

**PHASE I HERITAGE IMPACT ASSESSMENT (INCLUDING  
PALAEOLOGICAL DESKTOP ASSESSMENT) REQUESTED IN TERMS OF  
SECTION 38 OF THE NATIONAL HERITAGE RESOURCES ACT NO 25/1999  
FOR THE PROPOSED MINING PERMIT  
ON THE FARM EUREKA 200 IN THE DISTRICT OF KIMBERLEY**

Prepared by

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Thursday, 05 September 2019



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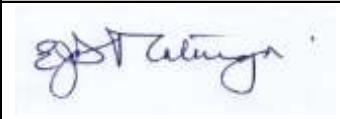
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## DOCUMENTS CONTROL

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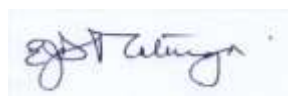
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### DECLARATION OF INDEPENDENCE

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

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

## 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.

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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. A Heritage Impact Assessment (HIA) was undertaken on a portion of the Farm Eureka 200, 5 ha in extent, in respect of a mining permit application to be lodged by the owner, Mr Henley Booysen. The report complies with Section 38(8) of the National Heritage Resources Act (No 25 of 1999) and the mitigation measures recommended herein will be considered as part of Environmental Impact Assessment in terms of the National Environmental Management Act (No 107/1998). A site visit and ground survey was conducted on 21 August 2019 for the identification and documentation of any archaeological and historical material that might occur on the property.

The heritage sensitivity of the property is summarised as follows:

### 2. *The Stone Age*

No material dating to the Stone Age was found although Beaumont found artefacts in the borrow pit located at the south-western corner of the property (Figure 6). Beaumont does not provide GPS coordinates of his finds (Beaumont 2007: 4).<sup>2</sup>

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<sup>2</sup> The approximate position is Lat: 28°47'45.41"S; Long: 24°43'8.32"E.



### 3. *The Iron Age*

No material dating to the Iron Age was found.

### 4. *Historic buildings*

There are no buildings on the property.

### 5. *Military sites*

There were Boer positions and possibly fortifications on the dolerite ridges in the southern part of the farm. The western limits of the dolerite area falls within the 5 ha delimited for sand mining. Although the known fortifications are located outside the proposed mining area, it is recommended as a precaution that the dolerite ridge which falls within the delimited 5 ha must be left as is until an intensive ground survey is undertaken.

### 6. *Ranking of Findings*

	<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.	0
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. These may be protected at the recommendations of a heritage expert.	
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	1 (dolerite ridge)
4	Low	Heritage sites which have been recorded, but considered of minor value relative to the proposed development.	0
		<b>TOTAL</b>	<b>1</b>

7. The mining permit application can be considered in light of the absence of cultural material on the property with a condition that excavations do not extend to the dolerite ridge. It is a standard precaution that in the event of other heritage resources being discovered in future phases of the project, the Provincial Heritage Resources Authority or SAHRA must be alerted immediately and an archaeologist or heritage expert called to attend.

## **1. INTRODUCTION**

A Heritage Impact Assessment (HIA) was undertaken on a portion of the Farm Eureka 200, 5 ha in extent, in respect of a mining application to be lodged by the owner, Mr Henley Booyesen. The report complies with Section 38(8) of the National Heritage Resources Act (No 25 of 1999) and the mitigation measures recommended herein will be considered as part of Environmental Impact Assessment in terms of the National Environmental Management Act (No 107/1998). A site visit and ground survey was conducted on 21 August 2019 for the identification and documentation of any archaeological and historical material that might occur on the property.

### **1.1. Nature of development and expected impacts**

The owner intends to mine red sand by opencast (excavation) methods. Such physical works, including the opening of access roads and establishment of support infrastructure, carry the risk of damaging or destroying heritage resources in the footprint of such operations. The aim of the study is to screen the area for the possible occurrence of heritage resources and to prescribe appropriate mitigation measures.

