

**Heritage Impact Assessment and Palaeontological Desktop
Assessment for a Mining Permit Application on a Portion
of Erf 687 and a Portion of the Remainder of Erf 1526,
Barkly West in the Dikgatlong Local Municipality,
Northern Cape Province**

Prepared by

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Friday, 13 August 2021



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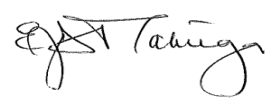
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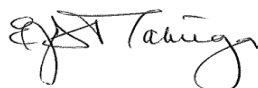
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FIELD WORK & REPORT	E. Matenga		11 August 2021

DECLARATION OF INDEPENDENCE

AHSA Pty Ltd is an independent consultancy: We 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 remuneration for work performed.

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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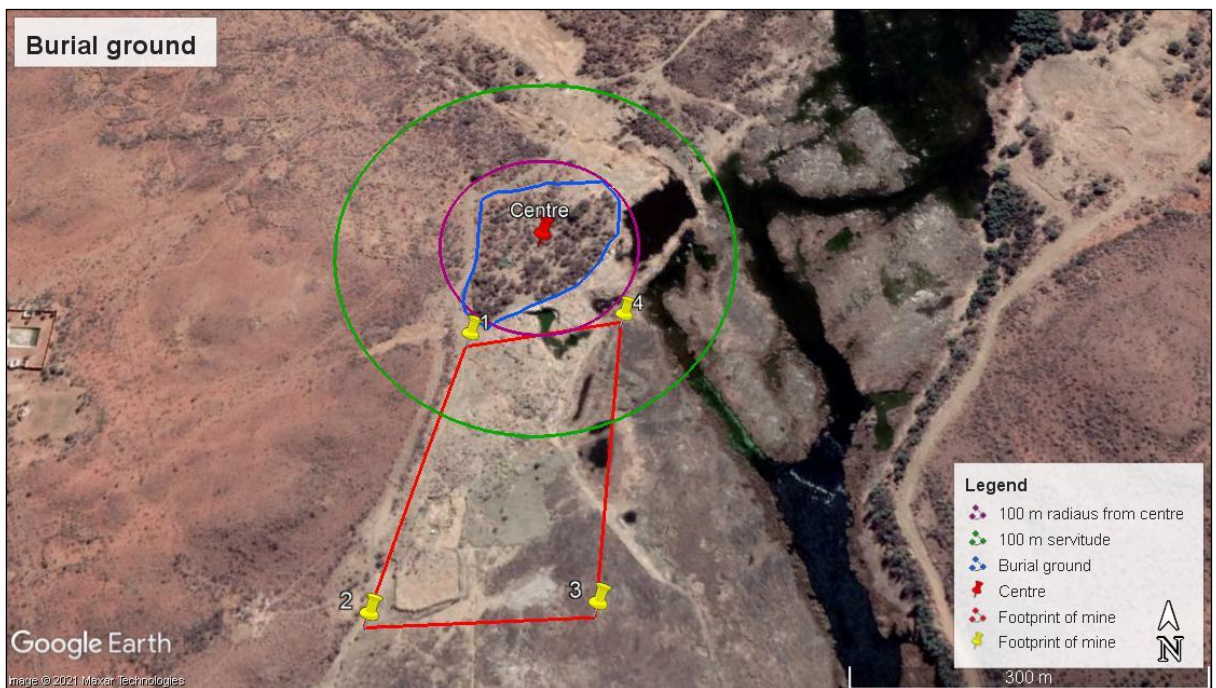
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EXECUTIVE SUMMARY

