



(AHS) Archaeological and Heritage Services Africa (Pty) Ltd

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PHASE I HERITAGE IMPACT ASSESSMENT (INCLUDING PALAEOLOGICAL 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

Prepared by

Edward Matenga

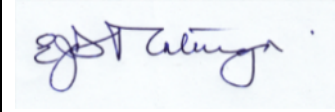
(MPhil, Archaeology; PhD Archaeology & Heritage, Uppsala/Sweden)

Thursday, 24 August 2017

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DOCUMENT CONTROL

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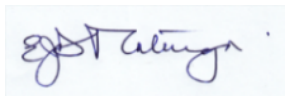
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DECLARATION OF INDEPENDENCE

AHSA (Pty) Ltd is an independent consultancy: I hereby declare that we 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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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
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency

GLOSSARY

Archaeological material: remains resulting from human activity left as evidence of their presence which, as proscribed by South African heritage legislation, are older than 100 years, which are in the form of artefacts, food remains and other traces such as rock paintings or engravings, burials, fireplaces and structures.

Artefact/Ecofact: 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/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical 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. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

Cultural landscape: “the combined works of nature and man” and demonstrate “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”.

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

Early Stone Age: Predominantly the Acheulean hand axe industry complex dating to + 2Myr yrs – 250 000 yrs. before present.

Early Iron Age: Refers cultural period of the first millennium AD associated with the introduction of metallurgy and agriculture in Eastern and Southern Africa

Later Iron Age: Refers to the period after 1000AD marked by increasing social and political complexity. Evidence of economic wealth through trade and livestock keeping especially cattle

Excavation: A method in which archaeological materials are extracted, involving systematic recovery of archaeological remains and their context by removing soil and any other material covering them.

Grave: a place of burial which include materials such as tombstone or other marker such as cross etc.

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

Intangible heritage: Something of cultural value that is not primarily expressed in a material form e.g. rituals, knowledge systems, oral traditions, transmitted between people and within communities.

Historical archaeology: the study of material remains from both the remote and recent past in relationship to documentary history and the stratigraphy of the ground in which they are found; or archaeological investigation on sites of the historic period. In South Africa it refers to the immediate pre-colonial period, contact with European colonists and the modern industrial period.

In situ material: means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.

Later Iron Age: The period from the beginning of the 2nd millennium AD marked by the emergence if complex state society and long-distance trade contacts.

Late Stone Age: The period from ± 30 000-yr. to the introduction of metals and farming technology

Middle Stone Age: Various stone using industries dating from ± 250 000 yr. - 30 000 yrs. ago

Monuments: architectural works, buildings, sites, sculpture, elements or structures of an archaeological nature, inscriptions, cave dwellings 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 protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary.

Sherd: ceramic fragment.

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.

EXECUTIVE SUMMARY

This Heritage Impact Assessment (HIA) report has been prepared in compliance with Section 38 of the National Heritage Resources Act (No 25/1999). The Client, Mr Paul Thukwe, intends to lodge an application for a prospecting right on the Remaining Extent of Portion 1 of the Farm Viegulands Put 42, Prieska District, Northern Cape Province. For the purpose, an Environmental Impact Assessment (EIA) has to be undertaken for which this HIA forms an integral component.

Eighteen (18) sites were recorded (Fig 6). A significance ranking system has been applied as the basis for recommending appropriate mitigation in view of the potential impact of the proposed activities. The attributes of the sites are systematically documented with photo illustrations provided in a Catalogue in Section 8 of this report

The Stone Age

Fourteen (14) Stone Age sites were recorded all of which have a low density of lithics. The stone tools which comprise mainly scrapers, flakes and a few blades and cores are spread throughout the property without any significant concentrations to suggest regular human activity. Thus no specific settlement locales could be defined to warrant further investigation.

The occurrence of a pear-shaped hand-axe is of particular interest as it seems to confirm the presence of Acheulean material in the area dating between 2 million to 250 000 years BP. Its occurrence together with scrapers / flakes might represent an overlap of or transition from the ESA and the Middle Stone Age. If a museum or university is interested in studying the find its GPS location was recorded with an accuracy of $\pm 4\text{m}$.

The Iron Age

No Iron Age sites were found on the property.

