

Phase 1 Heritage Impact Assessment & Palaeontological Assessment (Desktop) for a Mine Prospecting Application on the Farm Perth 343 near Hotazel in the Joe Morolong Local Municipality, Northern Cape

Prepared by

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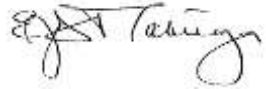
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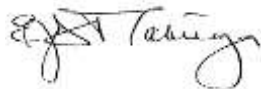
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DECLARATION OF INDEPENDENCE

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).



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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

EXECUTIVE SUMMARY

1. This heritage specialist report has been prepared in support of a mine prospecting right application for the farm Perth 343 situated 84 km north of Hotazel in the Joe Morolong Local Municipality, Northern Cape Province.
2. Section 38 of the National Heritage Resources Act (No 25 of 1999) sets out the procedures for screening for the possible occurrence of heritage resources that may be affected by the proposed activities, and on the basis of which appropriate mitigation measures will be prescribed.
3. The report is based a site visit and ground survey undertake from 13 to 15 February 2023.

4. *General observations*

There is an established presence of Stone Age material in this part of Northern Cape evidenced by scattered distribution of artefacts sometimes localised along the edges of streams and pans and less likely on the sand-covered plains.

5. *The Stone Age*

Stone Age material was sparsely distributed and confined to the ironstone ridge. No material was found on the sandveld below the ridge possibly because any material that might have been left on the surface was buried by the ever shifting sands. There was an occasional find of a hand-axe (PTH08) probably dating to the transition from the Early Stone Age to the Middle Stone Age. Otherwise, the few scrapers and blades that recorded date from the Middle Stone Age to the Late Stone Age periods. None of the sites were found to warrant further action.

6. *The Early Iron Age*

No material dating to the Iron Age was found.

7. *The Later Iron Age*

No material dating to the Later Iron Age was found.

8. *Burial grounds*

One burial ground is located on the eastern outskirts of Pert Village (PTH13). A 100 m servitude will be reserved. Another burial ground located in the Village was outside the prospecting area.

9. *Map shows the location of the Burial Ground with the recommended 100 m servitude.*



10. *Modern commercial farming*

An old farm house and dairy plant were recorded (PTH5). Both building were broken and in a poor state. No further action was required.

11. *Ranking of sites*

	Grading	Description	No of Sites
1a	National	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e., formally declared or potential Grade 1, 2, or 3A heritage resources	0
1b		Burial Grounds and Graves. Public sensibilities about the sanctity of graves	1
2	Provincial	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e., formally declared or potential Grade 2 heritage resources	0
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e., formally declared or potential Grade 3A heritage resources	0

3B	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	
3C	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources	12
		TOTAL	13

12. Google Earth map showing the location of heritage sites recorded during the survey



13. Inventory of heritage sites

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
PTH01	26°26'43.50"S	23° 4'14.70"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A scraper	3c	No further action required
PTH02	26°26'47.90"S	23° 4'31.90"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A blade	3c	No further action required
PTH03	26°26'41.90"S	23° 4'6.70"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A scraper	3c	No further action required
PTH04	26°27'13.10"S	23° 4'28.40"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A blade	3c	No further action required
PTH05	26°27'44.40"S	23° 4'27.90"E	19th/20th centuries	Old dilapidated farmhouse and dairy processing plant. These buildings were inherited by a dairy cooperative from a white farmer in the 1980s. The white owner of the farm came from Perth Australia and named the farm in honour of his birth place	3c	No further action required
PTH06	26°27'46.1"S	23°04'02.90"E	MSA/LSA	On the summit of the ironstone ridge near a mobile phone communication mast. 3 scrapers, 2 blades	3c	No further action required
PTH07	26°27'46.00"S	23° 3'49.10"E	MSA/LSA	On the southwestern foot of the ironstone ridge	3c	No further action required
PTH08	26°27'47.80"S	23° 3'47.80"E	MSA/LSA	On the southwestern foot of the ironstone ridge. A handaxe	3c	No further action required
PTH09	26°27'23.40"S	23° 3'45.10"	MSA/LSA	On the iron ridge to the west of Perth Village, a valley separating two rises. A scraper	3c	No further action required
PTH10	26°26'28.50"S	23° 3'57.70"E	MSA/LSA	On the summit of the ridge which forms a western backdrop of Perth Village. A small handaxe	3c	No further action required
PTH11	26°26'55.10"S	23° 5'17.30"E	MSA/LSA	On the eastern slope of the ironstone ridge near the boundary of Perth and Kome Villages	3c	No further action required
PTH12	26°26'47.90"S	23° 4'31.90"E	MSA/LSA	On the summit of the ridge. A triangular blade	3c	No further action required

