

HERITAGE IMPACT ASSESSMENT & PALAEOLOGICAL DESK  
ASSESSMENT ON REMAINING EXTENT OF THE CONSOLIDATED FARM 290  
AND PORTION 1 OF THE FARM 294 AND PORTION 1 (JAKKALSDANS) OF THE  
FARM DUINEVELD 582 NEAR GROBLERSHOOP, NORTHERN CAPE

**(REVISED)**

Prepared by

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20 October 2020



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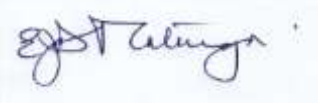
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## DOCUMENTS CONTROL

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	Name	Signature	Date
FIELD WORK & REPORT	E. Matenga		20 Oct 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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## EXECUTIVE SUMMARY

1. This Heritage Impact Assessment (HIA) Report has been prepared in support of a mine prospecting right application lodged by Wahero Minerals (Pty) Ltd on the Remaining Extent of the Consolidated Farm 290 and Portion 1 of the Farm 294 and Portion 1 (Jakkalsdans) of the Farm Duineveld 582 near Groblershoop, Northern Cape Province. A project of this nature and 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 undertaken on 12-13 March 2020 during which the heritage sensitivity and potential adverse impacts of the proposed activities were assessed.
  
2. The heritage sensitivity of the property is summarised as follows:
  
3. *Shifting sands and surface occurrence of archaeological material*  
It has to be conceded that surface discard of artefacts and manufacturing waste were likely to be buried under the ever shifting sand overburden. This might explain the sparse surface occurrence of artefacts on the sand veld.
  
4. *The Stone Age*  
There is a sparse distribution of stone artefacts over the area. The material found has been commonly encountered elsewhere in the broader area - scrapers, blades, cores and flakes typologically dating to the Middle Stone Age/Late Stone Age period. It is possible that artefacts are buried under the shifting sand deposits, so that the surface occurrence underrepresents hunter-gatherer activity in the area. None of the sites found warrant further action.
  
5. *The Iron Age*  
No sites dating to the Iron Age were found.
  
6. *Burial grounds*  
There is a burial ground (JKD10) containing three graves. A 100m wide buffer zone around the graves is to be applied

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.	1 (burial ground)
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.	13
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	1
		<b>TOTAL</b>	<b>15</b>

8. Table 1: Inventory of heritage sites.

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
JKD01	28°51'36.90"S	22°11'15.80"E	MSA/LSA	Flat terrain, Fine Kalahali sand, <i>swarthaak</i> . 2 scrapers	Medium B	No further action required
JKD02	28°50'15.50"S	22°11'38.52"E	MSA/LSA	Flat terrain, Fine Kalahali sand, <i>swarthaak</i> . 1 scraper	Medium B	No further action required
JKD03	28°50'10.80"S	22°12'4.80"E	Modern	Isolated modern building and broken windmill	Low	No further action required
JK04	28°50'17.40"S	22°12'16.60"E	MSA/LSA	Flat terrain, Fine Kalahali sand, <i>swarthaak</i> . 2 blades	Medium B	No further action required
JKD05	28°49'52.50"S	22°10'16.50"E	MSA/LSA	Flat terrain, fine Kalahali sand, <i>swarthaak</i> . 4 lithics - 1 flake, 4 blades (including quartzite)	Medium B	No further action required
JKD06	28°49'56.20"S	22°10'17.90"E	MSA/LSA	On the foot of a sand dune. Fine Kalahali sand, <i>swarthaak</i> . 1 core and flakes	Medium B	No further action required
JKD07	28°49'56.20"S	22°10'15.70"E	MSA/LSA	Flat terrain. Fine Kalahali sand, <i>swarthaak</i> . 2 scrapers	Medium B	No further action required
JKD08	28°50'38.70"S	22°10'12.90"E	MSA/LSA	Flat terrain. Fine Kalahali sand, exposures of calcrete, <i>swarthaak</i> . 3 lithics – 1 core, s scrapers	Medium B	No further action required
JKD09	28°50'40.70"S	22°10'9.60"E	MSA/LSA	Flat terrain. Fine Kalahali sand, <i>swarthaak</i> . 3 lithics – 1 small pear-shaped tool. 2 scrapers	Medium B	No further action required
JKD10	28°48'15.60"S	22° 7'53.90"E	20 <sup>th</sup> C	Near the farmstead, 3 graves in steel palisade	High	No further action required
JKD11	28°48'23.00"S	22° 8'4.70"E	MSA/LSA	Flat terrain, Kalahali sand mixed with calcrete waste. 4 lithics – 2 scrapers (including quartzite), 2 blades	Medium B	No further action required
JKD12	28°48'25.60"S	22° 8'4.40"E	MSA/LSA	Flat terrain, exposures of calcrete hardpan. 1 scraper	Medium B	No further action required
JKD13	28°47'36.10"S	22° 9'47.90"E	MSA/LSA	A small plateau od sand and quartzite. 2 quartzite scrapers	Medium B	No further action required

