

**HERITAGE IMPACT ASSESSMENT & PALAEOLOGICAL DESK  
ASSESSMENT ON THE FARM WATERFORD 246 & REMAINING EXTENT OF THE  
FARM ZOETGAT 84 NEAR HOPETOWN, NORTHERN CAPE**

Prepared by

**Edward Matenga**

(PhD Archaeology & Heritage, MPhil, Archaeology; Uppsala/Sweden)

Thursday, 23 July 2020



**(AHSA) Archaeological and Heritage Services Africa (Pty) Ltd**

**Reg. No. 2016/281687/07**

48 Jacqueline Street, The Reeds, 0157, Centurion, Pretoria

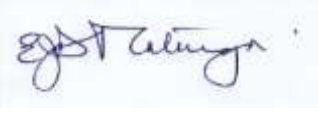
Email: [e.matenga598@gmail.com](mailto:e.matenga598@gmail.com).

Cell: +27 73 981 0637 / +2784 073 7774

Website: [www.archaeologicalheritage.co.za](http://www.archaeologicalheritage.co.za)

**DOCUMENTS CONTROL**

APPLICANT	ENVIRONMENTAL CONSULTANT
THUNDERFLEX 78 (PTY) LTD	Wadala Mining and Consulting (Pty) Ltd

	Name	Signature	Date
FIELD WORK & REPORT	E. Matenga		30 March 2020

#### DECLARATION OF INDEPENDENCE

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

#### DISCLAIMER

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




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**Full Name:** Edward J. Matenga

**Title / Position:** Heritage Management Consultant

**Qualifications:** PhD (Archaeology & Heritage, Uppsala University, Sweden), MPhil (Uppsala), Certificate in the Integrated Conservation of Territories and Landscapes of Heritage Value (ICCROM, Rome)

## EXECUTIVE SUMMARY

1. This following is Heritage Impact Assessment (HIA) Report which has been prepared in support of a mine prospecting right application on the farms Waterford 246 and Remaining Extent of the Farm Zoetgat 84 located outside Hopetown in the Thembelihle Local Municipality, Northern Cape Province. A project of this scale triggers a Phase I HIA in terms of Section 38(8) of the National Heritage Resources Act (25/1999). This entailed a site visit and ground survey on 11-12 March 2020 during which the heritage sensitivity and potential adverse impacts of the proposed activities were assessed.

2. The findings of the study are summarised as follows:

### 3. *The Stone Age*

On the farm Waterford 246 Stone Age material occurs on the shoulder of the Orange River Valley and on the plain beyond. On the farm Zoetgat 84 Stone tools were recorded in three places. On both farms the material comprises scrapers, blades, cores and flakes typologically dating to the Middle Stone Age/Late Stone Age period. Flaked cores indicate manufacturing, but no concentrations of artefacts were observed. Overall, the distribution pattern seems to indicate general hunter-gatherer activity in the area over time. None of the sites found warrant further action.

### 4. *The Iron Age*

No sites dating to the Iron Age were found.

### 5. *Commercial Farming*

There are some building of interest at the farmstead (WFD01) which will not be affected by the proposed development. At the old farmstead there are three ruined buildings which may be of historic significance (WFD30). There are no compelling reasons to affect this buildings.

### 6. *Burial grounds*

No burial grounds or graves were reported.

### 7. *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.	34
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	1
		<b>TOTAL</b>	<b>35</b>

8. Table 1: Inventory of heritage sites.

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
WFD01	29°34'14.00"S	24° 6'19.40"E	20 <sup>th</sup> C	Waterford farmstead may date to the mid-20th C. Stonewalled cattle pen, a shed with barrel roof. Main house with a hipped roof of corrugated iron sheets.	Medium B	Will not be affected
WFD02	29°33'38.00"S	24° 4'48.00"E	MSA/LSA	Flat terrain north of the Orange River valley. Grit. 3 lithics – 2 scrapers, 1 flake.	Medium B	No further action required
WFD03	29°33'36.50"S	24° 4'40.40"E	MSA/LSA	Shoulder of a stream valley, short stream running south into the Orange River. Gritty surface. 6 lithics = 3 quartz scrapers, 1 quartz blade, 2 flakes	Medium B	No further action required
WFD04	29°33'34.50"S	24° 4'37.80"E	MSA/LSA	Flat terrain, north of the Orange River valley. 7 lithics – 2 blades, 2 scrapers, 2 flakes, 1 core	Medium B	No further action required
WFD05	29°33'30.90"S	24° 4'37.40"E	MSA/LSA	Shoulder of a stream valley, short stream running south into the Orange River. Gritty surface. 5 lithics = 2 scrapers, 3 blades.	Medium B	No further action required
WFD06	29°33'25.60"S	24° 4'14.00"E	MSA/LSA	A promontory on the shoulder the Orange River Valley. 4 lithics – 1 scraper, 2 blades, 1 core	Medium B	No further action required
WFD07	29°33'30.90"S	24° 4'12.90"E	Modern	Promontory facing the Orange River. Modern rock engraving	Medium B	No further action required
WFD08	29°33'27.80"S	24° 4'15.50"E	MSA/LSA	Flat terrain on the edge of a short stream running south into the Orange River. 7 lithics – 4 blades, 4 flakes.	Medium B	No further action required
WFD09	29°33'23.90"S	24° 4'17.30"E	MSA/LSA	Flat terrain, gritty surface. 5 lithics – 1 core, 2 blades, 2 scrapers.	Medium B	No further action required

