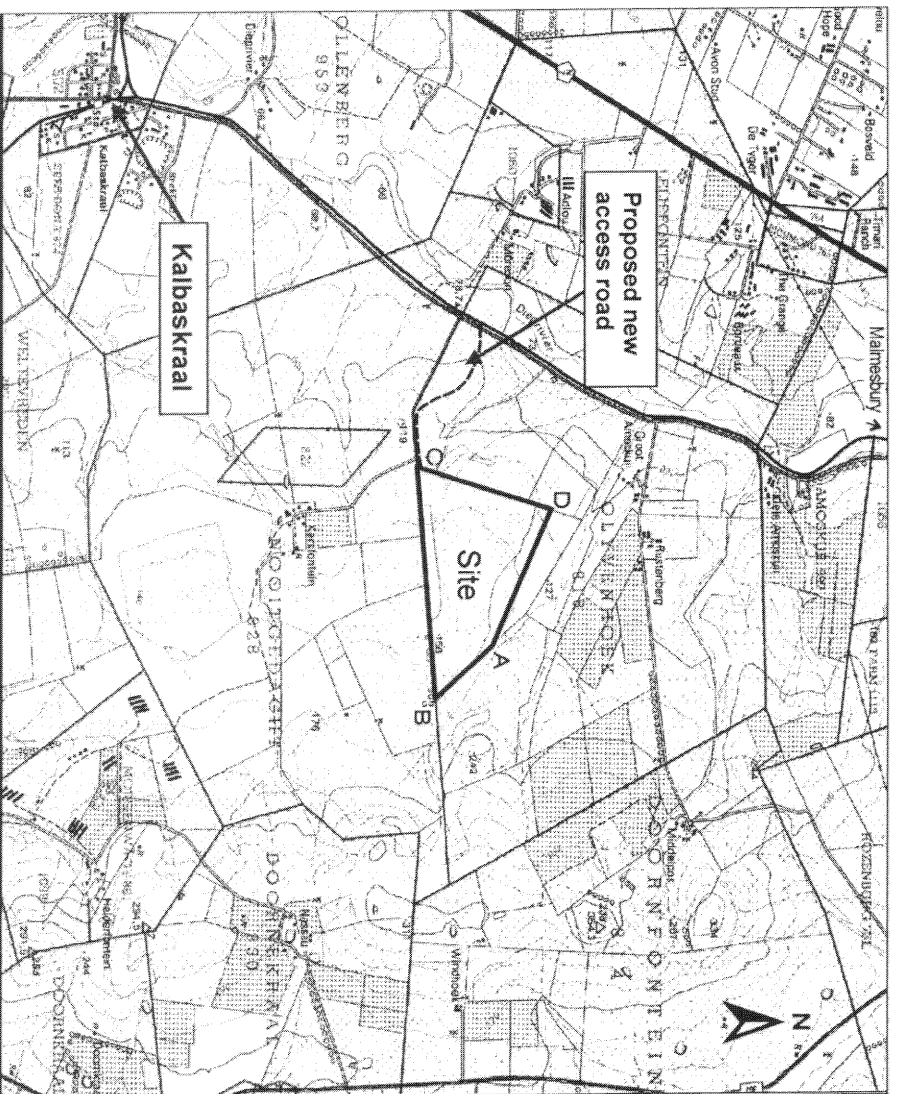


Figure 1. Locality Map (3218 DA Philadelphia)

