

**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT
PROPOSED GLEN LOSSIE QUARRY
MALMESBURY
WESTERN CAPE PROVINCE**

Prepared for

COROBRIK

By

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Executive summary

Corobrik requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for the proposed Glen Lossie quarry on the Farm 1173, Malmesbury, in the Western Cape Province.

The proposed open-cast quarry is to be mined for plasticized clay to be used for the manufacture of high quality bricks.

The subject property is currently zoned Agriculture. Corobrik have applied to the Swartland Municipality for departure of land use for proposed mining.

The extent of the proposed development (22.75 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.

The subject property is located on the Farm 1173, between Malmesbury and Durbanville. Access to the farm is via the R302. Two proposed areas are to be mined, both comprising old farmlands (wheat and grazing) and both occurring in a severely degraded and disturbed context. Adjacent to the proposed site is an independently operated clay quarry. The surrounding land use comprises rural farmland.

Less than 10 Early Stone Age tools were counted during the study, far fewer than are normally found in the wheat lands of the South Western Cape Province, where such finds are usually fairly prolific. Comprising large flakes, chunks and cores, (no formal tools were found), the archaeological heritage remains occur in a severely disturbed context. As a result, the archaeological remains have been graded low local significance.

The Phase 1 Archaeological Impact Assessment has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to development activities.

The specialist Phase 1 Archaeological Impact Assessment of the proposed Glen Lossie quarry has rated the potential impacts to archaeological heritage material as being very low.

Proposed mining activities may, however, expose peat horizons with fossilized wood and other plant macrofossil remains including pollen relating to the Mid to Late Miocene age.

With regard to proposed clay mining on the Farm 1173, Malmesbury, the following recommendations are made:

- A professional paleontologist must be appointed to inspect areas exposed during mining operations to allow for sampling of possible fossil-bearing horizons.
- Should any human remains be disturbed, exposed or uncovered during earthworks, these should immediately be reported the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502).

1. INTRODUCTION

1.1 Background and brief

Corobrik¹ requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for the proposed Glen Lossie quarry on the Farm 1173, Malmesbury, in the Western Cape Province.

The proposed open-cast quarry is to be mined for plasticized clay to be used for the manufacture of high quality bricks. Clay will be mined annually during the summer months and stockpiled on site. An excavator will be used to extract the clay material to a maximum depth of around 8.5 m below the surface. An operating quarry will be developed for extraction of the brick clay. The life of the proposed quarry is estimated to be about 10 years.

The subject property is currently zoned Agriculture. Corobrik have applied to the Swartland Municipality for departure of land use for proposed mining.

The extent of the proposed development (22.75 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.

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 proposed site;
- to identify and map any sites of archaeological significance within the proposed site;
- to assess the sensitivity and conservation significance of archaeological sites within the proposed site;
- 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 site.

¹ Corobrik is represented by Mr Chris Snow, Manager Mineral Resources, PO Box 201367 Durban North, 4016. Fax (031) 560 3411

3. THE STUDY SITE

A locality map is illustrated in Figure 1.

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

The subject property (S° 33 37 325 E° 18 39 923 on map datum WGS 84) is located on the Farm 1173, between Malmesbury and Durbanville. Access to the farm is via the R302.

Two proposed areas are to be mined both comprising old degraded farmlands (grazing and wheat) (refer to Figure 2). The surrounding land use comprises rural farmland.

With regard to Mine Area 1 which is located adjacent to an existing clay quarry and alongside a gravel road to Kalbaskraal, the proposed site is severely degraded (Figures 3-5). Some earthworks and scraping occur at the points of entry to the proposed site, and the surrounding environment is heavily trampled by free-grazing cattle. Some landscaping in the form of channelling is also evident over the whole site. Loose Koffieklip (or iron stone) occurs on the site, mostly in the north eastern portion of the site, and alongside the access road to the proposed site.

With regard to Mine Area 2, which is located alongside the Kalbaskraal-Bottelfontein railway line, the proposed site is also severely degraded and disturbed (Figures 6-8). The wheat fields have been deep ploughed over many years. Some landscaping in the form of terracing is also evident over the site. Some loose gravel and quartzite occurs in the south eastern corner of the site. Overhead power lines occur in the eastern boundary of the proposed site, alongside the railway line.