PTH13	26°27'20.70"S	23° 5'49.20"E	MSA/LSA	In Perth Village, on the east side of the road from Kuruman to Heuningvlei. A cemetery that appears to have been established recently	1b	A 100 m servitude to be reserved
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14. Conclusion and Recommendations

In light of the above findings, the mine prospecting application can be approved. The Burial Ground will be protected. The study is mindful that some important discoveries may be made during prospecting. If this happens operations 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

The following is a Heritage Impact Assessment report which has been prepared in support of a mine prospecting right application on the farm Perth 343 situated 84 km north of Hotazel in the Joe Morolong Local Municipality, Northern Cape Province. Section 38 of the National Heritage Resources Act (No 25 of 1999) sets out the procedures for screening for the possible occurrence of heritage resources that may be affected by the proposed activities, and on the basis of which appropriate mitigation measures will be considered. The report is informed by site visit and ground survey that was undertaken between 13 and 15 February 2023 as well as a study of existing literature, especially Heritage Impact Assessment Reports, that have been undertaken in the broader area, and provide important contextual data.

Prospecting for minerals entails the following physical works which may result in damage or destruction of heritage resources above or below the ground:

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

As these activities are likely to damage or destroy heritage resources, an HIA will inform appropriate mitigation measures to be taken based on an understanding of the heritage sensitivity of the property.

1.2. Location and physical setting

The farm Perth 343 is located 84 km NE of Hotazel (Figures 1-2). Nearly half of the farm occupying a western portion is occupied by an ironstone ridge which is the potential source of the iron and manganese ores that will be exploited. The superficial geology in most areas manifests as red gravels and broken chunks of flat rocks. In several places, tilted beds of the same rocks are exposed. In greater detail, the iron ridge consist of convex shaped rises and saddles which forms a rolling terrain. Colonies of black thorn occur on the ridge in varying densities, in some areas it forms an impenetrable vegetation thicket. Scatters of sickle bush and Acacia karoo were occasionally encountered. The ridge overlooks Perth Village set

against the eastern foot of the ridge. The terrain below the ridge is a flat sandveld with unconsolidated aeolian sand of the Kalahari Formation. Two types of sand were recognised, a red-brown sand and a white sand which seem to be derive from calcareous rocks. A variety of trees species occur on the sandveld including *Terminalia sericea* .

One of the prominent landforms in the area is the Heuningvlei located 30 km north of Perth and geologically part of the southern Kalahari Basin. This is a large pan possibly filled by a layer of clayey sand or alkaline calcareous clays. Springs feed into the pan and create a vibrant wetland on the western shore of the pan.



Figure 1: Google Earth map shows the location of the Farm Perth 343 and other farms which have been surveyed by the Author



Figure 2: On the summit of the ironstone ridge. View of a shallow saddle and high ground



Figure 3: Beds of banded ironstone



Figure 4: Weathered ironstone chunks



Figure 5: The sandveld below the ridge, a portion dominated by *Terminalia sericea*

2. LEGAL FRAMEWORK

2.1. Section 38 of National Heritage Resources Act (No 25 of 1999) on Heritage Impact Assessments

Section 38 of the NHRA lists activities and the thresholds that trigger an HIA:

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

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

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

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

(i) exceeding 5 000 m² in extent¹; 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 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 of NHRA 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 of the NHRA 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.

¹ Areal size of the proposed development triggers the HIA.