WFD10	29°33'20.10"S	24° 4'17.20"E	MSA/LSA	Shoulder of a stream valley, short stream running into the Orange River. Gritty surface. 4 Lithics – 3 scrapers, 1 blade	Medium B	No further action required
WFD11	29°33'23.60"S	24° 4'23.90"E	MSA/LSA	Flat terrain, red-brown stones. 4 lithics – 3 flakes, 1 blade.	Medium B	No further action required
WFD12	29°33'25.50"S	24° 4'31.00"E	MSA/LSA	Flat terrain, gritty surface. 3 lithics, 1 core, 2 blades	Medium B	No further action required
WFD13	29°33'33.30"S	24° 4'35.80"E	MSA/LSA	Head of a short stream running south into the Orange River. Gritty surface. 1 blade	Medium B	No further action required
WFD14	29°33'34.20"S	24° 4'41.40"E	MSA/LSA	Head of a short stream running south into the Orange River. Gritty surface. 4 lithics – 2 scrapers, 2 blades	Medium B	No further action required
WFD15	29°33'32.30"S	24° 4'42.80"E	MSA/LSA	Flat terrain, gritty surface. 1 core.	Medium B	No further action required
WFD16	29°33'26.50"S	24° 4'46.20"E	MSA/LSA	Flat terrain, fine grit, 3 lithics – 2 blades, 1 scraper	Medium B	No further action required
WFD17	29°33'30.80"S	24° 4'43.80"E	MSA/LSA	Flat terrain, fine grit. 3 lithics – 1 blade, 2 scrapers	Medium B	No further action required
WFD18	29°34'1.50"S	24° 6'15.50"E	MSA/LSA	Flat terrain, fine grit. 4 lithics – 2 scrapers, 2 blades	Medium B	No further action required
WFD19	29°33'54.70"S	24° 6'14.60"E	MSA/LSA	Flat terrain, treeless. Fine grit. 5 lithics – 2 scrapers (extreme left & extreme right), 3 blades	Medium B	No further action required
WFD20	29°33'58.20"S	24° 6'10.90"E	MSA/LSA	Flat terrain, no trees. 6 lithics – 2 scrapers, 4 blades	Medium B	No further action required
WFD21	29°34'0.80"S	24° 6'12.80"E	MSA/LSA	Flat terrain, no trees. 1 blade. No close up view	Medium B	No further action required
WFD22	29°34'4.30"S	24° 6'15.80"E	MSA/LSA	Flat terrain, calcrete waste and hardpan. 1 small cleaver, 1 blade, 2 scrapers	Medium B	No further action required
WFD23	29°33'31.20"S	24° 6'24.80"E	MSA/LSA	Flat terrain, no trees, 5 lithics – 1 crescent shaped scraper, 2 scrapers, 1 blade	Medium B	No further action required

WFD24	29°33'30.20"S	24° 6'19.10"E	MSA/LSA	Flat terrain, grit, no trees, 6 lithics – 4 blades, 1 scraper, 1 flake	Medium B	No further action required
WFD25	29°33'25.40"S	24° 6'19.20"E	MSA/LSA	Flat terrain, grit, no trees, 6 lithics – 3 blades, 3 scrapers	Medium B	No further action required
WFD26	29°33'27.80"S	24° 6'25.10"E	MSA/LSA	Flat terrain, calcrete grit, no trees. 2 scrapers	Medium B	No further action required
WFD27	29°33'5.10"S	24° 6'11.50"E	MSA/LSA	Flat terrain, no trees. 3 lithics – 2 scrapers, 1 blade	Medium B	No further action required
WFD28	29°33'11.60"S	24° 6'13.20"E	MSA/LSA	Flat terrain, no trees, calcrete waste. 1 scraper, 1 small handaxe	Medium B	No further action required
WFD29	29°33'12.70"S	24° 6'16.20"E	Modern	Flat terrain, no trees, calcrete waste. Erosion barrier	Medium B	No further action required
WFD30	29°33'13.30"S	24° 6'22.50"E	MSA/LSA	Flat terrain, no trees. 4 lithics – 1 small pear shaped tool, 2 scrapers and flake	Medium B	No further action required
WFD31	29°33'56.10"S	24° 6'30.66"E	19 <sup>th</sup> /20 <sup>th</sup> C	Old abandoned farm buildings, including foundation of large building (dolomite blocks)	Medium B	No further action required
ZGT32	29°32'47.40"S	24° 1'43.10"E	19 <sup>th</sup> /20 <sup>th</sup> C	Orange River flood plain. Blue on white porcelain	Low	No further action required
ZGT33	29°32'39.70"S	24° 1'33.60"E	MSA/LSA	Orange River Valley, rugged terrain of quartz and sandstone. 3 lithics – 1 blade, 2 scrapers	Medium B	No further action required
ZGT34	29°32'52.70"S	24° 1'52.70"E	MSA/LSA	Old pump station still in use, Orange River	Medium B	No further action required
SGT35	29°32'53.40"S	24° 1'45.60"E	MSA/LSA	Orange River Valley. 2 flakes	Medium B	No further action required

### *9. Conclusions and Recommendations*

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



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## **ABBREVIATIONS**

EIA	Environmental Impact Assessment
HIA	Heritage Impact Assessment
LSA	Late Stone Age
LIA	Later Iron Age
PHRA	Provincial Heritage Resources Authority
MSA	Middle Stone Age
NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency
BP	Before Present

## DEFINITIONS

**Archaeological material:** remains older than 100 years, resulting from human activities left as evidence of their presence, which are in the form of structure, artefacts, food remains and other traces such as rock paintings or engravings, burials, fireplaces etc.

**Artefact:** Any movable object that has been used modified or manufactured by humans.

**Catalogue:** An inventory or register of artefacts and / or sites.

**Conservation:** All the processes of looking after a site or place including maintenance, preservation, restoration, reconstruction and adaptation.

**Cultural Heritage Resources:** refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistoric places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. These include intangible resources such as religious practices, ritual ceremonies, oral histories, memories, indigenous knowledge.

**Cultural landscape:** a stretch of land that reflects “the combined works of nature and man” and demonstrates “the evolution of human society and settlement over time, under the influence of the physical constraints and / or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.<sup>1</sup>

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

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

**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.

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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.

