

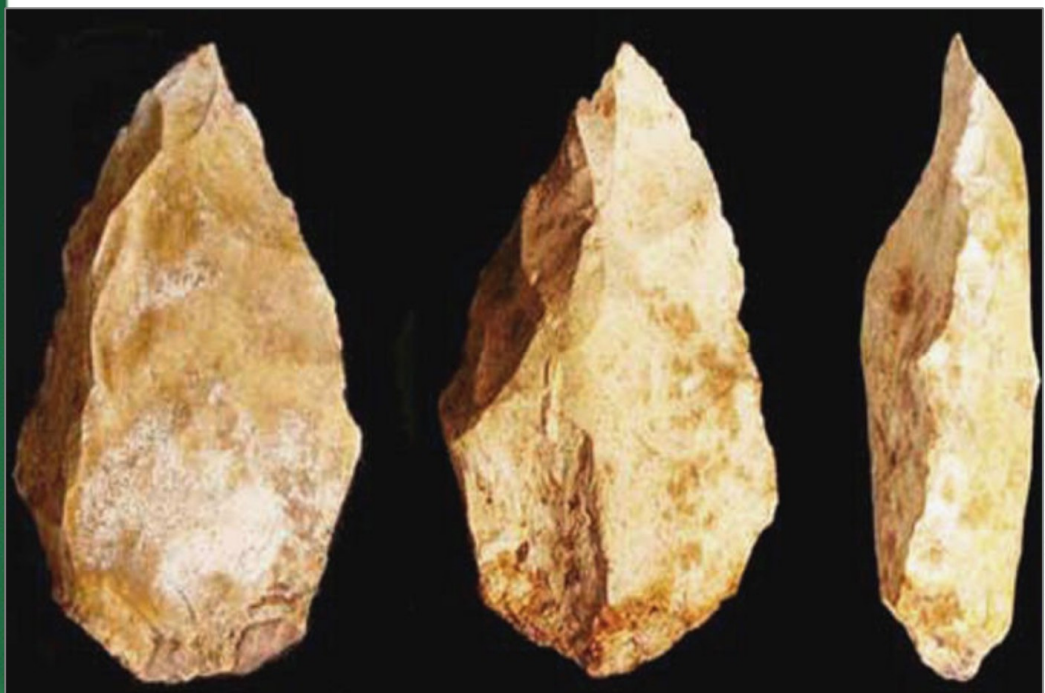
31 July 2012

AMARI MANGANESE (PTY) LTD

ARCHAEOLOGICAL SCOPING REPORT

Submitted to:

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PO Box 210
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South Africa
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Revision:	00/ 31 Jul '12
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REPORT



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ARCHAEOLOGICAL SCOPING REPORT

FOR THE

PROPOSED PROSPECTING FOR IRON ORE AND MANGANESE ORE

FOR

AMARI MANGANESE (PTY) LTD

ON THE FARMS CONSTANTIA 309, SIMONDIUM 308 AND PORTIONS 1, 2, 3 AND 8

OF

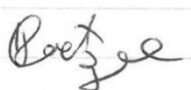


THE FARM GOULD 329

IN THE VICINITY OF

District Municipality: Kgalagadi

Northern Cape Province

SOUTH AFRICA

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1. Executive Summary

Environmental Assurance (Pty) Ltd was appointed by Amari Manganese (Pty) Ltd to undertake an Archaeological study to determine the scope of archaeological resources which could be impacted on by the proposed prospecting of iron and manganese on the farms Constantia 309, Simondium 308 and portions 1, 2, 3 and 8 of the farm Goold 329, Northern Cape.


During the pedestrian survey, a number of graves and homesteads were observed, some of which possibly date to the Historical Period. In addition to more recent finds, several Stone Age artefacts were found as well. It should be noted that, due to accessibility and visibility constraints (e.g. vegetation), other further undetected material of cultural and heritage significance might be present in the study area. Apart from the heritage objects present on the property, the significance of the larger historical and pre-historical landscape must be stressed as the archaeological site of Wonderwerk Cave, which is classified as a provincial heritage site, is located in the Kuruman district.

Due to the nature of the development it is recommended that a Phase 1 Archaeological Impact Assessment be done prior to any development on the farms Constantia 309, Simondium 308 and portions 1, 2, 3 and 8 of the farm Goold 329, once the footprints for such development have been established. It is also recommended that a qualified archaeologist inspect prospecting sites prior to any activity in order to deliver specialist input on the possible impact on heritage resources.

Portions one and two of the farm Goold 329

It is recommended that the homesteads on portions one and two of the farm Goold 329 and Simondium 308 be retained as they appear to be older than 60 years and is consequently protected under the National Heritage and Resources Act (25 of 1999). These structures should be recorded by a qualified archaeologist and a destruction permit obtained should the need to demolish these structures arise. In addition to the homesteads it is recommended that a conservation buffer of 100m be placed around the two graveyards located on portion one of the farm Goold 329 as graves are protected under the Human Tissue Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) while graves older than 60 years are protected under the National Heritage and Resources Act (25 of 1999).

It must be noted that no access was obtained for portions three and eight of the farm Goold 329, but should any material in the likeness of the above mentioned be observed the same recommendations would apply.

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Simondium 308

It is recommended that the homestead on Simondium 308 be retained as it appears to be older than 60 years and is consequently protected under the National Heritage and Resources Act (25 of 1999). Another structure of which the age could not be determined, but may date to historical times since both the homestead and structure consists of similar building material, is located on the southern boundary. These structures should be recorded by a qualified archaeologist and a destruction permit obtained should the need to demolish these structures arise. According to the farm owner of Simondium 308 only one grave is located in relatively close proximity to the homestead, but the exact location is unknown. It is therefore recommended that a sufficient study be carried out to determine the location of this grave in order to avoid possible damage during construction phases should development occur in this area. Should the grave be located, the same recommendation would apply as in the case above.

Constantia 309


Access was not permitted to the farm Constantia 309, but certain assumptions can be derived from the study on the neighbouring farm Simondium 308. It is probable that a homestead dating to the Historical Period will be found on the farm, especially since the farm has not been subdivided. There is also a strong possibility that graves might be associated with the homestead. Apart from these probabilities it is impossible to tell whether other archaeological material exist on Constantia 309 without conducting a pedestrian survey.

Because archaeological artefacts generally occur below surface, the possibility exists that other culturally significant material and skeletal remains may be exposed during development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist (See National Heritage and Resources Act, 25 of 1999 section 36 (6)). From a heritage point of view development may proceed subject to the abovementioned conditions and recommendations.

2. Project Background

2.1 Introduction

Environmental Assurance (Pty) Ltd was appointed by Amari Manganese (Pty) Ltd to undertake an Archaeological study to determine the scope of archaeological resources which could be impacted on by the proposed prospecting of iron and manganese on the farms Constantia 309, Simondium 308 and portions 1, 2, 3 and 8 of the farm Goold 329, Northern Cape. The purpose of this study was to examine the farms on which development is planned in order to gain a better understanding of the type and extent of archaeological remains of heritage value located in the specific region. The aim of this report is not only to provide the developer with

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information regarding the location of heritage resources that will aid decision making in terms of selecting areas to be developed, but also to serve as a guide to identify material/structures which are protected under the National Heritage and Resources Act (25 of 1999).

