

**PROPOSED REZONING AND SUBDIVISION OF PORTION OF REMAINDER 249
VYF-BRAKKEFONTEIN 220, KWANONQABA, MOSSEL BAY**

ARCHAEOLOGICAL HERITAGE IMPACT ASSESSMENT

FINAL REPORT

Prepared For:

SRK Consulting Engineers & Scientists
PO Box 6824, Roggebaai, 8012
E-mail: mmangnall@srk.co.za

By:



Dr Peter J. Nilssen
MAPCRMCC
PO Box 176
Great Brak River
6525

Tel: (044) 690 4661 Fax: (044) 691 1915 Cell: 082 783 5896
E-mail: map01@telkomsa.net

May 2005

Table of Contents

<u>Content</u>	<u>Page</u>
Executive Summary	3
1. Introduction	4
1.1. Background	4
1.2. Purpose of the Study	4
1.3. Study Area	4
1.4. Approach to the Study	5
2. Description of the Affected Environment	5
3. Results	6
4. Sources of Risk, Impact Identification and Assessment	7
5. Required and Recommended Mitigation Measures	8
6. Acknowledgements	8
Figures and Plates	9

Executive Summary

A foot survey conducted on 2 April 2005 on Portion of Remainder 249 Vyf-Brakkefontein 220, Kwanonqaba, Mossel Bay revealed that archaeological resources occur in very low densities in the form of stone artefacts of Early Stone Age (ESA) and/or Middle Stone Age (MSA) origin. While the occurrences that were observed are extremely sparse (below 1 artefact every few hundred meters), it is possible that denser scatters of artefacts occur in the ground and where the ground surface is not currently visible. No rock shelters or caves were seen in the most likely locations – ravines – and no traces of Later Stone Age or Pottery Period (Herder) occupation were seen. The only structure of more recent origin is a house adjacent to the N2 in the western portion of the property that does not seem to represent an architectural style of historic significance. A heritage consultant's investigation revealed no information of significance or even a backdrop story concerning this structure.

Because of the paucity of archaeological resources in the study area, it is recommended that archaeological mitigation in the form of collection or excavation is not required. Due to the presence of ESA and/or MSA stone artefacts, however, it is recommended that a professional archaeologist monitor vegetation clearing and earthmoving activities associated with development in the event that denser artefact scatters are uncovered. Monitoring is recommended because development at Pinnacle Point (Casino and other areas), which is no more than a few kilometers from the current study area, has yielded high numbers of mostly ESA stone artefacts. The immediate surroundings of the old house next to the N2 should be “red-flagged” for monitoring during demolition and earthmoving activities in the event that materials of historic significance are unearthed.

The proposed development at Portion of Remainder 249 Vyf-Brakkefontein 220, Kwanonqaba, Mossel Bay will have no obvious negative impact on archaeological resources provided that the above-mentioned recommendations are considered. Since archaeological occurrences were found during this study and since the house referred to above is potentially older than sixty years, a permit must be obtained from Heritage Western Cape to damage and/or destroy those materials as the National Heritage Resources Act No. 25 of 1999 protects them.

1. Introduction

1.1 Background

Due to the proposed rezoning, subdivision and future development of Portion of Remainder 249, Vyf-Brakkefontein 220, Kwanonqaba, Mossel Bay; SRK Consulting Engineers & Scientists (SRK) appointed the Mossel Bay Archaeology Project: Cultural Resources Management CC (MAPCRM CC) to undertake an Archaeological Heritage Impact Assessment (AHIA) as part of the Environmental Impact Assessment (EIA).

The purpose of rezoning and subdivision of the above-named property is to develop the land as a light industrial park that will include:

- 80 plots for light industrial purposes (\pm 12.2ha);
- Private Open Space (\pm 19.5ha);
- An internal access road (\pm 3.6ha); and
- Associated services, e.g. electricity, water and storm water drainage.

1.2. Purpose and Scope of the Study

Archaeological heritage resources differ in a fundamental and crucial way from most other environmental assets; they are entirely irreplaceable and not renewable. Rapid and widespread development is a serious threat to such resources. Unless long-term conservation, mitigation and management plans are put in place, the archaeological heritage resources of the affected environment are in grave danger of being lost forever.

The objectives of AHIA are:

- To assess the study area for traces of archaeological materials;
- To identify options for archaeological mitigation in order to minimize potential negative impacts; and
- To make recommendations for archaeological mitigation.

