

Heritage Impact Assessment & Palaeontological Desk Assessment for a Mining Right on Lot 1288, Lot 1279 and Remainder Lot 1726 (Portion of Lot 1177) Kakamas South Settlement (Renosterkop) near Kakamas, Kai !Garib Municipality Northern Cape



Prepared by

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25 July 2022



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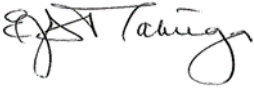
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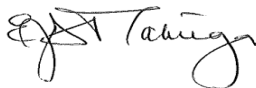
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## EXECUTIVE SUMMARY

1. This Heritage Impact Assessment (HIA) Report has been prepared in support of an application by Renosterkop Mining Company (Pty) Ltd for a mining right on several portions of the farm Kakamas Settlement South, also known as Renosterkop, situated 25 km north of Kakamas in the Kai !Garib Municipality.
2. The following is a summary of findings of the heritage study and recommendations with regard to the mining right application:
3. An ethno-historical profile of the area has been reconstructed on the basis of 18<sup>th</sup> first-hand accounts of a travellers, Jacob Wikar and Colonel R. J. Gordon. The local inhabitants, the !Nawabdanas, were agro-pastoralists and hunters occupying a stretch of the Orange River with islands between Kakamas and the Augrabies Falls. Renosterkop formed a southern backdrop of this beautiful bygone island settlement.
4. There are no specific references to Renosterkop from Wikar, Gordon and others, but sketches illustrate the people, their settlements and some of their artefacts. Pots and their sizes, the remains of which form a significant part of the assemblages from excavations at Renosterkop are illustrated in certain of these historical accounts.

### **5. General observations**

The survey in 2022 confirms the importance of the hill on account of the presence of Stone Age material and a ceramic component. The occurrence of pottery together with lithics and an iron artefact urges a rethink of the supposed neat break between the Iron Age and Stone Age Cultures. Renosterkop is therefore significant as an exemplar of a transitional precolonial mixed economy in the semi-arid karoo plains of the Northern Cape.

6. Renosterkop is a historic cultural landscape. A Cultural landscape is ....*"the combined works of nature and of man" designated in Article 1 of the Convention. They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural*

*environment and of successive social, economic and cultural forces, both external and internal.”* The Orange River islands and iconic Renosterkop on the southern flank of the floodplain are the embodiment of a historic cultural landscape which has evolved through at least three centuries. The cultural landscape was and is still firmly present in its physical form and in local public consciousness. For the past nomadic inhabitants and early European travellers, the hill was a prominent directional beacon which could be seen many kilometres from the Orange River. Cultural landscapes have the ability to survive for a long time thereby hosting many successive generations, and in this case Renosterkop is a remarkable example.

7. Today Renosterkop remains a landmark with a charismatic sense of place. It has a strong spiritual presence and captures the attention of travellers on the road from Kakamas to the Augrabies Falls.

#### **8. The Stone Age**

The recent field survey confirms the presence of Stone Age material as background scatter on the hill largely with no concentrations encountered to indicate significant activity areas.

9. A rock shelter on the northern aspect of the hill is significant due to the presence of a substantial deposit of Stone Age Material (Site RTK11). It is recommended that the cave is protected.

#### **10. Burial grounds**

One cairn burial located on the south-eastern foot of the hill was recorded (Site RTK01). A 100 m radius protection servitude must be reserved as per the regulations of the heritage authority.

#### **11. Visual Impact Assessment**

A basic assessment was undertaken of the likely significant impacts that the proposed mining will have on cultural landscape characteristics of the hill, strategic and local views, including to the setting of the hill in the broader land. A major and lasting visual

impact of the development to the hill are open cast mine pits which will be created, and even if they will be refilled it will be impossible to recreate the original state. Three critical viewpoints have been identified:

- (i) View of the hill from the south along the road from Kakamas to Augrabies.
- (ii) View of the hill from the west along a north-south trending farm access road.
- (iii) View of the hill from the north from a position on the western edge of the Orange floodplain.

12. Mining by opencast methods on the slopes of the hill will have a negative visual impact from the abovementioned key viewpoints, particularly during the life of the mine. The visual disturbance will be mitigated by backfilling of the pits after the life of the mine.

### 13. Ranking of sites and Risk Assessment

	Grading	Description	No of Sites
1a	National	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources	0
1b		Burial Grounds and Graves. Public sensibilities about the sanctity of graves	1
2	Provincial	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 2 heritage resources	0
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources	2
3B	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	

3C	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources	25
		<b>TOTAL</b>	<b>27</b>

	Grading	Description	No of sites
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources  A Cultural Landscape is locally recognised and is of potential Grade 3A category	1



14. Inventory of Heritage Sites recorded in July 2022

RTK01	28°40'46.20"	20°27'21.10"E	19th -20th century	On the south-eastern foot of the hill. A cairn burial.	High	100 m servitude
RTK02a	28°40'42.20"S	20°27'18.40"E	20th century	Located in a flat valley between ridges on Renosterkop. A cement floor measuring 20 m x 15 m possibly the remains of a farm shed. Rusted large and small tins. Old glass bottle and sherds including one written Spar-letta. This branding dates to the 1970s and 1980s.	Low	No further action
RTK02b	28°40'42.20"S	20°27'18.40"E	MSA/LSA	In the same area as the cement floor in 2a, stone tools were observed – pointed scrapes and flakes.	Low	No further action
RTK03	28°40'41.10"S	20°27'18.20"E	MSA/LSA	On Renosterkop. Located in a valley between two ridges. A core and flakes	Low	No further action
RTK04	28°40'39.90"S	20°27'11.20"E	MSA/LSA	On Renosterkop. 2 cores and flake waste.	Low	No further action
RTK05	28°40'39.30"S	20°27'11.00"E	MSA/LSA	On Renosterkop. A flat rocky valley between two ridges. 1 cores and flakes.	Low	No further action
RTK06	28°40'38.80"S	20°27'8.40"E	MSA/LSA	On Renosterkop. Flat rock valley between ridges. 9 lithics including 3 scrapers and a blade.	Low	No further action
RTK07	28°40'38.80"S	20°27'7.10"E	20th century	On Renosterkop. Rough stone walls and piles, evidence of mine workings in the 1940s.	Low	No further action
RTK08	28°40'38.50"S	20°27'5.80"E	20th Century	On Renosterkop. Stone revetment wall retaining gravel.	Low	No further action
RTK09	28°40'36.20"S	20°27'3.70"E	20th century	On Renosterkop. Revetment wall of good workmanship with a terrace at the bottom.	Medium B	Protect
RTK10	28°40'33.80"S	20°27'4.30"E	MSA/LSA	On Renosterkop. Located on a saddle near the summit of the hill. Many tools including a blades, scrapers and many flakes made from chert and quartz.	Low	No further action

RTK11	28°40'34.10"S	20°27'6.80"E	LSA with ceramics	On the crest of Renosterkop. A shelter with a northern aspect. In the shelter a shallow arced tunnel with two entrances. On the floor a substantial Stone Age deposit – flakes, pebbles, ostrich eggshell fragments and one potsherd.	Medium A	Protect
RTK12	28°40'36.90"S	20°27'12.70"E	20th Century	On Renosterkop. A valley between ridges. 4 short revetment walls with gravel packed behind them.	Low	No further action
RTK13	28°40'37.28"S	20°27'16.00"E	20th century	On Renosterkop. In a shallow valley between ridges. A revetment wall c 70 m long creating a platform. Short walls with a core of grave leave a gap which looks like an entrance/exit.	Low	No further action
RTK14	28°40'38.90"S	20°27'21.00"E	20th century	On Renosterkop. A Trigonometrical beacon 70 cm high located on top of a ridge.	Low	No further action
RTK15	28°40'38.40"S	20°27'22.10"E	MSA/LSA	On Renosterkop. At the base of a ridge in a shallow valley. 6 formal/near formal tools – scrapers and blades, and flake waste.	Low	No further action
RTK16	28°40'39.20"S	20°27'27.80"E	20th century	On Renosterkop. A Trigonometrical beacon 70 cm high located on top of a ridge.	Low	No further action
RTK17	28°40'38.60"S	20°27'35.80"E	20th Century	On Renosterkop. A wall 8 m long, 110cm high and 110 m wide. A layer of gravel on top of the wall although beneath the core appears to consists of larger stones.	Low	No further action
RTK18	28°40'36.40"S	20°27'36.20"E	20th century	On Renosterkop. In a shallow valley between two ridges. 4 short revetment walls packed with gravel.	Low	No further action
RTK19	28°40'44.20"S	20°27'40.80"E	MSA/LSA	On the south-eastern foot Renosterkop. An isolated sand dune. Surface occurrences of stone tools (cores, scrapers and flakes), ostrich eggshell fragments.	Low	No further action

RTK20	28°40'48.10"S	20°27'40.90"E	20th century	On the northern foot of a ridge located southeast of Renosterkop. A small elliptical enclosure 3.5 m x 2 m, 1 m high, possible or penning sheep.	Low	No further action
RTK21	28°40'51.90"S	20°27'44.00"E	MSA/LSA	On the western foot of a small ridge located SE of Renosterkop. 1 core and 5 flakes.	Low	No further action
RTK22	28°40'53.13"S	20°27'42.42"E	MSA/LSA	At the base of a cluster of rocks. An isolated scraper with retouched edges.	Low	No further action
RTK23	28°40'54.20"S	20°27'42.00"E	MSA/LSA	At the base of a cluster of rocks. Quartz tools. 4 scrapers, 3 flakes.	Low	No further action
RTK24	28°41'0.20"S	20°27'38.20"E	MSA/LSA	On the plain south of Renosterkop. A core and a scraper.	Low	No further action
RTK25	28°41'8.10"S	20°27'37.70"E	Modern	On the plain south of Renosterkop. Recycled concrete railway sleepers. Imprinted SAS (South African Spoorwagen). Used for surface placement of irrigation pipes	Low	No further action
RTK26	28°40'31.10"S	20°27'6.20"E	MSA/LSA	Northern aspect of Renosterkop overlooking the Orange River floodplain. 2 cores.	Low	No further action
RTK27	28°40'32.90"S	20°27'7.20"E	MSA/LSA	North aspect of Renosterkop overlooking the Orange River floodplain. 6 lithics. 1 scraper, 1 blade, 1 pebble core and 3 flakes.	Low	No further action

## **15. Conclusion and recommendations**

- (i) The cairn burial must be protected with a 100 m servitude in which physical works are not allowed without a permit from SAHRA or the provincial heritage resources authority.
- (ii) The rock shelter on the crest of the hill must be protected.
- (iii) Mining by opencast methods on the southern, western and northern slopes of Renosterkop will impact negatively on the structural integrity of Renosterkop as a cultural landscape. The impact will be largely visual affecting the tourist value of the hill. The impact may be severe during the life of the mine. Backfilling will mitigate the visual impact although full restoration might not be possible.
- (iv) A Chance Finds Procedure is appended to this Report and will be used by the Environmental Control Officer as a manual to curate chance finds.
- (v) A Conservation Management Plan (CMP) must be prepared for the protection and sustainable management of heritage resources. A CMP will contribute significantly to lowering the risk of uncertainty inherently present in ad hoc decision making and reactive interventions.
- (vi) The proposed mining activities can be given a greenlight to go ahead provided that the precautions stated above are heeded.