Early commercial farming

Structures built of stonework at a ruined homestead include a terrace revetment wall, which appears to have been a landscaping feature. A swimming pool measuring

15m x 20m x 2.5m at the deepest end was built of stone with cement binding. The exterior has a false dry stone masonry appearance. A livestock enclosure measuring 15m x 25m x 1.2m high is also built of stones. In all instances the stonework is rough, none of the building blocks trimmed to a regular shape. There are no compelling circumstances in the development plan to get rid of these structures.

Burial ground

There are two graves located in a fenced plot on the periphery of the farmstead. One is a double grave of a couple, Schalk and Susanna Jacobs, the previous owners of the farm born in the 1880s. The second grave is of a juvenile. Graves / burial grounds are protected in terms of Section 34 of the National Heritage Resources Act.

Significance ranking of findings

The significance ranking (with a colour scheme) refers to perceived impacts and risk of the proposed development. Appropriate interventions and mitigation strategies are also proposed.

	RANKING	SIGNIFICANCE	NO OF SITES
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	1 burial ground
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Footprint of early modern mining. These may be protected at the recommendations of a heritage expert.	1 ESA hand-axe 2 stone built structures
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	14
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	0
		TOTAL	18

Conclusion and recommendations

The mine prospecting can go ahead subject to the precautions stated above taken. The study is mindful that archaeological deposits are usually buried underground. Should archaeological artefacts or skeletal material be exposed in the area during development activities, 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.

1. INTRODUCTION

This document is a Heritage Impact Assessment (HIA) report prepared for a mine prospecting right application on the Remaining Extent of Portion 1 of the Farm Viegulands Put 42, Prieska District, Northern Cape Province. The HIA reporting is in accordance with Section 38 of the National Heritage Resources Act (25/1999). It entailed a site visit on 25 July 2017 and a ground survey to assess the heritage sensitivity of the area and to determine potential adverse impacts of the proposed activities on the heritage. Prospecting for minerals may entail the following activities:

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

Such physical works may result in the disturbance or destruction of heritage resources. For this reason it is important to have a clear understanding of what is significant about a place when preparing a heritage impact statement.

1.1. Location and physical setting

Viegulands Put 42 is a commercial farm situated along the R357 road from Douglas to Prieska a distance of 75km and 50km respectively from the two towns. A large portion of the farm lies to the north of the R357 road. The terrain is generally flat with exposures of calcrete sometimes mixed with red-brown stones/grit. In a southern portion of the property there are superficial deposits of Kalahari sands. Vegetation is karoo scrub with acacia dominating. In places thick stands of the short hooked thorn *Acacia mellifera subsp. Detinens* (*haakbos* in Afrikaans) constrained foot surveys. Drainage channels start on the plain trending north to the Orange River, in the upper reaches shallow streams and incising relatively deep channels as they cross the glacial tillites which rise above the plain to form ridges and spurs.



Fig 1. Google-Earth map shows the location the Farm Viegulands Put 42 along the R357 from Douglas to Prieska, Northern Cape Province.



Fig 2. Landscape view on the farm shows flat terrain and red-brown grit.



Fig 3. Exposures of calcrete in the central area of the farm.



Fig 4. Superficial deposits of Kalahari sands.



Fig 5. View of the northern portion of the farms where streams cut through tillite hills.

2. LEGAL FRAMEWORK

This heritage impact assessment fulfils a public responsibility to safeguard heritage resources. That obligation has been legislated and Sections 34, 35, 36 and 38 of the National Heritage Resources Act (No 25 of 1999) form the context in which this HIA report has been prepared.

2.1. Section 38 of NHRA: 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 m² in extent¹**; or*

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

¹ 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 m² 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

Some generic principles and standards for the protection of heritage resources in South Africa are drawn from international charters and conventions. In particular South Africa has adopted the **ICOMOS Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)** as a benchmark for best practice in heritage management.

3. METHODOLOGY AND THEORETICAL APPROACHES

3.1. Literature survey

A review of all available relevant literature included reports of previous HIAs conducted in the in general locality of the study area, historical books, and project planning documents. A lot of material was researched on internet portals, in particular most of the HIA reports that are referred to in this report have been obtained from the internet.

