Archaeological Scoping Report for the Proposed Establishment of the Lethabo Solar PV facility, Free State Province

Prepared For

Savannah Environmental (Pty) Ltd

By

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VERSION 1.0

28 NOVEMBER 2014

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ACKNOWLEDGEMENT OF RECEIPT

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I, Jaco van der Walt as duly authorised representative of Heritage Contracts and Archaeological Consulting CC, hereby confirm my independence as a specialist and declare that neither I nor the Heritage Contracts and Archaeological Consulting CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which Savannah Environmental was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

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EXECUTIVE SUMMARY

Site name and location: The Lethabo Solar PV Facility is located on Portion 0 of Farm 1814, Free State Province

1: 50 000 Topographic Map: 2627DB and 2627DD

EIA Consultant: Savannah Environmental (Pty) Ltd.

Developer Eskom Holdings (SOC) Limited

Heritage Consultant: Heritage Contracts and Archaeological Consulting CC (HCAC).

Contact person: Jaco van der Walt Tel: +27 82 373 8491 E –mail jaco.heritage@gmail.com.

Date of Report: 28 November 2014

Findings of the Assessment:

This scoping study revealed that a range of various heritage sites can occur in the greater area. Previous work in the area indicated that graves, historical structures as well as stone walled sites can be expected in the greater study area.

It is recommended that an archaeological impact assessment should be conducted prior to the development to determine whether the development footprint will impact on heritage significant sites and to recommend suitable mitigation measures if this is the case.

A Palaeontological desktop study by Dr Barry Millsteed also indicated that the development can commence if the mitigation measures and recommendations in his report are adhered to. His report is included as Annexure A (Millsteed 2014).

Disclaimer: *Although all possible care is taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Heritage Contracts and Archaeological Consulting CC and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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Annexure A – Paleontological Desktop Study

ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (2 million to 300 000 years ago)

Middle Stone Age (300 000 to 30 000 years ago)

Late Stone Age (30 000 years ago until recent)

Historic (approximately AD 1840 to 1950)

Historic building (over 60 years old)

Lithics: Stone Age artefacts

1. INTRODUCTION

Heritage Contracts and Archaeological Consulting CC was contracted by Savannah (Pty) Ltd to conduct a Heritage Scoping report for the proposed Lethabo Solar PV Development.

The heritage scoping report forms part of the EIA for the proposed project.

The aim of the scoping report is to conduct a desktop study to identify possible heritage resources within the project area and to assess their importance within a Local, Provincial and National context. The study furthermore aims to assess the impact of the proposed project on non - renewable heritage resources and to submit appropriate recommendations with regards to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage legislation.

The report outlines the approach and methodology utilized for the Scoping phase of the project. The report includes information collected from various sources and consultations. Possible impacts are identified and mitigation measures are proposed in the following report. It is important to note that no field work was conducted as part of the scoping phase but will be conducted as part of the Impact Assessment phase of the EIA.