## **2. LOCATION AND PHYSICAL SETTING**

The farm Eureka 200 is situated southwest of Kimberley a distance of 7.5 km from the centre of the city. The portion which is the subject of this study is set against the railway line running roughly parallel with the N12 highway both trending southwest as the lead to Cape Town (Lat: 28°47'45.18"; Long: 24°43'11.57"E, approximate centre of the property). The soft red sand represents windblown Kalahari sands and is typical of the topsoil geology of the broader area south and west of Kimberley. The area is bordered to the east by a low ridge representing the erosion resistant dolerite mantles commonly seen in the topography between Kimberley and Windsorton. The vegetation falls within the Kimberley Thornveld biome, and on this property it is dominated by the acacia *swarthaak* (or *haakbos*) (*Senegalia mellifera*) (Figures 1-6).



Figure 1: Google-Earth map shows the location of the farm Eureka 200 on the outskirts of Kimberley.



Figure 2: View east shows flat terrain with sparse *swarthaak* and grass.



Figure 3: Dolerite ridge on the eastern boundary of the property.



Figure 4: View towards the city of Kimberley, scattered acacia, grass, exposure of the sand overburden along a pathway.





Figure 5: Close view of red sand overburden.



Figure 6: Edge of an old borrow pit shows a profile of the red soil overburden.

### 3. LEGAL FRAMEWORK

#### 3.1. The National Heritage Resources Act (25 of 1999)

Thresholds of the impact of development which trigger a Heritage Impact Assessment are stated in Section 38 of the National Heritage Resources Act (No 25 1999):

Section 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, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*

*(b) the construction of a bridge or similar structure exceeding 50m in length;*

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

**(i) exceeding 5 000m<sup>2</sup> in extent; 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 regulations by SAHRA or a provincial heritage resources authority.*

Other Sections of the **National Heritage Resources Act** (No. 25 of 1999) NHRA of relevant application are:

Section 34 of the NHRA for provisional protection of all structures and features older than 60 years.

Section 35 (4) of the **NHRA** prohibits the destruction of archaeological, palaeontological and meteorite sites. A palaeontological desktop assessment is appended to this HIA report as one of the requirements to comply with this clause.

Section 36 of the **NHRA** gives priority for the protection of Graves and Burial Grounds graves and burial grounds more than 60 years old, and graves and burial ground of victims of conflict.

### **3.2. International principles and policies on graves**

Heritage management advocates respect of the sanctity of all graves regardless of their age wherever possible preservation *in situ*. The the **Vermillion Accord on Human Remains** adopted by the **World Archaeological Congress (WAC)** at the WAC Inter-Congress in South Dakota (USA) is a code of ethics which urges “*respect for the mortal remains of the dead shall be accorded to all, irrespective of origin, race, religion, nationality, custom and tradition.*”

### **3.3. The National Environmental Management Act (No 107/19998)**

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.

### **3.4. The Burra Charter**

The **Burra Charter, the Australia Charter for the Conservation of Places of Cultural Significance** contains generic principles and standards for the protection of heritage resources which have been adopted in heritage practice in South Africa.



## 4. APPROACH AND METHODOLOGY

### 5.1. Literature Survey

This report is informed by a literature survey undertaken to understand the geography, cultural sequence and known heritage potential of the area. A number of reports generated through heritage impact assessment studies in the broader area were researched. In this regard a scoping (Phase 1) heritage impact assessment study undertaken in 2007 on the whole property is a document of important reference:

**Beaumont, P. 2007:** Phase 1 Heritage Impact Assessment Report on the Farm Eureka 200 near Kimberley, Frances Baard District Municipality, Northern Cape Province.

This author has carried out a number of heritage impact surveys in the broader area which confirm the wide distribution of MSA/LSA artefacts in low concentrations.