3.2. Fieldwork

The ground survey was facilitated by a vehicle and as we drove along the farm tracks areas were chosen for intensive foot surveys. 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 presented here as a theoretical framework for the identification of features / structures and objects of archaeological, historical and cultural interest.

4.1. Cultural sequence summary²

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 th 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. These are remains of 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 UNESCO World Heritage Site as a

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

serial nomination.³ One of these sites Taung near Vryburg is 250 km northwest of the study area. To my knowledge no hominid sites have been reported in the vicinity of the study area.

4.3. The Early Stone Age

4.3.1. 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 beginning of the cultural sequence divided into three epochs, the Early, Middle and Late Stone Ages. These early people made stone and bone implements. Material evidence is found in caves, rock-shelters and on river sides and edges of streams, and very rarely seen in open country.⁴ 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.⁵ 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.⁶

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

³ Deacon, J. and N. Lancaster. 1986. *Later Quaternary Palaeo-environments of Southern Africa*. Oxford: Oxford University Press.

⁴ <http://archaeology.about/od/bterms/g/bordercave.htm>

⁵ Morris, D. 2009. Phase 1 Archaeological Impact Assessment at Bucklands Settlement near Douglas, Northern Cape, p3.

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

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.⁷ A number of field surveys have been carried out around Danielskuil 130km northwest of Kimberley confirming significant hunter gatherer activity in the area from the MSA onwards.

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. The practitioners of the Late Stone Age as with Rock Art are ancestors of the Khoisan.⁸ A number of rock engravings have been reported in the vicinity of Lime Acres and Danielskuil north of the Vaal River.⁹

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.¹⁰

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

⁸ Gaigher, S. 2012. Heritage Impact Assessment Report for the proposed establishment of the Prieska Solar Energy facility located east of Prieska on Portion 3 of the Farm Holsoot 47, Northern Cape Province, p15.

⁹ Collins, S. 1973. Rock-engravings of the Danielskuil Townlands. *South African Archaeological Bulletin* 109-110: 49-57.; Eastwood, E.B. & Smith, B.W. 2005. Fingerprints of the Khoekhoen: geometric and handprinted rock art in the Central Limpopo Basin, southern Africa. *South African Archaeological Society Goodwin Series* 9: 63–76.

¹⁰ Evers, T. M. 1988. *Recognition of Groups in the Iron Age of Southern Africa*. Unpublished PhD Thesis, University of Witwatersrand. Huffman 2007. *A Handbook on the Iron Age*. Scottsville: UKZN Press

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.¹¹

4.5. Historical Context

The study area is historically home to the various groups of Tswana speakers certainly descending from the Iron Age and possibly some with Stone Age roots. Prieska was established in the 1870s becoming a municipality in 1878. The town is historically associated with a Cape Afrikaner revolt in 1900, which was suppressed by Lord Kitchener. This happened at the time of the Anglo-Boer War, and the rebels involved were moved to the Transvaal. As a precaution the British forces established a fort on the hills outside the town. There is a British Military memorial garden in town.¹²

The above is context for the identification of heritage resources in the study area.

¹¹ 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

¹² Gaigher, S. 2012. Heritage Impact Assessment Report for the proposed establishment of the Prieska Solar Energy facility located east of Prieska on Portion 3 of the Farm Holsoot 47, Northern Cape Province.

5. FINDINGS OF THE HERITAGE SURVEY

Eighteen (18) sites were recorded (Fig 6). A significance ranking system applied as the basis for recommending appropriate mitigation in view of the potential impact proposed activities. The attributes of the sites are systematically documented with photo illustrations in a Catalogue in Section 8 of this Report. In addition a spreadsheet table is a Site Inventory with a summary of the attributes of the sites.

