

**PHASE I HERITAGE IMPACT ASSESSMENT (INCLUDING  
PALAEOLOGICAL ASSESSMENT) REQUESTED IN TERMS OF  
SECTION 38 OF THE NATIONAL HERITAGE RESOURCES ACT  
NO 25/1999 FOR THE PROPOSED MINE PROSPECTING AND  
APPLICATION FOR MINING RIGHT ON THE FARM KATLANI 236  
NEAR DOUGLAS, SIYANCUMA LOCAL MUNICIPALITY, NORTHERN  
CAPE PROVINCE**

Prepared by

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Friday, 09 August 2019

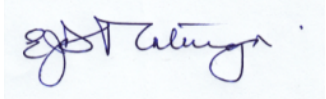


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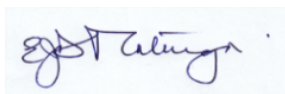
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### DECLARATION OF INDEPENDENCE

AHSA Pty Ltd is an independent consultancy: I hereby declare that I have no interest, be it business, financial, personal or other vested interest in the undertaking of the proposed activity, other than fair remuneration for work performed, in terms the National Heritage Resources Act (No 25 of 1999).

### DISCLAIMER

All possible care was taken to identify and document heritage resources during the survey in accordance with best practices in archaeology and heritage management. However it is always possible that some hidden or subterranean sites are overlooked during a survey. AHSA will not be held liable for such oversights and additional costs thereof.




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## ABBREVIATIONS

CPA	Community Property Association
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
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency

## GLOSSARY

**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.

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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.

**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.

**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 ± 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.

## EXECUTIVE SUMMARY

1. This Heritage Impact Assessment (HIA) Report has been prepared in support of a mine prospecting right application on the Farm Katlani 236 near Douglas in the Siyancuma Local Municipality, Northern Cape Province.
2. The Report fulfils the requirements of Sections 34, 35, 36 and 38 of the National Heritage Resources Act (No 25 of 1999) to protect heritage resources, where development activities are likely to have adverse impacts.
3. A site visit was made between 22 and 25 July 2019 during which a ground survey was undertaken to assess the heritage sensitivity of the area and to determine potential adverse impacts of the proposed activities on the heritage.
4. The locality forms part of a typical Karoo landscape characterised by flat and wide open spaces punctuated by ridges with sparse, predominantly acacia vegetation. From an archaeological standpoint, the area was home to hunter-gatherers throughout the three epochs of the Stone Age and later the transition to the Iron Age. Afrikaner farmers entered the area in the 1830s with a larger population of stock and established permanent farmsteads as focal points of commercial farms.
5. *The Stone Age*  
Forty-three (43) Stone Age sites were recorded all of which are represented by scatters of lithics. The stone tools, which comprise mainly cores, scrapers, flakes and blades are spread throughout the property without any significant concentrations to indicate regular activity. The occurrence of cores indicate possible raw material source areas, but no specific settlement locales could be defined to warrant further investigation.
6. *Late Stone Age Petroglyphs*  
The Late Stone Age petroglyphs at Site KAT13 and KAT14 exemplify the remarkable art heritage of the area. The first site is apparently known and a record should exist in SAHRIS as a team from the University of Cape Town is



reported to have visited the site. Site KAT14 is an extension of KAT13. Names have been etched in the recent past by visitors apparently ignorant of the damage to the site. The property owners were urged to protect the site. Declaration of the sites to Grade II (Provincial) status may contribute to strengthening protection measures.

7. *The Early Iron Age*

No sites dating to the Iron Age were found.

8. *The Later Iron Age*

Potsherds were found in two places close to the bank of the Orange River (KAT31, KAT32). A later Iron Age date is proposed. Pot making and use may be attributed to the BaTlhaping who lived in the area in the 18/19th century may descend from earlier Later Iron Age communities. The finds do not warrant further action.

9. *Commercial Farming*

There are two buildings at the farmstead carrying ornate Cape Dutch style gables (KAT12). There is a simple gabled structure used as church (KAT17). There are no compelling circumstances for alteration or destruction of these buildings.

10. An old stone enclosure used as a cattle pen located on the plateau is a substantial structure which must be protected (KAT36).

11. *Burial grounds*

There are two burial grounds on the farm (KAT01, KAT28). The first site holds more than 30 graves all of members of Griqua families connected with the farm. Some of those interred at the second site are reported to be victims of a mining accident happening in the 1940s on the Orange River 300 m away when attempt to divert the channel in order to mine diamonds on the river bed failed with some of the miners have been swept away by sudden flooding and drowning. These sites are enclosed with barbed wire fencing and are clearly visible. They must be protected in terms Section 36 of the NHRA.

## 12. Cultural landscape attributes

The shepherd's tree (*Boscia albitrunca*) is widely distributed in the drier parts of South Africa, indeed the whole of Southern Africa. It does not occur in dense stand, but tend to be scattered in the landscape providing good shade of both animals and people (hence the name). It is often called the Tree of Life as it offers sustenance to both humans and animals.<sup>2</sup> It is traditional herb for the treatment of various conditions in both humans and domestic animals. It is a protected species in South Africa. A significant population was noticed in the locality marked as Site KAT07, as such defined as a cultural landscape, and the trees are worthy of preservation.

13. The circular irrigated fields form a cultural landscape of commercial farming which is typical occurrence along the banks of Orange River (KAT35).

According to the landowners, there the mining project will not encroach on the fields.

## 14. Ranking of sites and Risk Assessment

	<b>RANKING</b>	<b>SIGNIFICANCE</b>	<b>NO OF SITES</b>
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	2 burial ground 2 sites with engravings
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Footprint of early modern mining. Cultural Landscapes. These may be protected at the recommendations of a heritage expert.	2 examples of cultural landscapes
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	43
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	0
		<b>TOTAL</b>	<b>49</b>

<sup>2</sup> <http://pza.sanbi.org/boscia-albitrunca> Consulted July 2019.

Table 1: Inventory of heritage sites.

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
KAT01	29° 6'30.80"S	23°36'30.70"E	19th 20th C	Flat area, degraded vegetation, burial ground with c 30 graves dating back to the 1930s -1940s. Families represented: Visser, Riet, Williamson, Kok and descendants of Andries Waterboer.	High	Must be protected under Section 36 of NHRA
KAT02	29° 9'5.00"S	23°34'14.20"E	MSA/LSA	Southern base of a ridge, scattered acacia including haakbos. 2 Lithics: Triangular blade, chert flake	Medium B	
KAT03	29° 8'59.30"S	23°34'19.00"E	MSA/LSA	Southern base of a ridge, sparse vegetation, red-brown soil. 2 lithics: Chert core and flake.	Medium B	
KAT04	29° 8'55.40"S	23°34'22.90"E	MSA/LSA	Flat area below a ridge, grit/gravel, sparse acacia vegetation. 8 lithics include triangular blade, scraper and flakes.	Medium B	
KAT05	23°34'22.90"E	23°34'32.20"E	MSA/LSA	Flat area below a ridge, grit/gravel, sparse vegetation. 6 lithics include 2 triangular blades, 1 scraper, flakes.	Medium B	
KAT06	29° 9'3.80"S	23°34'24.20"E	MSA/LSA	Flat area below a ridge, grit/gravel with a calcrete mix. 6 lithics include quarts and chert: 2 scrapers, 1 triangular blade and flakes	Medium B	
KAT08	29° 9'12.10"S	23°34'19.50"E	MSA/LSA	Flat area below a ridge, calcrete grit and hardpan exposures. 2 lithics (chert scraper, obsidian flake).	Medium B	
KAT09	29° 9'24.50"S	23°34'37.50"E	MSA/LSA	Flat area, sparse vegetation including haakbos. 5 lithics, 1 scraper and flakes.	Medium B	
KAT10	29° 9'9.60"S	23°34'46.00"E	MSA/LSA	The locality overlain by red-brown stones. Acacia haakbos. 3 lithics - flakes	Medium B	
KAT11	29° 9'5.60"S	23°34'34.70"E	MSA/LSA	Flat area, calcrete grit and hardpan exposures. Sparse vegetation. 4 lithics include a core and flakes.	Medium B	