1. A Heritage Impact Assessment report has been prepared in support a mining permit application on a Portion of Erf 687 and a Portion of the Remainder of Erf 1526, Barkly West in the Dikgatlong Local Municipality, Northern Cape Province. On 9 August 2021 an archaeologist conducted a ground survey for the possible occurrence of archaeological and historical relics which might be worthy of protection.
2. The heritage sensitivity of the property is summarised as follows:
3. *The Stone Age*
No material dating to the three epochs of the Stone Age was found.
4. *The Iron Age*
No material dating to the Iron Age was found.
5. *Buildings*
A rectangular setting of stones was the remains of a building standing on a raised foundation (BKW02). The structure is located outside the footprint of the development was rated of low significance. A rectangular enclosure of piled stones is associated with the last mining episode in the 1990s, it was also ranked of low significance (BKW03).
6. *Burial Ground*
There is large burial ground measuring 1.8 Ha located on the north side of the mining footprint. It appears to have been used by residents in the black township of Barkly West from the beginning of the town in the 19th century until about 1980s as attested by inscriptions on the graves. Most of the grave markers are stones or cairns, while cement rims/slabs and heads can be seen. There are a few individuals with polished granite dressing

7. Mitigation for the burial ground

The developer has been proactively engaging with the local civic leaders who are aware of the potential damage that can be caused by mining activities, and have been watching artisanal diggings in the area. There is a common understanding that the graves must be protected. While these commitments have been made the mandatory 100 m servitude around the burial ground is not possible, which requires that the developer lodges an application with SAHRA for an exemption to lower the threshold to 20 m on the side facing the proposed mine. A boundary fence will be erected on the side facing the proposed mine. A Conservation Management Plan will be prepared for the burial ground.



Legend: **Blue** – Extent of burial ground. **Purple** – 100 m radius from centre of burial ground. **Green** 100 m buffer for the burial ground. **Red** – footprint of the mine

Map shows the location of a burial ground in relation to the footprint of the proposed mining

8. Inventory of heritage sites

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
BKW01	28°32'54.86"S	24°30'32.80"E	19 th /20 th C	Burial ground covering 1.8 Ha	High	Application for waiver of 100m servitude. Fencing. Conservation Management Plan
BKW02	28°32'55.70"S	24°30'29.60"E	20 th C	Rectangular settings of stones are the remains of a building which was standing on a prepared raised foundation or ramp	Low	No further action required
BKW03	28°33'5.68"S	24°30'29.48"E	20 th C	A rectangular enclosure of piled stones is associated the last mining episode in the 1990s was also ranked of low significance	Low	No further action required

9. 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.	1 burial ground
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. These may be protected at the recommendations of a heritage expert.	0
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.	2
		TOTAL	3

10. Recommendations and conclusions

The developer will apply for exemption from the mandatory 100 m buffering between the graves and the footprint of the mining and have a 20 m buffer instead. A boundary fence will be erected on the side facing the mine. A Conservation Management Plan will be prepared for the burial ground. As a standard precaution, 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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ABBREVIATIONS

CMP	Conservation Management Plan
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”.¹

¹ 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.

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

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

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

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

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

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

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

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 2nd millennium AD marked by the emergence of complex state society and long-distance trade contacts.

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

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

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

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

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

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

Sherds: ceramic fragments.

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

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

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

1. INTRODUCTION

This report has been prepared on behalf of African Gemstone Mining (Pty) Ltd for a mining permit application on a Portion of Erf 687 and a Portion of the Remainder of Erf 1526, Barkly West in the Dikgatlong Local Municipality, Northern Cape Province. On 9 August an archaeologist conducted a ground survey as required in terms of Section 38(8) of the National Heritage Resources Act (No 25 of 1999). The findings of the survey and mitigation measures recommended will be considered as part of an Environmental Impact Assessment.

1.1. Nature of development and expected impacts

Diamonds are expected to be found in old alluvial gravels on the north bank of Vaal River on the outskirts of Barkly West. Prospecting and mining activities carry the risk of damaging or destroying heritage resources. Excavation of test pits and trenches, opencast stripping processes, opening of access roads, establishment of plant and other support infrastructure are such activities with a potentially harmful impact on heritage resources.