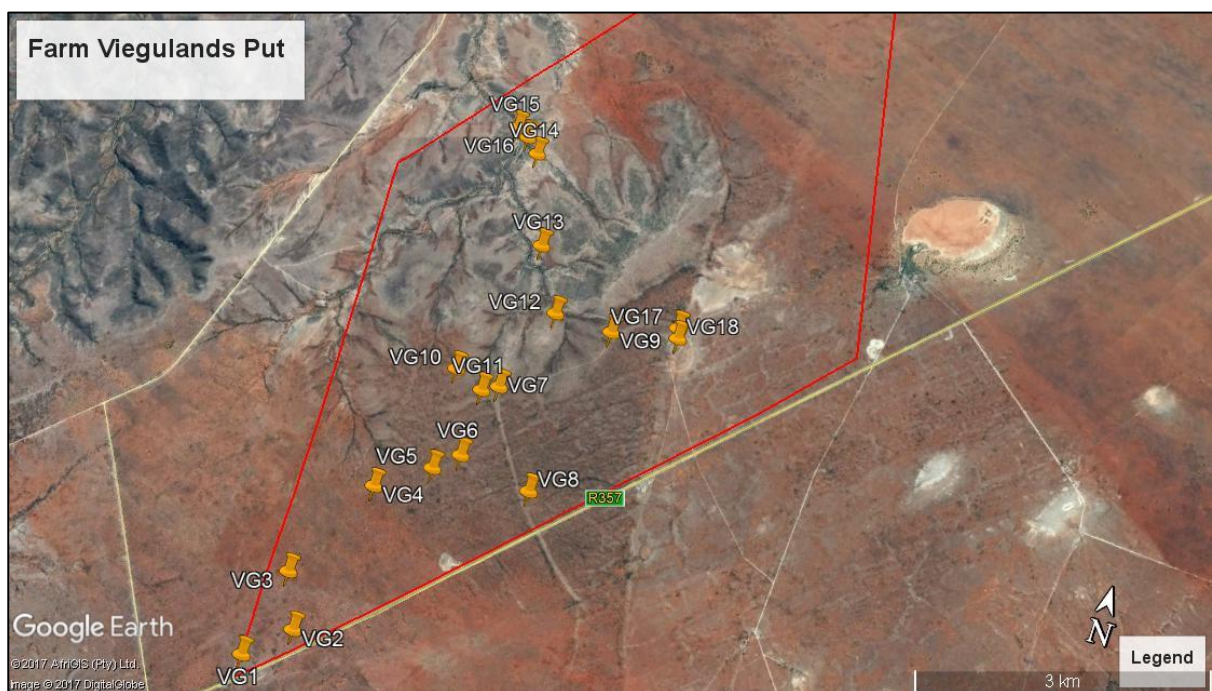


Fig 6. Google-Earth map shows location of stone tools, building and structures.

5.1. The Stone Age

Fourteen (14) Stone Age sites were recorded all of which have a low density of lithics. The stone tools, which comprise mainly scrapers, flakes and a few blades and cores, are spread throughout the property without any significant concentrations to demonstrate regular activity. Thus no specific settlement locales could be defined to warrant further investigation.

The occurrence of a pear-shaped hand-axe is of particular interest as it seems to confirm the presence of Acheulean material in the area which dates between 2

million to 250 000 years BP (VG11, Fig 7). Its occurrence among the scrapers / flakes might represent an overlap of or transition from the ESA and the Middle Stone Age. If a museum or university is interested in studying the find its GPS location was recorded with an accuracy of $\pm 4\text{m}$.



Fig 7. Acheulean handaxe (VG11).

5.2. The Iron Age

No Iron Age sites were found on the property.

5.3. Early commercial farming

Structures of stonework at a ruined homestead include a terrace revetment wall, which appears to have been a landscaping feature. A swimming pool measuring 15m x 20m x 2.5m at the deepest end was built of stone with cement binder. The exterior has a false dry stone masonry appearance. A livestock enclosure measuring 15m x 25m x 1.2m high is also built of stones. At the farmstead there is a shed with Cape Dutch style gables (VG15, VG16, Figs 8-10). In all instances the stonework is rough, none of the building blocks trimmed to a regular shape. There are no compelling circumstances in the development plan to get rid of these structures.



Fig 8. Swimming pool.



Fig 9. Livestock enclosure (VG16)



Fig 10. A shed at the farmstead.

5.4. Burial ground

There are two graves located in a fenced plot on the periphery of the farmstead (Fig 11). One is a double grave of a couple, Schalk and Susanna Jacobs, the previous owners of the farm born in the 1880s. The second grave is of a juvenile. Graves / burial grounds are protected in terms of Section 34 of the National Heritage Resources Act.



Fig 11. Burial ground on the farm.

