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SAHRIS Case ID: 8728

Environmental Authorisation Application for the Namane IPP Project, Duikerpan 249LQ, Lephalale Local Municipality, Limpopo Province

Heritage Scoping Report

Project Number:

NAM3248

Prepared for:

Namane Generation (Pty) Ltd

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Project Name:	Environmental Authorisation Application for the Namane IPP Project, Duikerpan 249LQ, Lephale Local Municipality, Limpopo Province
Project Code:	NAM3248

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I, Natasha Higgitt as duly authorised representative of Digby Wells and Associates (South Africa) (Pty) Ltd., hereby confirm my independence (as well as that of Digby Wells and Associates (South Africa) (Pty) Ltd.) and declare that neither I nor Digby Wells and Associates (South Africa) (Pty) Ltd. have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of Namane Generation (Pty) Ltd, other than fair remuneration for work performed, specifically in connection with the Heritage Resources Management (HRM) Process for the proposed Namane IPP Project, Limpopo Province.



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EXECUTIVE SUMMARY

Namane Generation (Pty) Ltd (Namane) intends to build an Independent Power Producer (IPP) power plant for which an application for Environmental Authorisation (EA) is required. The EA will be for the farm Duikerpan 249LQ in the Lephalale Local Municipality (LLM), Limpopo Province. The EA will be completed in terms of the National Environmental Management Act, 1999 (Act No 107 of 1999) (NEMA) and Environmental Impact Assessment (EIA) Regulations, 2014.

Digby Wells Environmental (hereafter Digby Wells) has been appointed to undertake the necessary environmental and social studies required for the EA. This report constitutes a Heritage Scoping Report (HSR) to inform the overall Scoping Report.

The proposed power plant will be in line with the South African Department of Energy (DOE) 2 500 MW Coal Baseload IPP Procurement Programme. An adjacent coal mine to this proposed Project has been identified to have the appropriate grade coal (lower-bench-coal) to be used in fuelling a 600 MW IPP. Project activities will include the following:

GNR and Listing No.	Listed Activity	Project Activity Description
GNR 983 Listing 1	Activity 9	The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water
	Activity 24 (ii)	A permanent access road will need to be constructed and maintained throughout the operational and decommissioning phase
	Activity 27 (i)	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation
GNR 984 Listing 2	Activity 2	The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where the electricity output is 20 megawatts or more
	Activity 7 (iii)	The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods i.e. conveyor belt
	Activity 9	The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.
	Activity 11	The development of facilities or infrastructure for the transfer of 50 000 cubic metres or more water per day

The Scope of Work (SoW) completed for the HSR has included:

- A brief literature review based on existing impact assessment reports in the surrounding area and available databases; and
- Historical layering to identify potential structures older than 60 years.
- Identify possible impacts to heritage resources and sources of risk to the project; and
- Recommend specific terms of reference for the pending HIA.

Geologically, the site specific area is underlain by the Eendragtpan, Swartrant and Grootegeluk Formations within the Karoo Supergroup. The Grootegeluk and Swartrant Formations have the potential to hold fossils such as *Glossopterid* coal flora, while the Eendragtpan Formation does not hold palaeontological material. The proposed project will not impact on the geological strata as it will be above ground, therefore no palaeontological impacts are envisaged.

Stone Age, Late Farming Community (LFC), historical sites, built environment and burial grounds have been recorded within the regional study area defined as the Steenbokpan Heritage Landscape (SHL). Surface scatters of Stone Age lithics and Late Farming Community (LFC) potsherd have been identified within the project as a result of previous heritage studies.

The presence / absence of physical heritage resources were not determined in this report, and this is recognised as a significant knowledge gap. A pre-disturbance survey will be completed and results included in the HIA. Heritage impacts will be assessed during the HIA and integrated into the overall EIA report.



LIST OF ACRONYMS, ABBREVIATIONS AND TERMS

Abbreviation	Meaning
ASAPA	Association of Southern African Professional Archaeologists
BA	Bachelor of Arts
Bsc	Bachelor of Science
Digby Wells	Digby Wells Environmental
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESA	Early Stone Age
GIS	Geographical Information System
GPS	Global Positioning System
HBAR	Heritage Basic Assessment Report
HIA	Heritage Impact Assessment
Hons	Honours degree
HRA	Heritage Resources Authority
HRM	Heritage Resources Management
ICOMOS	International Council on Monuments and Sites
LFC	Late Farming Community also known as Late Iron Age
LIHRA	Limpopo Provincial Heritage Resources Authority
LSA	Late Stone Age
MA	Master of Arts
MPRDA	Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
MSA	Middle Stone Age
MSc	Master of Science
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SAMA	South African Museum Association
SoW	Scope of Work
Ste	Structure
UNESCO	United Nations Education, Scientific and Cultural Organisation
UP	University of Pretoria
Wits	University of the Witwatersrand



GLOSSARY

Term	Definition
Alter	Any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means.
Archaeological	Material remains resulting from human activity that are in a state of disuse and older than 100 years, including artefacts, human and hominid remains and artificial features and structures. Rock art created through human agency older than 100 years, including any area within 10 m of such representation. Wrecks older than 60 years - either vessels or aircraft - or any part thereof that was wrecked in South Africa on land, internal or territorial waters, and any cargo, debris or artefacts found or associated therewith. Features, structures and artefacts associated with military history that are older than 75 years and the sites on which they are found, e.g. battlefields.
Archaeologist	A trained professional who uses scientific methods to excavate record and study archaeological sites and deposits.
Ceramic (syn. pottery)	In an archaeological context any vessel or other object produced from natural clay that has been fired. Indigenous ceramics associated with Farming Communities are low-fired wares, typically found as potsherds. Imported and more historic ceramics generally include high-fired wares such as porcelain, stoneware, etc.
Ceramic facies / facies	Subgroups of a primary ceramic tradition or sequence. Typically used in ceramic analyses. Various facies are attributed to different temporal periods based of radiometric dates obtained from archaeological contexts. Facies are often used to infer cultural identity of archaeological groups. However, in context of this study identified ceramic facies merely provide a relative temporal context for archaeological sites in the landscape.
Development	Any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including: <ul style="list-style-type: none"> ■ Construction, alteration, demolition, removal or change of use of a place or a structure at a place ■ Carrying out any works on or over or under a place. Subdivision or consolidation of land comprising, a place, including the structures or airspace of a place.



Term	Definition
	<ul style="list-style-type: none"> ■ Constructing or putting up for display signs or hoardings. ■ Any change to the natural or existing condition or topography of land. ■ Any removal or destruction of trees, or removal of vegetation or topsoil.
Early Stone Age	The South African ESA dates from ~3 Mya to c. 250 Kya. This period is associated with later <i>Australopithecus</i> and early <i>Homo</i> species. The lithic industries that characterise the ESA include Oldowan and Early Acheulian, typically as simple core tools, choppers handaxes and cleavers.
Formal protection	Places with qualities so exceptional that they are of special national significance as national heritage sites or that have special qualities as provincial heritage sites.
General protection	<p>General protections are afforded to:</p> <ul style="list-style-type: none"> ■ Objects protected in terms of laws of foreign states. ■ Structures older than 60 years. ■ Archaeological and palaeontological sites and material and meteorites. ■ Burial grounds and graves. ■ Public monuments and memorials.
Grave	A place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place.
Heritage Impact Assessment (HIA)	An assessment of the cultural significance of, and possible impacts on, diverse heritage resources that may be affected by a proposed development. A HIA may include several specialist elements such as archaeological, built environment and palaeontological studies. The HIA must supply the heritage authority with sufficient information about the sites to assess, with confidence, whether or not it has any objection to a development, indicate the conditions upon which such development might proceed and assess which sites require permits for destruction, which sites require mitigation and what measures should be put in place to protect sites that should be conserved. The content of HIA reports are clearly outlined in Section 38(3) of the NHRA and SAHRA Minimum Standards.



Term	Definition
Heritage resource	Any place or object of cultural significance.
Heritage resources management	Process required when development is intended categorised as: Any linear development exceeding 300 m in length. Construction of a bridge or similar structure exceeding 50 m in length. Any activity which will change the character of a site exceeding 0.5 hectares in extent or involving three or more existing erven or subdivisions thereof or that have been consolidated within the past five years or costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority. Re-zoning of a site exceeding one hectare in extent. Any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.
Late Farming Community/ies	Farming Communities who either developed / evolved from EFC groups, or who migrated into southern African from the late first millennium / early second millennium CE. The LFC period evidences distinct changes in socio-political organisation, settlement patterns, trade and economic activities, including extensive trade routes. The LFC period is generally dated from c. 1000 CE well into the modern historical period of the nineteenth century.
Late Stone Age	The South African LSA dates from ~30 Kya. This period is associated with modern <i>Homo sapiens sapiens</i> and the complex hunter-gatherer societies, ancestral to the Bushmen / San and Khoi. The LSA lithic assemblage contains microlithic technology and composite tools such as arrows commonly produced from fine-grained cryptocrystallines, quarts and chert. The LSA is also associated with archaeological rock art including both paintings and engravings.
Middle Stone Age	The South African MSA dates from ~300 Kya to c. 30 Kya. This period is associated with the changing behavioural patterns and the emergence of modern cognitive abilities in early <i>Homo sapiens species</i> . The lithic industries that characterise the MSA are typically more complex tools with diagnostic identifiers, including convergent flake scars, multi-faceted platforms, retouch and backing. Assemblages are characterised as refined lithic technologies such as prepared core techniques, retouched blades and points manufactured from good quality raw material.
National estate	The national estate as defined in Section 3 of the NHRA, i.e. heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations. The national estate may include: Places, buildings, structures and equipment of cultural significance. Places to which oral traditions are attached or which are associated with



Term	Definition
	<p>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 National Health Act, 2003. 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. 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).</p>
Palaeontological	Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.
Pre-disturbance survey (syn. reconnaissance)	A survey to record a site as it exists, with all the topographical and other information that can be collected, without excavation or other disturbance of the site.
Public monuments / memorials	All monuments and memorials: erected on land belonging to any branch of central, provincial or local government; on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government; which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual.
Structure	Any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.



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Appendix B: Site list



1 Introduction

Namane Generation (Pty) Ltd (Namane) intends to build a power plant on the farm Duikerpan 249LQ in the Lephalale Local Municipality (LLM), Limpopo Province. The development of the power plant will require an application for Environmental Authorisation (EA) to the Department of Environmental Affairs (DEA). The EA will be completed in terms of the National Environmental Management Act, 1999 (Act No 107 of 1999) (NEMA) and the Environmental Impact Assessment (EIA) Regulations, 2014.

Digby Wells Environmental (hereafter Digby Wells) has been appointed to undertake the necessary environmental and social studies required for the EA. This report constitutes a Heritage Scoping Report (HSR) to inform the overall Scoping Report.

1.1 Terms of Reference

The Terms of Reference (ToR) for the heritage specialist study was to conduct a Heritage Resources Management (HRM) Process in support of EA application. This is being completed in accordance with section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999) (NHRA).

1.2 Scope of Work

The Scope of Work (SoW) completed for the HSR has included:

- A brief literature review based on existing impact assessment reports in the surrounding area and available databases; and
- Historical layering to identify potential structures older than 60 years.
- Identify possible impacts to heritage resources and sources of risk to the project; and
- Recommend specific terms of reference for the pending HIA.

1.3 Policy and Legal Framework

1.3.1 National Legislation and Policies

1.3.1.1 National Heritage Resources Act, 1999

The NHRA is the overarching legislation that protects and regulates the management of heritage resources in South Africa. This Act considers various heritage resources as forming part of the national estate, contemplated in Section 3. In addition, certain other categories are afforded automatic formal or general protection. Sections considered relevant to this project are outlined below:

- Formal protection:
 - National and provincial heritage sites, Section 27;
 - Certain types of protected areas, Section 28; and



- Heritage areas, Section 32.
- General protection:
 - Certain structures with demonstrable cultural significance or that are older than 60 years, Section 34;
 - Archaeological and palaeontological resources, Section 35;
 - Burial grounds and graves, Section 36; and
 - All public monuments and memorials, Section 37.

Section 5 of the NHRA encapsulates general principles for HRM that this specialist heritage component of the Project aims to adhere to. Section 38 outlines the HRM process and minimum requirements that need to be complied with namely:

- Subsection (8) requires a HIA study to be conducted if an impact assessment is required in terms of any other Act such as the NEMA and MPRDA; and
- Subsection (3) outlines the minimum information that must be included in a HIA report.

This HSR was completed to comply in part with Section 38(3) of the Act and will be submitted to the South African Heritage Resources Agency (SAHRA) and the Limpopo Provincial Heritage Resources Authority (LIHRA) for Statutory Comment.

1.3.1.2 National Environmental Management Act, 1998

This Act requires that sustainable development considers integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations. The Act further requires a public participation process that is outlined in and regulated through the EIA Regulations, 2014.

The NEMA stipulates under Section 2(4)(a) that sustainable development must consider all relevant factors including avoiding disturbance of landscapes and sites that constitute the nation's cultural heritage: where it cannot be altogether avoided disturbances must be minimised and remedied.

The NEMA stipulates under Section 23 (2)(b) that the general objective of Integrated Environmental Management is to identify, predict and evaluate the actual and potential impact on cultural heritage. The risks, consequences, alternatives and options for mitigation must be identified and implemented to minimise negative impacts and promote compliance with the principles of environmental management set out in Section 2.

1.4 Constraints and Limitations

The following constraints and limitations were experienced as part of the report:



- This report comprises a HSR. Data collection was limited to desktop review of relevant heritage reports available in the public domain (e.g. published on SAHRIS), appropriate published literature sources, and heritage studies previously completed by Digby Wells in the region.
- Information contained in reviewed reports is inherently restricted to surface observations (with the exception of reports on so-called Phase 2 mitigation of heritage sites).
- The palaeontological potential of the project area is largely based on the SAHRIS palaeontological sensitivity map, which in turn is based on 1:250 000 geological formation layers supplied by the Council of Geoscience. The palaeontological potential may change over time as geological data is reviewed, updated or amended.
- The EIA Regulations, 2014 significantly limit timeframes within which specialist studies (specifically field based assessments) can be completed.

1.5 Expertise of the Specialist¹

Natasha Higgitt compiled the overall HSR. She obtained her Bachelor of Arts (BA) Honours degree in Archaeology in 2010 from the University of Pretoria. She currently holds the position of Assistant Heritage Consultant: Archaeology Specialist at Digby Wells. She has more than 4 years' experience in archaeological survey and gained further generalist heritage experience since her appointment at Digby Wells in South Africa and Liberia.

Natasha is a professional member of the Association of Southern African Archaeologists (ASAPA) (*Member No. 335*).

Justin du Piesanie undertook the first technical review of this HSR. He obtained his Master of Science (MSc) degree in Archaeology from the University of the Witwatersrand in 2008, specialising in the Southern African Iron Age. Justin also attended courses in architectural and urban conservation through the University of Cape Town's Faculty of Engineering and the Built Environment Continuing Professional Development Programme in 2013. He currently holds the position of Heritage Management Consultant: Archaeologist at Digby Wells. He has over 9 years combined experience in Heritage Resources Management (HRM) in South Africa, including heritage assessments, archaeological mitigation and grave relocation. Justin has gained further generalist experience since his appointment at Digby Wells in Botswana, Burkina Faso, the Democratic Republic of Congo, Liberia and Mali on projects that have required compliance with International Finance Corporation (IFC) requirements such as Performance Standard 8: Cultural Heritage.

Justin is a professional member of ASAPA (*Member No. 270*) and the International Council on Monuments and Sites (ICOMOS) South Africa (*Member No. 14274*)

¹ Detailed curricula vitae of the specialists are attached as Appendix A



Johan Nel undertook the second technical review of this DHBAR. He has more than 13 years of combined experience in the field of HRM including archaeological and heritage assessments, grave relocation, social consultation and mitigation of archaeological sites. He has gained experience both within urban settings and remote rural landscapes. Since 2010 he has been actively involved in environmental management that has allowed Johan to investigate and implement the integration of heritage resources management into EIA's. Many of the projects since have required compliance with IFC requirements such as Performance Standard 8: Cultural Heritage. This exposure has allowed Johan to develop and implement a HRM approach that is founded on international best practice, leading international conservation bodies such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and ICOMOS and aligned to the South African legislation. Johan has worked in most South African Provinces, as well as Swaziland, the Democratic Republic of the Congo, Liberia and Sierra Leone.

Johan is a professional member of ASAPA (*Member No. 095*), accredited CRM practitioner, and a member of ICOMOS South Africa (*Member No. 13839*).

2 Project Background

The proposed IPP power plant will be developed in accordance with the South African Department of Energy (DoE) 2 500 MW Coal Baseload IPP Procurement Programme. An adjacent coal mine to this proposed Project has been identified to have the appropriate grade coal (lower-bench-coal) to be used in fuelling a 600 MW IPP.

The Project will combust low-grade coal sourced from the lower benches 5 to 10 that will be mined at the Temo Coal Mine, currently in its operational phase. The Temo Coal Mine will be located on the farm Verloren Valey 246LQ; adjacent to the proposed site earmarked for the power plant. Electricity generated will be supplied to the national grid as part of the National Baseload IPP Procurement Programme or to any other consumer.

The construction of the proposed IPP will include the following infrastructure:

- Main power plant area including the following:
 - Auxiliary plant buildings and operational support buildings; and
 - Laboratory area and high voltage switchyard.
- Associated Main Infrastructure such as:
 - Stock yard and storage;
 - Conveyors and water supply pipelines;
 - Offices and medical centre;
 - Sewage treatment plant;
 - Access roads and internal roads;
 - Ash dump and ash dump runoff ponds;

- Water storage reservoir and raw water treatment plant;
- Maintenance workshops and storage facilities; and
- Construction camp and control room.

2.1 Project location

Namane intends to apply for EA on the farm Duikerpan 249LQ. Detailed project location information is presented in Table 2-1 below.

Table 2-1: Location of the project area

Province	Limpopo Province
Magisterial District / Local Authority	Lephalale Magisterial District
District Municipality	Waterberg District Municipality
Local Municipality	Lephalale Local Municipality
Nearest Town	Steenbokpan (10 km)
Property Name and Number	Duikerpan 249LQ
1: 50 000 Map Sheet	2327CB Steenbokpan
GPS Co-ordinates (relative centre point of study area)	-23.596397 27.290909

2.2 Listed Activities

Project activities will include the site clearance, construction of the IPP and offices (See Table 2-2).

Table 2-2: Project activities

GNR and Listing No.	Listed Activity	Project Activity Description	NHRA Trigger
GNR 983 Listing 1	Activity 9	The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water	Section 38 (1)(a) and 38 (8)
	Activity 24 (ii)	A permanent access road will need to be constructed and maintained throughout the operational and decommissioning phase	Section 38 (1)(a) and 38 (8)



GNR and Listing No.	Listed Activity	Project Activity Description	NHRA Trigger
	Activity 27 (i)	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation	Section 38 (1)(c)(i) and 38 (8)
GNR 984 Listing 2	Activity 2	The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where the electricity output is 20 megawatts or more	Section 38 (8)
	Activity 7 (iii)	The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods i.e. conveyor belt	Section 38 (1)(a) and 38 (8)
	Activity 9	The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.	Section 38 (1)(a) and 38 (8)
	Activity 11	The development of facilities or infrastructure for the transfer of 50 000 cubic metres or more water per day	Section 38 (1)(c)(i) and 38 (8)

3 Methodology

The following methodology was employed during this HSR.

3.1 Defining Study Areas

The relevance in defining study area arises from the fact that heritage resources do not exist in isolation to the greater natural and social (including socio-cultural, -economic and -political) environment. In addition, the NHRA requires that heritage resources are graded in terms of national, provincial and local concern based on their importance and consequent official (i.e. State) management effort required. The type and level of baseline information required to adequately determine the cultural significance of heritage resources and assess heritage impacts varies between these categories. Four 'concentric' study areas were defined for the purposes of this study. These areas are defined below; each one encompasses its precursor and exceeds it in scale:



-
- The **regional study area** - this area was defined as the district municipality. Where necessary, the regional study area was extended outside the boundaries of the district municipality to include much wider regional expressions of specific types of heritage resources and historical events as shown in Figure 3-1.
 - The **local study area** – the area most likely to be influenced by any changes to heritage resources in the study area, or where project development could cause heritage impacts. This area was defined as the immediate surrounding properties / farms, as well as the affected local municipality (see Figure 3-2);
 - The **site-specific study area** – this is the area where heritage impacts are most probable due to development. This area is defined as the extent of the farm portions of the proposed study area including any buffer areas around the study area that may be required. (see Figure 3-3).