2. LOCATION AND PHYSICAL SETTING

The property measuring approximately 5 Ha is located on the north bank of the Vaal River on the southwest outskirts of Barkly West. The present river channel runs closer to the south bank of the river trending south before an angular bend from where the channel takes a westerly course. This leaves a triangular plain on the north side of the channel only occasionally inundated when the river is in flood after heavy rains. The plain is studded with black rocks which form the bedrock while towards the riverbank there are alluvial pebbles mixed with silt in which the diamonds are expected to be found. There is telling surface evidence of diamond diggings from 19th century through the 20th century, which has been continued on a small scale by artisanal miners (*zama-zama's*).



Figure 1: Google-Earth map shows the location of the footprint of the proposed mining on the north bank of the Vaal River near Barkly West

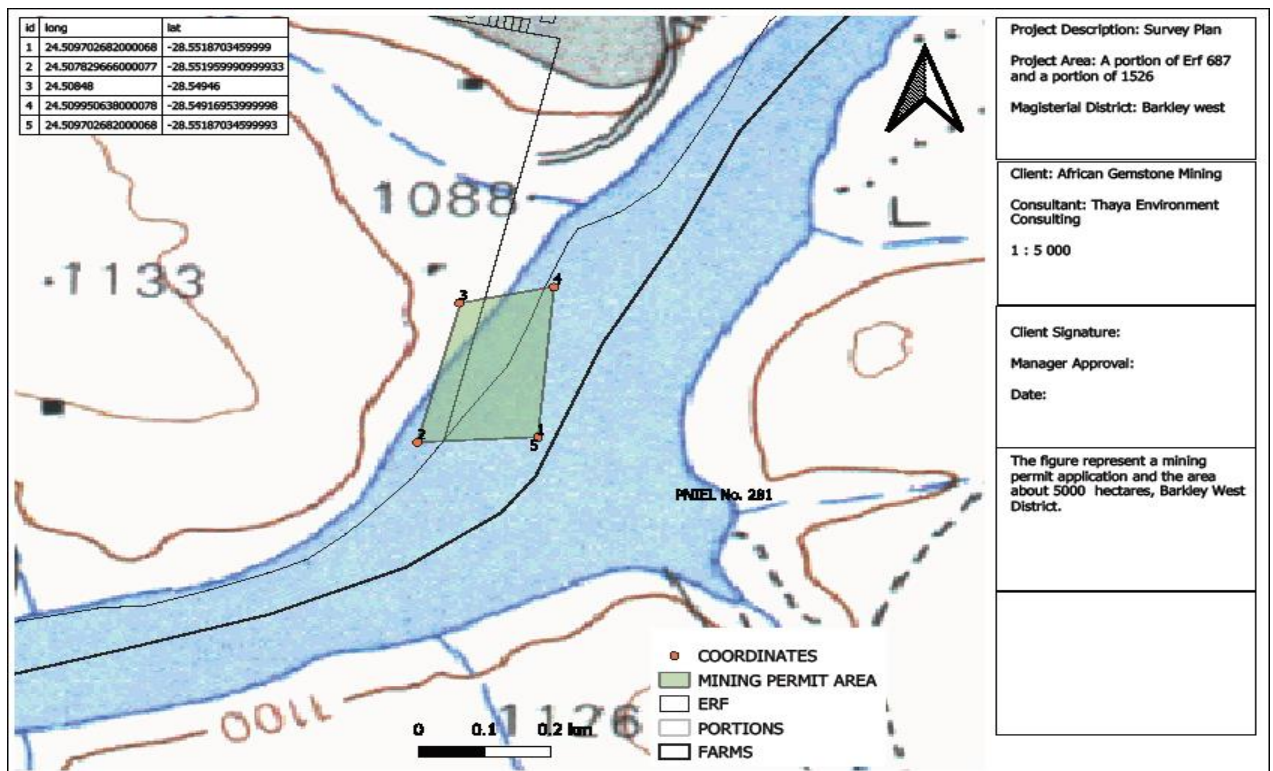


Figure 2: Location of the property in a standard map



Figure 3. The Vaal River north bank (right side)



Figure 4: Evidence of previous mining activity in the footprint of the proposed mine

3. LEGAL FRAMEWORK

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

Section 38 lists thresholds of impact of a development which trigger a Heritage Impact Assessment:

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 000m² 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 m² 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 107/1998)

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

3.4. 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 author has carried out a number of heritage impact assessment studies in locales along the Vaal River:

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.*

Vaalbos Island. Stone dykes constructed by the early diamond miners to direct water channels and stone-retained ramps for the placement of earth moving equipment were recorded.

