

**Heritage impact assessment for the
PROPOSED DEVELOPMENT OF A PHOTOVOLTAIC POWER PLANT ON A
PORTION OF THE FARM MATJESSPRUIT 145HP, LEEUDORINGSTAD REGION,
NORTH WEST PROVINCE**

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Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
September 2013

EXECUTIVE SUMMARY

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A PHOTOVOLTAIC POWER PLANT ON A PORTION OF THE FARM MATJESSPRUIT 145HP, LEEUDORINGSTAD REGION, NORTH WEST PROVINCE

Bokamoso Energy (Pty) Ltd proposes the construction, installation and operation of a Photovoltaic (Solar) Power Project on a Portion of the farm Matjesspruit 145HP located in North West Province.

In accordance with Section 38 of the NHRA, an independent heritage consultant was therefore appointed by **Subsolar** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the photovoltaic power plant.

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age) as well as a much later colonial (farmer and industrial/mining) component.

- Although a number of sites, objects and features of cultural significance were identified in the region of the study area, none of these would be impacted on by the proposed development.

We recommend that the proposed development can continue, on condition of acceptance of the above recommendations and requests that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk
Heritage Consultant
September 2013

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TECHNICAL SUMMARY

Property details						
Province	North West Province					
Magisterial district	Klerksdorp					
Topo-cadastral map	2726AB					
Closest town	Leeudoringstad					
Farm name	Matjesspruit 145HP					
Portions/Holdings	-					
Coordinates	Polygon (approximate)					
	No	Latitude	Longitude	No	Latitude	Longitude
	1	-27.15655	26.40052	2	-27.17430	26.41113
	3	-27.17615	26.40511	4	-27.15972	26.39425

Development criteria in terms of Section 38(1) of the NHR Act	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	Yes
Any other development category, public open space, squares, parks, recreation grounds	No

Development	
Description	Development of a solar power facility
Project name	Matjesspruit Solar Power

Land use	
Previous land use	Farming
Current land use	Farming

GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 & 2.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country.

ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
BP	Before Present
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A PHOTOVOLTAIC POWER PLANT ON A PORTION OF THE FARM MATJESSPRUIT 145HP, LEEUDORINGSTAD REGION, NORTH WEST PROVINCE

1. INTRODUCTION

Bokamoso Energy (Pty) Ltd proposes the construction, installation and operation of a Photovoltaic (Solar) Power Project on a Portion of the farm Matjesspruit 145HP¹ located in North West Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), No. 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was therefore appointed by **Subsolar** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the photovoltaic power plant.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

This report does not deal with development projects outside of or even adjacent to the study area as is presented in Section 5 of this report. The same holds true for heritage sites, except in a generalised sense where it is used to create an overview of the heritage potential in the larger region.

2.1 Scope of work

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied.
- A visit to the proposed development area.

The objectives were to:

¹ According to the 1:50 000 cadastral map this farm is indicated as Matjesspruit 42HP.

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

2.2 Limitations

The investigation has been influenced by the following factors:

- No information regarding the location of access roads, site offices and construction camps were available during the initial survey. Therefore this report only deals with the site where the solar plant will be developed.
- This report does not consider the palaeontological potential of the site.

3. HERITAGE RESOURCES

3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
 - ancestral graves;
 - royal graves and graves of traditional leaders;
 - graves of victims of conflict;
 - graves of individuals designated by the Minister by notice in the Gazette;
 - historical graves and cemeteries; and
 - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
 - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - objects to which oral traditions are attached or which are associated with living heritage;
 - ethnographic art and objects;
 - military objects;
 - objects of decorative or fine art;
 - objects of scientific or technological interest; and
 - 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(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar identified sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the five different areas as presented in Section 5 and as illustrated in the various Figures.

