

**HERITAGE IMPACT ASSESSMENT:
BASIC ASSESSMENT FOR THE PROPOSED DEVELOPMENT
OF A PIGGERY ON PORTION 15 OF FARM BULTFONTEIN
192, NIGEL MAGISTERIAL DISTRICT, GAUTENG**

Required under Section 38 (8) of the National Heritage Resources Act (No. 25 of 1999).

Report for:

CSIR – Environmental Management Services

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On behalf of:

Mojaletema Co-Operative (Pty) Ltd



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06 February 2017

Specialist declaration

I, Jayson Orton, as the appointed independent specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Name of Specialist: Jayson Orton

Signature of the specialist: 

Date: 6 March 2017

EXECUTIVE SUMMARY

ASHA Consulting (Pty) Ltd was appointed by the Council for Scientific and Industrial Research (CSIR) to conduct an assessment of the potential impacts to heritage resources that might occur through the proposed development of a piggery on Portion 15 of Farm Bultfontein 192, Nigel Magisterial District, Gauteng. The site lies at S26° 27' 13" E28° 30' 56" and is about 5 km southeast of Nigel.

The site is flat, sandy land but was found to be covered in very dense grass and pioneer bush. Ground visibility was very poor, but the desktop study showed that few archaeological remains have ever been recorded in the general area.

No heritage resources were found within the study area. However, in close proximity there is a farmhouse and outbuildings that are greater than 60 years of age. They are probably early-mid-20th century and of relatively low significance. Historical aerial photography shows that historical tree lines were present in the area. These, however, have largely been destroyed in recent years.

No significant impacts to heritage resources are expected and no cumulative impacts were identified. As such, it is recommended that the proposed piggery be authorised but subject to the following condition being incorporated into the Environmental Authorisation:

- If any archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.

Abbreviations

APHP: Association of Professional Heritage Practitioners

ASAPA: Association of Southern African Professional Archaeologists

BAR: Basic Assessment Report

CSIR: Council for Scientific and Industrial Research

CRM: Cultural Resources Management

EAP: environmental assessment practitioner

GDARD: Gauteng Department of Agriculture and Rural Development

GPS: global positioning system

HIA: Heritage Impact Assessment

NEMA: National Environmental Management Act (No. 107 of 1998)

NHRA: National Heritage Resources Act (No. 25) of 1999

PHRAG: Provincial Heritage Resources Authority Gauteng

PPP: Public Participation Process

SAHRA: South African Heritage Resources Agency

SAHRIS: South African Heritage Resources Information System

Compliance with Appendix 6 of the 2014 EIA Regulations

	Addressed in the Specialist Report
1. (1) A specialist report prepared in terms of these Regulations must contain-	Section 1.4 Appendix 1
a) details of-	
i. the specialist who prepared the report; and	
ii. the expertise of that specialist to compile a specialist report including a curriculum vitae;	
b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Page ii
c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 1.3
d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 3.2
e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 3
f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 1.1.1
g) an identification of any areas to be avoided, including buffers;	n/a
h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	n/a
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 3.5
j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Section 6
k) any mitigation measures for inclusion in the EMPr;	n/a
l) any conditions for inclusion in the environmental authorisation;	Section 12
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 9
n) a reasoned opinion-	Section 12
i. as to whether the proposed activity or portions thereof should be authorised; and	
ii. if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	n/a (see Section 3.6)
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	n/a
q) any other information requested by the competent authority.	n/a

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1. INTRODUCTION

ASHA Consulting (Pty) Ltd was appointed by the Council for Scientific and Industrial Research (CSIR) to conduct an assessment of the potential impacts to heritage resources that might occur through the proposed development of a piggery on Portion 15 of Farm Bultfontein 192, Nigel Magisterial District, Gauteng. The site lies at S26° 27' 13" E28° 30' 59" and is about 5 km southeast of Nigel (Figure 1).