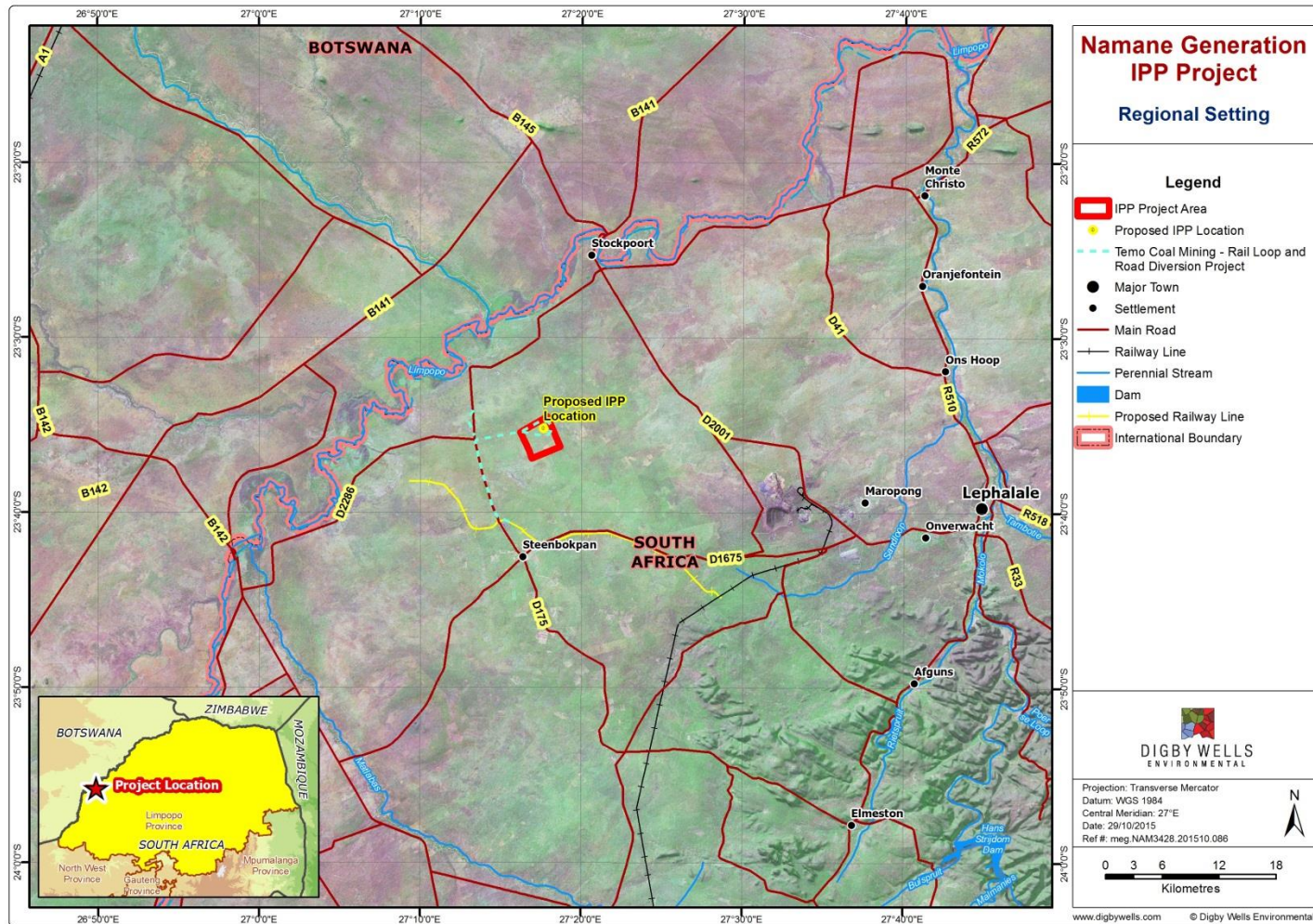


Figure 3-1: Regional study area

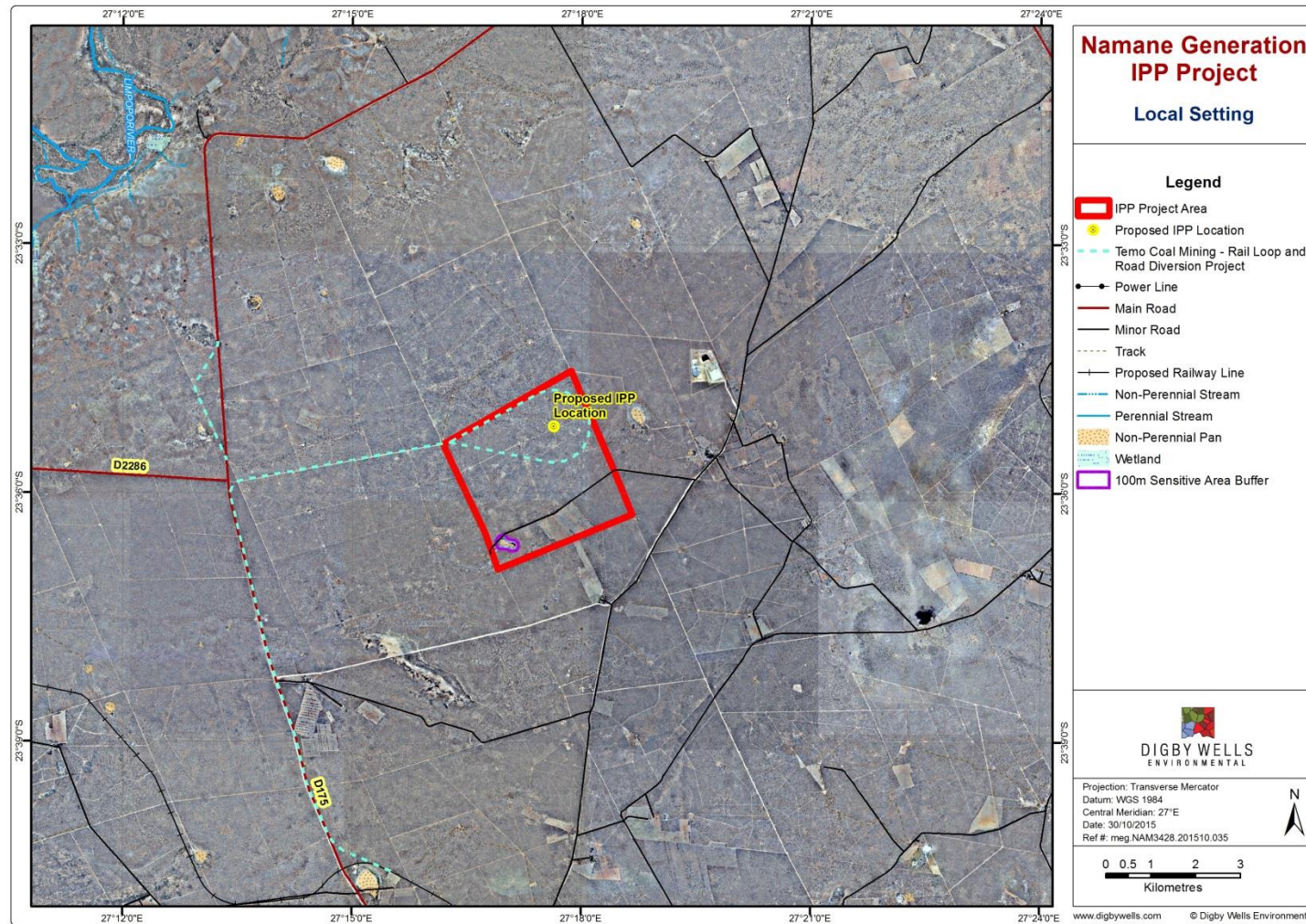


Figure 3-2: Local study area

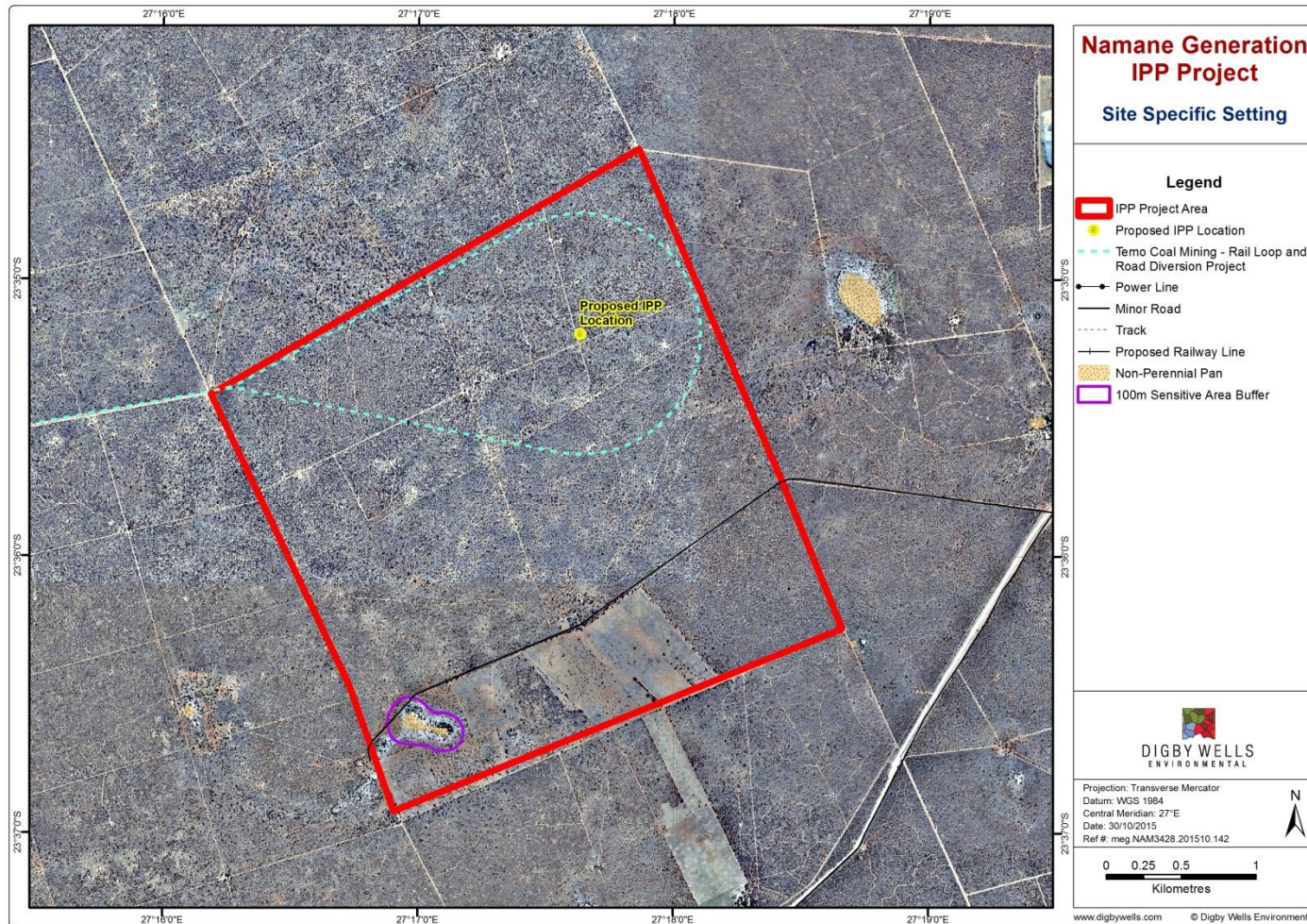


Figure 3-3: Site specific study areas



3.2 Data Collection

As mentioned in Section 1.4 above, data collection was desktop based, limited to reviews of relevant heritage reports, appropriate literature and historical maps data. The findings in this report are therefore largely qualitative; primary quantitative field based data collection will still be undertaken during pre-disturbance surveys.

However, secondary quantitative information was obtained as recorded sites documented in relevant heritage reports. These sites are numbered using the SAHRIS case or map number and the original site name used by the author, e.g. **2123/VEN1590/2327CB/S.35 001**

Information sources that were consulted included reports located in the South African Heritage Resources Information System (SAHRIS) database and the University of the Witwatersrand (WITS) Archaeology Site Database. Relevant sources were cited and included in the reference list in Section 7 and in Table 3-1 below.

Table 3-1: Summary of reviewed information sources

Relevant Previous Heritage Studies		
Author	Report Type	Area/Development
Fourie, W (2009)	Archaeological Impact Assessment (AIA)	Koert Louw Zyn Pan 234LQ and portions of the farm Klaarwater 231LQ
Fourie, W (2010)	AIA	Orsono 700LQ, Zeekoevley 421LQ, Vischpan 274LQ, Kruishout 271LQ, Kalkpan 243LQ, Witkopje 237LQ and Diepspruit 386LQ
Pistorius, J (2010)	HIA	McCabesvley 311LQ, Van Der Waltspan 310LQ, Zaagput 307LQ, Jackalsvley 309LQ, Graafwater 456LQ and Goedehoop 467LQ
Huffman, T.N and Van der Walt, J (2011)	Field Study	Mafutha Heritage Report
Nel, J (2011)	AIA	Boikarabelo Rail Project
Nel, J (2011)	AIA	Temo Coal Mine Project
Nel, J. (2012)	Phase 2 Archaeological Excavation Report	Boikarabelo Project
Karodia, S and Higgitt, N (2013)	Heritage Statement	Dalyshope Project



Historical layering was completed for the project area and aimed to identify historical heritage resources within the project area. Historical layering is a process whereby diverse cartographic sources from various time periods are layered chronologically using Geographic Information System (GIS). The rationale behind historical layering is as follows:

- Provides relative dates based on the presence/absence of visible features; and
- Identifies potential locations where heritage resources may exist within an area.

Cartographic sources referred to in this report are listed in Table 3-2 below.

Table 3-2: Relevant reviewed cartographic sources

Historical Maps						
Map Series		Name/Number			Date	
Major Jackson		Sheet 28 - Zoutpan			1902	
Aerial Photographs						
Job No.	Flight Plan	Photo no.	Map ref.	Area	Date	Reference
216	12	00470	2327	Krokodilrivier/Mokolo (Mogol)	1948	1948/216
648	14	01023	2326 2327	Ellisras	1969	1969/648

4 Cultural Heritage Baseline Description

The cultural baseline is based on information sources such as previous HIAs conducted in the area and databases described in Section 3 above.

As a result of previous impact assessments and studies, the cultural landscape of the study area can be categorised by the scatterings of Middle Stone Age (MSA) occurrences, Late Stone Age (LSA) accumulations Late Farming Community (LFC) settlements, and, and historical settlements including the town of Lephalale and surrounding farming communities.

4.1 Regional and Local Study Area

4.1.1 Geology and Palaeontological Sensitivity

The regional geology of the project area and surrounds is dominated by the sedimentary sequences of the Karoo Supergroup (Ellisras Basin) that are mainly covered by the Kalahari sands. The sediments of the Ellisrus Basin were deposited by a range of depositional environments from glaciolacustrine represented by the Waterkloof Formation through lacustrine, delta front, alluvial fan, fluvial and floodplain (swamp) environments of the overlying formations ending with the Clarens Formation comprising of an aeolian depositional environment. The diverse range of depositional environments results in an assortment of sedimentary lithologies ranging from conglomerates to mudstones (Johnson, et al., 2006).



The proposed project area and site boundaries fall within the Ellisras basin known for its large coal deposits in the Waterberg Coalfield (See Figure 4-1 and Table 4-1). The local site geology is covered by quaternary sediments of the Kalahari sand formations with the top geological strata being the purplish-red mudstones of the Eendragtpan Formation in the Ellisras Basin. The Grootegeluk and Swartrant Formations underlay the Eendragtpan Formation are the most important economic units in the Ellisras Basin (Johnson, et al., 2006). The Grootegeluk Formation comprises numerous thick coal seams alternating with carbonaceous mudstone and shale which cyclically repeats over a maximum formation thickness of 110 m. The coal seams and sedimentary layers of the formation were formed during a tectonically stable phase of the basin formation where poorly drained swamps formed on the floodplain of an abandoned delta, creating depositional environments conducive to the formation of peat. Underlying the Grootegeluk Formation, coal seams occur as part of the basal units of the upper-zone of the Swartrant Formation which alternate with mudstone and sandstone. This basal unit attains a maximum thickness of 13 m and represents a crevasse-splay deposit comprising small channel and isolated swamps environments (Johnson, et al., 2006).

Fossil flora (*Glossopteris*) are found within the mudstones of the Grootegeluk and Swartrant Formations and are of global importance as they are rare and have contributed to a great deal of debate within the research community (Adendorff, et al., 2002; Prevec, 2012).

The Limpopo River is the only major river system, which is located to the north of the project area, with occasional wetlands occurring in the channel of this watercourse. Perennial pans and small perennial drainage channels are present throughout the greater surface area. The formation of calcrete is common among these perennial features (Johnson, et al., 2006).

Table 4-1: Lithographic units and fossil sensitivity (adapted from Johnson et al 2006 and SAHRIS²)

Ma	Eon	Era	Lithostratigraphic Units		Lithology	Sensitivity	Fossils
Before and after 250	Phanerozoic	Palaeozoic	Karoo Supergroup	Ellisras Basin	Eendragtpan Formation	Low	None
Before 250		Mesozoic			Grootegeluk Formation	Very High	Glossopteris coal flora
		Palaeozoic			Swartrant Formation	Very High	Glossopteris coal flora

² <http://www.sahra.org.za/sahris/fossil-heritage-layer-browser> accessed 23/04/2015

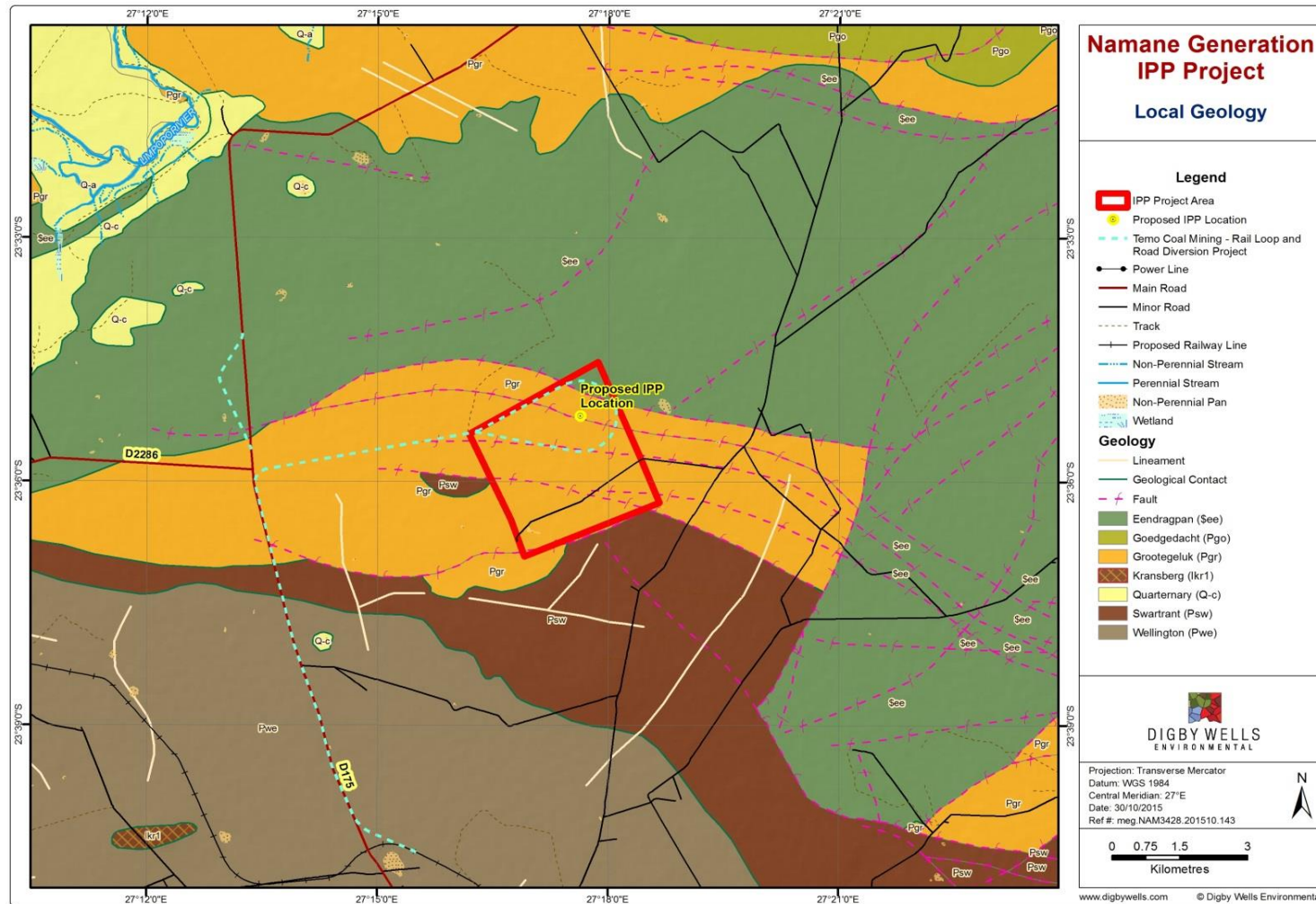


Figure 4-1: Geology of the study area



4.1.2 The Stone Age

The archaeological evidence from the Study Area suggests that the area has been inhabited since the Early Stone Age (ESA) and MSA. Finds include ESA and MSA scatters such as the Acheulean hand-axe reported on by Nel (2012). The ESA and MSA finds are commonly associated with water sources such as the Limpopo River and pans. The LSA is associated with the San (Bushmen) hunter-gatherers who are known to have been active in the region. LSA sites are often found in association with Bushmen rock art and engravings. One such site is Nelson's Kop which is situated approximately 30 km east near the Grootegeluk Mine and where rock engravings of animal spoor, cupules and other incisions were found. Another example would be the Riverslee Engraving site located across the Limpopo River in Botswana, approximately 23 km from the project area. The Riverslee site consists of sandstone pavements measuring 50 m x 100 m with several panels of engravings of animal spoor, human footprints, cupules or cup marks and oval-shaped grooves (Van der Ryst, et al., 2004).

