

**Heritage impact assessment for the  
PROPOSED ESTABLISHMENT OF THE INCA SOLAR  
PV POWER PLANT, KAKAMAS REGION,  
NORTHERN CAPE PROVINCE**

## HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED ESTABLISHMENT OF THE INCA SOLAR PV POWER PLANT, KAKAMAS REGION, NORTHERN CAPE PROVINCE

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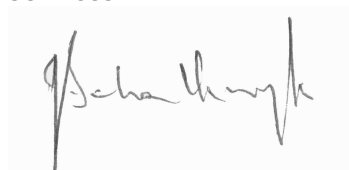
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**Declaration:**

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



J A van Schalkwyk (D Litt et Phil)  
Heritage Consultant  
April 2011

## **EXECUTIVE SUMMARY**

### **HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED ESTABLISHMENT OF THE INCA SOLAR PV POWER PLANT, KAKAMAS REGION, NORTHERN CAPE PROVINCE**

Inca Kakamas Solar (Pty) Ltd proposes to develop a renewable energy facility consisting of a photovoltaic (PV) solar energy component as well as the associated infrastructure on Remainder of Farm 1178 (Kakamas Suid Nedersetting), west of the town of Kakamas in Northern Cape Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Savannah Environmental** to conduct a heritage impact assessment to determine if there are any fatal flaw issues from a heritage perspective within the boundaries of the proposed development area which would prevent the process from proceeding to a next level of investigation

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age) as well as a much later colonial (farmer) component. The second component is an urban landscape dating to the colonial period and is linked to the rural colonial landscape.

- A low density of stone tools was identified on the development site. It is evaluated to have a very low significance and therefore does not warrant any further action with regards to the proposed development. As no other sites, features or objects of cultural heritage significance were identified in the study area there would be no impact resulting from the proposed development.

Therefore, from a heritage point of view it is recommended that the proposed development be allowed to continue. However, it is recommended that should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk  
Heritage Consultant  
April 2011

## **TECHNICAL SUMMARY**

<b>Property details</b>						
Province	Northern Cape					
Magisterial district	Gordonia					
Local municipality	Kai !Garib					
Topo-cadastral map	2820DC					
Closest town	Kakamas					
Farm name	Kakamas Suid 28					
Coordinates	Polygon (approximate)					
	No	Latitude	Longitude	No	Latitude	Longitude
	1	-28.76151	20.58335	2	-28.76201	20.58888
	3	-28.77279	20.58912	4	-28.77264	20.58322

<b>Development criteria in terms of Section 38(1) of the NHR Act</b>	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	Yes
Any other development category, public open space, squares, parks, recreation grounds	No

<b>Land use</b>	
Previous land use	Farming – grazing
Current land use	Farming – grazing

<b>Development</b>	
Description	Development of a renewable energy facility consisting of a photovoltaic (PV) solar energy component as well as associated infrastructure
Project name	INCA Kakamas solar energy facility

<b>Heritage sites assessment</b>		
<i>Site type</i>	<i>Site significance</i>	<i>Site grading (Section 7 of NHRA)</i>
None	-	-

<b>Impact assessment</b>		
<i>Impact</i>	<i>Mitigation</i>	<i>Permits required</i>
-	-	-

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## **GLOSSARY OF TERMS AND ABBREVIATIONS**

### **TERMS**

**Study area:** Refers to the entire study area as indicated by the client in the accompanying Fig. 1 & 2.

**Stone Age:** The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

**Iron Age:** Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

**Historical Period:** Since the arrival of the white settlers - c. AD 1840 - in this part of the country

### **ABBREVIATIONS**

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
BP	Before Present
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

# HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED ESTABLISHMENT OF THE INCA SOLAR PV POWER PLANT, KAKAMAS REGION, NORTHERN CAPE PROVINCE

## 1. INTRODUCTION

Inca Kakamas Solar (Pty) Ltd proposes to develop a renewable energy facility consisting of a photovoltaic (PV) solar energy component as well as associated infrastructure on a site located west of Kakamas in the Northern Cape Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was therefore appointed by **Savannah Environmental** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the solar PV power plant, to assess the significance thereof and to consider alternatives and plans for the mitigation of any adverse impacts.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the South African Heritage Resources Agency (SAHRA).

## 2. TERMS OF REFERENCE

The aim of this HIA, broadly speaking, is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the solar PV power plant.