**Matenga, E., 2017.** *Phase 1 Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of section 38 of the National Heritage Resources Act No 25/1999 for a mining right on a portion of Portion 1 & Portion of Portion 351 of farm Vooruitzicht 81 Kimberley District, Northern Cape Province.* (On the property, overlain by the red sands, no material of cultural significance was found).

**Matenga, E., 2017.** *Phase 1 Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of section 38 of the National Heritage Resources Act No 25/1999 for a prospecting right on a portion of portion 1 of the Farm Vooruitzicht 81, Kimberley District, Northern Cape Province. Unpublished report. AHSA: Johannesburg.* (Two mounds were found to contain industrial and household discard and debris which might be of interest to students of historical and industrial archaeology)

**Matenga, E., 2017.** *Phase 1 Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of section 38 of the National Heritage Resources Act No 25/1999 for mining rights at the 2005 and 2007 Retrenchees-Kimberley Mines*

*Trust, Kimberley, Northern Cape Province.* (Foundation remains and concrete structures of dating to the early phase of modern mining were recorded).

## **5.2. Ground Survey**

Observations were made by means of walking surveys conducted by an archaeologist and field assistant on 22 August 2019. Since this is a relatively small area coverage and resolution was much better compared to surveys of hundreds of hectares as is often the case. Except along tracks and pathways ground visibility was moderate to poor due to grass cover (Figure 7).



Figure 7: Moderate to poor ground visibility except along pathways.

## **5.3. 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.

*Ranking of Findings*

	<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	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. These may be protected at the recommendations of a heritage expert.	
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	
4	Low	Heritage sites which have been recorded, but considered of minor value relative to the proposed development.	
		<b>TOTAL</b>	

## 6. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

Although the area is on the outskirts of a large city and relatively small, it is virgin land and the various typologies of heritage of different epochs can be expected to be found. It is therefore necessary to give a rundown of the South African cultural sequence.

### 6.1. Cultural Sequence Summary

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	Nguni / Sotho/Venda people	Iron Age Farmers	Mfecance / Difaqane
(iii) Colonial period	19 <sup>th</sup> Century	European settlers / farmers / missionaries/ industrialisation	Buildings, Missions, Mines, metals, glass, ceramics

### 6.2. Appearance of Hominids

The cultural sequence begins with the appearance of hominids, proto-humans which appeared in South Africa more than 3 million years ago. The hominid site nearest to the study area is Taung near Vryburg, 140km to the north. This is a UNESCO World Heritage Site proclaimed together with the Sterkfontein Caves (Krugersdorp) and Makapans Valley (Mokopane) in a serial nomination. No hominid sites have been reported closer to the area under study.

### **6.3. 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 beginning of the cultural sequence divided into three epochs, the Early, Middle and Late Stone Ages. These early people 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.<sup>3</sup> These tool industries have been called Oldowan and Acheulian and were probably used to butcher large animals such as elephants, rhinoceros and hippopotamus. Acheulian artefacts are usually found near sites where they were manufactured and thus in close proximity to the raw material or at kill sites. 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 Province has been constructed from many heritage impact assessments that have been conducted in recent years. Early (ESA) and Middle Stone Age (MSA) lithics occur over most of area with a more recent find of Later Stone Age (LSA) occupations.<sup>4</sup> 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>5</sup>

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

The Middle Stone Age (MSA), appeared 250 000 years ago and 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. By humans had evolved significantly to become anatomically modern. Caves were used for shelter suggesting permanent or semi-permanent settlement. There is archaeological evidence from some of the caves indicating the making of fire.<sup>6</sup>

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<sup>3</sup> Deacon, H.J. & Deacon, J. 1999. Human Beginnings in South Africa: Uncovering the Secrets of the Stone Age. Cape Town: David Philip.

<sup>4</sup> Schalkwyk, J. 2015. Heritage Scoping Assessment for the Proposed Perseus-Kronos 765KV Transmission Power Line and Substations Upgrade, Northern Cape and Free State Provinces, p6.