Surface accumulations of MSA and LSA lithics have been recorded throughout the region, however, these finds are commonly not found *in situ* and provide limited contextual information. Several MSA artefact scatters were identified within the calcrete layers surrounding the many pans within the region.

A total of 113 MSA sites have been identified in previous HIAs within 20 km of the project area (Fourie, 2009; Pistorius, 2010; Huffman & Van der Walt, 2011; Nel, 2011a; Nel, 2011b; Karodia & Higgitt, 2013). See Appendix B for the full site list. These surface scatters included, MSA flakes, points and cores, and LSA flakes. Stone Age lithics have been identified in close proximity to pans within the region. Some lithics have been found *in-situ* within layers of calcrete around the edge of the pan (Nel, 2011a).

4.1.3 Farming Communities

The LSA is followed by Farming Community occupation (also known as the Iron Age). The Farming Community is characterised by both Early and Late Farming Community (EFC and LFC) ceramic traditions, however the majority of sites in the local municipality are LFC sites. LFC sites are characterised by (1) cattle posts identified along escarpments and (2) briefly occupied settlements identified close to the tillable soil along the Limpopo River (Huffman & van der Walt, 2010). It has been suggested that the cattle posts are associated with the *Letsibogo* ceramic-users who may have been the baKaa, as suggested by the ethnographic evidence (Schapera, 1953; Biemond, 2011; Huffman, 2007; Huffman & van der Walt, 2010). The *Letsibogo* ceramics, which date between 1500 CE and 1700 CE, are characterised by lines of punctates separated by black and red zones (Huffman, 2007; Huffman & van der Walt, 2010; Biemond, 2011).

The LFC transition to the Historical Period is characterised by the emergence of large agricultural settlements associated with the baTswana. Extensive archaeological excavations (2011 – 2012) for the proposed Boikarabelo coal mine on the farms

Kalkpan 243LQ, Witkopie 238LQ and Zeekoevely 421LQ indicate that the baTswana occupation of the area may have been brief (Nel, 2012). As demonstrated in the history of the baKwena, periods of political turbulence caused disruptions during the 18th and 19th centuries (Schapera, 1980). It is these disruptions that are suggested to be the cause of the ephemeral remains of the archaeological sites (Nel, 2012).

A total of 86 LFC sites have been identified through previous HIAs within 20 km of the study areas (Fourie, 2009; Fourie, 2010; Huffman & Van der Walt, 2011; Nel, 2011a; Nel, 2011b; Karodia & Higgitt, 2013). See Appendix B for the full site list. The majority of these sites are surface scatters of potsherds (mostly *Letsibogo* and *Madikwe* ceramic facies), cattle kraals, grain bins, slag fragments and grinding stones.

4.1.4 Historical period

The historical period is commonly associated with contact between white Europeans with LFCs, and consequent *written* records. The closest large town is Lephalale which was established in 1960. It was originally called Ellisras after the two original farm owners Patric Ellis and Piet Erasmus who settled in the area in the 1930's (Lephalale Municipality, 2013).

A total of four historical sites and 31 Built Environment sites have been identified within 20 km of the project as a result of previous HIAs in the area. (Fourie, 2009; Pistorius, 2010; Huffman & Van der Walt, 2011; Nel, 2011a; Nel, 2011b; Karodia & Higgitt, 2013). See Appendix B for the full site list. The built environment sites include historical farmsteads and farmhouses and churches. The historical sites include surveyor posts and middens. An additional 25 burial grounds that range from historical times to more recent times have been identified within 20 km of the project area.

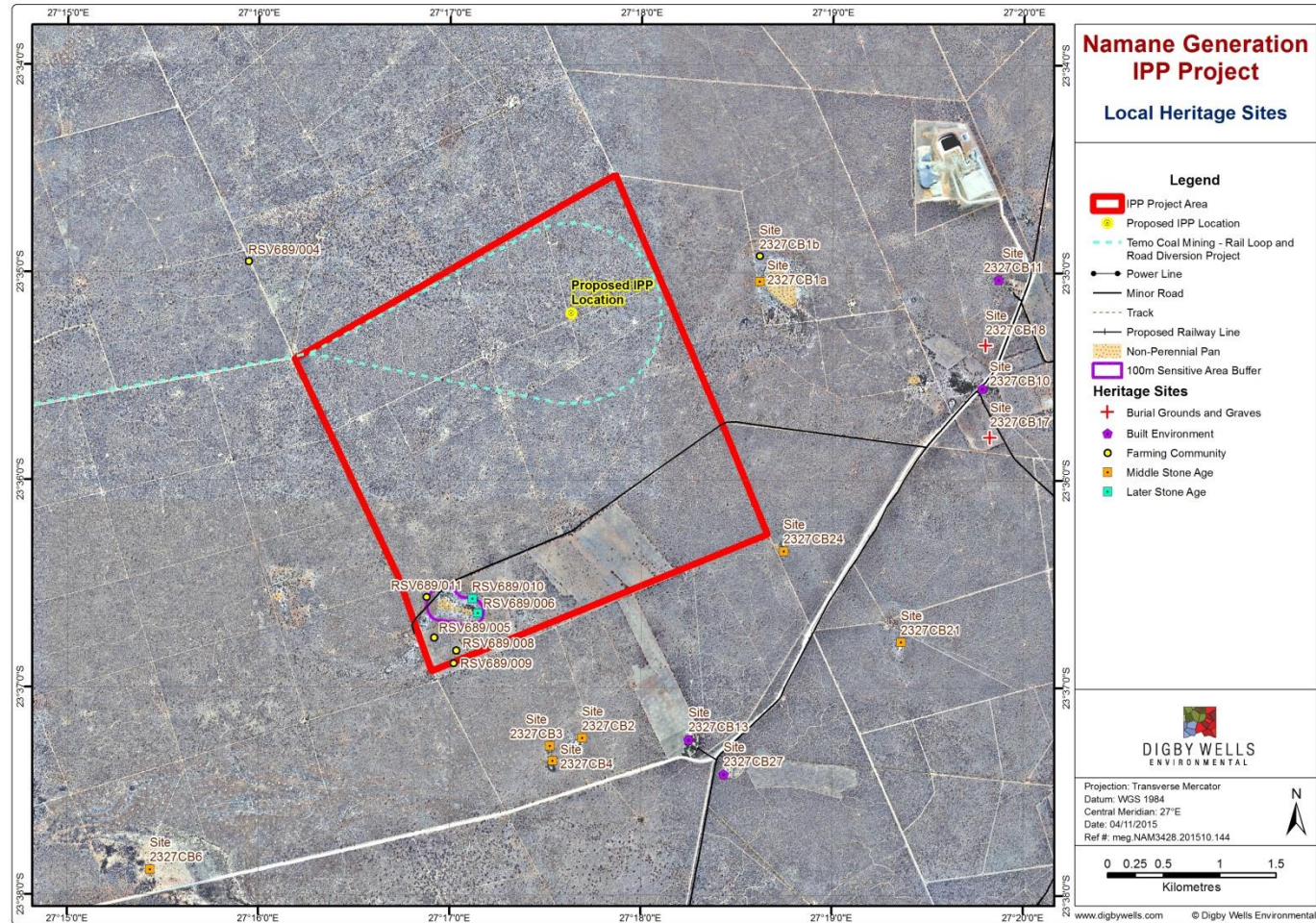


Figure 4-2: Identified heritage resources as a result of the qualitative data collection

4.2 Site Specific Study Area

4.2.1 Geology and Palaeontological Potential of the Study Area

According to the SAHRIS PalaeoSensitivity Map, the IPP Project area is located in an area of moderate to very high palaeontological sensitivity as depicted in Figure 4-3 below (SAHRIS, 2014). The Grootegeluk and Eendragtpan Formations underlay the project area. As stated above in section 4.1.1, the Grootegeluk Formation is highly significant due to the potential for *Glossopterid* coal flora fossils to occur within this formation. The Eendragtpan Formation does not hold the potential for fossils; and therefore its sensitivity is lower.

The likelihood that the proposed IPP development will impact on palaeontological sensitive geological strata is very low: infrastructure will be developed above ground and any ground clearing will be limited to the upper soil layers. As the development will be above ground, no palaeontological impacts are envisaged. The IPP site specific project area will be surveyed for any rocky outcrops or ridges during the site reconnaissance to confirm this.

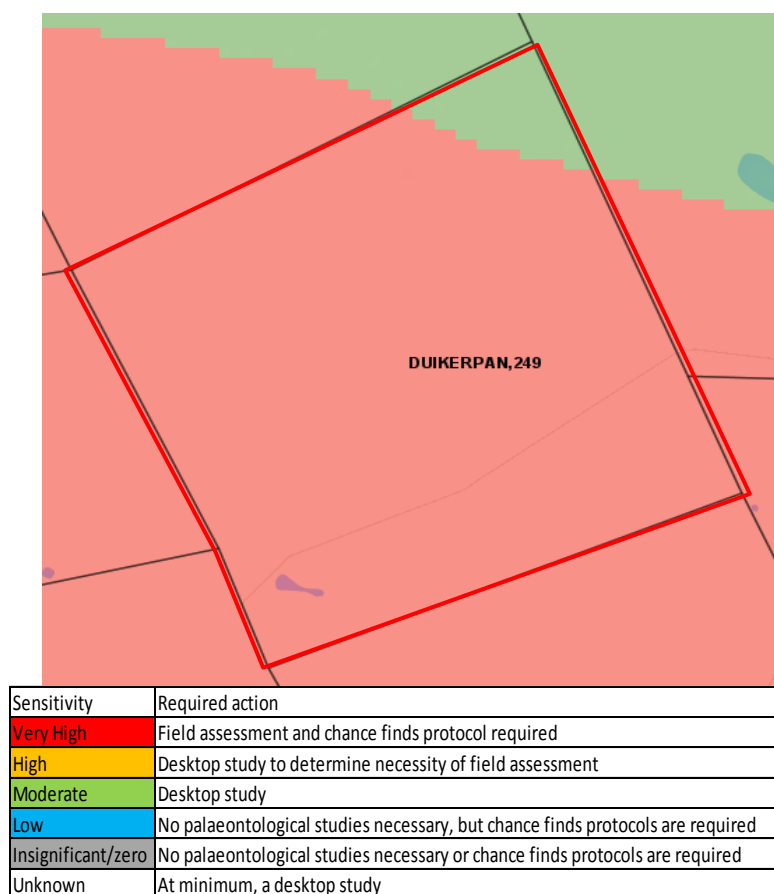


Figure 4-3: Palaeontological sensitivity of the study area



4.2.2 Stone Age

Three Stone Age surface scatters have been identified within the site specific study area, recorded in a previous HIA (Nel, 2011a). One of these occurrences was located around a pan and included MSA and LSA scrapers, flakes, blades, cores and chunks. The artefacts were found in-situ eroding out of the calcrete layers surrounding the edge of the pan (Nel, 2011a).

4.2.3 Farming Communities

A total of five LFC sites have been identified within the site specific project area, recorded in a previous HIA (Nel, 2011a). These sites include surface scatters with no associated archaeological features or structures. One of these scatters displayed potsherds with red burnish, possibly indicating a Sotho-Tswana or Letaba type ceramic facies (Nel, 2011a).

4.2.4 Historical period

The farm Duikerpan 249LQ was known as Duikerpan 1487 in 1902 as depicted in Figure 4-4 below. A historical wagon path is present on the 1902 map approximately 4.8 km east of the project area.

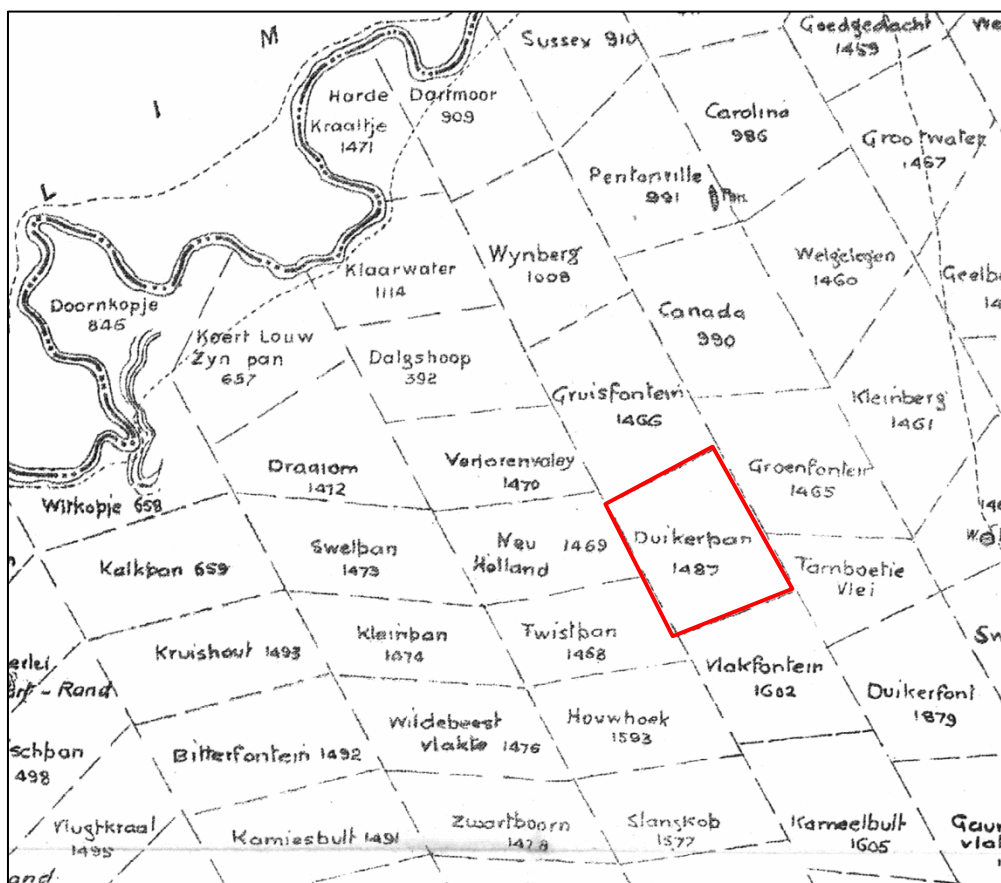


Figure 4-4: 1902-1909 map of the IPP Project area



No indications of human settlement can be identified on the 1948 historical aerial photograph (See Figure 4-5 below). The pan in the south west corner of the property is present and seems to contain some water and seems to have extensive calcrete outcrops (white patches). Additionally, there are no agricultural fields present within the project area, so it is assumed these were developed later. There is a track running from north to south on the western border of the property, showing that there was human movement through the project area (See Figure 4-5). The 1969 aerial photograph shows the development of agricultural fields in the southern side of the property and residential dwellings (See Figure 4-6).

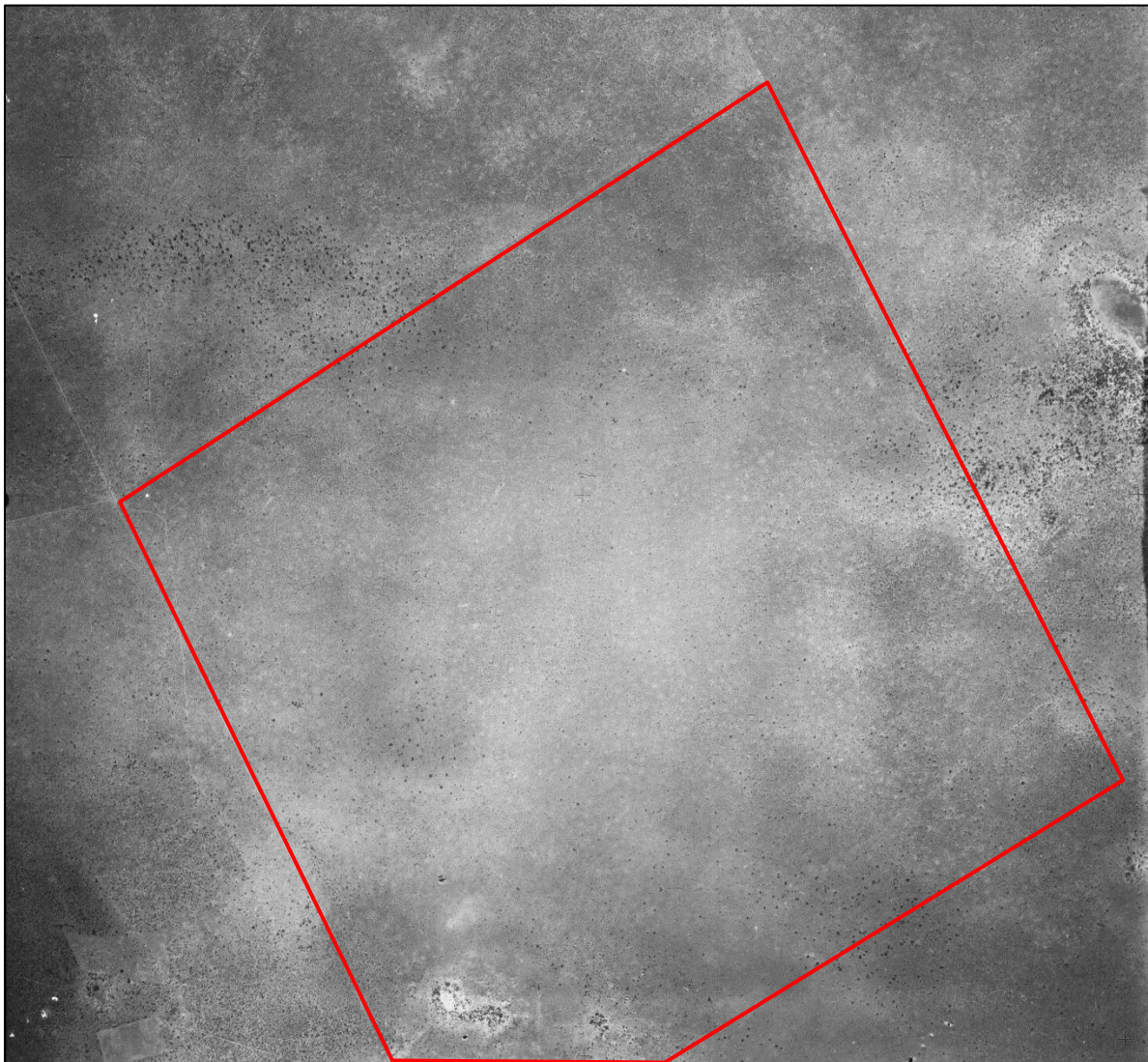


Figure 4-5: IPP Project area in 1948



Figure 4-6: IPP Project area in 1969

5 Possible Heritage Impacts

At present, possible heritage impacts assume that any number of heritage resources may be present in the site specific study and development footprint areas. The types of heritage resources assumed to be present include Stone Age, Farming Community and historical sites, as well as burial grounds and graves. This assumption is based on available information discussed in Section 4 above.

