

Cultural Heritage Scoping Assessment:

THE PROPOSED PROSPECTING RIGHT APPLICATION FOR THE PROSPECTING OF DIAMONDS ALLUVIAL (DA) AND DIAMONDS GENERAL (D) NEAR WARRENTON ON PORTION 17 AND THE REMINING EXTENT OF THE FARM SLYPKLIP NORTH 32, REGISTRATION DIVISION: KIMBERLEY, NORTHERN CAPE PROVINCE

Prepared for:

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- Date: -

Submission of the report:

It remains the responsibility of the client to submit the report to the South African Heritage Resources Agency (SAHRA) or relevant Provincial Heritage Resources Agency (PHRA) by means of the online SAHRIS System.



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Specialist competency:

Johan A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 40 years. Originally based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape Province, Northern Cape Province, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 70 papers, most in scientifically accredited journals. During this period, he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, roads, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.



J A van Schalkwyk
Heritage Consultant
November 2021

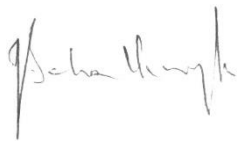


SPECIALIST DECLARATION

I, J A van Schalkwyk, as the appointed independent specialist, in terms of the 2014 EIA Regulations (as amended), 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 (as amended) 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.

Signature of the specialist



J A van Schalkwyk
November 2021

EXECUTIVE SUMMARY

**Cultural Heritage Scoping Assessment:
THE PROPOSED PROSPECTING RIGHT APPLICATION FOR THE PROSPECTING OF DIAMONDS
ALLUVIAL (DA) AND DIAMONDS GENERAL (D) NEAR WARRENTON ON PORTION 17 AND THE
REMINING EXTENT OF THE FARM SLYPKLIP NORTH 32, REGISTRATION DIVISION: KIMBERLEY,
NORTHERN CAPE PROVINCE**

It is proposed to prospect for diamonds alluvial (DA) and diamonds general (D) near Warrenton on Portion 17 and the Remining Extent of the Farm Slypklip North 32, Registration Division: Kimberley, Northern Cape Province. The site is located a few kilometres southeast of the town of Windsorton in the Frances Baard Local Municipality of Northern Cape Province.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by Milnex CC to conduct a scoping assessment to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the prospecting is to take place.

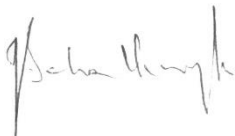
- As access to the properties were refused by the owner, the specialist was requested to submit a scoping report instead.
 - It should be noted that as this is only a scoping report, the findings are provisional and can only be confirmed by means of a full pedestrian survey.

The aim of the review was to determine, at desktop level if any sites, objects and structures of cultural significance would occur within the area in which the development is proposed.

The cultural landscape qualities of the region are made up of a pre-colonial element consisting of Stone Age and a much later colonial (farmer) component. This changed somewhat over the last one hundred and fifty years with the development of alluvial diamond mining which led to a number of settlements that were established in the region.

- A very low-density scatters, of Middle and Later Stone Age tools can be expected in the project area.
- It is highly possible that sites, feature or objects dating the historic period would be identified in the project area, especially in the vicinity of the river. These could include burial sites, built structures and mining related features.

Therefore, from a heritage point of view we recommend that a full heritage impact assessment is done before the proposed development can continue.