During the survey sites of heritage importance were located and recorded via GPS location and photographic record. In the following report the significance and importance as well as legislative requirements regarding heritage resources found on the demarcated farms are discussed.

2.2 Legislation

The South African Heritage Resources Agency (SAHRA) aims to conserve and control the management, research, alteration and destruction of cultural resources of South Africa and to prosecute if necessary. It is therefore crucially important to adhere to heritage resource legislation contained in the Government Gazette of the Republic of South Africa (Act No.25 of 1999) as many heritage sites are threatened daily by development. Conservation legislation requires an impact assessment report to be submitted for development authorisation that, in all cases must include HIA's.


HIA's should be done by qualified professionals with adequate knowledge to (a) identify all heritage resources including archaeological and palaeontological sites that might occur in areas of development and (b) make recommendations for protection or mitigation of the impact of the sites.

2.2.1 The EIA and HIA processes

Phase 1 Archaeological Assessments generally involve the identification of sites during a field survey with assessment of their significance, the possible impact development might have and relevant recommendations.

All Heritage Impact Assessment reports should include:

- a. Location of the sites that are found;
- b. Short description of the characteristics of each site;
- c. Short assessment of how important each site is, indicating which should be conserved and which mitigated;
- d. Assessment of the potential impact of the development on the site/s;
- e. In some cases, a shovel test, to establish the extent of a site, or collection of material might be required to identify the associations of the site. (A pre-arranged SAHRA permit is required); and

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- f. Recommendations for conservation or mitigation.

This HIA report is intended to inform the client about the legislative protection of heritage resources and their significance and make appropriate recommendations. It is essential that it also provides the heritage authority with sufficient information about the sites to enable it to assess with confidence:

- a. Whether or not it has objections to a development;
- b. What the conditions are upon which such development might proceed;
- c. Which sites require permits for mitigation or destruction;
- d. Which sites require mitigation and what this should comprise;
- e. Whether sites must be conserved and what alternatives can be proposed that may re-locate the development in such a way as to conserve other sites; and
- f. What measures should/can be put in place to protect the sites that should be conserved.


When a Phase 1 HIA is part of an EIA, wider issues such as public consultation and assessment of the spatial and visual impacts of the development may be undertaken as part of the general study and may not be required from the archaeologist. If, however, the Phase 1 project forms a major component of an HIA it will be necessary to ensure that the study addresses such issues and complies with section 38 of the National Heritage Resources Act.

2.2.2 Legislation regarding archaeology and heritage sites

National Resource Act of April 1999

According to Act No.25 of 1999 a historical site is “any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 60 years.” This clause is commonly known as the “60-years clause”. Buildings are amongst the most enduring features of human occupation, and this definition therefore includes all buildings older than 60 years, modern architecture as well as ruins, fortifications and Farming Community settlements. “Tell” refers to the evidence of human existence which is no longer above ground level, such as building foundations and buried remains of settlements (including artefacts). The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects, meteorites and rare geological specimens;

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- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- any other prescribed category.

With regards to activities and work on archaeological and heritage sites this Act states that:

"No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority." (34. [1] 1999:58)


and

"No person may, without a permit issued by the responsible heritage resources authority-

- (a) *destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) *destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) *trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) *bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites. (35. [4] 1999:58)."*

and

"No person may, without a permit issued by SAHRA or a provincial heritage resources agency-

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- (a) *destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (b) *destroy, damage, alter, exhume, 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;*
- (c) *bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60)."*

On the development of any area the gazette states that:

"...any person who intends to undertake a development categorised as-

- (a) *the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) *the construction of a bridge or similar structure exceeding 50m in length;*
- (c) *any development or other activity which will change the character of a site-*
- (d) *exceeding 5000m² in extent; or*
- (e) *involving three or more existing erven or subdivisions thereof; or*
- (f) *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
- (g) *the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (h) *the re-zoning of a site exceeding 10000m² in extent; or*
- (i) *any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development (38. [1] 1999:62-64)."*

and

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“The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;*
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (c) an assessment of the impact of the development on such heritage resources;*
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development (38. [3] 1999:64).”*


Human Tissue Act and Ordinance 7 of 1925

The Human Tissues Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities. Graves 60 years or older fall under the jurisdiction of the National Heritage Resources Act as well as the Human Tissues Act, 1983.

3. Study Area and Background

Constantia 309 and Simondium 308 are located about 20 kilometres SW of the town Hotazel, and about 70 kilometres NW of Kuruman (see Table 1). The Ga-Mogara River also flows about 10 kilometres to the east of these two farms.

Goold 329 is located about 17 kilometres SSE of the town Hotazel and 43 kilometres WNW of Kuruman (see Table 1). The non-perennial Witleegte River flows through the north-eastern section of the farm while the R380

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road divides the farm. The Mamatwan mine is located on the south-western section of the farm. (See **figure 1 & 2** for general area and **figure 16** for detail).

Farm	Map Reference (1:50 000)	Coordinates
Constantia 309	2722 BD; 2722 BC	27°16'56.602"S 22°46'02.462"E
Simondium 308	2722 BD; 2722 BC; 2722 BB; 2722 BA	27°14'57.434"S 22°45'54.724"E
Goold 329	2723 AC; 2722 BD	27°21'02.675"S 23°00'09.017"E