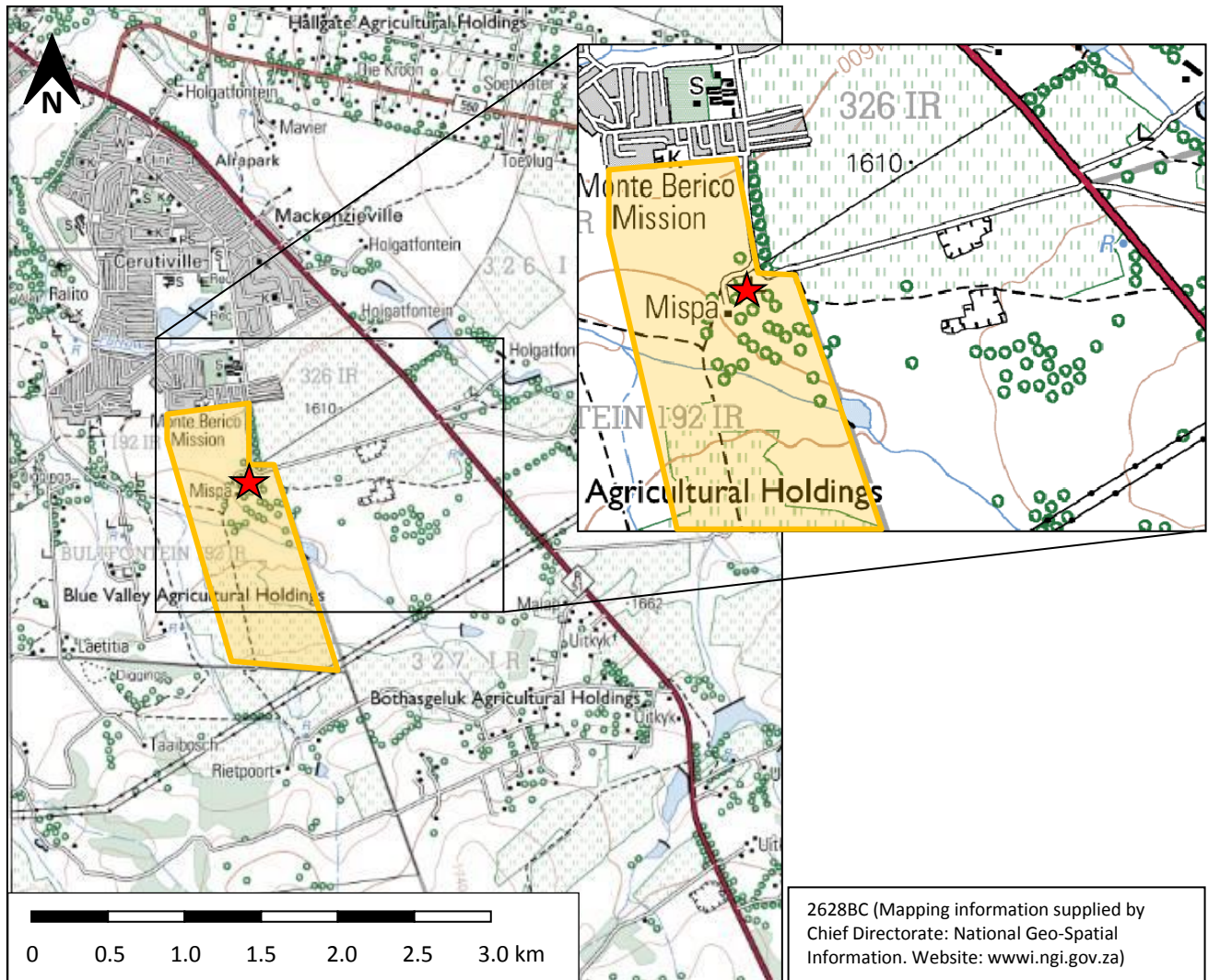


Figure 1: Map showing the location of the site (red star) and farm portion (shaded orange polygon). Nigel lies just out of picture to the northwest along the R51 which is the main road bisecting the map from northwest to southeast.

1.1. Project description

Mojaletema Co-Operative (Pty) Ltd is proposing a small-scale pig production endeavour of 1.8 hectares extent. The proposed project will include the following components:

- Build a pig house for 240 sow and 8 boars;
- Build a processing and packaging room.

No new services will be required because the development would connect to already existing municipal infrastructure (roads and electricity connection).

1.1.1. Aspects of the project relevant to the heritage study

All aspects of the proposed development are relevant since excavations for foundations may impact on archaeological and/or palaeontological remains, while the above-ground aspects create potential visual (contextual) impacts to the cultural landscape and any significant heritage sites that might be visually sensitive.

1.2. Terms of reference

ASHA Consulting (Pty) Ltd was asked to:

- Determine what aspects of heritage were relevant to the proposed site and development;
- Conduct a site visit to locate any physical heritage resources that might be present; and
- Compile a Heritage Impact Assessment (HIA) that would assess all relevant heritage resources.

1.3. Scope and purpose of the report

An HIA is a means of identifying any significant heritage resources before development begins so that these can be managed in such a way as to allow the development to proceed (if appropriate) without undue impacts to the fragile heritage of South Africa. This HIA report aims to fulfil the requirements of the heritage authorities such that a comment can be issued for consideration by the Gauteng Department of Agriculture and Rural Development (GDARD) who will review the Basic Assessment Report (BAR) and grant or withhold authorisation. The HIA report will outline any management and/or mitigation requirements that will need to be complied with from a heritage point of view and that should be included in the conditions of authorisation should this be granted.

1.4. The authors

Dr Jayson Orton has an MA (UCT, 2004) and a D.Phil (Oxford, UK, 2013), both in archaeology, and has been conducting Heritage Impact Assessments and archaeological specialist studies in the Western Cape and Northern Cape provinces of South Africa since 2004 (Please see curriculum vitae included as Appendix 1). He has also conducted research on aspects of the Later Stone Age in these provinces and published widely on the topic. He is an accredited heritage practitioner with the Association of Professional Heritage Practitioners (APHP) and also holds archaeological accreditation with the Association of Southern African Professional Archaeologists (ASAPA) CRM section (Member #233) as follows:

- Principal Investigator: Stone Age, Shell Middens & Grave Relocation; and
- Field Director: Colonial Period & Rock Art.

Jaco van der Walt conducted the fieldwork and necessary background research. He has an MA in Archaeology (Wits, 2012) and has worked in the heritage field since 2001 across much of southern Africa (Please see curriculum vitae included in Appendix 1). He has carried out and published

research on Iron Age sites and is an accredited heritage practitioner with the Association of Southern African Professional Archaeologists (ASAPA) CRM section (Member #159) as follows:

- Field Director: Iron Age, Shell Middens & Grave Relocation; and
- Field Supervisor: Colonial Period, Stone Age & Grave Relocation.

2. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA) No. 25 of 1999 protects a variety of heritage resources as follows:

- Section 34: structures older than 60 years;
- Section 35: palaeontological, prehistoric and historical material (including ruins) more than 100 years old;
- Section 36: graves and human remains older than 60 years and located outside of a formal cemetery administered by a local authority; and
- Section 37: public monuments and memorials.

Following Section 2, the definitions applicable to the above protections are as follows:

- Structures: “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”;
- Palaeontological material: “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”;
- Archaeological material: a) “material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures”; b) “rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation”; c) “wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation”; and d) “features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found”;
- Grave: “means 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”; and
- Public monuments and memorials: “all monuments and memorials a) “erected on land belonging to any branch of central, provincial or local government, or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government”; or b) “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.”

While landscapes with cultural significance do not have a dedicated Section in the NHRA, they are protected under the definition of the National Estate (Section 3). Section 3(2)(c) and (d) list “historical settlements and townscapes” and “landscapes and natural features of cultural

significance” as part of the National Estate. Furthermore, Section 3(3) describes the reasons a place or object may have cultural heritage value; some of these speak directly to cultural landscapes.

Section 38 (2a) states that if there is reason to believe that heritage resources will be affected then an impact assessment report must be submitted. This report fulfils that requirement.

Under the National Environmental Management Act (No. 107 of 1998; NEMA), as amended, the project is subject to a BAR. The Provincial Heritage Resources Authority Gauteng (PHRAG; for built environment and landscapes) and the South African Heritage Resources Agency (SAHRA; for archaeology and palaeontology) are required to provide comment on the proposed project in order to facilitate final decision making by the GDARD

3. METHODS

3.1. Literature survey and information sources

A survey of available literature was carried out to assess the general heritage context into which the development would be set. This literature included published material, unpublished commercial reports and online material, including reports sourced from the South African Heritage Resources Information System (SAHRIS). The 1:50 000 map and historical aerial images were sourced from the Chief Directorate: National Geo-Spatial Information.

3.2. Field survey

The project location was shifted slightly to the east after the fieldwork had taken place. The original site was subjected to a detailed foot survey on 28th February 2017 but the current site has not been looked at in detail. The survey was in late summer and the grass cover was very dense meaning that visibility of any surface archaeological resources was almost non-existent. During the survey the positions of finds were recorded on a hand-held GPS receiver set to the WGS84 datum. Photographs were taken at times in order to capture representative samples of both the affected heritage and the landscape setting of the proposed development.

3.3. Impact assessment

For consistency, the impact assessment was conducted through application of a scale supplied by the CSIR.

3.4. Grading

Section 7 of the NHRA provides for the grading of heritage resources into those of National (Grade 1), Provincial (Grade 2) and Local (Grade 3) significance. Grading is intended to allow for the identification of the appropriate level of management for any given heritage resource. Grade 1 and 2 resources are intended to be managed by the national and provincial heritage resources authorities, while Grade 3 resources would be managed by the relevant local planning authority. These bodies are responsible for grading, but anyone may make recommendations for grading.

It is intended under S.7(2) that the various provincial authorities formulate a system for the further detailed grading of heritage resources of local significance but this is generally yet to happen. SAHRA (2007) has formulated its own system¹ for use in provinces where it has commenting authority. In this system sites of high local significance are given Grade IIIA (with the implication that site should be preserved in its entirety) and Grade IIIB (with the implication that part of the site could be mitigated and part preserved as appropriate) while sites of lesser significance are referred to as having 'General Protection' and rated with an A (high/medium significance, requires mitigation), B (medium significance, requires recording) or C (low significance, requires no further action).

3.5. Assumptions and limitations

The study is carried out at the surface only and hence any completely buried archaeological sites will not be readily located. Similarly, it is not always possible to determine the depth of archaeological material visible at the surface. The study was limited by the fact that the study area was shifted after the survey. However, because the surface was densely covered in grass and pioneer bush which hampered visibility of archaeological remains, it is highly likely that the results would have been the same. Although some ruins present on site were not examined physically by the heritage consultant, photographs and observations provided by the environmental assessment practitioner (EAP) are suitable for assessment.

3.6. Consultation processes undertaken

The NHRA requires consultation as part of an HIA but, since the present study falls within the context of an EIA which includes a public participation process (PPP), no dedicated consultation was undertaken as part of the HIA. Interested and affected parties would have the opportunity to provide comment on the heritage aspects of the project during the PPP. During the survey of the original footprint the landowner was asked about heritage resources on site but was not aware of any.

4. PHYSICAL ENVIRONMENTAL CONTEXT

4.1. Site context

The site lies in a generally rural area but the south-eastern edge of Nigel, the suburb of Mackenzieville, lies about 600 m north and northeast of the study area. There is a farmhouse on the subject property to the southwest of the study area, while some ruins inside the study area.

4.2. Site description

The proposed development site is a fairly open area with scattered trees to the northeast of the existing farmhouse. Dense grass was present during the heritage survey of the original site (Figures 3 & 4). During the EAP's site visit, however, drought conditions pertained and the surface was well exposed (Figures 5 & 6). The substrate in the study area is generally sandy but low rocky outcrops and stones do occur (Figure 6).