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied;
- A visit to the proposed development area.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;

- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

**Table 1: Applicable category of heritage impact assessment study and report.**

Type of study	Aim	SAHRA involved	SAHRA response
Screening	<p>The aim of the screening investigation is to provide an overview of possible heritage-related issues regarding the proposed development by an appropriate heritage specialist. It is based on the review and use of existing heritage data pertaining to the site.</p> <p>The result of this investigation is a brief statement indicating potential heritage impacts/issues and can assist the developer in preliminary planning.</p> <p>This report does grant the developer permission to proceed with the proposed development.</p>	Not necessary	
Scoping	<p>The aim of the scoping investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to assess heritage sites and their significance (involving site inspections, existing heritage data); to review the general compatibility of the development proposals with heritage policy and possible heritage features on the site.</p> <p>The result of this investigation is a heritage scoping report indicating the presence/absence of heritage resources and what would be required to manage them in the context of the proposed development.</p> <p>This report does not grant the developer permission to proceed with the proposed development.</p>	Not compulsory	
Heritage Impact Assessment	<p>The aim of a full HIA investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to identify heritage resources (involving site inspections, existing heritage data and additional heritage specialists if necessary); assess their significances; assess alternatives in order to promote heritage conservation issues; and to assess the acceptability of the proposed development from a heritage perspective.</p> <p>The result of this investigation is a heritage impact assessment report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed development.</p> <p>Depending on SAHRA's acceptance of this report, the developer will receive permission to proceed with the proposed development, on condition of successful implementation of proposed mitigation measures.</p>	Provincial Heritage Resources Authority	Comments on built environment and decision to approve or not
		SAHRA Archaeology, Palaeontology and Meteorites Unit	Comments and decision to approve or not



### 3. HERITAGE RESOURCES

#### 3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
  - ancestral graves;
  - royal graves and graves of traditional leaders;
  - graves of victims of conflict;
  - graves of individuals designated by the Minister by notice in the Gazette;
  - historical graves and cemeteries; and
  - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
  - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - objects to which oral traditions are attached or which are associated with living heritage;
  - ethnographic art and objects;
  - military objects;
  - objects of decorative or fine art;
  - objects of scientific or technological interest; and
  - books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

#### 3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that "cultural significance" means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature's uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;

- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites.

## **4. STUDY APPROACH AND METHODOLOGY**

### **4.1 Extent of the Study**

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 1 & 2.

### **4.2 Methodology**

#### **4.2.1 Preliminary investigation**

##### **4.2.1.1 Survey of the literature**

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted (Couzens 2004; De Beer 1992; De Jong 2010; Lange 2006; Morris 1995; Morris & Beaumont 1991; Norman & Whitfield 2006; Parsons 2007; Richardson 2001; Rudner 1953; Van der Waal-Braaksma & Ferreira 1986).

- Information on events, sites and features in the larger region were obtained from these sources.

##### **4.2.1.2 Data bases**

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor-General (CS-G)* and the *National Archives of South Africa (NASA)* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development.

##### **4.2.1.3 Other sources**

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

Mr I Lubbe, son of the current land-owner, was interviewed as to the possibility of heritage sites and features occurring on the property.

#### **4.2.2 Field survey**

The area that had to be investigated was identified by **Savannah Environmental** by means of maps and confirmed by Mr Lubbe during the site visit. The site was surveyed by walking a number of parallel transects over it. Special attention was given to the banks of a small stream that passes on the western border of the area.

#### **4.3 Limitations**

- None at present.

### **5. DESCRIPTION OF THE AFFECTED ENVIRONMENT**

#### **5.1 Site location and description**

The study area is a rectangular shaped section of land on Remainder of Farm 1178 (Kakamas Suid Nedersetting), located approximately 2,5 km west of the town of Kakamas in the Northern Cape Province (Fig. 1 & 2). An area of approximately 109 ha is being considered within which the facility is to be constructed.

The geology is made up of granite, which in an igneous intrusion in the surrounding tillite. The latter is a sedimentary rock formed by the hardening of glacial till (in other words, material deposited by a glacier). The morphology of the region is described as irregular plains, created by a number of streams (now mostly dry) cutting through the area. The vegetation is classified as Namaqualand Broken Veld, changing to Orange River Broken Veld south of the study area (ENPAT). A small unnamed stream forms the western boundary of the study area.