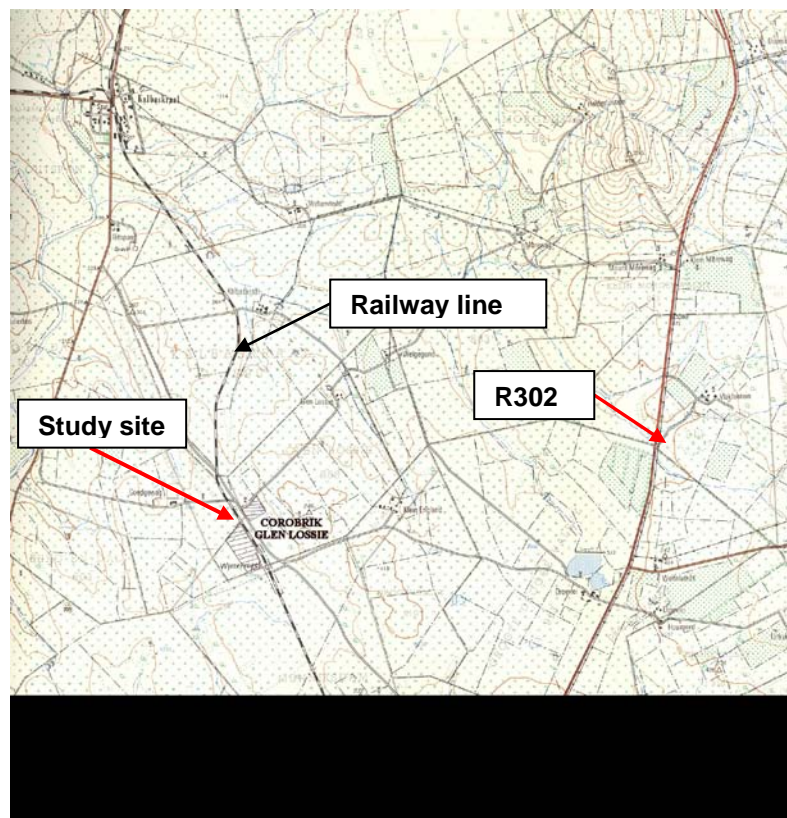


Figure 1. Locality Map (3118 DA Philadelphia)

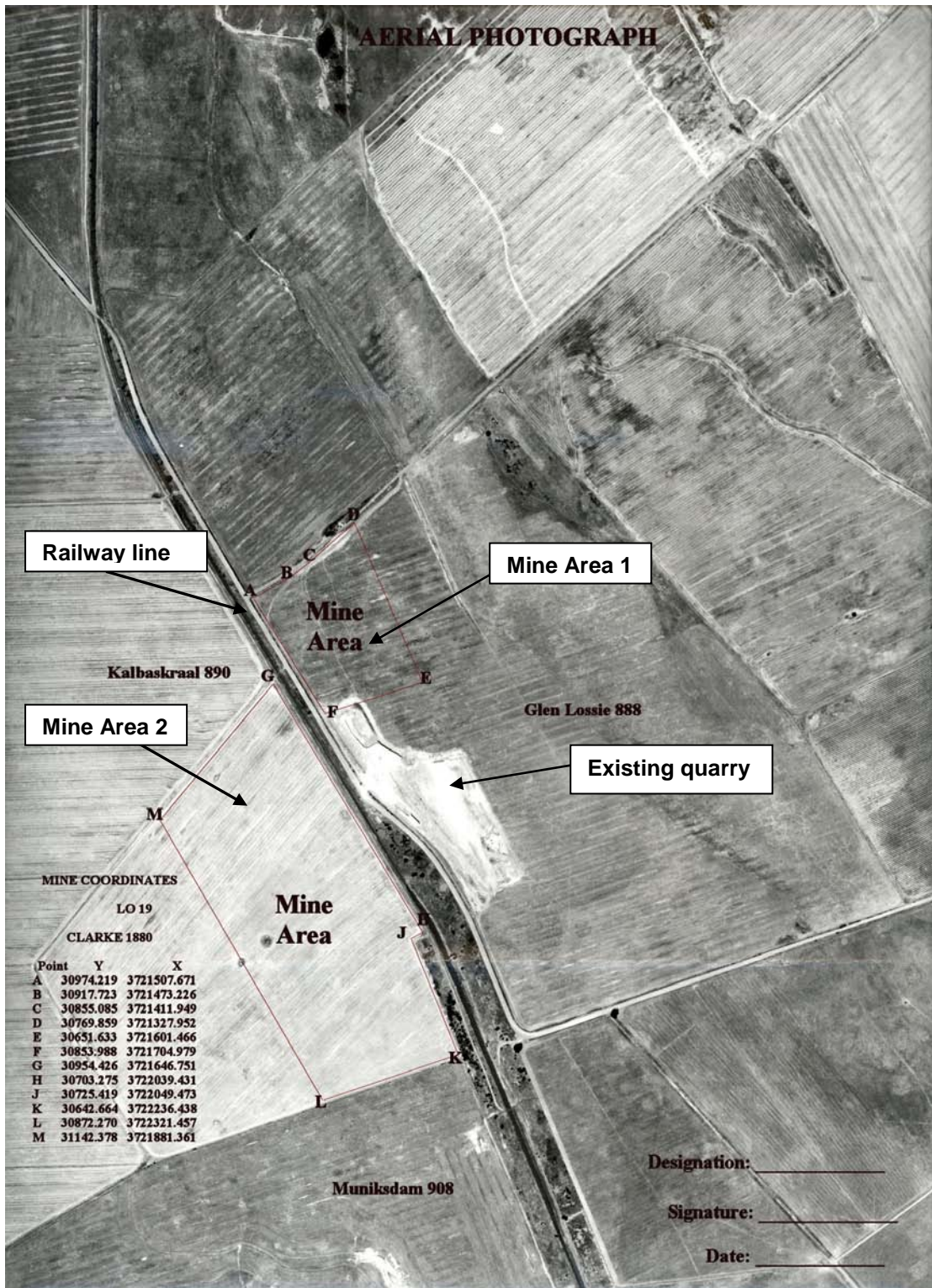


Figure 2. Aerial photograph of the study site (Mine Area)



Figure 3. Mine Area 1. View of the site facing south.