5.1 Construction Phase

The highest likelihood of changes to heritage resources is associated with activities that will be undertaken during the construction phase of the proposed project. Here, the potential negative impacts, such as damage or destruction, are the greatest.

The primary activity that will result in negative impacts on heritage resources will be ground clearing and removal of vegetation to prepare the development footprint area for construction. Subsequent to this, construction of facilities and infrastructure will also present



significant risks to any resources that may exist, especially subsurface resources such as deeply deposited archaeological sites.

5.2 Operational Phase

During the operation phase of the proposed project, sources of risk to heritage resources are limited. The primary risk during the operational phase will be associated with the alteration of the sense-of-place of the project area through impacts caused by noise, dust, emissions and a visual impact.

5.3 Decommissioning Phase

No sources of risk to heritage resources are envisaged for the decommissioning phase of the project at this stage. However, if structures older than 60 or 100 years at the time of decommissioning exist, these may be impacted upon by decommissioning of the proposed project.

5.4 Unplanned Events and Low Risks

Unplanned events may occur on any project at any time. Based on the proposed project activities, potential unplanned events and the associated impacts and management measures have been identified and summarised in Table 5-1 below.

Table 5-1: Unplanned events and their management measures

Unplanned Event	Potential Impact	Mitigation/ Management/ Monitoring
Accidental exposure of unidentified heritage resources	Damage and/or destruction of heritage resources generally protected under section 34 to 36 of the NHRA	Chance Finds Procedures (CFPs) must be developed and included as a condition of authorisation that clearly describes the reporting process and appropriate management of the exposure of previously unidentified heritage resources. The established and defined CFPs must be implemented prior to any development taking place as part of the project activities.
Accidental damage to heritage resources caused by increase human traffic/presence	Damage and/or destruction of heritage resources generally protected under section 34 to 36 of the NHRA	Workers must be sensitised towards heritage resources and their significance. Heritage resources that are to be conserved in situ must have a Heritage Management Plan or Policy that outlines the on-going protection and monitoring of the heritage sites.

6 Conclusion

The Namane IPP Project is located 44 km from Lephalale and 10 km from Steenbokpan in the Lephalale Local Municipality, Limpopo Province. The project will be located with a sensitive cultural landscape, evidenced in extensive studies completed by Digby Wells and others in the immediate region.

Geologically, the site specific area is underlain by the Karoo Supergroup in the Eendragtpan, Grootegeluk and Swartrant Formations. The Grootegeluk and Swartrant Formations have the potential to hold fossils such as *Glossopterid* coal flora, while the Eendragtpan Formation does not hold palaeontological material. The proposed project will not impact on the geological strata as it will be above ground, therefore no palaeontological impacts are envisaged.

Archaeologically, Stone Age and Farming Community sites have been recorded within the larger area under consideration here. A total of six heritage resources have been identified within the project area, including surface scatters of Stone Age lithics and LFC potsherd scatters.

Potential impacts to heritage resources include the accidental exposure of unidentified heritage resources and the subsequent damage and/or destruction of these heritage resources.

The presence / absence of physical heritage resources were not determined in this report, and this is recognised as a significant knowledge gap. A pre-disturbance survey will be completed and results included in the HIA. Heritage impacts will be assessed during the HIA and integrated into the overall EIA report.



7 References

- Adendorff, R., McLoughlin, S. & Bamford, M. K., 2002. A new genus of Ovulferous Glossopterid Fructification from South Africa. *Palaeo*, Volume 38, pp. 1-17.
- Biemond, W., 2011. *The Iron Age sequence around a Limpopo River floodplain on Basinghall Farm, Tuli Block, Botswana, during the second millenium AD*, Johannesburg: s.n.
- du Piesanie, J. & Nel, J., 2012. *Phase 2 Archaeological Impact Assessment Mitigation for the Boikarabelo Coal Mine (SAHRA PERMIT NO 80/11/07/015/51)*, Randburg: Digby Wells Environmental.
- Fourie, W., 2009. *Archaeological Impact Assessment for the Koert Louw Zyn Pan Project for Resources Generation on the farm Koert Louw Zyn Pan 234 LQ and portions of the farm Klaarwater 231 LQ, District Lephalale, Limpopo*, Pretoria: Professional Grave Solutions (Pty) Ltd.
- Fourie, W., 2010. *Archaeological Impact Assessment: Res Gen SA Boikarabelo Coal Mine Project on portions of the farms Orsono 700 LQ, Zeekoevley 421 LQ, Vischpan 274 LQ, Kruishout 271 LQ, Kalkpan 243 LQ, Witkopje 237 LQ and Diepspruit 386 LQ, District Lephalale, Limpopo*, s.l.: Professional Grave Solutions (Pty) Ltd.
- Huffman, T. N., 2007. *Handbook to the Iron Age: The Archaeology of the Pre-Colonial Farming Societies in Southern Africa*. Cape Town: University of KwaZulu-Natal Press.
- Huffman, T. N. & Van der Walt, J., 2011. *A field study prepared for Environmental Resources Management, Sasol Technology, Mafutha Project*, s.l.: s.n.
- Huffman, T. & van der Walt, J., 2010. *A Field Study Prepared for Environmental Resources Management, Sasol Technology, SRK Consulting and Sustainable Environmental Solutions*, Johannesburg: Archaeological Resources Management.
- Johnson, M. R., Anhaeusser, C. R. & Thomas, R. J. eds., 2006. *The Geology of South Africa*. Johannesburg: Council for Geoscience.
- Karodia, S. & Higgitt, N., 2013. *Heritage Statement for the Dalyshope Phase 1 Coal Mine, Lephalale, Limpopo Province*, Randburg: Digby Wells Environmental.
- Lephalale Municipality, 2013. *Lephalale Municipality - Limpopo Province, South Africa*. [Online]
Available at: <http://www.lephalale.com/?item=40&MenuID=43>
[Accessed 15 July 2013].
- Nel, J., 2011a. *Phase 1 Archaeological Impact Assessment for the Proposed Temo Coal Mine, Lephalale Local Municipality, Waterberg District, Limpopo Province*, Randburg: Digby Wells Environmental.
- Nel, J., 2011b. *Addendum to the Phase 1 AIA for the Boikarabelo Coal Mine*, Randburg: Digby Wells Environmental.

Nel, J., 2012. *Phase 2 Archaeological Impact Assessment Mitigation for Boikarabelo Coal Mine (SAHRA Permit Number: 80/11/07/015/51)*, Johannesburg: Digby Wells Environmental.

Pistorius, J. C. C., 2010. *A Phase 1 Heritage Impact Assessment Study for Exxaro's Proposed New Thaba Metsi Open Cast Coal Mine near Lephalale in the Limpopo Province of South Africa*, s.l.: Archaeology and Heritage Management Consultants.

Prevec, R., 2012. *Palaeontological Impact Assessment: Desktop scoping level report for the Paardeplaats Coal Mining Project, Belfast, Mpumalanga*. Grahamstown: Rhodes University.

SAHRIS, 2014. *PalaeoSensitivity Map*. [Online]
Available at: <http://www.sahra.org.za/map/palaeo>
[Accessed 10 November 2014].

Schapera, I., 1953. *The Tswana*. London: International African Institute Press.

Schapera, I., 1980. Notes on the early history of the Kwena (Bakwena - багаSechele). *Botswana Notes and Records*, Volume 12, pp. 83 - 87.

South African History Online, 2014. *The Natives Land Act of 1913*. [Online]
Available at: <http://www.sahistory.org.za/topic/natives-land-act-1913>
[Accessed 11 November 2014].

Van der Ryst, M., Lombard, M., Biemond, W. & Master, S., 2004. Rocks of Potency: Engravings and Cupules from the Dovedale Ward, Southern Tuli Block, Botswana. *The South African Archaeological Bulletin*, 59(179), pp. 1-11.

Heritage Scoping Report

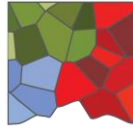
Environmental Authorisation Application for the Namane IPP Project, Duikerpan 249LQ,
Lephalale Local Municipality, Limpopo Province

NAM3248



DIGBY WELLS
ENVIRONMENTAL

Appendix A: Specialist CV



DIGBY WELLS

ENVIRONMENTAL

Mr. Justin du Piesanie
Heritage Management Consultant: Archaeologist
Social Sciences Department
Digby Wells Environmental

1 Education

Date	Degree(s) or Diploma(s) obtained	Institution
2013	Continued Professional Development Programme, Architectural and Urban Conservation: Researching and Assessing Local Environments	University of Cape Town
2008	MSc	University of the Witwatersrand
2005	BA (Honours) (Archaeology)	University of the Witwatersrand
2004	BA	University of the Witwatersrand
2001	Matric	Norkem Park High School

2 Language Skills

Language	Written	Spoken
English	Excellent	Excellent
Afrikaans	Proficient	Good

3 Employment

Period	Company	Title/position
08/2011 to present	Digby Wells Environmental	Heritage Management Consultant: Archaeologist

Digby Wells and Associates (South Africa) (Pty) Ltd (Subsidiary of Digby Wells & Associates (Pty) Ltd). Co. Reg. No. 2010/008577/07. Fern Isle, Section 10, 359 Pretoria Ave Randburg Private Bag X10046, Randburg, 2125, South Africa
Tel: +27 11 789 9495, Fax: +27 11 789 9498, info@digbywells.com, www.digbywells.com

Directors: A Sing*, AR Wilke, DJ Otto, GB Beringer, LF Koeslag, AJ Reynolds (Chairman) (British)*, J Leaver*, GE Trusler (C.E.O)
*Non-Executive

Period	Company	Title/position
2009-2011	University of the Witwatersrand	Archaeology Collections Manager
2009-2011	Independent	Archaeologist
2006-2007	Maropeng & Sterkfontein Caves UNESCO World Heritage Site	Tour guide

4 Professional Affiliations

Position	Professional Body	Registration Number
Member	Association for Southern African Professional Archaeologists (ASAPA); ASAPA Cultural Resources Management (CRM) section	270
Member	International Council on Monuments and Sites (ICOMOS)	14274
Member	Society for Africanist Archaeologists (SAfA)	N/A

5 Publications

- Huffman, T.N. & du Piesanie, J.J. 2011. Khami and the Venda in the Mapungubwe Landscape. *Journal of African Archaeology* 9(2): 189-206

6 Experience

I have 5 years experiences in the field of heritage resources management (HRM) including archaeological and heritage assessments, grave relocation, social consultation and mitigation of archaeological sites. During my studies I was involved in academic research projects associated with the Stone Age, Iron Age, and Rock Art. These are summarised below:

- Wits Fieldschool - Excavation at Meyersdal, Klipriviersberg Johannesburg (Late Iron Age Settlement).
- Wits Fieldschool - Phase 1 Survey of Prentjiesberg in Ugie / Maclear area, Eastern Cape.
- Wits Fieldschool – Excavation at Kudu Kopje, Mapungubwe National Park Limpopo Province.

- Wits Fieldschool – Excavation of Weipe 508 (2229 AB 508) on farm Weipe, Limpopo Province.
- Survey at Meyerdal, Klipriviersberg Johannesburg.
- Mapping of Rock Art Engravings at Klipbak 1 & 2, Kalahari.
- Survey at Sonop Mines, Windsorton Northern Cape (Vaal Archaeological Research Unit).
- Excavation of Kudu Kopje, Mapungubwe National Park Limpopo Province.
- Excavation of KK (2229 AD 110), VK (2229 AD 109), VK2 (2229 AD 108) & Weipe 508 (2229 AB 508) (Origins of Mapungubwe Project)
- Phase 1 Survey of farms Venetia, Hamilton, Den Staat and Little Muck, Limpopo Province (Origins of Mapungubwe Project)
- Excavation of Canteen Kopje Stone Age site, Barkley West, Northern Cape
- Excavation of Khami Period site AB32 (2229 AB 32), Den Staat Farm, Limpopo Province

Since 2011 I have been actively involved in environmental management throughout Africa, focusing on heritage assessments in compliance with International Finance Corporation (IFC) Performance Standards and other World Bank Standards and Equator Principles. This exposure to environmental, and specifically heritage management has allowed me to work to international best practice standards in accordance with international conservation bodies such as UNESCO and ICOMOS. In addition, I have also been involved in the collection of quantitative data for a Relocation Action Plan (RAP) in Burkina Faso. The exposure to this aspect of environmental management has afforded me the opportunity to understand the significance of integration of various studies in the assessment of heritage resources and recommendations for feasible mitigation measures. I have worked throughout South Africa, as well as Burkina Faso, the Democratic Republic of Congo, Liberia and Mali.

7 Project Experience

Please see the following table for relevant project experience:



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Reference
Klipriviersberg Archaeological Survey	Meyersdal, Gauteng, South Africa	2005 2006	Survey of residential development in Meyersdal. This included the recording of identified stone walled settlements through detailed mapping and photographs. Included was the Phase 2 Mitigation of two stone walled settlements	Archaeological Impact Assessments	Researcher, Archaeological Assistant	2 months		Completed survey, excavations and reporting	Archaeological Resource Management (ARM) Prof T.N. Huffman thomas.huffman@wits.ac.za
Sun City Archaeological Site Mapping	Sun City, Pilanesberg, North West Province, South Africa	2006 2006	Recording of an identified Late Iron Age stonewalled settlement through detailed mapping	Mapping	Archaeological Assistant, Mapper	1 month	Sun City	Completed mapping	Archaeological Resources Management (ARM) Prof T.N. Huffman thomas.huffman@wits.ac.za
Witbank Dam Archaeological Impact Assessment	Witbank, Mpumalanga, South Africa	2007 2007	Archaeological survey for proposed residential development at the Witbank dam	Archaeological Impact Assessment	Archaeological Assistant	1 week		Completed Archaeological Impact Assessment report	Archaeological Resources Management (ARM) Prof T.N. Huffman thomas.huffman@wits.ac.za
Archaeological Assessment of Modderfontein AH Holdings	Johannesburg, Gauteng, South Africa	2008 2008	Archaeological survey and basic assessment of Modderfontein Holdings	Archaeological Impact Assessment	Archaeologist	1 month		Completed the assessment of 13 properties	Heritage Contracts Unit Jaco van der Walt jaco.heritage@gmail.com
Heritage Assessment of Rhino Mines	Thabazimbi, Limpopo Province, South Africa	2008 2008	Heritage Assessment for expansion of mining area at Rhino Mines	Heritage Impact Assessment	Archaeologist	2 weeks	Rhino Mines	Completed the assessment	Archaeological Resources Management (ARM) Prof T.N. Huffman thomas.huffman@wits.ac.za
Cronimet Project	Thabazimbi, Limpopo Province, South Africa	2008 2008	Archaeological survey of Moddergat 389 KQ, Schilpadnest 385 KQ, and Swartkop 369 KQ,	Archaeological Impact Assessment	Archaeologist	1 weeks	Cronimet	Completed field survey and reporting	Heritage Contracts Unit Jaco van der Walt jaco.heritage@gmail.com



Eskom Thohoyandou SEA Project	Limpopo Province, South Africa	2008 2008	Heritage Statement defining the cultural landscape of the Limpopo Province to assist in establishing sensitive receptors for the Eskom Thohoyandou SEA Project	Heritage Statement	Archaeologist	2 months	Eskom	Completed Heritage Statement	Heritage Contracts Unit Jaco van der Walt jaco.heritage@gmail.com
Wenzelrust Excavations	Shoshanguve, Gauteng, South Africa	2009 2009	Contracted by the Heritage Contracts Unit to help facilitate the Phase 2 excavations of a Late Iron Age / historical site identified in Shoshanguve	Excavation and Mapping	Archaeologist	1 week	Heritage Contracts Unit	Completed excavations	Heritage Contracts Unit Jaco van der Walt jaco.heritage@gmail.com
University of the Witwatersrand Parys LIA Shelter Project	Parys, Free State, South Africa	2009 2009	Mapping of a Late Iron Age rock shelter being studied by the Archaeology Department of the University of the Witwatersrand	Mapping	Archaeologist	1 day	University of the Witwatersrand	Completed mapping of the shelter	University of the Witwatersrand Karim Sadr karim.sadr@wits.ac.za
Transnet NMPP Line	Kwa-Zulu Natal, South Africa	2010 2010	Heritage Survey of the Anglo-Boer War Vaalkrans Battlefield where the servitude of the NMP pipeline	Heritage Impact Assessment	Archaeologist	1 week	Umlando Consultants	Completed survey	Umlando Consultants Gavin Anderson umlando@gmail.com
Archaeological Impact Assessment – Witpoortjie Project	Johannesburg, Gauteng, South Africa	2010 2010	Heritage survey of Witpoortjie 254 IQ, Mindale Ext 7 and Nooitgedacht 534 IQ for residential development project	Archaeological Impact Assessment	Archaeologist	1 week	ARM	Completed survey for the AIA	Archaeological Resources Management (ARM) Prof T.N. Huffman thomas.huffman@wits.ac.za
Der Brochen Archaeological Excavations	Steelpoort, Mpumalanga, South Africa	2010 2010	Phase 2 archaeological excavations of Late Iron Age Site	Archaeological Excavation	Archaeologist	2 weeks	Heritage Contracts Unit	Completed excavations	Heritage Contracts Unit Jaco van der Walt jaco.heritage@gmail.com
De Brochen and Booyensdal Archaeology Project	Steelpoort, Mpumalanga, South Africa	2010 2010	Mapping of archaeological sites 23, 26, 27, 28a & b on the Anglo Platinum Mines De Brochen and Booyensdal	Mapping	Archaeologist	1 week	Heritage Contracts Unit	Completed Mapping	Heritage Contracts Unit Jaco van der Walt jaco.heritage@gmail.com



Eskom Thohoyandou Electricity Master Network	Limpopo Province, South Africa	2010 2010	Desktop study to identify heritage sensitivity of the Limpopo Province	Desktop Study	Archaeologist	1 Month	Strategic Environmental Focus	Completed Report	Strategic Environmental Focus (SEF) Vici Napier vici@sefsa.co.za
Bathhako Mine Expansion	North-West Province, South Africa	2010 2010	Mapping of historical sites located within the Bathhako Mine Expansion Area	Mapping	Archaeologist	1 week	Heritage Contracts Unit	Completed Mapping	Heritage Contracts Unit Jaco van der Walt jaco.heritage@gmail.com
Kibali Gold Project Grave Relocation Plan	Oriental Province, Democratic Republic of Congo	2011 2013	Implementation of the Grave Relocation Project for the Randgold Kibali Gold Project	Grave Relocation	Archaeologist	2 years	Randgold Resources	Successful relocation of approximately 3000 graves	Kibali Gold Mine Cyrille Mutombo Cyrille.c.mutombo@kibaligold.com
Kibali Gold Hydro-Power Project	Oriental Province, Democratic Republic of Congo	2012 2014	Assessment of 7 proposed hydro-power stations along the Kibali River	Heritage Impact Assessment	Heritage Consultant	2 years	Randgold Resources	Completed Heritage Impact Assessment	Randgold Resources Charles Wells Charles.wells@randgoldresources.com
Everest North Mining Project	Steelpoort, Mpumalanga, South Africa	2012 2012	Heritage Impact Assessment on the farm Vygenhoek	Heritage Impact Assessment	Heritage Consultant	6 months	Aquarius Resources	Completed Heritage Impact Assessment	Aquarius Resources
Environmental Authorisation for the Gold One Geluksdal TSF and Pipeline	Gauteng, South Africa	2012 2012	Heritage impact Assessment for the proposed TSF and Pipeline of Geluksdal Mine	Heritage Impact Assessment	Heritage Consultant	4 months	Gold One International	Completed Heritage Impact Assessment	Gold One International
Platreef Burial Grounds and Graves Survey	Mokopane, Limpopo Province, South Africa	2012 2012	Survey for Burial Grounds and Graves	Burial Grounds and Graves Management Plan	Heritage Consultant	4 months	Platreef Resources	Project closed by client due to safety risks	Platreef Resources Gerick Mouton
Resgen Boikarabelo Coal Mine	Limpopo Province, South Africa	2012 2012	Archaeological Excavation of identified sites	Archaeological Excavation	Heritage Consultant	4 months	Resources Generation	Completed excavation and reporting, destruction permits approved	Resources Generation Louise Nicolai
Bokoni Platinum Road Watching Brief	Burgersfort, Limpopo Province, South Africa	2012 2012	Watching brief for construction of new road	Watching Brief	Heritage Consultant	1 week	Bokoni Platinum Mine	Completed watching brief, reviewed report	Bokoni Platinum Mines (Pty) Ltd