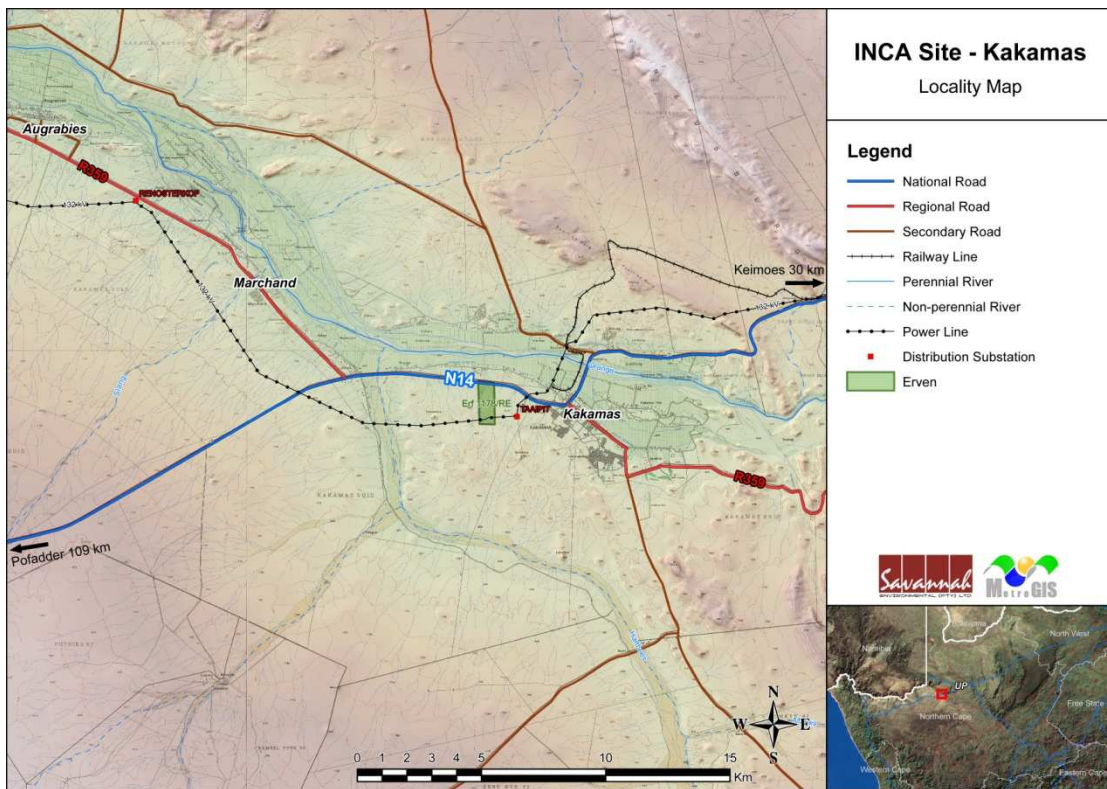


Fig. 1. Location of the study area in regional context.

