

**PHASE I HERITAGE IMPACT ASSESSMENT (INCLUDING  
PALAEOLOGICAL ASSESSMENT) PROPOSED 22KV POWERLINE TO  
NEAR KOODOOSBERGDRIFT, RITCHIE AREA UNDER SOL PLAATJIE  
MUNICIPALITY IN THE NORTHERN CAPE PROVINCE**

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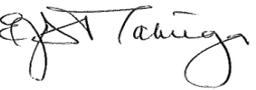
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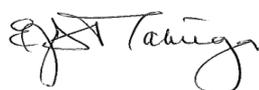
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## DECLARATION OF INDEPENDENCE

Mbofho Consulting and Project Managers (MCPM) 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, 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. MCPM will not be held liable for such oversights and additional costs thereof.



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## REPORT DETAILS

**Project name:** PHASE I HERITAGE IMPACT ASSESSMENT (INCLUDING PALAEOLOGICAL ASSESSMENT) PROPOSED 22KV POWERLINE TO NEAR KOODOOSBERGDRIFT, RITCHIE AREA UNDER SOL PLAATJIE MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

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## EXECUTIVE SUMMARY

1. This Heritage Impact Assessment (HIA) Report has been prepared for Eskom for approval of the proposed construction of an 8km 22kV power line in order to connect COKA feeder with the COBE feeder in order to boost supply to farmers and others customer in and around the area southwest of Kimberley and near Ritchie under the Sol Plaatjie Municipality in the Northern Cape.
2. The heritage study entailed a site visit and ground survey conducted on 28 June 2021 during which the heritage sensitivity and potential adverse impacts of the proposed activities were determined.

The heritage sensitivity of the property is summarised as follows:

3. *General observations*

A western portion of the area of study was mined for diamonds in the recent past. Furthermore the power line follows the road servitude in this area. In both instances disturbance was noted in terms of the occurrence of evidence of earlier periods in the cultural sequence, in particular stone artefacts which are often encountered in the Orange-Vaal Basin.

4. *The Stone Age*

No Stone Age tools were found.

5. *Late Stone Age Petroglyphs*

The Late Stone Age petroglyphs on the Riet River 20km from the study area have been documented and are well known.

6. *The Early Iron Age*

No sites dating to the Iron Age were found.

7. *The Later Iron Age*

No sites of the Later Stone Age period were found.

### 8. Commercial Farming

The farmstead on Koodosberg was established in the recent past. Although the dwelling structures form an important part of the built environment on the farm and by extension a cultural landscape, they were constructed recently. In any case they are not going to be affected by the proposed development.

### 9. Burial grounds

No burial grounds exist in the power line servitude nor were reported close to the servitude.

### 10. 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.	0
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.	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 importance relative to the proposed development.	0
		<b>TOTAL</b>	<b>0</b>

### 11. Conclusion and Recommendations

In light of these findings it is recommended that the project goes ahead. As a standard precaution archaeological deposits are usually buried underground. Should archaeological artefacts or skeletal material be exposed in the area during construction, 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.

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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.

## **1. INTRODUCTION**

This Heritage Impact Assessment (HIA) Report has been prepared for Eskom for approval of the proposed construction of an 8km 22kV power line in order to connect COKA feeder with the COBE feeder in order to boost supply to farmers and others customer in and around the area southwest of Kimberley and near Ritchie under the Sol Plaatjie Municipality in the Northern Cape. The heritage study entailed a site visit and ground survey conducted on 28 June 2021 during which the heritage sensitivity and potential adverse impacts of the proposed activities were determined.

### **1.1. Nature of proposed Development**

The project entails the installation of overhead electricity cables carried by wooden pole pylons. The project will entail the following physical works:

- Preparation of a servitude for the overhead powerline
- Excavation of postholes;
- Establishment of temporary offices, storage facilities and parking for plant (excavators and other equipment)
- Establishment of temporary accommodation for labourers

The proposed development and attendant physical works may result in damage or destruction of heritage resources along the servitude of the proposed power line.

The purpose of an HIA is to provide a clear understanding of the heritage sensitivity of the area and to prescribe appropriate mitigation measures.

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

The proposed power line will traverse three commercial farms near the northern bank of the Rietrivier (Riet River), a tributary of the Vaal River. The Riet River is flowing between the Orange and Vaal River trending west from a source near Redderberg in the Free State Province, and meets with the Vaal River 30 km upstream of its major confluence with the Orange at Douglas.