**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  $\pm$  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 following is Heritage Impact Assessment (HIA) Report which has been prepared in support of a mine prospecting right application on the farms Waterford 246 and Remaining Extent of the Farm Zoetgat 84 located outside Hopetown in the Thembelihle Local Municipality, Northern Cape Province. A project of the scale triggers a Phase I HIA in terms of Section 38(8) of the National Heritage Resources Act (25/1999). This entailed a site visit and ground survey on 11-12 March 2020 during which the heritage sensitivity and potential adverse impacts of the proposed activities were assessed.

Prospecting for minerals may entail the following activities:

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

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

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

The Farm Waterford 246 is situated on the northern bank of the Orange River near Hopetown. Driving south from Kimberley along the N12, the farm can be approached by a well maintained gravel road, the R385, teeing off northwest from the N12 and the farmstead is only 3km from the junction of the two roads. The main geographical feature is the Orange River, historically called the Great River (Nu Gariep) by the local Khoi-San carrying off to the sea 23% of the total runoff from the South African land surface. The Orange rises near Mokhotlong in Lesotho in the Drakensberg (Maluti) Mountains where it is known by the name Senqu, and traverses the Highveld on a westerly course to join the Vaal River near Douglas, c70km northwest of Hopetown.

The river continues west in a meandered course for more than 1000 km to the Atlantic Ocean.

This area is the southern edge Great Karoo, a vast semi-arid plain stretching from Eastern Cape to the Northern and Western Cape Provinces rising c1200m above mean sea level. On Waterford Farm, there are a number of short streams with fairly deep valley sides running south straight into the Orange River. Beyond these erosion valleys terrain is flat for a large expanse of territory. Flat topped hills can be seen in the northern horizon. Red-brown stones are strewn on the surface especially close to the shoulders of the Orange River Valley. A calcrete horizon seems to underlie the gravels, while further northwest there are exposures of calcrete gravels and hardpans. Scrub type trees are scattered with the eastern portion of the farm being an open treeless veld.

The farm Zoetgat 84 is set against the south bank of the Orange River. The environment is slightly different. The southern half portion of the farm is under pivot irrigation and was carrying maize. The northern portion is a broken terrain, the valley side of the Orange River. It is rocky with impenetrable *Swarthaak* (*Acacia mellifera subsp. Detinens*). Lining the river is a thriving evergreen forest of tall trees and reeds and impenetrable. Only a narrow band between the River and the valley side was passable along which an Eskom line had been laid (Figures 1 – 8).

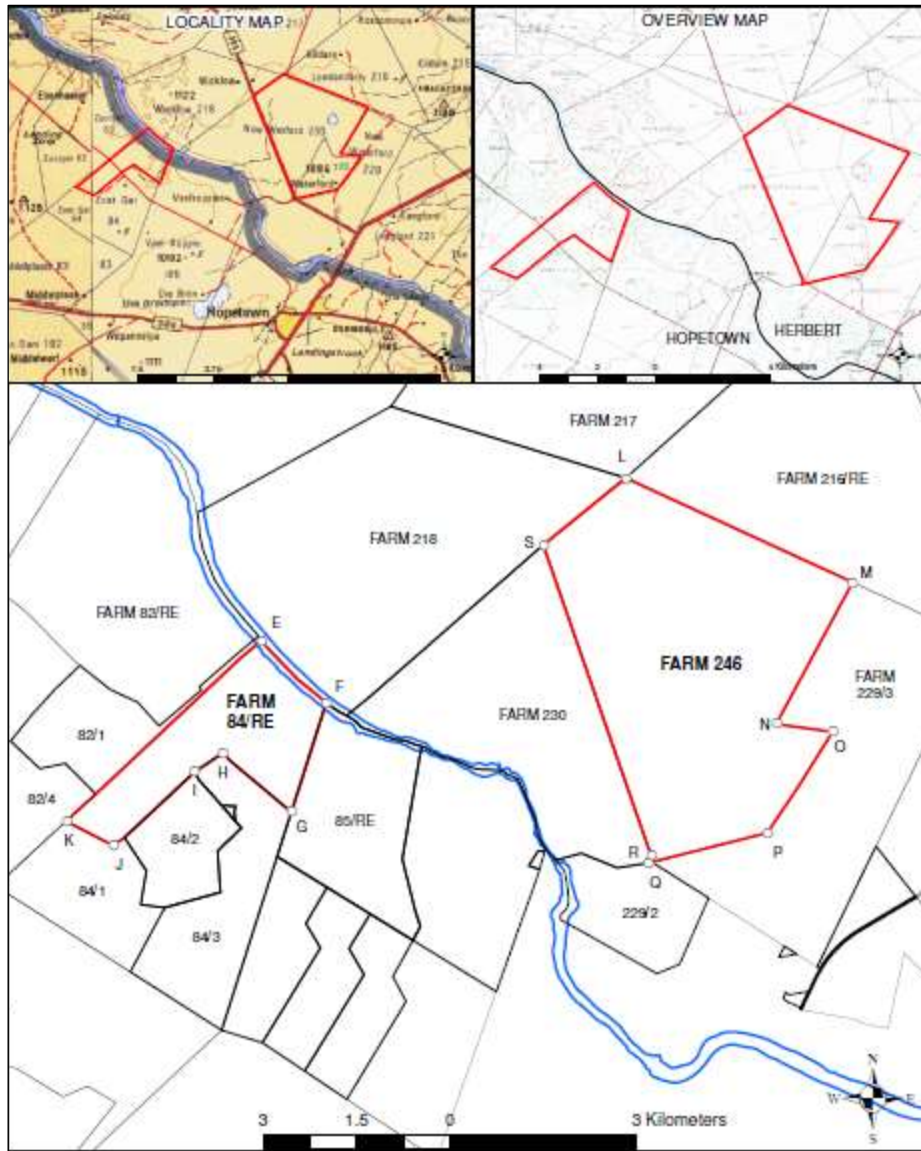


Figure 1: Map showing location and cadastral boundaries of the farms Waterford 246 and Zoetgat 84.



