

**HERITAGE IMPACT ASSESSMENT FOR PROPOSED MINING ACTIVITIES  
ALONG THE R31 ROUTE CONNECTING UNNAMED ROAD SOUTHWEST OF  
KURUMAN TOWN TO RUSTEN ON PORTION 1 OF THE FARM 131, WITHIN THE  
KGATELOPELE LOCAL MUNICIPALITY, ZF MGCAWU DISTRICT OF  
NORTHERN CAPE PROVINCE**

**04 October 2023**



**Prepared by**

**Ndalama Heritage Consulting**

**Author:** Ms Dolphin Mabale

**Mobile:** 076 310 7581

**e-mail:** [dolphin.mabale@gmail.com](mailto:dolphin.mabale@gmail.com)

**Prepared for**

**M CHROME IRON STEEL (PTY) LTD**

80 Glover Road

Honeydew

Johannesburg

**Email:** [aspeire105@yahoo.com](mailto:aspeire105@yahoo.com)

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## Declaration of Interest

I, Dolphin Mabale, declare that –

- I act as an independent specialist;
- I am conducting any work and activity relating to the proposed mining activities situated 64 km south-west of Kuruman town, along the R31 route connecting unnamed route to Rusten, on Portion 1 of the Farm 131, within the Kgatelopele Local Municipality, ZF Mgcawu District of Northern Cape Province in an objective manner, even if this results in views and findings that are not favourable to the client;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the required expertise in conducting the specialist report and I will comply with legislation, including the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this declaration are true and correct.



.....  
Signature of Specialist

04 October 2023

## Management summary

Ndalama Heritage Consulting was appointed by TPR Mining Resources (Pty) Ltd to conduct a survey and specialist input for the area of the proposed mining activities situated 64 km south-west of Kuruman town, along the R31 route connecting unnamed route to Rusten, on Portion 1 of the Farm 131, within the Kgatelopele Local Municipality, ZF Mgcawu District of Northern Cape Province.

The investigation was conducted on the 29<sup>th</sup> August 2023. The scope of the survey was to investigate for the presence of heritage or archaeological materials on the proposed development site.

The findings are summarized as follows;

- Structures older than 60 years were identified within the demarcated development site but those will not be impacted upon by the proposed development.
- No graves or any palaeontological remains were identified, though given the palaeontological sensitivity of the area, and the proximity of the Wonderwerk Cave, the entire area is highly sensitive for palaeontology as indicated within the report, and as such a specialist desktop palaeontological report will be required.
- No heritage resources as described under Section 3 of the national heritage Resource Act (25 of 1999) were identified.
- Development can go ahead without any further mitigation.

It should be kept in mind that archaeological and palaeontological deposits usually occur below ground level. Should archaeological artefacts or skeletal materials be revealed on the sites during prospecting activities, such activities should be halted, and a cultural/archaeological heritage specialist notified for an investigation and evaluation of the finds to take place.

From an archaeological and cultural heritage resources perspective, we recommend that SAHRA approves the project as planned without any further heritage mitigation.

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# 1. INTRODUCTION

This report on a heritage impact assessment of the proposed mining activities situated 64 km south-west of Kuruman town, along the R31 route connecting unnamed route to Rusten, on Portion 1 of the Farm 131, within the Kgatelopele Local Municipality, ZF Mgcawu District of Northern Cape Province was prepared in conjunction with preliminary desktop surveys, and field observations, and was compiled on the 4<sup>th</sup> of October 2023. The site visit was conducted on the 29<sup>th</sup> of August 2023. The report was commissioned by TPR Mining Resources (Pty) Ltd.