J A van Schalkwyk
Heritage Consultant
November 2021

TECHNICAL SUMMARY

Project description	
Description	Prospecting right for diamonds alluvial (DA) and diamonds general (D) on Portion 17 and the Remining Extent of the Farm Slypklip North 32
Project name	Slypklip North 32 Prospecting Right Application

Applicant
-

Environmental assessors
Milnex Environmental Consultants CC
Ms L Esterhuizen

Property details													
Province	Northern Cape												
Magisterial district	Warrenton												
Local municipality	Frances Baard												
Topo-cadastral map	2824BC												
Farm name	Slypklip North 32												
Closest town	Windsorton												
Coordinates	Centre point (approximate)												
	<table border="1"> <thead> <tr> <th>No</th> <th>Latitude</th> <th>Longitude</th> <th>No</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>S 28,37741</td> <td>E 24,70785</td> <td>2</td> <td>S 28,38758</td> <td>E 24,70076</td> </tr> </tbody> </table>	No	Latitude	Longitude	No	Latitude	Longitude	1	S 28,37741	E 24,70785	2	S 28,38758	E 24,70076
No	Latitude	Longitude	No	Latitude	Longitude								
1	S 28,37741	E 24,70785	2	S 28,38758	E 24,70076								
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Development criteria in terms of Section 38(1) of the NHR Act	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	No
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	No
Any other development category, public open space, squares, parks, recreation grounds	No

Land use	
Previous land use	Farming/Mining
Current land use	Farming

¹ Left click on the icon to open the file in Google Earth, if installed on the computer. Alternatively, right click on the icon. In dialog box, select "Save Embedded File to Disk" and save to folder of choice.

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GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Bioturbation: The burrowing by small mammals, insects and termites that disturb archaeological deposits.

Cumulative impacts: “Cumulative Impact”, in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

Debitage: Stone chips discarded during the manufacture of stone tools.

Factory site: A specialised archaeological site where a specific set of technological activities has taken place – usually used to describe a place where stone tools were made.

Historic Period: Since the arrival of the white settlers - c. AD 1830 - in this part of the country.

Holocene: The most recent time period, which commenced c. 10 000 years ago.

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

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

Midden: The accumulated debris resulting from human occupation of a site.

Mitigation, means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

National Estate: The collective heritage assets of the Nation.

Pleistocene: Geological time period of 3 000 000 to 20 000 years ago.

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

Early Stone Age	2 500 000 - 250 000 Before Present
Middle Stone Age	250 000 - 40 000 - 25 000 BP
Later Stone Age	40-25 000 - until c. AD 200

Tradition: As used in archaeology, it is a seriated sequence of artefact assemblages, particularly ceramics.

ACRONYMS and ABBREVIATIONS

AD	Anno Domini (the year 0)
ASAPA	Association of Southern African Professional Archaeologists

BA	Basic Assessment
BC	Before the Birth of Christ (the year 0)
BCE	Before the Common Era (the year 0)
BP	Before Present (calculated from 1950 when radio-carbon dating was established)
CE	Common Era (the year 0)
CRM	Cultural Resources Management
CS-G	Chief Surveyor-General
EAP	Environmental Assessment Practitioner
EIA	Early Iron Age
ESA	Early Stone Age
HIA	Heritage Impact Assessment
I & AP's	Interested and Affected Parties
ICOMOS	International Council on Monuments and Sites
LIA	Late Iron Age
LSA	Later Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
WUL	Water Use Licence

COMPLIANCE WITH APPENDIX 6 OF THE 2014 EIA REGULATIONS (AS AMENDED)

Requirements of Appendix 6 – GN R982	Addressed in the Specialist Report
1. (1) A specialist report prepared in terms of these Regulations must contain-	
a) details of-	
i. the specialist who prepared the report; and	Front page
ii. the expertise of that specialist to compile a specialist report including a curriculum vitae;	Page i Addendum Section 5
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
(cA) an indication of the quality and age of base data used for the specialist report;	Section 4
(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Section 7
d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 4.2.2
e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 4
f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 7; Figure 7
g) an identification of any areas to be avoided, including buffers;	Section 8
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;	Figure 7 Section 7
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 2
j) a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Section 7
k) any mitigation measures for inclusion in the EMPr;	Section 8 & 10
l) any conditions for inclusion in the environmental authorisation;	Section 10
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 9
n) a reasoned opinion-	
i. whether the proposed activity, activities or portions thereof should be authorised;	Section 10
(iiA) regarding the acceptability of the proposed activity or activities; and	
ii. if the opinion is that the proposed activity, activities 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;	Section 8, 10
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	-
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	-
q) any other information requested by the competent authority.	-
(2) Where a government notice by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	-