Table 1: Farm names & coordinates

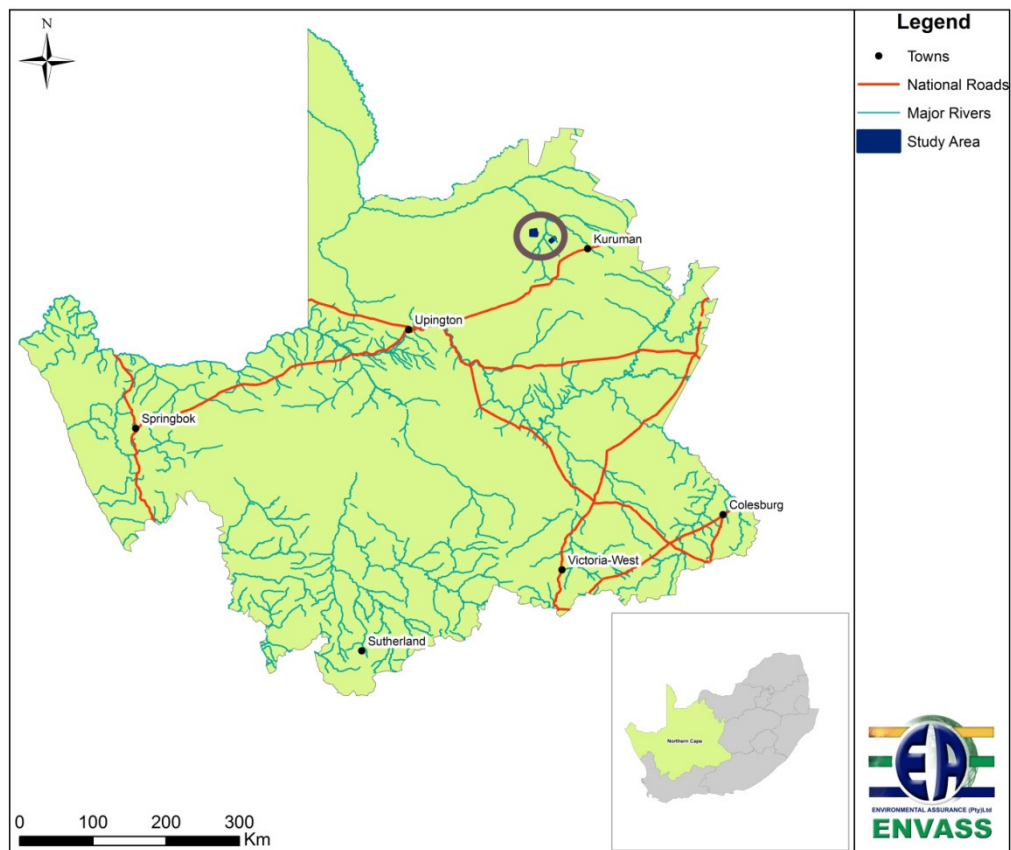



Figure 1: Provincial location of study area

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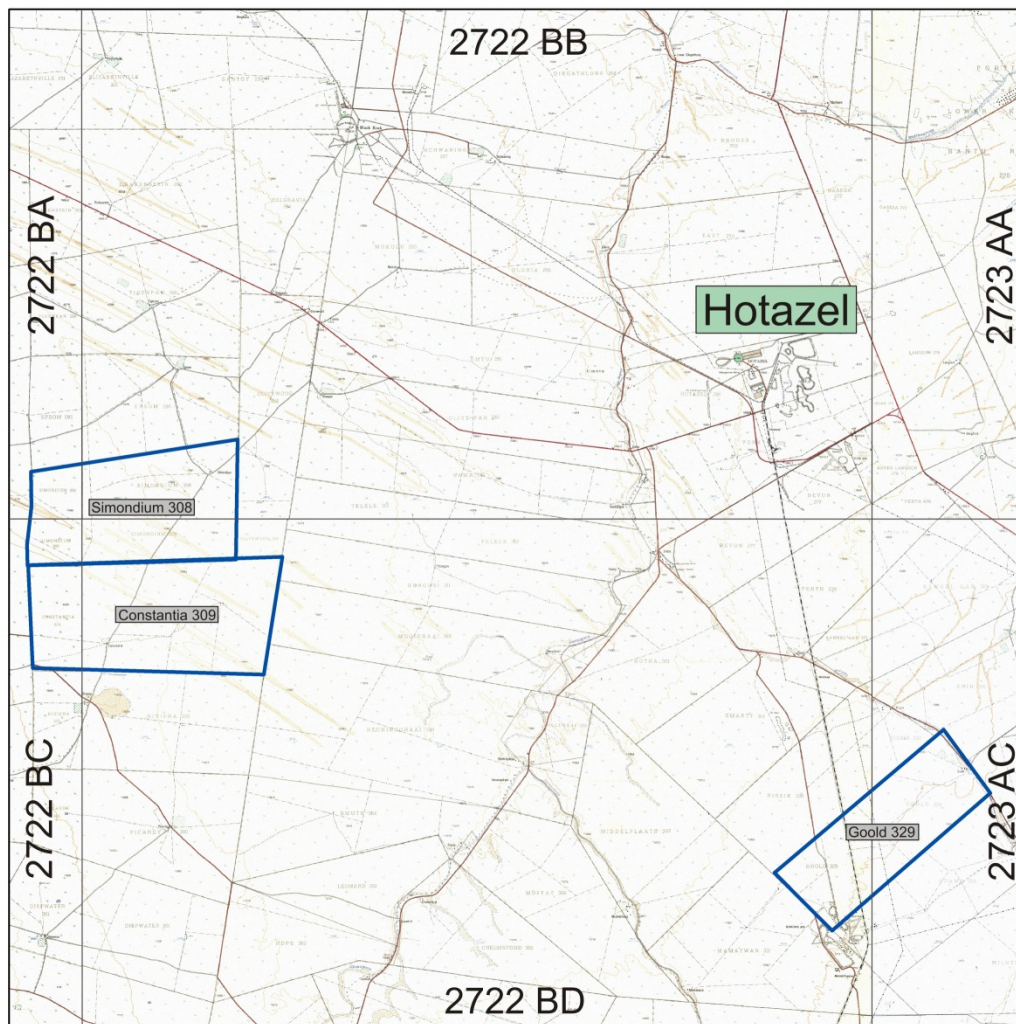



Figure 2: Segments of SA 1: 50 000 2722BC; 2722BD; 2723AC; 2723AA; 2722BB and 2722BA indicating the study area.

3.1 Archaeological Background

The southern African archaeology is broadly divided into the Earlier, Middle and Later Stone Age, Early and Later Iron Age, and Historical / Colonial Periods.

3.1.1 The Earlier Stone Age

The earliest stone tool industry, the Oldowan, was developed by the earliest members of the genus *Homo* such as *Homo habilis*, around 2.6 million years ago. It contained tools such as cobble cores and pebble choppers (Toth & Schick 2007). The oldest stone tools from the Sterkfontein cave are found in the Oldowan Infill and date to between 2 and 1.7 million years ago. As the name suggests these tools are similar to those found at Olduvai

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Gorge in Tanzania. These stone tools therefore suggest the earliest direct evidence for culture in southern Africa (Clarke & Kathleen 2000). It was completely replaced by the Acheulean industry, which was first conceived by *Homo ergaster* around 1.8 or 1.65 million years ago, which lasted until around 300 000 Kya. Evidence from this period is also found at Swartkrans, Kromdraai and Sterkfontein. At about 1.5 million years ago the western side of the cave probably enlarged, since artefact-bearing breccias are more widely distributed. The most typical tools of the ESA are handaxes, cleavers, choppers and spheroids. Although they appear to have used handaxes often, there is disagreement about their use. There are no indications of hafting, and some artefacts are far too large for that. Choppers and scrapers were likely used for skinning and butchering scavenged animals and sharp ended sticks were often obtained for digging up edible roots. Presumably, early humans used wooden spears as early as 5 million years ago to hunt small animals. Fire was used by the hominin *Homo erectus* and *Homo ergaster* as early as 300,000 or 1.5 million years ago and possibly even earlier. The invention of fire reduced mortality rates and provided protection against predators. Examples of sites from this time period include Kromdraai, Makapansgat and Sterkfontein and Swartkrans (Toth & Schick 2007).

3.1.2 The Middle Stone Age

Middle Stone Age artefacts started appearing about 250 000 years ago and replaced the larger Earlier Stone Age bifaces, handaxes and cleavers with smaller flake industries consisting of scrapers, points and blades. These artefacts roughly fall in the 40-100 mm size range and were in some cases attached to handles, indicating a significant technical advance. Few other artefacts remain from this period. In some cases circular hearths were found which indicate the ability to make fire while animal and plant remains refer to a hunting and gathering lifestyle. It is also during this period that the first *Homo sapiens* species emerged. Associated sites are Klasies River Mouth, Blombos Cave and Border Cave (Deacon & Deacon 1999). The most recent deposit in the Sterkfontein cave dates to between 115 000 and 253 000 years ago and includes a few hominid fragments, fauna and Middle Stone Age artefacts (Clarke & Kuman 2000:10-13).

3.1.3 The Later Stone Age

This time period ranges from about 20 000 years ago to the present and saw the emergence of *Homo sapiens sapiens*. Stone tools from this period are generally smaller but were used to do the same job as those from previous periods, but in a different way. At the time of European contact in South Africa, some such as the Khoisan people, were still making these tools. This greatly helped in understanding what these tools were used for. Some Later Stone Age associations are: rock art, smaller stone tools (microliths), bows and arrows, bored

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stones, grooved stones, polished bone tools, earthenware pottery and beads. Some Later Stone Age sites include Nelson Bay Cave, Rose Cottage Cave and Boomplaas Cave (Deacon & Deacon 1999).