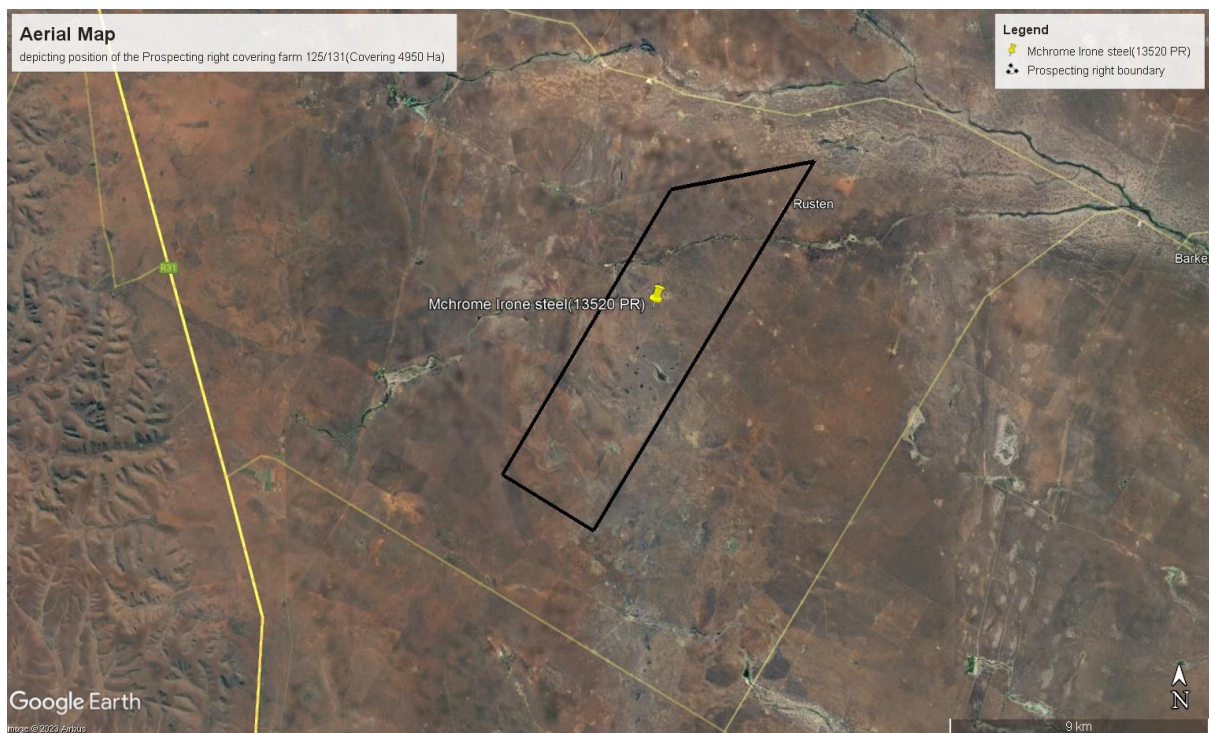


Figure 1: An aerial map indicating the location of the intended development off R31