## **ABBREVIATIONS**

BP	Before Present
EIA	Environmental Impact Assessment
HIA	Heritage Impact Assessment
LSA	Late Stone Age
LIA	Later Iron Age
PHRA	Provincial Heritage Resources Authority
MSA	Middle Stone Age
NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency
UNESCO	United National Educational, Scientific and Cultural Organisation

## DEFINITIONS

**Archaeological material:** remains older than 100 years, resulting from human activities left as evidence of their presence, which are in the form of structure, artefacts, food remains and other traces such as rock paintings or engravings, burials, fireplaces etc.

**Artefact:** Any movable object that has been used modified or manufactured by humans.

**Catalogue:** An inventory or register of artefacts and / or sites.

**Conservation:** All the processes of looking after a site or place including maintenance, preservation, restoration, reconstruction and adaptation.

**Cultural Heritage Resources:** refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistoric places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. These include intangible resources such as religious practices, ritual ceremonies, oral histories, memories, indigenous knowledge.

**Cultural landscape:** a stretch of land that reflects “the combined works of nature and man” and demonstrates “the evolution of human society and settlement over time, under the influence of the physical constraints and / or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.<sup>1</sup>

**Cultural Resources Management (CRM):** the conservation of cultural heritage resources, management and sustainable utilization for present and future generations.

**Cultural Significance:** is the aesthetic, historical, scientific and social value for past, present and future generations.

**Early Iron Age:** refers to cultural remains dating to the first millennium AD associated with the introduction of metallurgy and agriculture.

**Early Stone Age:** a long and broad period of stone tool cultures with chronology ranging from around 3 million years ago up to the transition to the Middle Stone Age around 250 000 years ago.

**Excavation:** a method in which archaeological materials are extracted from the ground, which involves systematic recovery of archaeological remains and their context by removing soil and any other material covering them.

**Historic material:** means remains resulting from human activities, which are younger than 100 years and no longer in use; that include artefacts, human remains and artificial features and structures.

**Historical:** means belonging to the past, but often specifically the more recent past, and often used to refer to the period beginning with the appearance of written texts.

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<sup>1</sup> This definition is taken from current terminology as listed on the World Heritage Convention website, URL: <http://whc.unesco.org/en/culturallandscape/#1> accessed 17 March 2016.

**Intangible heritage:** something of cultural value that is not primarily expressed in material form e.g. rituals, knowledge systems, oral traditions or memories, transmitted between people and within communities.

**In situ material:** means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.

**Later Iron Age:** The period from the beginning of the 2<sup>nd</sup> millennium AD marked by the emergence of complex state society and long-distance trade contacts.

**Late Stone Age:** The period from  $\pm$  30 000 years ago up until the introduction of metals and farming technology around 2000 years ago, but overlapping with the Iron Age in many areas up until the historical period.

**Middle Stone Age:** a period of stone tool cultures with complex chronologies marked by a shift towards lighter, more mobile toolkit, following the Early Stone Age and preceding the Late Stone Age; the transition from the Early Stone Age was a long process rather than a specific event, and the Middle Stone Age is considered to have begun around 250 000 years ago, seeing the emergence of anatomically modern humans from about 150 000 years ago, and lasting until around 30 000 years ago.

**Monuments:** architectural works, buildings, sites, sculpture, elements, structures, inscriptions or cave dwellings of an archaeological nature, which are outstanding from the point of view of history, art and science.

**Place:** means site, area, building or other work, group of buildings or other works, together with pertinent contents, surroundings and historical and archaeological deposits.

**Preservation:** means the protecting and maintaining of the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary.

**Rock Art:** various patterned practices of placing markings on rock surfaces, ranging in Southern Africa from engravings to finger paintings to brush-painted imagery.

**Sherds:** ceramic fragments.

**Significance grading:** Grading of sites or artefacts according to their historical, cultural or scientific value.

**Site:** a spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

**Site Recording Template:** a standard document format for site recording.

## **1. INTRODUCTION**

This Heritage Impact Assessment (HIA) Report has been prepared in support of an application by Renosterkop Mining Company (Pty) Ltd for a Mining Right on several portions of the farm Kakamas Settlement South also known as Renosterkop situated 25 km north of Kakamas in the Kai !Garib Municipality. The nature and scale of the proposed mining triggers a Phase I HIA in terms of Section 38(8) of the National Heritage Resources Act (25/1999). A ground survey was undertaken on 1 July 2022 during which the heritage sensitivity and potential adverse impacts of the proposed mining activities were assessed.

### **1.1. Location and physical setting**

The farm Renosterkop is situated on the south bank of the Orange River 20 km downstream from Kakamas. The focal point of attention on the property is a hill by the same name, an isolated and prominent landform rising nearly 100 m from the Orange River floodplain. Roughly aligned with the direction of flow of the river, it represents resistant parts of the basement topaz biotite quartz (TBQ) underlain by granite gneiss rocks which have survived over a long period of the erosion action of the Orange River. The hill commands a powerful sense of place. Below the hill the terrain is generally flat gently dipping towards the Orange River floodplain to the north. In the central part of the property there are superficial deposits of Kalahari sand and on the eastern foot of the hill a few hundred metres from the floodplain there is an isolated sand dune. The southern and southwestern parts of the property are covered by sand-loamy soils largely derived from the Kalahari sands. Part of this area is occupied by a grape plantation while on the west and northwest flank of the hill the land is under preparation for a new vineyard. Grape farming on Renosterkop is a specialised industry and the grapes are curated for overseas markets. North of the hill, the Orange River has a wide flood plain covered by fertile black soils which are under cultivation. The proposed mining excludes the banks of the Orange River (Figures 1 – 7).



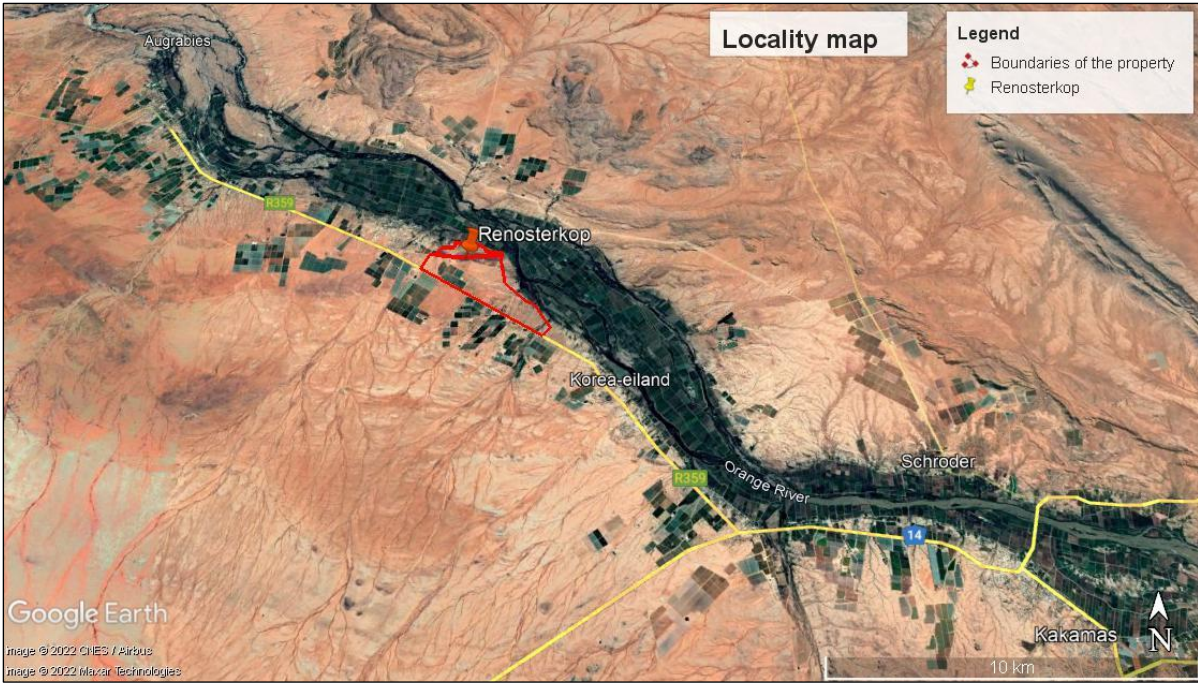


Figure 1: Google-Earth map shows the location the Renosterkop on the south bank of the Orange River