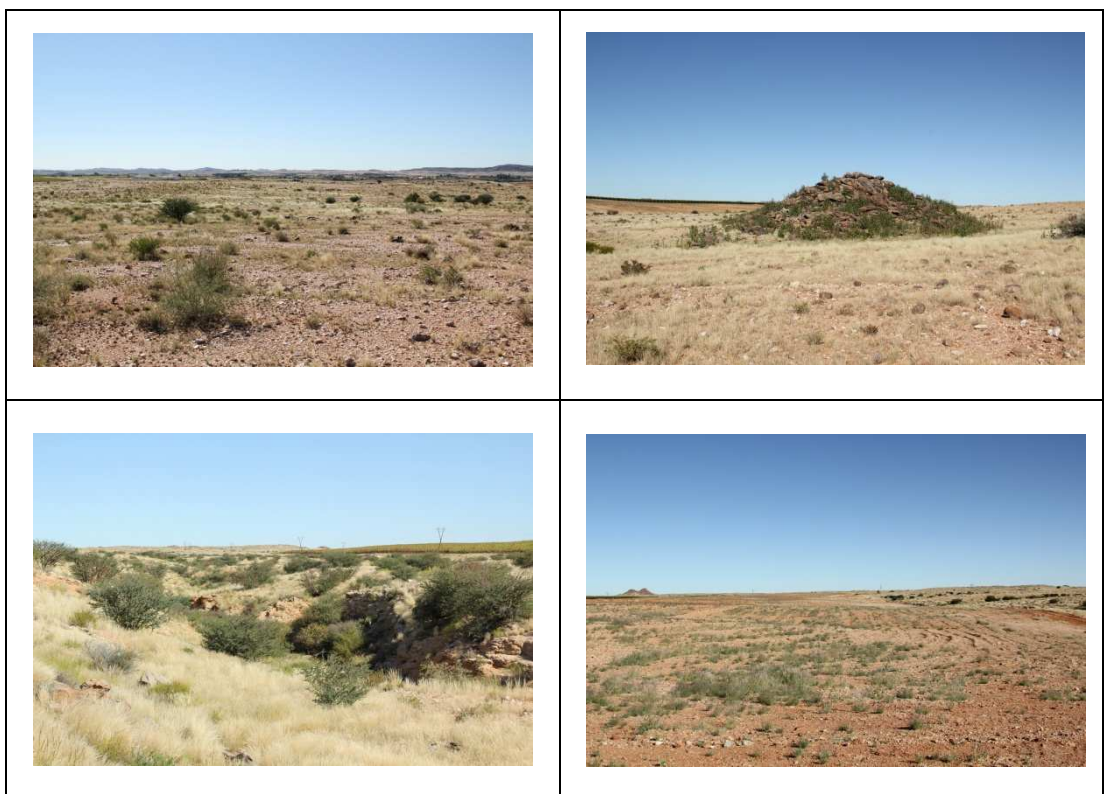


Fig. 2. Views of the landscape.



Fig. 3. Aerial view of the site.  
(Photo: Google Earth)

## 5.2 Regional overview

The cultural landscape qualities of the region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age) as well as a much later colonial (farmer) component. The second component is an urban landscape dating to the colonial period and is linked to the rural colonial landscape.

### 5.2.1 Geological landscape

Although not part of this study and not declared sites, Norman and Whitfield (2006:270) indicate a number of interesting geological features in the larger region and one in the vicinity of the proposed development. The latter is the occurrence of "fresh augen gneiss" as one pass the "Arrive Alive" board on the western edge of Kakamas. They also refer to the many veins of quartz and pegmatite which characteristically leave their rubble strewn over the surface.



Fig. 4. Typical quartz outcrop in the region.

From the perspective of this report, these sites would become important if they have been exploited by humans for their mineral or other qualities.

### 5.2.2 Rural landscape

The rural landscape has always been sparsely populated and it was only in a few areas such as in the vicinity of sustainable water sources or through the application of specific economic strategies such as the development of irrigation systems, that people succeeded to occupy a section of the region for any length of time.

- Archaeological sites

Archaeological sites in this area predominantly date to the Stone Age as early farmer communities, also referred to as Iron Age communities, did not settle this far west (Humphreys 1976).

<b>NHRA Category</b>	Archaeological and palaeontological sites
<b>Protection status</b>	
General Protection - Section 35: Archaeology, palaeontology and meteorites	

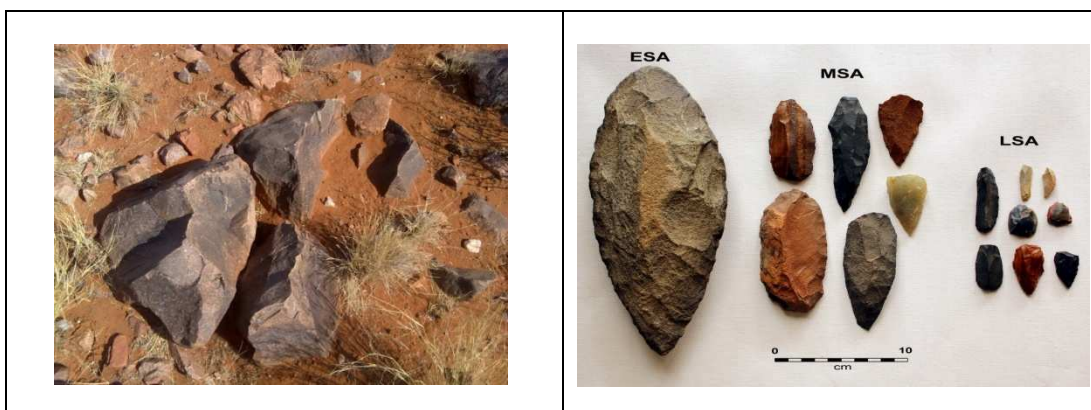


Fig. 5. Stone quarry probably dating to MSA times (left).  
*The stone tools (right) are not from the region and are only used to illustrate the difference between Early (left), Middle (middle) and Later Stone Age (right) technology.*

Occupation of the larger region took place since the Early Stone Age, with occurrences of Middle Stone Age more frequent than the Early Stone Age. However, it is mostly during the Later Stone Age when population density increased. Later, with the arrival of stock herders this increased even more, resulting in competition for resources such as access to water and shelter. Settlement mostly took place at small hills where rock shelters might occur or in the vicinity of the Orange River.