KAT12	29° 6'7.14"S	23°36'33.26"E	Modern	Farmstead. The main structures are 2 sheds with Cape Dutch style gables. A modern building with hipped roof.	Medium B	Must be protected
KAT17	29° 6'13.46"S	23°36'31.08"E	Modern	At the farmstead. The building is used as a church.	Medium B	Must be protected
KAT18	29° 6'16.44"S	23°36'29.19"E	Modern	Farmworkers residential units located near the farmhouse.	Medium B	
KAT13	29° 5'53.80"S	23°36'17.20"E	LSA	Glacially sculpted surface forms the eastern slope of a ridge. Stone Age rock engraving. Various naturalistic and abstract images depicted: Anthropomorphic figure (or tree), geometric shapes, sun/star, sable, human, antelope?, kudu etc.	High	Additional protection measures required (upgrading to Grade 2), graffiti must stop.
KAT14	29° 5'52.50"S	23°36'16.70"E	LSA	Glacially sculpted surface forms the eastern slope of a ridge. Stone Age rock engraving. Various naturalistic and abstract images depicted: Geometric shapes, star/sun, giraffe.	High	Additional protection measures required (upgrading to Grade 2), graffiti must stop.
KAT15	29° 5'55.60"S	23°36'8.40"E	MSA/LSA	On the summit of a ridge, grit with calcrete mix. Acacia bush predominated by haakbos. 4 lithics include a polished grindstone, 1 scraper and flakes.	Medium B	
KAT16	29° 5'54.20"S	23°36'23.40"E	MSA/LSA	Flat area below the ridge NW of the farmstead. Sparse vegetation. 2 lithics include a triangular blade.	Medium B	
KAT19	29° 6'3.40"S	23°35'24.90"E	MSA/LSA	On a plateau, red-brown grit and stones. 4 lithics - flakes	Medium B	
KAT20	29° 6'3.30"S	23°35'15.20"E	MSA/LSA	Locality overlain by brown stones. 3 lithics including chert with sharp edges and percussion bulb.	Medium B	
KAT21	29° 6'10.00"S	23°35'13.60"E	MSA/LSA	On a plateau, red-brown soils, grit and red-brown stones. Scatter of lithics (10) including a core and flakes.	Medium B	

KAT22	29° 6'21.40"S	23°35'9.70"E	MSA/LSA	Locality overlain by stones and grit. Acacia bushes. 6 lithics including quartz.	Medium B	
KAT23	29° 6'23.80"S	23°35'13.30"E	MSA/LSA	On a plateau red-brown soils and stones. Sparse acacia vegetation. Core and blades.	Medium B	
KAT24	29° 6'20.80"S	23°35'22.60"E	MSA/LSA	On a plateau, area overlain by large stones. 6 lithics include chert blade, cores and flakes.	Medium B	
KAT25	29° 6'14.10"S	23°35'42.10"E	MSA/LSA	On a plateau. Sparse vegetation. 7 lithics include a core and flakes.	Medium B	
KAT26	29° 6'10.20"S	23°35'32.40"E	MSA/LSA	On a plateau. 3 lithics include 2 scrapes and a blade.	Medium B	
KAT27	29° 6'8.60"S	23°35'28.60"E	MSA/LSA	On a plateau, gritty surface, sparse vegetation including Shepherd's tree. 4 lithics – flakes, scraper and triangular blade.	Medium B	
KAT28	29° 8'13.10"S	23°36'14.70"E	20th C	Near the northern bank of the Orange River, silty soil. Burial ground with c 22 graves in two rows, some of the deceased victims of mining accident on the Orange River, washed away by a sudden flooding and strong flow (1940s).	High	Must be protected under Section 36 of NHRA
KAT29	29° 8'25.20"S	23°36'13.00"E	LIA/20th C	Jewish miners attempted to dam the Orange River to mine diamonds in a groove below the flowing channel. Some miners washed away and drown. Belief of vengeance by a sacred river snake living there. Girls' initiation site.	Medium B	Located outside the limits of mining area
KAT30	29° 8'16.60"S	23°36'14.10"E	MSA/LSA	On the northern bank of the Orange River. Silty accretion. 6 lithics include a core, triangular blade and flakes.	Medium B	
KAT31	29° 8'14.30"S	23°36'12.60"E	MSA/LSA, LIA	An area close to the northern bank of the Orange River overlain by silty soil. Sparse vegetation. 6 lithics include 1 core, 2 scrapers and flakes. 2 potsherds	Medium B	

KAT32	29° 8'10.90"S	23°36'9.60"E	MSA/LSA, LIA	Area close to the northern bank of the Orange River, Sparse vegetation. 2 lithics – cores. 1 potsherd.	Medium B	
KAT33	29° 8'8.10"S	23°36'12.70"E	MSA/LSA	Area close to the northern bank of the Orange River, Sparse vegetation. 3 lithics – 1 triangular blade, 2 flakes	Medium B	
KAT34	29° 7'0.24"S	23°36'22.83"E	MSA/LSA	Semi-circular setting of stones – c 60m diameter, other half apparently destroyed when the access gravel road was opened. The remains of a cattle enclosure	Medium B	
KAT36	29° 6'34.36"S	23°34'49.22"E	Modern	Located on a plateau, a circular stone enclosure c 20m x 1.10m high. For penning cattle.	Medium B	Must be protected
KAT37	29° 7'0.90"S	23°34'32.30"E	MSA/LSA	On a plateau. Flat area, red-brown soil and stones, scattered acacia haakbos. 3 chert flakes.	Medium B	
KAT38	29° 7'4.50"S	23°34'18.30"E	MSA/LSA	On a plateau. Flat area, scattered acacia trees. 7 lithics – 2 scrapers and flakes.	Medium B	
KAT39	29° 6'59.80"S	23°34'9.80"E	MSA/LSA	On a plateau, locality with stones, scattered haakbos. 4 lithics - flakes	Medium B	
KAT40	29° 6'59.30"S	23°34'13.40"E	MSA/LSA	On a plateau, scattered haakbos. 2 lithics – triangular blade and flaked chert core.	Medium B	
KAT41	29° 7'15.40"S	23°33'9.00"E	MSA/LSA	On a plateau, calcrete gravel, acacia haakbos. 5 lithics including a large semi-circular scraper and flakes.	Medium B	
KAT42	29° 7'20.10"S	23°32'53.90"E	MSA/LSA	On a plateau, calcrete hardpan, acacia. 4 lithics including 1 triangular blade and flakes.	Medium B	
KAT43	29° 7'32.40"S	23°32'58.80"E	MSA/LSA	On a plateau, flat area with calcrete gravel. 6 lithics, 2 triangular blades and flakes.	Medium B	
KAT44	29° 7'18.50"S	23°33'16.20"E	MSA/LSA	On a plateau. Flat area close to a watering site for cattle. 1 flaked core.	Medium B	