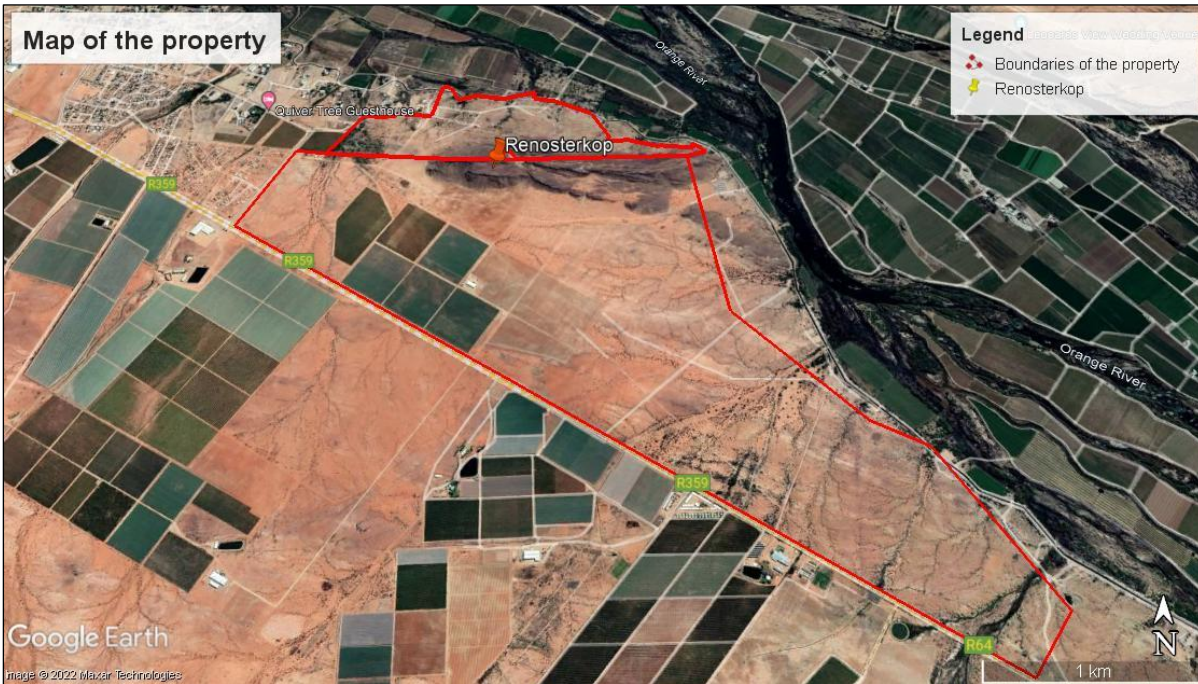


Figure 2: Another Google Earth view shows the footprint of the development in red ink



**Figure 3:** View of Renosterkop from the south of the hill close to the Kakamas - Augrabies Falls



**Figure 4:** This view of Renosterkop is taken from the NE of the hill. The Orange River floodplain is behind the camera



**Figure 5:** Approaching the hill from the SE a valley (in front of the camera) separates to parallel ridges that form the SE tail end of the Renosterkop Hill



**Figure 6:** Close view of the Orange River floodplain under cultivation



**Figure 7.** Extensive irrigation of export crops on Renosterkop

## **2. Nature of the Proposed Development**

The target minerals are tin, tungsten and zinc which at Renosterkop are found together in the same geological context. The mining process starts with drilling blast holes which are mined with explosives to crack the ore body which is hauled to a crushing plant leaving open cast holes at the sources. Stormwater control berms and trenches will be created to separate clean and dirty water on the mine site. A few buildings will be constructed for shelter, storage and office facilities. Overhead powerlines will be constructed for local distribution of electricity. Access and haulage roads will be created. These and other activities are likely to impact on heritage resources that may occur above and below the surface.

## **3. LEGAL FRAMEWORK**

This study fulfils an onus on developers to safeguard heritage resources. This obligation has been legislated with Sections 34, 35, 36 and 38 of the National Heritage Resources Act (No 25 of 1999) forming the legal framework within which this HIA report has been prepared.

### **3.1. Section 38 of National Heritage Resources Act on Heritage Impact Assessments**

Section 38 of the NHRA states the nature and scale of development which triggers a HIA:

**38.** (1) *Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—*

*(a) the construction of a road, wall, powerline, 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 50 m in length;*

*(c) any development or other activity which will change the character of a site—*

*(i) **exceeding 5 000 m<sup>2</sup> in extent**<sup>2</sup>; or*

*(ii) involving three or more existing erven or subdivisions thereof; or*

*(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*

*(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*

*(d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or*

*(e) any other category of development provided for in the 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.*

### **3.2. Definition of heritage (National Estate)**

Section 3 lists a wide range of cultural phenomena which could be defined as heritage, or the *National Estate* (3(2)). Section 3(3) outlines criteria upon which heritage value is ascribed. This Section is useful as a field checklist for the identification of heritage resources.

### **3.3. Protection of buildings and structures older than 60 years**

Section 34 provides automatic protection for buildings and structures more than 60 years old until it can be proven that they do not have heritage value:

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<sup>2</sup> Areal extent of the proposed development triggers the HIA.

*(1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.*

### **3.4. Protection of archaeological sites**

Section 35 (4) of the NHRA prohibits the destruction of archaeological, palaeontological and meteorite sites:

*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.*

### **3.5. Graves and burial grounds**

Section 36 of the NHRA provides for the protection of certain graves and burial grounds.

Graves are generally classified under the following categories:

- Graves younger than 60 years;
- Graves older than 60 years, but younger than 100 years;
- Graves older than 100 years; and
- Graves of victims of conflict
- Graves of individuals of royal descent
- Graves that have been specified as important by the Ministers of Arts and Culture.

This study is however mindful of public sensibilities about the sanctity of graves and burial grounds whether they are protected by the law or not.

### **3.6. The National Environmental Management Act (No 107 of 1998)**

This act states that a survey and evaluation of cultural resources must be done in areas where development projects that will affect the environment will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made. Environmental management is a much broader undertaking to cater for cultural and social needs of people. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

### **3.7. The Burra Charter on Conservation of Places of Cultural Significance**

Generic principles and standards for the protection of heritage resources in South Africa are drawn from international charters and conventions. In particular South Africa has adopted the **ICOMOS Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)** as a benchmark for best practice in heritage management.

## **4. APPROACH AND METHODOLOGY**

### **4.1. Literature survey**

From the following HIA reports we have created a profile of the heritage sensitivity of Renosterkop and its wider setting.

**Morris D and P Beaumont. 1991.** *Nawabdanas: Archaeological Sites at Renosterkop, Kakamas District, Northern*. The South African Archaeological Bulletin, Vol. 46, No. 154 (Dec., 1991), pp. 115-124. This report provides light on many aspects of the property which are pertinent to this study. Informed by observations by 18<sup>th</sup> century travellers and archaeological excavations in 1991, the report provides an ethnographic context and archaeological information that confirms Renosterkop as a historic cultural landscape.

**Beaumont, P. 2008.** *Phase 1 Archaeological Impact Assessment Report on Kakamas South Farm 2092 near Augrabies, Siyanda District Municipality, Northern Cape Province*. The archaeological Impact Assessment was conducted on the Farm Kakamas South 2029 located on the west side of the R359 road from Kakamas to the Augrabies Falls. The

abovementioned farm and Renosterkop Farm are separated by the Kakamas- Augrabies falls road. Beaumont recorded a low occurrence of lithics (page 2).

#### **4.2. Fieldwork**

A ground survey was undertaken in the company of the Environmental Specialist on Friday 1 July 2022. It was for the most part carried out on foot, as the track log map will show. The random walking route started at the base of the hill taking a westerly direction through a flat valley between ridges and facing the summit of Renosterkop. Before the summit, we turned north and then walked on the crest towards an east facing rock shelter. After a short retreat we turned east following another opening between ridges. Arriving at the base of the hill (southeast direction) we turned south walking on the plain. About 1 km away from the foot of the hill, we took a wide arch arc course west and north back to the starting point. Using a vehicle, we moved to north side of Renosterkop and conducted another walking survey and climb to the aforementioned rock shelter.

#### **4.3. Documenting cultural landscapes**

The concept of cultural landscapes is of relevant application when dealing with heritage in built environments. Cultural landscapes are defined in Paragraph 47 of the *Operational Guidelines for the Implementation of the World Heritage Convention* (2015 edition) as "cultural properties that represent the combined works of nature and of man" .... They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.

A cultural landscape is as "a geographic area including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. It was necessary to document some of the landscape characteristics of Renosterkop and its setting. Renosterkop is truly a historic landscape in view of the unbroken relationship of the hill with local communities over the last 3 centuries.



#### 4.4. Heritage Visual Impact Assessment (VIA)

The VIA is basic assessment of the likely significant impacts that the proposed development will have on the landscape character, strategic and local views has been undertaken for a holistic understanding of impacts of a development on a cultural landscape.

#### 4.5. Chance Finds Procedure (CFP)

The Chance Finds Procedure is a project-specific procedure that outlines actions required if previously unknown heritage resources are encountered during project implementation. It is set of interventions that protect chance finds from further disturbance until an assessment by a competent specialist is made, and mitigation actions consistent with the law and best practice standards are taken.

#### 4.6. Conservation Management Plan

The Chance Finds Procedure is integrated with a Heritage Management Plan (HMP) otherwise called a Conservation Management Plan (CMP). Heritage Management Plans are necessary for the protection and sustainable management of heritage resources. They aim to establish a point of reference against which to measure the success or failure of protection programmes. Management Plans, therefore, contribute significantly to lowering the risk of uncertainty inherently present in ad hoc decision making and reactive interventions.

#### 4.7. Significance ranking of findings

Heritage sites have been ranked to show potential risks relative to their cultural significance and the expected impact of the proposed development. The following table shows the risk assessment framework.

Table 1: Risk assessment framework

	Grading	Description	No of Sites
1a	National	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources	

1b		Burial Grounds and Graves. Public sensibilities about the sanctity of graves	
2	Provincial	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 2 heritage resources	
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources	
3B	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	
3C	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources	
		<b>TOTAL</b>	

## 5. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

An outline of the cultural sequence in South Africa provides a theoretical framework for the identification of features / structures and objects of archaeological, historical and cultural interest.

### 5.1. Cultural sequence summary<sup>3</sup>

PERIOD	EPOCH	ASSOCIATED CULTURAL GROUPS	TYPICAL MATERIAL EXPRESSIONS
Early Stone Age 2.5m – 250 000 YCE	Pleistocene	Early Hominids: <i>Australopithecines</i> <i>Homo habilis</i> <i>Homo erectus</i>	Typically large stone tools such as hand axes, choppers and cleavers.
Middle Stone Age 250 000 – 25 000 YCE	Pleistocene	First <i>Homo sapiens</i> species	Typically smaller stone tools such as scrapers, blades and points.
Late Stone Age 20 000 BC – present	Pleistocene / Holocene	<i>Homo sapiens</i> including San people	Typically small to minute stone tools such as arrow heads, points and bladelets.