4.2 Methodology

4.2.1 Preliminary investigation

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted, e.g. Breutz 1957, 1959, 1968; Cloete 2000; Couzens 2004; Lye 1975; Lye & Murray 1980; Richardson 2001; Van Schalkwyk, 2008, 2010, 2011; Wilson & Anhaeusser 1998.

- Information on events, sites and features in the larger region were obtained from these sources.

4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General (CS-G)* and the *National Archives of South Africa (NASA)* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development. The original Title Deed for the farms could not be traced.

4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

4.2.2 Field survey

The area that had to be investigated was identified by **Subsolar** by means of maps. The site was surveyed by walking transects across it. This can be seen in the track log that is presented in Fig.1 below.

In addition, Mr Isak Makwe was interviewed as to the occurrence heritage sites on the farm. Mr Makwe was born on the farm 67 years ago and has been living there ever since.

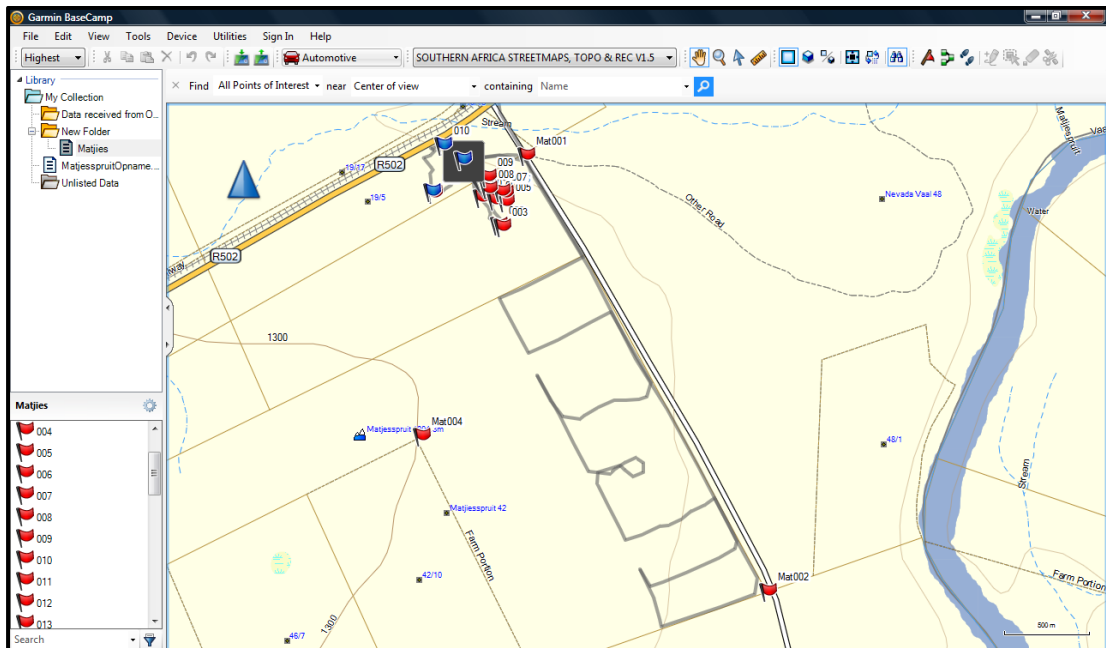


Fig. 1. Track log of the field survey.
(Garmin Oregon 550: BaseCamp)

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Site location and description

The study area is located approximately 18 north east of the town of Leeudoringstad on the R502 to Orkney (Fig. 1). It consists of a rectangular section of land, 130 ha in extent. For more detail, please see the Technical Summary presented on page iv above.

The geology of the area is made up of andesite. The original vegetation is classified as Dry Sandy Highveld Grassland. The topography is described as plains and pans and the Vaal River is located approximately 1 km to the east of the site. The study area is currently used for grazing purposes.