JKD14	28°47'39.50"S	22° 8'12.70"E	MSA/LSA	Flat terrain, calcrete waste. 6 lithics – 4 scrapers, 2 chert flakes	Medium B	No further action required
JKD15	28°48'5.40"S	22° 7'52.60"E	MSA/LSA	Flat terrain, calcrete waste. 1 core/flake	Medium B	No further action required

### *9. Conclusion and recommendations*

The mine prospecting can go ahead. As archaeological deposits are usually buried underground, should 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 be undertaken.

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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 Heritage Impact Assessment (HIA) Report has been prepared in support of a mine prospecting right application lodged by Wahero Minerals (Pty) Ltd on the Remaining Extent of the Consolidated Farm 290 and Portion 1 of the Farm 294 and Portion 1 (Jakkalsdans) of the Farm Duineveld 582 near Groblershoop, Northern Cape Province. A project of this nature and 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 was undertaken on 12-13 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. The rationale of an HIA is mitigation based on a clear understanding beforehand of what is culturally significant on the properties.

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

The properties which are the subject of this study are located near the east bank of the Orange River 17km east of Groblershoop. The farms are approached from the N8 highway from Kimberley to Upington. The Orange River course is trending northwest for a long stretch until Upington where it loops west in the direction of the Atlantic Ocean. Groblershoop on the west bank of the Orange is a major traffic stopover at the junction of the aforementioned N8 highway and the N10 highway linking with Port Elizabeth on the Indian Ocean.

From the banks of the Orange River the ground rises gradually to a vast sand plain on which the farms are situated. This area on the wetter margins of the Kalahari Desert

(the Green Kalahali) receives moderate rain. Vegetation is scattered acacia scrub, dominated by the hooked thorn bush *swarthaak* (*Senegalia mellifera*). The red sand overburden is fine-grained and sensitive to seasonal wind eddies. There many sand dunes and in some areas they form rolling parallel ridges (Figures 1-8).