Figure 4. Mine Area 1. View of the site facing north-east



Figure 5. Mine Area 1. View of the site facing north-east



Figure 6. Mine Area 2. View of the site facing south-west



Figure 7. Mine Area 2. View of the site facing south. Table Mountain is in the distance.



Figure 8. Mine Area 2. View of the site facing north-west

4. APPROACH TO THE STUDY

4.1 Method of survey

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

Archaeological heritage remains located during the study have been recorded using a Garmin Geko 201 GPS unit set on map datum WGS 84.

A desktop study was also undertaken.

The site visit and assessment took place on the 5th April 2006.

5. CONSTRAINTS AND LIMITATIONS

There were no limitations or constraints associated with the proposed development.

6. LEGISLATIVE REQUIREMENTS

6.1 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 (No. 25 of 1999).

6.1.1 Structures (Section 34 (1))

No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the South African Heritage Resources Agency (SAHRA), or Heritage Western Cape.

6.1.2 Archaeology (Section 35 (4))

No person may, without a permit issued by the SAHRA or Heritage Western Cape, destroy damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.

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

No person may, without a permit issued by SAHRA or Heritage Western Cape, 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.

7. IMPACT ASSESSMENT AND DESCRIPTION

Less than 10 Early Stone Age² (ESA) tools were located during the baseline study, far fewer than are normally found in the wheat fields of the South Western Cape, where such finds are usually quite prolific. Four of the tools were found in Area 1, and five were counted in Area 2.

The tools comprise large flakes and chunks in rough grained, locally available quartzite. One round core in limestone was also found. No formal tools or retouched tools were located on the site.

The very low density scatter of tools, occur in a severely disturbed and degraded context.

It was interesting to note that very little stone occurred over the proposed site, suggesting that stone (including tools) and rock have been removed from the surrounding fields during preparation of lands for planting, a widespread farming practice in the Swartland region. Some Koffieklip (or iron stone) was noted, mainly in the north eastern portion of Area 1 and in the point of entry access road, while some gravel and loose quartzite rock occurred in the south eastern corner of Area 2.

A collection of stone tools located during the study is illustrated in Figure 9.

The archaeological heritage remain has been graded low local significance

Similar types of tools have been found in the immediate surrounding region and are not uncommon in the heavily ploughed wheat fields of the Swartland (Kaplan 1999, 2000, 2002, 2004, 2005, 2006).



Figure 9. Collection of stone tools. Scale is in cm. Arrow indicates limestone core.

² A term referring to the period between 2 million and 200 000 years ago.

8. IMPACT STATEMENT

The Phase 1 Archaeological Impact Assessment of the proposed Glen Lossie quarry has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to development activities.

The probability of locating significant archaeological heritage remains during implementation of the project is likely to be improbable.

The site is not considered to be archaeologically sensitive, vulnerable or threatened.

Proposed mining activities may, however, expose peat horizons with fossilized wood and other plant macrofossil remains including pollen relating to the Mid to Late Miocene age³.

9. RECOMMENDATIONS

The archaeological heritage impact assessment of the proposed Glen Lossie quarry on the Farm 1173 Malmesbury has rated the potential impacts to pre-colonial archaeological material as being very low provided that.

- A professional paleontologist is appointed to inspect areas exposed during mining operations to allow for sampling of possible fossil-bearing horizons.
- Should any human remains be disturbed, exposed or uncovered during earthworks, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie @ 021 462 4502).

³ Heritage Western Cape letter dated 9th February 2006.

10. REFERENCES

Kaplan, J. 2006. Phase 1 Archaeological Impact Assessment proposed housing development Groot Phisantekraal (Phase 4) Cape Town. Report prepared for JVE Civil Engineers. Agency for Cultural Resource Management

Kaplan, J. 2005. Archaeological Scoping Bulk Water Supply Infrastructure Planning Study for the City of Cape Town. Report prepared for Orrie-Welby - Solomon cc / BKS (Pty) Ltd Joint Venture. Agency for Cultural Resource Management

Kaplan, J. 2004. Archaeological survey proposed Phisantekraal Klipheuwel 66kV line refurbishment between Phisantekraal and Klipheuwel substations. Report prepared for Eskom Land Development. Agency for Cultural Resource Management

2002. J. 2002. Archaeological impact assessment and heritage review the proposed N21 (R300) Cape Town Ring Road Toll Project. Report prepared for Chand Environmental Consultants. Agency for Cultural Resource Management

Kaplan, J. 2000. Archaeological Impact Assessment Eskom Wind Energy Demonstration Facility. Report prepared for CSIR Envirotech. Agency for Cultural Resource Management

Kaplan, J. 1999. Archaeological Impact Assessment proposed Voelvllei to Glen Garry Transfer Scheme. Report prepared for Crowther Campbell & Associates. Agency for Cultural Resource Management.