Cultural Heritage Scoping Assessment:
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1. INTRODUCTION

1.1 Background

It is proposed to prospect for diamonds alluvial (DA) and diamonds general (D) near Warrenton on Portion 17 and the Remaining Extent of the Farm Slypklip North 32, Registration Division: Kimberley, Northern Cape Province. The site is located a few kilometres southeast of the town of Windsorton in the Frances Baard Local Municipality of Northern Cape Province.

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

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by Milnex CC to conduct a scoping assessment to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the prospecting is to take place.

- As access to the properties were refused by the owner, the specialist was requested to submit a scoping report instead.
 - It should be noted that as this is only a scoping report, the findings are provisional and can only be confirmed by means of a full pedestrian survey.

1.2 Terms and references

The aim of a full HIA investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to identify heritage resources (involving site inspections, existing heritage data and additional heritage specialists if necessary); assess their significances; assess alternatives in order to promote heritage conservation issues; and to assess the acceptability of the proposed development from a heritage perspective.

The result of this investigation is a heritage impact assessment report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed development.

Depending on SAHRA's acceptance of this report, the developer will receive permission to proceed with the proposed development, on condition of successful implementation of proposed mitigation measures.

1.2.1 Scope of work

The aim of this scoping assessment, broadly speaking, is to determine the potential of any sites, features or objects of cultural heritage significance occurring within the boundaries of the area where it is planned to prospect for alluvial diamonds.

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied; and

The objectives were to

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

1.2.2 Assumptions and Limitations

The investigation has been influenced by the following factors:

- This report is based solely on available information as access to the site was not possible.

2. LEGISLATIVE FRAMEWORK

2.1 Background

Heritage Impact Assessments are governed by national legislation and standards and International Best Practise. These include:

- South African Legislation
 - National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA);
 - Mineral and Petroleum Resources Development Act, 2002 (Act No. 22 of 2002) (MPRDA);
 - National Environmental Management Act 1998 (Act No. 107 of 1998) (NEMA); and
 - National Water Act, 1998 (Act No. 36 of 1998) (NWA).
- Standards and Regulations
 - South African Heritage Resources Agency (SAHRA) Minimum Standards;
 - Association of Southern African Professional Archaeologists (ASAPA) Constitution and Code of Ethics;
 - Anthropological Association of Southern Africa Constitution and Code of Ethics.
- International Best Practise and Guidelines
 - ICOMOS Standards (Guidance on Heritage Impact Assessments for Cultural World Heritage Properties); and
 - The UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (1972).

2.2 Heritage Impact Assessment Studies

South Africa's unique and non-renewable archaeological and palaeontological heritage sites are 'generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, Section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority.

The National Heritage Resources Act (Act No. 25 of 1999, Section 38) provides guidelines for Cultural Resources Management and prospective developments:

"38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as:

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of a site:*
 - (i) exceeding 5 000 m² in extent; or*
 - (ii) involving three or more existing erven or subdivisions thereof; or*
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.”*

And:

- “38 (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:*
- (a) The identification and mapping of all heritage resources in the area affected;*
 - (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
 - (c) an assessment of the impact of the development on such heritage resources;*
 - (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
 - (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
 - (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
 - (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.”*

3. HERITAGE RESOURCES

3.1 The National Estate

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

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
 - ancestral graves;
 - royal graves and graves of traditional leaders;
 - graves of victims of conflict;
 - graves of individuals designated by the Minister by notice in the Gazette;
 - historical graves and cemeteries; and

- other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
 - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - objects to which oral traditions are attached or which are associated with living heritage;
 - ethnographic art and objects;
 - military objects;
 - objects of decorative or fine art;
 - objects of scientific or technological interest; and
 - books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

3.2 Cultural significance

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

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

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

A matrix (see Section 2 of Addendum) was developed whereby the above criteria were applied for the determination of the significance of each identified site. This allowed some form of control over the application of similar values for similar identified sites.