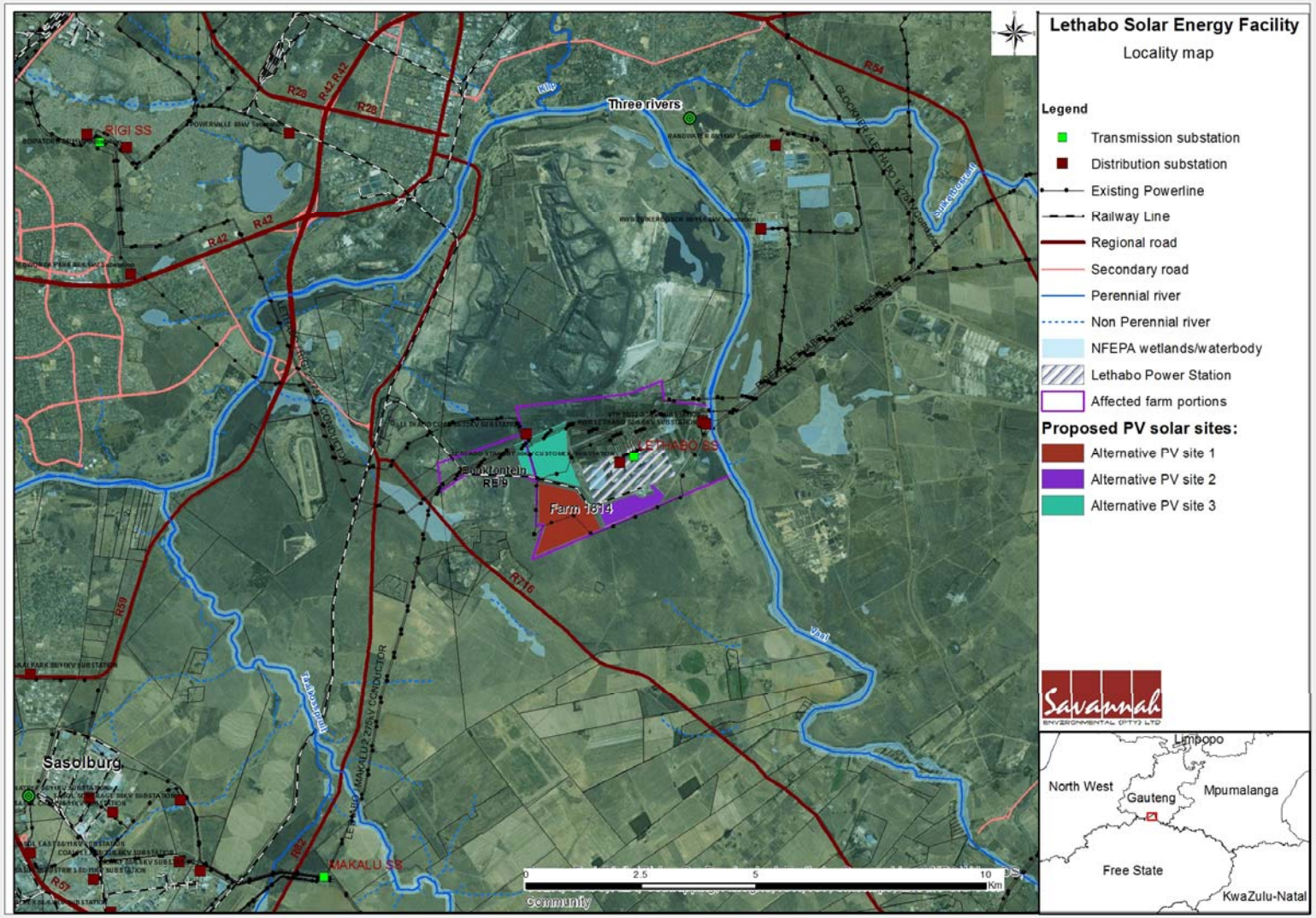

Figure 1: Location Map of the proposed Lethabo Solar PV Project.

1.2 Terms of Reference

The main aim of this scoping report is to determine if any known heritage resources occur within the study area and to predict the occurrence of any possible heritage significant sites that might present a fatal flaw to the proposed project. The objectives of the scoping report were to:

- Conduct a desktop study:
    - Review available literature, previous heritage studies and other relevant information sources to obtain a thorough understanding of the archaeological and cultural heritage conditions of the area;
    - Gather data and compile a background history of the area;
    - Identify known and recorded archaeological and cultural sites;
    - Determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.
- Report

The reporting of the scoping component is based on the results and findings of the desk-top study, wherein potential issues associated with the proposed project will be identified, and those issues requiring further investigation through the IA Phase highlighted. Reporting will aim to identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project activity on the identified heritage resources for all 3 development stages of the project, i.e. construction, operation and decommissioning. Reporting will also consider alternatives should any significant sites be impacted on by the proposed project. This is done to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage Legislation.

1.3 Nature of the development

Three alternatives are being considered (Figure 2). The PV Facility will include the following infrastructures:

- Arrays of photovoltaic (PV) panels.
- Mounting structures to support the PV panels.
- Cabling between the project components.
- Inverters/transformer enclosures.
- An on-site substation or switching station.
- A power line to facilitate the connection of the solar energy facility to the existing substation at the power station.
- Internal access roads.
- Buildings (which could include workshop area for maintenance and storage, and an on-site office).

1.4 The receiving environment

The proposed project is located on Portion 0 of Farm 1814, Free State Province

The study area is flat undulating terrain and is extensively disturbed by development relating to the Power Station and previous mining activities. It is situated within the Grassland Biome with a relatively flat topography (Mucina, et al., 2006).