It is important to note that the study area is known for a high frequency of Stone Age artefacts and are often associated with water sources and rocky outcrops. Special care should therefore be taken during development / construction phases in the vicinity of these areas. See **figures 3-5** below for examples of stone tools often associated with the different time period within the southern African Stone Age.

According to a report done by PGS (2010) on a neighbouring farm several Stone Age archaeological sites are found around the town of Kuruman, some of them containing rock art. Examples of such sites are Nchwaneng and Tsineng.

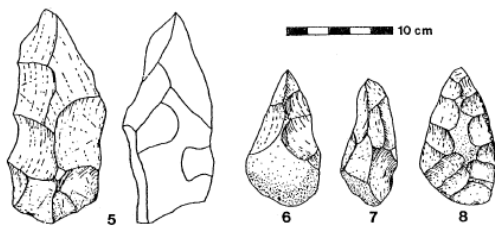


Figure 3: ESA artefacts from Sterkfontein (Volman 1984)

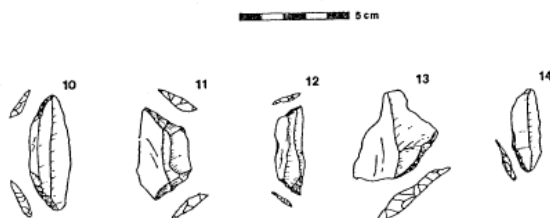


Figure 4: MSA artefacts from HowiesonsPoort (Volman 1984)

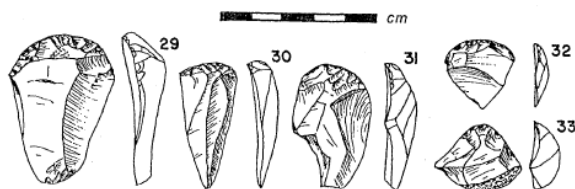



Figure 5: LSA scrapers (Klein 1984)

3.1.4 Early Iron Age

The Early Iron Age marks the movement of farming communities into South Africa at around 200 A.D. These groups were agro-pastoralist communities that settled in the vicinity of water in order to provide subsistence for

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their cattle and crops. Artefact evidence from Early Iron Age sites is mostly found in the form of ceramic assemblages. The origins and archaeological identities of this period are largely based upon ceramic typologies. Early Iron Age ceramic traditions are classified by some scholars into different “streams” or trends in pot types and decoration that, over time emerged in southern Africa. These “streams” are identified as the Kwale Branch (east), the Nkope Branch (central) and the Kalundu Branch (west). Early Iron Age ceramics typically display features such as large and prominent inverted rims, large neck areas and fine elaborate decorations. This period continued up to the end of the first millennium AD (Huffman 2007). Some well-known Early Farming Community sites include the Lydenburg Heads in Mpumalanga, Happy Rest in the Limpopo Province and Mzonjani in Kwa-Zulu Natal.

3.1.5 Later Iron Age and Historical Periods


The study area bears a rich history dating to the 17th century if not earlier, as suggested by several sources. Below follows a brief outline of events in the general vicinity of the study area dating from the 1600's to the 1900's.

Archival maps may provide valuable spatial information of activities during early times. Information, however, may not always be as accurate, but certain truthful derivations can be made. According to the Merensky 1887 archival map (map reference 3/302), for example, settlements were located in close proximity to rivers. Another archival map, such as the British Bechunaland Map of 1894, indicates that farms were not proclaimed in the vicinity of the study area by that time, only further east (PGS 2010).

The first group from the Late Iron Age to move into the Kuruman area was probably the Tlharo, a Tswana group. According to Snyman (1992), the Tlharo originated from the Hurutshe to the NE. After splitting from the Hurutshe towards the end of the 17th century they moved south along the Molopo River. One of their early settlements, Tsineng, is located in the vicinity of the study area.

Another influential group in the Kuruman area was the Tlhaping. Their origin is traced to the Rolong in the mid 18th century from where they moved from the Vaal and Harts Rivers in a western direction towards the edge of the Kalahari Desert. The Tlhaping, under Maswe, established their capital next to the Nokaneng River, which might be the present-day Ga-Mogara River as the missionary John Campbell referred to it. Breutz (1992 cited in PGS 2010), however, argues that the Nokaneng was in fact located closer to Postmasburg. Molehabangwe allegedly succeeded Maswe in 1775 and formed a confederation consisting of the Tlhaping, Rolong, Tlharo, Kgalagadi and San with the Tlhaping as ruler class.

Successful trading between the Tlhaping and the Tswana to the north and the Korana to the south flourished until the Korana crossed the Orange River to the Tlhaping. After conflict erupted the Tlhaping were driven from

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the area in the 1790's after which they moved to Kathu and then to Ga-Mopeni. Eventually they settled on the Moshaweng River at Dithakong (Snyman 1992:16).

A few European explorers ventured to these areas as well. Two expeditions worth mentioning are that of Lichtenstein in 1805 and that of Andrew Smith in 1835. After Lichtenstein reached the Kuruman River where they met Tswana speaking people they turned in a southern direction towards the Orange River. It is noted that Lichtenstein's party made contact with Muliawang's capital consisting of about 600 houses near the Kuruman River (PGS 2010).

In 1819 Reverend Robert Moffat noted that the Tlhaping had settled in the Kuruman Valley under Mothibi but later moved upstream towards present-day Kuruman (PGS 2010: 21). The journey of Andrew Smith in 1835 is also significant since mention is made of a visit to Tsineng. Research suggests that a route along the Ga-Mogara River was followed and that a small group of Tswana people practising agricultural activities was noted close to Tsineng.


Evidence regarding white settlement in the Kuruman district suggests brief occupation during the latter part of the 19th century. Permanent settlement, however, only followed around 1907 and 1908 when a period of drought in the then Cape Colony encouraged relocation (Smith 1966 cited in PGS 2010: 25).

During the First World War several boreholes were erected along the Kuruman River. Farmers settled at these boreholes and acted as borehole watchmen. For their duties they received grazing land for their cattle. After the war these borehole watchmen were given first option to apply for land ownership on the farms they settled (Smith 1996 cited in PGS 2010: 26). It is for this reason that several farm houses dating to the Historical Period are found in the vicinity of the study area. A strong possibility exists that such dwellings would be located in close proximity to water sources. It must also be kept in mind that graves are often associated with these homesteads and are located in close proximity to these structures.

4. Methodology

Archaeological reconnaissance of the area under question was mainly done through identifying possible heritage sites from satellite imagery and personal communication with farm owners regarding known structures and graves. In addition to these sources unsystematic pedestrian surveys were conducted on those portions that were accessible (Simondium 308 and portions one and two of the farm Goold 329). The reconnaissance of the area under question served a twofold purpose:

- To obtain an indication of heritage material found in the general area as well as to identify/locate archaeological sites. This was done in order to establish a heritage context and to supplement

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background information that would benefit developers through identifying areas that are sensitive from a heritage perspective.

- The preliminary spatial recording of archaeological sites visited. All archaeological and historical events have spatial definitions in addition to their cultural and chronological context. Where applicable, spatial recording of these definitions were done by means of a handheld GPS (Global Positioning System).