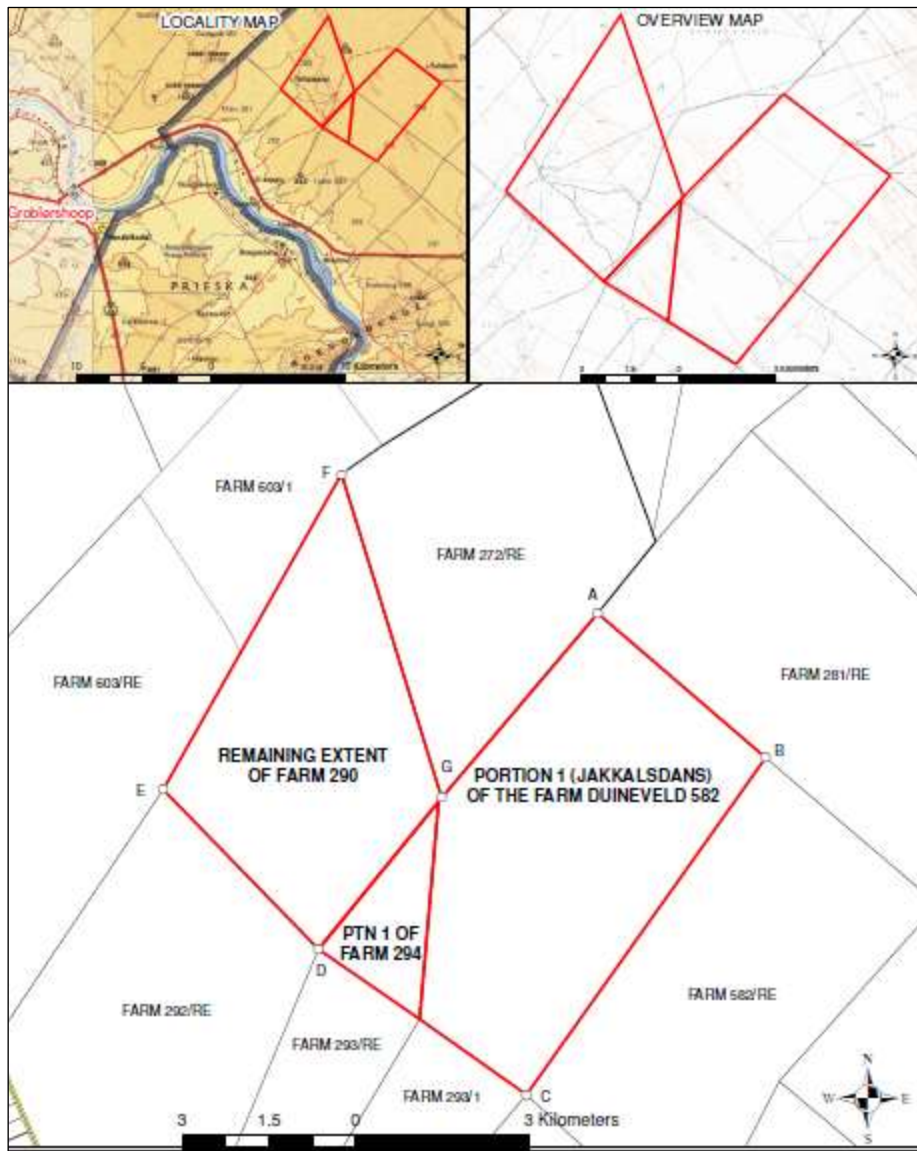


Figure 1: Map showing location and cadastral boundaries of the farms which are the subject of the survey (Courtesy of Wahero Minerals Pty Ltd).



Figure 2. Google-Earth map shows the location the properties near Groblershoop, Northern Cape Province.



Figure 3: Red sand terrain on Jakkalsdans and scattered *swarthaak* bushes.



Figure 4: Red sand dune in the background on Remaining Extent of Farm 290.



Figure 5: View north of the sand veld on Remaining Extent of Farm 290 in the direction of Olifantshoek. The mountains in the background are located beyond the property.



Figure 6: Close view of a red sand dune on Remaining Extent of Farm 290.



Figure 7: Another view of the wooded sand veld (*swarthaak*) on the Remaining Extent of Farm 290.





Figure 8: A small eastern portion of the Remaining Extent of Farm 290, treeless with calcrete surface.