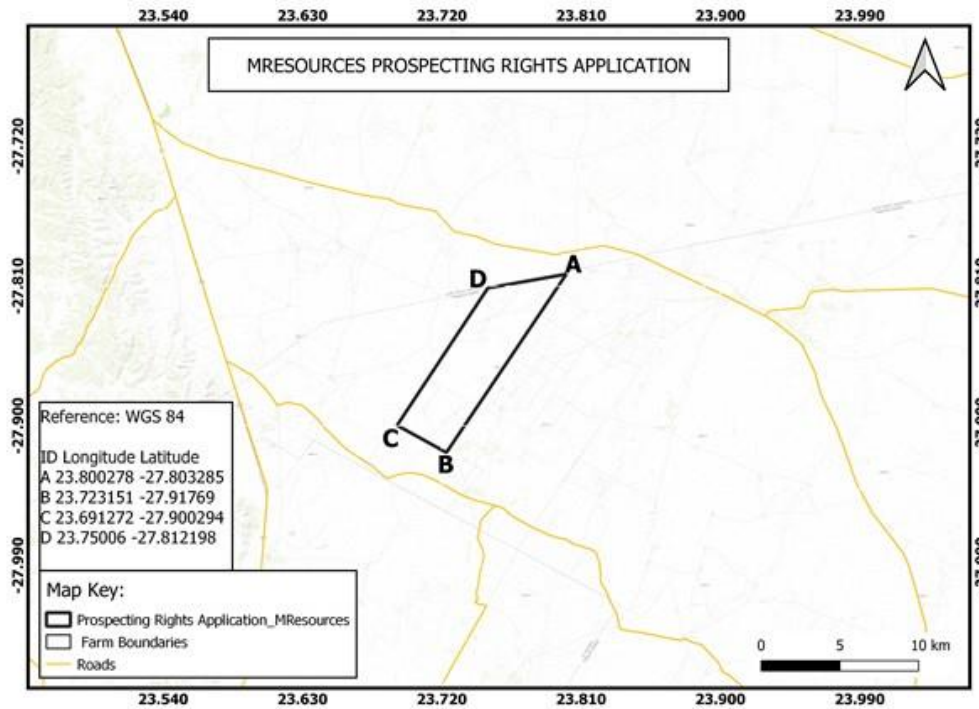


Figure 2: A topographic map indicating the location of the proposed mining area within the

## 2. SITE DESCRIPTION AND NATURE OF PROPOSED ACTIVITIES

The proposed project site is located in the John Taolo Gaetsewe District Municipality of the Northern Cape Province. This site is located approximately 64 kilometers directly southwest of Kuruman Town off R31 connecting unnamed route to Rusten. The GPS coordinates for the proposed areas: S 27° 56' 08.0" E 23° 42' 01.7" The proposed mining activities will be two-fold as indicated below:

### Mining Phases Activities

#### Phase 1

- Site establishment
- Mine surveying

#### Phase 2

- Blasting, crushing, screening, extraction of Copper Ore, Iron Ore, Manganese Ore and Nickel Ore
- Transportation to end-user

### 3. TERMS OF REFERENCE

To assess archaeological and any cultural heritage resources and possible impacts on the sites of the proposed mining activities situated 64 km south-west of Kuruman town, along the R31 route connecting unnamed route to Rusten, on Portion 1 of the Farm 131, within the Kgatelopele Local Municipality, ZF Mgcawu District of Northern Cape Province.

### 4. NATIONAL HERITAGE RESOURCE ACT (25 OF 1999)

#### 4.1 National Estate

Section 3 of the National Heritage Resource Act (25 of 1999) lists a wide range of national resources that qualify as part of South Africa national estate. When conducting Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (a) Places, buildings structures and equipment of cultural significance
- (b) Places to which oral traditions are attached or which are associated with living heritage
- (c) Historical settlements and townscapes
- (d) Landscapes and natural features of cultural significance
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial grounds including-
  - (i) ancestral graves
  - (ii) royal graves and graves of traditional leaders
  - (iii) graves of victims of conflict
  - (iv) graves of individuals designated by the Minister by notice in the Gazette
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983, Act No. 65 of 1983
- (h) Sites of significance relating to the history of slavery in South Africa
  - (i) moveable objects



- (ii) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens
- (iii) objects to which oral traditions are attached or which are associated with living heritage
- (iv) ethnographic art and objects
- (v) military objects
- (vi) objects of decorative or fine art
- (vii) objects of scientific or technological interest; and graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1
- (xiv) of the National Archives of South Africa Act, 1996, Act No. 43 of 1996.

## 5.2 Section 38

There are a number of legislative frameworks that are relevant to the proposed activities but this report is prompted by the National Heritage Resources Act, Act 25 of 1999. In terms of Section 38 of this Act, 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; 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, 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.

## 5. METHODS AND LIMITATIONS

- A desktop study of previous research as well as a selection of heritage impact assessment reports of the region were explored in order to contextualise the archaeological and heritage occurrence and sequence of the region in question.
- During a visit to the site on the 29<sup>th</sup> of August 2023, the area of proposed development site was examined. The survey entailed a detailed survey in a vehicle and by foot of the proposed site through acceptable heritage standards.
- There were no limitations to the survey of the proposed development site.