4.1 Sources of information

Standard archaeological procedures for the observation of heritage resources were followed at all times during the survey. As most archaeological material occur in single or multiple stratified layers beneath the soil surface, special attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion. Locations of archaeological material remains were recorded by means of a Garmin Oregon 550 GPS and archaeological features and general conditions on the terrain were photographed with a Sony Cyber-shot digital camera.

A literature study, which incorporated previous work done in the region, was conducted in order to place the study area into context from a heritage perspective. It should be noted that an in depth literature study would be necessary should further studies be initiated.

4.2 Limitations

The surrounding vegetation in the area under question was a combination of Gordonia Duneveld and Kathu Bushveld (**Figure 6**). The general visibility of most of the investigated areas was good at the time of surveying (July 2012), although vegetation cover did play a constricting part in certain areas (**Figures 7 & 8**). Other limitations include lack of access to certain portions of the terrain (Constantia 309 and portions three and eight of Goold 329) as well as the general size of the area of which prospecting rights were applied for. Areas selected for surveying were therefore based on general accessibility, areas identified using satellite imagery, and localities in the vicinity of rivers and hills since these localities often reveal archaeological sites. It should be noted that undetected heritage remains may be present in sub-surface deposits, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist (See National Heritage and Resources Act, 25 of 1999 section 36 (6)).

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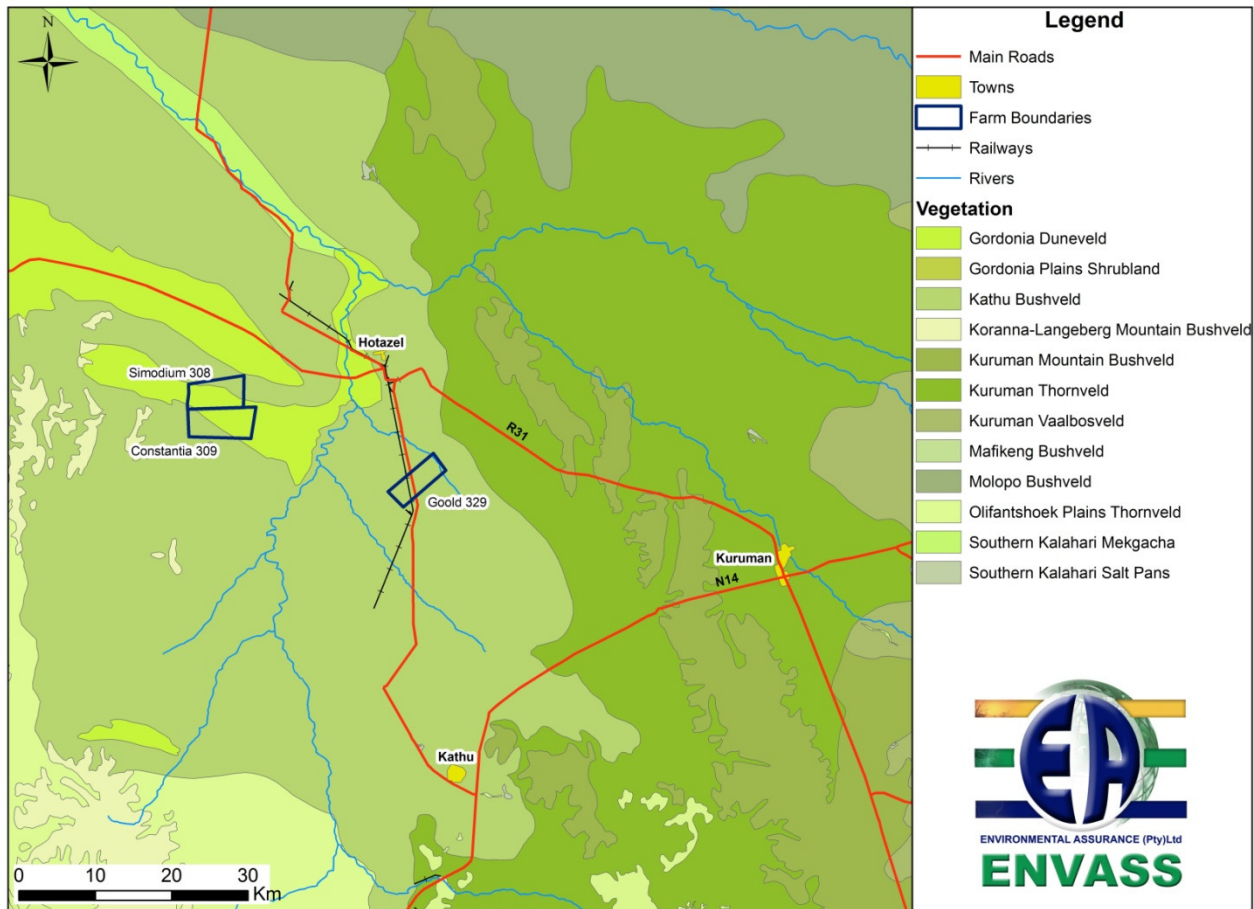


Figure 6: Vegetation in the study area



Figure 7: Environment on Simondium 308


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Figure 8: Environment on Goold 329

5. Archaeological and Historical Remains

5.1 Stone Age Remains

Constantia 309

No Access

Simondium 308

No Stone Age archaeological remains were found.

Goold 329 (PT 1 & 2)

A few Stone Age archaeological artefacts were observed. The lithics were found in close proximity to the homesteads on portions one and two, but appeared to be loose surface scatter (**figures 9 – 11**).


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Figure 9: Stone Age artefact on Goold 329



Figure 10: Stone Age artefact on Goold 329



Figure 11: Stone Age artefact on Goold 329


5.2 Iron Age Farmer Remains

No Iron Age Farmer archaeological remains were identified in the study area.

5.3 Historical / Colonial Remains

Constantia 309

Although no access was allowed to the property Constantia 309, it can be deduced from other farms in the region that a strong possibility exists that a possible Historical Period homestead exists on the farm. Satellite imagery was employed to locate possible structures on the farm which could be used in future studies as a starting point for research or may serve as a preliminary guideline for selecting feasible prospecting points away from possible heritage resources (Figure 12).