The type of heritage sites encountered in the region are settlement sites, e.g. !Nawabdanas or Renosterkop (Morris & Beaumont 1991) or those studied by Parsons (2008), burial sites on the banks of the Orange River (Morris 1995), rock engraving sites (Lange 2006) and stone quarries (van Schalkwyk 2010).

- Farmsteads

Not many farmsteads occur in the region as most of the original farms were very large, requiring few of these to be developed. However, in the vicinity of the river, with the development of intensive irrigation farming, many farmsteads and other features were developed. These were usually adapted to accommodate the specific farming requirements of the specialised agricultural activities.

<b>NHRA Category</b>	Buildings, structures, places and equipment of cultural significance
<b>Protection status</b>	General Protection - Section 34: Structures older than 60 years



Fig. 6. Area where grapes are dried to produce raisins.

Farmsteads are complex features in the landscape, being made up of different yet interconnected elements. Typically these consist of a main house, gardens, outbuildings, sheds and barns, with some distance from that labourer housing and various cemeteries. In addition roads and tracks, stock pens and wind mills complete the setup. An impact on one element therefore impacts on the whole.

- Cemeteries

Apart from the formal cemeteries that occur in municipal areas (towns or villages), some quite informal, i.e. without fencing, can be expected to occur anywhere.

<b>NHRA Category</b>	Graves, cemeteries and burial grounds
<b>Protection status</b>	General Protection - Section 36: Graves or burial grounds

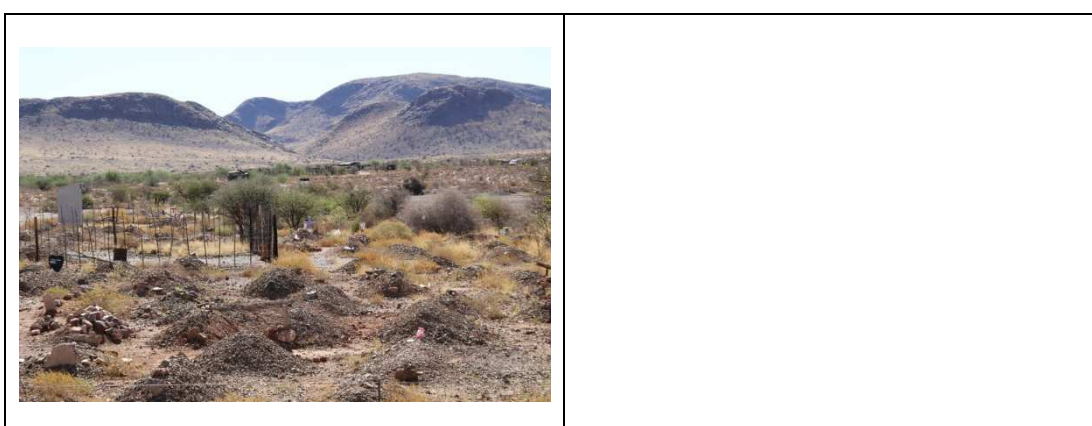


Fig. 7. Typical informal cemetery.

Most of these cemeteries, irrespective of the fact that they are for land owner or farm labourers (with a few exceptions where they were integrated), are family orientated. They therefore serve as important 'documents' linking people directly by name to the land.



- Infrastructure and industrial heritage

In many cases this aspect of heritage is left out of surveys, largely due to the fact that it is taken for granted. However, the land and its resources could not be accessed and exploited without the development of features such as roads, bridges, railway lines, electricity lines and telephone lines.

<b>NHRA Category</b>	Buildings, structures, places and equipment of cultural significance
<b>Protection status</b>	
General Protection - Section 34: Structures older than 60 years	



Fig. 8. One of the water wheels in an irrigation ditch outside Kakamas.