KAT45	29° 7'53.4"S	23°35'27.50"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia. 4 lithics include 1 core, 1 scraper, 1 triangular blade and a flake.	Medium B	
KAT46	29° 7'43.80"S	23°35'25.40"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia. 5 lithics include 1 core, 1 triangular blade and flakes.	Medium B	
KAT47	29° 7'43.50"S	23°35'34.20"E	MSA/LSA, LIA	Flat area below a ridge located to the north. Acacia trees. 4 lithics include 1 core and flakes. 1 potsherd. Two joined circular settings of stones.	Medium B	
KAT48	29° 7'49.40"S	23°35'36.00"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia bushes. 4 lithics include 3 scrapers, 1 triangular blade.	Medium B	
KAT49	29° 7'54.70"S	23°35'30.10"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia bushes. 3 lithics include a short polished pestle-like grindstone. 2 flakes.	Medium B	
KAT07	29° 9'7.40"S	23°34'21.80"E	Cultural Landscape	Flat area below a ridge located to the north. Scattered trees including Shepherd's tree which is a protected tree species	Medium A	Must be protected
KAT35	29° 6'16.36"S	23°36'48.29"E	Cultural Landscape	Irrigated circular fields on the banks of the Orange River.	Medium A	Must be protected

### *15. Conclusion and recommendations*

The mine prospecting can go ahead, mindful of the sites that have been flagged for protection. As a standard precaution archaeological deposits are usually buried underground. Should archaeological artefacts or skeletal material be exposed in the area during prospecting operations, such activities should be halted, and the provincial heritage resources authority or SAHRA notified in order for an investigation and evaluation of the finds to take place.



## **1. INTRODUCTION**

This report is a Heritage Impact Assessment (HIA) Report which has been prepared in support of a mine prospecting right application on the farm Katlani 236 located 17 km southwest of Douglas in the Siyancuma Local Municipality, Northern Cape Province. A project of the scale is triggered an HIA under Section 38 of the National Heritage Resources Act (25/1999). This entailed a site visit and ground survey conducted between 22 and 25 July 2019 during which the heritage sensitivity and potential adverse impacts of the proposed activities were determined.

Prospecting for minerals may entail the following activities:

- Open excavations and trenches
- Test pits
- Drilling
- Opening of temporary service roads
- Location of processing plant

The magnitude of risk to heritage resources is expected to increase during the mining phase particularly if opencast methods are used. For this reason it is important to have a clear understanding beforehand of what is culturally significant about a place, and hence the statutory precautions.

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

The Farm Katlani 236 is a large property in more than 4000 ha in extent located against the northern bank of the Orange River. The locality is significant in being only 3 km downstream of the confluence of the two great rivers, the Orange and the Vaal. The Orange River rises near Mokhotlong in Lesotho in the Drakensberg (Maluti) Mountains where it is known by the name Senqu, and traverses the Highveld on a westerly course to join the Vaal River near Douglas (Figure 1). The river continues in a meandered course for more than 1000 km to the Atlantic Ocean. It was known by the local Khoisan people as the Gariep. On the other hand the Vaal River (known in seSotho as 'Lekwa') runs on the north side of the Orange also meandering across the semi-arid southern

plains from its sources on the western foot of the Drakensberg Mountains, only 240km from the Indian Ocean. It flows west some 1 120km to its confluence with the Orange River. Both rivers have provided water, as a scarce and strategic resource for these semi-arid parts of South Africa.

From the banks of the Orange River the ground rises in a series of plains or plateaus punctuated by mini-escarpments or ridges running roughly parallel with the course of the Orange River. It culminates in the great Ghaap Plateau, a vast elevated plain c 1300 m AMSL straddling the Northwest and Northern Cape Provinces. On the property in question, the superficial geology is quite varied with exposures of calcrete gravels and hardpans, dolomite hardpan and areas with red-brown soils in places overlain by grit/gravel and stones. Vegetation is karoo scrub dominated by acacia. The short hooked thorn, *Acacia mellifera subsp. Detinens* (*haakbos* in Afrikaans) is quite prevalent in varying density. Drainage consists of several seasonal channels running directly south into the Orange River (Figures 2-4).

Evidence is found of a past glacial event and in one locality ice-sculpted and polished surface (glaciated pavement) on the southeast facing slope of a ridge can be seen. Late Stone Age hunter-gatherers found this an opportunity to etch drawings depicting animals and other abstract figures not identifiable (Sites KAT13 and KAT14). The erosional impact of the ice can also be seen in the deposition of tillite or gravels overlying a horizon of shale (Figure 5).



Figure 1: Google-Earth map shows the location the Farm Katlani 236 near the confluence of the Orange and Vaal Rivers, Douglas, Northern Cape Province.



Figure 2. View south from a ridge towards the Orange River.





Figure 3: Calcrete grave and hardpan in south central part of the farm. Scattered Shepherd's (*Boscia albitrunca*) trees.

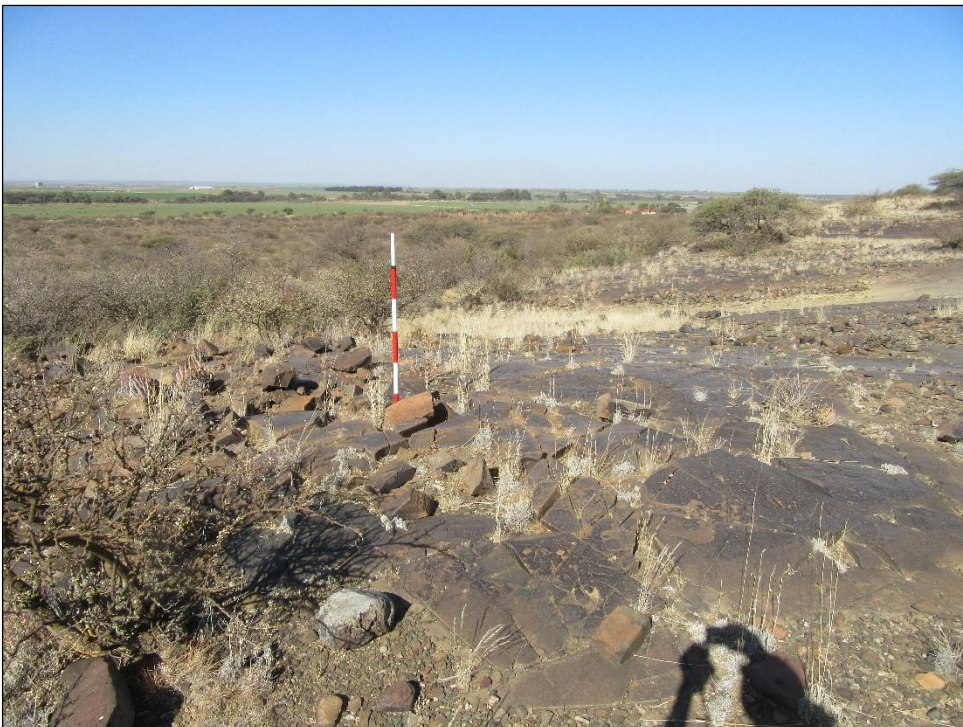


Figure 4: Ice sculpted dolomite (glaciated pavements), view facing southeast towards the Orange River. *Haakbos* below the ridge.



