

**PHASE 1 ARCHAEOLOGICAL HERITAGE SURVEY
PROPOSED CONSTRUCTION OF A NEW 66 KV
OVERHEAD POWERLINE BETWEEN MONTAGU
SUBSTATION AND BARRYDALE
WESTERN CAPE PROVINCE**

Prepared for

ESKOM LAND DEVELOPMENT

By

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1. INTRODUCTION

1.1 Background and brief

Eskom (Land Development) requested that the Agency for Cultural Resource Management undertake a Phase 1 Archaeological Heritage Impact Assessment of the proposed construction of a new 66 Kv overhead powerline between the Montagu Substation and Barrydale in the Western Cape Province.

The proposed powerline will be approximately 45 kms long and will run mostly alongside the provincial road R62.

The extent of the proposed development (a linear development exceeding 300 m in length) falls within the requirements for an archaeological impact assessment as required by Section 38 (1) 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 rate the significance of the potential impact, and to propose measures to mitigate against the impact.

2. TERMS OF REFERENCE

The terms of reference for the baseline study were:

- to identify and evaluate areas of archaeological importance in the proposed study area;
- to assess the nature and extent of potential impacts of the proposed activity on areas of archaeological importance, and
- to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed study area.

3. THE STUDY SITE

The study area is located between the towns of Montagu and Barrydale in the Western Cape Province. For the most part, the proposed 45km powerline route will run alongside the provincial road R62.

The receiving environment alongside the provincial road R62 comprises mostly agricultural and grazing fields, as well as highly degraded and eroded lands.

Where the proposed route deviates significantly from the provincial road R62, it passes through thickly vegetated indigenous veld (resulting in low archaeological visibility), fruit orchards, vineyards, agricultural and grazing fields, and highly degraded and eroded lands.

4. APPROACH TO THE STUDY

4.1 Method of survey

The approach followed in the archaeological heritage study entailed a baseline survey of the proposed powerline route, and the proposed Alternative Routes A1, A2, C and B2.

The study was undertaken by means of a mountain bike and foot search.

A number of affected land owners were also consulted.

More visible archaeological occurrences were recorded and given a co-ordinate using a Garmin Gecko 201 GPS set on map datum WGS 84.

A photographic record of the more visible archaeological occurrences was also made.

The site visit and assessment took place on the 14th and 15th of March 2005.

5. LEGISLATIVE REQUIREMENTS

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

5.1.1 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.

5.1.2 Archaeology (Section 35 (4))

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

Given the extent of linear developments such as roads, powerlines (and associated activities), such projects are likely to impact negatively on archaeological heritage remains.

The assessment thus assumes that:

- damage to archaeological heritage resources potentially will occur during implementation of the proposed project.

7. IMPACT ASSESSMENT AND DESCRIPTION

7.1 The proposed 66 Kv overhead powerline route

Archaeological heritage remains in the form of Stone Age tools were located during the baseline study of the proposed 66 Kv overhead powerline route. GPS co-ordinates for some of the more visible archaeological occurrences are indicated in Table 1. These include the proposed Alternative - A1, A2, and C, and Alternative - B2.

The contents of these scatters are similar, consisting exclusively of artefact scatters dispersed within the affected receiving environment, i.e., within the proposed powerline route (and servitude) as well as the surrounding landscape.

No old buildings, structures, or features, or burial sites/cemeteries will be directly impacted by the proposed powerline construction. This includes Alternative - A1, A2 and C, and Alternative - B2.

Since most of the proposed route is located alongside the provincial road R62 and within an existing servitude, no new access roads will be constructed. Where the proposed route deviates significantly from the R62, existing farm roads will be used as access points, and new powerline servitude's constructed.

Areas where more visible archaeological occurrences were noted during the baseline study are indicated in Figure 1.

Table 1. Location of occurrences of archaeological material.