Figure 2. Google-Earth map shows the location the Farms Waterford 246 and Zoetgat 84 near Hopetown, Northern Cape Province.



Figure 3: Farm Waterford 246, flat terrain, gravelly surface and a few scattered trees.





Figure 4: Vast open plain seen from Waterford 246 with flat hills in the background.



Figure 5: View from Zoetgat 84 of the Orange River Valley.



Figure 6: View of the Orange River from Zoetgat 84.



Figure 7: The northern half portion of Zoetgat 84 is covered by Swarthaak.



Figure 8: The southern portion of Zoetgat carries maize crop.

## 2. LEGAL FRAMEWORK

This heritage impact assessment fulfils an onus on developers to safeguard heritage resources. This obligation has been legislated with Sections 34, 35, 36 and 38 of the National Heritage Resources Act (No 25 of 1999) forming the context in which this HIA report has been prepared.

### 2.1. Section 38 of National Heritage Resources Act on Heritage Impact Assessments

Section 38 of the NHRA states the nature and scale of development which triggers a HIA:

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

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

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

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

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

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

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

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

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

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

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

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

## **2.2. Definition of heritage (National Estate)**

Section 3 lists a wide range of cultural phenomena which could be defined as heritage, or the *National Estate* (3(2)). Section 3(3) outlines criteria upon which heritage value is ascribed. This Section is useful as a field checklist for the identification of heritage resources.

## **2.3. Protection of buildings and structures older than 60 years**

Section 34 provides automatic protection for buildings and structures more than 60 years old until it can be proven that they do not have heritage value:

*(1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.*

## **2.4. Protection of archaeological sites**

Section 35 (4) of the NHRA prohibits the destruction of archaeological, palaeontological and meteorite sites:

*No person may, without a permit issued by the responsible heritage resources authority—*

*(a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*

*(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*

*(c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*  
*(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.*

## **2.5. Graves and burial grounds**

Section 36 of the NHRA provides for the protection of certain graves and burial grounds. Graves are generally classified under the following categories:

- Graves younger than 60 years;
- Graves older than 60 years, but younger than 100 years;
- Graves older than 100 years; and
- Graves of victims of conflict
- Graves of individuals of royal descent
- Graves that have been specified as important by the Ministers of Arts and Culture.

This study is however mindful of public sensibilities about the sanctity of graves and burial grounds whether they are protected by the law or not.

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

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

## **2.7. The Burra Charter on Conservation of Places of Cultural Significance**

Generic principles and standards for the protection of heritage resources in South Africa are drawn from international charters and conventions. In particular South Africa

has adopted the **ICOMOS Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)** as a benchmark for best practice in heritage management.

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

#### **3.1. Literature survey**

Not much could be retrieved from SAHRIS or other internet sources regarding Heritage Impact Assessment studies around Hopetown.

**Kaplan, J. 2017.** *Archaeological Impact Assessment for the proposed Disselfontein Keren Energy Solar Plant near Hopetown, Northern Cape Province: Portion 8 of the Farm Disselfontein No. 77 Assessment conducted under Section 38 (3) of the National Heritage Resource Act (No. 25 of 1999).* This study was undertaken c12 km from the Hopetown on the south bank of the Orange River. Thirty-three archaeological occurrences, comprising more than 120 stone artefacts were recorded across the proposed development site.

This author has carried out a number of Heritage Impact Assessment studies around Douglas, c70km northwest of Hopetown.

**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 50km 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. 2018.** *Phase I Heritage Impact Assessment (including Palaeontological Assessment) requested in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed mine prospecting and application for mining right on a portion of the remaining extent of the Farm Kransfontein 19 & portion 2 (De Rust) of the Farm Kransfontein 19, Prieska District, northern cape province*

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

**Matenga, E. 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 80km northwest of Hopetown, MSA/LSA lithics were found to be widely distributed indicating general hunter-gatherer foraging activities.

Other researchers have been involved in the broader area:

**Mlilo, T. 2018.** *Phase I Archaeological Impact Assessment for the proposed 958m 22kv De-Villiers Powerline in the Douglas Area within Siyancuma Local Municipality in the Northern Cape Province.* The study identified sparse scatters of stone tools occurring as isolated finds mostly along streams. These included cores, scrapers, flakes and flake blades (page 30).

### **3.2. Fieldwork**

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

## **4. ARCHAEOLOGICAL AND HISTORICAL CONTEXT**

An outline of the cultural sequence in South Africa is provided as a theoretical framework for the identification of features / structures and objects of archaeological, historical and cultural interest. A 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

#### 4.2. 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 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>

#### 4.3. The Stone Age

##### 4.3.1. The Early Stone Age (2 million to 250 000 years BP)

<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.

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



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 systems have yield 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>

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

The Middle Stone Age (MSA), which appeared 250 000 years ago, is marked by the introduction of a new tool kit which included prepared cores, parallel-sided blades and triangular points hafted to make spears. By then humans had become skilful hunters, especially of large grazers such as wildebeest, hartebeest and eland. It is also believed that by then, humans had evolved significantly to become anatomically modern. Caves were used for shelter suggesting permanent or semi-permanent settlement. Furthermore there is archaeological evidence from some of the caves indicating that people had mastered the art of making fire.<sup>8</sup>

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<sup>5</sup> <http://archaeology.about/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>.

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

#### 4.3.3. *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.

#### **4.4. 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>9</sup>

##### 4.4.1. *Early Iron Age*

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

#### 4.4.2. *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>10</sup>

#### 4.5. **Hopetown: A brief history**

Hopetown was founded in 1850 on the south bank of the Orange River as a northern frontier post by Sir Harry Smith. The attraction was a natural ford over the Orange River. It was named after William Hope, Auditor-general and Secretary of the Cape Colony Government at the time.