4. PROJECT DESCRIPTION

4.1 Site location

The study area is located approximately 10 km southeast of the town of Windsorton, on the eastern or left-hand bank of the Vaal River (Fig. 1). For more information, see the Technical Summary on p. v above.

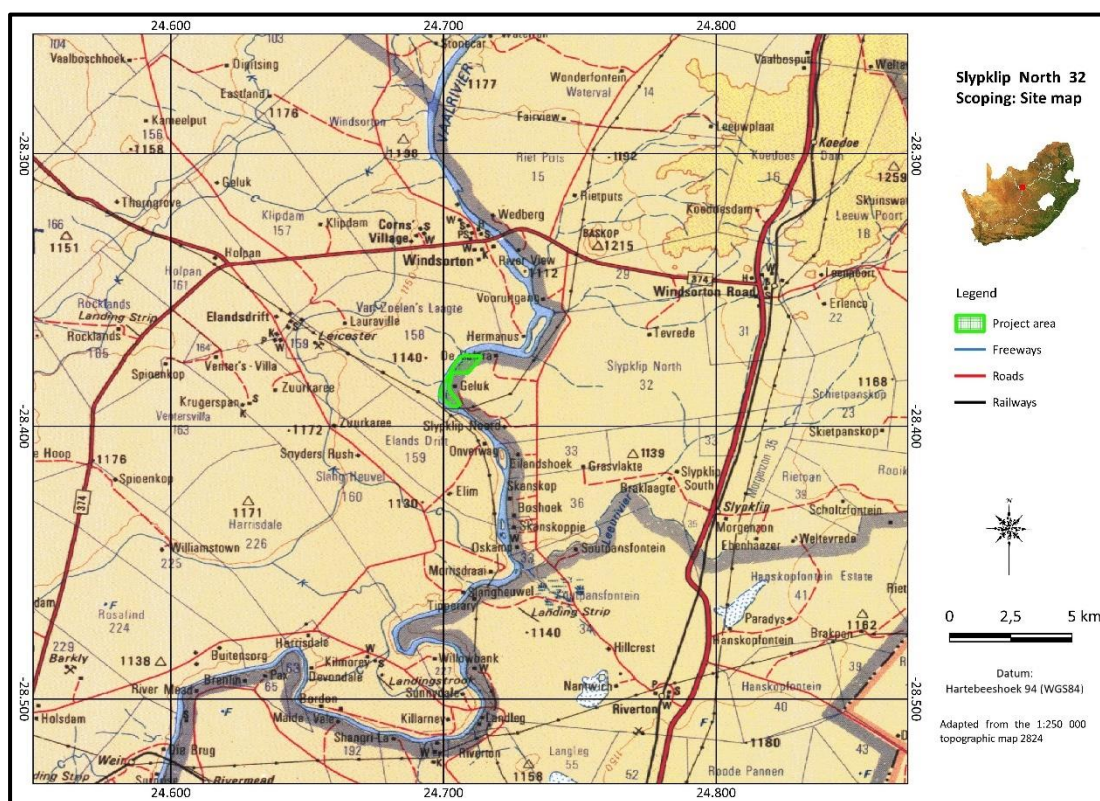


Figure 1. Location of the project area in regional context

5. STUDY APPROACH AND METHODOLOGY

5.1 Extent of the Study

This survey and impact assessment cover all facets of cultural heritage located in the project area as presented in Section 4 above and illustrated in Figures 1.

5.2 Methodology

5.2.1 Pre-feasibility assessment

The objectives of this review were to:

- Gain an understanding of the cultural landscape within which the project is located;
- Inform the field survey.