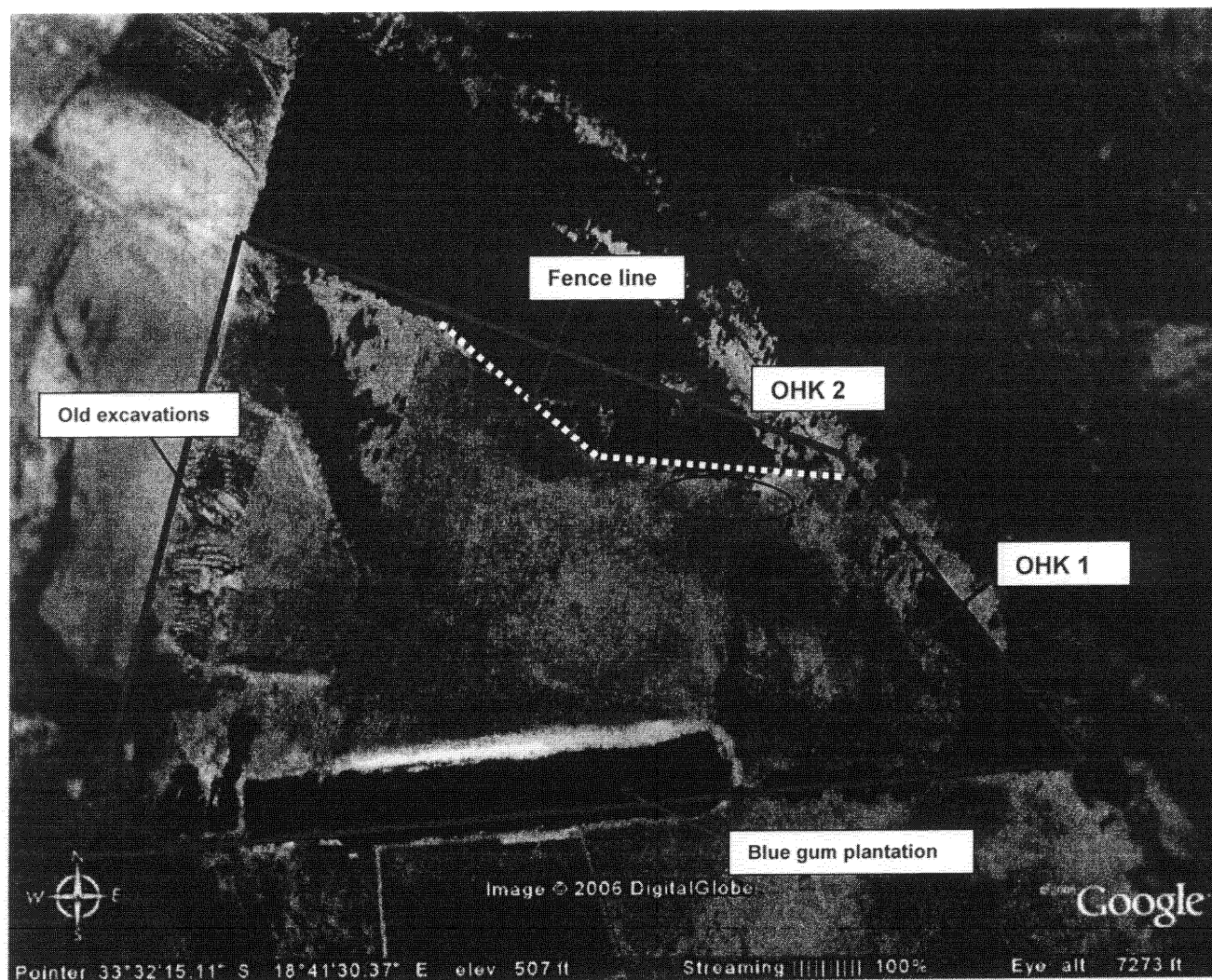


Figure 2. Aerial photograph of site and location of archaeological heritage remains.