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 (No 107 of 1998)

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 author has undertaken several Heritage Impact Assessment in a broader area north of Kuruman the resultant reports have been submitted to SAHRA. My studies and many others by other researchers record occurrences of artifacts dating from the Early Stone Age (ESA) through the Middle Stone Age (MSA) to the Late Stone Age (LSA), with a majority falling under the MSA/LSA periods. Generally, finds occur as backgroundscatters of scrapers, blades and cores while concentrated finds evidencing manufacturing sites or settlements are rare. The Farms Erith and Walton are located on the sandveld 100 km south of the farm Perth. The farm La Rochelle is situated on the sandveld 107 km south of Perth. The farm Gamolilo is situated near Tsineng 60 km south of the farm Perth. On Gamolilo a north-south trending banded ironstone ridge forms a low-rise backdrop on the western part of the farm. This is a southern extension of the ridge on the farm Perth 343. The farms Titanic 773 and Gasses 272 lie on the west side of Gamolilo that this author surveyed straddle a calcrete surface and sandveld on the east and west sides respectively. The following reports shed light on the archaeological potential of the broader region:

Matenga, E. 2020. Phase I heritage impact assessment (including palaeontological desk assessment) in terms of Section 38 of the National Heritage Resources Act No 25/1999 for the proposed prospecting and mining right on the Farms Titanic 773 and Gasesa 272 near Kuruman, Northern Cape Province

The above-mentioned farms are situated in the region of Hotazel 70 km south of the farm Perth. Findings included lithics comprising scrapers, blades cores and flakes recorded in twenty-three (23) places representing all three epochs. The occurrence of these artefacts along the Matlhwaring River is a pattern consistent with findings of other studies in the broader area (Kusel 2018). An Early Stone Age pear-shaped hand-axe was found by this author. Farm buildings were also noted on the property

Matenga, E. 2020. *Phase 1 Heritage Impact Assessment in Terms of Section 38 of the National Heritage Resources Act No 25/1999 for the Proposed Prospecting and Mining Right on the Farm Gamolilo 72 near Kuruman, Northern Cape Province*

The farm Gamolilo is situated 60 km south of Perth, and may share the same terrain characteristics as Perth. Background scatters of lithics comprising scrapers, blades cores and flakes were recorded in 21 places (sites) dating from the Early Stone Age through the Middle Stone Age to the Late Stone Age. Among these finds were rock engravings (petroglyphs) which are rare and therefore treasured. Farm buildings were flagged as contributing to landscape elements associated modern commercial farming.

Matenga, E. 2021. *Phase I Heritage Impact Assessment & Palaeontological Desk Assessment for a Mine Prospecting Application on the Farms Gamahuli, Malley & La Rochelle near Olifantshoek, under the Gamagara Local Municipality, Northern Cape Province*

La Rochelle is lies 107 km SW of Perth. Two burial grounds of a 19th-20th century date were recorded.

Matenga, E. 2021. *Heritage Impact Assessment in terms of Section 38(8) of the National Heritage Resources Act (No 25/1999) for the Proposed Agricultural Development (Hydroponics Systems Project) on the Remaining Extent of the Farm Marsh Near Kathu, Northern Cape.*

The farm Marsh 467 is 10 km north of Kathu and c 120 km south of Perth. Scatters of lithics comprising a few scrapers and significantly many flakes were recorded. While the area around Kathu has a significant Early Stone Age footprint, the finds on the farm Marsh 467 appear to date to the Middle Stone Age and none of the of the ESA type tools were found.

Pelser, A J. and A C Vollenhoven. 2011. *A report on a Heritage Impact Assessment (HIA) for a Proposed New Rail Crossing over the Gamagara River for the Gloria Mine Operations, Assmang Black Rock, on Gloria 266, North of Hotazel, Northern Cape.*

The proposed site of bridge across the Gamagara River is 5 km NW of Hotazel. Fourteen (14) Stone Age sites were recorded. The railway bridge across the Gamagara River was considered of historic significance (page 15).