DEGREES SOUTH	DEGREES EAST	CULTURAL AFFINITUES	FIGURES
33° 47 912	20° 08 515	MSA & LSA	2 & 3
33° 47 996	20° 08 704	MSA & LSA	4 & 5
33° 48 133	20° 09 205	MSA & LSA	6 & 7
33° 48 325	20° 09 653	ESA & MSA	8 & 9
33° 49 106	20° 10 950	ESA & MSA	10 & 11
33° 51 431	20° 15 191	MSA	12 & 13
33° 55 430	20° 26 257	MSA & ESA	15
33° 55 295	20° 26 541	ESA & ESA	16 & 17

All of the stone tools located during the baseline study were found in highly disturbed and degraded areas, such as old agricultural and grazing lands, and on eroded and sheet washed slopes.

By far the majority of stone tools located during the study are assigned to the Middle Stone Age¹ (MSA) and Later Stone Age² (LSA) periods of the South African Stone Age, while the incidence of much older Early Stone Age³ (ESA) tools was relatively low.

¹ A term referring to the period between 200 000 and 20 000 years ago.

² A term referring to the last 20 000 years of precolonial history in southern Africa.

³ A term referring to the period between 2 million and 200 000 years ago.

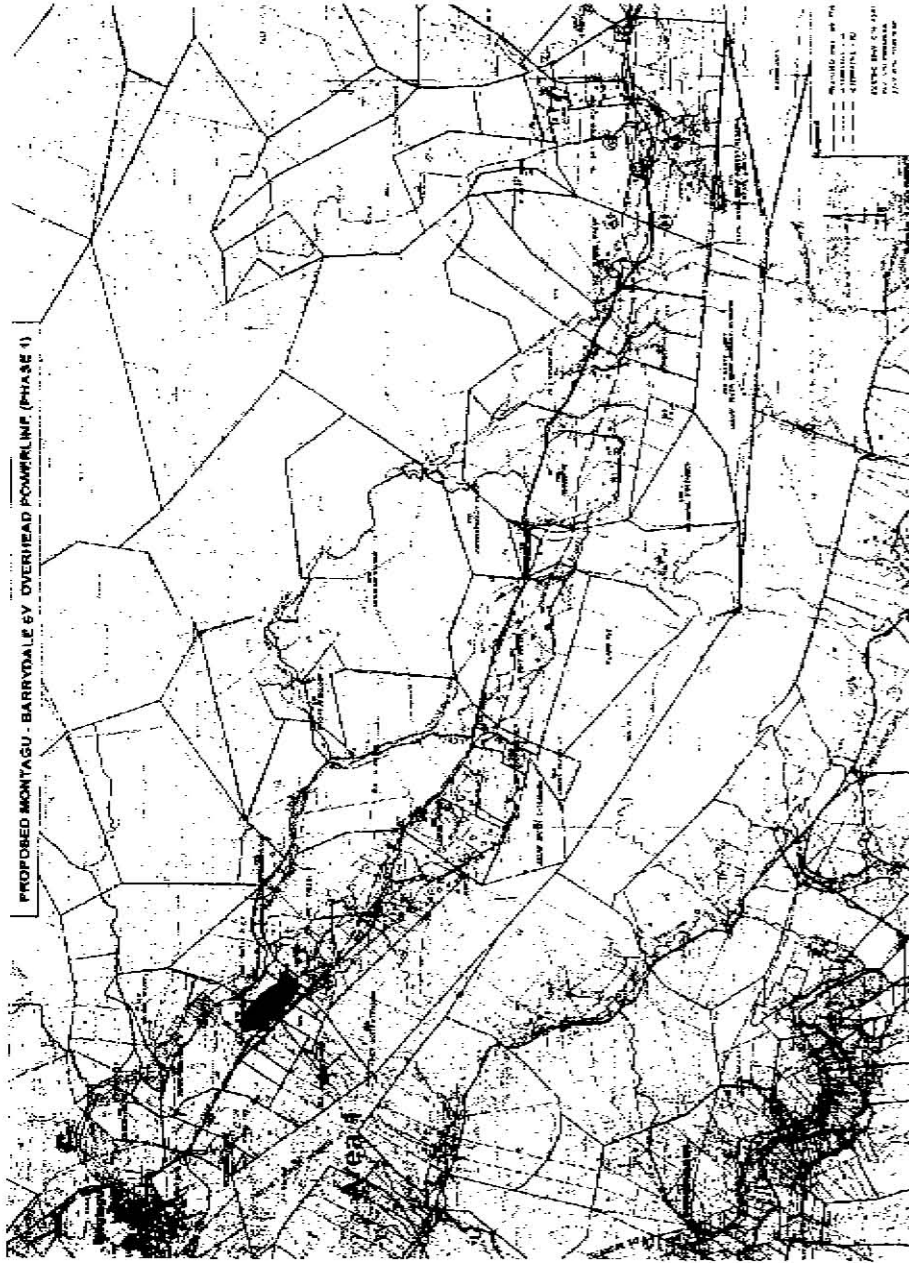


Figure 1. Site locality map.

A collection of some of the tools and the (disturbed) context in which they were located are illustrated in Figures 2-17.

The collections of tools illustrated belong to multiple archaeological occurrences. All have been assigned low significance ratings.

Most of the stone artefacts illustrated in Figure 6 (see Area 1 Figure 1), however, appear to belong to a single archaeological occurrence, albeit in a highly disturbed context. The area in which they were located (a Portion of the Farm Derde Heuvel 210) is clearly very eroded and degraded (see Figure 7). Large numbers of tools are scattered over a wide area north of the R62. There is, however, considerable lateral movement of tools over the landscape, mainly as a result of water and sheet erosion. Tools have also collected in and dispersed close to visible drip lines and erosion dongas, clearly in a disturbed context. The upper slopes of Area 1 alongside the R62 are littered with rounded quartzite river cobbles. The interface between the disturbed (highly eroded) and undisturbed (cobble strewn) areas is very clear.