The first diamonds were discovered in 1867 near Hopetown near the Orange River in what was then the Cape Colony. Another find was made on a farm called Paarde Kloof on the Orange River, also in the locality of Hopetown (Payton 1872, p1). Hopetown is associated with two epic diamond finds.



Figure 9. Polished Eureka (<http://famousdiamonds.tripod.com/eurekadiamond.html>)

Eureka a 21.25 carat was found by a shepherd in 1866 on the south bank of the Orange River near Hopetown. The pebble was kept for a while by a 15-year-old boy named Erasmus Jacobs, who later gave it to Mr Schalk van Niekerk, a farmer and collector. The stone was examined by Dr W.G. Atherstone of Grahamstown who

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<sup>10</sup> De Jong 2010: De Jong, R.C. 2010. Heritage impact assessment report: proposed manganese and iron ore mining right application in respect of the remainder of the farm Paling 434, Hay Registration Division, Northern Cape. Unpublished report prepared for Kai Batla Minerals Industry Consultants. Pretoria: Cultmatrix, p 36

identified it as a 21.25-carat brownish yellow diamond. It was sold for £1500 to Sir Phillip Wodehouse. The diamond was presented to Queen Victoria. It featured at the Paris Exposition in 1867 and later cut to its present form. The Eureka diamond is now displayed at the Kimberly Museum after mining company De Beers bought it and brought it back to South Africa (Figure 9).

Van Niekerk was second time lucky, three years later, buying what became known as the Star of South Africa. The Star of South Africa is a pear diamond weighing 47.69 carats. It was discovered in 1869 by a farmer on the banks of the Orange River. Schalk van Niekerk traded the diamond for 500 sheep, 10 oxen, and a horse. He then sold it almost immediately in the city of Hopetown for \$56,000. This sale sparked the diamond rush triggering an exodus of operators to the region. The stone was later acquired by the Earl of Dudley for \$125,000, and is on display in the Natural History Museum in London.<sup>11</sup>

The excitement of Hopetown sparked treasure hunting which led people to scout a much larger area. The ultimate reward was the discovery of Colesberg (Kimberley) in 1871.

The Old wagon bridge, Orange River, south of Waterford Farm is worth mentioning as a Provincial Site (Grade III). The bridge is of stone construction. Tall supporting cement pillars cross the Orange River. The wrought iron components were ordered from Westwood Baillie and Co of Scotland. It was shipped to Cape Town and railed to Hopetown. The bridge was important to link the Kimberley diamond mines with the Cape.<sup>12</sup> (Figure 10)

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

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<sup>11</sup> The Eureka. Found at: <http://famousdiamonds.tripod.com/eurekadiamond.html>  
The Star of South Africa. Found at: <https://www.diamant-gems.com/en/the-star-of-south-africa-diamond/>  
Hopetown. Found at: <https://www.karoo-information.co.za/routes/town/498/hopetown>  
Hopetown. Found at: [http://www.hopetown.co.za/history\\_hopetown](http://www.hopetown.co.za/history_hopetown)

<sup>12</sup> List of heritage sites in Northern Cape. Found at:  
[https://en.wikipedia.org/wiki/List\\_of\\_heritage\\_sites\\_in\\_Northern\\_Cape](https://en.wikipedia.org/wiki/List_of_heritage_sites_in_Northern_Cape)



Figure 10: The Ox-wagon Bridge, Hopetown seen from Waterford Farm.

## 5. FINDINGS OF THE HERITAGE SURVEY

The heritage sensitivity of the property is summarised as follows:

### 5.1. The Stone Age

On the farm Waterford 246 Stone Age material occurs on the shoulder of the Orange River Valley and on the plain beyond. On the farm Zoetgat 84 Stone tools were recorded in three places. On both farms the material comprises scrapers, blades, cores and flakes typologically dating to the Middle Stone Age/Late Stone Age period. Flaked cores indicate manufacturing, but no concentrations of artefacts were observed. Overall, the distribution pattern seems to indicate general hunter-gatherer activity in the area over time. None of the sites found warrant further action.

### 5.2. The Iron Age

No sites dating to the Iron Age were found.

### 5.3. Commercial Farming

There are some building of interest at the farmstead (WFD01) which will not be affected by the proposed development. At the old farmstead there are three ruined buildings which may be of historic significance (WFD30). There are no compelling reasons to affect this buildings.

### 5.4. Burial grounds

No burial grounds or graves were reported.

### 5.5. 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.	34
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	1
		<b>TOTAL</b>	<b>35</b>

Table 1: Inventory of heritage sites.