## **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
  - (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—*

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

*(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**

The following HIA reports provide information on the archaeological potential of the broader area:

**Engelbrecht, J and Fivaz, H. 2018.** *Phase 1 HIA report on Farm 387 Portion 18 Groblershoop, Northern Cape: Holiday Resort Development on Portion 18 of Farm 387, Gordonia Rd, Eastern bank of the Orange River, approximately 1.7km north of Groblershoop, Z.F. Mgcawu District Municipality, Northern Cape.* This study was carried out on the outskirts of Groblershoop on the east back of the Orange River. Occurrences of stone artefacts of the MSA/LSA period, graves and buildings were recorded (pages ii – iv)

**Blignaut, J. 2015.** *Environmental Impact Assessment Study for the proposed Photovoltaic Plant on the farm Sand Draai 391, Northern Cape – Environmental Scoping Report (for SolAfrica Energy Pty) Ltd.* The location of this of this study is on the east bank of the Orange River 14km downstream from Groblershoop. Small scatters of Middle Stone Age material made on banded ironstone on both sides of the river were recorded. Density of scatters appear to increase on small quartz koppies. Sites comprising hornfels cobbles and quartz artefacts (which may represent later Stone Age sites), were also noted along the eastern banks of the Orange River (page 74).

### 3.2. Fieldwork

Extensive walking surveys were undertaken on the edge on the sand veld and over the sand dunes. 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.

### 3.3. Shifting sands and surface occurrence of archaeological material

It has to be conceded that surface discard of artefacts and manufacturing waste were likely to be covered by the ever shifting sand overburden. This might explain the sparse surface occurrence of artefacts.

## 4. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

An outline of the cultural sequence in South Africa provides 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.

<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.

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 3 million 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> No hominid fossils have been reported in the broader locality. On the farm Eselkloupan off the N8 highway, 27km south of Groblershoop, there is fossilised track resembling donkey spoor. The age of the fossil imprints is not known.<sup>5</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. 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

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

<sup>5</sup> Groblershoop: Green Kalahari Region. Found at:  
<https://www.experiencenortherncape.com/visitor/citiesandtowns/groblershoop>

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. The Wonderwerk Cave near Kuruman 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>6</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, 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>7</sup>

Several surveys by this author undertaken along the banks of the Orange River have consistently established the Middle Stone Age footprint.

#### 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. Many artefacts which have been

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<sup>6</sup> <http://www.southafrica.net/za/en/articles/entry/article-southafrica.net-the-wonderwerk-cave>.

<sup>7</sup> Deacon, J & H. Deacon. 1999. *Human Beginnings in South Africa*. Cape Town: David Philip.

recorded along the banks of the Orange River and adjacent plains have been identified with the MSA/LSA continuum.

#### **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>8</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 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>9</sup>

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<sup>9</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



#### *4.5.3. Colonial Occupation*

The area encompassing Groblershoop, Olifantshoek, the Langeberg (Majeng) and the Korannaberg ranges was home to a number of Tswana groups, of particular significance being the Tlaping and Tlaro.

In the eve of colonial occupation a number of traders, hunters, explorers and missionaries transited the area. A few can be named here - PJ Truter's and William Somerville (arriving in 1801), Donovan, Burchell and Campbell, James Read (arriving around 1870) William Sanderson. The arrival of large numbers of Great Trek Boers from the Cape Colony to the borders of Bechuanaland and Griqualand West in 1836 caused conflict with many Tswana groups and the missionaries of the London Mission Society.

The Boers entered the area in the 1860s and conflict with Tswana communities escalated when the Korana and Griqua communities and the British government became involved. The annexation of Bechuanaland by the British in 1885 imposed further territorial restrictions on these groups. In 1895, when British Bechuanaland was incorporated into the Cape Colony, the land inside the reserves remained the property of the Tswana and could only be alienated with the consent of the British Secretary of State (Engelbrecht & Fivaz, 2018: 17-18, 19).

#### *4.5.4. The Langberg Rebellion 1896-7*

Mounting anger among the Tlhaping and Tlaro over the confiscation of land, confinement to reserves and continued demands for land at the expense of the African reserves led to rebellion. The outbreak of the bovine disease, rinderpest, in many parts of southern Africa provided the ignition. Demand by the British that the Tlaro put down their horses to contain the epidemic was interpreted as sabotage in preparation for war.<sup>10</sup> Chief Toto Makgolokwe of the Tlaro led his people into war and made a good account of himself by defeating British Forces in one of the encounters which lasted 8 months.<sup>11</sup> (Figure 10). British war graves on a farm west of Olifantshoek are a tourist attraction. The farms Langkloof, Inglesby, Lukin, Gamayana, Pudahush, Toto, Luka and Hopkins west of Olifantshoek are named

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<sup>10</sup> Information provided by Mr Rean Van De Luytgaarden, Owner of Elephant Rock Inn, Oilfantshoek (2015).