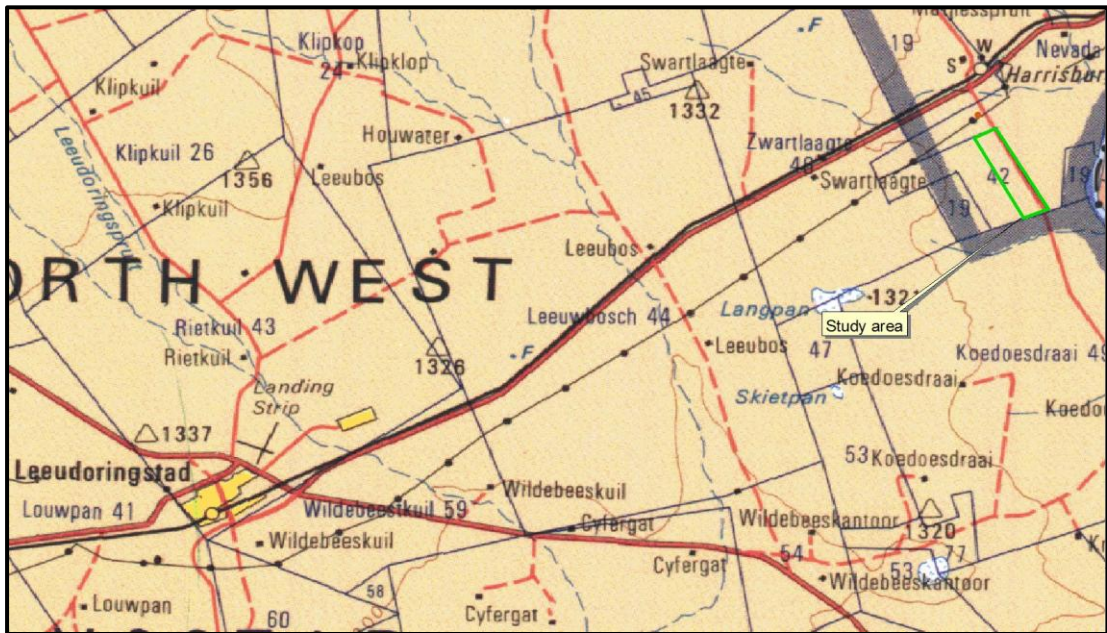


Fig. 2. Location of the study area in regional context.
(Map 2726: Chief Surveyor-General)





Fig. 3. Views over the study area.

5.2 Regional overview

Habitation of the larger geographical area took place since Early Stone Age times. According to Breutz (1959), stone tools dating to all phases of the Stone Age are found frequently in the region, especially in the vicinity of watercourses and hills. However, the largest legacy dating to the Stone Age are the numerous sites with rock engravings found in the region. Some of the farms in the region are known to have rock engravings, e.g. Klerksdrift to the east of the study area.

NHRA Category	Archaeological and palaeontological sites
Protection status	General Protection - Section 35: Archaeology, palaeontology and meteorites

Location	No. 1	S 27.15167	E 26.39716
Description	A low density (1 artefact per 2m ²) of stone tools was identified close to the rim of a small pan that occurs to the east of the study area. The total area where the tools were found is approximately 30 x 10 metres in size. Core pieces as well as tools dating to the First Transitional Phase (Fauresmith) were identified.		
Significance	High on a regional level – Grade III		
Mitigation	This find-spot is located well outside the development area. No further mitigation action required.		



Fig. 4. The stone tools identified in the region.

As yet, no sites dating to the Early Iron Age have been reported from the region and most sites date to the Late Iron Age. According to Breutz (1959) stone walled sites dating to the Late Iron Age and which can be linked to the Tswana occupation of the area, are found on a number of farms in the region, e.g. Waai Hoek and Brul Pan. However, the historic most important one, named Dithakong, is located some distance to the north-west. This site was first visited by early travellers such as Lichtenstein and John Campbell in the early part of the 19th century.

The town of Leeudoringstad was founded in 1918 on the farm Rietkuil. Its name derives from a railway station Leeuwdoorns, which was the scene of a dynamite explosion in 1932.