5.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted – see list of references in Section 11.

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

5.2.1.2 Survey of heritage impact assessments (HIAs)

A survey of HIAs done for projects in the region by various heritage consultants was conducted with the aim of determining the heritage potential of the area – see list of references in Section 11.

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

5.2.1.3 Data bases

The *Heritage Atlas Database*, various SAHRA databases, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed mining activities.

5.2.1.4 Other sources

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

- Information regarding built structures and natural features were obtained from these sources.

The results of the above investigation are summarised in Table 1 below – see list of references in Section 11 – and can be summarised as follows:

- Based on the above assessment, the probability of cultural heritage sites, features and objects occurring in the project area is deemed to be possible.

Table 1: Pre-Feasibility Assessment

Category	Period	Presence	Reference
Early hominin	Pliocene – Lower Pleistocene		
	Early hominin	None	
Stone Age	Lower Pleistocene – Holocene		
	Early Stone Age	Low	Heritage Database
	Middle Stone Age	Low	Heritage Database; Rossouw (2016)
	Later Stone Age	Low	Heritage Atlas Database; Van Schalkwyk (2015); Van Ryneveld (2006, 2012)
	Rock Art	Low	
Iron Age	Holocene		
	Early Iron Age	None	
	Middle Iron Age	None	
	Late Iron Age	Low	Breutz (1963); Rossouw (2016)
Colonial period	Holocene		
	Contact period	Low	
	Recent history	Medium	Breutz (1963); Rossouw (2016)
	Industrial heritage	Low	Heritage Database

6. DESCRIPTION OF THE AFFECTED ENVIRONMENT

6.1 Natural Environment

The geology of the study area is made up of andesitic lavas and tuffs of the Allenridge Formation of the Ventersdorp Supergroup. The original vegetation in the western section of the study area is classified as Kimberley Thornveld, a savanna biome, which is part of the Eastern Kalahari Bushveld Bioregion.

The site lies in a strongly transformed environment with a well-established agricultural landscape, based on grazing and crop production. In addition, some section have also been subjected to dimond mining activities.

The Palaeontological Sensitivity Map (<https://sahris.sahra.org.za/map/palaeo>) indicate that the project area has a high possibility of fossil remains to be found and therefore a desktop assessment is required and based that outcome a field assessment is likely.