Most features that can be included in this category are located on the outer fringes of towns. In the region under consideration the systems of canals developed to irrigate the extensive vineyards and orchards are a prime example of this type of heritage.

### 5.3.3 Urban landscape

<b>NHRA Category</b>	Buildings, structures, places and equipment of cultural significance
<b>Protection status</b>	
General Protection - Section 34: Structures older than 60 years	

<b>NHRA Category</b>	Graves, cemeteries and burial grounds
<b>Protection status</b>	
General Protection - Section 36: Graves or burial grounds	

<b>NHRA Category</b>	Buildings, structures, places and equipment of cultural significance
<b>Protection status</b>	
General Protection - Section 37: Public Monuments and Memorials	

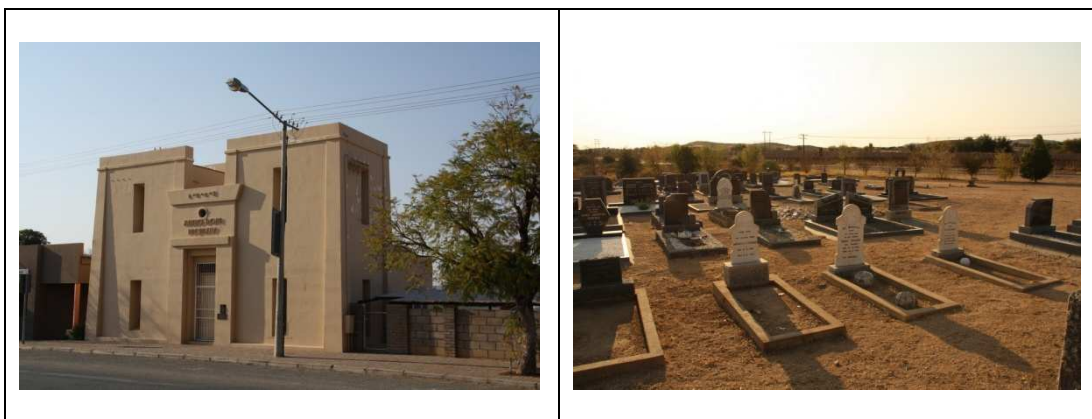


Fig. 9. Heritage elements found in the urban environment.

- Kakamas:

The town of Kakamas grew out of an irrigation scheme that was established in 1898 for farmers that were left destitute by the severe drought of 1895-1897. It was laid out in 1931 and attained full municipal status in 1964. The name of the town is of Khoikhoi origin and translates as "place of drinking water by stock".

According to the various databases that were consulted, the town has approximately 10 buildings and features that are listed as provincial heritage sites or are viewed to be of conservation worthy status. In addition a number of cemeteries are also located in various places around the town.

### 5.3 Identified heritage sites

#### 5.3.1 Stone Age

- A low density of stone tools - < 1 in 100m<sup>2</sup> - was encountered on the site. The tools and cores date to the Middle Stone Age, as is evidenced by the prepared core technology and faceted appearance of the striking platform on the tools.



Fig. 10. Examples of cores and flakes found in the study area.

### 5.3.2 Iron Age

- No sites, features or objects dating to the Iron Age were identified in the study area.

### 5.3.3 Historic period

- No sites, features or objects dating to the historic period were identified in the study area.