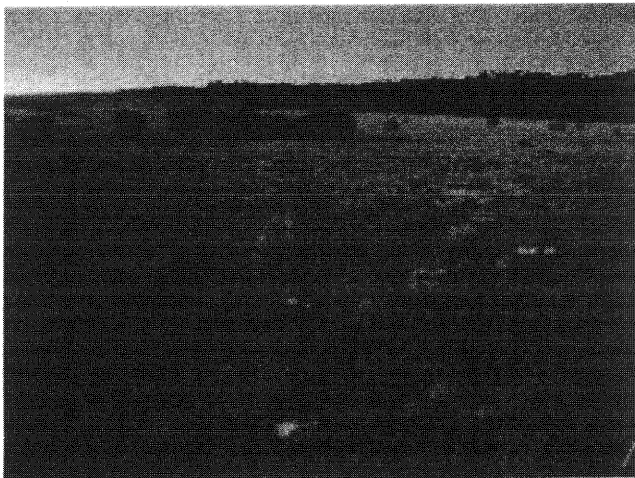


Figure 3. View of the site facing south east



Figure 4. View of the site facing north west

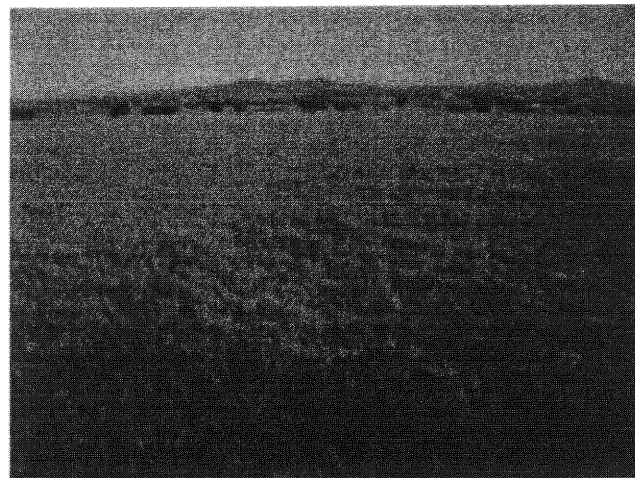


Figure 5. View of the site facing north east

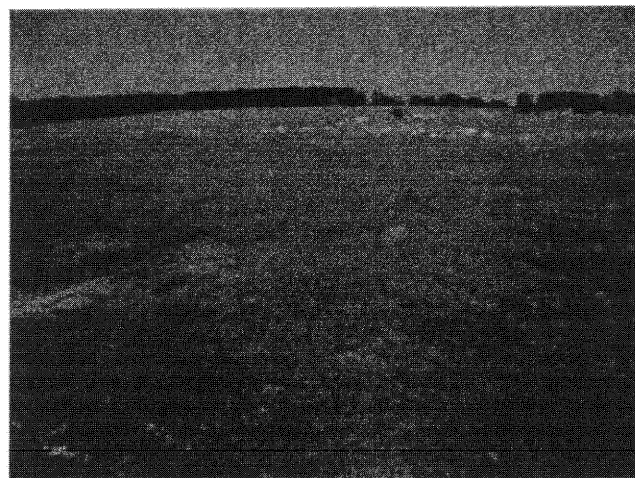


Figure 6. View of the site facing north east

4. STUDY APPROACH

4.1.1 Method

The approach followed in the archaeological study entailed a foot survey of the proposed sand mining site.

The proposed new access road was also searched for archaeological heritage remains.

Discreet and spatially coherent archaeological heritage sites/remains were recorded and given a co-ordinate using a hand-held Garmin Gecko 201 GPS unit set on map datum WGS 84.

Isolated archaeological finds have been described, but have not been assigned GPS co-ordinates, unless they include formal tools such as handaxes, pottery, etc

The site visit and assessment took place on the 7th June 2006. A follow up site visit took place on the 10th June 2006.

A desk-top study was also undertaken.

4.1. 2 Constraints and limitations

There were no limitations or constraints associated with the proposed project, although most of the proposed mining site is covered in thick winter grass. Some land in the north western portion of the property is also infested with alien vegetation.

lower visibility due to grass cover

4.1.3 Identification of potential risks

Proposed sand mining operations will impact negatively on Later Stone Age artefacts scatters in the north eastern and eastern portions of the site.

Early Stone Age tools may possibly be exposed on underlying ferruginous gravels and clay once sand deposits (i.e. the topsoil) have been stripped from the site.

Human burials may also be exposed or uncovered during proposed sand mining operations.

4.1.4 Results of the desk-top study

No archaeological heritage remains have been located in the immediate surrounding environment, but Early Stone Age (ESA) tools have been found on several farms surrounding the Perdeberg Mountain outside Malmesbury (personnel observation).

Scatters of ESA and Middle Stone Age (MSA) tools were located during a study of a proposed landfill site on the Farm Bottelfontein, situated about midway between Kalbaskraal and Klipheuwel (Halkett 2006). Due to extensive sand mining operations on the property, the archaeological heritage remains occur in a severely disturbed and secondary context. It is interesting to note that two rare, Still Bay points were found during the above survey.

Low density scatters of ESA and MSA tools were also located during a study of a proposed clay quarry on the farm Glen Lossie, situated about midway between Malmesbury and Durbanville on the R302 (Kaplan 2006). The remains occur in a severely disturbed context.