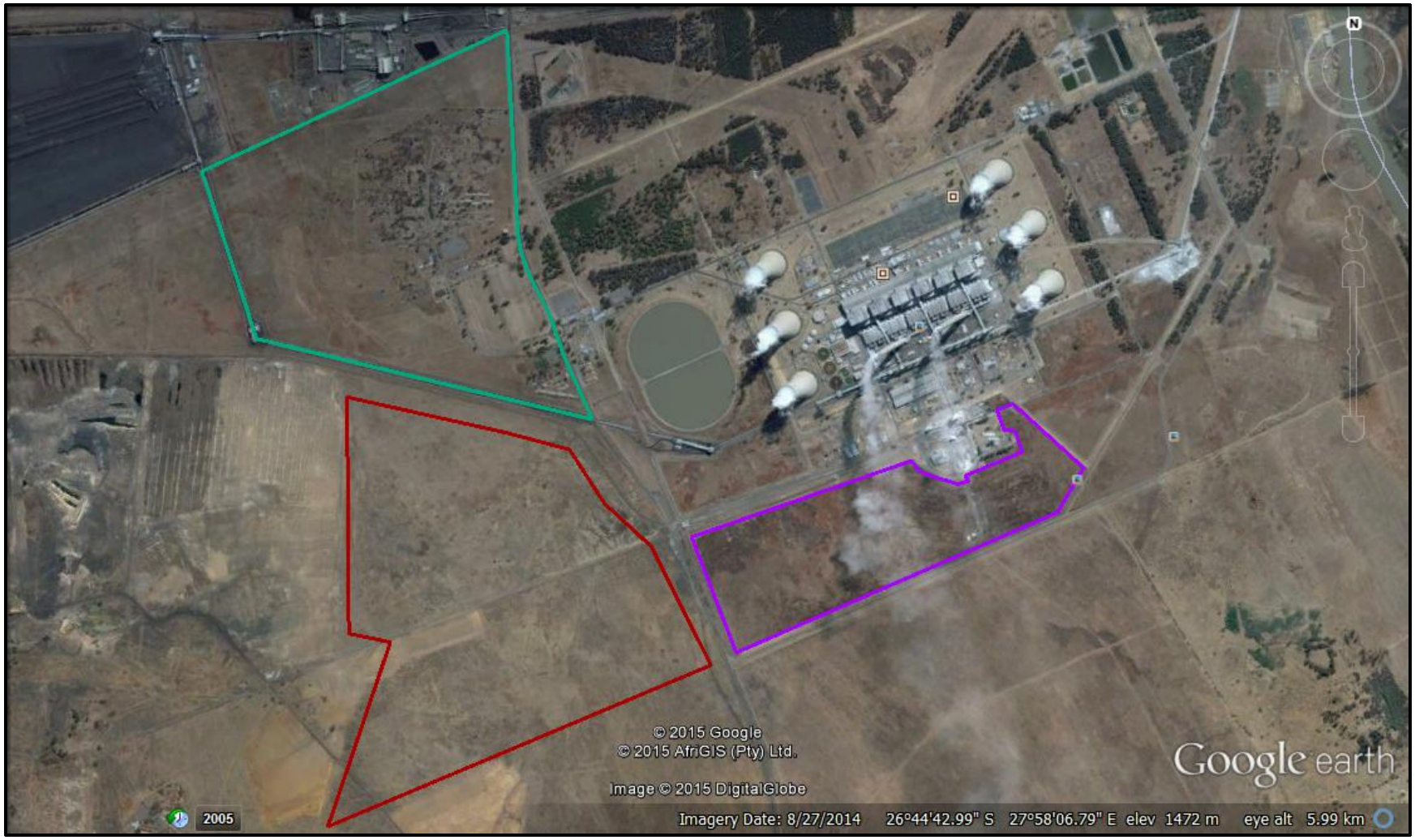

Figure 2: Google image of the study area with a red polygon indicating alternative 1, purple polygon indicating alternative 2 and the turquoise polygon indicating alternative 3.