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
WFD01	29°34'14.00"S	24° 6'19.40"E	20 <sup>th</sup> C	Waterford farmstead may date to the mid-20th C. Stonewalled cattle pen, a shed with barrel roof. Main house with a hipped roof of corrugated iron sheets.	Medium B	Will not be affected
WFD02	29°33'38.00"S	24° 4'48.00"E	MSA/LSA	Flat terrain north of the Orange River valley. Grit. 3 lithics – 2 scrapers, 1 flake.	Medium B	No further action required
WFD03	29°33'36.50"S	24° 4'40.40"E	MSA/LSA	Shoulder of a stream valley, short stream running south into the Orange River. Gritty surface. 6 lithics = 3 quartz scrapers, 1 quartz blade, 2 flakes	Medium B	No further action required
WFD04	29°33'34.50"S	24° 4'37.80"E	MSA/LSA	Flat terrain, north of the Orange River valley. 7 lithics – 2 blades, 2 scrapers, 2 flakes, 1 core	Medium B	No further action required
WFD05	29°33'30.90"S	24° 4'37.40"E	MSA/LSA	Shoulder of a stream valley, short stream running south into the Orange River. Gritty surface. 5 lithics = 2 scrapers, 3 blades.	Medium B	No further action required
WFD06	29°33'25.60"S	24° 4'14.00"E	MSA/LSA	A promontory on the shoulder the Orange River Valley. 4 lithics – 1 scraper, 2 blades, 1 core	Medium B	No further action required
WFD07	29°33'30.90"S	24° 4'12.90"E	Modern	Promontory facing the Orange River. Modern rock engraving	Medium B	No further action required
WFD08	29°33'27.80"S	24° 4'15.50"E	MSA/LSA	Flat terrain on the edge of a short stream running south into the Orange River. 7 lithics – 4 blades, 4 flakes.	Medium B	No further action required
WFD09	29°33'23.90"S	24° 4'17.30"E	MSA/LSA	Flat terrain, gritty surface. 5 lithics – 1 core, 2 blades, 2 scrapers.	Medium B	No further action required
WFD10	29°33'20.10"S	24° 4'17.20"E	MSA/LSA	Shoulder of a stream valley, short stream running into the Orange River. Gritty surface. 4 Lithics – 3 scrapers, 1 blade	Medium B	No further action required



WFD11	29°33'23.60"S	24° 4'23.90"E	MSA/LSA	Flat terrain, red-brown stones. 4lithics – 3 flakes, 1 blade.	Medium B	No further action required
WFD12	29°33'25.50"S	24° 4'31.00"E	MSA/LSA	Flat terrain, gritty surface. 3 lithics, 1 core, 2 blades	Medium B	No further action required
WFD13	29°33'33.30"S	24° 4'35.80"E	MSA/LSA	Head of a short stream running south into the Orange River. Gritty surface. 1 blade	Medium B	No further action required
WFD14	29°33'34.20"S	24° 4'41.40"E	MSA/LSA	Head of a short stream running south into the Orange River. Gritty surface. 4 lithics – 2 scrapers, 2 blades	Medium B	No further action required
WFD15	29°33'32.30"S	24° 4'42.80"E	MSA/LSA	Flat terrain, gritty surface. 1 core.	Medium B	No further action required
WFD16	29°33'26.50"S	24° 4'46.20"E	MSA/LSA	Flat terrain, fine grit, 3 lithics – 2 blades, 1 scraper	Medium B	No further action required
WFD17	29°33'30.80"S	24° 4'43.80"E	MSA/LSA	Flat terrain, fine grit. 3 lithics – 1 blade, 2 scrapers	Medium B	No further action required
WFD18	29°34'1.50"S	24° 6'15.50"E	MSA/LSA	Flat terrain, fine grit. 4 lithics – 2 scrapers, 2 blades	Medium B	No further action required
WFD19	29°33'54.70"S	24° 6'14.60"E	MSA/LSA	Flat terrain, treeless. Fine grit. 5 lithics – 2 scrapers (extreme left & extreme right), 3 blades	Medium B	No further action required
WFD20	29°33'58.20"S	24° 6'10.90"E	MSA/LSA	Flat terrain, no trees. 6 lithics – 2 scrapers, 4 blades	Medium B	No further action required
WFD21	29°34'0.80"S	24° 6'12.80"E	MSA/LSA	Flat terrain, no trees. 1 blade. No close up view	Medium B	No further action required
WFD22	29°34'4.30"S	24° 6'15.80"E	MSA/LSA	Flat terrain, calcrete waste and hardpan. 1 small cleaver, 1 blade, 2 scrapers	Medium B	No further action required
WFD23	29°33'31.20"S	24° 6'24.80"E	MSA/LSA	Flat terrain, no trees, 5 lithics – 1 crescent shaped scraper, 2 scrapers, 1 blade	Medium B	No further action required
WFD24	29°33'30.20"S	24° 6'19.10"E	MSA/LSA	Flat terrain, grit, no trees, 6 lithics – 4 blades, 1 scraper, 1 flake	Medium B	No further action required
WFD25	29°33'25.40"S	24° 6'19.20"E	MSA/LSA	Flat terrain, grit, no trees, 6 lithics – 3 blades, 3 scrapers	Medium B	No further action required

WFD26	29°33'27.80"S	24° 6'25.10"E	MSA/LSA	Flat terrain, calcrete grit, no trees. 2 scrapers	Medium B	No further action required
WFD27	29°33'5.10"S	24° 6'11.50"E	MSA/LSA	Flat terrain, no trees. 3 lithics – 2 scrapers, 1 blade	Medium B	No further action required
WFD28	29°33'11.60"S	24° 6'13.20"E	MSA/LSA	Flat terrain, no trees, calcrete waste. 1 scraper, 1 small handaxe	Medium B	No further action required
WFD29	29°33'12.70"S	24° 6'16.20"E	Modern	Flat terrain, no trees, calcrete waste. Erosion barrier	Medium B	No further action required
WFD30	29°33'13.30"S	24° 6'22.50"E	MSA/LSA	Flat terrain, no trees. 4 lithics – 1 small pear shaped tool, 2 scrapers and flake	Medium B	No further action required
WFD31	29°33'56.10"S	24° 6'30.66"E	19 <sup>th</sup> /20 <sup>th</sup> C	Old abandoned farm buildings, including foundation of large building (dolomite blocks)	Medium B	No further action required
ZGT32	29°32'47.40"S	24° 1'43.10"E	19 <sup>th</sup> /20 <sup>th</sup> C	Orange River flood plain. Blue on white porcelain	Low	No further action required
ZGT33	29°32'39.70"S	24° 1'33.60"E	MSA/LSA	Orange River Valley, rugged terrain of quartz and sandstone. 3 lithics – 1 blade, 2 scrapers	Medium B	No further action required
ZGT34	29°32'52.70"S	24° 1'52.70"E	MSA/LSA	Old pump station still in use, Orange River	Medium B	No further action required
SGT35	29°32'53.40"S	24° 1'45.60"E	MSA/LSA	Orange River Valley. 2 flakes	Medium B	No further action required



Figure 6: Waterford 246 and Zoetgat 84, location of heritage sites.