Interestingly, the majority of the stone tools found in Area 1 are struck from fine-grained, black/grey coloured quartzite rock lying on compacted brown sandy deposits, underlying the loose layer of rounded quartzite cobbles. Some tools in coarse-grained quartzite were also noted in Area 1.

For the remainder of the study area, only a few tools were located in some of the vineyards and fruit orchards, which were targeted by the archaeologist.

No stone tools were found in the thickly vegetated indigenous veld located on the north-facing slopes south of the provincial road R62. Archaeological visibility in these areas is extremely low.

All the stone artefacts located during the study are made on both rough and fine-grained quartzite's, indurated shale and quartz. A range of tools were also located, including both modified and unmodified tools, points, blades, cores, and chunks.

All the rock types used for making these tools would have been locally available to indigenous hunter-gatherers and ESA people living in or moving through the surrounding landscape.

7.2 Proposed alternative - A1, A2 and C

The proposed route deviates significantly to the north of the provincial road R62 and crosses the Goedgeloof River and deep, almost inaccessible river gorge and high mountains of the Kalkoenshoek (Figure 15).

A very thin scatter of ESA and MSA tools was located during a foot and mountain bike search of proposed Alternative Routes A1, A2 and C (Figure 14). Most of the tools, in coarse-grained rounded river quartzite cobbles, were located on the highly degraded, north facing slopes both within and outside the proposed route.

The tools have all been assigned low significance ratings.