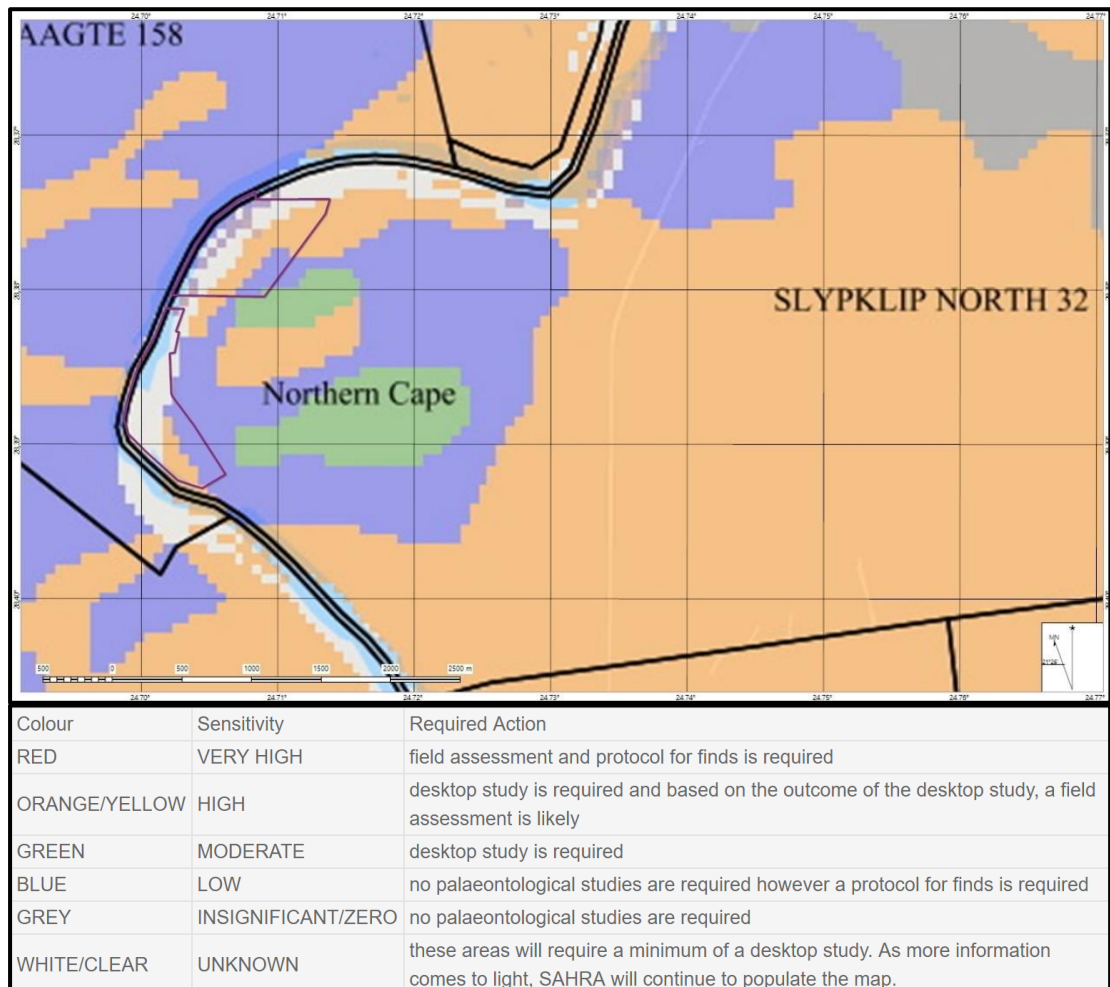


Figure 2. The Palaeontological sensitivity of the project area

6.2 Cultural Landscape

The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the project area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity.

The cultural landscape qualities of the region are made up of a pre-colonial element consisting of Stone Age and a much later colonial (farmer) component. This changed somewhat over the last one hundred

and fifty years with the development of alluvial diamond mining which led to a number of settlements that were established in the region.

6.2.1 Stone Age

The region has been inhabited by humans since Early Stone Age (ESA) times. Tools dating to this period are mostly, although not exclusively, found in the vicinity of watercourses. This is confirmed by the work done by Beaumont (see Beaumont & Morris 1990) in the vicinity, especially on the farms Pniel and Nooitgedacht, as well as at Canteen Koppie in Barkly West, where he found stone tools dating to the Fauresmith, a transitional industry between the Early and Middle Stone Ages. Humphreys (1969) indicates that material dating to the Fauresmith tradition was found to the south of the study area on Farm 6. However, the identification and validity of this tradition is still being debated, see for example Underhill (2011).

Although Later Stone Age people roamed the area, hardly any occupation site dating to this phase of the Stone Age has been identified in the region. However, the presence of these people in the region is confirmed by a number of sites containing rock engravings which occur in the larger landscape, for example at Wildebeest Kuil and Nooitgedacht, southeast of the study area. These engravings are linked to the San and the Khoe, the latter which were in all probability responsible for the geometrical patterns engraved at Nooitgedacht.

6.2.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area. Because of their specific technology and economy, Iron Age people preferred to settle on the alluvial soils near rivers for agricultural purposes, but also for firewood and water.

Iron Age occupation took place in the larger region of the study area and seems as if the earliest people to live settled lives were those of Tswana-speaking origin (Tlhaping and Tlharo) that settled mostly to the north and a bit to the west of Kuruman. However, they continued spreading westward and by the late 18th century some groups occupied the Langeberg region (Breutz 1963).