<sup>3</sup> Adapted from Exigo Consultancy. 2015. Frances Baard District Municipality: Proposed Nkandla Extension 2 Township Establishment, Erf 258 Nkandla, Hartswater, Northern Cape Province.

Early Iron Age / Early Farmer Period c300 – 900 AD (or earlier)	Holocene	Iron Age Farmers	Typically distinct ceramics, bead ware, iron objects, grinding stones.
Later Iron Age 900ADff	Holocene	Iron Age Farmers, emergence of complex state systems	Typically distinct ceramics, evidence of long distance trade and contacts
(ii) Mapungubwe (K2)	1350AD		Metals including gold, long distance exchanges
(ii) Historical period	Tswana / Sotho, Nguni people	Iron Age Farmers	Stone walls Mfecane / Defiance
(iii) Colonial period	19 <sup>th</sup> Century	European settlers / farmers / missionaries/ industrialisation	Buildings, Missions, Mines, metals, glass, ceramics

### 4.3. Appearance of hominids

South Africa has yielded a very good record of fossil hominids, proto-humans which appeared in South Africa more than 3 million years ago. Three famous sites in Gauteng, Limpopo and Northwest Provinces have been collectively named the Cradle of Humankind and inscribed as a serial UNESCO World Heritage Site.<sup>4</sup> No hominid fossils have been reported in the broader locality. On the farm Eselkloupan off the N10 highway, 27 km south of Groblershoop, there is fossilised track resembling donkey spoor. The age of the fossil imprints is not known.<sup>5</sup>

### 4.4. The Early Stone Age

#### 4.4.1. The Early Stone Age (2 million to 250 000 years BP)

The Stone Age dates back more than 2 million years representing a more explicit record of the cultural sequence divided into three epochs, the Early, Middle and Late Stone Ages. These early humans made stone and bone implements. Material evidence is found in caves, rock-shelters and on river sides and edges of streams, and very rarely seen in open country. Such tools bore a consistent shape such as the pear-shaped handaxe, cleavers and core tools (Deacon & Deacon, 1999). These tool industries have been called Oldowan and Acheulean and were probably used to butcher large animals such as elephants, rhinoceros and hippopotamus. Acheulean artefacts are usually found near sites where they were

<sup>4</sup> Deacon, J. and N. Lancaster. 1986. *Later Quaternary Palaeo-environments of Southern Africa*. Oxford: Oxford University Press.

<sup>5</sup> Groblershoop: Green Kalahari Region. Found at: <https://www.experiencenortherncape.com/visitor/citiesandtowns/groblershoop>

manufactured and thus in close proximity to the raw material or at kill sites. The early hunters are classified as hominids meaning that they had not evolved to the present human form.

Progressively a good profile of the Stone Age in the Northern Cape has been reconstructed from many heritage impact assessments that have been conducted in recent years. The Wonderwerk Cave near Kuruman has become a benchmark for the characterisation of the Stone Age. Excavations reveal a long sequence of occupation spanning the Early (ESA), Middle (MSA) and Later Stone Ages.<sup>6</sup>

#### 4.4.2. Middle Stone Age (MSA) [250 000 yrs – 30 000 yrs BP]

The Middle Stone Age (MSA), which appeared 250 000 years ago, is marked by the introduction of a new tool kit which included prepared cores, parallel-sided blades and triangular points hafted to make spears. By then humans had become skilful hunters, especially of large grazers such as wildebeest, hartebeest and eland. It is also believed that by then, humans had evolved significantly to become anatomically modern. Caves were used for shelter suggesting permanent or semi-permanent settlement. Furthermore there is archaeological evidence from some caves indicating that people had mastered the art of making fire.<sup>7</sup>

Several surveys by this author undertaken along the banks of the Orange River have consistently established the Middle Stone Age footprint.

#### 4.4.3. Later Stone Age (LSA)[40 000 yrs to ca2000 yrs BP]

By the beginning of the LSA, humans are classified as *Homo sapiens* which refer to the modern physical form and thinking capabilities. Several behavioural traits are exhibited, such as rock art and purposeful burials with ornaments, became a regular practice. LSA technology is characterised by microlithic scrapers and segments made from very fine-grained rock. Spear hunting continued, but LSA people also hunted small game with bows and poisoned arrows. Because of poor preservation, open sites become of less value compared to rock shelters.

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<sup>6</sup> Wonderwerk Cave. Found at: <http://www.southafrica.net/za/en/articles/entry/article-southafrica.net-the-wonderwerk-cave>.

<sup>7</sup> Deacon, J & H. Deacon. 1999. *Human Beginnings in South Africa*. Cape Town: David Philip.

Many artefacts which have been recorded along the banks of the Orange River and adjacent plains have been identified with the MSA/LSA continuum.

#### **4.5. The Iron Age Culture [ca. 2000 years BP]**

The Iron Age culture supplanted the Stone Age at least 2000 years ago, associated with the introduction of farming and use of several metals and pottery. Iron Age communities were speakers of Bantu languages, practiced agriculture and kept domestic animals such as cattle, sheep, goat and chickens. There is however increasing evidence that sheep and probably cattle as well might have moved into the Southern Africa much earlier than the Iron Age.<sup>8</sup>

### **5. FINDINGS OF THE HERITAGE STUDY**

#### **5.1. A brief historical account of Renosterkop and its surrounds**

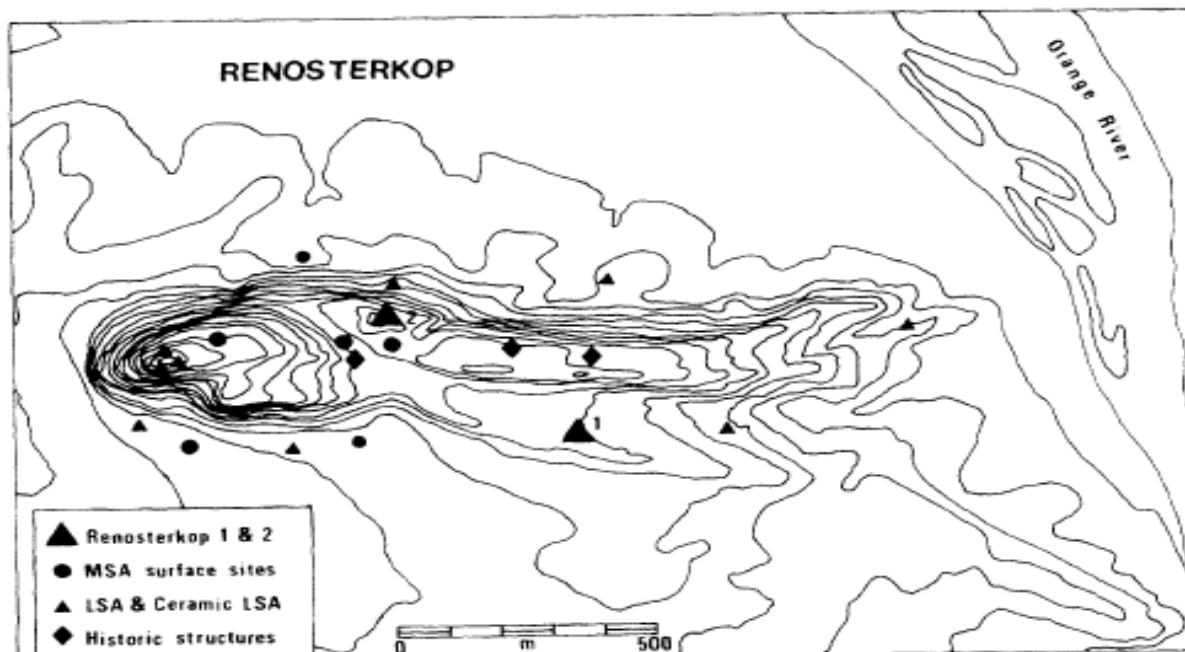
To provide a historical context for archaeological excavations which were undertaken at Renosterkop in 1991, Morris and Beaumont reached out to rare 18<sup>th</sup> first-hand accounts of travellers, Hendrik Jacob Wikar and Colonel R J Gordon. From these reports we begin to visualise a cultural landscape which has evolved over a period of at least three centuries. Wikar visited Renosterkop in 1778 which was known to local Nanineiqua pastoralists as "Nawaptana", in current orthography -!Nawabdanas. Colonel R. J. Gordon visited the area in the following year – 1779. Their observations provide an important ethnographic record of this subgroup of the Namakwa Khoi people. The !Nawabdanas were agro-pastoralists and hunters occupying the Orange River islands between Kakamas and the Augrabies Falls. Renosterkop on the edge of the floodplain formed a western backdrop to the beautiful bygone island settlement. Archaeological relics of this settlement are not likely to have survived cultivation of the floodplain ongoing. The islands were not the only home for the !Nawabdanas, as they were nomadic pastoralists, moving their assets - homes and livestock with the cycle of the seasons. The availability of water in pans and fresh pasture in the rain season was a stimulus for the transhumant migration of livestock to the plains on the veld away from the Orange River. The Namakwa mobile huts, the "matjieshuise" is now internationally acclaimed as a handicraft that manifests outstanding creative genius. When

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moving camp it easily rolled up and carried on the backs of oxen, and re-erected at the destination (page 116). Various Tswana groups were neighbours to the north while in border areas the populations tended to be mixed. There is further evidence of interactions between the Tswana and the !Nawabdanas and exchange of goods between these groups involving specularite mined in the region of Postmasburg, a shiny substance used for body ornamentation. While at Renosterkop Wikar had "acquired a stone which the [Tswana] bring there, and which the Namnykoa (Namakwa) crush and rub with fat on their heads to make them shine" (Mossop 1935:125 cited in Morris & Beaumont 1991 p115). Wikar also observed that the !Nawabdanas had a penchant for dagga smoking.