Fourie, W. 2015. *The proposed upgrade of the 66kV network in the Kuruman area, Northern Cape Province (PGS Heritage)*

The report concerned a heritage survey along the servitude of a proposed Eskom power line from Kuruman to Hotazel passing north of the farm La Rochelle. Two cemeteries, several historic farmsteads, historic asbestos mines, a sacred site, a Provincial Monument and a memorial were recorded. No Stone Age finds were reported (p. iv).

Mlilo, T. & F Bandama. 2016 *Phase 1 Archaeological Impact Assessment Report for Proposed John Taole Gaetsewe School and Hostels on Portion 0 of the Farm Motiton 509 HM in Dithakong, Joe Morolong Local Municipality, Northern Cape Province*

The proposed development was located in Dithakong Village about 100 km to the SE of Perth. Dithakong has an eventful history as a 19th century village with stone walls. It was the theatre of fighting during the Difaqane and the war of resistance to colonial occupation. No archaeological or historical relics were found during the survey, although Stone Age relics had been reported in the vicinity (page 24).

PGS. 2018. *Proposed Waste Rock Dump Project at Tshipi Borwa Mine, near Hotazel, Northern Cape Province.*

The proposed infrastructural development was located on the Farm Mamatwan 331 and Moab 700 situated 20 km south-east of the town of Hotazel. No archaeological or historical relics were found within the footprint of the proposed development (page v).

Kusel, U. 2018. *East Manganese: Phase 1 Heritage Impact Assessment on the farm East 270 (Portion 1 & Re) within the John Taolo Gaetsewe District Municipality, Northern Cape.* The

heritage study was undertaken in the vicinity of Hotazel. Stone tools were found in the vicinity of the Ga-Mogara River (a tributary of the Matlhwaring, the latter flows through the property of the present study). The lithics represented all three periods of the Stone Age with a few cutting tools typical of the Early Stone Age (ESA). A majority of lithics such as blades, a knife (exhibiting secondary trimming or retouch), and triangular flakes are typical of the Middle Stone Age (pp. 22-23).

Schalkwyk, J. A. 2020. *The development of a power line, access road and above ground storage of LPG gas as part of the Proposed Kagiso Solar Power Plant on the Remaining Extent of the Farm Kameelaar No 315 Registration Division Kuruman, Northern Cape Province.*

The footprint of the development lies south of Hotazel. No heritage finds were reported.

Mlilo, T. 2021. *Phase 1 Archaeological and Heritage Impact Assessment Report for the Proposed Prospecting of Manganese Ore, on Portion 2 of Farm East 270 in Joe Morolong Local Municipality, Northern Cape Province*

The property is situated on the northern outskirts of Hotazel. No archaeological or historical relics were recorded. Buildings at a commercial farmstead were noted.

Overall, from the above studies we arrive at a conclusion that there is an established presence of Stone Age material in the area represented by scattered distributions of artefacts. Material is likely to be found along the edges of streams and less likely on the sand-covered plains.



Figure 6: Properties that have been surveyed by the author in the region of Kuruman and Hotazel

3.2. Ground Survey

A ground survey was undertaken by an archaeologist and assistant from the 13th to the 15th of February 2023. Artefacts were observed in 12 places during walking surveys. A vehicle was used and windshield surveys were undertaken only to move from one survey area to another, and to get an impression of the geology and landscape characteristics of the property. See below a map of the track log (Figure 7).