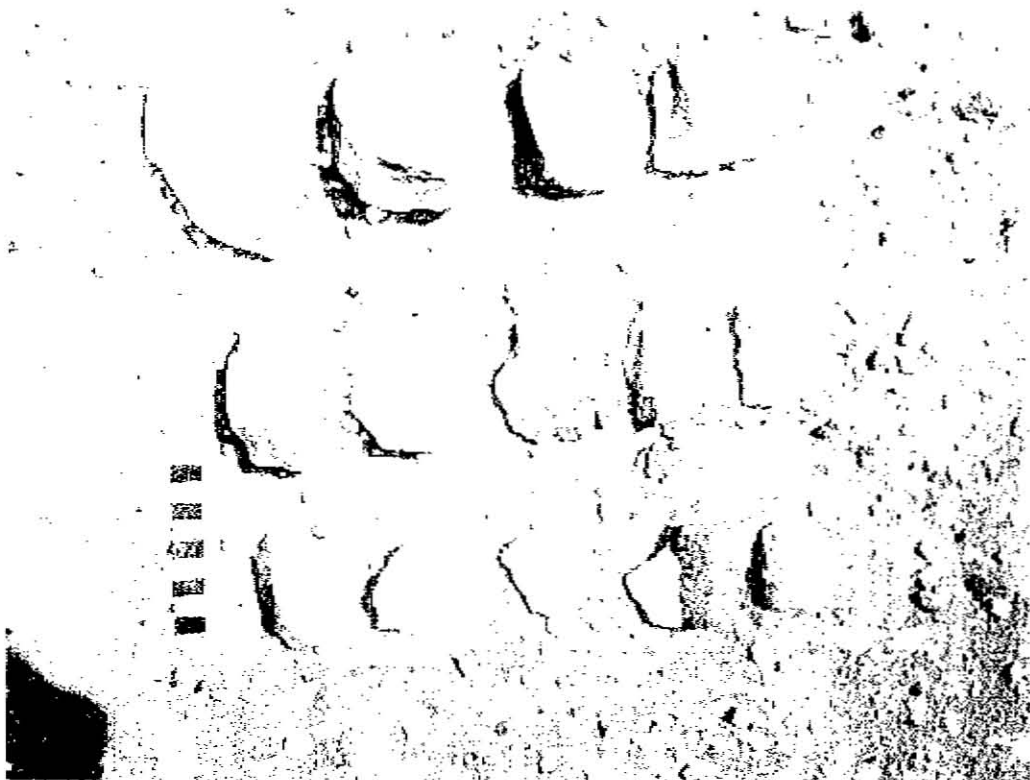


Figure 2



Figure 3

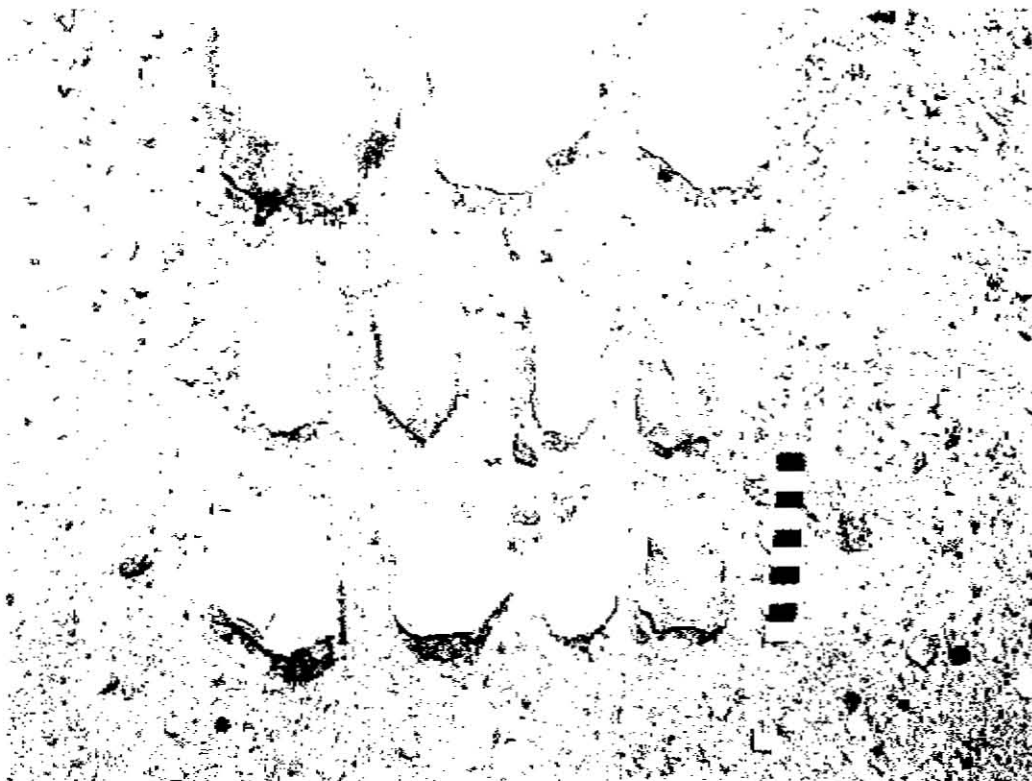


Figure 4

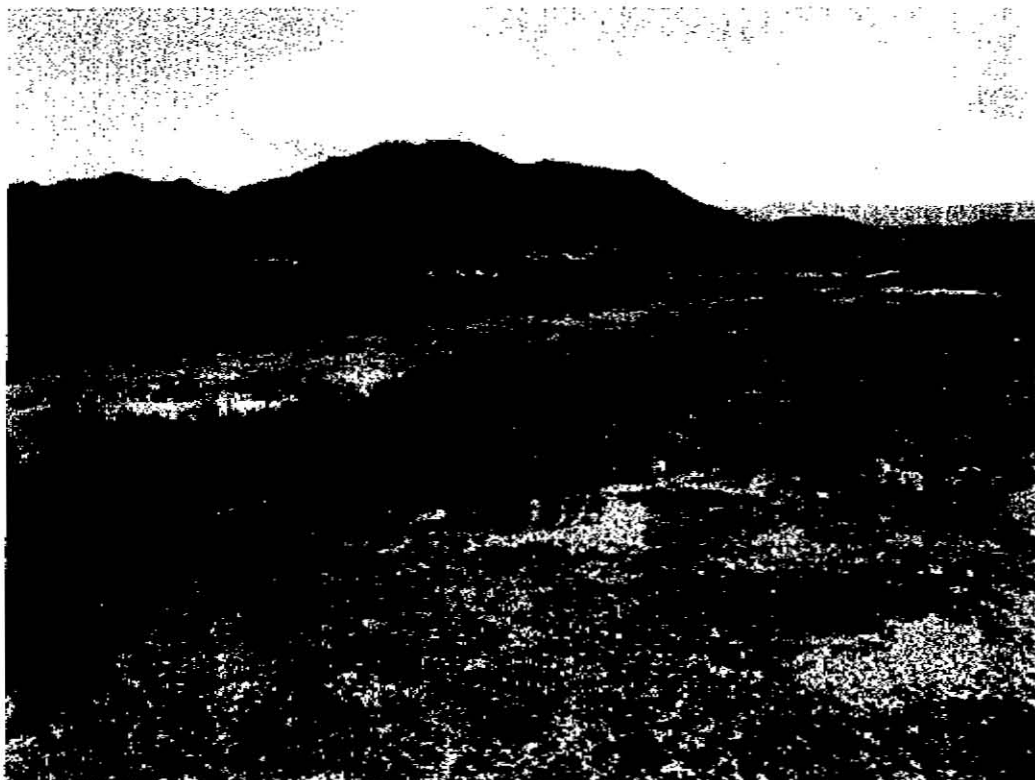


Figure 5

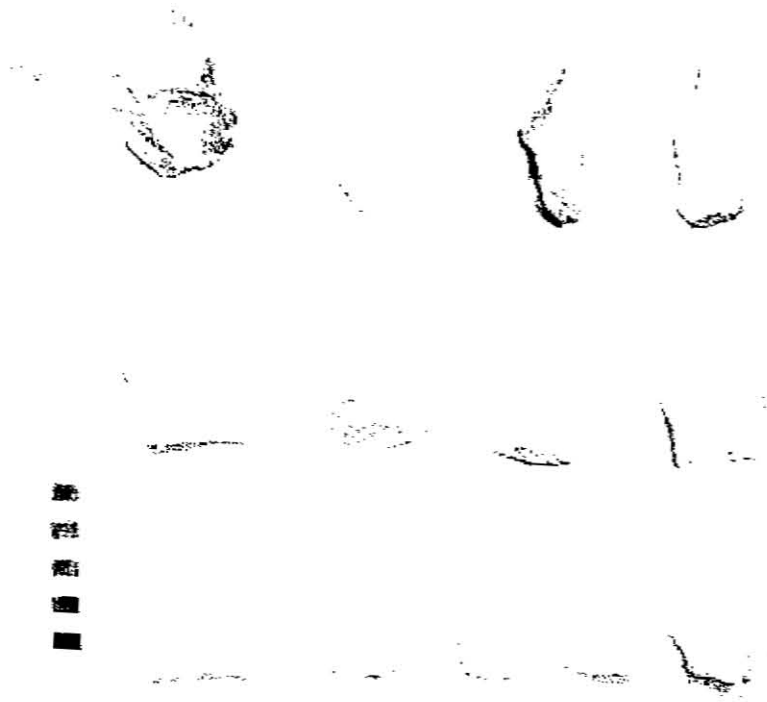


Figure 6

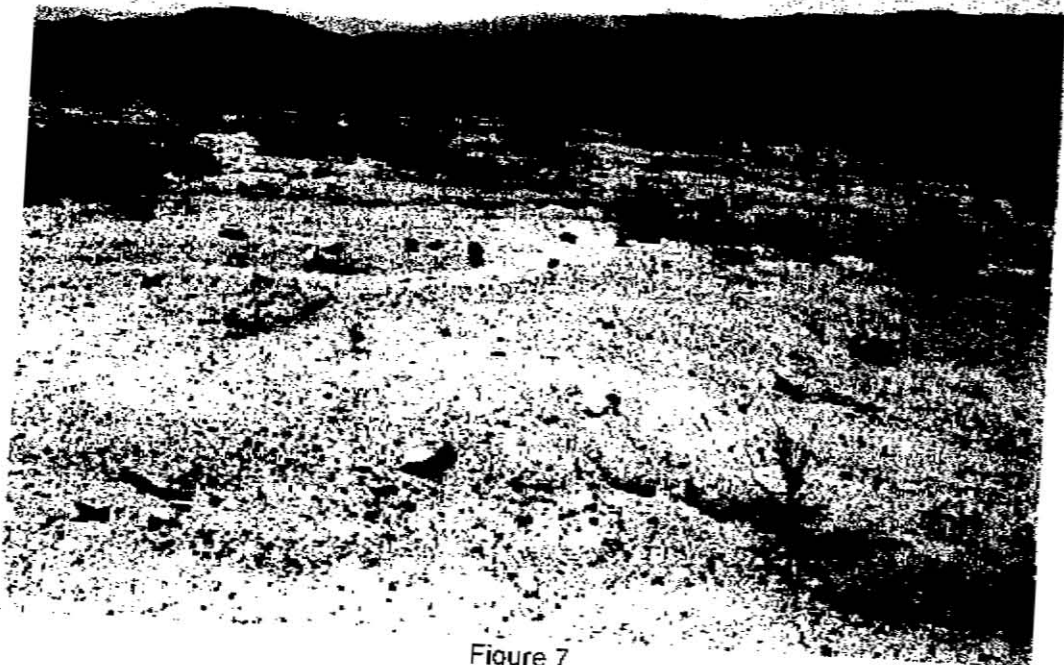


Figure 7



Figure 8



Figure 9

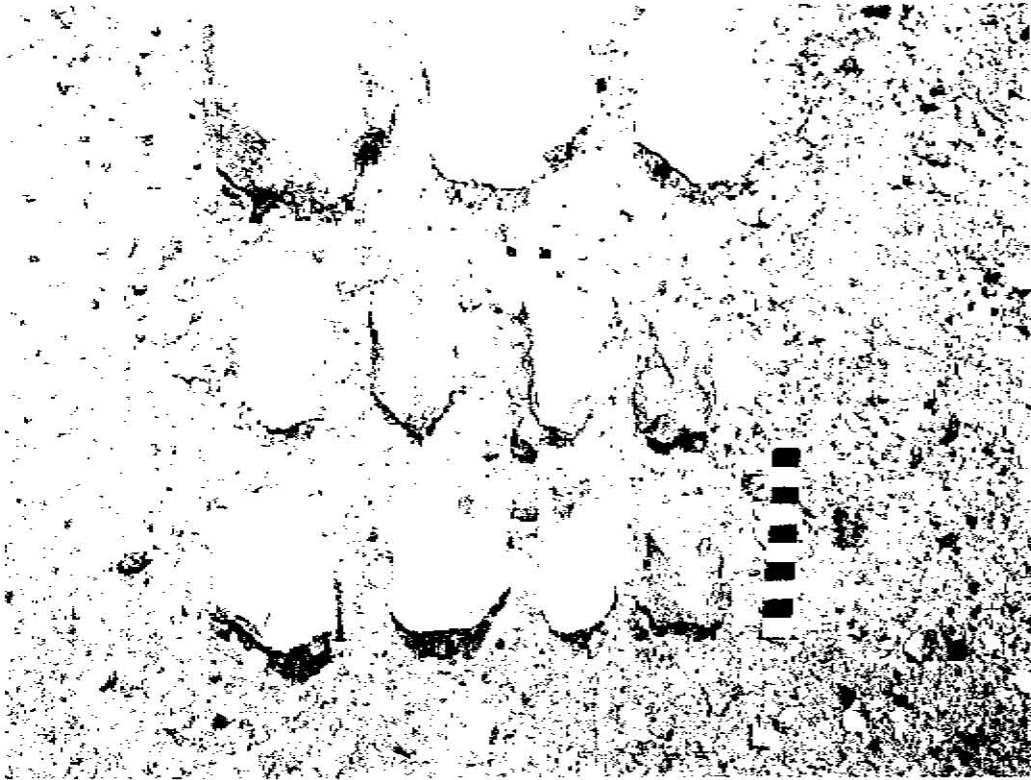


Figure 10



Figure 11

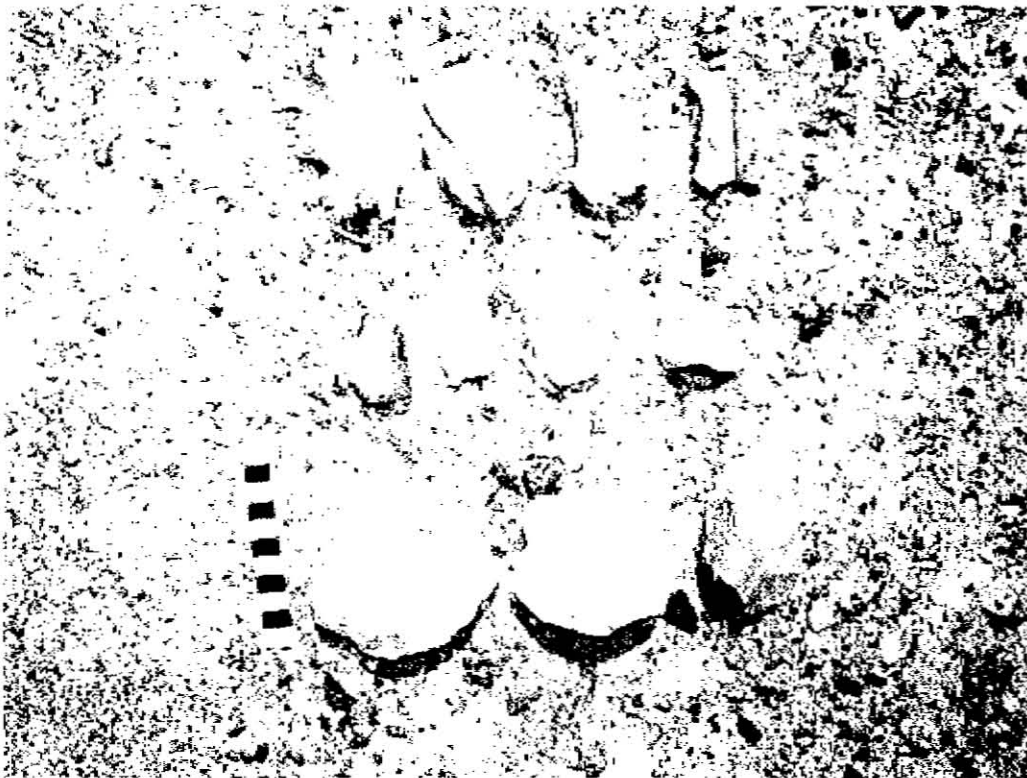


Figure 12



Figure 13



Figure 14



Figure 15



Figure 16



Figure 17

7.2 Proposed alternative - B2

The proposed route deviates significantly to the south of the provincial road R62 and crosses the steep north-facing highly degraded mountain slopes of the Kalkoenshoek (Figure 17).