## **5.2. Findings archaeological investigations in 1991**

Morris and Beaumont carried out an archaeological reconnaissance on the hill and excavations in two areas named Renosterkop 1 and Renosterkop 2 (see Figure 7). The material retrieved date back to the Middle Stone Age (MSA) and Late Stone Age (LSA). They isolated a cultural horizon represented by potsherds which they called the Ceramic Later Stone Age. In this study we stick to convention which recognises three Stone Age epochs where the Ceramic Later Stone is essentially part of the Later Stone Age. Morris and Beaumont observed low density surface scatters of Middle Stone Age material (prepared cores, flakes with faceted butts) at the base of the hill on both the northern and southern sides of Renosterkop, as well as over a large area on the top of the hill. Raw materials included quartz and pebbles of chalcedony and banded ironstone. They also observed Later Stone Age tools consisting of quartz as well as pebbles with a significant cluster on the western crest of the hill. There were significant surface scatters of potsherds on a red sand dune abutting a low ridge on the south eastern side of the hill (which they named Renosterkop 1) and a small shelter overlooking the Orange River valley to the north (Renosterkop 2), The two sites were selected for a more detailed investigation summarized below (Figure 8). Morris and Beaumont also noted the stone walled structures associated with the brief mining activities from March 1927 and tungsten prospecting pits dating from the early 1940s. These were constructed mainly to stabilize debris heaps.



**Figure 8.** Map which shows the location of archaeological and historical sites noted during the survey in 1991 (Morris & Beaumont 1991, p116)

For the purpose of this study, we provide a summary of the investigations on Renosterkop 1 and Renosterkop 2 which are instructive in determining the heritage sensitivity of the property: At Renosterkop 1, surface collections were made over an area 16 m x 18 m. An area 14 m<sup>2</sup> in size was set up for excavation and two horizons were isolated – Stratum 1 consisting of the loose sand overburden – up to 25 mm depth, and Stratum 2 from 30 to 40 mm thick, beyond which no cultural material was found.

- A total of 1493 artefacts were collected comprising flakes, cores and chunks and very few formal tools such as scrapers and backed lithics.
- 396 potsherds and ostrich egg shell beads and fragments were also collected.
- 1 iron fragment
- Bone fragments

At Renosterkop 2 the following material was retrieved from two isolated strata:

- 1810 lithics comprising cores, chunks and flakes with very few formal tools such as scrapers and backed tools.
- 31 potsherds
- 5 Ostrich egg shells

Although there are no specific references to Renosterkop sketches from Wikar, Gordon and others illustrate the people, their settlements and some of their artefacts. Pots and their sizes, the remains of which form a significant part of the assemblages from Renosterkop 1 and 2, are illustrated in certain of the historical accounts; while the smoking of dagga in Wikar and Gordon's accounts provides context for the possible pipe fragment from Renosterkop 1. It is likely that the !Nawabdanas cultivated on the Orange River floodplain to supplement supplies through exchange with their neighbours (Morris & Beaumont 1991, p123).

### **5.3. Findings of the heritage survey in July 2022**

#### **5.3.1. General observations**

The recent survey confirms the importance of the hill on account of the presence of Stone Age material and a ceramic component. The occurrence of pottery together with lithics and an iron artefact urges a rethink of the notion of a neat break between the Iron Age and Stone Age Cultures especially from the second half of the first millennium AD. Renosterkop is therefore significant as an exemplar of a transitional precolonial mixed economy in the semi-arid karoo plains of the Northern Cape. This is confirmed by written accounts of 18<sup>th</sup> century European travellers attesting that the !Nawabdanas were agro-pastoralists and adept hunters. This mixed economy might have been in existence for several centuries as it represents social intercourse and cultural exchanges between the different groups in the region.

#### **5.3.2. Renosterkop as a historic cultural landscape**

The concept of a **cultural landscapes** is now firmly established in heritage studies. What is a cultural landscape? In Paragraph 47 of the **Operational Guidelines for the Implementation of the World Heritage Convention** (UNESCO) Cultural landscapes are describes as:

*"... "the combined works of nature and of man" designated in Article 1 of the Convention. They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal."*



This definition relates to the identification and listing of World Heritage Sites but is also of relevant application to this study. UNESCO isolates three categories of cultural landscapes and here we refer to one of the categories:

- (i) An **organically evolved landscape** results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features.

They fall into two sub-categories (Renosterkop straddles the two categories):

- (a) **A relict (or fossil) landscape** *“is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.”*

The Stone Age Culture of Renosterkop came to an end at a time it was transitioning to pottery and metal technology, agriculture (crop production). The settlements both on the hill and the islands below are extinct and what has survived are archaeological relics and cave homes in which the people lived. The walls in the valley between the ridges also dating to the past also contribute to this multi-layered landscape. The two components represent a relict cultural landscape.

- (b) **A continuing landscape** *“is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.”*

Renosterkop is has been recognised by many successive generations as an icon landform, geographical landmark and cultural emblem, while the land use system around it has been changing over the last 300 years (Figures 9 – 10). One of the major characteristics of cultural landscapes are their ability to survive through and serve many generations. Both the Namakwas Khoi and the Afrikaner communities settling in the area from the 19<sup>th</sup> century could not resist the hill’s attraction and gravitas.

Informed by the written accounts we begin to see the Orange River islands and iconic hill on the western flank of the floodplain as the setting for a historic cultural landscape which has evolved through at least three centuries. The cultural landscape was and is still firmly present in local public consciousness. For the past nomadic inhabitants and early European travellers the hill was a directional beacon which could be seen many kilometres from the Orange River. It has already been mentioned that cultural landscapes have the ability to survive for a long time thereby hosting many successive generations. Today Renosterkop is a landmark with a charismatic sense of place. It has a strong spiritual presence when seen from the much travelled road from Kakamas to the Augrabies Falls. Commercial grapevine farming thrives on the floodplain east of Renosterkop and the plain on the western foot of the hill. One of the farming businesses, Oseiland, has an established footprint in grapes and citrus production for the overseas export market. Oseiland advocates the highest standards in environmental management practices equally prioritising business viability and environmental sustainability. This concern brings into the spotlight the conservation of the iconic hill.



**Figure 9:** View of Renosterkop as a prominent landform in the landscape



**Figure 10:** View of the Orange River floodplain from the summit of Renosterkop

### **5.3.3. The Stone Age**

The recent field survey confirms the presence of Stone Age material as background scatter on the hill largely with no concentrations encountered to indicate significant activity areas. The only exception is a rock shelter on the northern aspect of the hill there appears to be significant presence of cultural material. Stone Age tools and waste material were recorded including ostrich eggshells fragments and one potsherd (Site RTK11, Figures 11-12). As has been mentioned above, one of the rock shelters in the same area was excavated and the material is kept at the McGregor Museum in Kimberley. The lithics date back to the Middle Stone Age/Late Stone Age periods. It is recommended that the rock shelter is protected.



Figure 11: North-east facing cave from where 1 potsherd, ostrich eggshell fragments and lithics were found; the site must be protected (Site RTK 11)



Figure 12: Ostrich eggshell fragments and from the Cave RTK11

#### 5.3.4. The Iron Age

No sites dating to the Iron Age were found. Although an iron fragment was found during the investigations at Renosterkop 1 in 1991, it does not confirm any significant Iron Age activities in the area at the time. It indicates the gradual cultural transition which occurred as a result of long-term interactions between the different groups in the area. In other words the Namakwa Khoi had access to iron implements and made ceramic pots.

### 5.3.5. Burial grounds

One cairn burial located on the south-eastern foot of the hill was reported and recorded (Site RTK01, Figures 13-15). SAHRA sets a 100m radius protection servitude around graves as a minimum requirement.



Figure 13: Wide angle view of the cairn burial, Renosterkop is in the background



Figure 14: Close view of the cairn burial

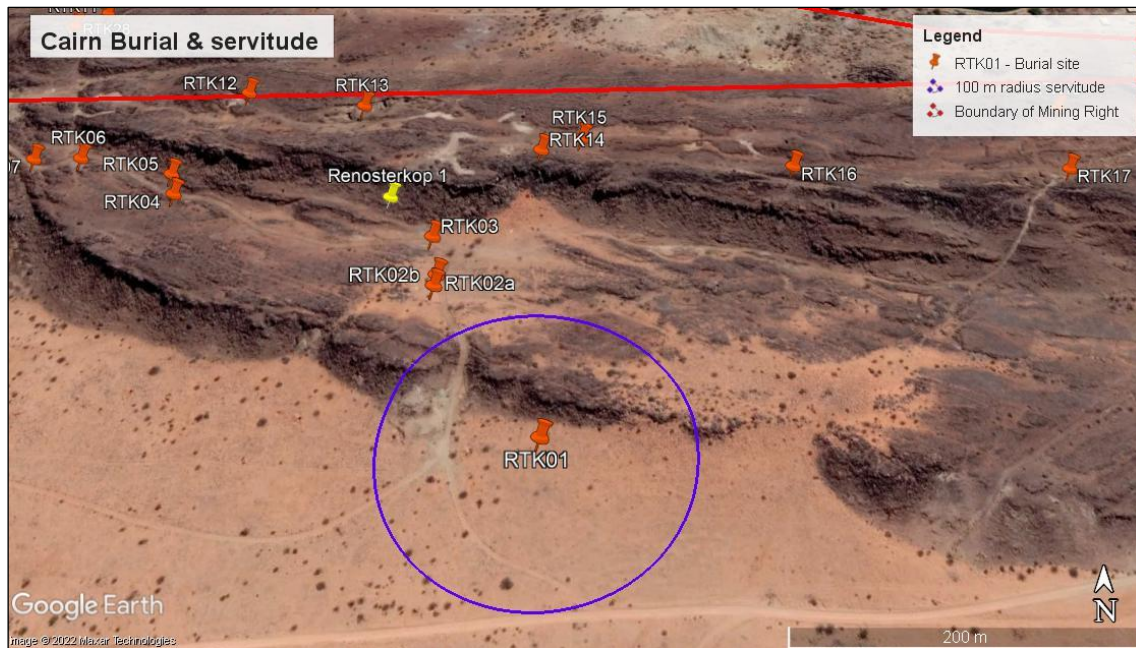


Figure 15: Google Earth map shows the location of a cairn burial (RTK01) and a 100 m protection servitude

### 5.3.6. Sites dating to the recent past

A cement floor measuring 20 m x 15 m located in the valley between the ridges that form the tail end of Renosterkop was recorded. A number of household artefacts were recorded including rusted tins, old bottles including one a fizzy drink Sparletta, the shape of which dates to the 1970s; blue on white porcelain most common before the 20<sup>th</sup> century. The size of the cement floor suggests that the building might have been a workshop (Site RTK02a, Figure 16). These finds are considered of low cultural significance.