Terms of Reference (ToR):

- a) Locate the property boundaries of Portion of Remainder 249, Vyf-Brakkefontein 220, Kwanonqaba, Mossel Bay.
- b) Conduct a foot survey of the above-named property in order to identify archaeological resources.
- c) Assess the impact of the proposed rezoning, subdivision and development on archaeological materials.
- d) Recommend mitigation measures where necessary.
- e) Prepare and submit a report to SRK that meets standards required by Heritage Western Cape in terms of the National Heritage Resources Act, No. 25 of 1999.

1.3 Study Area

The study area of some 65 hectares is approximately 3km west to northwest of Mossel Bay with the property's northern boundary running along the eastern edge of the N2 (Figures 1 & 2). Immediately north of Kwanonqaba the property includes a few small, rolling hills that descend into a small ravine that runs roughly parallel to the length of the property (Plate 1). To the north of the ravine the hills rise and flatten off where they reach the N2 (Plate 1). The southern and eastern boundaries are not marked or fenced and were

estimated reasonably accurately from landmarks on a topographic map. To the south and east are the suburbs of Kwanonqaba, D'Almeida and informal settlements (Plates 1 & 2).

1.4 Approach to the Study

MAPCRM CC is conducting archaeological monitoring for development at Pinnacle Point that lies a few kilometers to the south of the study area. To date, many thousands of Early Stone Age (ESA) and Middle Stone Age (MSA) stone artefacts were mapped and collected. Additionally, the Mossel Bay Archaeology Project (MAP) is conducting long-term research into the MSA at cave and open-air archaeological sites at Pinnacle Point and therefore we know that the Mossel Bay area contains an unusually rich record of human history spanning at least the last 500 000 years.

No previous archaeological study was conducted in or near the property in question and therefore no reports were consulted. A heritage consultant, Ms Kathleen Schulz was appointed by MAPCRM CC to investigate - via archival and/or historic research - the heritage/historic value and significance of an old house that still stands on the property.

SRK provided maps showing the location and extent of the property, but coordinate data for boundary points were not obtained. During the foot survey, boundary points were estimated by the use of landmarks on topographic maps.

The study area was accessed through the fence adjacent to the N2, as the author is not familiar with Kwanonqaba and vehicular access routes to the property. A survey of the study area was conducted on foot on 2 April 2005 by walking some 15km and covering an area of some 50 hectares. Figure 3 shows the area covered, which is a bit smaller than the extent of the property because areas with impenetrable vegetation were excluded. Some areas that lie outside the boundaries were investigated because the boundaries were not easily estimated without coordinate data (Figure 3).

The ground surface was inspected where possible, but due to considerable vegetation cover only about 15 to 20% of the ground surface is visible and this was the greatest limitation to the study.

GPS readings of the surveyed area, features, the old house and artefacts were taken with a handheld instrument (Garmin Etrex Summit) using the Map Datum WGS 84 and a digital photographic record of the study was made. Complete records of these data are available on request.

2. Description of the Affected Environment

A basic description of certain aspects of the study area and access to it are given in section 1.3 above. While only 35 hectares are considered for development at this time, the current study included the entire property.

In the western 3rd of the property are several signs of disturbance in the form of ploughed fields (Plate 3), rock clearing for agriculture (Plate 4), dumping areas and so on. This area was apparently used as farmland. One fenced area includes ploughed fields while another includes the same and a dam (Plate 5). Vehicle and pedestrian tracks are common along the southern hills of the property and in the ravine while the hills to the north of the ravine are relatively undisturbed (Plates 1 & 2).

Although vegetation cover is high, enough ground is visible - on the southern hill slopes and in vehicle/pedestrian tracks - to report that in addition to sands with a high component of silt are outcrops of water worn cobbles originating from the Enon conglomerates, rock of Table Mountain Sandstone origin as well as shales. Also noted were nodules and rocks of milky quartz as well as notable quantities of ochre (Plate 6). The hills to the north of the ravine are more heavily vegetated, which renders visibility of the ground very poor, but outcrops of Enon-derived cobbles were seen.

Alien vegetation is common in the ravine as well as the western and southern portion of the property while indigenous flora appears to dominate on the hills in the northeastern part of the property. Plate 7 shows varieties of vegetation in the study area and lower case letters in Figure 3 denote the locations where labeled thumbnails were taken.