2. APPROACH AND METHODOLOGY

The assessment is to be undertaken in two phases, a desktop study as part of the Scoping phase and an Archaeological Impact Assessment as part of the Environmental Impact Assessment phase. This report concerns the scoping phase. The aim of the scoping phase is to cover archaeological and cultural heritage data available to compile a background history of the study area. In order to identify possible heritage issues or fatal flaws that should be avoided during development.

This was accomplished by means of the following phases (the results are represented in section 4 of this report):

2.1 Literature search

A literature search was conducted utilising data from published articles on the archaeology and history of the area. The aim of this is to extract data and information on the area in question, looking at archaeological sites, historical sites and graves of the area.

2.2 Information collection

The SAHRA report mapping project (Version 1.0) and SAHRIS was consulted to further collect data from CRM practitioners who undertook work in the area to provide the most comprehensive account of the history of the area where possible.

2.3 Public consultation

A full public consultation process is facilitated by Savannah Environmental.

2.4 Google Earth and mapping survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological sites might be located.

2.5 Genealogical Society of South Africa

The database of the genealogical society was consulted to collect data on any known graves in the area.

3. LEGISLATION

For this project the National Heritage Resources Act, 1999 (Act No. 25 of 1999) is of importance and the following sites and features are protected:

a. Archaeological artefacts, structures and sites older than 100 years
b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
c. Objects of decorative and visual arts
d. Military objects, structures and sites older than 75 years
e. Historical objects, structures and sites older than 60 years
f. Proclaimed heritage sites
g. Grave yards and graves older than 60 years
h. Meteorites and fossils
i. Objects, structures and sites or scientific or technological value.

The national estate that includes the following:

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 features of cultural significance
e. Geological sites of scientific or cultural importance
f. Archaeological and palaeontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

Section 34 (1) of the act deals with structures which is older than 60 years. Section 35(4) of this act deals with archaeology, palaeontology and meteorites. Section 36(3) of the National Heritage Resources Act, deals with human remains older than 60 years. Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

3.1 Heritage Site Significance and Mitigation Measures

The presence and distribution of heritage resources define a Heritage Landscape. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. National and Provincial Monuments are recognised for conservation purposes. The following interrelated criteria were used to establish site significance:

- The unique nature of a site;
- The integrity of the archaeological/cultural heritage deposit;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined or is known);
- The preservation condition of the site;
- Potential to answer present research questions.

The criteria above will be used to place identified sites with in SAHRA's (2006) system of grading of places and objects which form part of the national estate. This system is approved by ASAPA for the SADC region. The recommendations for each site should be read in conjunction with section 10 of this report.

FIELD RATING	***GRADE***	***SIGNIFICANCE***	***RECOMMENDED MITIGATION***
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

4. REGIONAL OVERVIEW

4.1 General Information

4.1.1. Literature search
No reference could be found relating to known heritage sites for the study area.

4.1.2. Information collection
Very little research has been done in this area and the following studies were consulted for this report: archaeological impact assessment (vd Walt et al 2005) and a heritage Impact study (Bruwer 2006). Du Piesanie also completed an NID for a proposed sand mine close to the study area. Heritage features identified in these studies include mostly Stone Age components and historical features. Du Piesanie indicated that the area was used for extensive plantations and this would have destroyed and disturbed any surface evidence of heritage features. Graves can be expected anywhere on the landscape.

4.1 3. Public consultation
A full public participation process should be facilitated by Savannah environmental as per the EIA process.

4.1.4. Google Earth and mapping survey
Google Earth and 1:50 000 maps of the area was utilised to identify possible places where archaeological sites might be located.

4.1.5. Genealogical Society of South Africa
No grave sites are indicated within the study area.

4.2. Palaeontology
The palaeontology of the area has been assessed at a desktop level by Dr Barry Millsteed. He concluded the following:

“The preferred project location and the identified alternative location are both underlain by potentially fossiliferous sedimentary rocks of the Early Permian Vryheid Formation. The potential for the proposed project to result in a negative impact upon the palaeontological heritage of the site has been assessed as moderate. The fossils known to be present within the formation elsewhere in South Africa are known to contain highly scientifically and culturally significant fossils, particularly the plant macrofossils of the Glossopteris flora. Any damage caused to the fossil materials that may be present within the strata underlying the project area would be both permanent and irreversible.”

Recommendations and mitigation measures are included in the report.

