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## **Phakanani Environmental**

**ARCHAEOLOGICAL AND CULTURAL HERITAGE IMPACT ASSESSMENT  
STUDY REPORT FOR THE PROPOSED CONSTRUCTION OF DE WILDT 50  
MW SOLAR POWER STATION ON PORTION (S) 15, 27 AND 28 OF THE  
FARM SCHIETFONTEIN WHICH IS WITHIN MADIBENG LOCAL  
MUNICIPALITY OF BOJANALA PLATINUM DISTRICT MUNICIPALITY.  
NORTH WEST PROVINCE.**

**December, 2015**

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## DECLARATION

### ABILITY TO CONDUCT THE PROJECT

Munyadziwa Magoma is a professional archaeologist, having obtained his BA degree in Archaeology and Anthropology at University of South Africa (UNISA), an Honours degree at the University of Venda (UNIVEN), and a Masters degree at the University of Pretoria (UP). He is an accredited Cultural Resource Management (CRM) member of the Association for southern African Professional Archaeologists (ASAPA) and Amafa aKwaZulu-Natali. Munyadziwa is further affiliated to the South African Archaeological Society (SAAS), the Society of Africanist Archaeologists (SAfA), and the International Council of Archaeozoology (ICAZ). He has more than seven years' experience in heritage management, having worked for different CRM organisations and government heritage authorities. As a CRM specialist, Munyadziwa has completed well over hundred Archaeological Impact Assessments (AIA) for developmental projects situated in several provinces of the Republic of South Africa. The AIAs projects he has been involved with are diverse, and include the establishment of major substation, upgrade and establishment of roads, establishment and extension of mines. In addition, he has also conducted Heritage Impact Assessments (HIAs) for the alteration to heritage buildings and the relocation of graves. His detailed CV is available on request.

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I, Mr. Munyadziwa Magoma, declare that this report has been prepared independently of any influence as may be specified by all relevant department, institution and organization.

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## EXECUTIVE SUMMARY

### **Introduction and background**

Vhubvo Archaeo-Heritage Consultant Cc was appointed by Phakanani Environmental to conduct an Archaeological Impact Assessment (AIA) for the proposed establishment of De Wildt 50 MW Solar Power Station on Portion (s) 15, 27 and 28 of the farm Schietfontein which is within Madibeng Local Municipality of Bojanala Platinum District Municipality in the North West Province. The aim of the study was to screen the site for archaeological sites, cultural resources, sites associated with oral histories, graves, cultural landscapes, and any structure of historical significance that may be affected by the proposed development, these will in turn assist the developer in ensuring proper conservation measure in line with the National Heritage Resource Act, 1999 (Act 25 of 1999). The findings of this study have been informed by desktop study. The desktop study was undertaken through SAHRIS for previous Cultural Heritage Impact Assessments conducted in the region of the proposed development, and also for researches that have been carried out in the wider area over the past years. In addition, historical background research was also done with the National Archive of South Africa as well as the Deed Office and Surveyor General.

### **Visibility and survey success**

The field survey lasted one day of the 15 of November 2015. Two archaeologists from Vhubvo conducted the survey. The survey was conducted successfully, and enough information of the area was gathered to offer an adequate defensible recommendation.

### **Past survey and receiving environment**

The area proposed for de wildt 50 mw solar power station can be assessed with effortlessness. The general area is currently used for activities related to small scale husbandry. The topography is varied and thus fairly undulating on other section, notwithstanding other area which is fairly flat. The area is located south of the R566 and the village of Tshwara. The terrain is generally in a good state, with minor donga impacts. The surveyed area forms part of the Bankeveld, which lies between Onderstepoort near Pretoria in the east and stretches to Rustenburg in the west, and most of these area were surveyed and or researched by archaeologists such as Huffman 2011; Pistorius 1992, 1994, 1995, 1996, 1997, 1999, 2007; Udo 2001; Vollenhoven and Pelsler 2008. Intensive archaeological research in the area had also been done by Revil Mason (Mason 1962), other archaeologists who had also researched the area includes Maggs 1976, Evens 1984.