Matenga, E. 2018. *Phase I Heritage Impact Assessment (including Palaeontological Assessment) in terms of Section 38 of the National Heritage Resources Act No 25/1999 for a Mining Permit and related infrastructural activities on a piece of the farm Longlands 350 situated in the Magisterial District of Barkly West, Northern Cape Province.* Scatters of stone tools were recorded. Stonewalls of a recent date (20th century) were recorded.

Many other specialists have undertaken heritage impact surveys in the area:

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.* No stone tools were recorded. Surface holes and stone heaps from the alluvial diamond diggings were observed.

Morris, D. & J. Louw. 2018. *Heritage Impact Assessment of a proposed mining site on Farm 350, Longlands, near Barkly West, Northern Cape.* One quartzite flake was recorded. The area 5 ha in extent had been in large part scoured for diamonds for a period spanning more than a century.

The findings of this survey are evaluated in the context of background knowledge on the heritage sensitivity of the broader area.

5.2. Ground Survey

An archaeologist conducted a ground survey on 9 August 2021. Data was collected by means of random walking surveys over the area. Maps of the track log is appended to this report.

5.3. Significance ranking of findings

In the table below, heritage sites are ranked to show potential risks relative to their cultural significance and the expected impact of the proposed development.

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.	
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Footprint of early modern mining. 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.	
		TOTAL	

6. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

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 th Century	European settlers / farmers / missionaries/ industrialisation	Buildings, Missions, Mines, metals, glass, ceramics

6.2. Appearance of Hominids

The appearance of hominids in the fossil record marks the beginning of the sequence. Hominids were 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, 100 km north of Barkly West. 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 along the Vaal River.

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.² 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. 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.³

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.⁴

A number of field surveys have been carried confirming significant hunter gatherer activity in the broader area from the MSA onwards.

² Deacon, H.J. & Deacon, J. 1999. Human Beginnings in South Africa: Uncovering the Secrets of the Stone Age. Cape Town: David Philip.

³ 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.

⁴ Deacon, J & H. Deacon. 1999. Human Beginnings in South Africa. Cape Town: David Philip.

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. A number of petroglyph sites have been in Vaal - Orange River basin. Wildebeest Kuil Rock Art Centre is a rock engraving site with an interpretation centre on land owned by the !Xun and Khwe San c. 20 km southeast from 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.⁵ There are more rock engravings at Nooitgedacht on the outskirts of Barkly West 3 km north of the study area.

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 Early Iron Age in the western parts of the country.⁶ 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. There is however increasing evidence that sheep and probably cattle as well might have moved into the area much earlier than the Iron Age.

⁵ Wildebeest Kuil Rock Art Centre, at: <http://www.kimberley.co.za/city/wildebeest-kuil-rock-art-centre/> (Consulted 3 May 2017).

⁶ Phillipson, D. W. 2005. *African Archaeology*. Cambridge: University of Cambridge Press.

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.⁷

6.8. Historical context

The study area is historically home to the Tlhaping segment of the Tswana, who descended from the Iron Age people and probably have roots in the preceding Stone Age. The early 19th century was a political turning point with an increasingly uncertain security situation and internal displacements. The first of these episodes was the Difaqane characterised by inter-tribal raids. During the late 18th and early 19th centuries Griqua herders (people of Coloured stock from the Cape Colony) settled near the confluence of the Vaal and Orange Rivers establishing 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 with them livestock 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.⁸

6.9. Brief history of Barkly West

The first alluvial diamond diggings started at Barkly West in 1869 by a party of prospectors from Natal organised by the British Army. As they continued the search for the gemstones along the valley they struck good finds at Klipdrift (which was later named 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

⁷ 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.