Figure 16: Cement floor in the little valley on the Hill suggest that it is the remains of a shed or workshop

More importantly there are short revetment walls on Renosterkop which date back to a brief mining period from the 1930s to the 1940s. They were used for the stabilisation of excavations and also served as platforms for the placement of machinery. Together they are significant as a cultural layer in the historical landscape. It is however recommended that one or two of these walls are protected (especially Site RTK08) instead of their entire stock of stonework which has a large footprint (Figure 17).



Figure 17: A well finished revetment wall below the summit of Renosterkop

#### 5.4. Visual Impact Assessment

A basic assessment was undertaken of the likely significant impacts that the proposed mining will have on cultural landscape characteristics of the hill, strategic and local views, including to the setting of the hill in the broader land. The importance of a viewpoint is determined by any recognition of the impact that its disturbance may have and by its amenity value. In the value system we include aesthetics and tourist appeal. A major and lasting impact of the development to the hill are the open cast mine holes which will be created. Even if they will be refilled it will be impossible to recreate the original state.

Three critical viewpoints have been identified:

- (i) View of the hill from the west along the road from Kakamas to Augrabies.
- (ii) View of the hill from the north along a farm access road offsetting east from Kakamas-Augrabies Road.
- (iii) View of the hill from the East from a position on the western edge of the Orange floodplain (see also Figures 18 - 22).



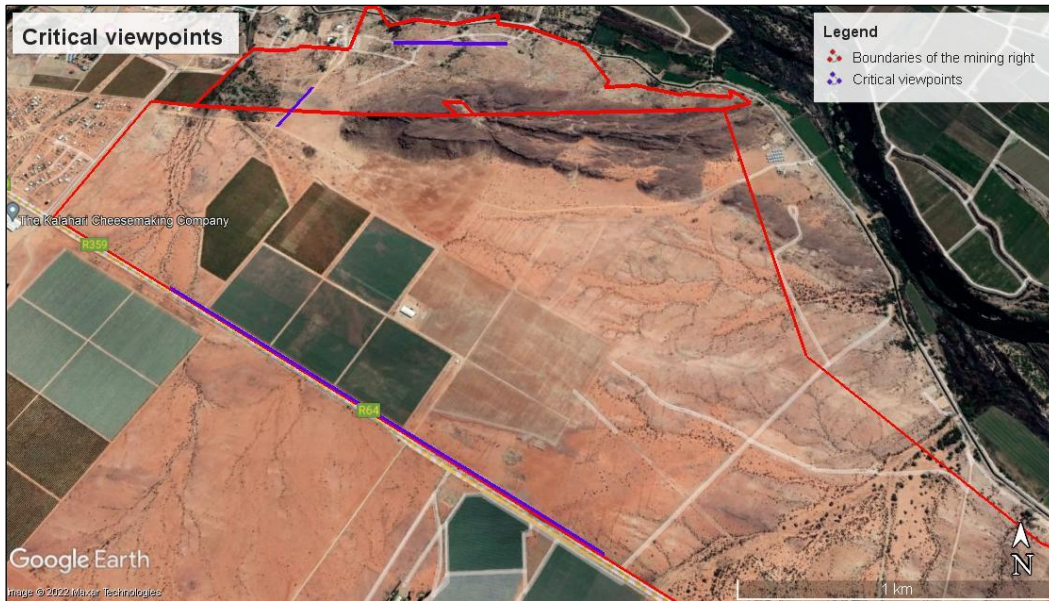


Figure 18: Google Earth map shows the location of critical viewpoints (in blue) towards Renosterkop. Bottom: View north of the hill from the Kakamas-Augrabies Falls road (see also Figure 19); Middle: View east from the farm access road (see Figure 20); Top: View south from the edge from the Orange River floodplain (see also Figures 21-22);



Figure 19: View from the south from a position near the Kakamas-Augrabies Falls road



Figure 20: View from the west of the hill



Figure 21: View of the hill from the northwest



Figure 22: View south from the edge from the Orange River floodplain

## 5.5. Ranking of sites and Risk Assessment

	Grading	Description	No of Sites
1a	National	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources	0
1b		Burial Grounds and Graves. Public sensibilities about the sanctity of graves	1
2	Provincial	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 2 heritage resources	0
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources	2
3B	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	
3C	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources	25
		<b>TOTAL</b>	<b>27</b>

	Grading	Description	No of sites
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources. A Cultural Landscape is locally recognised and is of potential Grade 3A	1

Table 2: Inventory of heritage sites recorded in July 2022

RTK01	28°40'46.20"	20°27'21.10"E	19th -20th century	On the south-eastern foot of the hill. A cairn burial.	High	100 m servitude
RTK02a	28°40'42.20"S	20°27'18.40"E	20th century	Located in a flat valley between ridges on Renosterkop. A cement floor measuring 20 m x 15 m possibly the remains of a farm shed. Rusted large and small tins. Old glass bottle and sherds including one written Spar-letta. This branding dates to the 1970s and 1980s.	Low	No further action
RTK02b	28°40'42.20"S	20°27'18.40"E	MSA/LSA	In the same area as the cement floor in 2a, stone tools were observed – pointed scrapes and flakes.	Low	No further action
RTK03	28°40'41.10"S	20°27'18.20"E	MSA/LSA	On Renosterkop. Located in a valley between two ridges. A core and flakes	Low	No further action
RTK04	28°40'39.90"S	20°27'11.20"E	MSA/LSA	On Renosterkop. 2 cores and flake waste.	Low	No further action
RTK05	28°40'39.30"S	20°27'11.00"E	MSA/LSA	On Renosterkop. A flat rocky valley between two ridges. 1 cores and flakes.	Low	No further action
RTK06	28°40'38.80"S	20°27'8.40"E	MSA/LSA	On Renosterkop. Flat rock valley between ridges. 9 lithics including 3 scrapers and a blade.	Low	No further action
RTK07	28°40'38.80"S	20°27'7.10"E	20th century	On Renosterkop. Rough stone walls and piles, evidence of mine workings in the 1940s.	Low	No further action
RTK08	28°40'38.50"S	20°27'5.80"E	20th Century	On Renosterkop. Stone revetment wall retaining gravel.	Low	No further action
RTK09	28°40'36.20"S	20°27'3.70"E	20th century	On Renosterkop. Revetment wall of good workmanship with a terrace at the bottom.	Medium B	Protect
RTK10	28°40'33.80"S	20°27'4.30"E	MSA/LSA	On Renosterkop. Located on a saddle near the summit of the hill. Many tools including a blades, scrapers and many flakes made from chert and quartz.	Low	No further action

RTK11	28°40'34.10"S	20°27'6.80"E	LSA with ceramics	On the crest of Renosterkop. A shelter with a northern aspect. In the shelter a shallow arced tunnel with two entrances. On the floor a substantial Stone Age deposit – flakes, pebbles, ostrich eggshell fragments and one potsherd.	Medium A	Protect
RTK12	28°40'36.90"S	20°27'12.70"E	20th Century	On Renosterkop. A valley between ridges. 4 short revetment walls with gravel packed behind them.	Low	No further action
RTK13	28°40'37.28"S	20°27'16.00"E	20th century	On Renosterkop. In a shallow valley between ridges. A revetment wall c 70 m long creating a platform. Short walls with a core of grave leave a gap which looks like an entrance/exit.	Low	No further action
RTK14	28°40'38.90"S	20°27'21.00"E	20th century	On Renosterkop. A Trigonometrical beacon 70 cm high located on top of a ridge.	Low	No further action
RTK15	28°40'38.40"S	20°27'22.10"E	MSA/LSA	On Renosterkop. At the base of a ridge in a shallow valley. 6 formal/near formal tools – scrapers and blades, and flake waste.	Low	No further action
RTK16	28°40'39.20"S	20°27'27.80"E	20th century	On Renosterkop. A Trigonometrical beacon 70 cm high located on top of a ridge.	Low	No further action
RTK17	28°40'38.60"S	20°27'35.80"E	20th Century	On Renosterkop. A wall 8 m long, 110cm high and 110 m wide. A layer of gravel on top of the wall although beneath the core appears to consists of larger stones.	Low	No further action
RTK18	28°40'36.40"S	20°27'36.20"E	20th century	On Renosterkop. In a shallow valley between two ridges. 4 short revetment walls packed with gravel.	Low	No further action
RTK19	28°40'44.20"S	20°27'40.80"E	MSA/LSA	On the south-eastern foot Renosterkop. An isolated sand dune. Surface occurrences of stone tools (cores, scrapers and flakes), ostrich eggshell fragments.	Low	No further action

RTK20	28°40'48.10"S	20°27'40.90"E	20th century	On the northern foot of a ridge located southeast of Renosterkop. A small elliptical enclosure 3.5 m x 2 m, 1 m high, possible or penning sheep.	Low	No further action
RTK21	28°40'51.90"S	20°27'44.00"E	MSA/LSA	On the western foot of a small ridge located SE of Renosterkop. 1 core and 5 flakes.	Low	No further action
RTK22	28°40'53.13"S	20°27'42.42"E	MSA/LSA	At the base of a cluster of rocks. An isolated scraper with retouched edges.	Low	No further action
RTK23	28°40'54.20"S	20°27'42.00"E	MSA/LSA	At the base of a cluster of rocks. Quartz tools. 4 scrapers, 3 flakes.	Low	No further action
RTK24	28°41'0.20"S	20°27'38.20"E	MSA/LSA	On the plain south of Renosterkop. A core and a scraper.	Low	No further action
RTK25	28°41'8.10"S	20°27'37.70"E	Modern	On the plain south of Renosterkop. Recycled concrete railway sleepers. Imprinted SAS (South African Spoorwagen). Used for surface placement of irrigation pipes	Low	No further action
RTK26	28°40'31.10"S	20°27'6.20"E	MSA/LSA	Northern aspect of Renosterkop overlooking the Orange River floodplain. 2 cores.	Low	No further action
RTK27	28°40'32.90"S	20°27'7.20"E	MSA/LSA	North aspect of Renosterkop overlooking the Orange River floodplain. 6 lithics. 1 scraper, 1 blade, 1 pebble core and 3 flakes.	Low	No further action

## 5.6. Assessment of Impacts using the Heritage Impact Assessment Statutory Framework

### Section 38 of the NHRA

Section 38 (Subsection 3) of the National Heritage Resources Act also provides a schedule of tasks to be undertaken in an HIA process:

*Section 38(3) 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***

27 Sites were recorded and the value of Renosterkop and its setting as a cultural landscape is acknowledged in this report.