Figure 5: Glacially deposited gravels overly shale, profile seen on the banks of a stream.

## **2. LEGAL FRAMEWORK**

This heritage impact assessment 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 context in which this HIA report has been prepared.

### **2.1. 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>3</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.*

## **2.2. 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.

## **2.3. 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:

- (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.*

## **2.4. 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—*

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<sup>3</sup> Areal extent of the proposed development triggers the HIA.

*(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.*

## **2.5. 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.

## **2.6. The National Environmental Management Act**

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.

## **2.7. 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.

## **3. METHODOLOGY AND THEORETICAL APPROACHES**

### **3.1. Literature survey**

A review of relevant literature included reports of previous HIAs conducted in the general locality of the study area. Over the last three years the author has carried out a number of heritage impact assessment studies in the broader region:

**Matenga, E. 2017.** *Phase I Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of Section 38 of the National Heritage Resources Act (No 25/1999) for the proposed Mine Prospecting on the Remaining Extent of Portion 1 of the Farm Viegulands Put 42, Prieska District, Northern Cape Province.* The Farm Viegulands Put is located on the south bank of the Orange River 50 km southwest of Katlani as the crow flies. One of the highlights of the survey was an ESA handaxe among the finds predominated by chert scrapers, blades and flakes.

**Matenga, E. 2018.** *Phase I Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed mine prospecting and application for mining right on a portion of the remaining extent of the Farm Kransfontein 19 & portion 2 (de rust) of the Farm Kransfontein 19, Prieska District, northern cape province*

On the farm, MSA/LSA lithics were found to be widely distributed indicating general hunter-gatherer foraging activities. There were buildings and a burial ground on the property both associated with pioneer commercial farmers.



**Matenga, E. 2018.** *Phase I Heritage Impact Assessment (including palaeontological assessment) requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed mine prospecting on the Remainder of the Farm Schmidtsdrift 248, Pixley Ka Seme District Municipality, Northern Cape Province*

Matenga, E. 2019. *Phase I Heritage Impact Assessment requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed Prospecting and Mining Rights on the farm Jakhalsfontein (Portion 1 of the Farm Schmidtsdrift 248) near Schmidtsdrift, Northern Cape*

The locality of both studies is Schmidtsdrift Village on the northern bank of the Vaal River 60 km distance northeast of Katlani. Among the finds from the first study were potsherds possibly dating to the Later Iron Age. From the second study MSA/LSA lithics abounded with a single occurrence of a crude EIA handaxe.

**Matenga, E. 2019.** *Phase I Heritage impact assessment (including palaeontological assessment) requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm Remhoogte 152 Prieska, Northern Cape.* On the farm Remhoogte located on the south bank of the Orang River c 70km southwest of Katlani, MSA/LSA lithics were found to be widely distributed indicating general hunter-gatherer foraging activities.

Other researchers have been involved in the area:

**De Cock, S & G Narainne. 2016.** *Integrated Heritage Impact Assessment in terms of section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999) for the proposed development of Humansrus Solar PV Facility 3 on the Farm Humansrus 147, Prieska District and Pixley Ka Seme District.* The study reported a diffuse spread of ESA and MSA stone artefacts across the study area for Humansrus Solar PV Facility 3; • There are no buildings or graveyards on the property (page 12);

**Mlilo, T. 2018.** *Phase I Archaeological Impact Assessment for the proposed 958m 22kv De-Villiers Powerline in the Douglas Area within Siyancuma Local Municipality in the Northern Cape Province.* The study identified sparse scatters of stone tools

occurring as isolated finds mostly along streams. These included cores, scrapers, flakes and flake blades (page 30).

### **3.2. Fieldwork**

Extensive walking surveys were undertaken on the plains between the ridges. A vehicle was used to move from one area to the next to ensure a reasonable coverage and good sample in light of the large size of the property. Photographs were taken to show the general character of the landscape as well as artefacts and features seen. A Catalogue of the findings is presented in Section 8 of this Report.

## 4. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

An outline of the cultural sequence in South Africa is provides a theoretical framework for the identification of features / structures and objects of archaeological, historical and cultural interest. As summary of the reconstructed cultural sequence is given below:

### 4.1. Cultural sequence summary<sup>4</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.
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 Mfecance / Difaqane
(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 a yielded a very good record of fossil hominids, proto-humans which appeared in South Africa more than 3million years ago. Three famous sites in Gauteng, Limpopo and Northwest Provinces have been collectively named the Cradle

<sup>4</sup> Adapted from Exigo Consultancy. 2015. Frances Baard District Municipality: Proposed Nkandla Extension 2 Township Establishment, Erf 258 Nkandla, Hartswater, Northern Cape Province.

of Humankind and inscribed as a serial UNESCO World Heritage Site.<sup>5</sup> One of these sites Taung near Vryburg is 200 km northwest of the study area. To my knowledge although vertebrate fossils are known in this area, no hominid sites have been reported in the vicinity of the study area.

#### **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.<sup>6</sup> 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 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. Locals along and adjacent to the Orange – Vaal River systems have yield evidence of great interest.<sup>7</sup> Further north the Wonderwerk Cave 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>8</sup>

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<sup>5</sup> Deacon, J. and N. Lancaster. 1986. *Later Quaternary Palaeo-environments of Southern Africa*. Oxford: Oxford University Press.

<sup>6</sup> <http://archaeology.about.com/od/bterms/g/bordercave.htm>

<sup>7</sup> Morris, D. 2009. Phase 1 Archaeological Impact Assessment at Bucklands Settlement near Douglas, Northern Cape, p3.

<sup>8</sup> <http://www.southafrica.net/za/en/articles/entry/article-southafrica.net-the-wonderwerk-cave>.

#### 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 of the caves indicating that people had mastered the art of making fire.<sup>9</sup> A number of field surveys have been carried out around Danielskuil 130km northwest of Kimberley confirming significant hunter gatherer activity in the area from the MSA onwards.

#### 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. As we will see, there are rock engravings on the farm Katlani 236 executed on an ice-sculpted dolomite surface (glacial pavement) (Sites KAT13, KAT14 in this report). These engravings have not received as much attention as those at Driekopseiland on the Riet River near its confluence with the Vaal, a distance of 30 km where more than 3000 individual subjects have been counted (Morris 2002)

### 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 are believed to have been speakers of Bantu languages who practiced agriculture and kept domestic animals such as cattle, sheep, goat and chickens. There

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<sup>9</sup> Deacon, J & H. Deacon. 1999. *Human Beginnings in South Africa*. Cape Town: David Philip.

is however increasing evidence that sheep and probably cattle as well might have moved into the area much earlier than the Iron Age.<sup>10</sup>

#### 4.5.1. Early Iron Age

According to Huffman (2007) there were two migration streams of Early Iron Age (EIA) communities converging in South Africa, one originating in eastern Africa which has been called the *Urewe-Kwale Tradition* (or the eastern stream) and another from the west, spreading through Zambia and Angola, which he termed the *Kalundu Tradition* (or western stream). An alternative perspective is to see the IA as a gradual spread or expansion of settlement of different groups of people indigenous to the continent which took place over a long period of time. There are few if any sites attributed to the EIA in the western parts of the country. Most IA settlements are concentrated in the eastern part of South Africa. The woodland zone was preferred for settlement, but there is strong possibility that transhumant pastoralism was practiced and seasonal hunting camps were established in the inhospitable western regions of the country.