SEGA Gold Mining Project	Burkina Faso	2012 2013	Socio Economic and Asset Survey	RAP	Social Consultant	3 months	Cluff Gold PLC	Completed field survey and data collection	Cluff Gold PLC
SEGA Gold Mining Project	Burkina Faso	2013 2013	Specialist Review of Heritage Impact Assessment	Reviewer	Heritage Consultant	1 week	Cluff Gold PLC	Reviewed specialist report and made appropriate recommendations	Cluff Gold PLC
Consbrey and Harwar Collieries Project	Breyton, Mpumalanga, South Africa	2013 2013	Heritage Impact Assessment for the proposed Consbrey and Harwar Collieries	Heritage Impact Assessment	Heritage Consultant	2 months	Msobo	Completed Heritage Impact Assessments	Msobo
New Liberty Gold Project	Liberia	2013 2014	Implementation of the Grave Relocation Project for the New Liberty Gold Project	Grave Relocation	Heritage Consultant	On-going	Aureus Mining	Project is on-going	Aureus Mining
Falea Uranium Mine Environmental Assessment	Falea, Mali	2013 2013	Heritage Scoping for the proposed Falea Uranium Mine	Heritage Scoping	Heritage Consultant	2 months	Rockgate Capital	Completed scoping report and recommended further studies	Rockgate Capital
Putu Iron Ore Mine Project	Petroken, Liberia	2013 2014	Heritage impact Assessment for the proposed Putu Iron Ore Mine, road extension and railway line	Heritage Impact Assessment	Heritage Consultant	6 months	Atkins Limited	Completed Heritage Impact Assessment and provided recommendations for further studies	Atkins Limited Irene Bopp Irene.Bopp@atkinglobal.com
Sasol Twistdraai Project	Secunda, Mpumalanga, South Africa	2013 2014	Notification of intent to Develop and Heritage Statement for the Sasol Twistdraai Expansion	NID	Heritage Consultant	2 months	ERM Southern Africa	Completed NID and Heritage Statement	ERM Southern Africa Alan Cochran Alan.Cochran@erm.com
Daleside Acetylene Gas Production Facility	Gauteng, South Africa	2013 2013	Project Management of the heritage study	NID	Project Manager	3 months	ERM Southern Africa	Project completed	ERM Southern Africa Kasantha Moodley Kasantha.Moodley@erm.com
Exxaro Belfast, Paardeplaats and Eerstelingsfontein GRP	Belfast, Mpumalanga, South Africa	2013 2014	Grave Relocation Plan for the Belfast, Paardeplaats and Eerstelingsfontein Projects	GRP	Project Manager, Heritage Consultant	On-going	Exxaro	Project is on-going	Exxaro Johan van der Bijl Johan.vanderbijl@exxaro.com



Nzoro 2 Hydro Power Project	Oriental Province, Democratic Republic of Congo	2014 2014	Social consultation for the Relocation Action Plan component of the Nzoro 2 Hydro Power Station	RAP	Social Consultant	On-going	Randgold Resources	Completed introductory meetings – project on-going	Kibali Gold Mine Cyrille Mutombo Cyrille.c.mutombo@kibaligold.com
Eastern Basin AMD Project	Springs, Gauteng, South Africa	2014 2014	Heritage Impact Assessment for the proposed new sludge storage facility and pipeline	Heritage Impact Assessment	Heritage Consultant	On-going	AECOM	Project is on-going	AECOM
Soweto Cluster Reclamation Project	Soweto, Gauteng, South Africa	2014 2014	Heritage Impact Assessment for reclamation activities associated with the Soweto Cluster Dumps	Heritage Impact Assessment	Heritage Consultant	On-going	ERGO	Project is on-going	ERGO Greg Ovens Greg.ovens@drdgold.com
Klipspruit South Project	Ogies, Mpumalanga, South Africa	2014 2014	NID and Heritage Statement for the Section 102 Amendment of the Klipspruit Mine EMP	NID	Heritage Consultant	On-going	BHP Billiton	Project is on-going	BHP Billiton
Klipspruit Extension: Weltevreden Project	Ogies, Mpumalanga, South Africa	2014 2014	NID and Heritage Statement for the expansion of the Klipspruit Mine	NID	Heritage Consultant	On-going	BHP Billiton	Project is on-going	BHP Billiton
Ergo Rondebult Pipeline Basic Assessment	Johannesburg, South Africa	2014 2014	NID and Heritage Statement for the construction of the Rondebult Pipeline	NID	Heritage Consultant	1 Week	ERGO	Completed screening assessment and NID	ERGO
Kibali ESIA Update Project	Oriental Province, Democratic Republic of Congo	2014 2014	Update of the Kibali ESIA for the inclusion of new open-cast pit areas	Heritage Impact Assessment	Heritage Consultant	On-going	Randgold Resources	Project is on-going	Randgold Resources Charles Wells Charles.wells@randgoldresources.com
GoldOne EMP Consolidation	Westonaria, Gauteng, South Africa	2014 2014	Gap analysis for the EMP consolidation of operations west of Johannesburg	Gap Analysis	Heritage Consultant	On-going	Gold One International	Project is on-going	Gold One International

JOHAN NEL

Mr Johan Nel

Unit manager: Heritage Resources Management

Social Sciences

Digby Wells Environmental

1 EDUCATION

Date	Degree(s) or Diploma(s) obtained	Institution
2014	Integrated Heritage Resources Management Certificate, NQF Level 6	Rhodes University
2002	BA (Honours) (Archaeology)	University of Pretoria
2001	BA	University of Pretoria
1997	Matric with exemption	Brandwag Hoërskool

2 LANGUAGE SKILLS

Language	Speaking	Writing	Reading
English	Excellent	Excellent	Excellent
Afrikaans	Excellent	Excellent	Excellent

3 EMPLOYMENT

Period	Company	Title/position
09/2011 to present	Digby Wells Environmental	Manager: Heritage Resources Management unit
05/2010-2011	Digby Wells Environmental	Archaeologist
10/2005-05/2010	Archaic Heritage Project Management	Manager and co-owner
2003-2007	Rock Art Mapping Project	Freelance archaeologist Resident archaeologist



2002-2003	Department of Anatomy, University of Pretoria	Special assistant: Anthropology
2001-2002	Department of Anatomy, University of Pretoria	Technical assistant
1999-2001	National Cultural History Museum & Department of Anthropology and Archaeology, UP	Assistant: Mapungubwe Project,

4 EXPERIENCE

Johan Nel has 13 years of combined experience in the field of cultural heritage resources management (HRM) including archaeological and heritage assessments, grave relocation, social consultation and mitigation of archaeological sites. I have gained experience both within urban settings and remote rural landscapes. Since 2010 I have been actively involved in environmental management that has allowed me to investigate and implement the integration of heritage resources management into environmental impact assessments (EIA). Many of the projects since have required compliance with International Finance Corporation (IFC) requirements and other World Bank standards. This exposure has allowed me to develop and implement a HRM approach that is founded on international best practice and leading international conservation bodies such as UNESCO and ICOMOS. I have worked in most South African Provinces, as well as Swaziland, the Democratic Republic of the Congo, Liberia and Sierra Leone. I am fluent in English and Afrikaans, with excellent writing and research skills.

5 PROFESSIONAL REGISTRATION

Position	Professional Body	Registration Number
Council member	Association for Southern African Professional Archaeologists (ASAPA); ASAPA Cultural Resources Management (CRM) section	095
Member	International Association of Impact Assessors (IAIA)	N/A
Member	International Council on Monuments and Sites (ICOMOS)	
Member	Society for Africanist Archaeologists (SAfA)	N/A



6 PUBLICATIONS AND CONFERENCE PAPERS

Authors and Year	Title	Published in/presented at
Nel, J. (2001)	Cycles of Initiation in Traditional South African Cultures.	South African Encyclopaedia (MWEB).
Nel, J. 2001.	Social Consultation: Networking Human Remains and a Social Consultation Case Study	Research poster presentations at the. Bi-annual Conference (SA3) Association of Southern African Professional Archaeologists the National Museum, Cape Town
Nel, J. 2002.	Collections policy for the WG de Haas Anatomy museum and associated Collections.	Unpublished. Department of Anatomy, School of Medicine: University of Pretoria.
Nel, J. 2004.	Research and design of exhibition for Eloff Belting and Equipment CC	Institute of Quarrying 35th Conference and Exhibition on 24 – 27 March 2004
Nel, J. 2004.	Ritual and Symbolism in Archaeology, Does it exist?	Research paper presented at the Bi-annual Conference (SA3) Association of Southern African Professional Archaeologists: Kimberley
Nel, J & Tiley, S. 2004.	The Archaeology of Mapungubwe: a World Heritage Site in the Central Limpopo Valley, Republic of South Africa.	Archaeology World Report, (1) United Kingdom p.14-22.
Nel, J. 2007.	The Railway Code: Gautrain, NZASM and Heritage.	Public lecture for the South African Archaeological Society, Transvaal Branch: Roedean School, Parktown.
Nel, J. 2009.	Un-archaeologically speaking: the use, abuse and misuse of archaeology in popular culture.	The Digging Stick. April 2009. 26(1): 11-13: Johannesburg: The South African Archaeological Society.
Nel, J. 2011.	'Gods, Graves and Scholars' returning Mapungubwe human remains to their resting place.' In: Mapungubwe Remembered.	University of Pretoria commemorative publication: Johannesburg: Chris van Rensburg Publishers.



Nel, J. 2012	HIAs for EAPs.	. Paper presented at IAIA annual conference: Somerset West.
Nel, J. 2013.	The Matrix: A proposed method to evaluate significance of, and change to, heritage resources.	Paper presented at the 2013 ASAPA Biennial conference: Gaborone, Botswana.
Nel, J. 2013	HRM and EMS: Uncomfortable fit or separate process.	. Paper presented at the 2013 ASAPA Biennial conference: Gaborone, Botswana.

7 PROJECT EXPERIENCE

7.1 Archaeological Surveys and Impact Assessments

- 2003-2004. Freelance consulting archaeologist. Roodt & Roodt CC. RSA. Archaeological surveys. Specialist.
- 2004-2005. Resident archaeologist Rock Art Mapping Project. University of KwaZulu-Natal. Kwazulu-Natal, RSA. Rock art mapping & recording. Specialist.

7.2 Archaeological Mitigation

- 2007. Archaeological investigation of Old Johannesburg Fort. Johannesburg Development Agency. Gauteng, RSA. Archaeological mitigation. Project manager.
- 2008. Final consolidated report: Watching Brief on Soutpansberg Road Site for the new Head Offices of the Department of Foreign Affairs, Pretoria Gauteng. Imbumba-Aganang D & C Joint Venture. Gauteng, RSA. Watching Brief. Project manager.
- 2011. Sessenge archaeological site mitigation. Randgold Resources. Doko, DRC. Archaeological mitigation. Specialist.
- 2011. Mitigation of three sites, Koidu Kimberlite Project. Koidu Holdings SA. Koidu, Sierra Leone. Archaeological mitigation. Project manager.
- 2012. Boikarabelo Phase 2 Mitigation of Archaeological Sites. Ledjadja Coal (Pty) Ltd. Limpopo, RSA. Archaeological permitting and mitigation. Project manager.
- 2012. Additional Archaeology Mitigation of Sites. Ledjadja Coal (Pty) Ltd. Limpopo, RSA. Archaeological permitting and mitigation. Project manager.
- 2013. Archaeological Excavations of Old Well, Rhodes University, Grahamstown. Rhodes University. Eastern Cape, RSA. Archaeological mitigation. Specialist.
- 2014. Archaeological Site Destruction. Ledjadja Coal (Pty) Ltd. Limpopo, RSA. Archaeological permitting and mitigation. Project manager.

7.3 Heritage Impact Assessments

- 2005. Final consolidated Heritage Impact Assessment report: Proposed development of high-cost housing and filling station, Portion of the farm Mooiplaats 147 JT. Go-Enviroscience. Mpumalanga, RSA. Heritage Impact Assessment. Project manager.
- 2006. Final report: Heritage resources Scoping survey and preliminary assessment for the Transnet Freight Line EIA, Eastern Cape and Northern Cape. ERM Southern Africa (Pty) Ltd. Northern & Eastern Cape, RSA. Heritage Scoping Assessment. Project manager.
- 2007. Proposed road upgrade of existing, and construction of new roads in Burgersfort, Limpopo Province. AGES South Africa (Polokwane). Limpopo, RSA. Heritage Impact Assessment. Project manager.
- 2007. Recommendation of Exemption: Above-ground SASOL fuel storage tanks located at grain silos in localities in the Eastern Free State. Sasol Group Services (Pty) Ltd. Free State, RSA. Letter of Exemption. Project manager.
- 2008. Summary report: Old dump on premises of the new Head Offices, Department of Foreign Affairs, Pretoria, Gauteng. Imbumba-Aganang D & C Joint Venture. Gauteng, RSA. Archaeological Impact Assessment. Project manager.
- 2008. Van Reenen Eco-Agri Development Project. Go-Enviroscience. Kwazulu-Natal & Free State, RSA. Heritage Impact Assessment. Project manager.
- 2008. Heritage Impact Assessment for proposed water pipeline routes, Mogalakwena District, Limpopo Province. AGES South Africa (Polokwane). Limpopo, RSA. Heritage Impact Assessment. Project manager.
- 2008. Phase 1 Heritage and Archaeological Impact Assessment: Proposed establishment of an access road between Sapekoe Drive and Koedoe Street, Erf 3366 (Extension 22) and the Remainder of Erf 430 (Extension 4). AGES South Africa (Polokwane). Limpopo, RSA. Heritage Impact Assessment. Project manager.
- 2008. Heritage resources scoping survey and preliminary assessment: Proposed establishment of township on Portion 28 of the farm Kennedy's Vale 362 KT, Steelpoort, Limpopo Province. AGES South Africa (Polokwane). Limpopo, RSA. Heritage Scoping Assessment. Project manager.
- 2008. Randwater Vlakfontein-Mamelodi water pipeline survey. Archaeology Africa CC. Gauteng, RSA. Heritage Impact Assessment. Specialist.
- 2010. Heritage Impact Assessment for conversion of PR to MRA. Georock Environmental. Northwest, RSA. Heritage Impact Assessment. Project manager.
- 2010. Temo Coal Project. Namane Commodities (Pty) Ltd. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2011. Marapong Treatment Works. Ceenex (Pty) Ltd. Limpopo, RSA. Archaeological Impact Assessment. Project manager.



- 2011. Complete Environmental Authorisation. Rhodium Reefs Ltd. Limpopo, RSA. Archaeological Impact Assessment. Specialist.
- 2011. Big 5 PV Solar Plants. Orlight (Pty) Ltd. Western and Northern Cape, RSA. Heritage Impact Assessment. Specialist.
- 2011. Heritage Impact Assessment for Koidu Diamond Mine. Koidu Holdings SA. Koidu, Sierra Leone. Heritage Impact Assessment. Specialist.
- 2012. TSF and Pipeline. Gold One. Gauteng, RSA. Heritage Impact Assessment. Project manager.
- 2012. Kangra Coal Heritage Screening Assessment. ERM Southern Africa (Pty) Ltd. Mpumalanga, RSA. Heritage Screening Assessment. Project manager.
- 2012. Environmental and Social Studies. Platreef Resources (Pty) Ltd. Limpopo, RSA. Heritage specialist advice. Project manager.
- 2012. ESKOM Powerline EIA. Ledjadja Coal (Pty) Ltd. Limpopo, RSA. Notification of Intent to Develop. Project manager.
- 2012. Falea Project ESIA. Denison Mines Corp. (Rockgate Capital Corp). Falea, Mali. Heritage Impact Assessment. Specialist.
- 2012. EIA for Proposed Emergency Measures to Pump and Treat. AECOM SA (Pty) Ltd. Gauteng, RSA. Heritage Impact Assessment. Specialist.
- 2012. Tonguma Baseline Studies. Koidu Holdings SA. Tonguma, Sierra Leone. Heritage Impact Assessment. Specialist.
- 2012. Vedanta IPP. Black Mountain Mining (Pty) Ltd. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2012. Boikarabelo Railway Realignment. Ledjadja Coal (Pty) Ltd. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2012. Platreef ESIA. Platreef Resources (Pty) Ltd. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2012. Roodekop EIA. Universal Coal Development 4 (Pty) Ltd. Mpumalanga, RSA. Heritage Impact Assessment. Specialist.
- 2012. Kangala HIA. Universal Coal Development 1 (Pty) Ltd. Mpumalanga, RSA. Heritage Impact Assessment and permitting. Specialist.
- 2012. Roodepoort Strengthening. Eskom Holdings SOC Ltd. Gauteng, RSA. Notification of Intent to Develop. Specialist.
- 2012. Trichardtsfontein EIA / EMP. Xstrata Coal South Africa. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2012. Zandbaken EIA/EMPR. Xstrata Coal South Africa. Limpopo, RSA. Heritage Impact Assessment. Specialist.



- 2013. ATCOM Tweefontein NID. Jones & Wagener (Pty) Ltd. Mpumalanga, RSA. Burial grounds and graves consultation, permitting and relocation. Project manager.
- 2013. Roodepoort Heritage Impact Assessment. Fourth Element Consulting (Pty) Ltd. Gauteng, RSA. Heritage Impact Assessment. Project manager.
- 2013. JHB BRT Phase 2 Heritage Impact Assessment. Iliso Consulting (Pty) Ltd. Gauteng, RSA. Heritage Impact Assessment. Project manager.
- 2013. Kangra Coal HIA. ERM Southern Africa (Pty) Ltd. Mpumalanga, RSA. Heritage Impact Assessment. Project manager.
- 2013. Slypsteen Bulk Sample Application. Summer Season Trading (Pty) Limited. Northern Cape, RSA. Heritage Impact Assessment. Project manager.
- 2013. Kempton Park Heritage Statement and NID. ERM Southern Africa (Pty) Ltd. Gauteng, RSA. Notification of Intent to Develop. Project manager.
- 2013. Sasol Twistdraai CFD. ERM Southern Africa (Pty) Ltd. Gauteng, RSA. Notification of Intent to Develop. Project manager.
- 2013. HRS & NID - River Crossings Upgrade. Iliso Consulting (Pty) Ltd. Gauteng, RSA. Notification of Intent to Develop. Project manager.
- 2013. Waterberg Prospecting Right Applications. Platinum Group Metals (Pty) Ltd. Limpopo, RSA. Notification of Intent to Develop. Project manager.
- 2013. Landau Waste Licence Application. Anglo Operations (Pty) Limited. Mpumalanga, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2013. Prospecting Right Consultation Report. Rustenburg Platinum Mines Limited. Mpumalanga, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2013. Witrand Prospecting EMP. Rustenburg Platinum Mines Limited. Mpumalanga, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2013. EMP Amendment for CST. Copper Sunset Trading (Pty) Ltd. Mpumalanga, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2013. Maseve IFC ESHIA. Maseve Investment (Pty) Ltd. Mpumalanga, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2013. Dalyshope ESIA. Anglo Operations (Pty) Limited. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2013. Klipfontein Opencast Project. Bokoni Platinum Mines (Pty) Ltd. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2013. Consbrey and Harwar MPRDA EIA/EMP. Msobo Coal (Pty) Ltd. Mpumalanga, RSA. Heritage Impact Assessment. Specialist.
- 2013. Slypsteen 102 EMP Amendment. Summer Season Trading (Pty) Limited. Northern Cape, RSA. Heritage Impact Assessment. Specialist.