#### ***(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***

There are no Grade I or Grade II sites.

#### ***(c) An assessment of the impact of the development on such heritage resources***

The value of Renosterkop as an embodiment of a historic cultural landscape is recognised in this report.

#### ***(i) 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***

The mining sector in the Northern Cape Province is expanding and poised to contribute significantly to the South African economy. Mining is labour intensive and can contribute immensely to alleviate the current high levels of unemployment. General improvement in the quality of livelihoods in local communities and the country at large is expected. The Renosterkop Project is in line with the 'Beneficiation Strategy for the Minerals Industry of South in terms of aiming to beneficiate tin, tungsten and zinc in concentrate to produce high quality tin, tungsten and zinc ingots for sale/export. The benefits of this will fall directly to the Northern Cape Province and, specifically, the Namakwa District.

#### ***(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***

Stakeholder consultations were conducted within the scope of the broader environmental impact assessment. No objections were raised concerning the impact of the mining on heritage resources.



***(f) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives***

(i) An Environmental Control Officer will be trained to curate chance heritage finds.

(ii) A Chance Finds Procedure has been prepared.

(iii) A Conservation Management Plan will be prepared.

iv) Opencast mining on the southern western and northern slopes of Renosterkop will impact on the structural integrity of Renosterkop as a cultural landscape. Backfilling will mitigate the impact, but complete restoration of the visual integrity of the hill may not be possible.

***(g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.***

Backfilling opencast mining pits is mandatory in terms of environmental regulations.

In the event of discovery of heritage resources deemed of significance during exploration or mining, the Provincial Heritage Resources Authority or SAHRA will be informed immediately and an archaeologist or heritage expert called to attend.



**5.7. Risk Assessment of the findings**

EVALUATION CRITERIA	RISK ASSESSMENT
Description of potential impact	Negative impacts range from partial to total destruction of surface and under-surface movable/immovable relics. Negative visual impacts. Disturbance of a cultural landscape.
Nature of Impact	Negative impacts can both be direct or indirect.
Legal Requirements	Sections 34, 35, 36, 38 of National Heritage Resources Act No. 25 (1999).
Stage/Phase	Mining Phase (open cast mining)
Extent of Impact	Open cast holes during the life of the mine.
Duration of Impact	Until the opencast holes are backfilled. Complete restoration might not be possible.
Intensity	Uncertain.
Probability of occurrence	Medium to high.
Confidence of assessment	High.
Level of significance of impacts before mitigation	Medium to high.
Mitigation measures	(i) Backfilling of the opencast holes is mandatory. (ii) If archaeological or other heritage relics deemed of high significance are found during the exploration phase, heritage authorities will be advised immediately and a heritage specialist will be called to attend.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.

## 6. CONCLUSION AND RECOMMENDATIONS

- (i) The cairn burial must be protected with a 100 m servitude in which no physical works are allowed without a permit from SAHRA or the provincial heritage resources authority.
- (ii) The rock shelter on the crest of the hill must be protected.
- (iii) Mining by opencast methods on the southern, western and northern slopes of Renosterkop will impact negatively on the structural integrity of the hill as a cultural landscape. The impact will be largely visual affecting the tourist value of the hill. The impact may be severe during the life of the mine; backfilling will mitigate the visual distance although full restoration might not be possible.
- (iv) A Chance Finds Procedure is appended to this Report and will be used by the Environmental Control Officer as a manual to curate chance finds.
- (v) A Conservation Management Plan (CMP) must be prepared for the protection and sustainable management of heritage resources.
- (vi) The proposed mining activities can be given a greenlight to go ahead provided that the precautions stated above are heeded.

## 7. CATALOGUE OF HERITAGE SITES

SITE NO	COORDINATES		PERIOD
RTK01	28°40'46.20"	20°27'21.10"E	19 <sup>th</sup> -20 <sup>th</sup> century
<div style="text-align: center;">     </div> <p data-bbox="204 1491 1007 1525"><b>DESCRIPTION:</b> On the south-eastern foot of the hill. A cairn burial.</p>			
<b>HERITAGE SIGNIFICANCE</b>		Section 34 of NHRA. Graves are sacred.	
<b>MITIGATION</b>		100 m servitude to protect the grave.	

SITE NO	COORDINATES		PERIOD
RTK02a	28°40'42.20"S	20°27'18.40"E	20 <sup>th</sup> century



**DESCRIPTION:** Located in a flat valley between ridges on Renosterkop. A cement floor measuring 20 m x 15 m possibly the remains of a farm shed. Rusted large and small tins. Old glass bottle and sherds including one written Spar-letta. This branding dates to the 1970s and 1980s.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
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<b>MITIGATION</b>	No further action required.
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SITE NO	COORDINATES		PERIOD
RTK02b	28°40'42.20"S	20°27'18.40"E	MSA/LSA



**DESCRIPTION:** On Renosterkop. In the same area as the cement floor in 2a, stone tools were observed – pointed scrapes and flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

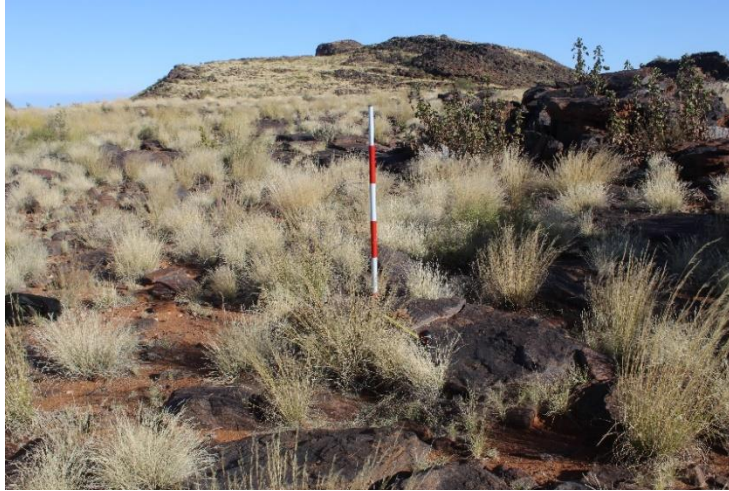
SITE NO	COORDINATES		PERIOD
RTK03	28°40'41.10"S	20°27'18.20"E	MSA/LSA



**DESCRIPTION:** On Renosterkop. Located in a valley between two ridges. A core and flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

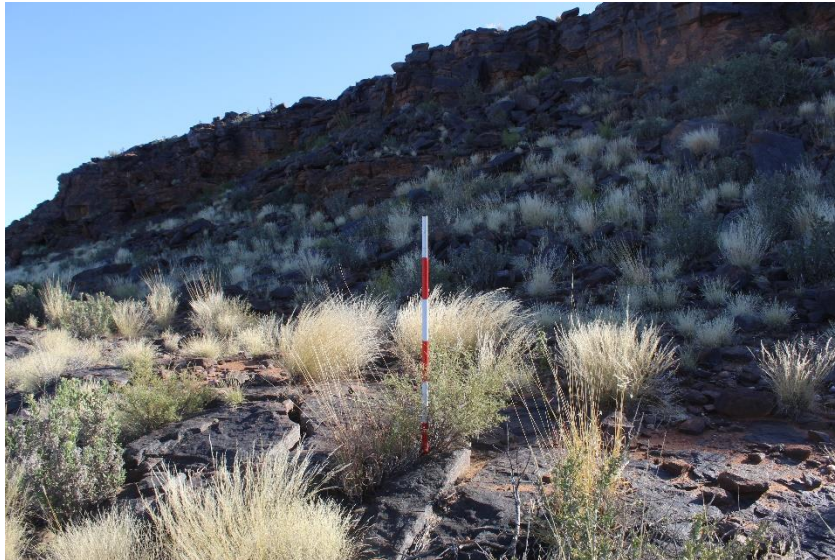
SITE NO	COORDINATES		PERIOD
RTK04	28°40'39.90"S	20°27'11.20"E	MSA/LSA



**DESCRIPTION:** On Renosterkop. 2 cores and flake waste.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA.
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK05	28°40'39.30"S	20°27'11.00"E	MSA/LSA



**DESCRIPTION:** On Renosterkop. A flat rocky valley between two ridges. 1 cores and flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.





SITE NO	COORDINATES		PERIOD
RTK06	28°40'38.80"S	20°27'8.40"E	MSA/LSA



**DESCRIPTION:** On Renosterkop. Flat rock valley between ridges. 9 lithics including 3 scrapers and a blade.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK07	28°40'38.80"S	20°27'7.10"E	20 <sup>th</sup> century
			
<b>DESCRIPTION:</b> On Renosterkop. Rough stone walls and piles, evidence of mine workings in the 1940s.			
<b>HERITAGE SIGNIFICANCE</b>		Evidence of early modern mining in the 20 <sup>th</sup> century.	
<b>MITIGATION</b>		Low significance. No further action required.	

SITE NO	COORDINATES		PERIOD
RTK08	28°40'38.50"S	20°27'5.80"E	20 <sup>th</sup> Century
			
<b>DESCRIPTION:</b> On Renosterkop. Stone revetment wall retaining gravel.			
<b>HERITAGE SIGNIFICANCE</b>		Evidence of early modern mining in the 20 <sup>th</sup> century.	
<b>MITIGATION</b>		Low significance. No further action required.	

SITE NO	COORDINATES		PERIOD
RTK09	28°40'36.20"S	20°27'3.70"E	20 <sup>th</sup> century



**DESCRIPTION:** On Renosterkop. Revetment wall of good workmanship with a terrace at the bottom.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of early modern mining in the 20 <sup>th</sup> century.
<b>MITIGATION</b>	Protection

SITE NO	COORDINATES		PERIOD
RTK10	28°40'33.80"S	20°27'4.30"E	MSA/LSA



**DESCRIPTION:** On Renosterkop. Located on a saddle near the summit of the hill. Many tools including a blades, scrapers and many flakes made from chert and quartz.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.