## 5.6. 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**

Thirty-five sites (35) sites were recorded all of lower medium value. Buildings will not be affected by the proposed development. No further action is necessary the Stone Age Sites recorded.

**(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**

After documentation of the Stone Age Site, no further action is necessary.

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

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

**(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 site preparation and mining phase, the Provincial Heritage Resources Authority or SAHRA will be informed immediately and an archaeologist or heritage expert called to attend.

### 5.7. Risk Assessment of the findings

EVALUATION CRITERIA	RISK ASSESSMENT
Description of potential impact	Negative impacts range from partial to total destruction of surface and under-surface movable/immovable relics.
Nature of Impact	Negative impacts can both be direct or indirect.
Legal Requirements	Sections 34, 35, 36, 38 of <b>National Heritage Resources Act No. 25 (1999)</b>
Stage/Phase	Prospecting for minerals (test pits, drilling); Mining Phase

Extent of Impact	Test pits, excavations and ground clearing, opencast mining can result in damage and destruction of archaeological resources above and below the surface not seen during the survey.	
Duration of Impact	Any accidental destruction of surface or subsurface relics is not reversible, but can be mitigated.	
Intensity	Uncertain.	
Probability of occurrence	Medium.	
Confidence of assessment	High.	
Level of significance of impacts before mitigation	High.	
Mitigation measures	The sites likely to be affected have been documented as a minimum standard. If archaeological or other heritage relics are found during the construction phase, heritage authorities will be advised immediately and a heritage specialist will be called to attend. This is standard precaution in view of inherent limitations of archaeological fieldwork.	
Level of significance of impacts after mitigation	Low.	
Cumulative Impacts	None.	
Comments or Discussion	None.	

## **6. CONCLUSION AND RECOMMENDATIONS**

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

## 7. CATLOGUE OF HERITAGE SITES

SITE NO	COORDINATES		PERIOD
WFD01	29°34'14.00"S	24° 6'19.40"E	20th Century



**DESCRIPTION:** Waterford farmstead may date to the mid-20<sup>th</sup> C. Stonewalled cattle pen, a shed with barrel roof. Main house with a hipped roof of corrugated iron sheets.

<b>HERITAGE SIGNIFICANCE</b>	Association with modern commercial farming
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD02	29°33'38.00"S	24° 4'48.00"E	MSA/LSA



**DESCRIPTION:** Flat terrain north of the Orange River valley. Grit. 3 lithics – 2 scrapers, 1 flake.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
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<b>MITIGATION</b>	No further action required.
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SITE NO	COORDINATES		PERIOD
WFD03	29°33'36.50"S	24° 4'40.40"E	MSA/LSA



**DESCRIPTION:** Shoulder of a stream valley, short stream running south into the Orange River. Gritty surface. 6 lithics = 3 quartz scrapers, 1 quartz blade, 2 flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD04	29°33'34.50"S	24° 4'37.80"E	MSA/LSA



**DESCRIPTION:** Flat terrain, north of the Orange River valley. 7 lithics – 2 blades, 2 scrapers, 2 flakes, 1 core.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFDO5	29°33'30.90"S	24° 4'37.40"E	MSA/LSA



**DESCRIPTION:** Shoulder of a stream valley, short stream running south into the Orange River. Gritty surface. 5 lithics = 2 scrapers, 3 blades.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD06	29°33'25.60"S	24° 4'14.00"E	MSA/LSA



**DESCRIPTION:** A promontory on the shoulder the Orange River Valley. 4 lithics – 1 scraper, 2 blades, 1 core.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD07	29°33'30.90"S	24° 4'12.90"E	Modern



**DESCRIPTION:** Promontory facing the Orange River. Modern rock engraving.

**HERITAGE SIGNIFICANCE**

Modern imitation of art common along the Orange and Vaal River Valleys

**MITIGATION**

No further action required.

SITE NO	COORDINATES		PERIOD
WFD08	29°33'27.80"S	24° 4'15.50"E	MSA/LSA



**DESCRIPTION:** Flat terrain on the edge of a short stream running south into the Orange River. 7 lithics – 4 blades, 4 flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD09	29°33'23.90"S	24° 4'17.30"E	MSA/LSA



**DESCRIPTION:** Flat terrain, gritty surface. 5 lithics – 1 core, 2 blades, 2 scrapers.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD10	29°33'20.10"S	24° 4'17.20"E	MSA/LSA



**DESCRIPTION:** Shoulder of a stream valley, short stream running into the Orange River. Gritty surface. 4 Lithics – 3 scrapers, 1 blade.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
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<b>MITIGATION</b>	No further action required.
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SITE NO	COORDINATES		PERIOD
WFD11	29°33'23.60"S	24° 4'23.90"E	MSA/LSA



**DESCRIPTION:** Flat terrain, red-brown stones. 4lithics – 3 flakes, 1 blade.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD12	29°33'25.50"S	24° 4'31.00"E	MSA/LSA



**DESCRIPTION:** Flat terrain, gritty surface. 3 lithics, 1 core, 2 blades.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD13	29°33'33.30"S	24° 4'35.80"E	MSA/LSA



**DESCRIPTION:** Head of a short stream running south into the Orange River. Gritty surface. 1 blade.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD14	29°33'34.20"S	24° 4'41.40"E	MSA/LSA



**DESCRIPTION:** Head of a short stream running south into the Orange River. Gritty surface. 4 lithics – 2 scrapers, 2 blades.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD15	29°33'32.30"S	24° 4'42.80"E	MSA/LSA



**DESCRIPTION:** Flat terrain, gritty surface. 1 core.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD16	29°33'26.50"S	24° 4'46.20"E	MSA/LSA



**DESCRIPTION:** Flat terrain, fine grit, 3 lithics – 2 blades, 1 scraper.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
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<b>MITIGATION</b>	No further action required.
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SITE NO	COORDINATES		PERIOD
WFD17	29°33'30.80"S	24° 4'43.80"E	MSA/LSA



**DESCRIPTION:** Flat terrain, fine grit. 3 lithics – 1 blade, 2 scrapers.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD18	29°34'1.50"S	24° 6'15.50"E	MSA/LSA



**DESCRIPTION:** Flat terrain, fine grit. 4 lithics – 2 scrapers, 2 blades.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.