- 2013. Putu Iron Ore ESIA. Atkins Limited Incorporated. Putu, Liberia. Heritage Impact Assessment. Specialist.
- 2013. Ash backfilling at Sigma Colliery. Sasol Mining (Pty) Ltd. Gauteng, RSA. Notification of Intent to Develop. Specialist.
- 2013. Syferfontein Block 4 - Underground Coal Mining for Sasol. Sasol Mining (Pty) Ltd. Mpumalanga, RSA. Notification of Intent to Develop. Specialist.
- 2013. Prospecting Right Amendment to Include Bulk Sampling. Sikhuliso Resources (Pty) Ltd. Mpumalanga, RSA. Notification of Intent to Develop. Specialist.
- 2013. Nooitgedacht EIA, EMP Amendment & Gap Analysis. Xstrata Coal South Africa. Limpopo, RSA. Heritage Impact Assessment. Specialist.
- 2014. Gold One EMP Consolidation Phase 0. Gold One. Gauteng, RSA. Heritage Impact Assessment. Reviewer / specialist.
- 2014. Kilbarchan Audit and EIA. Eskom Holdings SOC Ltd. Kwazulu-Natal, RSA. Heritage Impact Assessment. Reviewer / specialist.
- 2014. Klipspruit Extension Environmental Assessment. BHP Billiton Energy Coal South Africa Limited. Mpumalanga, RSA. Heritage Impact Assessment. Reviewer / specialist.
- 2014. Klipspruit South BECSA EIA. BHP Billiton Energy Coal South Africa Limited. Mpumalanga, RSA. Heritage Impact Assessment. Reviewer / specialist.
- 2014. EIA/EMP Soweto Cluster. DRD GOLD ERGO (Ergo Mining (Pty) Ltd. Gauteng, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2014. London Road Heritage Statement. ERM Southern Africa (Pty) Ltd. Gauteng, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2014. Grootegeluk MPRDA, NEMA and IWULA. Exxaro Coal (Pty) Ltd. Limpopo, RSA. Notification of Intent to Develop. Reviewer / specialist.
- 2014. Kibali ESIA & EMP Update. Randgold Resources. Doko, DRC. Heritage Impact Assessment. Specialist.
- 2014. Nokuhle Colliery NEMA Process. HCI Coal (Pty) Ltd. Mpumalanga, RSA. Heritage Impact Assessment. Specialist.
- 2014. HRM Process for Hendrina Wet Ashing. Lidwala Consulting Engineers (Pty) Ltd. Mpumalanga, RSA. Heritage Impact Assessment. Specialist.
- 2014. Weltevreden NEMA. Northern Coal (Pty) Ltd. Mpumalanga, RSA. Heritage Impact Assessment. Specialist.
- 2014. Sasol Sigma Mooikraal Pipeline BA. Sasol Mining (Pty) Ltd. Mpumalanga, RSA. Notification of Intent to Develop. Specialist.



7.4 Burial Grounds and Graves Consultation and Relocation

- 2005. Report on exhumation, relocation and re-internment of 49 graves on Portion 10 of the farm Tygervallei 334 JR, Kungwini Municipality, Gauteng D Georgiades East Farm (Pty) Ltd. Gauteng, RSA. Burial grounds and graves consultation, permitting and relocation. Project manager.
- 2005. Southstock Collieries Grave Relocation. Doves Funerals, Witbank. Mpumalanga, RSA. Burial grounds and graves consultation, permitting and relocation. Project manager.
- 2005. Social consultation for Smoky Hills Platinum Mine Grave Relocation. PGS (Pty) Ltd. Limpopo, RSA. Stakeholder consultation on burial grounds and graves. Social consultant.
- 2005. Social consultation for Elawini Lifestyle Estate Grave Relocation. PGS (Pty) Ltd. Mpumalanga, RSA. Stakeholder consultation on burial grounds and graves. Social consultant.
- 2006. Social consultation for Zonkezizwe Grave Relocation. PGS (Pty) Ltd. Gauteng, RSA. Stakeholder consultation on burial grounds and graves. Social consultant.
- 2006. Social consultation for Motaganeng Residential Development Grave Relocation. PGS (Pty) Ltd. Mpumalanga, RSA. Stakeholder consultation on burial grounds and graves. Social consultant.
- 2006. Social consultation for Zondagskraal Coal Mine Grave (Pty) Ltd. Mpumalanga, RSA. Stakeholder consultation on burial grounds and graves. Social consultant.
- 2007. Exploratory excavation of an unknown cemetery at Du Preezhoek, Fountains Valley, Portion 383 of the farm Elandspoort 357 JR, Pretoria, Gauteng. Bombela Civil Joint Venture. Gauteng, RSA. Burial grounds and graves consultation, permitting and relocation. Project manager.
- 2007. Final consolidated report: Phase 2 test excavations ascertaining the existence of alleged mass graves, Tlhabane West, Extension 2, Rustenburg, Northwest Province. Bigen Africa Consulting Engineers. Northwest, RSA. Burial grounds and graves consultation, permitting and relocation. Project manager.
- 2007. Repatriation of Mapungubwe Human Remains. Department of Environmental Affairs and Tourism. Limpopo, RSA. Repatriation. Project manager.
- 2008. Report on skeletal material found at Pier 30, R21 Jones Street off-ramp, Kempton Park. Bombela Civil Joint Venture. Gauteng, RSA. Heritage Scoping Assessment. Project manager.
- 2011. Kibali Grave Relocation. Randgold Resources. Doko, DRC. International grave relocation. Specialist.
- 2012. Platreef Platinum Mine Burial Grounds and Graves Census. Platreef Resources (Pty) Ltd. Limpopo, RSA. Stakeholder consultation on burial grounds and graves. Project manager.

- 2013. New Liberty Grave Relocation Process. Aureus Mining Inc. Kinjor, Liberia. International grave relocation. Project manager.
- 2013. Bokoni Burial Grounds and Grave Census and Grave Relocation Plan. Bokoni Platinum Mines (Pty) Ltd. Limpopo, RSA. Stakeholder consultation on burial grounds and graves. Project manager.
- 2014. Arnot Colliery Grave Relocation Project. Exxaro Coal (Pty) Ltd. Mpumalanga, RSA. Burial grounds and graves consultation, permitting and relocation. Project manager.
- 2014. Paardeplaats and Belfast RAPs. Exxaro Coal (Pty) Ltd. Mpumalanga, RSA. Burial grounds and graves consultation, permitting and relocation. Reviewer / specialist.
- 2014. Thabametsi EIA, EMP, IWULA, IWWMP and PPP. Exxaro Coal (Pty) Ltd. Limpopo, RSA. Stakeholder consultation on burial grounds and graves. Specialist.

7.5 Research Reports and Reviews

- 2007. Research report on cultural symbols. Ministry of Intelligence Services. RSA. Research report. Project manager.
- 2007. Research report on the remains of kings Mampuru I and Nyabela. National Department of Arts and Culture. RSA. Research report. Project manager.
- 2012. Baseline Scoping and Pre-feasibility Songwe Rare Earth Element Project. Mkango Resources Limited. Songwe, Malawi. Heritage Impact Assessment. Reviewer / specialist.
- 2013. Fatal Flaw Analysis and EIA Process for AMD Man in Eastern Basin. AECOM SA (Pty) Ltd. Gauteng, RSA. Heritage Impact Assessment. Reviewer / specialist.



DIGBY WELLS
ENVIRONMENTAL

NATASHA HIGGITT

Ms Natasha Higgitt
Assistant Heritage Consultant
Social Department
Digby Wells Environmental

1 EDUCATION

- University of Pretoria
- BA Degree (2008)
- Archaeology Honours (2010)
- Title of Dissertation- Pass the Salt: An Archaeological analysis of lithics and ceramics from Salt Pan Ledge, Soutpansberg, for evidence of salt working and interaction.

2 LANGUAGE SKILLS

- English - Excellent (read, write and speak)
- Afrikaans - Fair (read, write and speak)
- Italian – Poor (Speaking only)

3 EMPLOYMENT

- July 2011 to Present: Assistant Heritage Consultant at Digby Wells Environmental
- April 2011 to June 2011: Lab assistant at the Albany Museum Archaeology Department, Grahamstown, Eastern Cape
- April 2010 to March 2011: Intern at the Archaeology Department, Albany Museum, Grahamstown, Eastern Cape under the Department of Sports, Recreation, Arts and Culture, Eastern Cape Government, South Africa (DSRAC)

4 FIELD EXPERIENCE

- Human remains rescue excavation at St Francis Bay, Eastern Cape
- Human remains rescue excavation at Wolwefontein, Eastern Cape
- Recorded two rock art sites at Blaauwbosch Private Game Reserve, Eastern Cape

- Attended a 2 week excavation/study tour in the Friuli Region in Italy, organised by the *Società Friulana di Archeologia*, sponsored by *Ente Friuli nel Mondo*, and excavated a 12th century medieval castle
- Attended a 2 week excavation in Limpopo, Waterpoort Archaeological Project organised by Xander Antonites (Yale PhD Candidate)
- A total of 5 University of Pretoria Archaeology field schools in Limpopo and Gauteng spanning over 4 years

5 PROJECT EXPERIENCE

- Notification of Intent to Develop for the Doornkloof Flood Remedial Measures Project, Centurion, Gauteng Province for Iliso Consulting (Pty) Ltd (Digby Wells Environmental)
- Notification of Intent to Develop for the Oakleaf Open Cast Coal Mine, Bronkhorstspuit, Gauteng Province for Oakleaf Resources (Digby Wells Environmental)
- Notification of Intent to Develop for the Rietfontein 101IS Prospecting Project for Rustenburg Platinum (Digby Wells Environmental)
- Heritage Impact Assessment for the Weltevreden Open Cast Coal Mine, Belfast, Mpumalanga for Northern Coal (Pty) Ltd (Digby Wells Environmental)
- Notification of Intent to Develop for the Grootegeeluk Expansion Project, Lephalale, Limpopo Province for Exxaro Resources (Pty) Ltd (Digby Wells Environmental)
- Notification of Intent to Develop and Heritage Statement for the London Road Petrol Station, Alexandria, Gauteng for ERM Southern Africa (Pty) Ltd (Digby Wells Environmental)
- Heritage Impact Assessment for the Roodepoort Strengthening Project, Roodepoort, Gauteng for Fourth Element (Digby Wells Environmental)
- Heritage Statement for the Stoffel Park Bridge Upgrade, Mamelodi, Gauteng for Iliso Consulting (Pty) Ltd (Digby Wells Environmental)
- Heritage Statement for the Witrand Prospecting EMP, Bethal, Mpumalanga for Rustenburg Platinum (Digby Wells Environmental)
- Heritage Statement for the Onverwacht Prospecting EMP, Kinross, Mpumalanga for Rustenburg Platinum (Digby Wells Environmental)
- Heritage Statement for a Proposed Acetylene Gas Production Facility, located near Witkopdorp, Daleside, south of Johannesburg, Gauteng Province for Erm Southern Africa (Pty) Ltd (Digby Wells Environmental)
- Heritage Impact Assessment for the Platreef Platinum Project, Mokopane, Limpopo for Platreef Resources (Digby Wells Environmental)
- Heritage Statement for ATCOM and Tweefontein Dragline Relocation Project, near Witbank, Mpumalanga Province for Jones and Wagner Consulting Civil Engineers (Digby Wells Environmental)

- Heritage Statement Report for the Wilgespruit Bridge Upgrade, Pretoria, Gauteng Province for Iliso Consulting (Pty) Ltd (Digby Wells Environmental)
- Heritage Statement Report for the Kosmosdal sewer pipe bridge upgrade, Pretoria, Gauteng Province for Iliso Consulting (Pty) Ltd (Digby Wells Environmental)
- Phase 1 Heritage Impact Assessment for the Thabametsi Coal Mine, Lephalale, Limpopo for Exxaro Coal (Digby Wells Environmental)
- Heritage Statement for the Zandbaken Coal Mine Project, Zandbaken 585 IR, Sandbaken 363 IR and Bosmans Spruit 364 IS, Standerton, Mpumalanga for Xtrata Coal South Africa (Digby Wells Environmental)
- Phase 1 Heritage Impact Assessment for the Brakfontein Thermal Coal Mine, Mpumalanga for Universal Coal (Digby Wells Environmental)
- Development of a RAP for Aureus Mining for the New Liberty Gold Mine Project, Liberia (Digby Wells Environmental)
- Phase 1 Archaeological Impact Assessment for the MBET Pipeline, Steenbokpan, Limpopo (Digby Wells Environmental)
- Notice of Intent to Develop and Cultural Resources Pre-Assessment for Orlight SA (PTY) Ltd Solar PV Project. 2012. (Digby Wells Environmental)
- Agricultural Survey for Platreef ESIA, Mokopane, Limpopo. 2011. (Digby Wells Environmental)
- Cultural Resources Pre-Assessment for the Proposed Sylvania Everest North Mining Development in Mpumalanga, near Lydenburg. 2011. (Digby Wells Environmental)
- Phase 2 Mitigation of Archaeological sites at Boikarabelo Coal Mine, Steenbokpan, Limpopo. 2011. (Digby Wells Environmental)
- Cultural Resources Pre-Assessment for Proposed Platinum Mine Prospecting in Mpumalanga, near Bethal for Anglo Platinum. 2011. (Digby Wells Environmental)
- Cultural Resources Pre-Assessment for proposed Platinum Mine at Mokopane, Limpopo for Ivanhoe Platinum. 2011. (Digby Wells Environmental)
- Phase 1 AIA Mixed-use housing Development, Kwanobuhle, Extension 11, Uitenhage, Eastern Cape. 2011.
- Phase 1 AIA Centane to Qholora and Kei River mouth road upgrade survey, Mnquma Municipality, Eastern Cape. 2011. (SRK Consulting)
- Phase 1 AIA Clidet Data Cable survey, Western Cape, Northern Cape, Free State and Eastern Cape. 2011. (SRK Consulting)
- Phase 1 AIA Karoo Renewable Energy Facility, Victoria West, Northern Cape. 2011. (Savannah Environmental)
- Phase 1 AIA Windfarm survey in Hamburg, Eastern Cape. 2010. (Savannah Environmental)



- Phase 1 AIA Windfarm survey in Molteno, Eastern Cape. 2010. (Savannah Environmental)
- Phase 1 AIA Housing Development at Motherwell, P.E. 2010. (SRK Consulting)
- Phase 1 AIA Sand quarry survey in Paterson, Eastern Cape. 2010. (SRK Consulting)
- Phase 1 AIA Quarry Survey at Victoria West. 2010. (Acer [Africa] Environmental Management Consultants)
- Phase 1 AIA Quarry Survey at Port Elizabeth. 2010. (E.P Brickfields)

6 PROFESSIONAL AFFILIATIONS

- Association of Southern African Professional Archaeologists (ASAPA): Professional member
- Association of Southern African Professional Archaeologists (ASAPA): CRM Practitioner (Field Supervisor: Stone Age, Iron Age and Rock Art)
- South African Museums Association (SAMA): Member

Heritage Scoping Report

Environmental Authorisation Application for the Namane IPP Project, Duikerpan 249LQ,
Lephalale Local Municipality, Limpopo Province

NAM3248



DIGBY WELLS
ENVIRONMENTAL

Appendix B: Site list

Map ID	Site ID	Latitude	Longitude	Cultural Affinities	Description	Reference
Grave 01	Grave 01	-23.687517	27.545283	Burial Grounds and Graves	A single, stone-packed grave in an open veld.	Pistorius (2010)
Grave 02	Grave 02	-23.668033	27.472933	Burial Grounds and Graves	A single grave located next to a tree and covered with stones. It is fitted with an iron cross which serves as a headstone.	Pistorius (2010)
Grave 03	Grave 03	-23.618283	27.483467	Burial Grounds and Graves	A single, formal grave with a cement slab and a cement headstone.	Pistorius (2010)
Grave 04	Grave 04	-23.604550	27.493600	Burial Grounds and Graves	A single, formal grave.	Pistorius (2010)
Site 001	Site 001	-23.589860	27.115788	Farming Community	A low density scatter of potsherds and six non-diagnostic potsherds recovered from the surface and around several animal burrows.	Fourie (2010)
Site 002	Site 002	-23.590860	27.159220	Farming Community	A low density scatter of potsherds and 14 non-diagnostic potsherds recovered from the surface and around several animal burrows.	Fourie (2010)
Site 003	Site 003	-23.602330	27.147650	Farming Community	A low density scatter of potsherds and six non-diagnostic potsherds recovered from the surface and around several animal burrows.	Fourie (2010)
Site 004	Site 004	-23.591070	27.144300	Farming Community	12 non-diagnostic potsherds recovered from the surface of a possible midden. Fragments of two lower grinding stones were recovered on close proximity to the midden.	Fourie (2010)
Site 2324CA10	Site 2324CA10	-23.683060	27.106110	Middle Stone Age	Stone artefacts near an animal burrow.	Huffman (2011)
Site 2324CA22	Site 2324CA22	-23.686940	27.097780	Middle Stone Age	Stone artefacts in a pan.	Huffman (2011)
Site 2324CA24	Site 2324CA24	-23.688610	27.090000	Middle Stone Age	Stone artefacts around a shallow pan.	Huffman (2011)
Site 2324CA25	Site 2324CA25	-23.720140	27.137080	Middle Stone Age	Stone artefacts on the surface of a fericrote exposure around a pan.	Huffman (2011)
Site 2324CA26	Site 2324CA26	-23.718060	27.105690	Middle Stone Age	Stone artefacts in a small pan.	Huffman (2011)
Site 2324CA63	Site 2324CA63	-23.721640	27.127420	Middle Stone Age	A shallow pan.	Huffman (2011)
Site 2324CA69	Site 2324CA69	-23.686940	27.105250	Middle Stone Age	Calcrete with stone artefacts.	Huffman (2011)
Site 2324CA8	Site 2324CA8	-23.686670	27.125830	Middle Stone Age	Stone artefacts in the middle of a pan.	Huffman (2011)
Site 2324CA9	Site 2324CA9	-23.687500	27.105560	Middle Stone Age	Stone artefacts in a small pan.	Huffman (2011)
Site 2324CB35	Site 2324CB35	-23.693110	27.281810	Built Environment	A pre-1965 school.	Huffman (2011)
Site 2327CA11	Site 2327CA11	-23.681530	27.096530	Farming Community	A cattle kraal and midden with undecorated pottery, bone and a lower grindstone in a large cleared area.	Huffman (2011)
Site 2327CA12	Site 2327CA12	-23.681530	27.094440	Farming Community	A cattle kraal and undecorated pottery.	Huffman (2011)
Site 2327CA13	Site 2327CA13	-23.681390	27.093470	Farming Community	Cattle dung exposed in an antbear holes.	Huffman (2011)
Site 2327CA14	Site 2327CA14	-23.681530	27.093060	Farming Community	A cattle kraal.	Huffman (2011)
Site 2327CA15	Site 2327CA15	-23.681940	27.086110	Farming Community	A cattle kraal and midden with decorated <i>Letsibogo</i> pottery.	Huffman (2011)
Site 2327CA16	Site 2327CA16	-23.681810	27.087780	Farming Community	A cattle kraal, pottery and a grain bin stand.	Huffman (2011)
Site 2327CA17	Site 2327CA17	-23.681670	27.088890	Farming Community	<i>Letsibogo</i> pottery exposed by an animal burrow.	Huffman (2011)
Site 2327CA18	Site 2327CA18	-23.681810	27.090140	Farming Community	A buried cattle kraal, plain pottery and a probable midden.	Huffman (2011)
Site 2327CA19	Site 2327CA19	-23.682640	27.093060	Farming Community	Pottery and a lower grindstone.	Huffman (2011)
Site 2327CA1a	Site 2327CA1a	-23.637780	27.240280	Built Environment	Venter house said to have been built on top of an older structure in the 1950s.	Huffman (2011)
Site 2327CA1b	Site 2327CA1b	-23.638220	27.240640	Burial Grounds and Graves	Venter family graveyard.	Huffman (2011)
Site 2327CA2	Site 2327CA2	-23.643000	27.247830	Built Environment	Baobab house built by Mr Venter's grandfather in the 1940s.	Huffman (2011)
Site 2327CA20	Site 2327CA20	-23.683190	27.091390	Farming Community	A cattle kraal, pottery, an upper grindstone, and a midden with pottery.	Huffman (2011)
Site 2327CA21	Site 2327CA21	-23.681530	27.095970	Farming Community	A cattle kraal and pottery near Site 2327CA11.	Huffman (2011)
Site 2327CA23	Site 2327CA23	-23.692640	27.091940	Farming Community	A cattle kraal with <i>Letsibogo</i> pottery.	Huffman (2011)
Site 2327CA28b	Site 2327CA28b	-23.668170	27.141810	Farming Community	Some <i>Letsibogo</i> pottery at an excavated pan.	Huffman (2011)
Site 2327CA29	Site 2327CA29	-23.667080	27.089440	Built Environment	Farm labourer housing near a pan.	Huffman (2011)
Site 2327CA3	Site 2327CA3	-23.642440	27.249310	Burial Grounds and Graves	A small graveyard associated with the Baobab house at Site 2327CA2. It contains two graves with headstones and the remains of a few dogs.	Huffman (2011)
Site 2327CA30	Site 2327CA30	-23.670830	27.133330	Middle Stone Age	A few stone artefacts in a small pan.	Huffman (2011)
Site 2327CA31	Site 2327CA31	-23.671670	27.147920	Middle Stone Age	Many artefacts, including a quartzite core, on the dge of a small pan.	Huffman (2011)
Site 2327CA32a	Site 2327CA32a	-23.680970	27.132640	Farming Community	<i>Letsibogo</i> potsherds on a slightly raised calcrete ridge.	Huffman (2011)
Site 2327CA32a	Site 2327CA32a	-23.680970	27.132640	Built Environment	Farm labourer housing that appears on a 1970 topographical map. Two wells have been dug through the calcrete.	Huffman (2011)
Site 2327CA32b	Site 2327CA32b	-23.680360	27.132140	Middle Stone Age	Stone artefacts embedded in calcrete.	Huffman (2011)
Site 2327CA33a	Site 2327CA33a	-23.679580	27.130690	Middle Stone Age	Stone artefacts in a pan which has recently been deepened. A soil heap yielded a fossilised elephant tooth of modern species.	Huffman (2011)
Site 2327CA33b	Site 2327CA33b	-23.679580	27.130690	Farming Community	<i>Letsibogo</i> pottery around an excavated pan.	Huffman (2011)
Site 2327CA34	Site 2327CA34	-23.674170	27.217360	Middle Stone Age	Many stone artefacts including cores and points at a large pan.	Huffman (2011)
Site 2327CA36	Site 2327CA36	-23.677360	27.168750	Middle Stone Age	Many stone artefacts including cores, flakes and scrapers in a small pan.	Huffman (2011)
Site 2327CA37	Site 2327CA37	-23.660420	27.183890	Middle Stone Age	Stone artefacts in a long pan.	Huffman (2011)
Site 2327CA39	Site 2327CA39	-23.650280	27.185690	Built Environment	A main farm house made of sun-dried bricks.	Huffman (2011)
Site 2327CA40	Site 2327CA40	-23.655420	27.186530	Middle Stone Age	Stone artefacts scattered throughout a string of pans.	Huffman (2011)
Site 2327CA41	Site 2327CA41	-23.650420	27.202220	Middle Stone Age	Stone stone artefacts in the center of a pan.	Huffman (2011)
Site 2327CA42	Site 2327CA42	-23.643190	27.196810	Middle Stone Age	Stone artefacts on the northern edge of a pan.	Huffman (2011)
Site 2327CA44	Site 2327CA44	-23.673470	27.191110	Middle Stone Age	Stone stone artefacts among fericrote.	Huffman (2011)
Site 2327CA46	Site 2327CA46	-23.654720	27.238890	Middle Stone Age	Stone artefacts around a pan.	Huffman (2011)
Site 2327CA4	Site 2327CA4	-23.638060	27.243810	Burial Grounds and Graves	A graveyard with seven graves. Four of the graves are stone-packed graves while three others are marked with mounds of soil. A soil-heap nearby marks a labourer house built in 1965.	Huffman (2011)