5. LEGISLATIVE REQUIREMENTS

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

...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 in terms of the National Heritage Resources Act.

...the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development, exceeding 300 m in length, requires an archaeological impact assessment in terms of Section 38 of the National Heritage Resources Act.

5.1.2 Archaeology (Section 35 (4))

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.

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

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

6.1.1 Proposed sand mining site

Several, low density scatters of archaeological heritage remains were located during the search of the subject property (refer to Figure 2).

OHK 1 (GPS reading S 33 32 379 E 18 41 875)

→ NO - 15 m in extent (5Kerrall; 29.09.06)

A low density scatter of Later Stone Age (LSA) tools was located near the far eastern boundary of the proposed site, about 20-25 m from the fence line. Located in open patches on more compact gravel deposits, and softer sands surrounded by thick winter grass and scrub (Figure 7), the tools include five unmodified flakes, one large utilized flake, one utilized blade, and one small irregular core, all in white silcrete. One quartz irregular core and three quartz flakes were also counted. The quartz is locally available, but the source of the silcrete is unknown. The tools occur in a fairly severely disturbed (albeit probably primary) archaeological context.

The archaeological heritage remains have been graded low-medium local significance.



Figure 7. OHK 1. View of the site facing west and its archaeological context

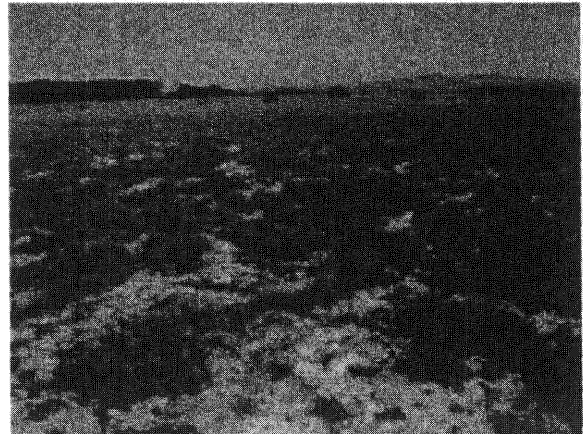


Figure 8. OHK 2. View of the site facing s-west and its archaeological context

OHK 2 (GPS reading S 33 32 243 E 18 41 631) → no organics.

A medium-low density scatter of LSA tools was found on soft sands on a slight rise (alongside the remnant dunes), less than 10 metres from the north eastern boundary fence of the subject property (Figure 8). The tools are spread thinly and very unevenly over a fairly wide area, measuring about 70-80 m in extent. The immediate surrounding area has been quite heavily trampled, and the archaeological heritage remains occur in a disturbed (albeit probably primary) context.

Most of the artefacts are in locally available quartz and include more than 30 unmodified flakes, chips and chunks. One utilized flake, one (possible) snapped thumbnail scraper, one bipolar core, one worked out bipolar core and one irregular core (all in quartz) were also counted.

In addition to the above finds, one large quartzite flake, three silcrete flakes, two silcrete chunks and two hornfels flakes were found. Several small pieces of red hematite were also noted.

The archaeological heritage remains have been graded medium local significance.

The occasional LSA stone artefact (quartz flake and chunk) was encountered over the remainder of the property, including, two, thick pieces (body sherds) of undecorated, slightly red burnished Cape coastal pottery (GPS reading S° 33 32 325 E° 18 41 651). The remains occur in a severely disturbed context and have been graded low local significance.

— little is known of the LSA archaeology of this area

6.1.2 Proposed access road

An existing farm road to the proposed mining site will be upgraded and realigned, to provide access to the proposed mining site (refer to Figure 1). The receiving environment for the proposed access road comprises old farmland that is severely modified and disturbed (Figures 9 & 10).