<sup>11</sup> [http://en.wikipedia.org/wiki/Toto\\_Makgolokwe](http://en.wikipedia.org/wiki/Toto_Makgolokwe) (August 2015)

after major role players in the Langberg Rebellion<sup>12</sup> (Makukukwe Farm is on the western fringe of this area).

The British forces eventually captured Toto Makgolokwe and his son Phemelo together with King (Kgosi) Galeshewe who had sheltered in the area. Toto and his son were taken prisoners to Robben Island; Toto died there (Figure 9).



Figure 9: Toto, leader of the Tlalo (From Fourie, 2018: 34).

#### **4.6. Groblershoop: A brief history**

Groblershoop is a young town founded in 1936 on the farm Uitdraai. Initially the town was called Sternham, and the first house was built in 1912 (Engelbrecht & Fivaz 2018: 19). In 1935 the name was changed to Groblershoop in honour of Piet Grobler, the South African Minister of Agriculture of the time. Grobler had been instrumental in the construction of the Boegoeberg Dam on the Orange River, 21km upstream. Groblershoop is a major stopover at the junction of traffic from Kimberley and Port Elizabeth.

The above is the framework for identifying heritage resources in the area.

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<sup>12</sup> Corbus Dreyer, 2014. First Phase Archaeological & Heritage Investigation of the Proposed Mine Prospecting at the Remaining Extent of the Farm Inglesby 580 near Olifantshoek, Northern Cape Province

## 5. FINDINGS OF THE HERITAGE SURVEY

The heritage sensitivity of the property is summarised as follows:

### 5.1. The Stone Age

There is a sparse distribution of stone artefacts over the area. The material found has been commonly encountered elsewhere in the broader area - scrapers, blades, cores and flakes typologically dating to the Middle Stone Age/Late Stone Age period. It is possible that artefacts are buried under the shifting sands, so that the surface occurrence underrepresents hunter-gatherer activity in the area. None of the sites found warrant further action.

### 5.2. The Iron Age

No sites dating to the Iron Age were found.

### 5.3. Burial grounds

There is a burial ground (JKD10) with three graves. A100m buffer zone around the graves is to be applied

### 5.4. 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.	1 (burial ground)
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.	13
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	1
		<b>TOTAL</b>	<b>15</b>

Table 1: Inventory of heritage sites.