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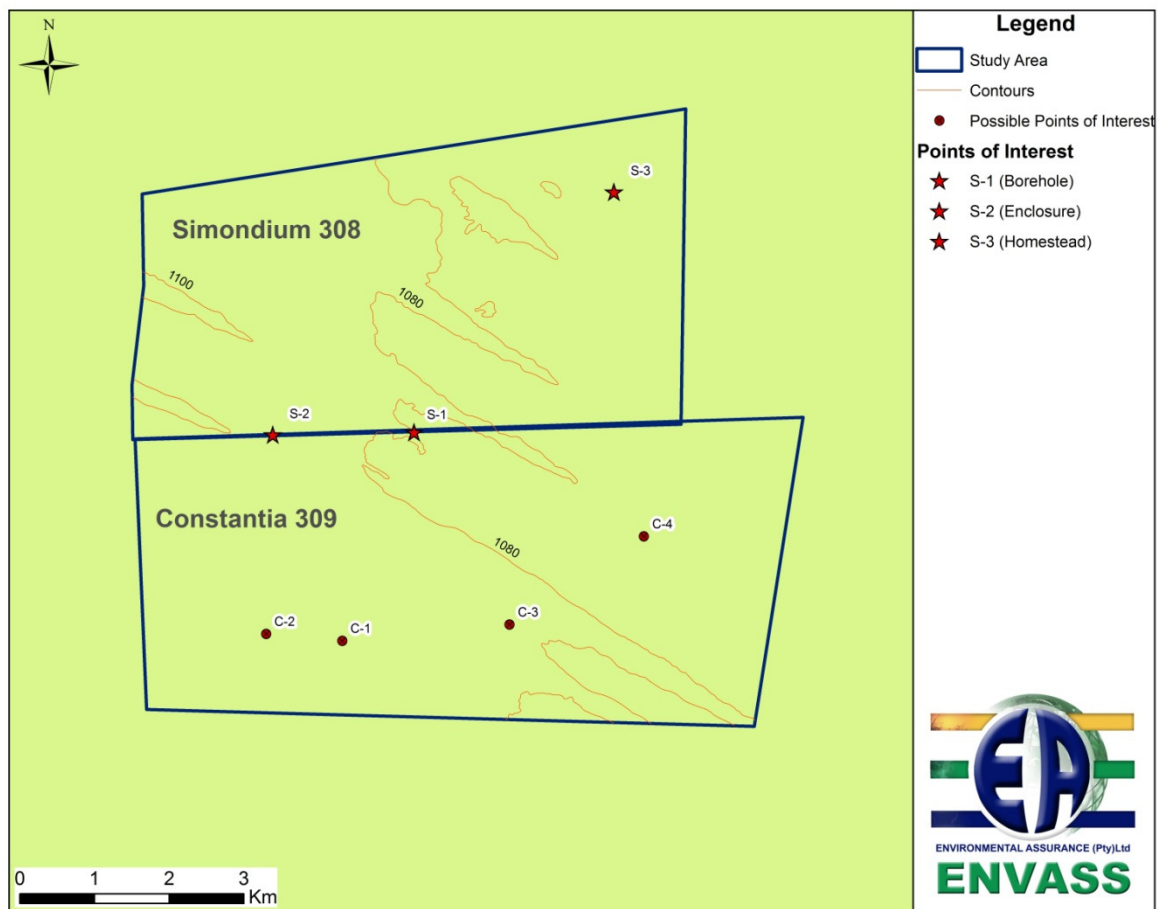


Figure 12: Distribution of possible heritage sites


Table 2:

Site	Coordinates
C-1	27°17'21.95"S 22°45'26.57"E
C-2	27°17'19.01"S 22°44'53.62"E
C-3	27°17'14.86"S 22°46'39.08"E
C-4	27°16'36.65"S 22°47'37.31"E

Possible points of interest on Constantia 309

Simondium 308

Two possible Historical Period structures were identified on the farm Simondium 308. Structure S-2 (see figure 12), is located on the southern boundary of the farm and is associated with a modern cattle enclosure. The material the building consists of, however, may partially date to the Historical Period as similar material is seen in other historical buildings in the region (Figure 13). Homestead S-3 is located in the north-eastern section of

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the farm and is associated with the modern homestead since it is located on the same premises (**Figure 14**). According to the farm owner the homestead is older than 60 years and would therefore be protected under the National Heritage and Resources Act (25 of 1999). Borehole S-1 was supposedly drilled in the 1970's and illustrates that the vegetation of the impacted area has still not completely recovered (**Figure 15**).



Figure 13: C-2 (Enclosure)



Figure 14: C-3 (Homestead)


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Figure 15: C-1 (Borehole)

Site	Coordinates
C-1 (Borehole)	27°15'51.38"S 22°45'57.77"E
C-2 (Enclosure)	27°15'52.51"S 22°44'56.50"E
C-3 (Homestead)	27°14'07.19"S 22°47'24.37"E

Table 3: Points of interest on Simondium 308

Goold 329 (PT 1 & 2)

Two possible Historical Period homesteads were identified on the farm Goold 329 (**figures 16 - 19**). Both homesteads are located within 150m from the north-eastern boundary of the farm and close to a non-perennial river. Historical homestead G1-2 is located on portion one, while G2-3 is located on portion two. According to the farm owner the homesteads are older than 60 years and would therefore be protected under the National Heritage and Resources Act (25 of 1999).

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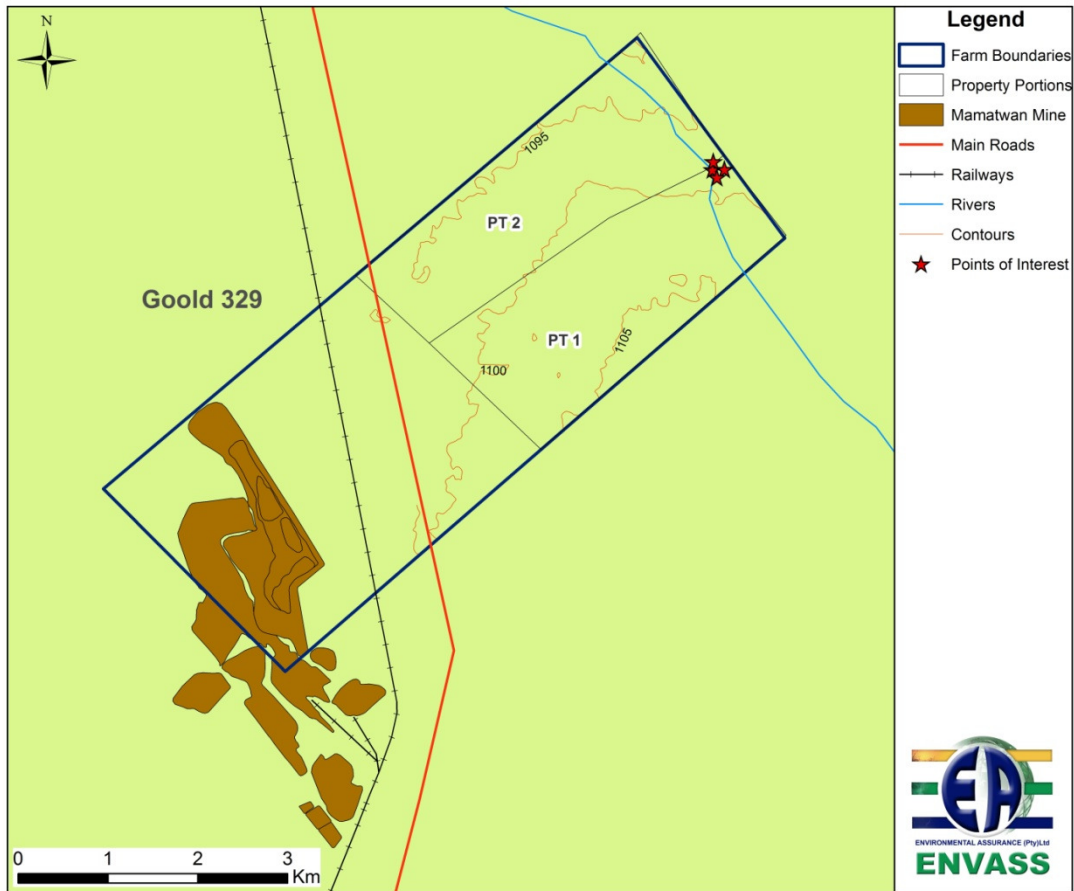