⁸ 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.

local chiefs and Boer Trekkers. But the diggers proclaimed the Klip Drift 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.⁹

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 three epochs of the Stone Age was found.

7.2. The Iron Age

No material dating to the Iron Age was found.

7.3. Buildings

A rectangular settings of stones is the remains of a building which was standing on a prepared raised foundation (BKW02, Figure 5). The structure is located outside the footprint of the development and was rated of low significance and. A rectangular enclosure of piled stones associated the last mining episode in the 1990s was also ranked of low significance (BKW03, Figure 6).

⁹ The Barkly West & Vaal River Diggings. Found at: [ttp://www.on-the-rand.co.uk/Diamond%20Grounds/Barkly%20West.htm](http://www.on-the-rand.co.uk/Diamond%20Grounds/Barkly%20West.htm)



Figure 5: Stone footing of a building



Figure 6: Piled stones forming a rectangular enclosure associated with recent mining activities

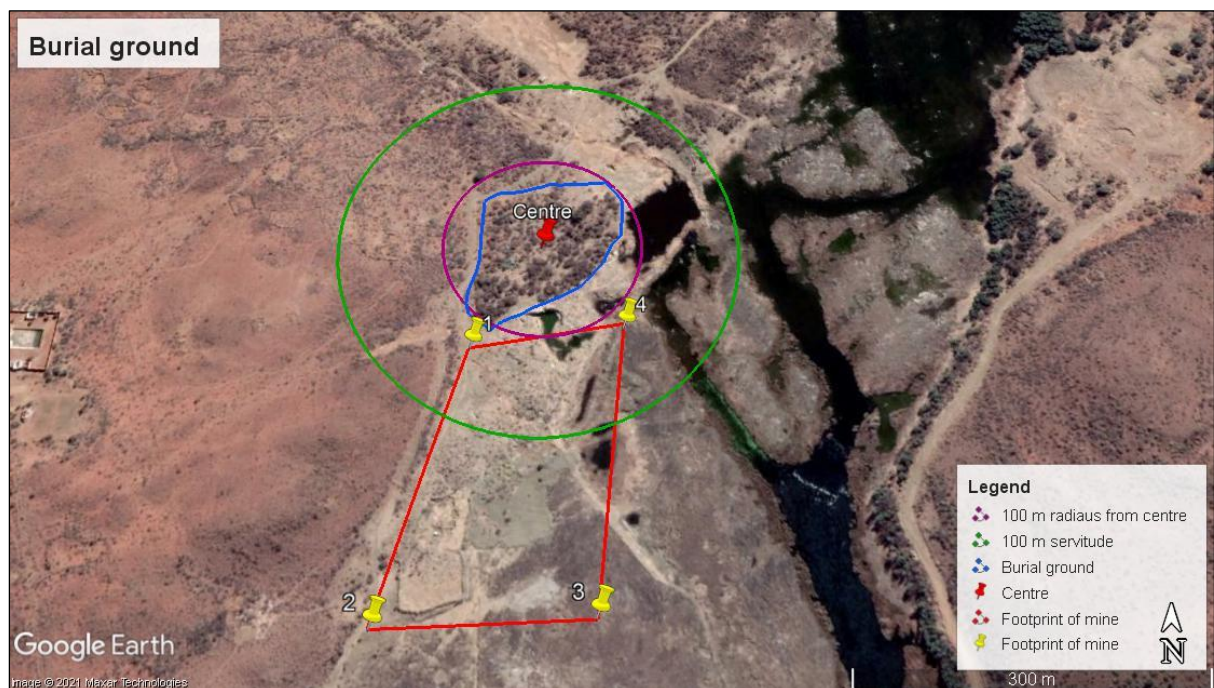
7.4. Burial Ground

There is large burial ground measuring 1.8 Ha located on the north side of the mining footprint (see map in Figure 7). It was used by residents in the black township of Barkly West from the beginning of the town in the 19th century until about 1980s

as attested by inscriptions on the graves. Most of the grave markers are stones or cairns, while cement rims/slabs and heads can be seen. There are a few individuals with polished granite dressing. Photographs were taken to illustrate the general character of the burial ground and individual graves (Figures 8-13).