5.5. Significance ranking of findings

The significance ranking (with a colour scheme) refers to perceived impacts and risk of the proposed development. Appropriate interventions and mitigation strategies are also proposed.

	RANKING	SIGNIFICANCE	NO OF SITES
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	1 burial ground
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Footprint of early modern mining. These may be protected at the recommendations of a heritage expert.	1 ESA hand-axe 2 stone built structures.
3	Medium B	Sites exhibiting archaeological characteristics of the area, but do not warrant further action after they have been documented.	14
4	Low	Heritage sites which have been recorded, but considered of minor importance relative to the proposed development.	0
		TOTAL	18

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 National Heritage Resources Act (25/1999).
Stage/Phase	Prospecting for minerals (test pits, drilling). Mining by opencast or shaft methods
Nature of Impact	Negative, both direct & indirect impacts.
Extent of Impact	Test pits, drilling, opencast excavation and trenching have potential to damage heritage resources above and below the surface not seen during the survey.
Duration of Impact	Any accidental destruction of surface or subsurface relics is not reversible, but can be mitigated.
Intensity	Uncertain.
Probability of occurrence	Medium.
Confidence of assessment	High.
Level of significance of impacts before mitigation	High.
Mitigation measures	If heritage resources are discovered during prospecting the heritage resources authorities must be informed and a heritage expert called to attend.
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 subject to the precautions stated above taken.

The study is mindful that archaeological deposits are usually buried underground. Should archaeological artefacts or skeletal material be exposed in the area during development activities, 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.


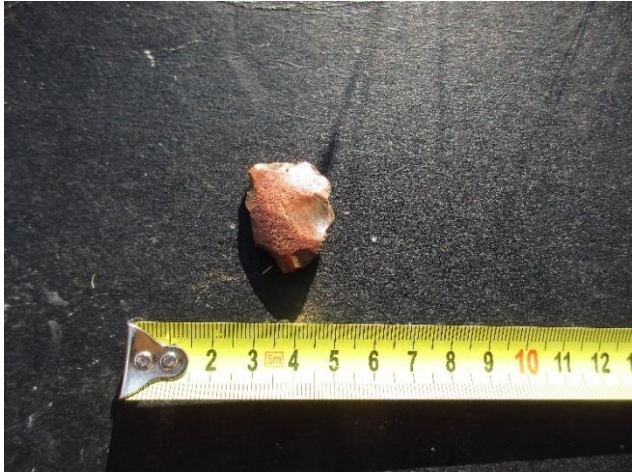
7. SITE RECORDS

7.1. Site inventory spreadsheet table

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING
VG1	29°30'46.00"S	23°10'10.30"E	MSA/LSA	Open flat area with shrubs. 1 lithic, chert scraper	Medium B
VG2	29°30'32.30"S	23°10'27.00"E	MSA/LSA	Open flat area with scattered acacia and some shrubs. 4 lithics, 3 scrapers and a core	Medium B
VG3	29°30'14.00"S	23°10'16.70"E	MSA/LSA	Open, flat and sandy terrain, and bushes. 2 lithics	Medium B
VG4	29°29'36.10"S	23°10'38.30"E	MSA/LSA	Open flat area near a cattle watering place, scattered acacia. 5 lithics (scrapers) include 1 chert scraper	Medium B
VG5	29°29'23.50"S	23°10'59.30"E	MSA/LSA	Open flat area with scattered acacia trees. 3 lithics include hornfels	Medium B
VG6	29°29'16.00"S	23°11'8.80"E	MSA/LSA	Open flat area with scattered acacia trees. Red-brown stones/grit. 4 lithics (flakes, scrapers and blade)	Medium B
VG7	29°28'48.20"S	23°11'14.50"E	MSA/LSA	Open flat area with bushes. Calcretic surface/grit. 1 lithic (black stone)	Medium B
VG8	29°29'20.70"S	23°11'40.70"E	MSA/LSA	Open flat area with scattered acacia bushes. 5 chert lithics, scrapers with retouched edges	Medium B
VG9	29°28'16.60"S	23°11'52.30"E	MSA/LSA	Open flat area with red-brown grit and with calcretic mixture. 3 lithics (flakes/scrapers)	Medium B
VG10	29°28'46.60"S	23°10'54.60"E	MSA/LSA	Open flat area with red-brown grit and with calcretic mixture. 5 chert lithics (flakes/scrapers/blades)	Medium B
VG11	29°28'51.30"S	23°11'7.90"E	MSA	Open flat area with scattered acacia trees. Red-brown grit mixed with calcretic stones. 3 lithics including a possible handaxe	Medium A
VG12	29°28'15.90"S	23°11'27.00"E	MSA/LSA	Open flat area, scattered acacia bushes. Calcrete grit mixed with red-brown stones. 1 black lithic, blade	Medium B
VG13	29°27'52.60"S	23°11'11.50"E	MSA/LSA	Open flat area, calcretic grit. 1 black lithic (flake)	Medium B
VG14	29°27'18.30"S	23°10'55.90"E	MSA/LSA	Open area with bushes, areas with solid calcrete surface. 2 lithics include chert with percussion ripples.	Medium B