Map ID	Site ID	Latitude	Longitude	Cultural Affinities	Description	Reference
Site 2327CA47a	Site 2327CA47a	-23.684310	27.204440	Built Environment	The Prinsloo house with metal walls and roof.	Huffman (2011)
Site 2327CA47b	Site 2327CA47b	-23.683920	27.204110	Burial Grounds and Graves	The grave of Mavis Audrey Prinsloo near the Prinsloo house at Site 2327CA47a.	Huffman (2011)
Site 2327CA48	Site 2327CA48	-23.660560	27.238610	Middle Stone Age	A small pan with stone artefacts.	Huffman (2011)
Site 2327CA49	Site 2327CA49	-23.661670	27.231390	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA50	Site 2327CA50	-23.658220	27.158170	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA51	Site 2327CA51	-23.657360	27.156310	Middle Stone Age	A shallow pan with a few stone artefacts.	Huffman (2011)
Site 2327CA52	Site 2327CA52	-23.668060	27.150830	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA53	Site 2327CA53	-23.667920	27.146670	Middle Stone Age	A shallow pan with a few stone artefacts.	Huffman (2011)
Site 2327CA54	Site 2327CA54	-23.668220	27.146170	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA55	Site 2327CA55	-23.676780	27.152170	Middle Stone Age	A shallow pan with a few stone artefacts.	Huffman (2011)
Site 2327CA56	Site 2327CA56	-23.672190	27.163640	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA57	Site 2327CA57	-23.671830	27.166250	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA58	Site 2327CA58	-23.668640	27.156750	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA59	Site 2327CA59	-23.668190	27.155330	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA5a	Site 2327CA5a	-23.681250	27.160560	Middle Stone Age	Stone artefacts 50 m from a pan.	Huffman (2011)
Site 2327CA5b	Site 2327CA5b	-23.681250	27.160560	Farming Community	Shallow pans with pottery.	Huffman (2011)
Site 2327CA6	Site 2327CA6	-23.682110	27.196940	Middle Stone Age	Artefacts in a drainage system.	Huffman (2011)
Site 2327CA60	Site 2327CA60	-23.658440	27.162420	Middle Stone Age	A shallow pan with a few stone artefacts.	Huffman (2011)
Site 2327CA61	Site 2327CA61	-23.673280	27.216060	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA62	Site 2327CA62	-23.675940	27.210440	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA64	Site 2327CA64	-23.679420	27.207640	Middle Stone Age	A scatter of stone artefacts.	Huffman (2011)
Site 2327CA65a	Site 2327CA65a	-23.668670	27.142060	Middle Stone Age	A shallow pan with a few stone artefacts.	Huffman (2011)
Site 2327CA65b	Site 2327CA65b	-23.668640	27.142060	Farming Community	A shallow pan with pottery.	Huffman (2011)
Site 2327CA66	Site 2327CA66	-23.681390	27.209830	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA67	Site 2327CA67	-23.679250	27.214560	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA68	Site 2327CA68	-23.686170	27.182360	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA70	Site 2327CA70	-23.668640	27.142060	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CA71	Site 2327CA71	-23.678140	27.210970	Middle Stone Age	A drainage line with artefacts embedded in calcrete.	Huffman (2011)
Site 2327CA8a	Site 2327CA8a	-23.668060	27.141810	Middle Stone Age	Stone artefacts inside a wide and shallow pan.	Huffman (2011)
Site 2327CB10	Site 2327CB10	-23.592610	27.329690	Built Environment	The remains of the original homestead built in 1907/1908. According to oral history, the house was built out of mud bricks made with paraffin tins. The complex includes the remains of a windmill and stables.	Huffman (2011)
Site 2327CB11	Site 2327CB11	-23.583890	27.331110	Built Environment	A farm labourer house that was used from 1957 to 1980 during peanut farming.	Huffman (2011)
Site 2327CB12	Site 2327CB12	-23.669780	27.374390	Built Environment	The foundations of a pre-fabricated house.	Huffman (2011)
Site 2327CB13	Site 2327CB13	-23.620830	27.304170	Built Environment	An original house built in the 1930s.	Huffman (2011)
Site 2327CB14	Site 2327CB14	-23.542080	27.245280	Built Environment	A farm complex built in the 1930s by the De Lange family. The complex includes house foundations, a windmill, a standing barn, and a farm labourer compound.	Huffman (2011)
Site 2327CB15	Site 2327CB15	-23.663500	27.401170	Built Environment	A homestead complex. A single brick building with wooden windows appears to be over 60 years old.	Huffman (2011)
Site 2327CB17	Site 2327CB17	-23.596560	27.330390	Burial Grounds and Graves	The graves of two white children who died of flu in 1914. The children were members of a family passing through on the way to Botswana.	Huffman (2011)
Site 2327CB18	Site 2327CB18	-23.589170	27.330000	Burial Grounds and Graves	Three to five graves belonging to women who had worked for Mrs Van der Westhuizen for more than 60 years.	Huffman (2011)
Site 2327CB19	Site 2327CB19	-23.548720	27.364280	Built Environment	A farm labourer house.	Huffman (2011)
Site 2327CB1a	Site 2327CB1a	-23.584030	27.310280	Middle Stone Age	A few stone artefacts scattered across a large pan. Besides the normal pebbles from the ferricrete, some artefacts were made from hornfels and dolerite.	Huffman (2011)
Site 2327CB1b	Site 2327CB1b	-23.582000	27.310280	Farming Community	Undecorated potsherds on the calcrete rim of a pan.	Huffman (2011)
Site 2327CB2	Site 2327CB2	-23.620720	27.294890	Middle Stone Age	A concentration of artefacts.	Huffman (2011)
Site 2327CB20	Site 2327CB20	-23.547500	27.369170	Built Environment	A homestead.	Huffman (2011)
Site 2327CB21	Site 2327CB21	-23.613000	27.322670	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CB22a	Site 2327CB22a	-23.605470	27.349970	Built Environment	A house.	Huffman (2011)
Site 2327CB22b	Site 2327CB22b	-23.605890	27.349560	Burial Grounds and Graves	Five graves	Huffman (2011)
Site 2327CB23	Site 2327CB23	-23.593580	27.357060	Middle Stone Age	A pan with stone artefacts covered by sand.	Huffman (2011)
Site 2327CB24	Site 2327CB24	-23.605690	27.312420	Middle Stone Age	A pan with stone tools and ferricrete.	Huffman (2011)
Site 2327CB25	Site 2327CB25	-23.635560	27.267780	Middle Stone Age	Stone artefacts scattered along a rocky ridge.	Huffman (2011)
Site 2327CB26	Site 2327CB26	-23.642560	27.280890	Built Environment	A farm labourer house with a coal cinder, bottle glass and cut bone.	Huffman (2011)
Site 2327CB27	Site 2327CB27	-23.623610	27.307220	Built Environment	A farm labourer house.	Huffman (2011)
Site 2327CB28	Site 2327CB28	-23.645970	27.267220	Middle Stone Age	A small pan with stone artefacts in the middle and on the southern side where the calcrete is exposed.	Huffman (2011)
Site 2327CB29a	Site 2327CB29a	-23.667640	27.298610	Middle Stone Age	Stone flakes in a calcrete pan.	Huffman (2011)
Site 2327CB29b	Site 2327CB29b	-23.668470	27.298190	Built Environment	A farm labourer house next to a pan.	Huffman (2011)
Site 2327CB3	Site 2327CB3	-23.621360	27.292080	Middle Stone Age	Atone artefacts around a pan embedded in calcrete.	Huffman (2011)
Site 2327CB30	Site 2327CB30	-23.678890	27.259170	Built Environment	The original house of the Hans Hermse family, also known as the Brakpan house, said to be over 100 years old. The remains include sundried brick walls built on a calcrete base as well as blue-on-white porcelain and square nails.	Huffman (2011)

Map ID	Site ID	Latitude	Longitude	Cultural Affinities	Description	Reference
Site 2327CB31a	Site 2327CB31a	-23.675420	27.251220	Middle Stone Age	A large calcrete pan with many exposed stone artefacts.	Huffman (2011)
Site 2327CB31b	Site 2327CB31b	-23.675280	27.251110	Farming Community	Pottery at the north end of a large pan.	Huffman (2011)
Site 2327CB32	Site 2327CB32	-23.690720	27.282170	Burial Grounds and Graves	Five graves	Huffman (2011)
Site 2327CB33	Site 2327CB33	-23.691080	27.288470	Middle Stone Age	A calcrete outcrop with stone artefacts.	Huffman (2011)
Site 2327CB34	Site 2327CB34	-23.693970	27.283280	Built Environment	A pre-1965 farm labourer house.	Huffman (2011)
Site 2327CB36a	Site 2327CB36a	-23.695500	27.284580	Built Environment	A pre-1965 farm house.	Huffman (2011)
Site 2327CB36b	Site 2327CB36b	-23.694360	27.285560	Built Environment	A farm house less than 60 years old.	Huffman (2011)
Site 2327CB37	Site 2327CB37	-23.696330	27.285390	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CB38	Site 2327CB38	-23.696610	27.287000	Built Environment	A church built in 1948.	Huffman (2011)
Site 2327CB39	Site 2327CB39	-23.697420	27.288440	Burial Grounds and Graves	A cemetery for the Van Rooyen and Van der Westhuizen families. One grave dates to 1933.	Huffman (2011)
Site 2327CB4	Site 2327CB4	-23.622560	27.292310	Middle Stone Age	Artefacts on top of a calcrete border around a pan.	Huffman (2011)
Site 2327CB40	Site 2327CB40	-23.692750	27.296690	Built Environment	A modern school.	Huffman (2011)
Site 2327CB41	Site 2327CB41	-23.665250	27.316440	Built Environment	Mud-brick housing built by Marthinus Steenekamp in 1955.	Huffman (2011)
Site 2327CB42	Site 2327CB42	-23.664860	27.315190	Burial Grounds and Graves	Eight graves of the Erasmus and Steenekamp families associated with Site 2327CB41. The oldest graves dates to 1956.	Huffman (2011)
Site 2327CB43	Site 2327CB43	-23.646530	27.314500	Burial Grounds and Graves	Three graves	Huffman (2011)
Site 2327CB44	Site 2327CB44	-23.669250	27.301330	Burial Grounds and Graves	A single grave	Huffman (2011)
Site 2327CB45	Site 2327CB45	-23.671500	27.302470	Middle Stone Age	A shallow pan with a few stone artefacts.	Huffman (2011)
Site 2327CB46	Site 2327CB46	-23.548920	27.292640	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CB47	Site 2327CB47	-23.588920	27.343920	Middle Stone Age	A pan with stone artefacts.	Huffman (2011)
Site 2327CB5	Site 2327CB5	-23.636530	27.297220	Middle Stone Age	A small scatter of artefacts near a fericrete exposure in an artificially enhanced pan.	Huffman (2011)
Site 2327CB6	Site 2327CB6	-23.631310	27.257220	Middle Stone Age	Artefacts scattered around half of a pan.	Huffman (2011)
Site 2327CB7	Site 2327CB7	-23.631890	27.358920	Middle Stone Age	An artefact scatter around a pan.	Huffman (2011)
Site 2327CB9	Site 2327CB9	-23.673890	27.373330	Middle Stone Age	MSA artefacts on a calcrete border and embedded in calcrete around a pan.	Huffman (2011)
Site SA 01	Site SA 01	-23.651333	27.478100	Middle Stone Age	Scatter of stone tools.	Pistorius (2010)
VEN1590/S.35-042	VEN1590/2327/CB/S.35-042	-23.535051	27.249298	Built Environment	Cement foundations with sun-baked bricks and associated with metal and glass fragments.	Karodia & Higgitt (2013)
VEN1590/S.35-043	VEN1590/2327/CB/S.35-043	-23.543387	27.224120	Middle Stone Age	One MSA Quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-044	VEN1590/2327/CB/S.35-044	-23.552566	27.222245	Farming Community	One undiagnostic potsherd found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-045	VEN1590/2327/CB/S.35-045	-23.559206	27.245583	Middle Stone Age	One MSA Quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-046	VEN1590/2327/CB/S.35-046	-23.544047	27.207513	Middle Stone Age	One MSA quartzite flake found near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-047	VEN1590/2327/CB/S.35-047	-23.543731	27.211644	Farming Community	One undiagnostic potsherd found on the surface near a windmill and in a recently cleared area.	Karodia & Higgitt (2013)
VEN1590/S.34.040	VEN1590/2327/CB/S.34.040	-23.537113	27.246275	Historic	Three 1.5 m fence posts approximately 5 m apart.	Karodia & Higgitt (2013)
VEN1590/S.34-036	VEN1590/2327/CB/S.34-036	-23.529146	27.239582	Historic	One surveyor post found at the main entrance to the farm Wynberg 215 LQ.	Karodia & Higgitt (2013)
VEN1590/S.34-055	VEN1590/2327/CB/S.34-055	-23.535608	27.248556	Historic	Two 5 m high posts approximately 5 m apart identified near old foundations at S.34-042.	Karodia & Higgitt (2013)
VEN1590/S.34-060	VEN1590/2327/CB/S.34-060	-23.551838	27.260735	Built Environment	sun-baked bricks identified in a cleared area in close proximity to the burial at S.36-059.	Karodia & Higgitt (2013)
VEN1590/S.35-001	VEN1590/2327/CB/S.35-001	-23.550112	27.244110	Farming Community	One undiagnostic potsherd found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-002	VEN1590/2327/CB/S.35-002	-23.549440	27.245911	Farming Community	One undiagnostic potsherd found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-003	VEN1590/2327/CB/S.35-003	-23.548144	27.246563	Middle Stone Age	One MSA quartzite broken flake found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-004	VEN1590/2327/CB/S.35-004	-23.548080	27.246876	Farming Community	One undiagnostic potsherd found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-005	VEN1590/2327/CB/S.35-005	-23.544883	27.244173	Middle Stone Age	One MSA quartzite flake found near a drill area	Karodia & Higgitt (2013)
VEN1590/S.35-006	VEN1590/2327/CB/S.35-006	-23.542064	27.243875	Middle Stone Age	Two MSA quartzite flakes found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-007	VEN1590/2327/CB/S.35-007	-23.538340	27.233331	Middle Stone Age	One MSA quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-008	VEN1590/2327/CB/S.35-008	-23.539836	27.231577	Middle Stone Age	Two MSA quartzite flakes found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-009	VEN1590/2327/CB/S.35-009	-23.538606	27.231226	Middle Stone Age	One MSA quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-010	VEN1590/2327/CB/S.35-010	-23.537986	27.231263	Middle Stone Age	Three MSA quartzite flakes found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-011	VEN1590/2327/CB/S.35-011	-23.542941	27.243487	Middle Stone Age	Three MSA quartzite flakes found on the surface near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-012	VEN1590/2327/CB/S.35-012	-23.544105	27.245596	Middle Stone Age	One MSA quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-013	VEN1590/2327/CB/S.35-013	-23.540359	27.241661	Middle Stone Age	One MSA quartzite artefact found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-014	VEN1590/2327/CB/S.35-014	-23.540567	27.240809	Middle Stone Age	One MSA quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-015	VEN1590/2327/CB/S.35-015	-23.542376	27.238709	Middle Stone Age	Two MSA quartzite flakes found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-016	VEN1590/2327/CB/S.35-016	-23.542000	27.238777	Farming Community	Isolated decorated (<i>Mambo facies</i>) undiagnostic potsherd found on the surface at the edge of a floodplain	Karodia & Higgitt (2013)
VEN1590/S.35-017	VEN1590/2327/CB/S.35-017	-23.537927	27.242445	Farming Community	Isolated undiagnostic potsherd found on the surface at the edge of a floodplain	Karodia & Higgitt (2013)
VEN1590/S.35-018	VEN1590/2327/CB/S.35-018	-23.538371	27.243144	Later Stone Age	One quartzite hammerstone found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-020	VEN1590/2327/CB/S.35-020	-23.552568	27.221440	Middle Stone Age	One MSA Quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-024	VEN1590/2327/CB/S.35-024	-23.553460	27.244471	Farming Community	Undiagnostic and diagnostic potsherds with associated iron slag fragment identified in a clearing	Karodia & Higgitt (2013)
VEN1590/S.35-025	VEN1590/2327/CB/S.35-025	-23.553332	27.244548	Farming Community	Two undiagnostic potsherds found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-026	VEN1590/2327/CB/S.35-026	-23.566294	27.227832	Farming Community	One undiagnostic potsherd found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-027	VEN1590/2327/CB/S.35-027	-23.566736	27.227755	Middle Stone Age	One MSA quartzite flake found on the surface	Karodia & Higgitt (2013)