## **Brief background study**

The Stone Age is the period in human history when stone materials were used to produce tools. In South Africa the Stone Age can be divided into three periods, Early (More than 2 million years ago - 250 000 years Ago), Middle (250 000 years ago – 25 000 years ago) and Late (25 000 years ago - AD 200). Up to this date, there are no known Stone Age sites in the area of the proposed development. However, some rock art (engravings) sites have been noted west of Zeerust and near Groot Marico to the east of Zeerust (Bergh 1999:5). The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts. In South Africa it can be divided in two separate phases. Early (AD 400 - AD 1025) and Late (AD 1025 - AD 1830). Although there are no known Early Iron Age sites in the area, there are several Late Iron Age sites in the wider area (Bergh 1999: 7 - 8). The Late Iron Age farmers were followed by colonists in the second half of the 19th century. As such, several people of European descent visited the area and include Cambell I in 1820, Robert Schoon and William McLuckie in 1829, David Hume in 1830, Dr. Andrew Smith in 1835 and Cornwallis Harris in 1836 (Bergh 1999: 12 - 13). These were followed by Voortrekkers until the land was expropriated in order to be incorporated in the Bophuthatswana homeland.

## **Impact statement**

The impact of the proposed development on archaeological and cultural heritage remains is rated as being low. The probability of locating any important archaeological remains dating to the Stone or Iron Age during construction of the project is rated as low.

### ➤ **Restrictions and Assumptions**

As with any survey, archaeological materials may be under the surface and therefore unidentifiable to the surveyor until they are exposed once construction resume. As a result, should any archaeological/ or grave site be observed during construction, a heritage specialist must immediately be notified.

## **Survey findings**

The phase 1 Cultural Heritage Impact Assessment for the proposed de wildt 50 mw solar power station revealed no archaeological (Stone and Iron Ages) or historical material in the footprint of the study. In addition, no known cultural sites are close to the proposed area of development.

## **Recommendations**

Although no archaeological objects were observed during the survey, the client is reminded that these often happen underground, as such should any archaeological material be unearthed accidentally during



the course of construction, SAHRA should be alerted immediately and construction activities be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the mean time, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The developer should induct field worker about archaeology, and steps that should be taken in the case of exposing archaeological materials.

### **Conclusions**

The proposed development and planning of the proposed project can proceed without further archaeological or cultural-heritage impact assessment.



## Acknowledgements

The author and the team of Vhubvo would like to acknowledge Phakanani Environmental and the community of Tshwara for their assistance in relation to the completion of this project, also Google earth and Wikipedia. In particular, the staffs of NASA and Deeds office are also thanked greatly.



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## ACRONYMS AND ABBREVIATIONS

AIA	Archaeological Impact Assessment
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
MIA	Middle Iron Age
EIA	Early Iron Age
HMP	Heritage Management Plan
LSA	Late Stone Age
MSA	Middle Stone Age
ESA	Early Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Authority
SAHRA	South African Heritage Resources Agency



## GLOSSARY OF TERMS

The following terms used in this Archaeology are defined in the National Heritage Resources Act [NHRA], Act Nr. 25 of 1999, South African Heritage Resources Agency [SAHRA] Policies as well as the Australia ICOMOS Charter (*Burra Charter*):

**Archaeological Material:** remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures.

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

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

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



**Chance Finds:** means Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

**Compatible use:** means a use, which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

**Conservation** means all the processes of looking after a place so as to retain its cultural significance.

**Expansion:** means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

**Grave:** A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place.

**Heritage impact assessment (HIA):** Refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. The HIA includes recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

**Historic Material:** remains resulting from human activities, which are younger than 100 years, but no longer in use, including artifacts, human remains and artificial features and structures.