SITE NO	COORDINATES		PERIOD
RTK11	28°40'34.10"S	20°27'6.80"E	LSA with ceramics





**DESCRIPTION:** On the crest of Renosterkop. A shelter with a northern aspect. In the shelter a shallow arced tunnel with two entrances. On the floor a substantial Stone Age deposit – flakes, pebbles, ostrich eggshell fragments and one potsherd.

<b>ERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA and the adoption of ceramics
<b>MITIGATION</b>	Protect

SITE NO	COORDINATES		PERIOD
RTK12	28°40'36.90"S	20°27'12.70"E	20 <sup>th</sup> Century
			
<p><b>DESCRIPTION:</b> On Renosterkop. A valley between ridges. 4 short revetment walls with gravel packed behind them.</p>			
<b>HERITAGE SIGNIFICANCE</b>		Evidence of early modern mining in the 20 <sup>th</sup> century.	
<b>MITIGATION</b>		No further action required.	

SITE NO	COORDINATES		PERIOD
RTK13	28°40'37.28"S	20°27'16.00"E	20 <sup>th</sup> century



**DESCRIPTION:** On Renosterkop. In a shallow valley between ridges. A revetment wall c 70 m long creating a platform. Short walls with a core of grave leave a gap which looks like an entrance/exit.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	May be protected.



SITE NO	COORDINATES		PERIOD
RTK14	28°40'38.90"S	20°27'21.00"E	20 <sup>th</sup> century



**DESCRIPTION:** On Renosterkop. A Trigonometrical beacon 70 cm high located on top of a ridge.


<b>HERITAGE SIGNIFICANCE</b>	Associated with early mining activities on the hill
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK15	28°40'38.40"S	20°27'22.10"E	MSA/LSA



**DESCRIPTION:** On Renosterkop. At the base of a ridge in a shallow valley. 6 formal/near formal tools – scrapers and blades, and flake waste.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK16	28°40'39.20"S	20°27'27.80"E	20 <sup>th</sup> century
			
<p><b>DESCRIPTION:</b> On Renosterkop. A Trigonometrical beacon 70 cm high located on top of a ridge.</p>			
<b>HERITAGE SIGNIFICANCE</b>	Associated with early mining activities on the hill		
<b>MITIGATION</b>	No further action required.		

SITE NO	COORDINATES		PERIOD
RTK17	28°40'38.60"S	20°27'35.80"E	20 <sup>th</sup> Century



**DESCRIPTION:** On Renosterkop. A wall 8 m long, 110cm high and 110 m wide. A layer of gravel on top of the wall although beneath the core appears to consists of larger stones.

<b>HERITAGE SIGNIFICANCE</b>	Associated with early modern mining.
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK18	28°40'36.40"S	20°27'36.20"E	20 <sup>th</sup> century



**DESCRIPTION:** On Renosterkop. In a shallow valley between two ridges. 4 short revetment walls packed with gravel.


<b>HERITAGE SIGNIFICANCE</b>	Associated with early modern mining.
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK19	28°40'44.20"S	20°27'40.80"E	MSA/LSA



**DESCRIPTION:** On the south-eastern foot Renosterkop. An isolated sand dune. Surface occurrences of stone tools (cores, scrapers and flakes), ostrich eggshell fragments.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK20	28°40'48.10"S	20°27'40.90"E	20 <sup>th</sup> century
			
<p><b>DESCRIPTION:</b> On the northern foot of a ridge located southeast of Renosterkop. A small elliptical enclosure 3.5 m x 2 m, 1 m high, possible or penning sheep.</p>			
<b>HERITAGE SIGNIFICANCE</b>		Associated with commercial farming.	
<b>MITIGATION</b>		No further action required.	

SITE NO	COORDINATES		PERIOD
RTK21	28°40'51.90"S	20°27'44.00"E	MSA/LSA



**DESCRIPTION:** On the western foot of a small ridge located SE of Renosterkop. 1 core and 5 flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.



SITE NO	COORDINATES		PERIOD
RTK22	28°40'53.13"S	20°27'42.42"E	MSA/LSA



**DESCRIPTION:** At the base of a cluster of rocks. An isolated scraper with retouched edges.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK23	28°40'54.20"S	20°27'42.00"E	MSA/LSA



**DESCRIPTION:** At the base of a cluster of rocks. Quartz tools. 4 scrapers, 3 flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK24	28°41'0.20"S	20°27'38.20"E	MSA/LSA



**DESCRIPTION:** On the plain south of Renosterkop. A core and a scraper.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK25	28°41'8.10"S	20°27'37.70"E	Modern



**DESCRIPTION:** On the plain south of Renosterkop. Recycled concrete railway sleepers. Imprinted SAS (South African Spoorwagen). Used for surface placement of irrigation pipes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK26	28°40'31.10"S	20°27'6.20"E	MSA/LSA



**DESCRIPTION:** Northern aspect of Renosterkop overlooking the Orange River floodplain. 2 cores.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
RTK27	28°40'32.90"S	20°27'7.20"E	MSA/LSA



**DESCRIPTION:** North aspect of Renosterkop overlooking the Orange River floodplain. 6 lithics. 1 scraper, 1 blade, 1 pebble core and 3 flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

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## 9. MAPS OF THE TRACK LOG

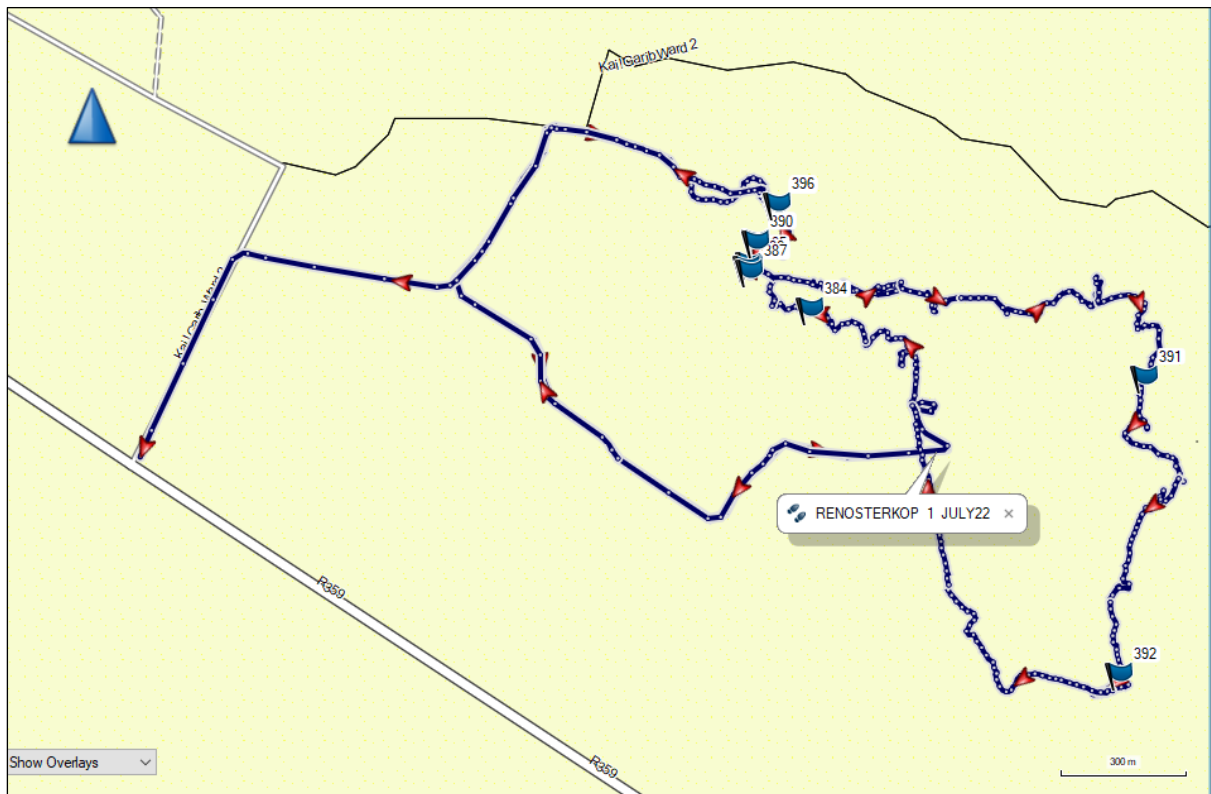


Figure i. Overview







## 10. DETAILS OF SPECIALIST

### (i) Personal details

Surname : Matenga  
First names : Edward  
Position : Director & Principal Researcher, AHSA Archaeological & Heritage Services Africa (Pty) Ltd, Centurion, Pretoria  
Cell : 073 981 0637  
E-mail : [e.matenga598@gmail.com](mailto:e.matenga598@gmail.com)

### (ii) Academic qualifications

1990 - 1993: MPhil in Archaeology (Uppsala University, Sweden) with a published Thesis  
2009 – 2011: PhD in Archaeology & Heritage (Uppsala University, Sweden) with a published Thesis  
2002: Certificate in the Integrated Conservation of Territories and Landscapes of Heritage Value (ICCROM, Rome)

### (iii) Professional experience

**1988-1993:** Curator of Archaeology, Museum of Human Sciences, Harare  
**1994-1997:** Senior Curator / Conservator, Great Zimbabwe World Heritage Site  
**1997-2004:** Director, Great Zimbabwe World Heritage Site  
**2005 – 2016:** Heritage Management Consultant (associateship with various other specialists), South Africa  
2016 – present. Director & Principal Researcher, AHSA Archaeological and Heritage Services Africa (Pty) Ltd

### iv) Membership of professional bodies/associations

ASAPA – Association of Southern African Professional Archaeologists  
ICOMOS – International Council of Monuments and Sites  
WAC – World Archaeological Congress

### (iv) Heritage Impact Assessments &

Edward Matenga has undertaken more than 100 heritage impact assessments and written as many fieldwork based reports. He has a footprint in the Northern Cape and Limpopo Provinces. Matenga has also been involved in the preparation of Heritage Management Plans otherwise known as Conservation Management Plans for sites. He has undertaken exhumations and relocations of graves

and has gained considerable experience in handling community issues relating to the treatment of human remains. Over the last 2 decades UNESCO and its affiliated bodies (ICOMOS and ICCROM) sent Matenga on World Heritage advisory missions to Cameroon (2002), Kenya (2006), Mauritius (2007), Ghana (2008) and Ethiopia (2010).