<sup>5</sup> Humphreys, A.J.B. & Thackeray, A.I. 1983. Ghaap and Gariiep. Later Stone Age Studies in the Northern Cape. Cape Town: South African Archaeological Society Monograph Series 2.

<sup>6</sup> Deacon, J & H. Deacon. 1999. Human Beginnings in South Africa. Cape Town: David Philip.

A number of field surveys have been carried out confirming significant hunter gatherer activity in the broader area and along the Orange and Vaal Rivers from the MSA onwards.

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

By the beginning of the LSA, humans had evolved to *Homo sapiens* which refer to the modern physical form and thinking capabilities. Several behavioural traits are noticed, 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. Practitioners of rock art were ancestors of the San and sites abound in the whole of Southern Africa. Wildebeest Kuil Rock Art Centre is a rock engraving site now with an interpretation centre on land owned by the !Xun and Khwe San situated c. 16 km to the northwest of the study area along the R31 road from Kimberley to Barkly West. The site was first known to the public in modern times by the renowned 19th century researcher, George William Stow.<sup>7</sup> There are more rock engravings on the farm Nooitgedacht located 37 km northwest of the study area, which contain 3 sections of glaciated pavement with over 250 San and Khoi-khoi rock engravings (Fourie 2011:23)

### **6.6. Early Iron Age**

The Iron Age was a gradual spread or expansion of settlement of different groups of speakers of Bantu languages over a period that could have spanned more than 2 millennia. These communities indigenous to the continent brought with them domestic animals, crops, pottery and metal technology. However there are few if any sites attributed to the EIA in the western parts of the country.<sup>8</sup> Most Iron Age settlements are concentrated in the eastern part of the country. 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.

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<sup>7</sup> Wildebeest Kuil Rock Art Centre, at: <http://www.kimberley.co.za/city/wildebeest-kuil-rock-art-centre/> (Consulted 3 May 2017).

<sup>8</sup> Phillipson, D. W. 2005. African Archaeology. Cambridge: University of Cambridge Press.

There is however increasing evidence that sheep and probably cattle as well might have moved into the area much earlier than the Iron Age.<sup>9</sup>

### **6.7. 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>10</sup>

### **6.8. Historical context**

The study area is historically home to the various groups of Tswana stock - Tlokwa, Fokeng, Hlakwana and Phuting, Tlhaping, and Tlaro, certainly descending from the Iron Age and probably some with Stone Age roots. The early 19<sup>th</sup> century was a political turning point characterised by an increasingly uncertain security situation and internal displacements. During the late 18<sup>th</sup> and early 19<sup>th</sup> centuries groups of Griqua herders settled in this area establishing a town called Klaarwater and subsequently renamed Griquatown. A little later the Afrikaners also arrived in the area as part of a mass exodus from the Cape called the Great Trek. The area subsequently became known as Griqualand West and incorporated into the Cape Colony in the 1880s.<sup>11</sup>

### **6.9. Brief History of Kimberley**

Kimberley Mine, which was also known then as the New Rush or Colesberg, was discovered on 16 July 1871 on the Farm Johannes Nicholas De Beer. Mining activity increased dramatically within the first 12 months attracting a labour population of almost 50 000 men (Fig 8). Political stakes were heightened by competing claims of the governments of the time over the diamond fields: the Cape Colony, Transvaal, Orange Free State and Griqualand under Nikolaas Waterboer. The Free State Boers in particular wanted the area as it lay inside the natural borders created by the Orange and Vaal Rivers. Following the mediation brokered by the British governor of Natal, the Keate Award went in favour of Waterboer, who placed himself under British protection. Consequently Griqualand

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<sup>9</sup> 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

<sup>10</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 36.

<sup>11</sup> 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.

West was proclaimed on 27 October 1871, which subsequently joined the Cape Colony.