## 6. SITE SIGNIFICANCE

| Level                    | Significance               | Possible action                         |
|--------------------------|----------------------------|---|
| National (Grade I)       | Site of National Value     | Nominated to be declared by SAHRA       |
| Provincial (Grade II)    | Site of Provincial Value   | Nominated to be declared by PHRA        |
| Local Grade (IIIA)       | Site of High Value Locally | Retained as heritage                    |
| Local Grade (IIIB)       | Site of High Value Locally | Mitigated and part retained as heritage |
| General Protected Area A | Site of High to Medium     | Mitigation necessary before destruction |
| General Protected Area B | Medium Value               | Recording before destruction            |
| General Protected Area C | Low Value                  | No action required before destruction   |

Table 1: Grading and rating systems of identified heritage resources in terms of the National Heritage Resources Act (Act 25 of 1999)

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

**(a) Historic value**

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?
- Does it have significance relating to the history of slavery?

**(b) Aesthetic value**

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

**(c) Scientific value**

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

**(d) Social value**

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

**(e) Rarity**

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

**(f) Representivity**

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?

## 6.1 Degrees of Significance

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance as it is unique for the region.

## 6.2 Significance rating of sites

(i) Low                      (ii) Medium      (iii) High

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

### **High**

- This is a do not touch situation, alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele lived in.
- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

### **Medium**

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

### **Low**

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed

site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios permits will be required from the National Heritage Resources Agency (SAHRA) as per the relevant law, namely the National Heritage Resources Act (Act 25 of 1999) destruction of any heritage site may only take place when a permit has been issued by SAHRA or its provincial equivalent should this exist.

## **7. THE ARCHAEOLOGY AND HERITAGE OF THE NORTHERN CAPE PROVINCE**

### **7.1 The pre-history of the Northern Cape**

The Northern Cape Province Cape is marked by outstretch of plains, rocky outcrops, grassland and thornveld with strong trees growth along major rivers. Most of the rivers, springs and fountains in the Northern Cape are surrounded by evidence of Stone Age occupations. Evidence of Stone Age within the study area dates back to 500 000 years ago, this time period is associated with the earliest Homo predecessors who lived near water sources. The Stone Age is divided into the Early Stone Age, Middle Stone Age, as well as the Late Stone Age. The Northern Cape is generally sensitive for Stone Age assemblages as illustrated by Beaumont & Vogel (2006) who discuss the Stone Age sequence of the Wonderwerk Cave and then further illustrate other related sites. The proposed development site is thus sensitive for such Stone Age assemblages. Previous research elsewhere in the province (Beaumont 2008; Morris 2006; Morris 2007; Dreyer 2007) has identified both paleontological and Stone Age resources including the Kathu Pan (McGregor Museum 2007). The Pan as well as Kathu Townlands (McGregor Museum 2007) has yielded assemblages dating back to the Early Stone Age (Acheulean).

### **7.2 The archaeological and historical background of the Northern Cape**

The Northern Cape is known as the Diamond Province, and for good reason. It is home to Kimberley, and in 1867, the first diamond in South Africa was discovered near

Hopetown. Founded after the discovery of diamonds on farms in the area in 1869–71, the mining camp of Kimberley grew as a result of the intensive digging of the diamond-bearing pipe at the hill called Colesberg Koppie. The camp was named after John Wodehouse, 1st Earl of Kimberley, who was then British colonial secretary.

For at least 2,000 years, groups of hunter-gatherers have lived in the area. Later arrivals were farmers. Descendants of both groups still live in the Northern Cape. They are called the San and Khoekhoe.