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	
General Protection - Section 34: Structures older than 60 years	

Location	No. 3	S 27.15342	E 26.39528
Description			
The remains of a number of old farm labourer homesteads. According to Mr I Makwe, see Section 4.2.2, these people left the area during the late 1960. Many of them were family members as well as co-workers.			
Significance	High on a regional level – Grade III		
Mitigation			
These structures are located outside the propose development area and therefore no further mitigation is required.			



Fig. 5. Views of some of the homesteads.

- Cemeteries

Apart from the formal cemeteries that occur in municipal areas (towns or villages), some quite informal, i.e. without fencing, can be expected to occur anywhere.

Most of these cemeteries, irrespective of the fact that they are for land owner or farm labourers (and with a few exceptions where they were integrated), are family orientated. They therefore serve as important 'documents' linking people directly by name to the land.

NHRA Category	Graves, cemeteries and burial grounds
Protection status	
General Protection - Section 36: Graves or burial grounds	

Location	No. 2	S 27.15526	E 26.39589
-----------------	-------	------------	------------

Description	
An informal burial place with approximately 15 graves. Although the graves are only marked with stone cairns and have no headstones, Mr I Makwe, see Section 4.2.2 above, claim to know most of the buried people as many are related to him.	
Significance	High on a regional level – Grade III
Mitigation	
This feature is located outside the proposed development area. However, is recommended that it is fenced off with danger tape during the construction period in order to prevent accidental damage.	



Fig. 6. The informal cemetery.

5.3 Development proposal

The farm Matjesspruit 145HP, Matlosana Municipality, is 650ha in size. It is planned to develop the solar farm (75MW) on 130ha of this (Fig. 2).



Fig. 7. The development area, shown outlined in blue.

5.4 Identified heritage sites

The following sites, features and objects of cultural significance have been identified to exist in the study region and their location is presented in Fig. 5 below:

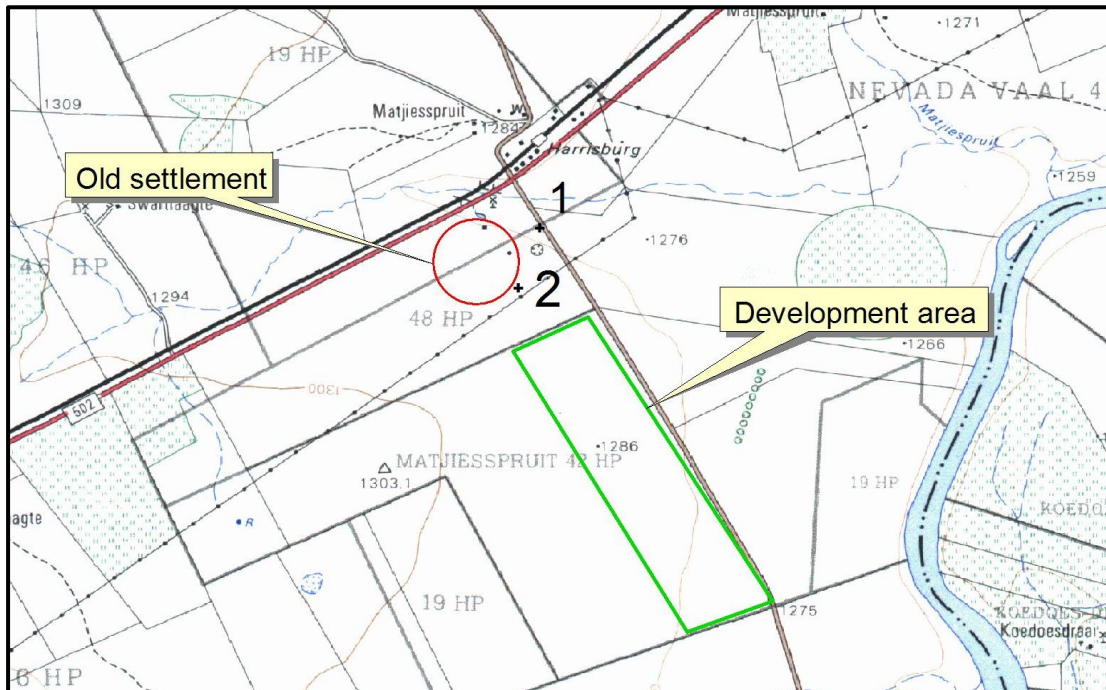


Fig. 8. Location of identified sites in relation to the development area.
(Map 2726AB: Chief Surveyor-General)

5.1.3.2 Stone Age

- No sites, features or objects dating to the Stone Age were identified in the study area.

5.1.3.3 Iron Age

- No sites, features or objects dating to the Iron Age were identified in the study area.

5.1.3.4 Historic period

- No sites, features or objects dating to the historic period were identified in the study areas.

6. SITE SIGNIFICANCE AND ASSESSMENT

6.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

6.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

Based on current information regarding sites in the surrounding area, all sites that occur in the study region would have been judged to have Grade III significance.

Table 2. Summary of identified heritage resources in the study area.

Identified heritage resources	
<i>Category, according to NHRA</i>	<i>Identification/Description</i>
Formal protections (NHRA)	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
General protections (NHRA)	
structures older than 60 years (Section 34)	None
archaeological site or material (Section 35)	None
palaeontological site or material (Section 35)	None
graves or burial grounds (Section 36)	None
public monuments or memorials (Section 37)	None
Other	
Any other heritage resources (describe)	None

6.3 Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

- Although a number of sites, objects and features of cultural significance were identified in the region of the study area, none of these would be impacted on by the proposed development.

7. CONCLUSIONS

The aim of this survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the areas of the proposed development, to assess the significance thereof and to consider alternatives and plans for the mitigation of any adverse impacts.

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age) as well as a much later colonial (farmer and industrial/mining) component.

- Although a number of sites, objects and features of cultural significance were identified in the region of the study area, none of these would be impacted on by the proposed development.

We recommend that the proposed development can continue, on condition of acceptance of the above recommendations and requests that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

8. REFERENCES

8.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa
SAHRA Archaeology and Palaeontology Report Mapping Project (2009)

8.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Breutz, P-L. 1959. *The tribes of Vryburg district*. Ethnological Publications No. 46. Pretoria: Government Printer.

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Mason, R.J. 1986. *Origins of the Black People of Johannesburg and the southern western central Transvaal AD 350-1880*. Occasional Paper No. 16. Johannesburg: Archaeological Research Unit, University of the Witwatersrand.

Norman, N. & Whitfield, G. 2006. *Geological Journeys*. Cape Town: Struik Publishers.

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Van Schalkwyk, J.A. 2011. *Heritage impact assessment for the proposed Vryburg-Mookodi 132kV power line development, North West Province*. Unpublished report 2011/JvS/072.

Wilson, M.G.C. & Anhaeusser, C.R. 1998. *The Mineral Resources of South Africa*. Sixth Edition. Handbook 16. Pretoria: Council for Geosciences.

8.3 Maps and aerial photographs

1: 50 000 Topocadastral maps
Google Earth

8.4 Interviews

Mr Isak Makwe who was born and raised on the farm.

APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF CULTURAL HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. 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.

Matrix used for assessing the significance of each identified site/feature

1. 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 organisation of importance in history				
Does it have significance relating to the history of slavery				
2. Aesthetic value				
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
3. 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				
4. Social value				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
5. Rarity				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
6. Representivity				
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects				
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				
Importance 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.				
7. Sphere of Significance		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
8. Significance rating of feature				
1.	Low			
2.	Medium			
3.	High			

APPENDIX 2: RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) 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.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) 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 a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.