Fig 8. Kimberley in the early days (Photo on display at the Protea Hotel, Kimberley).

For more than a decade many operators staked claims for the precious mineral in cut-throat competition until the historic amalgamation in March 1888 which gave birth to the De Beers Consolidated Mines Ltd masterminded by Cecil John Rhodes, Alfred Beit, Barney Barnato and Charles Rudd. The impact of the diamond wealth was far reaching creating rich and powerful personalities such as the controversial Cecil John Rhodes, who became the chief proponent of British imperialism in Southern Africa. Rhodes used the new found wealth not only to lay stakes in other mining areas such as the Witwatersrand, but to advance the imperial project which saw Britain extending its sphere of influence to Bechuanaland (now Botswana), Northern and Southern Rhodesia (Zambia and Zimbabwe respectively) and Nyasaland (Malawi).

The Big Hole located in the centre of the city is preserved as a centrepiece of the city and the country's mining heritage.

#### **6.10. The Anglo Boer War (South African War)(1899-1902)**

Kimberley and its surrounds witnessed much action during the Anglo-Boer War. Boer commandos laid siege of the town from 14 October 1899 to 15 February 1900 trapping the more than 50 000 inhabitants. To effect the siege the Boers established many



redoubts and encampments around the town with a command centre located to the north of Kimberley (Fourie 2011: 24-25). The Battle of Magersfontein, 25 km southwest of the town was fought on 11 December 1899. The Boers won that round in what became known as Britain's 'Black Week' during which Scotland's Highland Brigade suffered the worst casualties. A field museum and monument was commissioned there in 1971.<sup>12</sup>

Beaumont (2007) reported possible Boer commando fortifications on the southern part of Eureka farm.

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

## **7. FINDINGS OF THE SURVEY**

The heritage sensitivity of the property is summarised as follows:

### **7.1. The Stone Age**

No material dating to the Stone Age was found, although Beaumont reported artefacts in the borrow pit located at the south-western corner of the property (Figure 6). Beaumont does not provide GPS coordinates of his finds (Beaumont 2007: 4).<sup>13</sup>

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<sup>12</sup> The Battle of Magersfontein, Northern Cape. At: <http://www.southafrica.net/za/en/articles/entry/article-southafrica.net-the-battle-of-magersfontein> (Consulted 11 May 2017).

<sup>13</sup> The approximate position is Lat: 28°47'45.41"S; Long: 24°43'8.32"E.

## **7.2. The Iron Age**

No material dating to the Iron Age was found.

## **7.3. Historic buildings**

There are no buildings on the property.

## **7.4. Military sites**

Beaumont noted that there were Boer positions and possibly a fortification on the dolerite ridges in the southern part of the farm Eureka represented by “numerous -2 - 10m lengths of man - moved and stacked boulders” (Beaumont 2007:4). The western limits of the dolerite area falls within the 5 ha delimited for sand mining (Figure 9). Beaumont does not provide the GPS coordinates of the fortifications, but looking at the map in his report the fortifications are approximately at GPS coordinates Lat: 28°47'53.11"S; Long: 24°43'27.26"E) outside the proposed mining area (Figure 8). It is however recommended as a precaution that the dolerite ridge which falls within the delimited 5 ha must be left as is until an intensive ground survey is undertaken.