SITE NO	COORDINATES		PERIOD
WFD19	29°33'54.70"S	24° 6'14.60"E	MSA/LSA



**DESCRIPTION:** Flat terrain, treeless. Fine grit. 5 lithics – 2 scrapers (extreme left & extreme right), 3 blades.

**HERITAGE SIGNIFICANCE**

Evidence of hunter-gatherer activities during the MSA/LSA

**MITIGATION**


No further action required.

SITE NO	COORDINATES		PERIOD
WFD20	29°33'58.20"S	24° 6'10.90"E	MSA/LSA



**DESCRIPTION:** Flat terrain, no trees. 6 lithics – 2 scrapers, 4 blades.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD21	29°34'0.80"S	24° 6'12.80"E	MSA/LSA
			
<p><b>DESCRIPTION:</b> Flat terrain, no trees. 1 blade. No close up view.</p>			
<b>HERITAGE SIGNIFICANCE</b>		Evidence of hunter-gatherer activities during the MSA/LSA	
<b>MITIGATION</b>		No further action required.	

SITE NO	COORDINATES		PERIOD
WFD22	29°34'4.30"S	24° 6'15.80"E	MSA/LSA



**DESCRIPTION:** Flat terrain, calcrete waste and hardpan. 1 small cleaver, 1 blade, 2 scrapers.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
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<b>MITIGATION</b>	No further action required.
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SITE NO	COORDINATES		PERIOD
WFD23	29°33'31.20"S	24° 6'24.80"E	MSA/LSA



**DESCRIPTION:** Flat terrain, no trees, 5 lithics – 1 crescent shaped scraper, 2 scrapers, 1 blade.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
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<b>MITIGATION</b>	No further action required.
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SITE NO	COORDINATES		PERIOD
WFD24	29°33'30.20"S	24° 6'19.10"E	MSA/LSA



**DESCRIPTION:** Flat terrain, grit, no trees, 6 lithics – 4 blades, 1 scraper, 1 flake.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD25	29°33'25.40"S	24° 6'19.20"E	MSA/LSA



**DESCRIPTION:** Flat terrain, grit, no trees, 6 lithics – 3 blades, 3 scrapers.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD26	29°33'27.80"S	24° 6'25.10"E	MSA/LSA



**DESCRIPTION:** Flat terrain, calcrete grit, no trees. 2 scrapers.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.



SITE NO	COORDINATES		PERIOD
WFD27	29°33'5.10"S	24° 6'11.50"E	MSA/LSA



**DESCRIPTION:** Flat terrain, no trees. 3 lithics – 2 scrapers, 1 blade.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.


SITE NO	COORDINATES		PERIOD
WFD28	29°33'11.60"S	24° 6'13.20"E	MSA/LSA



**DESCRIPTION:** Flat terrain, no trees, calcrete waste. 1 scraper, 1 small handaxe.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
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<b>MITIGATION</b>	No further action required.
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SITE NO	COORDINATES		PERIOD
WFD29	29°33'12.70"S	24° 6'16.20"E	Modern
			
<p><b>DESCRIPTION:</b> Flat terrain, no trees, calcrete waste. Erosion barrier.</p>			
<b>HERITAGE SIGNIFICANCE</b>		Associated with modern commercial farming	
<b>MITIGATION</b>		No further action required.	

SITE NO	COORDINATES		PERIOD
WFD30	29°33'13.30"S	24° 6'22.50"E	MSA/LSA



**DESCRIPTION:** Flat terrain, no trees. 4 lithics – 1 small pear shaped tool, 2 scrapers and flake.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
WFD31	29°33'56.10"S	24° 6'30.66"E	19 <sup>th</sup> 20 <sup>th</sup> C





**DESCRIPTION:** Old abandoned farm buildings, including foundation of large building (dolomite blocks).

**HERITAGE SIGNIFICANCE**

Association with modern commercial farming.

**MITIGATION**

Buildings to be protected.

SITE NO	COORDINATES		PERIOD
ZGT32	29°32'47.40"S	24° 1'43.10"E	MSA/LSA



**DESCRIPTION:** Orange River flood plain. Blue on white porcelain.

**HERITAGE SIGNIFICANCE**

Association with modern commercial farming.

**MITIGATION**

No further action required.

SITE NO	COORDINATES		PERIOD
ZGT33	29°32'39.70"S	24° 1'33.60"E	MSA/LSA



**DESCRIPTION:** Orange River Valley, rugged terrain of quartz and sandstone. 3 lithics – 1 blade, 2 scrapers.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.



SITE NO	COORDINATES		PERIOD
ZGT34	29°32'52.70"S	24° 1'52.70"E	MSA/LSA



**DESCRIPTION:** Old pump station still in use, Orange River.

<b>HERITAGE SIGNIFICANCE</b>	Association with modern commercial farming.
<b>MITIGATION</b>	No further action required.

SITE NO	COORDINATES		PERIOD
SGT35	29°32'53.40"S	24° 1'45.60"E	MSA/LSA



**DESCRIPTION:** Orange River Valley. 2 flakes.

<b>HERITAGE SIGNIFICANCE</b>	Evidence of hunter-gatherer activities during the MSA/LSA
<b>MITIGATION</b>	No further action required.

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