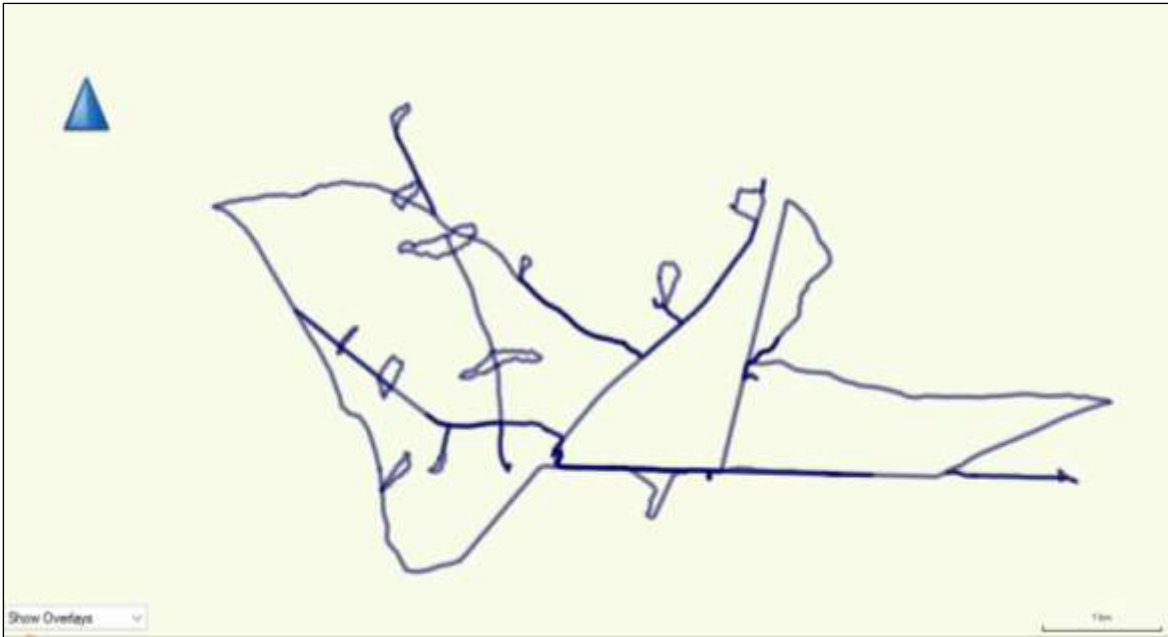


Figure 7: Map of the tracklog

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 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.

² 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 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, 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. No hominid fossils have been reported in the broader locality of the study area. On the farm Eselkloupan off the N8 highway near Groblershoop, there is fossilised track resembling donkey spoor. The age of the fossil imprints is not known.³

4.3. The 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 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 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.

³ Groblershoop: Green Kalahari Region. Found at:
<https://www.experiencenortherncape.com/visitor/citiesandtowns/groblershoop>

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 revealed a long sequence of occupation spanning the Early (ESA), Middle (MSA) and Later Stone Ages.⁴

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

The Middle Stone Age (MSA) appeared 250 000 years ago and 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.⁵

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

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. The practitioners of rock art were the ancestors of the San and sites abound in the whole of Southern Africa. 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. As has been mentioned above, rock engravings have also been reported on the Farm Gamolilo 60 km south of Perth.

⁴ <http://www.southafrica.net/za/en/articles/entry/article-southafrica.net-the-wonderwerk-cave>.

⁵ Deacon, J & H. Deacon. 1999. *Human Beginnings in South Africa*. Cape Town: David Philip.

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.

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.⁶

⁶ 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. Colonial Occupation

4.5.1. Early contact with Europeans

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

4.5.2. 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.⁷ 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.⁸ 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 after major role players in the Langberg Rebellion⁹

⁷ Information provided by Mr Rean Van De Luytgaarden, Owner of Elephant Rock Inn, Olifantshoek (2015).

⁸ http://en.wikipedia.org/wiki/Toto_Makgolokwe (August 2015)

⁹ 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

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 8).



Figure 8: Toto, leader of the Tlaro (From Fourie, 2018: 34).

4.5.3. Perth Village: A brief history

Perth Village was established on the Farm Perth 343. Information on the historical development of the settlement is sketchy. The farm Perth 343 used to belong to white commercial farm of Australian origin who named the farm after his native town in Western Australia. It was a cattle farm also operating a dairy. There was a farmhouse and a dairy plant on the foot of the ironstone ridge. The operations were taken over by a local cooperative when the farm operations ceased. The land is now under the jurisdiction of a chief and communal pasture for cattle, goats and sheep (Figures 9-10).

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



Figure 9: Perth Village seen from the summit of the ironstone ridge



Figure 10: Goats grazing on the ridge

5. FINDINGS OF THE HERITAGE SURVEY

5.1. General observations

There is an established presence of Stone Age material in this part of Northern Cape evidenced by scattered distribution of artefacts sometimes localised along the edges of streams and less likely on the sand-covered plains.