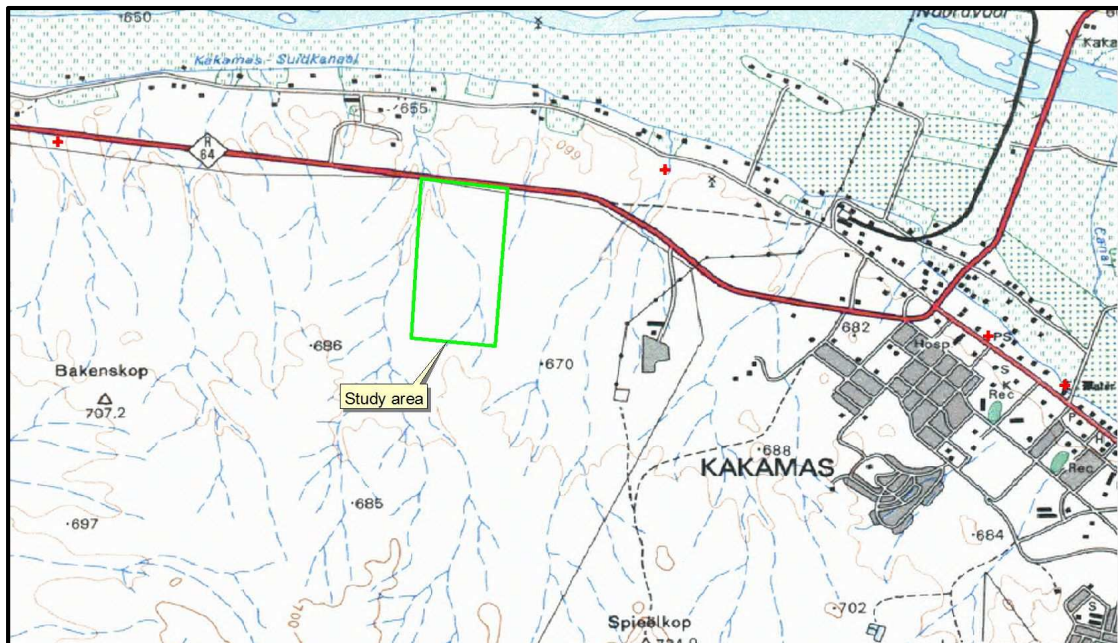


Fig. 11. Map of the study area, showing known sites of cultural significance (red crosses) (Map 2820DC: Chief Surveyor-General)

## 6. SITE SIGNIFICANCE AND ASSESSMENT

### 6.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

## 6.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

**Table 2. Summary of identified heritage resources in the study area.**

<b>Identified heritage resources</b>	
<i>Category, according to NHRA</i>	<i>Identification/Description</i>
<b>Formal protections (NHRA)</b>	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
<b>General protections (NHRA)</b>	
structures older than 60 years (Section 34)	None
archaeological site or material (Section 35)	None
palaeontological site or material (Section 35)	None
graves or burial grounds (Section 36)	None
public monuments or memorials (Section 37)	None
<b>Other</b>	
Any other heritage resources (describe)	None

## 6.3 Impact assessment

Based on current information regarding sites in the surrounding area, all sites expected to occur in the study region are judged to have Grade III significance.

- The stone tools identified on the site have been evaluated to have a very low significance as it is surface material and does not occur in its original context any more. It therefore does not warrant any further action with regards to the proposed development.

As no sites, features or objects of cultural heritage significance were identified in the study area there would be no impact from the proposed development.

## **7. CONCLUSIONS**

The aim of this survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area of the proposed development, to assess the significance thereof and to consider alternatives and plans for the mitigation of any adverse impacts.

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age) as well as a much later colonial (farmer) component. The second component is an urban landscape dating to the colonial period and is linked to the rural colonial landscape.

- A low density of stone tools was identified on the development site. It is evaluated to have a very low significance and therefore does not warrant any further action with regards to the proposed development. As no other sites, features or objects of cultural heritage significance were identified in the study area there would be no impact resulting from the proposed development.

Therefore, from a heritage point of view it is recommended that the proposed development be allowed to continue. However, it is recommended that should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

## 8. REFERENCES

### 8.1 Data bases

Chief Surveyor General  
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.  
Heritage Atlas Database, Pretoria.  
National Archives of South Africa  
SAHRA Archaeology and Palaeontology Report Mapping Project (2009)

### 8.2 Literature

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### **8.3 Maps and aerial photographs**

1: 50 000 Topocadastral maps: 2820DC  
Google Earth

### **8.4 Interviews**

Mr I Lubbe, son of the current land-owner.

## APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

### Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

<b>1. Historic value</b>			
Is it important in the community, or pattern of history			
Does it have strong or special association with the life or work of a person, group or organisation of importance in history			
Does it have significance relating to the history of slavery			
<b>2. Aesthetic value</b>			
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group			
<b>3. Scientific value</b>			
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage			
Is it important in demonstrating a high degree of creative or technical achievement at a particular period			
<b>4. Social value</b>			
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons			
<b>5. Rarity</b>			
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage			
<b>6. Representivity</b>			
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects			
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class			
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.			
<b>7. Sphere of Significance</b>			
	High	Medium	Low
International			
National			
Provincial			
Regional			
Local			
Specific community			
<b>8. Significance rating of feature</b>			
1.	Low		
2.	Medium		
3.	High		



**Significance of impact:**

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

**Certainty of prediction:**

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

**Recommended management action:**

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs
- 5 = retain graves

**Legal requirements:**

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

## APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) 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.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

(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; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.