#### 4.5.2. The Later Iron Age

The LIA is marked by the presence of extensive stonewalled settlements such as the Tlhaping capital at Dithakong near Kuruman.<sup>11</sup>

### 4.6. Historical Context

The study area is historically home to the Tlhaping segment of the Tswana, who descended from the Iron Age people and probably from as far back as the Stone Age. The early 19th century was a political turning point with an increasingly uncertain security situation developing and internal displacements. The first of these episodes was the Difaqane characterised by inter-tribal raids.

The Griqua people occupied the area at the confluence of the Vaal and Orange in the 19<sup>th</sup> century. Historically their cradle was in the north-eastern Cape Colony being predominantly of Khoi-Khoi stock with an infusion through marriage of other groups in

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<sup>11</sup> De Jong 2010: De Jong, R.C. 2010. Heritage impact assessment report: proposed manganese and iron ore mining right application in respect of the remainder of the farm Paling 434, Hay Registration Division, Northern Cape. Unpublished report prepared for Kai Batla Minerals Industry Consultants. Pretoria: Cultmatrix, p

the area from the 19th century. Adam Kok 1 is considered the founding leader. He moved his people north from the Cape Colony as the colonial frontier was expanding northward. His successor, Andries Waterboer settled with his people in what became Griqualand West and therein comes the historical connection between the Tlhaping and the Griqua. The Griqua established a town called Klaarwater and subsequently renamed Griquatown. Meanwhile white hunters, traders and missionaries also entered the area. A little later the Afrikaners arrived bringing their stock as part of a mass exodus from the Cape called the Great Trek. The discovery of diamonds at Kimberley sparked the “rush”. The area which became known as Griqualand West was subsequently incorporated into the Cape Colony in the 1880s.

#### **4.7. Orange and Vaal River alluvial diamond diggings**

The first diamonds were discovered in 1867 near Hopetown near the Orange River in what was then the Cape Colony. Another find was made on a farm called Paarde Kloof on the Orange River, also in the locality of Hopetown (Payton 1872, p1). Thereafter the alluvial diamonds along the Vaal River Valley gained spotlight starting in 1869 when a party of prospectors from Natal organised by the British Army started exploration and diggings. As they continued the search for the gemstones along the valley they struck good finds at Klipdrift (Barkly West). These finds sparked South Africa's first diamond rush. Following the news men began to flock from Britain and elsewhere to the new diggings. By April 1871 c. 5000 men had swarmed the Vaal, Modder, and Orange Rivers. The alluvial stones from the region proved to be of high quality. The miners staked claims while the local Griqua chiefs and the Boer Republics of the Transvaal and Orange Free State also joined in the fray. Ownership rights were initially given to local chiefs and Boer Trekkers. But the diggers proclaimed the Klipdrift Republic on 30th July 1870 with Stafford Parker as its elected president. In 1872, the British annexed the diamond fields and proclaimed Griqualand West as a crown state. It was subsequently incorporated into the Cape Colony in 1880. The majority of the prospectors abandoned the various Vaal River claims in the wake of richer finds at Kimberley in 1871. Mining of the river gravels has been going on sparking sporadic rushes over the last nearly one and half centuries.<sup>12</sup>

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<sup>12</sup> The Barkly West & Vaal River Diggings. Found at: <http://www.on-the-rand.co.uk/Diamond%20Grounds/Barkly%20West.htm>

The above forms the archaeological and historical context for the identification of heritage resources in the study area.

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

The heritage sensitivity of the property is summarised as follows:

### **5.1. The Stone Age**

Stone Age material occur with a wide distribution over the plains and on the base of the ridges (38 sites). While much of the land along the banks of the Orange River has been turned to irrigation it appears that there was hunter-gather activity before. The Stone Age material comprises scrapers, blades, cores and flakes typologically dating to the Middle Stone Age/Late Stone Age period. The frequent occurrence of flaked cores indicate manufacturing, but no concentrations of artefacts were observed. Overall, the distribution pattern seems to indicate general hunter-gatherer activity in the area over time. None of the sites found warrant further action.

### **5.2. Late Stone Age Petroglyphs**

The Late Stone Age petroglyphs at Site KAT13 and Site KAT14 exemplify the remarkable art heritage of the area. The first site is apparently known and a record should exist in SAHRIS as a team from the University of Cape Town is reported to have visited the site. Site KAT14 is an extension of KAT13. Names have been etched in the recent past by visitors apparently ignorant of the damage to the site. Such actions must be stopped, the property owners were advised. Declaration of the sites to Grade II (Provincial) status may contribute to strengthening protection measures.

### **5.3. The Early Iron Age**

No sites dating to the Iron Age were found.

### **5.4. The Later Iron Age**

Potsherds were found in two places close to the bank of the Orange River (Site KAT31, Site KAT32). A later Iron Age date is proposed. Noting that pottery was also found on the bank of the Vaal River near Schmidtsdrift a pattern seems to be emerging. Pot



making and use may be attributed to the BaTlhaping who lived in the area in the 18/19th century may descend from earlier Later Iron Age communities. Otherwise the hypothesis that Stone Age people did not have the knowledge to make or use pots is brought into question. The finds do not warrant further action.

### **5.5. Commercial Farming**

There are two buildings at the farmstead carrying ornate Cape Dutch style gables (Site KAT12). There is a simple gabled structure used as church (KAT17). There are no compelling circumstances for alteration or destruction of these buildings. An old stone enclosure used as a cattle pen located on the plateau is a substantial structure which must be protected (Site KAT36).

### **5.6. Burial grounds**

There are two burial grounds on the farm (Site KAT01, Site KAT28). The first site holds more than 30 graves all of members of Griqua families connected with the farm. Some of those interred at the second site are reported to be victims of a mining accident happening in the 1940s on the Orange River 300 m away, where an attempt to divert the channel in order to mine diamonds on the river bed failed with some of the miners having been swept away by sudden flooding and drowned. These sites are enclosed with barbed wire fencing and are clearly visible. They must be protected in terms Section 36 of the NHRA.

### **5.7. Aspects of cultural landscapes**

The concept of cultural landscapes gained currency from the 1990s and is of relevant application in Heritage Impact Assessment Studies. Paragraph 47 of the Operational Guidelines for the Implementation of the World Heritage Convention (2015 edition) defines Cultural Landscapes 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.”<sup>13</sup>

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<sup>13</sup> UNESCO. 2015. Operational Guidelines for the Implementation of the World Heritage Convention.