5.1. The Stone Age

Stone Age material was sparsely distributed and confined to the ironstone ridge. No material was found on the sandveld below the ridge possibly because any material that might have been left on the surface was buried by the ever shifting sands.

There was an occasional find of a hand-axe (PTH08) probably dating to the transition from the Early Stone Age to the Middle Stone Age. Otherwise, the few scrapers and blades that recorded date from the Middle Stone Age to the Late Stone Age periods. None of the sites were found to warrant further action.

5.2. The Early Iron Age

No material dating to the Iron Age was found.

5.3. The Later Iron Age

No material dating to the Later Iron Age was found.

5.4. Burial grounds

One burial ground is located on the eastern outskirts of Perth Village (Figure 11). A 100 m servitude will be reserved. Another burial ground located in the Village was outside the prospecting area.



Figure 11: Location of the burial ground on the outskirts of Perth Village

5.5. Modern commercial farming

An old farm house and dairy plant were recorded (PTH5). Both buildings were broken and in a poor state. No further action was required.

5.6. Ranking of sites and Risk Assessment

Table 2. Ranking of sites

	Grading	Description	No of Sites
1a	National	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2, or 3A heritage resources	0
1b		Burial Grounds and Graves. Public sensibilities about the sanctity of graves	1
2	Provincial	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 2 heritage resources	0
3A	Local	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 3A heritage resources	0
3B	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources	
3C	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources	12
		TOTAL	13



Figure 12: Google Earth map showing the location of heritage sites recorded during the survey

Table 3: Inventory of heritage sites

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING	MITIGATION
PTH01	26°26'43.50"S	23° 4'14.70"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A scraper	3c	No further action required
PTH02	26°26'47.90"S	23° 4'31.90"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A blade	3c	No further action required
PTH03	26°26'41.90"S	23° 4'6.70"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A scraper	3c	No further action required
PTH04	26°27'13.10"S	23° 4'28.40"E	MSA/LSA	On an ironstone ridge that forms a western backdrop of Perth Village. A blade	3c	No further action required
PTH05	26°27'44.40"S	23° 4'27.90"E	19th/20th centuries	Old dilapidated farmhouse and dairy processing plant. These buildings were inherited by a dairy cooperative from a white farmer in the 1980s. The white owner of the farm came from Perth Australia and named the farm in honour of his birth place	3c	No further action required
PTH06	26°27'46.1"S	23°04'02.90"E	MSA/LSA	On the summit of the ironstone ridge near a mobile phone communication mast. 3 scrapers, 2 blades	3c	No further action required
PTH07	26°27'46.00"S	23° 3'49.10"E	MSA/LSA	On the southwestern foot of the ironstone ridge	3c	No further action required
PTH08	26°27'47.80"S	23° 3'47.80"E	MSA/LSA	On the southwestern foot of the ironstone ridge. A handaxe	3c	No further action required
PTH09	26°27'23.40"S	23° 3'45.10"	MSA/LSA	On the iron ridge to the west of Perth Village, a valley separating two rises. A scraper	3c	No further action required
PTH10	26°26'28.50"S	23° 3'57.70"E	MSA/LSA	On the summit of the ridge which forms a western backdrop of Perth Village. A small handaxe	3c	No further action required
PTH11	26°26'55.10"S	23° 5'17.30"E	MSA/LSA	On the eastern slope of the ironstone ridge near the boundary of Perth and Kome Villages	3c	No further action required
PTH12	26°26'47.90"S	23° 4'31.90"E	MSA/LSA	On the summit of the ridge. A triangular blade	3c	No further action required

PTH13	26°27'20.70"S	23° 5'49.20"E	MSA/LSA	In Perth Village, on the east side of the road from Kuruman to Heuningvlei. A cemetery that appears to have been established recently	1b	A 100 m servitude to be reserved
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5.7. 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

13 sites were recorded including a Burial Ground which will be protected.

(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 on the property.

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

The heritage sites recorded (except the Burial Ground) are of low significance.