3. Results

The foot survey focused on closer inspection of ground surfaces that were not densely covered with vegetation. As mentioned above, the surface of the ground is not visible for the vast part of the property. GPS readings were taken at archaeological occurrences and examples of stone artefacts presented in plates are indicated with red dots and numbers in Figure 3. No more than twenty stone artefacts were seen, but their presence suggests that denser clusters may occur under vegetation or in the ground. Note that 1 and 2 in Figure 3 lie outside the property proposed for development. They are included here as they represent examples of stone artefacts seen on the property.

1. The first occurrence represents two stone artefacts in quartzite that may be of either MSA or ESA (Plate 8) origin. They were located at S 34.17936° E 22.06465° in a single vehicle track (gravel) some 60m east of an informal settlement (Plate 8 and 1 in Figure 3). These artefacts were isolated and not in association with other archaeological materials. This part of the property is certainly disturbed by former farming activities as well as ongoing human and vehicular traffic, and their occurrence in the road suggests that they are in secondary context.

2. A quartzite radial core that is of either MSA or ESA age was seen at S 34.17766° E 22.06645° (Plate 9 and 2 in Figure 3). The core was found about 50m east of an informal settlement in an area containing a lot of modern debris. Evidence for pedestrian and vehicular traffic shows that this area is heavily disturbed and that the artefact is certainly in secondary context.

3. An old house that was possibly a farm dwelling when originally built and later used by farm labourers is situated at S 34.17457° E 22.06793° (Plate 10 and 3 in Figure 3). While the building lacks doors, windows and a roof, the structure appears to be sturdy and in reasonable condition. The bricks and plaster used in building the house are relatively modern and do not show evidence of materials commonly used in 18th and 19th century structures. No traces of archaeological materials predating the 20th and 21st centuries were seen and all debris in and around the house is modern. The most obvious article that does not date to the 21st century is a coal stove that is currently standing in the original fireplace/hearth in the kitchen at the northeastern end of the house (Plate 10 f and g). The area surrounding the house is very disturbed and there is a large ploughed field to the east of the structure. Another fenced and ploughed area (4) occurs to the southeast of the house as indicated in Figure 3 (4) (see Plate 3). Investigation by Ms Schulz yielded no information of significance and not even a background story could be found in personal archives, local sources or the Mossel Bay and George Museums. According to the heritage consultant it is likely that some information can be found at the Surveyor Generals Office including the original diagrams and subsequent subdivisions. This should provide some details as to the location of the original farmhouse.

5. A quartzite flake that is probably of MSA origin was found at S 34.17474° E 22.07271° (Plate 11 and 5 in Figure 3). The artefact was found in a relatively un-vegetated patch on the southern hills of the property in the vicinity of pedestrian tracks. It is likely that this artefact is also in secondary context.

The additional MSA/ESA artefacts that were seen on the property are located in the zones marked as ovals with dashed lines in Figure 3. At no point on the landscape were artefacts seen in clusters that could be referred to as sites. Instead, they were always found in isolation, with the exception of 1 above and are therefore referred to as occurrences. Table 1 summarizes the results of the foot survey and presents recommendations for mitigation.

Table 1. Age, significance and recommended mitigation (mandatory in bold) for discovered archaeological occurrences. HWC = Heritage Western Cape

Site Number	Period/Age	Potential Significance	Mitigation
1	ESA/MSA	International / National	Monitor vegetation clearing and earthmoving activities. Obtain permit from HWC for damage/destruction
2	ESA/MSA	International / National	Monitor vegetation clearing and earthmoving activities. Obtain permit from HWC for damage/destruction
3 – house next to N2	Indeterminate at this time	Local / Regional	Monitor demolition, vegetation clearing and earthmoving activities. Obtain permit from HWC for damage/destruction
5	MSA	International / National	Monitor vegetation clearing and earthmoving activities. Obtain permit from HWC for damage/destruction

4. Sources of Risk, Impact Identification and Assessment

The proposed development as outlined in 1.1 above will involve:

- substantial vegetation clearing and earthmoving activities that may have a permanent and negative impact on potential significant archaeological resources. While no significant sites were recorded during this study, the limited visibility of the ground surface and the fact that most archaeological materials lie in and under the ground means that denser clusters of artefacts (archaeological sites) may occur in areas that are not currently exposed.
- associated impact in the form of increased vehicular and pedestrian traffic may also impact archaeological resources that are not currently visible.