The shepherd's tree (*Boscia albitrunca*) is widely distributed in the drier parts of South Africa, indeed the whole of Southern Africa. It does not occur in dense stand, but tend to be scattered in the landscape providing good shade of both animals and people (hence the name). It is often called the Tree of Life as it offers sustenance to both humans and animals.<sup>14</sup> It is traditional herb for the treatment of various conditions in both humans and domestic animals. It is a protected species in South Africa. A significant population was noticed in the locality marked as Site KAT07, as such defined as a cultural landscape, and the trees are worthy of preservation.

The circular irrigated fields form a cultural landscape of commercial farming which is typical occurrence along the banks of Orange River (KAT35). According to the landowners, there the mining project will not encroach on the fields.

#### 5.8. Ranking of sites and Risk Assessment

	<b>RANKING</b>	<b>SIGNIFICANCE</b>	<b>NO OF SITES</b>
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	2 burial ground 2 sites with engravings
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Footprint of early modern mining. Cultural Landscapes. These may be protected at the recommendations of a heritage expert.	2 examples of cultural landscapes
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	43
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	0
		<b>TOTAL</b>	<b>49</b>

<sup>14</sup> The Shepherd's Tree. Found at: <http://pza.sanbi.org/boscia-albitrunca> Consulted July 2019.

Table 1: Inventory of heritage sites.

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
KAT01	29° 6'30.80"S	23°36'30.70"E	19th 20th C	Flat area, degraded vegetation, burial ground with c 30 graves dating back to the 1930s -1940s. Families represented: Visser, Riet, Williamson, Kok and descendants of Andries Waterboer.	High	Must be protected under Section 36 of NHRA
KAT02	29° 9'5.00"S	23°34'14.20"E	MSA/LSA	Southern base of a ridge, scattered acacia including haakbos. 2 Lithics: Triangular blade, chert flake	Medium B	
KAT03	29° 8'59.30"S	23°34'19.00"E	MSA/LSA	Southern base of a ridge, sparse vegetation, red-brown soil. 2 lithics: Chert core and flake.	Medium B	
KAT04	29° 8'55.40"S	23°34'22.90"E	MSA/LSA	Flat area below a ridge, grit/gravel, sparse acacia vegetation. 8 lithics include triangular blade, scraper and flakes.	Medium B	
KAT05	23°34'22.90"E	23°34'32.20"E	MSA/LSA	Flat area below a ridge, grit/gravel, sparse vegetation. 6 lithics include 2 triangular blades, 1 scraper, flakes.	Medium B	
KAT06	29° 9'3.80"S	23°34'24.20"E	MSA/LSA	Flat area below a ridge, grit/gravel with a calcrete mix. 6 lithics include quarts and chert: 2 scrapers, 1 triangular blade and flakes	Medium B	
KAT08	29° 9'12.10"S	23°34'19.50"E	MSA/LSA	Flat area below a ridge, calcrete grit and hardpan exposures. 2 lithics (chert scraper, obsidian flake).	Medium B	
KAT09	29° 9'24.50"S	23°34'37.50"E	MSA/LSA	Flat area, sparse vegetation including haakbos. 5 lithics, 1 scraper and flakes.	Medium B	
KAT10	29° 9'9.60"S	23°34'46.00"E	MSA/LSA	The locality overlain by red-brown stones. Acacia haakbos. 3 lithics - flakes	Medium B	
KAT11	29° 9'5.60"S	23°34'34.70"E	MSA/LSA	Flat area, calcrete grit and hardpan exposures. Sparse vegetation. 4 lithics include a core and flakes.	Medium B	

KAT12	29° 6'7.14"S	23°36'33.26"E	Modern	Farmstead. The main structures are 2 sheds with Cape Dutch style gables. A modern building with hipped roof.	Medium B	Must be protected
KAT17	29° 6'13.46"S	23°36'31.08"E	Modern	At the farmstead. The building is used as a church.	Medium B	Must be protected
KAT18	29° 6'16.44"S	23°36'29.19"E	Modern	Farmworkers residential units located near the farmhouse.	Medium B	
KAT13	29° 5'53.80"S	23°36'17.20"E	LSA	Glacially sculpted surface forms the eastern slope of a ridge. Stone Age rock engraving. Various naturalistic and abstract images depicted: Anthropomorphic figure (or tree), geometric shapes, sun/star, sable, human, antelope?, kudu etc.	High	Additional protection measures required (upgrading to Grade 2), graffiti must stop.
KAT14	29° 5'52.50"S	23°36'16.70"E	LSA	Glacially sculpted surface forms the eastern slope of a ridge. Stone Age rock engraving. Various naturalistic and abstract images depicted: Geometric shapes, star/sun, giraffe.	High	Additional protection measures required (upgrading to Grade 2), graffiti must stop.
KAT15	29° 5'55.60"S	23°36'8.40"E	MSA/LSA	On the summit of a ridge, grit with calcrete mix. Acacia bush predominated by haakbos. 4 lithics include a polished grindstone, 1 scraper and flakes.	Medium B	
KAT16	29° 5'54.20"S	23°36'23.40"E	MSA/LSA	Flat area below the ridge NW of the farmstead. Sparse vegetation. 2 lithics include a triangular blade.	Medium B	
KAT19	29° 6'3.40"S	23°35'24.90"E	MSA/LSA	On a plateau, red-brown grit and stones. 4 lithics - flakes	Medium B	
KAT20	29° 6'3.30"S	23°35'15.20"E	MSA/LSA	Locality overlain by brown stones. 3 lithics including chert with sharp edges and percussion bulb.	Medium B	
KAT21	29° 6'10.00"S	23°35'13.60"E	MSA/LSA	On a plateau, red-brown soils, grit and red-brown stones. Scatter of lithics (10) including a core and flakes.	Medium B	

KAT22	29° 6'21.40"S	23°35'9.70"E	MSA/LSA	Locality overlain by stones and grit. Acacia bushes. 6 lithics including quartz.	Medium B	
KAT23	29° 6'23.80"S	23°35'13.30"E	MSA/LSA	On a plateau red-brown soils and stones. Sparse acacia vegetation. Core and blades.	Medium B	
KAT24	29° 6'20.80"S	23°35'22.60"E	MSA/LSA	On a plateau, area overlain by large stones. 6 lithics include chert blade, cores and flakes.	Medium B	
KAT25	29° 6'14.10"S	23°35'42.10"E	MSA/LSA	On a plateau. Sparse vegetation. 7 lithics include a core and flakes.	Medium B	
KAT26	29° 6'10.20"S	23°35'32.40"E	MSA/LSA	On a plateau. 3 lithics include 2 scrapes and a blade.	Medium B	
KAT27	29° 6'8.60"S	23°35'28.60"E	MSA/LSA	On a plateau, gritty surface, sparse vegetation including Shepherd's tree. 4 lithics – flakes, scraper and triangular blade.	Medium B	
KAT28	29° 8'13.10"S	23°36'14.70"E	20th C	Near the northern bank of the Orange River, silty soil. Burial ground with c 22 graves in two rows, some of the deceased victims of mining accident on the Orange River, washed away by a sudden flooding and strong flow (1940s).	High	Must be protected under Section 36 of NHRA
KAT29	29° 8'25.20"S	23°36'13.00"E	LIA/20th C	Jewish miners attempted to dam the Orange River to mine diamonds in a groove below the flowing channel. Some miners washed away and drown. Belief of vengeance by a sacred river snake living there. Girls' initiation site.	Medium B	Located outside the limits of mining area
KAT30	29° 8'16.60"S	23°36'14.10"E	MSA/LSA	On the northern bank of the Orange River. Silty accretion. 6 lithics include a core, triangular blade and flakes.	Medium B	
KAT31	29° 8'14.30"S	23°36'12.60"E	MSA/LSA, LIA	An area close to the northern bank of the Orange River overlain by silty soil. Sparse vegetation. 6 lithics include 1 core, 2 scrapers and flakes. 2 potsherds	Medium B	