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
JKD01	28°51'36.90"S	22°11'15.80"E	MSA/LSA	Flat terrain, Fine Kalahali sand, swarthaak. 2 scrapers	Medium B	No further action required
JKD02	28°50'15.50"S	22°11'38.52"E	MSA/LSA	Flat terrain, Fine Kalahali sand, swarthaak. 1 scraper	Medium B	No further action required
JKD03	28°50'10.80"S	22°12'4.80"E	Modern	Isolated modern building and broken windmill	Low	No further action required
JK04	28°50'17.40"S	22°12'16.60"E	MSA/LSA	Flat terrain, Fine Kalahali sand, swarthaak. 2 blades	Medium B	No further action required
JKD05	28°49'52.50"S	22°10'16.50"E	MSA/LSA	Flat terrain, fine Kalahali sand, swarthaak. 4 lithics - 1 flake, 4 blades (including quartzite)	Medium B	No further action required
JKD06	28°49'56.20"S	22°10'17.90"E	MSA/LSA	On the foot of a sand dune. Fine Kalahali sand, swarthaak. 1 core and flakes	Medium B	No further action required
JKD07	28°49'56.20"S	22°10'15.70"E	MSA/LSA	Flat terrain. Fine Kalahali sand, swarthaak. 2 scrapers	Medium B	No further action required
JKD08	28°50'38.70"S	22°10'12.90"E	MSA/LSA	Flat terrain. Fine Kalahali sand, exposures of calcrete, swarthaak. 3 lithics – 1 core, s scrapers	Medium B	No further action required
JKD09	28°50'40.70"S	22°10'9.60"E	MSA/LSA	Flat terrain. Fine Kalahali sand, swarthaak. 3 lithics – 1 small pear-shaped tool. 2 scrapers	Medium B	No further action required
JKD10	28°48'15.60"S	22° 7'53.90"E	20 <sup>th</sup> Century	Near the farmstead, 3 graves enclosed by a steel palisade.	High	No further action required
JKD11	28°48'23.00"S	22° 8'4.70"E	MSA/LSA	Flat terrain, Kalahali sand mixed with calcrete waste. 4 lithics – 2 scrapers (including quartzite), 2 blades	Medium B	No further action required
JKD12	28°48'25.60"S	22° 8'4.40"E	MSA/LSA	Flat terrain, exposures of calcrete hardpan. 1 scraper	Medium B	No further action required

JKD13	28°47'36.10"S	22° 9'47.90"E	MSA/LSA	A small plateau of sand and quartzite. 2 quartzite scrapers	Medium B	No further action required
JKD14	28°47'39.50"S	22° 8'12.70"E	MSA/LSA	Flat terrain, calcrete waste. 6 lithics – 4 scrapers, 2 chert flakes	Medium B	No further action required
JKD15	28°48'5.40"S	22° 7'52.60"E	MSA/LSA	Flat terrain, calcrete waste. 1 core/flake	Medium B	No further action required



Figure 10: Location of heritage sites.

## 5.5. 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***

Fifteen (15) sites were recorded of which one is a burial ground. A 100m wide buffer is prescribed around the burial ground. The Stone Age Sites findings have been recorded and no further action is required.

***(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. A 100m wide buffer will be maintained around the graves.

**(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.

**5.6. Risk Assessment of the findings**

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

	resources above and below the surface not seen during the survey.	
Duration of Impact	Any accidental destruction of surface or subsurface relics is not reversible, but can be mitigated.	
Intensity	Uncertain.	
Probability of occurrence	Medium.	
Confidence of assessment	High.	
Level of significance of impacts before mitigation	High.	
Mitigation measures	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 archaeological deposits are usually buried underground should 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
JKD01	28°51'36.90"S	22°11'15.80"E	MSA/LSA



**DESCRIPTION:** Flat terrain, Fine Kalahali sand, swarthaak. 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
JKD02	28°50'15.50"S	22°11'38.52"E	MSA/LSA



**DESCRIPTION:** Flat terrain, Fine Kalahali sand, swarthaak. 1 scraper.

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

SITE NO	COORDINATES		PERIOD
JKD03	28°50'10.80"S	22°12'4.80"E	Low



**DESCRIPTION:** Isolated modern building and broken windmill.

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

SITE NO	COORDINATES		PERIOD
JK04	28°50'17.40"S	22°12'16.60"E	MSA/LSA



**DESCRIPTION:** Flat terrain, Fine Kalahali sand, swarthaak. 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
JKD05	28°49'52.50"S	22°10'16.50"E	MSA/LSA