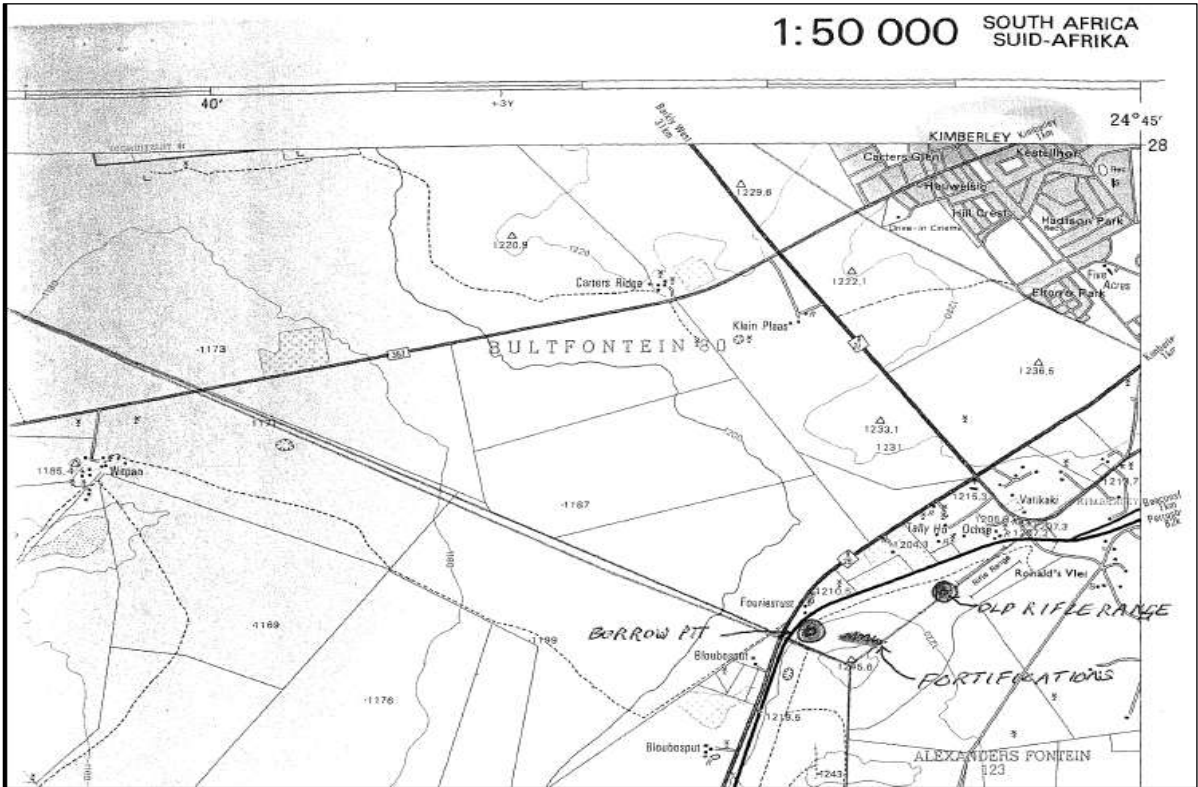


Figure 8: Position of Boer fortifications. Map adapted from Figure 1 in Beaumont's Report (2007).



Figure 9: Location of sensitive areas

## 7.5. Ranking of Findings

	RANKING	SIGNIFICANCE	No of sites
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.	0
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. These may be protected at the recommendations of a heritage expert.	
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	1(dolerite ridge)
4	Low	Heritage sites which have been recorded, but considered of minor value relative to the proposed development.	0
		<b>TOTAL</b>	<b>1</b>

## 7.6. Assessment of Impacts using the 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**

No cultural material was found. There is a possibility that there were Boer positions on the dolerite ridge on the eastern boundary of the proposed mining area. The area must be left as is.

**(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.

**(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 the buildings 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**

Sand mining will provide opportunity for local employments, the product is in high demand in the construction industry.

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

The buildings that have been flagged will not be affected by the proposed mining operations.

**(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.

## 7.7. 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.
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	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.

## 8. RECOMMENDATIONS AND CONCLUSIONS

The mining permit application can be considered in light of the absence of cultural material on the property with a condition that excavations do not extend to the dolerite ridge. It is a standard precaution that in the event of other heritage resources being discovered in future phases of the project, the Provincial Heritage Resources Authority or SAHRA must be alerted immediately and an archaeologist or heritage expert called to attend.

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