VG15	29°27'10.11"S	23°10'43.50"E	19th /20th C	Old ruined farmstead. Stone terrace revetment wall, foundation of the main farmhouse with portion of wall standing. Swimming pool built of stones and mortar measuring 8m x 15m	Medium B
VG16	29°27'12.92"S	23°10'49.34"E	19th /20th C	Rectangular stone enclosure for penning livestock, measuring 15m x 25m and 1.2m high	Medium B
VG17	29°28'7.94"S	23°12'18.60"E	19th /20th C	Farmstead with 3 main buildings, farmhouse with 2 pairs or twin Cape-Dutch style gables facing north and east. Shed with similar gables and a double volume shed	Medium B
VG18	29°28'11.60"S	23°12'19.80"E	19th /20th C	2 graves in a fenced area. Double grave of Schalk Jacobs 15/06/1886-1/2/1959 and Susana Johanna Jacobs 25/08/1886 -1968. Grave of a juvenile located on the north side	Medium B


7.2. Catalogue of sites

SITE NO	COORDINATES		PERIOD
VG1	29°30'46.00"S	23°10'10.30"E	MSA/LSA
 			
OBSERVATIONS: Open flat area with shrubs. 1 lithic, chert scraper			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		

SITE NO	COORDINATES		PERIOD
VG2	29°30'32.30"S	23°10'27.00"E	MSA/LSA
 			
<p>OBSERVATIONS: Open flat area with scattered acacia and some shrubs. 4 lithics, 3 scrapers and a core</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		

SITE NO	COORDINATES		PERIOD
VG3	29°30'14.00"S	23°10'16.70"E	MSA/LSA
 			
OBSERVATIONS: Open, flat and sandy terrain, and bushes. 2 lithics			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		

SITE NO	COORDINATES		PERIOD
VG4	29°29'36.10"S	23°10'38.30"E	MSA/LSA
  <p data-bbox="204 1323 1337 1424">OBSERVATIONS: Open flat area near a cattle watering place, scattered acacia. 5 lithics (scrapers) include 1 chert scraper</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		

SITE NO	COORDINATES		PERIOD
VG5	29°29'23.50"S	23°10'59.30"E	MSA/LSA
			
OBSERVATIONS: Open flat area with scattered acacia trees. 3 lithics include hornfels			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		



SITE NO	COORDINATES		PERIOD
VG6	29°29'16.00"S	23°11'8.80"E	MSA/LSA




OBSERVATIONS: Open flat area with scattered acacia trees. Red-brown stones/grit. 4 lithics (flakes, scrapers and blade)

HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA
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POTENTIAL IMPACTS & PROPOSED MITIGATION	-
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SITE NO	COORDINATES		PERIOD
VG7	29°28'48.20"S	23°11'14.50"E	MSA/LSA
  <p data-bbox="204 1223 1327 1308">OBSERVATIONS: Open flat area with bushes. Calcretic surface/grit. 1 lithic (black stone)</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		

SITE NO	COORDINATES		PERIOD
VG8	29°29'20.70"S	23°11'40.70"E	MSA/LSA
 <p data-bbox="204 1406 1327 1491">OBSERVATIONS: Open flat area with scattered acacia bushes. 5 chert lithics, scrapers with retouched edges</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		