**Impact:** the positive or negative effects on human well-being and / or on the environment.



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

**Interested and affected parties Individuals:** communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by the proposal or activity and/ or who are concerned with a proposal or activity and its consequences.

**Interpretation:** means all the ways of presenting the cultural significance of a place.

**Late Iron Age:** this period is associated with the development of complex societies and state systems in southern Africa.

**Material culture** means buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

**Mitigate:** The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

**Place:** means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

**Protected area:** means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers.

**Public participation process:** A process of involving the public in order to identify issues and concerns, and obtain feedback on options and impacts associated with a proposed project, programme or development. Public Participation Process in terms of NEMA refers to: a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters.



**Setting:** means the area around a place, which may include the visual catchment.

**Significance:** can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgments and science-based criteria (i.e. biophysical, physical cultural, social and economic).

**Site:** a spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.



## 1. Introduction

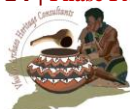
At the request of Phakanani Environmental, Vhubvo Archaeo-Heritage Consultant Cc conducted the Archaeological Impact Assessment (AIA) for the proposed establishment of De Wildt 50 mw solar power station on portion (s) 15, 27 and 28 of the farm Schietfontein which is within Madibeng Local Municipality of Bojanala Platinum District Municipality in the North West Province. The survey was conducted in accordance with the SAHRA Minimum Standards for the Archaeology and Palaeontology. The minimum standards clearly specify the required contents of the report of this nature.

## 2. Sites location and description

The proposed project is located within the jurisdiction of Madibeng Local Municipality which forms part of the Bojanala Platinum District Municipality in the North West Province. The station will be located on Portion (s) 15, 27 and 28 of the Farm Schietfontein, close to the village of Tshwara. The topography is varied and thus fairly undulating on other section, not withstanding other area which is fairly flat. The area is located south of the R566 and the village of Tshwara. The terrain is generally in a good state, with minor donga impacts. The surveyed area forms part of the Bankeveld, which lies between Onderstepoort near Pretoria in the east and stretches to Rustenburg in the west.



**Figure 1:** An overview of the area proposed for development.





**Figure 2:** View of the northern section of the proposed area.



**Figure 3:** An overview of the south-eastern section of the proposed area.



### **3. Nature of the proposed project**

This information was not detailed available at the time of compilation of this report. However, the project entails establishment of De Wildt 50 MW Solar Power Station.

### **4. Purpose of the cultural heritage study**

The purpose of this Archaeological Impact Assessment (AIA) study was to conduct a heritage survey, enabling us to have an understanding of the archaeological, cultural, and general heritage sensitivity of the area proposed for establishment of solar station. Impact assessments highlight many issues facing sites in terms of their management, conservation, monitoring and maintenance, and the environment in and around the site. Therefore, this AIA involves the following:

- Identification and recording of heritage resources that maybe affected by the proposed development,
- Providing recommendations on how best to appropriately safeguard identified heritage sites. Mitigation is an important aspect of any development on areas where heritage sites have been identified.

### **5. Methodology**

The study method refers to the SAHRA Policy Guidelines for impact assessment, 2012. As part of this archaeological impact assessment, the following tasks were conducted: 1) site file search, 2) literature review, 3) consultations, 4) analysis of the acquired data, leading to the production of a report. To understand the archaeology of the prospecting area, a background study was undertaken and relevant institutions were consulted. These studies entails review of archaeological and heritage impact assessment studies that have been conducted around the proposed area thorough SAHRIS. In addition, E-journal platforms such as J-stor, Google scholars and History Resource Centre were searched. The University of Pretoria's Library collection was also pursued. These investigations were fundamental in shading light about the archaeology of the prospecting area, as well as the compilation of this report.