Figure 9. View of the receiving environment. The proposed new road will cross the fields in the foreground of the plate. View facing north west

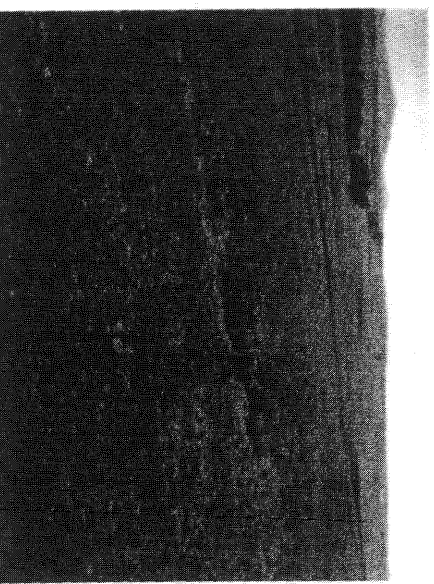


Figure 10. Close up of the receiving environment. View facing north west.

Two Early Stone Age flakes (including one partially retouched silcrete flake) and one heavily patinated irregular core were located in the terraced wheat fields and grazing lands alongside the existing access road to the proposed mining site (Figure 11). The remains occur in a severely disturbed context. No formal tools such as handaxes were found.

The archaeological heritage remains in the proposed access road have been graded low local significance.

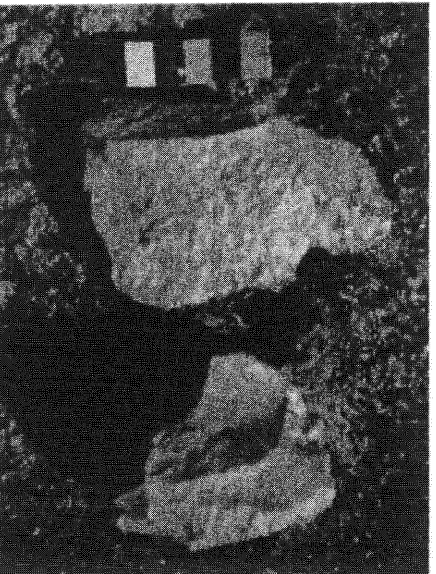


Figure 11. ESA tools. Scale is in cm

7. IMPACT STATEMENT

Proposed sand mining operations and associated activities will likely impact negatively on Later Stone Age artefact scatters in the north eastern and eastern portions of the proposed site.

Early Stone Age artefacts may be exposed on underlying ferruginous gravels and clay, once the topsoil has been stripped from the site.

Human burials may also be uncovered or exposed during sand mining operations in the north eastern portion of the proposed sand mining site, near OHK 2.

8. RECOMMENDATIONS

With regard to proposed sand mining operations on a part of the Farm Olyvenhoek 818, Remainder, situated in the Malmesbury District, the following recommendations are made

- Later Stone Age artefact scatters (i.e. OHK 1 & OHK 2) must be collected as a reference sample. ✓
- Monitoring of sand mining operations is required in case Early Stone Age tools are exposed on underlying ferruginous gravels and clay. ✓
- Should any human remains be disturbed, exposed or uncovered during excavations, and earthworks for the proposed project, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie 462 4502), or Heritage Western Cape (Dr A. Jerardino 483 9692). Burial remains should not be disturbed or removed until inspected by the archaeologist. ✓

- No objections
- Collection of artefacts even if no possibility exist to date them? → maybe yes.

9. REFERENCES

- Halkett, D. 2006. EIA for a new regional landfill site to service the City of Cape Town. Archaeological and cultural heritage specialist study. Report prepared for CCA Environmental. Archaeology Contracts Office, University of Cape Town
- Kaplan, J. 2006. Phase 1 Archaeological Impact Assessment proposed Glen Lossie Quarry, Malmesbury. Report prepared for Corobrik. Agency for Cultural Resource Management

Agency for Cultural Resource Management
Specialists in Archaeological Studies and Heritage Resource Management

PO Box 159 Riebeeck West 7306 Phone/Fax 022-461 2755
E-mail: acrm@wcaccess.co.za Cellular: 082 321 0172

21 August 2006

Dr A. Jerardino
Heritage Western Cape
Private Bag X9067
Cape Town 8000

Dear Chopi

REPORT FOR APM

Please find a hard copy of the following report.

- Phase 1 AIA proposed sand mining on a part of the farm Olyvenhoek 818
Remainder Malmesbury Western Cape Province
Report prepared for Amathemba Environmental Management Consulting
Contact person: Mr Stephen Davey
Address: 8 Feldhausen Road, Claremont, 7708
Fax No.: 671 1272

Many thanks

Jonathan

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