4.3 Archaeological and Historical Information Available on the Study Area”

The historical background and timeframe of the study area can be divided into the Stone Age, Iron Age and Historical timeframe. These can be divided as follows:

Stone Age
The Stone Age is divided in Early; Middle and Late Stone Age and refers to the earliest people of South Africa who mainly relied on stone for their tools.

Early Stone Age: The period from ± 2.5 million yrs - ± 250 000 yrs ago. Acheulean stone tools are dominant.
Middle Stone Age: Various lithic industries in SA dating from ± 250 000 yrs – 25 000 yrs before present. This period is first associated with archaic *Homo sapiens* and later *Homo sapiens sapiens.* Material culture includes stone tools with prepared platforms and stone tools attached to handles.
Late Stone Age: The period from ± 25 000-yrs before present to the period of contact with either Iron Age farmers or European colonists. This period is associated with *Homo sapiens sapiens.* Material culture from this period includes: microlithic stone tools; ostrich eggshell beads and rock art.

The Vaal Gravels are known to contain Early and Middle Stone Age Artefacts and some Rock Engraving sites are on record around the greater study area. Directly northwest of current operations, the rock engraving site of Leeuwkuil is located. Hollmann (1999) described the sites as being located on a small island in the Vaal River. Engravings are concentrated on the south-eastern part of the peninsula. The images are dominated by Eland and other antelope, which appeared to be in the San hunter-gatherer engraving tradition (Hollmann, 1999). Pistorius (2007) discusses the Redan rock engraving site which contains up to 244 rock engravings. These engravings depict animals, geometric designs as well as San weapons (Du Piesani 2014).

Iron Age

The Iron Age as a whole represents the spread of Bantu speaking people and includes both the Pre-Historic and Historic periods. Similar to the Stone Age it to can be divided into three periods:
The Early Iron Age: Most of the first millennium AD.
The Middle Iron Age: 10th to 13th centuries AD
The Late Iron Age: 14th century to colonial period.
Almost no Iron Age Sites are on record close to the study area.

Historical Timeframe

17th Century to present AD (1600 – 2000)
The historic timeframe intermingles with the later parts of the Stone and Iron Age, and can loosely be regarded as times when written and oral recounts of incidents became available. Close to the study area several historic events happened and the following section will look at this in closer detail.

The follow section consists of summarised extracts from a study conducted by Bruwer (2007) on the farm Mcawvlei. Please refer to the full report for references etc. During this study limited public consultation was conducted and through this the historic importance of the Vaal River crossings at Viljoensdrift, west of the study area was highlighted. Particularly, the use of these crossings both before and after the inauguration of the rail link between the former Transvaal Republic on the one hand, and the Orange Free State and Cape Colony on the other hand. Secondly the events associated with the British forces' successful entry in 1900 into the Transvaal during the Second Anglo-Boer War are of interest.

The events were put into motion by the discovery of coal. The first coal deposits at present-day Vereeniging were discovered by the pioneer geologist George William Stow in 1878. Although the main section of the coalfield lies on the Free State side of the Vaal River, a small section of this large coalfield extends under the river into the Gauteng Province. It was on the farm Leeuwkuil that Stow started to mine coal from a pit in 1879 which became

part of the Bedworth Colliery. The Bedworth Colliery was later replaced by the Central Mine, on the western banks of the Vaal River, not far from Viljoensdrift.

From Bruwer's study it became evident that "Viljoen se drif" was constructed by Josua Jacobus Viljoen, a pioneer farmer of the area and son-in-law of Jan Adriaan Venter (owner of the farm Leeuwkuil.) North of the drift a ferry was used by both the local farmers and transport riders to cross the Vaal River when in flood. The ferry was operational since the 1850's.