Based on the above, this assessment concludes that archaeological mitigation in the form of collection or excavation is not required, but that a professional archaeologist should monitor vegetation clearing and earthmoving activities in the event that higher densities of artefacts are encountered during construction activities. Regarding the old house adjacent to the N2, the site of the house and immediate surroundings should be red-flagged for monitoring during demolition and earthmoving activities.

Table 2 summarizes the impacts of the proposed development on archaeological heritage resources.

Table 2. Potential Impact on and Loss of Archaeological Heritage Resources

	Without Mitigation	Assuming Mitigation
Extent	(Inter)national	Local
Duration	Permanent	Permanent
Intensity	Medium to high	Medium to low
Probability	Low to medium	Low to none
Significance	Medium to high	Low to none
Status	Negative	- and +
Confidence	High	High

5. Required and Recommended Mitigation Measures

The following is required:

- The National Heritage Resources Act, No. 25 of 1999, protects archaeological occurrences and therefore a permit for damage and/or destruction must be obtained from Heritage Western Cape prior to any vegetation clearing and earthmoving activities including demolition of the old house.
- In the event that archaeological or historical remains are unearthed in the absence of the archaeological monitor(s), the contractor(s) should inform the appointed archaeologist or Heritage Western Cape.
- Unmarked human burials may occur anywhere in the landscape and are often exposed during earthmoving activities. Human remains are protected by law and, if encountered and older than 60 years, must be reported to the State Archaeologist at the South African Heritage Resources Agency (Mrs. Mary Leslie who can be reached at 021 462 4502).

Once cleared of vegetation and the ground surface is visible, it is possible that archaeological sites (e.g., clusters of stone artefacts) become exposed. It is also possible that earthmoving activities associated with clearing and construction activities reveal the presence of archaeological materials that are currently buried in the ground.

It is recommended:

- That a professional archaeologist monitors the above-mentioned activities on a full or part-time basis.
- That a professional archaeologist should monitor demolition and earthmoving activities at the old house, as materials associated with occupation during the colonial period may be unearthed.
- That if significant archeological materials are exposed as a result of the above-mentioned activities, then archaeological mitigation in the form of collection and/or excavation and basic analyses will be required at the expense of developers.

6. Acknowledgements

We thank SRK for supplying maps indicating the location and extent of the study area. We also thank Ms Kathleen Schulz for conducting the heritage/historic research concerning the house adjacent to the N2.

Figures and Plates (on following pages)

Figure 1. Location of study area – framed - in relation to Mossel Bay, Western Cape Province.

Figure 2. Enlarged area as indicated in Figure 1. The area proposed for rezoning, subdivision and proposed development is shaded in green.

Figure 3. Enlarged area as indicated in Figure 2. The area proposed for rezoning and development is shaded green (Figure 2) and the area covered during the AHIA is shaded orange. Red dots represent GPS coordinates for photographed structures, features and artefacts (details in text and plates).

Plate 1. The study area viewed from northern slopes near the northeastern boundary and looking toward the south-southwest.

Plate 2. The northeastern extent of the property viewed from the southwest.

Plate 3. A fenced and ploughed field to the east of the old house in Plate 10 and Figure 3 (4). This fenced and plowed area is also in the western portion of the study area and is viewed here from north.

Plate 4. Large pile of rocks probably associated with clearing fields for agricultural purposes.

Plate 5. Fenced area including ploughed fields and dam in western part of property.

Plate 6. Exposed ground surface on southern hills of property (top) with notable quantities of milky quartz nodules (a) and ochre (b).

Plate 7. Variety of vegetation types encountered in the studied area. Locations of thumbnails presented in Figure 3. The photos are views toward the; east (a, b, c, e & g), northeast (d), northwest (f & h) and south southeast (i).

Plate 8. Vehicle track (top) containing MSA/ESA stone artefacts (white oval) shown in close-up photograph (bottom). Figure 3 (1) indicates their location.

Plate 9. The location where this radial core was seen (bottom is indicated by the white oval (top). Figure 3 (2) indicates its location.