The archaeology of the Northern Cape is rich and varied, covering long spans of human history. Some areas are richer than others, and not all sites are equally significant. Approximately 130 sites in the Northern Cape are formally protected as provincial heritage sites. Most of these were declared under legislation that predates the National Heritage Resources Act and were previously known as 'national monuments'.

Broadly speaking, the archaeological record of this region reflects the long span of human history from Earlier Stone Age times (more than one and a half million to about 270 000 years ago), through the Middle Stone Age (about 270 000 – 30 000 years ago), to the Later Stone Age (up to the protocolonial era). The last 2000 years was a period of increasing social complexity, with the appearance of farming (herding and agriculture) alongside foraging, and of ceramic and metallurgical (Iron Age) technologies alongside an older trajectory of stone tool making (Morris & Beaumont 2004). Rock art sites occur as rock engravings on rocky andesite outcrops such as at Wildebeest Kuil, not far to the northeast, or on dolerite koppies such as at Vaalpan or Middel Plaats South, also nearby. Notable Middle Stone Age and Earlier Stone Age occurrences are known from Rooidam which lies just off the road between Uitkyk and Kimberley (Richardt 2007).

Wonderwerk Cave is an archaeological site, formed originally as an ancient solution cavity in dolomite rocks of the Kuruman Hills, situated between Danielskuil and Kuruman.





Figure 3: View of rock art paintings and general view of Wonderwerk cave

Wonderwerk Cave is a Grade 1 National Heritage Site containing archaeological deposits dating back 1.9 million years, having earliest evidence of habitual use of fire. The archaeological sequence spans much of the time from those earliest levels to the recent past. Rock paintings of the last few centuries adorn the walls. The site has been studied and excavated by archaeologists since the 1940s and research here generates important insights into human history in the subcontinent of Southern Africa.

The Kathu Archaeological Complex is a cluster of significant archaeological, principally Stone Age, exposures situated in and near Kathu, a mining town in the Northern Cape Province, South Africa. The sites include a suite of sinkhole exposures, the Kathu Pan sites, northwest of the town, the immensely rich spread of artefacts at what is referred to as Kathu Townlands on the eastern side of Kathu (now surrounded by urban development), and surface and subsurface horizons including hand axes on farms further eastward. These are subject to on-going archaeological research.

Excavations at an archaeological site at Kathu have produced tens of thousands of Earlier Stone Age artefacts, including hand axes and other tools. These discoveries were made by archaeologists from the University of Cape Town (South Africa) and University of Toronto (Canada), in collaboration with the McGregor Museum in Kimberley (South Africa). The archaeologists' research on the Kathu Townlands site, one of the richest early prehistoric archaeological sites in South Africa, was published in the journal, *PLOS ONE*, on 24 July 2014.

Inscribed as a South African World Heritage Sites in June 2007, the Richtersveld Cultural and Botanical Landscape is a remarkable mountainous desert in the north-west of the country that is uniquely owned and managed by the Nama community,

descendants of the Khoi-Khoi people. The Richtersveld Cultural and Botanical Landscape is bordered by a number of areas, ensuring its further protection. These include the Richtersveld National Park, the Nababiep Provincial Nature Reserve, and designated communal grazing areas that allow the Nama to continue their semi-nomadic pastoral lifestyle. Purnululu National Park in East Kimberley is a World Heritage Site recognized for the awe-inspiring Bungle Bungle Range with its incredible sandstone beehive-like mounds. The Khomani Cultural Landscape falls wholly inside the Kalahari Gemsbok National Park (KGNP), of which it forms the overriding cultural component and it is also included in the Kgalagadi Transfrontier Park (KTP). Both Parks provide formal statutory protection status as protected areas.

### 7.3 The historical significance of Kuruman

It was at first a mission station of the London Missionary Society founded by Robert Moffat in 1821. It was also the place where David Livingstone arrived for his first position as a missionary in 1841. The Kuruman River, which is dry except for flash floods after heavy rain, is named after the town.