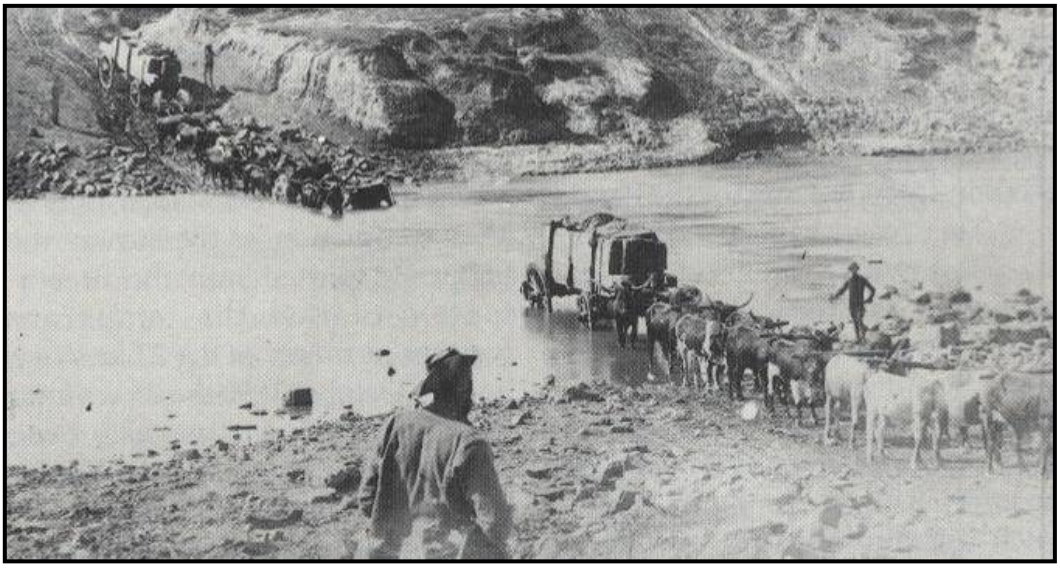

Figure 3: Showing wagons crossing Viljoensdrift, adapted from Bruwer

In 1880, two years after Stow's discovery of the first coal deposits, the *Zuid-Afrikaansche en Oranje Vrijstaatsche Kolen en Mineralen Vereeniging* was formed by Messrs Isaac Lewis and Sammy Marks. Altogether 16 farms comprising of more than 126 acres of land on both sides of the Vaal River – 75 percent of which was eventually proved to be underlain with coal - were purchased by the Lewis and Marks consortium.

After the discovery of gold in the Witwatersrand, between 1886 and 1891, up to 200 ox-wagons could be seen daily close to the drift and the ferry at the Bedworth Mine. From here the wagons were moved across the Vaal River when in flood. The transport riders brought heavy machinery from the Cape, needed to develop the gold mines. Their wagons, their most important mode of transport, were also used for the transportation of coal to the mines at Johannesburg and to a lesser extent to transport goods to the diamond mines in Kimberley.

One of the problems that aroused from the situation was fresh water and grazing for the oxen, farmers then started charging fees for wagons on their properties. Lewis and Marks saw an opportunity here and advertised an offer of free grazing and water to any transport rider outspanning on their properties. The time limit for the offer was 14 days and then, the transport rider usually loaded up with coal either for the journey to the Kimberley diamond mines or the Rand. The coal was loaded in bags of 224 lbs and each wagon carried 4 tons.

One of the transport riders was a young man called Jacobus de la Rey, who later became famous as a Boer general.

In 1889, President Paul Kruger proclaimed the Township of Vereeniging. Work was completed on the railway bridge at Viljoensdrift in 1892. In proportion to the increased coal mine activities, Viljoensdrift became an important railhead in the overall development of the gold mining industry on the Witwatersrand.

After this the arrival of the railway on the Rand saw the beginning of the notorious War of Rates. It was agreed by the Government of the *Zuid-Afrikaansche Republiek* that the competing lines of railway from the Cape (i.e. via Viljoensdrift) and Delagoa Bay (to the Rand), should reach Johannesburg at the same time in order to ensure that there is no unfair advantage for being first. The line from Viljoensdrift to Johannesburg was completed and then the rate war became even more intense.
It was the policy of the *Nederlandsche Zuid-Afrikaansche Spoorweg Maatskappij* to develop the trade with Delagoa Bay as much as possible. The Cape Administration then lowered their rates to Viljoensdrift; but was always countered by lower rates from Vereeniging to the Rand. The Cape authorities then decided to build a branch line from Viljoens Drift Station to a site on the banks of the River near the Pont, here all goods for the Rand were offloaded, packed on wagons, and dispatched directly to their destinations. The Transvaal Government retaliated by declaring the drift no longer a port of entry to the Transvaal. This was a bad move and was later retracted

When the Second Anglo-Boer War (1899-1902) had entered its second year the area around the current Lethabo Power Station also had its share of the action. Coal production on the mines was greatly reduced owing to the lack of labour. As a result, only enough coal was mined for local consumption during the remaining part of the war.