Plate 10. An old house represents the only example of a built structure that may be of heritage/historic significance (3 in Figure 3). The photographs were taken from southwest (a), east (b), northeast (c), southeast (d) and north (e). The old hearth and coal stove are shown in f and g. Figure 3 (3) shows the location of the house.

Plate 11. The location of a quartzite flake, probably of MSA age is indicated with a white oval (top). A close-up of the artefact is shown (bottom) and its position on the property is indicated in Figure 3 (5).

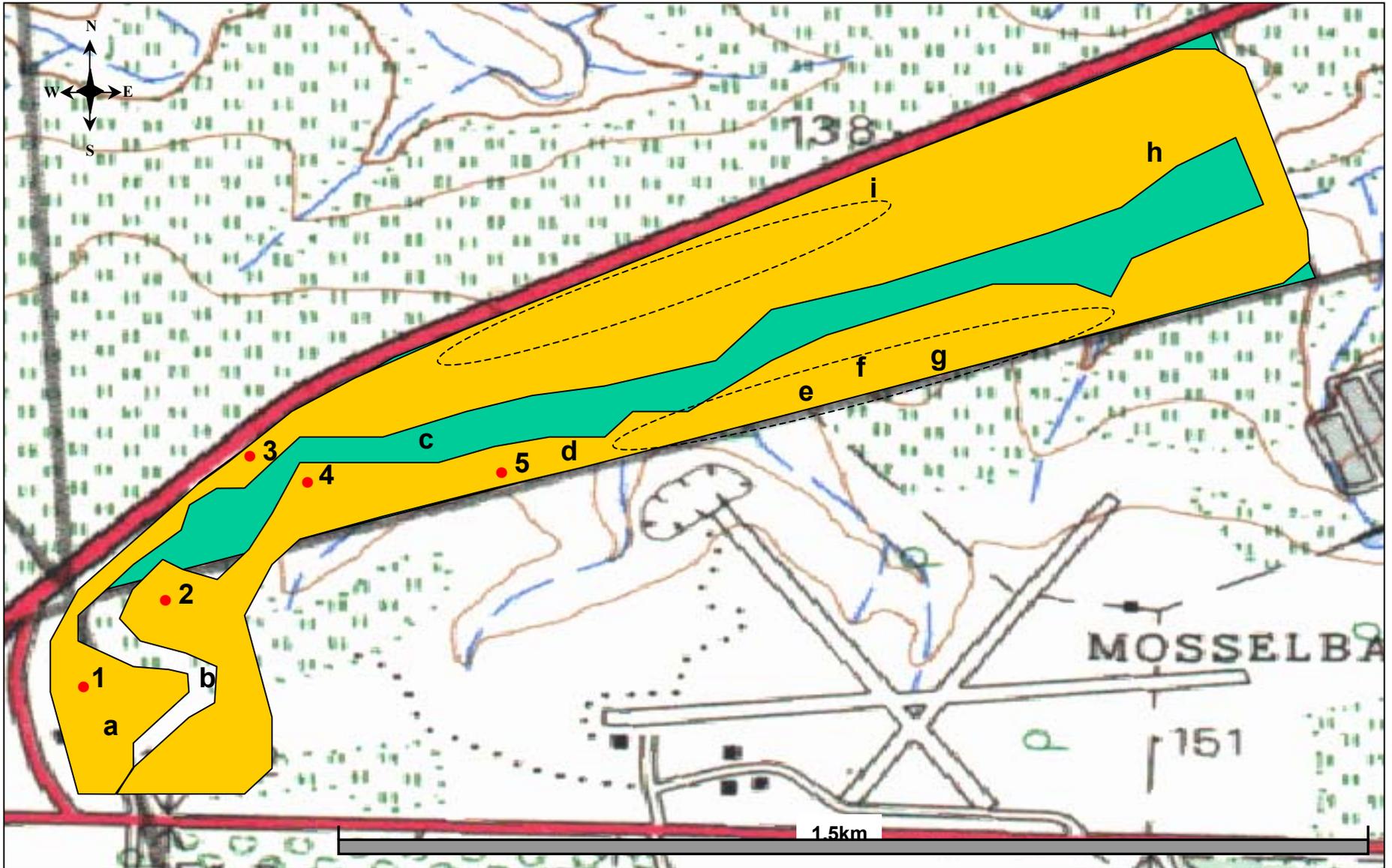


Figure 3. Enlarged area as indicated in Figure 2. The area proposed for rezoning and development is shaded green (Figure 2) and the area covered during the AHIA is shaded orange. Red dots represent GPS coordinates for photographed structures, features and artefacts (details in text and plates).