KAT32	29° 8'10.90"S	23°36'9.60"E	MSA/LSA, LIA	Area close to the northern bank of the Orange River, Sparse vegetation. 2 lithics – cores. 1 potsherd.	Medium B	
KAT33	29° 8'8.10"S	23°36'12.70"E	MSA/LSA	Area close to the northern bank of the Orange River, Sparse vegetation. 3 lithics – 1 triangular blade, 2 flakes	Medium B	
KAT34	29° 7'0.24"S	23°36'22.83"E	MSA/LSA	Semi-circular setting of stones – c 60m diameter, other half apparently destroyed when the access gravel road was opened. The remains of a cattle enclosure	Medium B	
KAT36	29° 6'34.36"S	23°34'49.22"E	Modern	Located on a plateau, a circular stone enclosure c 20m x 1.10m high. For penning cattle.	Medium B	Must be protected
KAT37	29° 7'0.90"S	23°34'32.30"E	MSA/LSA	On a plateau. Flat area, red-brown soil and stones, scattered acacia haakbos. 3 chert flakes.	Medium B	
KAT38	29° 7'4.50"S	23°34'18.30"E	MSA/LSA	On a plateau. Flat area, scattered acacia trees. 7 lithics – 2 scrapers and flakes.	Medium B	
KAT39	29° 6'59.80"S	23°34'9.80"E	MSA/LSA	On a plateau, locality with stones, scattered haakbos. 4 lithics - flakes	Medium B	
KAT40	29° 6'59.30"S	23°34'13.40"E	MSA/LSA	On a plateau, scattered haakbos. 2 lithics – triangular blade and flaked chert core.	Medium B	
KAT41	29° 7'15.40"S	23°33'9.00"E	MSA/LSA	On a plateau, calcrete gravel, acacia haakbos. 5 lithics including a large semi-circular scraper and flakes.	Medium B	
KAT42	29° 7'20.10"S	23°32'53.90"E	MSA/LSA	On a plateau, calcrete hardpan, acacia. 4 lithics including 1 triangular blade and flakes.	Medium B	
KAT43	29° 7'32.40"S	23°32'58.80"E	MSA/LSA	On a plateau, flat area with calcrete gravel. 6 lithics, 2 triangular blades and flakes.	Medium B	
KAT44	29° 7'18.50"S	23°33'16.20"E	MSA/LSA	On a plateau. Flat area close to a watering site for cattle. 1 flaked core.	Medium B	

KAT45	29° 7'53.4"S	23°35'27.50"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia. 4 lithics include 1 core, 1 scraper, 1 triangular blade and a flake.	Medium B	
KAT46	29° 7'43.80"S	23°35'25.40"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia. 5 lithics include 1 core, 1 triangular blade and flakes.	Medium B	
KAT47	29° 7'43.50"S	23°35'34.20"E	MSA/LSA, LIA	Flat area below a ridge located to the north. Acacia trees. 4 lithics include 1 core and flakes. 1 potsherd. Two joined circular settings of stones.	Medium B	
KAT48	29° 7'49.40"S	23°35'36.00"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia bushes. 4 lithics include 3 scrapers, 1 triangular blade.	Medium B	
KAT49	29° 7'54.70"S	23°35'30.10"E	MSA/LSA	Flat area below a ridge located to the north. Scattered acacia bushes. 3 lithics include a short polished pestle-like grindstone. 2 flakes.	Medium B	
KAT07	29° 9'7.40"S	23°34'21.80"E	Cultural Landscape	Flat area below a ridge located to the north. Scattered trees including Shepherd's tree which is a protected tree species	Medium A	Must be protected
KAT35	29° 6'16.36"S	23°36'48.29"E	Cultural Landscape	Irrigated circular fields on the banks of the Orange River.	Medium A	Must be protected



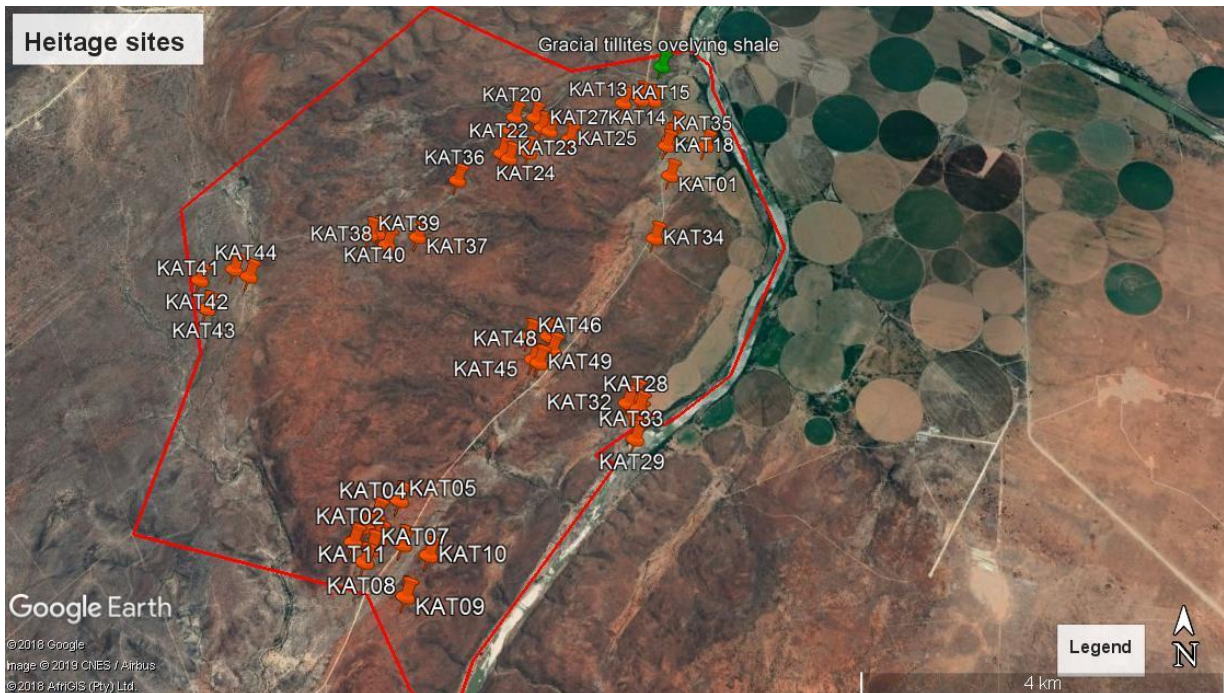


Figure 6: Katlani 236, location of heritage sites.