7.5. Mitigation for the burial ground

The developer has been proactively engaging with the local civic leaders who are aware of the potential damage to the graves and have been watching the artisanal miners operating in the area. There is a common understanding that the graves must be protected. While these commitments have been made the mandatory 100 m servitude around burial ground is not possible, which requires that the developer lodges an application with SAHRA for an exemption to lower the threshold to 20 m on the side facing the proposed mine. A boundary fence will be erected on the side facing the proposed mine. A Conservation Management Plan will be prepared for the burial ground.



Legend: **Blue** – Extent of burial ground. **Purple** – 100 m radius from centre of burial ground. **Green** 100 m buffer for the burial ground. **Red** – footprint of the mine

Figure 7. Map shows the location of the burial ground in relation to the footprint of the proposed mining



Figure 8: View of the burial ground under acacia trees on the north bank of the Vaal River



Figure 9: Many graves marked with stones and one with a concrete base



Figure 10: Cement base and a cross head



Figure 11: Cairn markings of graves



Figure 12. Polished granite headstones



Figure 13: Cairn markings of graves, one with a cement head

Table 1: Inventory of heritage sites

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
BKW01	28°32'54.86"S	24°30'32.80"E	19 th /20 th C	Burial ground covering 1.8 Ha	High	Application for waiver of 100m servitude. Fencing. Conservation Management Plan
BKW02	28°32'55.70"S	24°30'29.60"E	20 th C	Rectangular settings of stones are the remains of a building which was standing on a prepared raised foundation or ramp	Low	No further action required
BKW03	28°33'5.68"S	24°30'29.48"E	20 th C	A rectangular enclosure of piled stones is associated the last mining episode in the 1990s was also ranked of low significance	Low	No further action required

7.6. 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.	1 burial ground
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. These may be protected at the recommendations of a heritage expert.	0
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	0
4	Low	Heritage sites which have been recorded, but considered of minor value relative to the proposed development.	2
		TOTAL	3

7.7. 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

Three (3) sites were recorded of which one is a burial ground.

(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 proposed activities can result in damage of the graves.

(d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development

The Northern Cape Karoo is leveraging extraction of its vast mineral wealth for economic development which is expected to provide unemployment relief for the province in particular and the country as a whole. General improvement in the quality of livelihoods in local communities is expected.

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

No objections have been raised against the project by residents of Barkly West. A register of local community members who have been consulted is annexed to this report.

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

N/A

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

An application will be lodged for waiver of the 100 m buffer around the burial ground for a 20 m buffer instead. A boundary fence will be erected on the side facing the mine. A Conservation Management Plan will be prepared for the burial ground. In the event of discovery of other heritage resources as a result of the prospecting activities, the Provincial Heritage Resources Authority or SAHRA will be informed immediately and an archaeologist or heritage expert called to attend.

7.8. 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 National Heritage Resources Act No. 25 (1999).
Stage/Phase	Prospecting for minerals (test pits, drilling).
Extent of Impact	Excavations 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	Protection of the burial ground. Application for waiver of the 100 m buffer around the grave for a 20 m buffer instead. A boundary fence will be erected on the side facing the mine. A Conservation Management Plan will be prepared for the burial ground.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.

8. RECOMMENDATIONS AND CONCLUSIONS

The developer will apply for exemption from the mandatory 100 m buffering between the graves and the footprint of the mining and have a 20 m buffer instead. A boundary fence will be erected on the side facing the mine. A Conservation Management Plan will be prepared for the burial ground. As a standard procedure, 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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