¹ The system is intended for use on archaeological and palaeontological sites only.

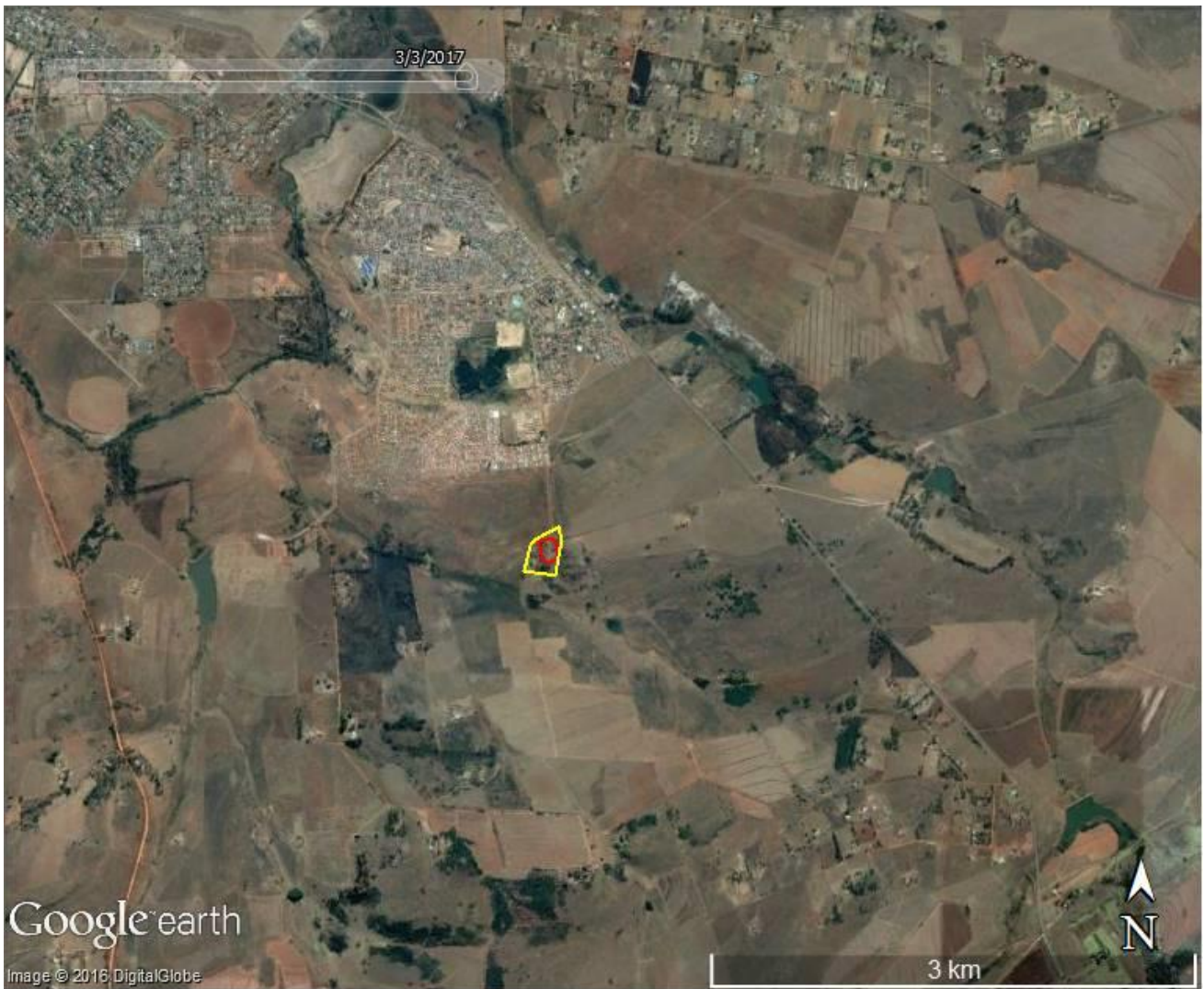


Figure 2: Aerial view of the property (yellow polygon) and study area (red polygon) showing their broader context.



Figure 3: View across the original site towards the south. The farmhouse lies among the trees in the background.



Figure 4: View towards the east with the study area behind the fence. The ruins lie in the background.



Figure 5: View across the site towards the east from showing scattered trees in the vicinity and foundations in the middle ground. This area is to the south of the main ruin.



Figure 6: View across the site towards the southeast showing a low rock outcrop and two small circular foundations. This area is just to the south of the main ruin.

5. HERITAGE CONTEXT

This section of the report contains the desktop study and establishes what is already known about heritage resources in the vicinity of the study area. What was found during the field survey as presented below may then be compared with what is already known in order to gain an improved understanding of the significance of the newly reported resources. It was found that very little research has been carried out in close proximity to Nigel.

5.1. Archaeological aspects

Approximately 50 km to the west of the study area is the Klipriviersberg Nature reserve where large Tswana settlements occur. These sites originate from Fokeng settlements that spread north across the Vaal River into the Balfour, Suikerbosrand, Klipriviersberg and Vredefort areas where the Fokeng interacted with the Sotho Tswana. Associated Ntsuanatsatsi pottery and Type N walling date from the 15th to 17th centuries and are also referred to as Klipriviersberg walling. In Gauteng, Klipriviersberg walling would not have been constructed after about AD 1823, when Mzilikazi entered the area (Huffman 2007). Some 28 km to the west at Suikerbosrand Nature Reserve is another cluster of Late Iron Age stone walled settlements. Here 760 ruins have been recorded (Sadr 2012) and classified into one of Taylor's (1979) three main types. No Iron Age stone walling or other archaeological sites are known from the Nigel area.