A thin scatter of MSA and a few ESA tools struck from coarse-grained and finer grained quartzite's were located on the highly eroded north facing slopes during a search of proposed Alternative Route B2 (Figure 16).

The tools have all been assigned low significance ratings.

8. IMPACT IDENTIFICATION AND ASSESSMENT

The baseline archaeological heritage study indicates that the impact of the proposed construction of the new 66 Kv overhead powerline between the Montagu Substation and Barrydale on important or significant archaeological heritage remains is rated to be LOW.

Most of the tools were located in a highly disturbed and modified context and have been assigned LOW significance ratings.

However, although the large scatter of tools located on a portion of the farm Derde Heuvel 210 north of the provincial road R62 were found in a disturbed and eroded context, many of the tools that litter the surrounding area appear to belong to a single archaeological occurrence. As a result the tools noted in Area 1 (refer to Figure 1) have been assigned a MEDIUM - HIGH significance rating.

Overall, however, the baseline study has shown that the probability of locating any significant archaeological sites or remains during the implementation (i.e. the Construction Phase) of the proposed project is likely to be improbable.

The assessment of the potential impact on archaeological resources is summarised in Table 2.

Table 2. Archaeological impact assessment of the proposed construction of a new 66 Kv overhead powerline between the Montagu Substation and Barrydale

	Without Mitigation	With Mitigation
Extent	Site specific	Site specific
Duration	Temporary	Temporary
Intensity	Low	Low
Probability	Improbable	Improbable