Figure 16: Goold 329

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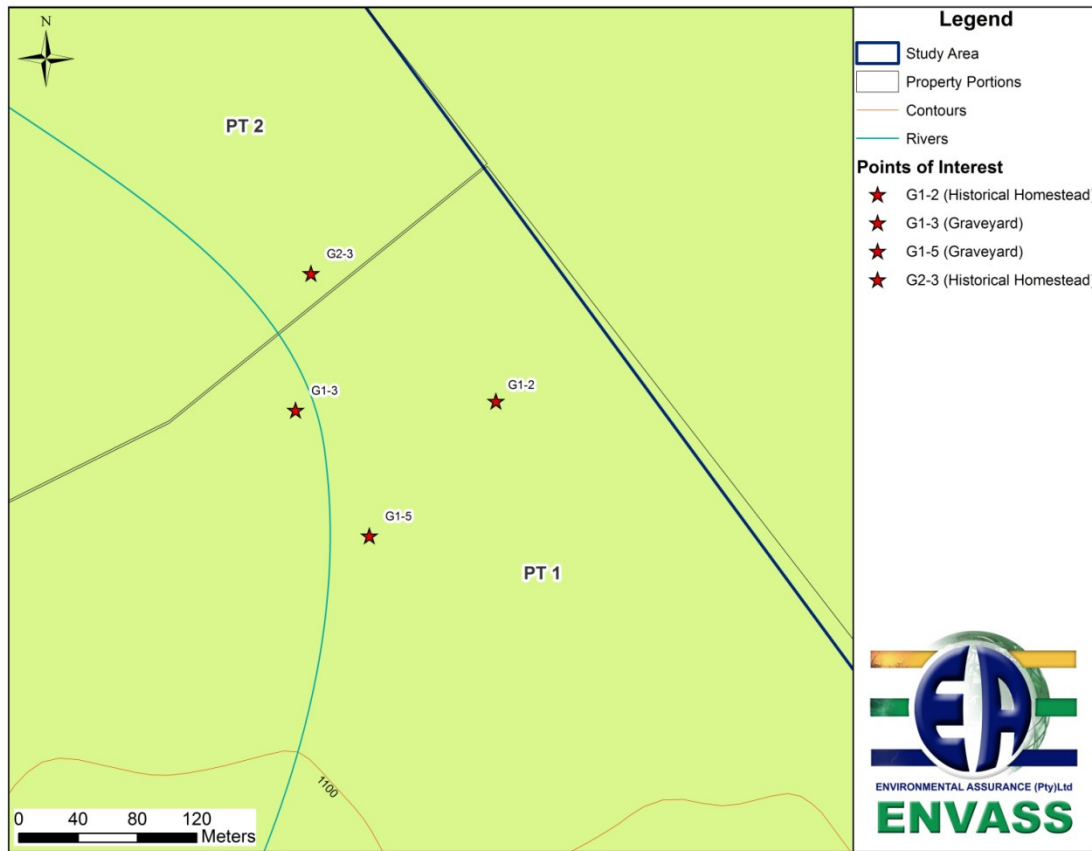


Figure 17: Points of interest on Goold 329



Figure 18: Historical homestead G1-2 on portion one of the farm Goold 329


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Figure 19: Historical homestead G2-3 on portion two of the farm Goold 329

5.4 Graves

Constantia 309


Although no access was allowed to the property Constantia 309, it can be deduced from other farms in the region that a strong possibility exists that a possible Historical Period homestead exists on the farm. It is also often the case that a graveyard is associated with a homestead. Should this be the case, a 100m conservation buffer will be placed around each grave or graveyard.

Simondium 308

No graves were located on the farm Simondium 308, but according to the farm owner one grave exists somewhere within a two kilometre radius of the modern homestead. The exact location of this grave, however, is not known since it is unmarked. Should the grave be located it is recommended that a 100m conservation buffer be placed around it.

Goold 329 (PT 1 & 2)

Two graveyards are located on portion one of the farm Goold 329 (**figure 17**). Graveyard G1-5 (**figure 20**) is fenced off and contains two graves without any inscriptions orientated in an east-west direction. Graveyard G1-5 could possibly be associated with the historical homestead (G1-2) on the same portion which is located 115m

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northeast thereof. This is due to the aforementioned graveyard being closer to homestead G1-5 than to homestead G2-3.

The other fenced off graveyard (G1-3) on portion one of the farm Goold 329 contains four graves orientated in an east-west direction and can possibly be associated with the historical homestead (G2-3) on portion two which is located about 100m north thereof (**figures 21- 25**). Graveyard G1-3 is more recent than graveyard G1-5 as modern headstones are still intact. The most recent date observed in this graveyard dates to 1975 and the oldest to 1955. Another reason why these graves could rather be associated with the homestead on portion two is due to the fact that homestead G2-3 is structurally in a better condition than homestead G1-2 and therefore suggests it is more recent.



Figure 20: Graveyard on portion one of Goold 329 (G1-5)


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Figure 21: Graveyard G1-3



Figure 22: Grave 1



Figure 23: Grave 2


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Figure 24: Grave 3



Figure 25: Grave 4


Site	Coordinates
Graveyard G1-5	27°19'52.18"S 23° 1'48.34"E
Graveyard G1-3	27°19'49.44"S 23° 1'46.73"E

Table 4: Graveyards on Goold 329

6. Evaluation & Recommendations

The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

A fundamental aspect in the conservation of a heritage resource relates to whether the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. There are many aspects that must be taken into consideration when determining significance, such as rarity, national significance, scientific importance, cultural and religious significance, and not least, community preferences. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and if appropriate mitigated in order to gain data / information which would otherwise be lost. Such sites must be adequately recorded and sampled before being destroyed.

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6.1 Evaluation

All sites should include a field rating in order to comply with section 38 of the national legislation. The field rating and classification in this report is prescribed by SAHRA.

6.1.1 Field Rating

Rating	Field Rating/Grade	Significance	Recommendation
National	Grade 1		National site
Provincial	Grade 2		Provincial site
Local	Grade 3 A	High	Mitigation not advised
Local	Grade 3 B	High	Part of site should be retained
General protection A	4 A	High/Medium	Mitigate site
General Protection B	4 B	Medium	Record site
General Protection C	4 C	Low	No recording necessary

Site: Structure (S-2) on Simondium 308

Rating	Field Rating/Grade	Significance	Recommendation
General protection A	4 A	High/Medium	Mitigate site

Site: Homestead (S-3) on Simondium 308

Rating	Field Rating/Grade	Significance	Recommendation
Local	Grade 3 A	High	Mitigation not advised

Site: Homestead (G1-2) on Goold 329

Rating	Field Rating/Grade	Significance	Recommendation
Local	Grade 3 A	High	Mitigation not advised

Site: Homestead (G2-3) on Goold 329


Rating	Field Rating/Grade	Significance	Recommendation
Local	Grade 3 A	High	Mitigation not advised

Site: Graveyard (G1-5) on portion one of Goold 329

Rating	Field Rating/Grade	Significance	Recommendation
Local	Grade 3 A	High	Mitigation not advised

Site: Graveyard (G1-3) on portion one of Goold 329

Rating	Field Rating/Grade	Significance	Recommendation
Local	Grade 3 A	High	Mitigation not advised

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6.1.2 Statement of significance

Constantia 309

Although a site visit could not be arranged a strong possibility exists that a Historical Period homestead exists on the farm Constantia 309. If the structure is older than 60 years it is protected under the National Heritage and Resources Act (25 Of 1999), which means that it needs to be properly recorded by a qualified archaeologist and a destruction permit obtained should the need exist to demolish the structure. It is also possible that a homestead may provide information regarding the history of the general area and it would therefore be worthy of conservation.