Beginning on Portion 1 of the farm Koppieskraal 140-GN at the east end, the line connects to an existing line running between circular fields centred on pivots for irrigation. As the line enters the Remainder of Koodoosberg 141-GN it passes on the north side of farmstead and runs across an open veld with grass cover. There are scattered acacia trees on the northside as the line approaches the main gravel road from Douglas to Ritchie. The powerline will follow the road servitude laid on the south side until the terminal point on the Remainder of Zandheuvel 144-GN where it crosses to the northside of the road. The north side of the road is occupied by an isolated hill with a dolerite mantle, characteristically flat-topped and believed to be a remnant of ancient volcanic activity.

The terrain is generally flat with a sand veld in the east, while below the sand overburden there is a substantial calcrete horizon visible in the west portion of the area when it is exposed on the roads and areas mined for diamonds.

Reference will be made in the report to heritage impact assessment studies which have been undertaken along the Orange River west of Douglas. It is therefore important to state that the study area is located 60 km east of Douglas.



Figure 1: Google Earth map shows the location of the proposed powerline near the Riet River and northeast of the small town of Plooyburg



Figure 2: Eastern end of the proposed powerline; the line will run alongside an existing line.



Figure 3. On the farm Koodosberg, the line will be laid across the grass plain in the direction of the hill in the background.



Figure 4: The line will follow the south side of the road servitude (right side of the road in this picture). The road exposes the calcrete horizon.



Figure 5: The line will follow the south side of the road servitude (right side of the road in this picture). Excavations and earth mounds are evidence of mining in the recent past.



Figure 6: The proposed power line will connect to an existing line of the farm Zandheuwel

## 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 developments which triggers an HIA:

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

*(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*

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

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

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

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

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

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

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

*(e) any other category of development provided for in the regulations by SAHRA or a provincial heritage resources authority,*

*must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

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

## **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 above 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—*

*(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.

However the sanctity of all graves and burial grounds is recognized, 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 search through existing literature was undertaken to provide context for the study area. Reports of previous HIA studies which have been conducted in the general locality of the study area was found on SAHRIS, the SAHRA database portal. Furthermore this author carried out a number of heritage impact assessment studies in the broader region:

**Matenga, E. 2019.** *Phase I Heritage impact assessment (including palaeontological assessment) in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed Mine Prospecting on the Farm Katlani 236 near Douglas, Northern Cape.* Stone Age finds, rock engravings and burials were reported.

**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 Kransfontein on the south of the Orange River c. 50 km from Douglas, 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. 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 75 km from Douglas. One of the highlights of the survey was an ESA handaxe among the finds predominated by chert scrapers, blades and flakes.

**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:

**Humphreys A. J. B. 1972.** *The Type R Settlements in the context of the Later Prehistory of the Riet River Valley.* MA Thesis submitted at the University of Cape Town. Among other aspects of the archaeology of the Riet River dealt with in the thesis are the famous rock engravings at Driekopseiland.

**Morris, D. 2002.** *Driekopseiland 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. The dissertation focusses on the engravings on the Riet River, 20km southwest of the study 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

The footprint of the proposed power line was surveyed by means of walking which was varied with driving in sections where it followed the road servitude. The vehicle was also used to approach the eastern terminal of the line. Photographs were taken to show the general character of the landscape. A photo gallery has been prepared to show different landscape features in Section 1.1 above. The maps below show the track log (Figures 7-9).



Figure 7. Map showing the track log



Figure 8: Track log, northern part of the study area



Figure 9: Track log, southern part of the study area

### 3.3. Limitations of the Study

Ground visibility impaired by tall grass throughout the proposed route except in very short sections where it crossed the gravel road.

## 4. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

An outline of the cultural sequence in South Africa is given here as 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>3</sup>

PERIOD	EPOCH	ASSOCIATED CULTURAL GROUPS	TYPICAL MATERIAL EXPRESSIONS
Early Stone Age 2.5m – 250 000 YCE	Pleistocene	Early Hominids: <i>Australopithecines</i> <i>Homo habilis</i> <i>Homo erectus</i>	Typically large stone tools such as hand axes, choppers and cleavers.
Middle Stone Age 250 000 – 25 000 YCE	Pleistocene	First <i>Homo sapiens</i> species	Typically smaller stone tools such as scrapers, blades and points.
Late Stone Age 20 000 BC – present	Pleistocene / Holocene	<i>Homo sapiens</i> including San people	Typically small to minute stone tools such as arrow heads, points and bladelets.
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 yielded a very good record of fossil hominids, proto-humans which appeared in South Africa more than 3million years ago. Three famous sites in

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

Gauteng, Limpopo and Northwest Provinces have been collectively named the Cradle of Humankind and inscribed as a serial UNESCO World Heritage Site.<sup>4</sup>

#### **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>5</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 basin have yielded evidence of great interest.<sup>6</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>7</sup>

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

The Middle Stone Age (MSA), which appeared 250 000 years ago, is marked by the introduction of a new tool kit which included prepared cores, parallel-sided blades and triangular points hafted to make spears. By then humans had become skilful hunters,

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

<sup>5</sup> <http://archaeology.about.com/od/bterms/g/bordercave.htm>

<sup>6</sup> Morris, D. 2009. Phase 1 Archaeological Impact Assessment at Bucklands Settlement near Douglas, Northern Cape, p3.