According to Breutz (1963) stone walled sites dating to the Late Iron Age and which can be linked to the Tswana occupation of the area, are found on a number of farms in the region, e.g. Waai Hoek and Brul Pan. However, the historic most important one, named Dithakong, is located some distance to the north-west. This site was first visited by early travellers such as Lichtenstein and John Campbell in the early part of the 19th century.

This was also a period of great military tension. Military pressure from Zululand spilled onto the highveld by at least 1821. Various marauding groups of displaced Sotho-Tswana moved across the plateau in the 1820s. Mzilikazi raided the plateau extensively between 1825 and 1837. The Boers trekked into this area in the 1830s. And throughout this time settled communities of Tswana people also attacked each other. As a result of this troubled period, Sotho-Tswana people concentrated into large towns for defensive purposes. Because of the lack of trees they built their settlements in stone. These stone-walled villages were almost always located near cultivatable soil and a source of water.

With the annexation of the Tswana areas by the British in 1885, the area became known as British Betschuana Land. A number of reserves were set up for these people to stay in. In 1895 the Tswana-speakers rose up in resistance to the British authority as represented by the government of the Cape

Colony. They were quickly subjected and their land was taken away, divided up into farms and given out to white farmers to settle on (Snyman 1986).

6.2.3 Historic period

White settlers moved into the area during the first half of the 19th century. They were largely self-sufficient, basing their survival on cattle/sheep farming and hunting. Few towns were established and it remained an undeveloped area until the discovery of diamonds. During the Anglo-Boer War, the Vaal River played a significant role, as it formed a physical barrier that could be crossed only in a few places. Some skirmishes took place to the north of the study area, and most of the bridges were destroyed by the ZAR forces to keep the British at bay.

One of the first permanent settlements by whites was the Pniel Mission station established by the Berliner Missionsgesellschaft (Wangemann 1868, 1886). Unfortunately this station does not exist anymore.

However, things were set to change with the discovery in the late 1860s of diamonds in the alluvial gravels along the Vaal and Orange rivers. Alluvial diamond deposits are found in the basin of rivers that drained the kimberlitic source areas, in for example the Kimberly "Big Hole", and adjacent to modern river channels, as well as in ancient ones where the drainage pattern has subsequently shifted. One of the largest alluvial diamonds ever found in South Africa, the 511 carat Venter diamond, was found at Nootgedact in the vicinity of Barkly West (Viljoen & Reimold 1999).

The discovery of diamonds in the larger region during the 1860s would drastically alter the history of the region. Diamonds were first discovered near Hopetown in 1867 and a year later large numbers were discovered in the confluence area of the Vaal and Harts Rivers. By 1870 a few thousand miners were already active along the river, with most in the Pniel and Klipdrift regions. The discovery of the 'Star of South Africa' in 1871 led to the development of mining activities in Kimberly and surrounding areas.

These discoveries gave rise to claims being made by various groups for possession of the diamond fields – the Griekwas, the government of the Orange Free State, the government of the Transvaal Republic, as well as some Tswana-speaking groups in the region. After long discussions, R.W. Keates, Lieutenant-Governor of Natal, was appointed as arbiter. He decided in favour of the Waterboer (Griekwa) claim. However, this did not last very long and in 1871 the British annexed the whole area, including the Kimberley diamond fields, as part of the Cape Colony.

Some of the better-known alluvial mining areas in the region were Canteen Koppie in Barkly West and Longlands to the north of the town. In 1905 the New Vaal Diamond and Exploration Company Ltd. was floated with a capital of £ 150 000. The Company's property consisted of an area of approximately 80 square miles, and had a Vaal River frontage of at least 27 miles (Anonymous 1905:279).