Should graves be located on the farm Constantia 309, the following will apply: The National Heritage Resources Act (25 of 1999) and the Human Tissues Act (65 of 1983) protect graves older than 60 years but younger than 100 years. Graves younger than 60 years, however, are protected under the Human Tissue Act (65 of 1983) and falls under Section 2 (1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925). The exhumation of graves falls under the jurisdiction of the National Department of Health as well as the relevant Provincial Department of Health. Exhumation permission must also be obtained from the relevant local or regional council where graves are located, as well as from the relevant regional and local council to where the grave will be relocated to.

Simondium 308

Sites: Homestead (C-3) & Enclosure (C-2)

The homestead probably dates to the Historical Period, although a definite date could not be obtained. If the structure is older than 60 years it is protected under the National Heritage and Resources Act (25 of 1999), which means that it needs to be properly recorded by a qualified archaeologist and a destruction permit obtained should the need exist to demolish the structure. It is also possible that the house structure may provide information regarding the history of the general area and it would therefore be worthy of conservation. There is also a strong possibility that the enclosure (C-2) may have its origins in the Historical Period, in which case it would also be protected under the National Heritage and Resources Act (25 of 1999). Although not ranked the same field rating as the homestead and possibly not as informative in terms of general history, a destruction permit must be obtained and the structure be recorded by a qualified archaeologist should the need exist to demolish the structure.

Should graves be discovered, as mentioned under the graves section (5.4), the same will apply as in the case of Constantia 309.

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Goold 329

Sites: Homesteads (G1-2 & G2-3)

There is a strong possibility that the homesteads on portions one and two date to the Historical Period, although a definite date could not be obtained. If the structures are older than 60 years it is protected under the National Heritage and Resources Act (25 of 1999), which means that it needs to be properly recorded by a qualified archaeologist and a destruction permit obtained should the need exist to demolish the structure. It is also possible that the house structure may provide information regarding the history of the general area and it would therefore be worthy of conservation.

Site: Graveyards (G1-3 & G1-5)


The National Heritage Resources Act (25 of 1999) and the Human Tissues Act (65 of 1983) protect graves older than 60 years but younger than 100 years. Graves younger than 60 years, however, are protected by the Human Tissue Act (65 of 1983) and falls under Section 2 (1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925). The exhumation of graves falls under the jurisdiction of the National Department of Health as well as the relevant Provincial Department of Health. Exhumation permission must also be obtained from the relevant local or regional council where the grave is located, as well as from the relevant regional and local council to where the grave will be located to.

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6.2 Recommendations

The prehistorical and historical landscape around Kuruman infers a rich and diverse cultural horizon. Therefore, the following recommendations are made in terms with the National Heritage Resources Act (25 of 1999) in order to avoid the destruction of heritage remains in areas demarcated for development:

- It is recommended that prospecting sites be visited by a qualified archaeologist prior to any activity in order to deliver specialist input and insure that heritage resources are not impacted on.
- A full Phase 1 Archaeological Impact Assessment (AIA) should be performed preceding any development, as required by Heritage Legislation.
- In this area, archaeological remains generally occur along drainage lines, water sources and rocky outcrops (e.g. Stone Age Material and Rock Art) and these natural features should be regarded as potentially sensitive. It is recommended that development / construction activities near such areas be carefully monitored by a professional archaeologist in order to minimise impact on heritage resources.
- Farmsteads on farms in this section of the Northern Cape generally date to the Historical Period and in most cases family graves and burials occur within the context of farmsteads. These areas are therefore sensitive and should be excluded from development as far as possible. This is particularly relevant in connection with the farm Constantia 309 since a site visit could not be arranged.
- It is recommended that the homestead on Simondium 308 be retained as it appears to be older than 60 years and is consequently protected under the National Heritage and Resources Act (25 of 1999). Another structure of which the age could not be determined, but may date to historical times, is located on the southern boundary. A qualified archaeologist would also have to record the structure and obtain a destruction permit should the need arise to demolish the structure.
- According to the farm owner of Simondium 308 one grave is located within a two kilometre radius of the homestead, but the exact location is unknown. It is therefore recommended that a sufficient study be carried out to determine the location of this grave in order to avoid possible damage during construction phases should development occur in this area. Should the grave be located a 100m conservation buffer will be placed around it.

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- It is recommended that the homesteads on portions one and two of the farm Goold 329 and Simondium 308 be retained as they appear to be older than 60 years and is consequently protected under the National Heritage and Resources Act (25 of 1999). A qualified archaeologist would also have to record the structure and obtain a destruction permit should the need arise to demolish the structure.
- It is recommended that a conservation buffer of 100m be placed around the two graveyards located on portion one of the farm Goold 329 as graves are protected under the Human Tissue Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) while graves older than 60 years are protected under the National Heritage and Resources Act (25 of 1999).
- Because archaeological artefacts generally occur below surface, the possibility exists that other culturally significant material and skeletal remains may be exposed during development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist (See National Heritage and Resources Act, 25 of 1999 section 36 (6)). From a heritage point of view development may proceed subject to the abovementioned conditions and recommendations.

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7. Addendum: Terminology

Archaeology:

The study of the human past through its material remains.

Artefact:

Any portable object used, modified, or made by humans; e.g. pottery and metal objects.

Assemblage:

A group of artefacts occurring together at a particular time and place, and representing the sum of human activities.

Context:

An artefact's context usually consist of its immediate *matrix* (the material surrounding it e.g. gravel, clay or sand), its *provenience* (horizontal and vertical position within the matrix), and its *association* with other artefacts (occurrence together with other archaeological remains, usually in the same matrix).

Cultural Resource Management (CRM):

The safeguarding of the archaeological heritage through the protection of sites and through salvage archaeology (rescue archaeology), generally within the framework of legislation designed to safeguard the past.

Excavation:

The principal method of data acquisition in archaeology, involving the systematic uncovering of archaeological remains through the removal of the deposits of soil and other material covering and accompanying it.

Feature:


An irremovable artefact; e.g. hearths or architectural elements.

Ground Reconnaissance:

A collective name for a wide variety of methods for identifying individual archaeological sites, including consultation of documentary sources, place-name evidence, local folklore, and legend, but primarily actual fieldwork.

Matrix:

The physical material within which artefacts is embedded or supported, i.e. the material surrounding it e.g. gravel, clay or sand.

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Phase 1 Assessments:

Scoping surveys to establish the presence of and to evaluate heritage resources in a given area.

Phase 2 Assessments:

In-depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling is required.

Sensitive:


Often refers to graves and burial sites although not necessarily a heritage place, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

Site:

A distinct spatial clustering of artefacts, features, structures, and organic and environmental remains, as the residue of human activity.

Surface survey:

Two basic kinds can be identified: (1) unsystematic and (2) systematic. The former involves field walking, i.e. scanning the ground along one's path and recording the location of artefacts and surface features. Systematic survey by comparison is less subjective and involves a grid system, such that the survey area is divided into sectors and these are walked systematically, thus making the recording of finds more accurate.

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