5.2. Historical aspects

The town of Nigel owes its existence to gold mining. After a few years of prospecting by a Mr Johnstone, the owner of the farm Varkensfontein, Mr Petrus Marais, received an offer to buy the farm from a stranger. He became suspicious and, because he did not live on the farm, he went to visit. On realising that the prospecting was yielding results, he started his own mining company which he called Nigel in 1888. Nigel remained a mining camp until, with sufficient growth, a local council was established in 1923. In 1930 this was elevated to a Town Council. The village then grew rapidly because its old mine was found to be very rich (Bacchus International 2016).

The Nigel area was also affected by the Anglo-Boer War. Although there were no battles there (Von der Heyde 2013: 203), Generals Alberts and Grobler led British troops into an ambush on 18th February 1902 in which ten British were wounded and fifty captured (Grobler 2004). The Witwatersrand area saw a total of nine black concentration camps being established, of which one was in the Nigel area (Bergh 1999: 54). These were usually located next to the railway lines. Until 1935, however, the nearest railway station was some eight kilometres to the west (Bacchus International 2016).

Sites dating to the Colonial Period primarily related to the Gold Mining industry of the past century and resulting urbanization and industrialization, occur widely in the Highveld and the Witwatersrand. Several impact assessment reports from the general area have recorded such sites (Fourie 2003; Kruger 2015; Van der Walt 2007; Van Schalkwyk & Pelser 2000).

A number of other impact assessments from the area recorded no heritage resources at all (Gaigher 2013; Tomose 2014; Van der Walt 2008).

6. FINDINGS OF THE HERITAGE STUDY

This section describes the heritage resources recorded in the study area during the course of the project. No specific heritage features were found within the study area, but comments on heritage in the broader landscape are offered as appropriate. Figure 7 shows an aerial view of the study area with the survey tracks indicated.



Figure 7: Aerial view of the property (yellow polygon) and study area (red polygon) showing the survey tracks (blue lines). Note that the tracks show the survey of the original site.

6.1. Archaeology

No archaeological resources were recorded in the original study area. Because of the vegetation present after the good summer rains, archaeological survey of the new site is unlikely to provide any new information. There is always the chance that isolated artefacts would be present but from photographs provided by the EAP we are confident that Iron Age stone walled settlements are absent from the proposed development site.

6.2. Palaeontology

The SAHRIS Palaeosensitivity Map indicates that the site lies in an area of low palaeontological sensitivity and that further assessment of this aspect is not required (Figure 8).

6.3. Graves

No graves were observed in the study area or its immediate surrounds. The ruins in the development footprint pertain to a twentieth century dairy which means that it is highly unlikely that graves would be associated with the structures.

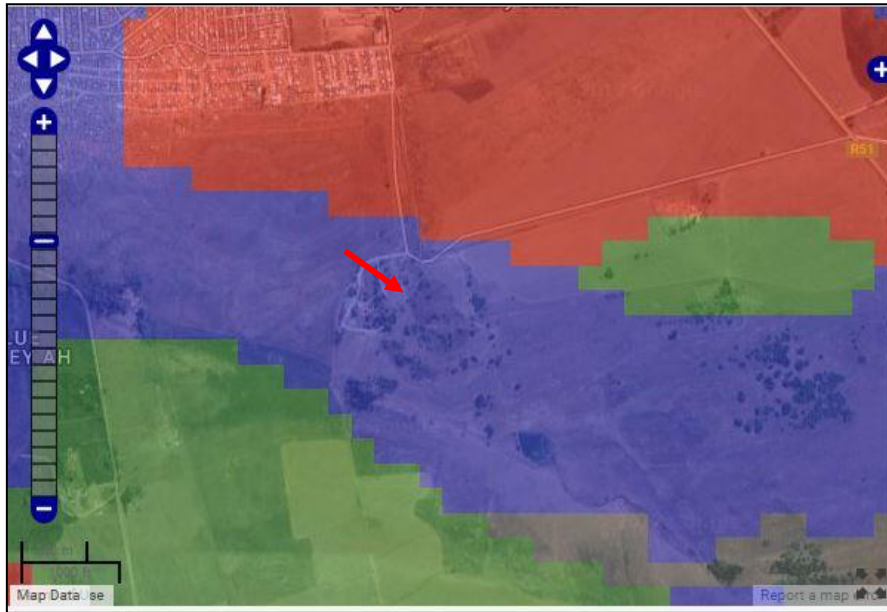


Figure 8: Aerial view of the study area extracted from the SAHRIS Palaeosensitivity Map and indicating the site (red arrow) to be of low sensitivity (blue shading).