On 3 May 1900, nearly two months after the British occupation of Bloemfontein, the British forces in the Orange Free State, under the direct command of Lord Roberts – at the time known as Roberts's 'Grand Army' -began their advance toward Johannesburg and the capital of the Transvaal Republic, Pretoria. Viljoens Drift was again used by the Transvaal Boers retreating before Roberts across the Vaal River.

It appears that a rear-guard, of some 50 members of a Boer commando, led by General Lemmer, was positioned close to Viljoensdrift Station. Their objective was to hamper the British advance. Some Boers were found damaging a store and holding a mine. The mounted infantry drove these men out of the store and mine, but were too late to prevent the last train from going over the bridge (northeast of Viljoensdrift). The bridge was blown up shortly afterwards. Henry then crossed at the drift and Vereeniging was occupied.
Lord Roberts and the mounted infantry were on the Vaal on the morning of May 26, at Viljoen's Drift. As they entered the river some shots were exchanged; a battery of horse artillery came into action; and the drift was won.

According to Bruwer it is difficult to establish a coherent picture of the skirmishes which occurred in the area of Viljoensdrift Station and Viljoensdrift, on 26 May 1900. It is clear that the resistance encountered by Colonel Henry's advance guard on 26 May 1900 from the Boers, was limited. General Lemmer's commando was pushed aside without any effort. It seems that the successful crossing of the Vaal River further to the west by General John French's column at Parys on 24 May 1900, and by General Ian Hamilton's cavalry at Boschbank on 26 May 1900, had effectively diminished the importance of any Boer opposition of the British crossing of the Vaal River at Vereeniging.

On 27 May 1900, Lord Roberts, at the head of the two infantry divisions of the central column, crossed the Vaal River at Viljoensdrift. On 28 May 1900, the army began its advance toward the gold mines of the Witwatersrand. Johannesburg was captured four days later on 31 May 1900 that ended in Roberts's famous 26 day march from Bloemfontein to the Rand.

5. PROBABILITY OF OCCURRENCE OF SITES

Based on the above information, it is possible to determine the probability of finding archaeological and cultural heritage sites within the study area to a certain degree. For the purposes of this section of the report the following terms are used – low, medium and high probability. Low indicates that no known occurrences of sites have been found previously in the general study area, medium probability indicates some known occurrences in the general study area are documented and can therefore be expected in the study area and a high probability indicates that occurrences have been documented close to or in the study area and that the environment of the study area has a high degree of probability having sites.

» Palaeontological landscape

Fossil remains*. Medium probability.*

» Archaeological And Cultural Heritage Landscape

NOTE: *Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface*.

*Archaeologica*l remains dating to the following periods can be expected within the study area:

» Stone Age finds

ESA: *Low-Medium Probability*
MSA*: Low-Medium Probability*
LSA: Low-Medium Probability
LSA –Herder: Low Probability

» Iron Age finds

EIA: *Low-Medium Probability*
MIA*: Low Probability*
LIA: Medium- High Probability

» Historical finds

Historical period: *Low-Medium Probability*
Historical dumps: *Low-Medium Probability*
Structural remains: *Low-Medium Probability*
Cultural Landscape*: low probability*

» Living Heritage
For example rainmaking sites: *Low Probability*

» Burial/Cemeteries

Burials over 100 years: *Low-Medium Probability*
Burials younger than 60 years*: Medium Probability*

Subsurface excavations including ground levelling, landscaping, and foundation preparation can expose any number of these.

6. ASSUMPTIONS AND LIMITATIONS

The study area was not subjected to a field survey as this will be done in the EIA phase. It is assumed that information obtained for the wider area is applicable to the study area.

7. FINDINGS

The heritage scoping study revealed that the following heritage sites, features and objects that can be expected within the study area.

7.1. Palaeontological

Any construction or servitude operations for this site must be done taking the recommendations made by Dr Millsteed in Annexure A into account to ensure that it does not impact on the fossil record of South Africa.