## 6. Applicable heritage legislation

Several legislations provide the legal basis for the protection and preservation of both cultural and natural resources. These include the National Environment Management Act (No. 107 of 1998); Mineral Amendment Act (No 103 of 1993); Tourism Act (No. 72 of 1993); Cultural Institution Act (No. 119 of 1998), and the National Heritage Resources Act (Act 25 of 1999). Section 38 (1) of the National Heritage Resources Act requires that where relevant, an Impact Assessment is undertaken in case where a listed activity is triggered. Such activities include:

- (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; and*
- (c) *any development or other activity which will change the character of an area of land, or water -*
  - (i) *exceeding 5 000 m<sup>2</sup> in extent;*
  - (ii) *involving three or more existing erven or subdivisions thereof; or*
  - (iii) *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
  - (iv) *the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage Resources Authority;*
- (d) *the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or*
- (e) *any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

Section 3 of the National Heritage Resources Act (25 of 1999) lists a wide range of national resources protected under the act as they are deemed to be national estate. When conducting a Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

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



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

**Other sections of the Act with a direct relevance to the AIA are the following:**

**Section 34(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.

**Section 35(4)** No person may, without a permit issued by the responsible heritage resources authority:

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite

**Section 36 (3)** No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside formal cemetery administered by a local authority; or
- bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

## 7. Degree of significance

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

### Significance rating of sites

(i) High

(ii) Medium

(iii) Low

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance



rating would be medium to low. Generally speaking, the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

### **High**

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

### **Medium**

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

### **Low**

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios, permits will be required from the South African Heritage Resources Agency (SAHRA) or the appropriate PHRA as per the legislation (the National Heritage Resources Act, no. 25 of 1999). Destruction of any heritage site may only take place when a permit has been issued by the appropriate heritage authority. The following table is used to grade heritage resources.



**Table 1:** Grading systems for identified heritage resources in terms of National Heritage Resources Act (Act 25 of 1999).

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

## 8. Discussion of Archaeology of the of South Africa

South Africa has one of the longest sequences of human development in the world. The prehistory and history of South Africa span the entire known life span of human on earth. It is thus difficult to determine exactly where to begin, a possible choice could be the development of genus *Homo* millions of years ago. South African scientists have been actively involved in the study of human origins since 1925 when Raymond Dart identified the Taung child as an infant halfway between apes and humans. Dart called the remains *Australopithecus africanus*, southern ape-man, and his work ultimately changed the focus of human evolution from Europe and Asia to Africa, and it is now widely accepted that humankind originated in Africa (Robbins *et al.* 1998). In many ways this discovery marked the birth of palaeoanthropology as a discipline. Nonetheless, the earliest form of culture known in South Africa is the Stone Age. These prehistoric period during which humans widely used stone for tool-making, stone tools were made from a variety of different sorts of stone. For example, flint and chert were shaped for use as cutting tools and weapons, while basalt and sandstone were used for ground stone. Stone Age can be divided into Early, Middle and Late, it is argued that there are two transitional period. Noteworthy that the time frame used for Stone Age period is an approximate and differ from researcher to researcher (see Korsman and Meyer 1999, Mitchell 2002, Robbins *et al.* 1998).



### *Stone Age*

Although a long history of research on the Early Stone Age period of southern Africa has been conducted (Mason 1962, Sampson 1974, Klein 2000, Chazan 2003), it still remains a period where little is known about. These may be due to many factors which includes, though not limited to retrieval techniques used, reliance on secondary, at times unknown sources, and the fact that few fauna from this period has been analysed (Chazan 2003). According to Robbins *et al.* (1998) the Stone Age is the period in human history when stone was mainly used to produce tools. This period began approximately 2.5 million years ago and ended around 200 000 years ago. During this period human beings became the creators of culture and was basically hunters and gatherers, this era is identified by large stone artefacts.