6.4. Built environment

There are no built heritage resources in the study area but historical aerial photography indicates that the main house and some of its outbuildings predate 1945. The architectural style of the house indicates it to most likely be from the early-mid-20th Century. The outbuildings, some of which are made of stone, are less informative. A series of ruins pre-dating 1945 stand within the study area. The building fabric indicates that they are relatively modern, likely also dating to the early-mid-20th century. The main ruin was a dairy building, while smaller structures served as outbuildings and reservoirs. A stone and cement kraal (livestock enclosure) was built onto the dairy (Figure 13). Because of their age and derelict state respectively, they are not legally protected as either archaeology or buildings.



Figure 9: View of the farm complex from the study area. The farm house is in the centre, while stone outbuildings occur to the left and right.



Figure 12: View towards the northwest of the main dairy building (centre) and an outbuilding (left).



Figure 13: View of the northern wall of the main dairy building showing modern bricks with a concrete lintel above the doorway. The stone and cement kraal is visible to the right.



Figure 14: View of the north wall of a second outbuilding to the south of the main dairy building. Some cement foundations are visible to the right. Again, modern bricks are evident.

6.5. Cultural landscape

The vast majority of the trees comprising the historical tree lines visible in earlier aerial photography have been chopped down. Figure 4 shows a view towards the east through the area where a large tree line used to stand. This has unfortunately impacted on the historical cultural landscape. Figure 15 shows the broader area in 1945 and indicates that it has been an agricultural landscape for many years. Zooming in, one can see that the tree lines date back to before 1944 and were possibly originally planted as windrows to protect agricultural lands (Figure 16). However, it does not appear that the intervening land was under cultivation at the time. By 1958 the trees had grown larger (Figure 17).



Figure 15: 1945 aerial image (Job 55, strip 021, photograph 01231) and a modern view of the broader landscape around the site. Red arrow indicates the dairy.



Figure 16: 1945 aerial image (Job 55, strip 021, photograph 01231) and a modern view of the immediate context of the site. Red arrow indicates the dairy.



Figure 17: 1958 aerial photograph (Job 412, strip 010, photograph 01967) and modern view of the immediate context of the site.

The first 1:50 000 topographic map of the area dates to 1966 and shows the developing town to the north of the site (Figure 18). The farm is labelled 'Mispa' and the main house and main dairy building are indicated.

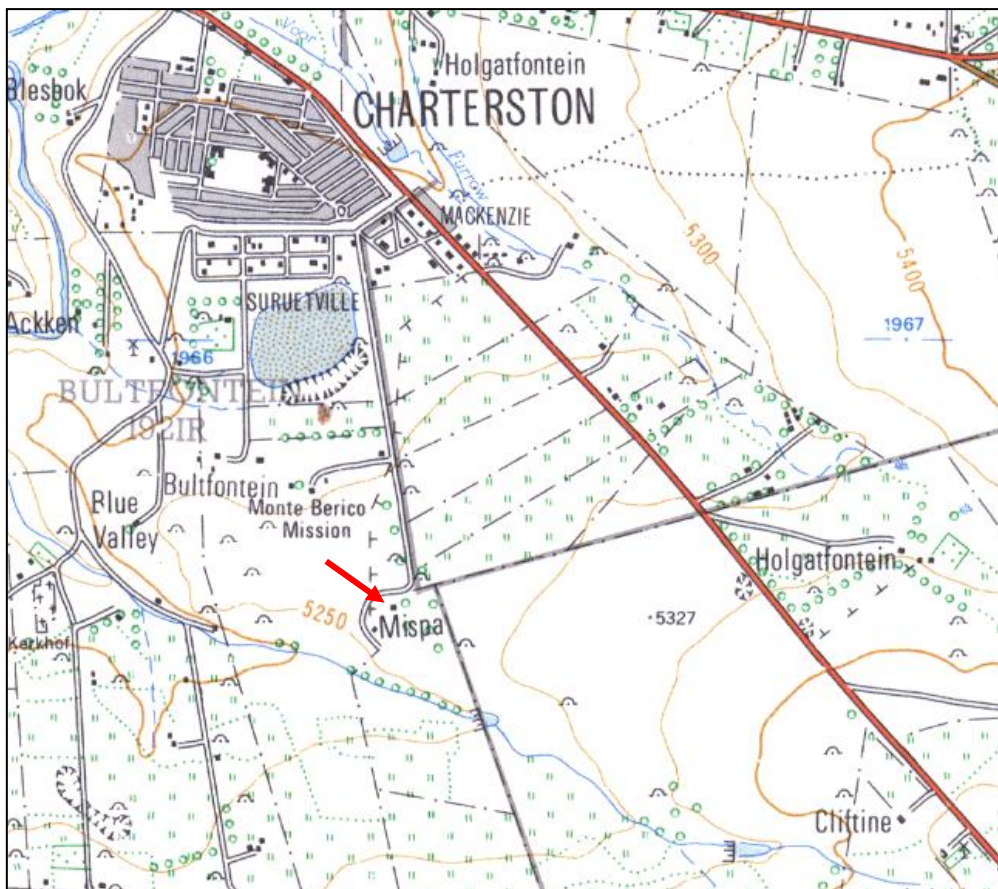


Figure 18: 1966 topographic map (1st edition). The dairy is arrowed.

6.6. Summary of heritage resources

There are no heritage resources within the study area, but the house and outbuildings on the property are regarded as heritage resources.