(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

Over the years investors have shown keen interest in exploiting the minerals resources in the Northern Cape. This interest attracts much needed diversification of the local economy that has been dependent on farming. The Karoo region has been hit by droughts probably linked to a major shift in the climate, which required a shift from farming to other possible stimulus for development.

(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

Public participation was undertaken within the ambit of the broader environmental impact assessment process, and a basic assessment report (BAR) will be submitted with this HIA Report. Public Notices were placed at a local shop and community services centre in Perth Village (Figures 13-16).



Figure 13: A Public Notice placed at the Community Services Centre in Perth Village



Figure 14: A Public Noticer placed at a restaurant in Perth Village



Figure 15: A public Notice placed at the Perth General Dealer shop in Perth Village

ATTENDANCE REGISTER

RE: Heritage Impact Assessment & Palaeontological Desktop Assessment for a Mine Prospecting Application on the Farm Perth 343 near Hotazel in the Joe Morolong Local Municipality, Northern Cape

DATE	NAME	ORGANISATION	PHONE / EMAIL	SIGNATURE
13-02-23	PHILLI P MBIWA	Community	082 955 0881	
13/02/23	LESECID MOKWANE	Perth youth service centre	082 445 6485	
13/02/23	Thabiso Rakheke	Perth youth service centre	0713 888 413	
13/02/23	Faol Mabapa	Perth	079 8077 172	
13/02/23	ELI MOKWANE	PERTH	070 409 8848	
13/02/23	REA MOKWANE	PERTH	076 9117 677	
13/02/23	Gousserang S	PERTH	076 239 6874	
13/02/23	Mozan G.	PERTH	076 239 6874	
13/02/23	Ngwenyane	Perth	076 959 1587	
14/02/23	Mofe Dooce	Perth, SSSIPI	0728 2007 98	
14/02/23	Lucas Segeri	Perth	072651460	
14/02/23	NOAH Sogake	Perth	0614 6427 450	
14/02/23	Frederick Sogake	Tsitsane	079 449 3598	
14-02-23	JEANNETTE	PERTH	0715466088	

Figure 16. Register of local people the research team interacted with in Perth Village

(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 the discovery of other heritage resources deemed of significance, the Provincial Heritage Resources Authority or SAHRA will be informed immediately and an archaeologist or heritage expert called to attend.

5.8. Risk Assessment of the findings

EVALUATION CRITERIA	RISK ASSESSMENT
Description of the potential impact	Negative impacts range from partial to destruction of surface and under-surface movable/immovable relics.
Nature of Impact	Negative impacts can both be direct and indirect.
Legal Requirements	Sections 34, 35, 36, 38 of National Heritage Resources Act No. 25 (1999).
Stage/Phase	Prospecting for minerals (test pits, drilling).
Extent of Impact	Drilling, excavations and the opening of roads may result in damage and destruction of important 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	Medium.
Mitigation measures	If archaeological or other heritage relics deemed of high significance are found, SAHRA or the Provincial Heritage Authority will be notified immediately and a heritage specialist will be called to attend. The Site Manager will keep a heritage Chance Finds Procedure.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.

6. CONCLUSION AND RECOMMENDATIONS

In light of the above findings, the mine prospecting can go ahead. The Burial Ground will be protected. The study is mindful that some important discoveries may be made during prospecting. If this happens operations 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. CATALOGUE OF HERITAGE SITES

SITE NO	COORDINATES		PERIOD
PTH01	26°26'43.50"S	23° 4'14.70"	MSA/LSA
<div style="text-align: center;">   </div>			
DESCRIPTION	On an ironstone ridge that forms a western backdrop of Perth Village. A scraper		
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA		
MITIGATION	No further action required.		

SITE NO	COORDINATES		PERIOD
PTH02	26°26'47.90"S	23° 4'31.90"E	MSA/LSA



DESCRIPTION	On an ironstone ridge that forms a western backdrop of Perth Village. A blade	
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA	
MITIGATION	No further action required.	