**DESCRIPTION:** Flat terrain, fine Kalahali sand, swarthaak. 4 lithics - 1 flake, 4 blades (including quartzite).

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

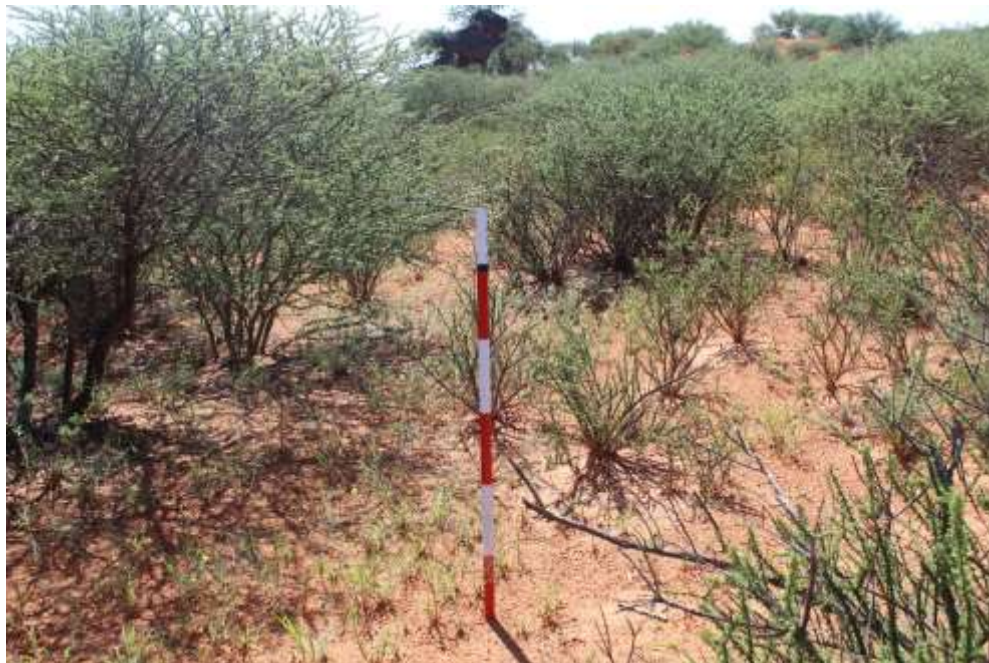
SITE NO	COORDINATES		PERIOD
JKD06	28°49'56.20"S	22°10'17.90"E	MSA/LSA



**DESCRIPTION:** On the foot of a sand dune. Fine Kalahali sand, swarthaak. 1 core and 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
JKD07	28°49'56.20"S	22°10'15.70"E	MSA/LSA



**DESCRIPTION:** Flat terrain. Fine Kalahali sand, swarthaak. 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
JKD08	28°50'38.70"S	22°10'12.90"E	MSA/LSA



**DESCRIPTION:** Flat terrain. Fine Kalahali sand, exposures of calcrete, swarthaak. 3 lithics – 1 core, s 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
JKD09	28°50'40.70"S	22°10'9.60"E	MSA/LSA



**DESCRIPTION:** Flat terrain. Fine Kalahali sand, swarthaak. 3 lithics – 1 small pear-shaped tool. 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
JKD10	28°48'15.60"S	22° 7'53.90"E	20 <sup>th</sup> century



**DESCRIPTION:** Near the farmstead, 3 graves enclosed by a steel palisade.

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

SITE NO	COORDINATES		PERIOD
JKD11	28°48'23.00"S	22° 8'4.70"E	MSA/LSA



**DESCRIPTION:** Flat terrain, Kalahali sand mixed with calcrete waste. 4 lithics – 2 scrapers (including quartzite), 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
JKD12	28°48'25.60"S	22° 8'4.40"E	MSA/LSA



**DESCRIPTION:** Flat terrain, exposures of calcrete hardpan. 1 scraper.

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

SITE NO	COORDINATES		PERIOD
JKD13	28°47'36.10"S	22° 9'47.90"E	MSA/LSA



**DESCRIPTION:** A small plateau of sand and quartzite. 2 quartzite 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
JKD14	28°47'39.50"S	22° 8'12.70"E	MSA/LSA



**DESCRIPTION:** Flat terrain, calcrete waste. 6 lithics – 4 scrapers, 2 chert 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
JKD15	28°48'5.40"S	22° 7'52.60"E	MSA/LSA



**DESCRIPTION:** Flat terrain, calcrete waste. 1 core/flake.

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

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(Consulted March 2020)



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