<sup>7</sup> <http://www.southafrica.net/za/en/articles/entry/article-southafrica.net-the-wonderwerk-cave>.

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>8</sup> Increasingly a good picture of Stone Age in the Orange – Vaal River basin is emerging. Finds are dominated by scrapers and blades existing as scatters which show general hunter-gatherer activities in the area for hundreds of years.

#### 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. Significantly a number of rock engravings have been recorded along the Vaal and Orange Rivers, for instance on the farm Katlani 236 near the Orange-Vaal confluence. The engravings at Driekopseiland on the Riet River 20 km southwest of the study area have received much attention. There are more than 3000 individual subjects engraved (Morris 2002, Humphreys 1972, p21) (Figure 10).

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<sup>8</sup> Deacon, J & H. Deacon. 1999. *Human Beginnings in South Africa*. Cape Town: David Philip.



Figure 10: Driekopseiland Rock Engravings<sup>9</sup>

#### 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 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

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<sup>9</sup> [www.sahistory.org.za/sites/default/files/place%20images/rock\\_engravings.jpg](http://www.sahistory.org.za/sites/default/files/place%20images/rock_engravings.jpg)

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 partly have ancestry of the Stone Age practitioners. 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 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.

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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 36

#### **4.7. Brief history of Plooyburg**

Plooyburg is a small town near the Riet River 20 km southwest of the study area. It came into being after the Dutch Reformed Church congregation of Duplooyburg was established in 1920 as a daughter congregation of the NG congregation Dutoitspan. It was a satellite church site of Dutoitspan in Kimberley, and in the late 19th century a portion of land had been given to the church council. The church at Plooyburg was then built c 1880 largely by church members themselves who did voluntary work. Subsequently in 1911 the whole farm, Plooyburg, was donated to the church by Mrs. J.J. Maler, with the understanding that if Plooyburg achieved independence from Dutoitspan, the land would be transferred to the new municipality. In 1920 the congregation was established in the town Duplooyburg, which was later renamed Plooyburg in the early 1950s.<sup>12</sup>

Today Plooyburg is a service centre for farmers and farmworkers.

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

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<sup>12</sup> Plooyburg. Found at: <https://af.wikipedia.org/wiki/Plooyburg> Consulted June 2021.

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

The heritage sensitivity of the property is summarised as follows:

### **5.1. General observations**

A western portion of the area of study was mined for diamonds in the recent past. Furthermore the power line follows the road servitude in this area. In both instances disturbance was noted in terms of the occurrence of evidence of earlier periods in the cultural sequence, in particular stone artefacts which are often encountered in the Orange-Vaal Basin.

### **5.2. The Stone Age**

No Stone Age tools were found.

### **5.3. Late Stone Age Petroglyphs**

The Late Stone Age petroglyphs on the Riet River 20km from the study area have been documented and are well known.

### **5.4. The Early Iron Age**

No sites dating to the Iron Age were found.

### **5.5. The Later Iron Age**

No sites of the Later Stone Age period were found.

### **5.6. Commercial Farming**

The farmstead on Koodosberg was established in the recent past. Although the dwelling structures form an important part of the built environment on the farm and by extension the cultural landscape, they were constructed recently (Figures 11-12). In any case they are not going to be affected by the proposed development.



Figure 11: The dwelling structure at the Koodosberg Farmstead



Figure 12: Wide angle view of the workers compound on Koodosberg

### **5.7. Burial grounds**

No burial grounds exist in the power line servitude nor were reported close to the servitude.

## 5.8. Ranking of sites and Risk Assessment

	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. Footprint of early modern mining. Cultural Landscapes. 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 importance relative to the proposed development.	0
		<b>TOTAL</b>	<b>0</b>

## 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**

No heritage sites or relics were found.

**(b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7**

There are no Grade I or Grade II sites.

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

N/A.

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

The supply of power to commercial farms is critical for the growth and sustainable management of the food security.

**(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**

N/A

**(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.**

In the event of discovery of other heritage resources during construction 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 No. 25 (1999)</b>
Stage/Phase	Excavation of postholes
Extent of Impact	Posthole excavations can result in the 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.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.

## 6. CONCLUSION AND RECOMMENDATIONS

In light of these findings it is recommended that the project goes ahead. As a standard precaution archaeological deposits are usually buried underground. Should archaeological artefacts or skeletal material be exposed in the area during construction, 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.

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