Map ID	Site ID	Latitude	Longitude	Cultural Affinities	Description	Reference
VEN1590/S.35-028	VEN1590/2327CB/S.35-028	-23.540780	27.205615	Middle Stone Age	MSA flakes found on a calcrete ridge.	Karodia & Higgitt (2013)
VEN1590/S.35-029	VEN1590/2327CB/S.35-029	-23.532792	27.213749	MSA & Farming Community	One undiagnostic potsherd and MSA quartzite flakes found near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-030	VEN1590/2327CB/S.35-030	-23.546484	27.205526	Middle Stone Age	One MSA quartzite flake.	Karodia & Higgitt (2013)
VEN1590/S.35-031	VEN1590/2327CB/S.35-031	-23.546183	27.205742	Farming Community	Undiagnostic and decorated (<i>Letsibogo</i> facies) potsherds found near an animal burrows.	Karodia & Higgitt (2013)
VEN1590/S.35-032	VEN1590/2327CB/S.35-032	-23.551855	27.218897	MSA & Farming Community	MSA flakes and diagnostic (<i>Madikwe</i> facies) and undiagnostic potsherds with associated metal fragments identified adjacent to a main farm road and a fence near a possible quarry.	Karodia & Higgitt (2013)
VEN1590/S.35-033	VEN1590/2327CB/S.35-033	-23.559140	27.211310	Middle Stone Age	One undiagnostic potsherd and MSA quartzite flakes found near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-034	VEN1590/2327CB/S.35-034	-23.529616	27.225816	Middle Stone Age	One MSA Quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-037	VEN1590/2327CB/S.35-037	-23.527905	27.251807	Farming Community	One undiagnostic potsherd with graphite burnish found near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-038	VEN1590/2327CB/S.35-038	-23.533088	27.265862	Farming Community	One decorated (Baratani / Happy Rest / Mambofacies) potsherd found near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-041	VEN1590/2327CB/S.35-041	-23.537088	27.248296	MSA & Farming Community	On undiagnostic potsherd and MSA quartzite flakes found near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-050	VEN1590/2327CB/S.35-050	-23.528861	27.227465	Middle Stone Age	One MSA shale flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-051	VEN1590/2327CB/S.35-051	-23.528964	27.229212	Middle Stone Age	One MSA shale flake found near an animal burrow	Karodia & Higgitt (2013)
VEN1590/S.35-052	VEN1590/2327CB/S.35-052	-23.529422	27.230264	Middle Stone Age	One MSA Quartzite flake found on the surface	Karodia & Higgitt (2013)
VEN1590/S.35-053	VEN1590/2327CB/S.35-053	-23.533333	27.265191	MSA & Farming Community	Undiagnostic potsherds and MSA flakes identified next to a farm road.	Karodia & Higgitt (2013)
VEN1590/S.35-054	VEN1590/2327CB/S.35-054	-23.535518	27.248855	Middle Stone Age	One MSA quartzite flake.	Karodia & Higgitt (2013)
VEN1590/S.35-056	VEN1590/2327CB/S.35-056	-23.532782	27.247413	Middle Stone Age	One MSA quartzite flake.	Karodia & Higgitt (2013)
VEN1590/S.35-057	VEN1590/2327CB/S.35-057	-23.534624	27.269625	Middle Stone Age	One MSA quartzite flake found adjacent to a man-made ditch.	Karodia & Higgitt (2013)
VEN1590/S.35-058	VEN1590/2327CB/S.35-058	-23.533974	27.271030	Middle Stone Age	MSA quartzite flakes identified next to a farm road.	Karodia & Higgitt (2013)
VEN1590/S.35-062	VEN1590/2327CB/S.35-062	-23.551587	27.260582	Historic	A metal pot fragment identified in close proximity to the sun-baked bricks at S.34-060.	Karodia & Higgitt (2013)
VEN1590/S.35-063	VEN1590/2327CB/S.35-063	-23.551869	27.261965	Middle Stone Age	On MSA blade identified near a small pan.	Karodia & Higgitt (2013)
VEN1590/S.35-064	VEN1590/2327CB/S.35-064	-23.542246	27.263022	Farming Community	Four undiagnostic potsherds identified next to a fence.	Karodia & Higgitt (2013)
VEN1590/S.35-065	VEN1590/2327CB/S.35-065	-23.516132	27.266526	Farming Community	Two undiagnostic potsherds identified near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-066	VEN1590/2327CB/S.35-066	-23.527923	27.251701	Farming Community	One undiagnostic potsherd identified near an animal burrow.	Karodia & Higgitt (2013)
VEN1590/S.35-067	VEN1590/2327CB/S.35-067	-23.546227	27.312277	Middle Stone Age	One MSA quartzite flake found near a pan.	Karodia & Higgitt (2013)
VEN1590/S.35-068	VEN1590/2327CB/S.35-068	-23.554718	27.314754	Middle Stone Age	Two MSA quartzite flakes identified next to a farm road.	Karodia & Higgitt (2013)
VEN1590/S.36-059	VEN1590/2327CB/S.36-059	-23.552417	27.260238	Burial Grounds and Graves	An infant burial, entombed in a cement dome with a rectangular tombstone box on top. The burial dates to 1927.	Karodia & Higgitt (2013)
VEN1590/S.36-061	VEN1590/2327CB/S.36-061	-23.535009	27.250480	Burial Grounds and Graves	Two stone-packed graves dating to 1994. The graves are in close proximity to S.34-042.	Karodia & Higgitt (2013)
RES901/001	2327/RES901/001	-23.678778	27.259444	Built Environment	House ruins	Nel, May 2011
RES901/002 & 003	2327/RES901/002 & 003	-23.675472	27.251139	Middle Stone Age	Stone Age site / Pan	Nel, May 2011
RES901/004	2327/RES901/004	-23.670917	27.218361	Farming Community	Iron Age find spot	Nel, May 2011
RES901/005	2327/RES901/005	-23.673806	27.216639	Middle Stone Age	Stone Age site / Pan	Nel, May 2011
RES901/006	2327/RES901/006	-23.685472	27.336	Burial Grounds and Graves	Burial site	Nel, May 2011
RES901/007	2327/RES901/007	-23.686	27.342111	Burial Grounds and Graves	Burial site	Nel, May 2011
RES901/008	2327/RES901/008	-23.669318	27.19375	Farming Community	Iron Age find spot	Nel, May 2011
RES901/009	2327/RES901/009	-23.655639	27.203528	Middle Stone Age	Stone Age site	Nel, May 2011
RES901/010	2327/RES901/010	-23.698444	27.297167	Burial Grounds and Graves	Burial site	Nel, May 2011
RES901/011	2327/RES901/011	-23.690778	27.282167	Burial Grounds and Graves	Burial site	Nel, May 2011
RES901/012	2327/RES901/012	-23.697306	27.288389	Burial Grounds and Graves	Burial site	Nel, May 2011
PGS018	2327CA-PGS018	-23.5813	27.1737	Built Environment	Some of the remains and rubble of the possible labour quarters for the farm labourers were identified at this location. A make-shift kraal was identified next to the remains. The structures were demolished and most of the rubble was removed. The age, size and shapes of the structures are unknown. This site was to be associated with Site 2327CAPGS019	Fourie, 2009
PGS019	2327CA-PGS019	-23.5818	27.1735	Built Environment	Some of the remains and rubble of the main farm house of the farm. All of the structures were demolished and most of the rubble was removed. The age, size and shapes of the structures are unknown.	Fourie, 2009
PGS001	2327CA-PGS001	-23.5527	27.1781	Farming Community	Five non-diagnostic potsherds and 2 fragments of possible vitrified hut clay	Fourie, 2009
PGS002	2327CA-PGS002	-23.5557	27.1757	Farming Community	30 x non-diagnostic potsherds and 3 x decorated potsherds, 1 x possible rubbing/smearing stone. On closer inspection of the animal burrows a layer of archaeological deposit was identified at a depth of approximately 10-15cm. The layer was approximately 5-10cm thick and consisted mostly of ash and dung deposits.	Fourie, 2009
PGS003	2327CA-PGS003	-23.556	27.1803	Farming Community	5 x non-diagnostic potsherds	Fourie, 2009
PGS004	2327CA-PGS004	-23.5559	27.1835	Farming Community	5 x non-diagnostic potsherds	Fourie, 2009
PGS005	2327CA-PGS005	-23.5577	27.1837	Farming Community	10 x non-diagnostic potsherds and 3 x fragments of possible rubbing/smearing stones were recovered in and around several animal burrows from within the clearing.	Fourie, 2009
PGS007	2327CA-PGS007	#REF!	#REF!	Farming Community	3 x non-diagnostic potsherds were found in and around several animal burrows	Fourie, 2009
PGS008	2327CA-PGS008	-23.5549	27.1868	Farming Community	More than 30 x non-diagnostic potsherds, 4 x potsherds with decorations (1 x graphite; 1 x impressions; 2 x graphite, ochre and impressions) and 1 x potsherd with a bored hole through it, were recovered in and around several of the animal burrows as well as from the surface within the clearing. Fragments of vitrified hut rubble and vitrified dung were found. 1 x possible rubbing/smearing stone was also found. On closer inspection of the animal burrows, a layer of archaeological deposit was identified at a depth of approximately 10-15cm. This layer consisted mainly of ash and vitrified dung, but animal bone fragments were also identified. The layer varied in thickness and measured approximately between 10cm and 15cm.	Fourie, 2009
PGS009	2327CA-PGS009	-23.5524	27.1905	Farming Community	4 x potsherds were found in and around several animal burrows at this location	Fourie, 2009

Map ID	Site ID	Latitude	Longitude	Cultural Affinities	Description	Reference
PGS010	2327CA-PGS010	-23.5551	27.1904	Farming Community	More than 20 x non-diagnostic potsherds, 1 x rim-shard and a fragment of an upper grinding stone were recovered in and around several of the animal burrows as well as from the surface within the clearing. Fragments of vitrified hut rubble and vitrified dung were found. On closer inspection of the animal burrows, a layer of archaeological deposit was identified in one of the burrows at a depth of approximately 10-15cm. This layer consisted mainly of ash and vitrified dung, but animal bone fragments were also identified. The layer varied in thickness and measured approximately between 5cm and 10cm. Another layer was identified in another animal burrow and this layer was also approximately 15cm underneath the present surface. This layer consisted mainly of ash and vitrified dung which was approximately 5cm to 10cm thick.	Fourie, 2009
PGS013	2327CA-PGS013	-23.5582	27.2017	Farming Community	4 x non-diagnostic potsherds and 1 x decorated potsherd (graphite, ochre and impressions) were found in and around several animal burrows at this location	Fourie, 2009
PGS014	2327CA-PGS014	-23.5657	27.2051	Farming Community	20 x non-diagnostic potsherds and 4 x decorated potsherds (1 x graphite; 1 x ochre; and 2 x impressions) were recovered in and around several animal burrows from within the clearing.	Fourie, 2009
PGS015	2327CA-PGS015	-23.5649	27.2026	Farming Community	More than 25 x non-diagnostic potsherds, 8 x potsherds with decorations (2 x graphite; 4 x ochre and 2 x impressions) and 1 x rim-shard, were recovered in and around several of the animal burrows as well as from the surface within the clearing. 6 pieces of slag were also found in and around the animal burrows. An ash concentration was identified in the middle of the clearing	Fourie, 2009
PGS016	2327CA-PGS016	-23.5716	27.1935	Farming Community	A single non-diagnostic potsherd was found in one of several animal burrows at this location	Fourie, 2009
PGS017	2327CA-PGS017	-23.5688	27.1907	Farming Community	1 x non-diagnostic potsherd, 1 x decorated potsherd (graphite, ochre and impressions) and an animal bone fragment were found in and around several animal burrows at this location.	Fourie, 2009
PGS020	2327CA-PGS020	-23.5619	27.1848	Farming Community	2 x non-diagnostic potsherds were found in and around several of the animal burrows at this location.	Fourie, 2009
PGS023	2327CA-PGS023	-23.5477	27.203	Farming Community	Over 30 x non-diagnostic potsherds, 4 x decorated potsherds (2 x graphite, ochre and impressions; 2 x impressions) were found in and around several animal burrows from within the clearing. No archaeological deposit could be identified in the animal burrows although many potsherds were recovered.	Fourie, 2009
PGS024	2327CA-PGS024	-23.5455	27.2053	Farming Community	More than 30 x non-diagnostic potsherds, 6 x potsherds with decorations (2 x graphite; 2 x ochre; 1 x graphite, ochre and impressions; 1 x impressions) were recovered in and around several of the animal burrows as well as from the surface within the clearing. A possible ash-midden/ash-concentration was identified in the middle of the clearing	Fourie, 2009
PGS025	2327CA-PGS025	-23.5433	27.2064	Farming Community	Over 15 x non-diagnostic potsherds were found in and around several animal burrows from within the clearing. No archaeological deposit could be identified in the animal burrows although a fair amount of potsherds were recovered.	Fourie, 2009
PGS026	2327CA-PGS026	-23.5437	27.2071	Farming Community	Over 10 x non-diagnostic potsherds and 1 x rim-shard were found in and around the few animal burrows from within the clearing.	Fourie, 2009
PGS027	2327CA-PGS027	-23.5418	27.209	Farming Community	2 x non-diagnostic potsherds were found in and around several of the animal burrows at this location	Fourie, 2009
PGS028	2327CA-PGS028	-23.542	27.2097	Farming Community	1 x non-diagnostic potsherd and 1 x decorated potsherd (impressions) were recovered from the surface in a large open area at this location	Fourie, 2009
PGS029	2327CA-PGS029	-23.5396	27.2137	Farming Community	7 x non-diagnostic potsherds and 1 x decorated potsherd (graphite, ochre and impressions) were found in and around the animal burrows from within the clearing.	Fourie, 2009
PGS031	2327CA-PGS031	#REF!	#REF!	Farming Community	3 x non-diagnostic potsherds were found in and around several of the animal burrows at this location	Fourie, 2009
PGS032	2327CA-PGS032	#REF!	#REF!	Farming Community	2 x non-diagnostic potsherds and a rim-shard were recovered from the surface at this location	Fourie, 2009
PGS033	2327CA-PGS033	#REF!	#REF!	Farming Community	More than 60 x non-diagnostic potsherds, 5 x decorated potsherds (2 x impressions; 2 x graphite and ochre; 1 x graphite, ochre and impressions) and a fragment of a lower grinding stone were recovered in and around several of the animal burrows as well as from the surface within the clearing. Fragments of vitrified hut rubble and vitrified dung were found. On closer inspection of the animal burrows, a layer of archaeological deposit was identified in two of the burrows at a depth of approximately 15-20cm. These layers consisted mainly of ash and vitrified dung, but animal bone fragments and potsherds were also identified. The layers varied in thickness and measured approximately between 10cm and 15cm. These layers of ash and dung occurred to the central parts of the identified site.	Fourie, 2009
PGS034	2327CA-PGS034	#REF!	#REF!	Farming Community	1 x non-diagnostic potsherd and 1 x rim-shard were found in and around several of the animal burrows at this location	Fourie, 2009
PGS035	2327CA-PGS035	#REF!	#REF!	Farming Community	6 x non-diagnostic potsherds were found in and around the animal burrows from within the clearing.	Fourie, 2009
PGS036	2327CA-PGS036	#REF!	#REF!	Farming Community	Over 30 x non-diagnostic potsherds, 7 x decorated potsherds (3 x ochre; 1 x impressions; 1 x graphite and impressions; 2 x ochre and impressions) were recovered in and around several animal burrows as well as from the surrounding surface from within the clearing.	Fourie, 2009
PGS037	2327CA-PGS037	#REF!	#REF!	Farming Community	15 x nondiagnostic potsherds and 2 x rim-shards were recovered in and around several animal burrows as well as from the surrounding surface from within the clearing. The animal burrows on the southern end produced the most finds.	Fourie, 2009
PGS038	2327CA-PGS038	#REF!	#REF!	Farming Community	1 x non-diagnostic potsherd and 1 x decorated potsherd (ochre, graphite and impressions) were found in and around several of the animal burrows at this location.	Fourie, 2009
PGS040	2327CA-PGS040	-23.549	27.1978	Farming Community	Over 50 x non-diagnostic potsherds, 2 x decorated potsherds (1 x impressions; 1 x graphite), 1 x rim-shard and a rubbing/smearing stone were recovered in and around several animal burrows as well as from the surrounding surface from within the clearing.	Fourie, 2009
PGS042	2327CA-PGS042	-23.5638	27.1948	Farming Community	2 x non-diagnostic potsherds and a rubbing/smearing stone were found in and around several of the animal burrows at this location	Fourie, 2009
PGS043	2327CA-PGS043	-23.5673	27.191	Farming Community	5 x non-diagnostic potsherds were found in and around several of the animal burrows at this location	Fourie, 2009
PGS044	2327CA-PGS044	-23.557	27.1882	Farming Community	Over 20 x non-diagnostic potsherds, 1 x rim-shard and 2 x fragments of lower grinding stones were recovered in and around several animal burrows as well as from the surrounding surface from within the clearing. The animal burrows were closely inspected, but no archaeological deposit could be identified in them. Two circular structures were identified approximately 15m from each other. They were located approximately 50m from the main concentration of potsherds on the south-eastern section of the site. The first structure consisted of 6 rocks placed in the shape of a circle/oval and it measured approximately 1,2m x 0,8m in size. The second structure was similar in shape and size but consisted of 7 packed rocks. These two small structures could possibly be the remains of grain-bin foundations.	Fourie, 2009

Map ID	Site ID	Latitude	Longitude	Cultural Affinities	Description	Reference
PGS006	2327CA-PGS006	-23.5601	27.1855	MSA & Farming Community	2 x non-diagnostic potsherds and a MSA-core	Fourie, 2009
PGS012	2327CA-PGS012	-23.5589	27.201	MSA & Farming Community	1 x decorated potsherd (impressions) and a MSA-tool were found in and around several animal burrows at this location.	Fourie, 2009
PGS021	2327CA-PGS021	-23.5486	27.1963	MSA & Farming Community	1 x non-diagnostic potsherd, 1 x decorated potsherd (impressions) and a MSA-tool were found in and around several of the animal burrows at this location.	Fourie, 2009
PGS022	2327CA-PGS022	-23.5481	27.1989	MSA & Farming Community	5 x non-diagnostic potsherds and 2 x MSA-cores were recovered in and around several animal burrows from within the clearing	Fourie, 2009
PGS030	2327CA-PGS030	-23.536	27.2103	MSA & Farming Community	Over a 100 x non-diagnostic potsherds, 9 x decorated potsherds (1 x ochre; 4 x impressions; 3 x graphite and impressions; 1 x graphite, ochre and impressions), 2 x rim-sherds and a MSA-tool were recovered in and around several animal burrows as well as from the surrounding surface from within the clearing. The animal burrows on the southern end produced the most finds. These animal burrows were closely inspected, but no archaeological deposit could be identified in them. A possible ash-midden/kraal was identified near the middle of the site. No other structures, finds or features were identified here. An amount of damage was caused to the surface of the area and most probably also to the subterranean archaeological deposits due to bush-clearing with earth-moving machinery.	Fourie, 2009
PGS039	2327CA-PGS039	-23.5545	27.1839	MSA & Farming Community	Over 50 x non-diagnostic potsherds, 9 x decorated potsherds (4 x impressions; 3 x graphite; 2 x ochre), 2 x rim-sherds, 1 x MSA-tool, 1 x MSA-core and a piece of slag were recovered in and around several animal burrows as well as from the surrounding surface from within the clearing. The animal burrows were closely inspected and archaeological deposits were identified in them. These deposits were approximately 15cm from the surface and the layers varied in thickness. They consisted mainly of ash, animal bone fragments and a few potsherds.	Fourie, 2009
PGS041	2327CA-PGS041	-23.5613	27.1988	MSA & Farming Community	3 x non-diagnostic potsherds and 1 x MSA-tool were found in and around several of the animal burrows at this location.	Fourie, 2009
RSV689/001	RSV689/001	-23.582903	27.2223	Built Environment	Building Remains	Nel, April 2011
RSV689/002	RSV689/002	-23.583841	27.222236	Burial Grounds and Graves	Grave	Nel, April 2011
RSV689/003	RSV689/003	-23.583242	27.222089	Burial Grounds and Graves	Possible Burial	Nel, April 2011
RSV689/004	RSV689/004	-23.582486	27.265748	Farming Community	Potsherd	Nel, April 2011
RSV689/005	RSV689/005	-23.612654	27.281968	Farming Community	Potsherd	Nel, April 2011
RSV689/006	RSV689/006	-23.610709	27.285771	Later Stone Age	Scatter of LSA Lithics	Nel, April 2011
RSV689/008	RSV689/008	-23.613698	27.283893	Farming Community	Potsherd	Nel, April 2011
RSV689/009	RSV689/009	-23.614741	27.28366	Farming Community	Potsherd	Nel, April 2011
RSV689/010	RSV689/010	-23.609554	27.285308	Later Stone Age	Flake (Possibly Associated with Lithics)	Nel, April 2011
RSV689/011	RSV689/011	-23.609415	27.281299	Farming Community	Potsherd	Nel, April 2011