SITE NO	COORDINATES		PERIOD
PTH03	26°26'41.90"S	23° 4'6.70"E	MSA/LSA



DESCRIPTION	On an ironstone ridge that forms a western backdrop of Perth Village. A scraper
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA
MITIGATION	No further action required.

SITE NO	COORDINATES		PERIOD
PTH04	26°27'13.10"S	23° 4'28.40"E	MSA/LSA



DESCRIPTION	On an ironstone ridge that forms a western backdrop of Perth Village. A blade	
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA	
MITIGATION	No further action required.	

SITE NO	COORDINATES		PERIOD
PTH05	26°27'44.40"S	23° 4'27.90"E	19 th /20 th centuries



DESCRIPTION	Old dilapidated farmhouse and dairy processing plant. These buildings were inherited by a dairy cooperative from a white farmer in the 1980s. The white owner of the farmer came from Perth Australia and named the farm in honour of his birth place	
HERITAGE SIGNIFICANCE	Association with early modern commercial farming	
MITIGATION	No further action required	

SITE NO	COORDINATES		PERIOD
PTH06	26°27'46.1"S	23°04'02.90"E	MSA/LSA



DESCRIPTION	On the summit of the ironstone ridge near a mobile phone communication mast. 3 scrapers, 2 blades
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA
MITIGATION	No further action required.

SITE NO	COORDINATES		PERIOD
PTH07	26°27'46.00"S	23° 3'49.10"E	MSA/LSA



DESCRIPTION	On the southwestern foot of the ironstone ridge	
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA	
MITIGATION	No further action required	

SITE NO	COORDINATES		PERIOD
PTH08	26°27'47.80"S	23° 3'47.80"E	MSA/LSA



DESCRIPTION	On the southwestern foot of the ironstone ridge. A handaxe	
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA	
MITIGATION	The hand axe can may suitably be placed in a museum collection	

SITE NO	COORDINATES		PERIOD
PTH09	26°27'23.40"S	23° 3'45.10"	MSA/LSA



DESCRIPTION	On the iron ridge to the west of Perth Village, a valley separating two rises. A scraper
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA
MITIGATION	No further action required.

SITE NO	COORDINATES		PERIOD
PTH10	26°26'28.50"S	23° 3'57.70"E	MSA/LSA



DESCRIPTION	On the summit of the ridge which forms a western backdrop of Perth Village. A small handaxe	
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA	
MITIGATION	No further action required.	

SITE NO	COORDINATES		PERIOD
PTH11	26°26'55.10"S	23° 5'17.30"E	MSA/LSA




DESCRIPTION	On the eastern slope of the ironstone ridge near the boundary of Perth and Kome Villages
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA
MITIGATION	No further action required.

SITE NO	COORDINATES		PERIOD
PTH12	26°26'47.90"S	23° 4'31.90"E	MSA/LSA



DESCRIPTION	On the summit of the ridge. A triangular blade	
HERITAGE SIGNIFICANCE	Evidence of hunter-gather activity during the MSA/LSA	
MITIGATION	No further action required.	

SITE NO	COORDINATES		PERIOD
PTH13	26°27'20.70"S	23° 5'49.20"E	MSA/LSA
			
DESCRIPTION	In Perth Village, on the east side of the road from Kuruman to Heuningvlei. A cemetery that appears to have been established recently		
HERITAGE SIGNIFICANCE	Graves are sacred and protected		
MITIGATION	A 100 m servitude to be reserved		

8. GLOSSARY

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

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

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

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

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistoric places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological

or natural features of cultural importance or scientific significance. These include intangible resources such as religious practices, ritual ceremonies, oral histories, memories, indigenous knowledge.

Cultural landscape: a stretch of land that reflects “the combined works of nature and man” and demonstrates “the evolution of human society and settlement over time, under the influence of the physical constraints and / or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.¹⁰

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.

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 2nd millennium AD marked by the emergence of complex state society and long-distance trade contacts.

Late Stone Age: The period from ± 30 000 years ago up until the introduction of metals and farming technology around 2000 years ago, but overlapping with the Iron Age in many areas up until the historical period.

¹⁰ 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.

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.

Site Recording Template: a standard document format for site recording.

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