SITE NO	COORDINATES		PERIOD
VG9	29°28'16.60"S	23°11'52.30"E	MSA/LSA



OBSERVATIONS: Open flat area with red-brown grit and with calcretic mixture. 3 lithics (flakes/scrapers)


HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA
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POTENTIAL IMPACTS & PROPOSED MITIGATION	-
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SITE NO	COORDINATES		PERIOD
VG10	29°28'46.60"S	23°10'54.60"E	MSA/LSA
 			
<p>OBSERVATIONS: Open flat area with red-brown grit and with calcretic mixture. 5 chert lithics (flakes/scrapers/blades)</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		


SITE NO	COORDINATES		PERIOD
VG11	29°28'51.30"S	23°11'7.90"E	MSA
			
			
<p>OBSERVATIONS: Open flat area with scattered acacia trees. Red-brown grit mixed with calcretic stones. 3 lithics including a possible Acheulean handaxe</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA. Possible overlap with ESA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	The hand axe may be worth collecting		

SITE NO	COORDINATES		PERIOD
VG12	29°28'15.90"S	23°11'27.00"E	MSA/LSA
  <p data-bbox="204 1261 1327 1350">OBSERVATIONS: Open flat area, scattered acacia bushes. Calcrete grit mixed with red-brown stones. 1 black lithic, blade</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		

SITE NO	COORDINATES		PERIOD
VG13	29°27'52.60"S	23°11'11.50"E	MSA/LSA
 <p data-bbox="204 1361 1091 1397">OBSERVATIONS: Open flat area, calcretic grit. 1 black lithic (flake)</p>			
HERITAGE STATUS			
POTENTIAL IMPACTS & PROPOSED MITIGATION		-	

SITE NO	COORDINATES		PERIOD
VG14	29°27'18.30"S	23°10'55.90"E	MSA/LSA
 			
<p>OBSERVATIONS: Open area with bushes, areas with solid calcrete surface. 2 lithics include chert with percussion ripples.</p>			
HERITAGE STATUS	Evidence of stone tool manufacture and use during the MSA/LSA		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		

SITE NO	COORDINATES		PERIOD
VG15	29°27'10.11"S	23°10'43.50"E	19 th /20 th C
			
<p>OBSERVATIONS: Old ruined farmstead. Stone terrace revetment wall, foundation of the main farmhouse with portion of wall standing. Swimming pool built of stones and mortar measuring 8m x 15m</p>			
HERITAGE STATUS	Association with early commercial farming		
POTENTIAL IMPACTS & PROPOSED MITIGATION	Stone structures worthy of preservation		

SITE NO	COORDINATES		PERIOD
VG16	29°27'12.92"S	23°10'49.34"E	19 th / 20 th C
			
<p>OBSERVATIONS: Rectangular stone enclosure for penning livestock, measuring 15m x 25m and 1.2m high</p>			
HERITAGE STATUS	Association with early commercial farming		
POTENTIAL IMPACTS & PROPOSED MITIGATION	-		


SITE NO	COORDINATES		PERIOD
VG17	29°28'7.94"S	23°12'18.60"E	19 th / 20 th C



OBSERVATIONS: Farmstead with 3 main buildings, farmhouse with 2 pairs or twin Cape-Dutch style gables facing north and east. Shed with similar gables and a double volume shed

HERITAGE STATUS	Association with early commercial farming
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POTENTIAL IMPACTS & PROPOSED MITIGATION	-
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SITE NO	COORDINATES		PERIOD
VG18	29°28'11.60"S	23°12'19.80"E	19 th / 20 th C
			
<p>OBSERVATIONS: 2 graves in a fenced area. Double grave of Schalk Jacobs 15/061886-1/2/1959 and Susana Johanna Jacobs 25/08/1886 -1968. Grave of a juvenile located on the north side</p>			
HERITAGE STATUS	Section 36 of NHRA.		
POTENTIAL IMPACTS & PROPOSED MITIGATION	Graves are sacred and must be protected		

8. CONCLUSION AND RECOMMENDATIONS

9. REFERENCES

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Legislation and Policies

National Heritage Resources Act (No 25: 1999)

National Environmental Management Act (No 107/1998)

ICOMOS Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)

The ICOMOS Charter for the Conservation of Historic Towns and Urban Areas (the Washington Charter 1987)