Significance	Low	Low
Status	Positive	Positive
Confidence	High	High

9. MITIGATION MEASURES

The following essential mitigation measures are recommended:

The baseline archaeological study of the proposed construction of the new 66 Kv overhead powerline between the Montagu Substation and Barrydale, has rated the potential impacts to archaeological material as being low provided that:

- A professional archaeologist is appointed by Eskom to undertake a systematic and controlled collection of stone tools from Area 1. For such a collection to take place, a permit will be required from Heritage Western Cape, the delegated Provincial Heritage Authority.

Such a collection will be important, as few if any systematic collection of Stone Age archaeological remains have been made from the Montagu region.

The collection may also form the basis of a useful comparison with the stone tool assemblage from the Montagu Cave Middle Stone Age excavations (Keller 1973).

- No other mitigation measures are required.

REFERENCES

Keller, C.M. 1973. Montagu Cave in prehistory. University of California Anthropology Records 28: 1-150.

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Agency for Cultural Resource Management

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Date: 25 March 2005

Att: Ms Reetsang Mothibi
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Dear Reetsang

**INVOICE ARCHAEOLOGICAL HERITAGE STUDY PROPOSED CONSTRUCTION
OF A NEW 66 KV OVERHEAD POWERLINE BETWEEN MONTAGU
SUBSTATION AND BARRYDALE**

Please find Invoice for the work carried out.

Yours sincerely



Jonathan Kaplan