Plate 1. The studied area viewed from northern slopes near the northeastern boundary and looking toward the south-southwest (see Figure 3).



Plate 2. The northeastern extent of the property viewed from the southwest (see Figure 3).



Plate 3. A fenced and ploughed field to the east of the old house in Plate 10 and Figure 3 (3). This fenced and ploughed area is also in the disturbed western portion of the study area and is viewed here from the north. See number 4 in Figure 3.



Plate 4. Large pile of rocks probably associated with clearing fields for agricultural purposes.



Plate 5. Fenced area including ploughed fields and dam in western part of property.

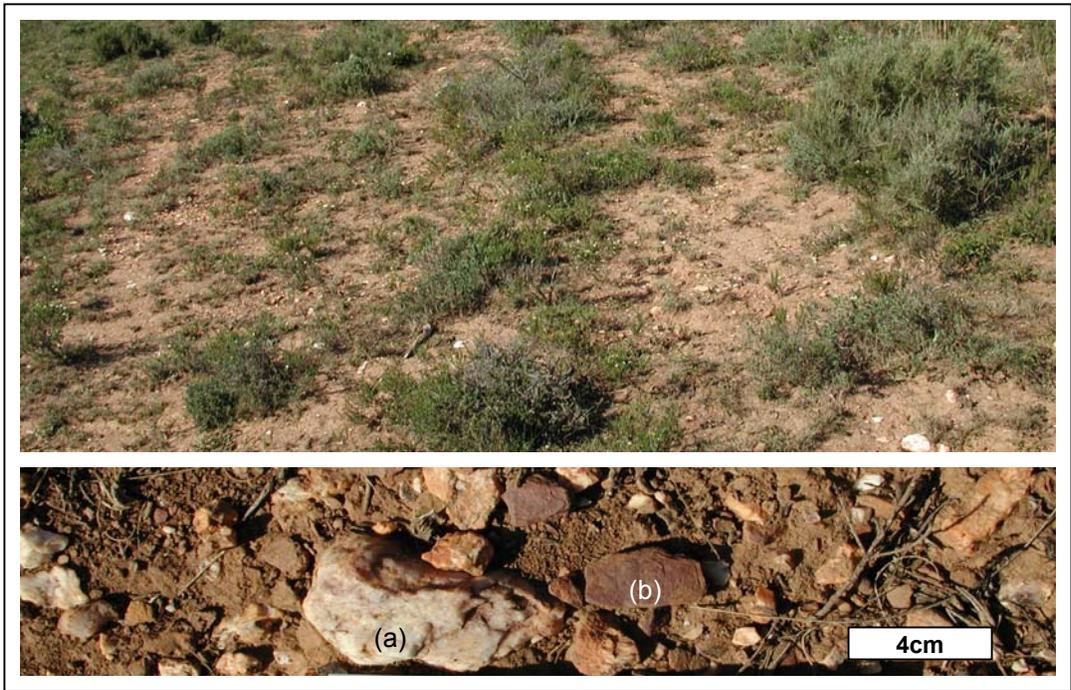


Plate 6. Exposed ground surface on southern hills of property (top) with notable quantities of milky quartz nodules (a) and ochre (b).



Plate 7. Variety of vegetation types encountered in the studied area. Locations of thumbnails presented in Figure 3. The photos are views toward the; east (a, b, c, e & g), northeast (d), northwest (f & h) and south southeast (i).



Plate 8. Vehicle track (top) containing MSA/ESA stone artefacts (white oval) shown in close-up photograph (bottom). Figure 3 (1) indicates their location.



Plate 9. The location where this radial core was seen (bottom) is indicated by the white oval (top). Figure 3 (2) indicates its location.



Plate 10. An old house represents the only example of a built structure that may be of heritage/historic significance (3 in Figure 3). The photographs were taken from southwest (a), east (b), northeast (c), southeast (d) and north (e). The old hearth and coal stove are shown in f and g. Figure 3 (3) shows the location of the house.



Plate 11. The location of a quartzite flake, probably of MSA age is indicated with a white oval (top). A close-up of the artefact is shown (bottom) and its position on the property is indicated in Figure 3 (5).