6.7. Statement of significance and provisional grading

Section 38(3)(b) of the NHRA requires an assessment of the significance of all heritage resources. In terms of Section 2(vi), “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

The only heritage resources in close proximity to the site appear to be the existing buildings on the farm. These are deemed to have no more than low-medium cultural significance for their architectural and social value. PHRAG does not have a grading guide and the SAHRA system applies only to archaeological and palaeontological resources so no grading is applied.

There is a possibility that isolated stone artefacts or potsherds are present on the site, but, because of their isolated nature and poor context, such finds would be regarded as having very low cultural significance for their scientific value. Following the SAHRA grading system, they would be graded as “General Protection C’.

7. IMPACT ASSESSMENT

The chances of impacting unknown archaeological sites in the study area is considered to be negligible. Any direct impacts that did occur would be during the construction phase only and would be of very low significance (Table 1).

The farm house and outbuildings greater than 60 years of age will not be directly impacted by the proposed development. The only possible impact is an indirect, contextual impact but, because the project is essentially adding another outbuilding to the existing farm complex, this is an impact that is in keeping with the agricultural land use and is thus given a neutral status. The significance of this impact is regarded as being very low (Table 1).

No significant cumulative impacts are expected because of the general lack of impacts to heritage resources that will result from this development and the general lack of significant resources known from the surroundings (Table 1).

8. LEGISLATIVE AND PERMIT REQUIREMENTS

Once a comment has been obtained from the relevant heritage authorities, there are no further legal requirements that need to be met in terms of heritage resources. No permits are needed, since no heritage resources have been found on site.

9. ENVIRONMENTAL MANAGEMENT PROGRAMME INPUTS

Due to the lack of heritage resources on the site, no heritage-related input to the environmental management programme is required.

10. EVALUATION OF IMPACTS RELATIVE TO SUSTAINABLE SOCIAL AND ECONOMIC BENEFITS

Section 38(3)(d) requires an evaluation of the impacts on heritage resources relative to the sustainable social and economic benefits to be derived from the development. In this instance there is a clear economic benefit to be derived from the proposed development and no significant heritage resources will be impacted.

11. CONCLUSIONS

No significant impacts to heritage resources are expected and the proposed development is in keeping with the generally agricultural land use in the surrounding area.

12. RECOMMENDATIONS

Because no heritage impacts are expected, it is recommended that the proposed piggery development should be authorised but subject to the following condition which should be incorporated into the Environmental Authorisation:

- If any archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.

Table 1: Impact assessment summary table.

Aspect/ Impact pathway	Nature of potential impact/risk	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility of impact	Irreplaceability of receiving environment/resource	Potential mitigation measures	Significance of impact/risk = consequence x probability		Ranking of impact/risk	Confidence level
										Without mitigation /management	With mitigation /management (residual risk/impact)		
CONSTRUCTION PHASE: direct impacts to archaeological resources													
Clearing of site and construction of facility	Destruction of archaeological artefacts	Negative	Site	Permanent	Slight	Extremely unlikely	Non-reversible	High	None	Very Low	Very Low	5	High
CONSTRUCTION & OPERATION PHASES: indirect impacts to built heritage resources													
Construction and operation of facility	Existence of new structure on the landscape	Neutral	Site	Long term	Slight	Very likely	Reversible	High	None	Very Low	Very Low	5	High
CUMULATIVE IMPACTS: all heritage resources													
Clearing of site and construction and operation of facility	Impacts to heritage resources	Negative	Site	Permanent	Slight	Extremely unlikely	Non-reversible	High	None	Very Low	Very Low	5	High

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APPENDIX 1 – Curriculum Vitae



Curriculum Vitae

Jayson David John Orton

ARCHAEOLOGIST AND HERITAGE CONSULTANT

Contact Details and personal information:

Address: 40 Brassie Street, Lakeside, 7945
Telephone: (021) 788 8425
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Email: jayson@asha-consulting.co.za

Birth date and place: 22 June 1976, Cape Town, South Africa
Citizenship: South African
ID no: 760622 522 4085
Driver's License: Code 08
Marital Status: Married to Carol Orton
Languages spoken: English and Afrikaans

Education:

SA College High School	Matric	1994
University of Cape Town	B.A. (Archaeology, Environmental & Geographical Science)	1997
University of Cape Town	B.A. (Honours) (Archaeology)*	1998
University of Cape Town	M.A. (Archaeology)	2004
University of Oxford	D.Phil. (Archaeology)	2013

*Frank Schweitzer memorial book prize for an outstanding student and the degree in the First Class.

Employment History:

Spatial Archaeology Research Unit, UCT	Research assistant	Jan 1996 – Dec 1998
Department of Archaeology, UCT	Field archaeologist	Jan 1998 – Dec 1998
UCT Archaeology Contracts Office	Field archaeologist	Jan 1999 – May 2004
UCT Archaeology Contracts Office	Heritage & archaeological consultant	Jun 2004 – May 2012
School of Archaeology, University of Oxford	Undergraduate Tutor	Oct 2008 – Dec 2008
ACO Associates cc	Associate, Heritage & archaeological consultant	Jan 2011 – Dec 2013
ASHA Consulting (Pty) Ltd	Director, Heritage & archaeological consultant	Jan 2014 –

Memberships and affiliations:

South African Archaeological Society Council member	2004 –
Assoc. Southern African Professional Archaeologists (ASAPA) member	2006 –
ASAPA Cultural Resources Management Section member	2007 –
UCT Department of Archaeology Research Associate	2013 –
Heritage Western Cape APM Committee member	2013 –
UNISA Department of Archaeology and Anthropology Research Fellow	2014 –
Fish Hoek Valley Historical Association	2014 –

Professional Accreditation:

ASAPA membership number: 233, CRM Section member

Principal Investigator: Coastal shell middens (awarded 2007)
Stone Age archaeology (awarded 2007)
Grave relocation (awarded 2014)

Field Director: Rock art (awarded 2007)
Colonial period archaeology (awarded 2007)

Fieldwork and project experience:

Extensive fieldwork as both Field Director and Principle Investigator throughout the Western and Northern Cape, and also in the western parts of the Free State and Eastern Cape as follows:

Phase 1 surveys and impact assessments:

- Project types
 - Notification of Intent to Develop applications (for Heritage Western Cape)
 - Heritage Impact Assessments (largely in the Environmental Impact Assessment or Basic Assessment context under NEMA and Section 38(8) of the NHRA, but also self-standing assessments under Section 38(1) of the NHRA)
 - Archaeological specialist studies
 - Phase 1 test excavations in historical and prehistoric sites
 - Archaeological research projects
- Development types
 - Mining and borrow pits
 - Roads (new and upgrades)
 - Residential, commercial and industrial development
 - Dams and pipe lines
 - Power lines and substations
 - Renewable energy facilities (wind energy, solar energy and hydro-electric facilities)

Phase 2 mitigation and research excavations:

- ESA open sites
 - Duinefontein, Gouda
- MSA rock shelters
 - Fish Hoek, Yzerfontein, Cederberg, Namaqualand
- MSA open sites
 - Swartland, Bushmanland, Namaqualand
- LSA rock shelters
 - Cederberg, Namaqualand, Bushmanland
- LSA open sites (inland)
 - Swartland, Franschhoek, Namaqualand, Bushmanland
- LSA coastal shell middens
 - Melkbosstrand, Yzerfontein, Saldanha Bay, Paternoster, Dwarskersbos, Infanta, Knysna, Namaqualand
- LSA burials
 - Melkbosstrand, Saldanha Bay, Namaqualand, Knysna
- Historical sites
 - Franschhoek (farmstead and well), Waterfront (fort, dump and well), Noordhoek (cottage), variety of small excavations in central Cape Town and surrounding suburbs
- Historic burial grounds
 - Green Point (Prestwich Street), V&A Waterfront (Marina Residential), Paarl

CV Jaco van der Walt

PERSONAL PARTICULARS:

NAME: Jaco van der Walt
MARITAL STATUS: Married with two dependants
DATE OF BIRTH: 1977-11-04
Work Address 37 Olienhout Street, Modimolle, 0510
E-MAIL: jaco.heritage@gmail.com
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SYNOPSIS

Jaco has been actively involved as a professional archaeologist within the heritage management field in southern Africa for the past 15 years. Jaco acted as council member for the Association of Southern African Professional Archaeologist (ASAPA Member #159) in the Cultural Resource Management (CRM) portfolio for two years (2011 – 2012). Jaco was also a Research Associate with the University of Johannesburg from 2011 – 2013. He is well respected in his field and published in peer reviewed journals and presented his findings on various national and international conferences.

ACADEMIC QUALIFICATIONS:

Date of matriculation: 1995
Particulars of degrees/diplomas and/or other qualifications:
Name of University or Institution: University of Pretoria
Degree obtained : BA
Major subjects : Archaeology
Cultural Heritage Tourism
Year of graduation : 2001

Name of University or Institution: University of the Witwatersrand
Degree obtained : BA [Honours]
Major subjects : Archaeology
Year of graduation : 2002

Name of University or Institution : University of the Witwatersrand
Degree Obtained :BA [Masters]
Major subject :Archaeology
Year of Graduation :2012

EMPLOYMENT HISTORY:

2011 – Present: **Owner - Heritage Contracts and Archaeological Consulting CC.**
2007 – 2010 : **CRM Archaeologist**, Managed the Heritage Contracts Unit at the
University of the Witwatersrand.
2005 - 2007: **CRM Archaeologist**, Director of Matakoma Heritage Consultants
2004: **Technical Assistant**, Department of Anatomy University of Pretoria
2003: **Archaeologist**, Mapungubwe World Heritage Site
2001 - 2002: **CRM Archaeologists**, For R & R Cultural Resource Consultants,
Polokwane
2000: **Museum Assistant**, Fort Klapperkop.

Countries of work experience include:

Republic of South Africa, Botswana, Zimbabwe, Mozambique, Tanzania, The Democratic Republic of the Congo, Lesotho and Zambia.

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS:

- o Association of Southern African Professional Archaeologists. Member number 159
- o Association of Southern African Professional Archaeologists Cultural Resource Management Section
Accreditation: Field Director Iron Age Archaeology
Field Supervisor – Colonial Period
Archaeology, Stone Age Archaeology and Grave
Relocation
- o Accredited CRM Archaeologist with SAHRA
- o Accredited CRM Archaeologist with AMAFA
- o Co-opted council member for the CRM Section of the Association of Southern African Association Professional Archaeologists (2011 – 2012)

REFERENCES:

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2. Prof TN Huffman Department of Archaeology Tel: (011) 717 6040
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