7.2. Archaeology

7.2.1 Archaeological finds

There is a low - medium likelihood of finding MSA sites scattered over the study area similar to finds made to the north (Huffman 1999).

7.2.2 Nature of Impact

The construction phase of the project could directly impact on surface and subsurface archaeological sites.

7.2.3 Extent of impact

The project could have a low to medium impact on a local scale.

7.3. Historical period

7.3.1 Historical finds: I

Historical finds include middens, structural remains and cultural landscape. No homesteads/structures are visible on Google earth in the study area. Without a field survey it is not possible to determine the age of the buildings.

7.3.2 Nature of Impact

The construction of the project can directly impact on both the visual context and sense of place of historical sites.

7.3.3 Extent of impact

The construction phase of the project could have a low – medium impact on a local scale.

7.4. Burials and Cemeteries

7.4.1 Burials and Cemeteries
Graves and informal cemeteries can be expected anywhere on the landscape and the location of any graves will have to be confirmed during a field visit.

7.4.2 Nature of Impact
The construction and operation of the proposed project could directly impact on marked and unmarked graves.

7.4.3 Extent of impact
The project could have a low to medium impact on a local scale.

8. POTENTIAL SIGNIFICANCE OF HERITAGE RESOURCES
Based on the current information obtained for the area at a desktop level it is anticipated that any archaeological sites that occur within the proposed development area will have a Generally Protected B (GP.B) field rating and all sites should be mitigatable and no red flags are identified. Graves are of high social significance and can be expected anywhere in the landscape.

9. CONCLUSIONS AND RECOMMENDATIONS

This scoping study revealed that a range of heritage sites occur in the larger region and similar sites can be expected within the study area. Every site is relevant to the Heritage Landscape, but it is anticipated that no site in the study area could have conservation value and all three alternatives are acceptable from a heritage perspective. The following conclusions are applicable to the potential sites:

» Archaeological sites

All sites could be mitigated either in the form of conservation of the sites with in the development or by a Phase 2 study where the sites will be recorded and sampled before the client can apply for a destruction permit for these sites prior to development.

» Historical finds and Cultural landscape

Several structures occur within the study area and could possibly be older than 60 years and protected by heritage legislation. This assumption will however have to be verified in the field.

» Burials and cemeteries

Formal and informal cemeteries as well as pre-colonial graves occur widely across Southern Africa. It is generally recommended that these sites are preserved with in a development. These sites can how ever be relocated if conservation is not possible, but this option must be seen as a last resort and is not advisable. The presence of any grave sites must be confirmed during the field survey and the public consultation process.

» General

It is recommended that as part of the public consultation process the presence of graves, archaeological and historical sites should be determined.

10. PLAN OF EIA

This scoping study highlighted the fact that Iron Age settlements, historic homesteads and graves can occur in the study area. Therefor in order to comply with the National Heritage Resources Act (Act 25 of 1999) a Phase 1 Archaeological Impact Assessment must be undertaken. During this study sites of archaeological, historical or places of cultural interest must be located, identified, recorded, photographed and described. During this study the levels of significance of recorded heritage resources must be determined and mitigation proposed should any significant sites be impacted upon, ensuring that all the requirements of SAHRA are met.

Dr Barry Millsteed completed a desktop paleontological assessment of the area and did not record any reasons why the development cannot continue if the recommendations in his report are adhered to. His letter is included as Annexure A. It is incumbent upon the developer to ensure that these recommendations are implemented before construction starts.

11. LIST OF PREPARERS

Jaco van der Walt (Archaeologist and project manager)

Dr Barry Millsteed (Palaeontology Specialist)

Liesl Bester (Archival Specialist)

12. STATEMENT OF COMPETENCY

The author of the report is a member of the Association of Southern African Professional Archaeologists and is also accredited in the following fields of the Cultural Resource Management (CRM) Section, member number 159: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. Jaco is also an accredited CRM Archaeologist with SAHRA and AMAFA.

Jaco has been involved in research and contract work in South Africa, Botswana, Mozambique, Zimbabwe, Tanzania and the DRC and conducted well over 300 AIAs since he started his career in CRM in 2000. This involved several mining operations, Eskom transmission and distribution projects and infrastructure developments. The results of several of these projects were presented at international and local conferences.

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