### 7.4 Historical Age

Factors such as population expansion, increasing pressure on natural resources, the emergence of power blocs, attempts to control trade and penetration by Griquas, Korana and white communities from the south-west resulted in a period of instability in Southern Africa that began in the late 18th century and effectively ended with the settlement of white farmers in the interior. This period, known as the *difaqane* or *Mfecane*, also affected the Northern Cape Province, although at a relatively late stage compared to the rest of Southern Africa. Here, the period of instability, beginning in the mid-1820s, was triggered by the incursion of displaced refugees associated with the Tlokwa, Fokeng, Hlakwana and Phuting tribal groups.

The *difaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first was PJ Truter's and William Somerville's journey of 1801, which reached Dithakong at Kuruman. They were

followed by Cowan, Donovan, Burchell and Campbell and resulted in the establishment of a London Mission Society station near Kuruman in 1817 by James Read. Robert Moffat and his wife Mary came to Kuruman in 1820 and the mission has been known as The Moffat Mission Station ever since.

The Great Trek of the Boers from the Cape in 1836 brought large numbers of Voortrekkers up to the borders of large regions known as Bechuanaland and Griqualand West, thereby coming into conflict with many Tswana groups and also the missionaries of the London Mission Society. The conflict between Boer and Tswana communities escalated in the 1860s and 1870s when the Korana and Griqua communities became involved and later also the British government. The conflict mainly centered on land claims by various communities. For decades the western border of the Transvaal Boer republic was not fixed. Only through arbitration (the Keate Arbitration), triggered by the discovery of gold at Tati (1866) and diamonds at Hopetown (1867) was part of the western border finally determined in 1871. Ten years later, the Pretoria Convention fixed the entire western border, thereby finally excluding Bechuanaland and Griqualand West from Boer domination (De Jong 2010: 36). Kuruman's name is thought to be derived from the name of an 18th century San leader Kudumane (Kalahari Tourism Information Booklet p.32).

## **8. SITE SURVEY OBSERVATIONS**

The proposed development site is approximately 64 km to the southwest of Kuruman, Northern Cape Province along the Road R31 to the north of Danielskuil. The current land use activities observed through field survey include livestock farming with cattle as the main breed as in Figure 4 below, otherwise the entire region specialises in livestock farming including goats and sheep. The terrain is characteristically dry with shrubs and bushes as evidenced in Figure 5, some of which are currently flowering as in Fig 6, 7, & 8. The surface is rocky and sandy. The main rocks are iron ore manganese as captured in Figure 11. Sandy sections are characterised by animal burrows as in Figure 12. There are several pathways criss-crossing the farm, probably for cattle herding, and game as is indicative in Figure 10.





*Figure 4: Livestock*



*Figure 5: Shrubs and bushes*





*Figure 6: Flowering shrubs*



*Figure 7: Flowering shrub and grass on a rocky surface*





*Figure 8: Flowering shrub on gravel surface*



*Figure 9: Grasses and pebbles on ravel rocky surface*





*Figure 10: Paths criss-crossing the farm*



*Figure 11: Iron ore manganese pebbles*



*Figure 12: Animal burrowing activities*





*Figure 13: Farm windmill*



*Figure 14: View towards the east*



*Figure 15: View towards the north*



*Figure 16: View towards the west*





*Figure 17: View towards the south*

## **RECOMMENDATIONS**

- Structures older than 60 years were identified during the field survey but those will not be impacted upon by the proposed development.
- No graves or any palaeontological remains were identified, however, as the palaeo-sensitivity of proposed development site is very high, a desktop palaeontological study will be required to comply with the stipulations of Section 3 of the National Heritage Resource Act (25 of 1999).
- Development can go ahead without any further mitigation.

It should be kept in mind that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal materials be revealed on the sites during construction activities, such activities should be halted, and a cultural/archaeological heritage specialist notified in order for an investigation and evaluation of the finds to take place.

From an archaeological and cultural heritage resources perspective, we recommend that SAHRA approves the project as planned without any further heritage mitigation.

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