The Middle Stone Age overlap with the EIA and possibly began around 100 000 to about 200 000 years ago and extends up to around 35 000 years ago. This period is marked by smaller tools than in ESA. MSA people made a wide range of stone tools from both coarse – and fine-grained rock types. Sometimes the rocks used for tools were transported considerable distances, presumably in bags or other containers; as such tool assemblages from some MSA sites tend to lack some of the preliminary cores and contain predominantly finished products like flakes and retouched pieces.

Microlithic Later Stone Age period began around 35 000 and extend to the later 1800 AD. According to Deacon (1984), LSA is a period when human being refined small blade tools, conversely abandoning the prepared-core technique. Thus, refined artefacts such as convex-edge scrapers, borers and segments are associated with this period. Moreover, large quantity of art and ornaments were made during this period. Very few Stone Age sites are known to exist in the area. This might have been as a result of few researches that have been done on the larger region. As such, few published papers and studies are available. Most of the Stone Age sites known in the area dates to the Late Iron Age and vary from cave sites to open sites. An example will be rock painting which are located on the shelter of the hill in the region of the town of Warden. Scatters of Late Iron Age tools have also been noted by other AIA studies.



### *Iron Age*

The Iron Age is the name given to the period of human history when metal was mainly used to produce artefacts. Recently, there have been a debate about the use of the name. Other archaeologists have argued that the word “Iron Age” is problematic and does not precisely explain the event of what happened in southern Africa, as such, the word farming communities has been proposed (Segobye 1998). Nonetheless, in South Africa this period can be divided into two phases. Early (200 - 1000 A.D) and Late Iron Age (1000 - 1850 A.D). Huffman (2007) has indicated that a Middle Iron Age (900 - 1300 A.D) should be included. According to Huffman (2007:361), until the 1960s and 1970s most archaeologists had not yet recognised a Middle Iron Age. Instead they began the Late Iron Age at AD 1000. The Middle Iron Age (AD 900–1300) is characterised by extensive trade between the Limpopo Confluence and the East Coast of Africa. This has been debated, with other researchers, arguing that the period should be restricted to Shashe-Limpopo Confluence.

Before the arrival of Europeans, the area was the home to Bantu-speaking peoples such as the Sotho-Tswana. During the Late Iron Age, farming was of significance in the region. These farming communities built numerous stone walled settlements throughout the Free State from the 17th century onwards. These sites are associated with the predecessors of the Sotho-Tswana, and are linked with the so-called N-, V-, R- and Z-Type of settlements which are respectively associated with Fokeng, Kwena, Kgatla and Rolong clans.

### *Historical Period*

Since the arrival of the white settlers - c. AD 1820s - in this part of the country. These settlers were largely self-sufficient, relying on cattle/sheep farming and also hunting. Few towns were established and farming remains the most dominant economy.

## **9. Discussion of Archaeology of the Area**

The North West region possesses a heritage dating to the dawn of humankind, sites such as the Cradle of Humankind World Heritage site signify the depth of the history represented in the North West and Gauteng Province. The Magaliesberg area, like most of North West region has a culture history that goes back to Stone Age periods (also see Deacon and Deacon, 1997). The San left behind a large amount of archaeological evidence including hunting camps marked with stone tools and rock art (Deacon and Deacon 1999). These date



to Earlier Stone Age and may date between 1, 5 million to 250 000 years ago. A good case study ESA sites is the Taung and Sterkfontein World Heritage site shared between the North West and Gauteng Province. The sites yielded evidence of earliest human evolution dating to between 1.5 million years and 250 000 years old. As such the sites are referred to as the cradle of humankind. In line with cultural history chronology the large hand axes and cleavers were replaced by smaller stone tools of the Middle Stone Age (MSA) which consists of flake and blade industries.