## 5.9. 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**

Forty-nine sites (49) sites were recorded of which a plan must be put in place to protect nine (9) of the sites. There are two burial grounds (KAT01, KAT28) historic buildings and a church (KAT12, KAT17). There are two examples of cultural landscapes (KAT07, KAT35) and a stone structure worth protecting (KAT36). The petroglyphs at KAT13, KAT14 are extremely sensitive in terms of the potential threats expected. The remainder of the sites are medium value and no further action was considered necessary.



***(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 (we recommend that the petroglyphs be graded as Provincial (Grade II) sites.

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

The risk ranking is a definition of potential risks based on perceived value of the heritage and potential threats posed by the proposed development. As mentioned above nine (9) sites must be protected.

***(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***

Mining is an important lever of economic development for the South African economy. The mineral wealth can provide stimulus for rapid socio-economic development in the Northern Cape Province in particular and the country as a whole. Mining is labour intensive and can contribute immensely to alleviate the current high rate of unemployment. General improvement in the quality of livelihoods in local communities and the country at large is expected.

***(j) The results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources***

The farm is owned by a Community Property Association and a successful livestock and irrigation scheme is running. A meeting was held on the farm in which all attendants expressed support for the project. The heritage sensitivity of the area and the recent etchings at the engravings were items discussed. There was popular support for the protection measures proposed and a strong message to stop further etchings.



Figures 7a-b. Public Notices mounted at the entrance gate to the Farm Katlani 236 and CPA offices inviting people to comment on heritage resources.

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

The following sites will be protected (KAT01, KAT07, KAT12, KAT13, KAT14, KAT17, KAT28, KAT35, KAT36).

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

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

**5.10. 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.
Nature of Impact	Negative impacts can both be direct or indirect.
Legal Requirements	Sections 34, 35, 36, 38 of <b>National Heritage Resources Act</b> No. 25 (1999)
Stage/Phase	Prospecting for minerals (test pits, drilling); Mining Phase
Extent of Impact	Test pits, excavations and ground clearing, opencast mining can result in damage and destruction of archaeological resources above and below the surface not seen during the survey.
Duration of Impact	Any accidental destruction of surface or subsurface relics is not reversible, but can be mitigated.
Intensity	Uncertain.
Probability of occurrence	Medium.
Confidence of assessment	High.
Level of significance of impacts before mitigation	High.
Mitigation measures	Protect the sites that have been flagged. If archaeological or other heritage relics are found during the construction phase, heritage authorities will be advised immediately and a heritage specialist will be called to attend. This is standard precaution in view of inherent limitations of archaeological fieldwork.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.

## **6. CONCLUSION AND RECOMMENDATIONS**

The mine prospecting can go ahead, mindful of the sites that have been flagged for protection. As a standard precaution archaeological deposits are usually buried underground. Should archaeological artefacts or skeletal material be exposed in the area during prospecting operations, such activities should be halted, and the provincial heritage resources authority or SAHRA notified in order for an investigation and evaluation of the finds to take place.

## 7. REFERENCES

- Collins, S. 1973.** Rock-engravings of the Danielskuil Townlands. South African Archaeological Bulletin 109-110: 49-57.; Eastwood, E.B. & Smith, B.W. 2005.
- Coetzee, F. P. 2011.** Cultural Heritage Survey of the Proposed Schmidtsdrift Renewable PV Project on the Farm Schmidtsdrift 248/0000, Northern Cape.
- Deacon, H.J. & Deacon, J. 1999.** Human Beginnings in South Africa: Uncovering the Secrets of the Stone Age. Cape Town: David Philip.
- De Jong, R. C. 2010.** Heritage Impact Assessment Report: Proposed Manganese and Iron Ore Mining Right Application in Respect of the Remainder of the Farm Paling 434, Hay Registration Division, Northern Cape Province. Cultmatrix.
- Dreyer, C. 2016.** Archaeological and Historical Investigation of the Proposed Diamond Mining Activities at the Farm Winter's Rush (Longlands 350), Barkly West, Northern Cape.
- Evers, T. M. 1988.** Recognition of Groups in the Iron Age of Southern Africa. Unpublished PhD Thesis, University of Witwatersrand. Huffman 2007. A Handbook on the Iron Age. Scottsville: UKZN Press.
- Government of South Africa. 1999.** The National Heritage Resource Act (25 of 1999).
- Huffman, T. N. 2007.** A Handbook of the Iron Age. Cape Town: UKZN Press
- Humphreys, A.J.B. & Thackeray, A.I. 1983.** Ghaap and Gariep. Later Stone Age Studies in the Northern Cape. Cape Town: South African Archaeological Society Monograph Series 2.
- Kleinbooi, K. 2007.** Community Land Claim. University of the Western Cape.
- Matenga, E. 2017:** Phase I Heritage Impact Assessment Requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for a Mining right on Vaalbos Island on the Vaal River near Longlands, Barkly West District, Northern Cape Province.
- Matenga, E. 2016.** Phase I Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the Proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm 84 & Portion of farm 393, Barkly West District, Northern Cape Province.
- Matenga, E. 2017.** Phase I Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of section 38 of the National Heritage Resources Act

No 25/1999 for the Proposed Mine Prospecting on a Portion of Farm 393, Barkly West District, Northern Cape Province.

**Matenga, E. 2018.** Phase I Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of Section 38 of the National Heritage Resources Act no 25/1999 for the proposed mine prospecting and application for mining rights on the Farm 85, Barkly West District, Northern Cape province.

**Matenga, E. 2018.** Phase I Heritage Impact Assessment (including palaeontological assessment) requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed mine prospecting on the Remainder of the Farm Schmidtsdrift 248, Pixley Ka Seme District Municipality, Northern Cape Province

**Matenga, E. 2019.** Phase I Heritage Impact Assessment requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed Prospecting and Mining Rights on the farm Jakhalsfontein (Portion 1 of the Farm Schmidtsdrift 248) near Schmidtsdrift, Northern Cape

**Matenga, E. 2019.** Phase I Heritage impact assessment (including palaeontological assessment) requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm Remhoogte 152 Prieska, Northern Cape.

**Morris, D. 2002.** Drieskopseliland and “the rain’s magic power”: History and landscape in a new interpretation of a Northern Cap rock engraving site. MA Dissertation, University of the Western Cape.

**Payton, C. A. 1972.** *The diamond diggings of South Africa: A Personal and Practical Account.* London: Horace Cox.

**Phillipson, D. W. 2005.** African Archaeology. Cambridge: University of Cambridge Press.

**Schalkwyk, J. 2015.** Heritage Scoping Assessment for the Proposed Perseus-Kronos 765KV Transmission Power Line and Substations Upgrade, Northern Cape and Free State Provinces.

## **Websites**

The Barkly West & Vaal River Diggings. Found at: <http://www.on-the-rand.co.uk/Diamond%20Grounds/Barkly%20West.htm> Consulted October 2017.

The Shepherd's Tree. Found at: <http://pza.sanbi.org/boscia-albitrunca> Consulted July 2019.

## **8. ACKNOWLEDGEMENTS**

Mr Willie Williams, Chairperson Katlani Community Property Association.

Mr Johannes Nero, Member of the Katlani Community Property Association.

Mr Willem Gous, Resident Manager, Katlani Community Property Association.

## **APPENDIX I: KATLANI 236 - CATALOGUE OF HERITAGE SITES**