The Later Stone Age is characterised by sites of San hunter-gatherers and Khoi pastoralists. Despite their estimated ubiquitous, LSA sites pose bigger challenge to identify in situ because they are spread on open lands most of which are concealed by vegetation and buried underground. Most LSA sites are represented by few stone tools and few fragments of bone (Deacon and Deacon 1999). However the most notable LSA sites that yielded most evidence are those that survived in rock shelters and caves associated with mountain ranges. Magaliesburg Mountains have yielded large collections of LSA sites. The caves and rock shelters exhibit occupational deposits left behind by generations of LSA hunters. The deposits are well preserved consisting of living deposits and rock art paintings along the walls (Deacon and Deacon 1999). About 2000 years ago, evidence of pastoralism started emerging in LSA sites associated with the Khoi pastoralists. The Khoikhoi pastoralists predate the Bantu farmers by centuries. They introduced food production in Southern Africa. They are credited for introducing the first domesticated animals (sheep, goats and cattle and the use of ceramics vessels in Southern Africa (Deacon and Deacon 1999).

The Iron Age of the North West region dates back to the 4th century AD when the Early Iron Age proto-Bantu-speaking farming communities began arriving in this region, which was then occupied by hunter-gatherers. These EIA communities are archaeologically referred to as the Olifantspoort, Buispoort, Thabeng and Uitkomstfacies of the Urewe EIA Tradition (Huffman 2007). The Iron Age communities occupied the foot-hills and valley lands introducing settled life, domesticated livestock, crop production and the use of iron (Huffman 2007).



The area around North West is well known for its vast treasure of archaeological Iron Age settlement that that are scattered between Brits and Rustenburg and to the Pilanesberg. Bokfontein closer to Wolhuterskop yielded Uitkomst pottery from a stone walled site (Huffman 2007). The areas to the southwest of Pilanesberg, such as Pilwe and the Matlapeng Mountains, were not only extensively occupied by the Batlokwa, but were also inhabited by two Batlhako who settled and controlled the area before the arrival of both the Bakgatla and Batlokwa. By 1050 AD Sotho-Tswana Bantu-speaking groups associated with the Late Iron Age called the Blackburn sub-branch of the Urewe Tradition had arrived in the western regions of South Africa, including modern day North West, migrating from the central African region of the Lakes Tanganyika and Victoria (Huffman 2007). According to archaeological data available, the Blackburn facies ranged from AD 1050 to 1500 (*ibid.* p.155). The North West regions saw the development of the LIA Ntsuanatsatsi, Uitkomst and Rooibergfacies between AD 1350 and 1750. This Iron Age archaeological facies represent North West migration by LIA Tswana speaking groups (Huffman 2007). The Late Iron Age Tswana communities indirectly engaged in the Indian Ocean Trade exporting ivory and importing consumables such as cloth and glass beads. The exporting point was Delagoa. This brought the Tswana speaking community in touch with the Indo-Asian and first Europeans (Portuguese). It was the arrival of the Dutch and the English traders that opened up Delagoa Bay to more trade with the international traders (Huffman 2007).

## 10. Survey Findings

The phase 1 Cultural Heritage Impact Assessment for the proposed de wildt 50 mw solar power station revealed no archaeological (Stone and Iron Ages) or historical material in the footprint of the study. In addition, no known cultural sites are close to the proposed area of development.

## 11. Recommendations

Although no archaeological objects were observed during the survey, the client is reminded that these often happen underground, as such should any archaeological material be unearthed accidentally during the course of construction, SAHRA should be alerted immediately and construction activities be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. Accordingly, a professional





archaeologist or SAHRA officer should be contacted immediately. In the mean time, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The developer should induct field worker about archaeology, and steps that should be taken in the case of exposing archaeological materials.

## 12. Conclusion

The proposed development and planning of the proposed project can proceed without further archaeological or cultural-heritage impact assessment.



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## APPENDIX 1: SITE SIGNIFICANCE

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

**(a) Historic value**

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

**(b) Aesthetic value**

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

**(c) Scientific value**

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

**(d) Social value**

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

**(e) Rarity**

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

**(f) Representivity**

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



technique) in the environment of the nation, province, region or locality?