7. SURVEY RESULTS

7.1 Overview

Based on a reading of available evidence, the following can be said about the heritage potential of the project area:

- Stone tools dating to all three phases of the Stone Age, are quite common occurrence in areas along the river, streambeds and along outcrops and hill. As soon as one moves into the flatter areas, the presence of this type of material declines considerably.

- Although some stone walled sites have been identified to occur in the larger region, especially in the hillier areas, it is not clear if these can be related to the Iron Age or the historic period.
- It seems as if sites and features dating to the historic period abound in the region. These range from farmsteads, labourer homesteads, burial sites, old mine working sites and infrastructural features such as bridge and railway stations.

A review of available maps (Fig. 3 & 4) shows how the landscape has changed over time. On the 1968 version of the topographic map, roads, farmsteads and farm labourer homesteads are indicated. The 1986 version of the same map indicate that the labourer homesteads have disappeared, and large sections were subjected to mining activities.

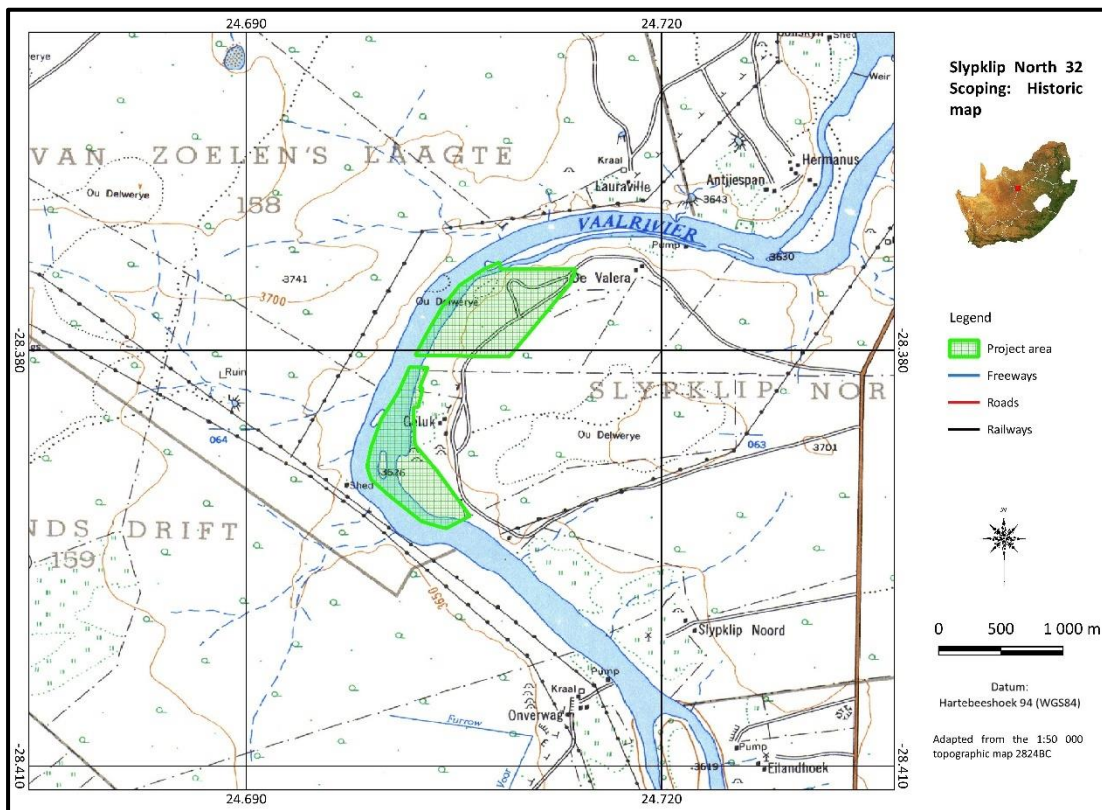


Figure 3. The project area on the 1968 version of the topographic map

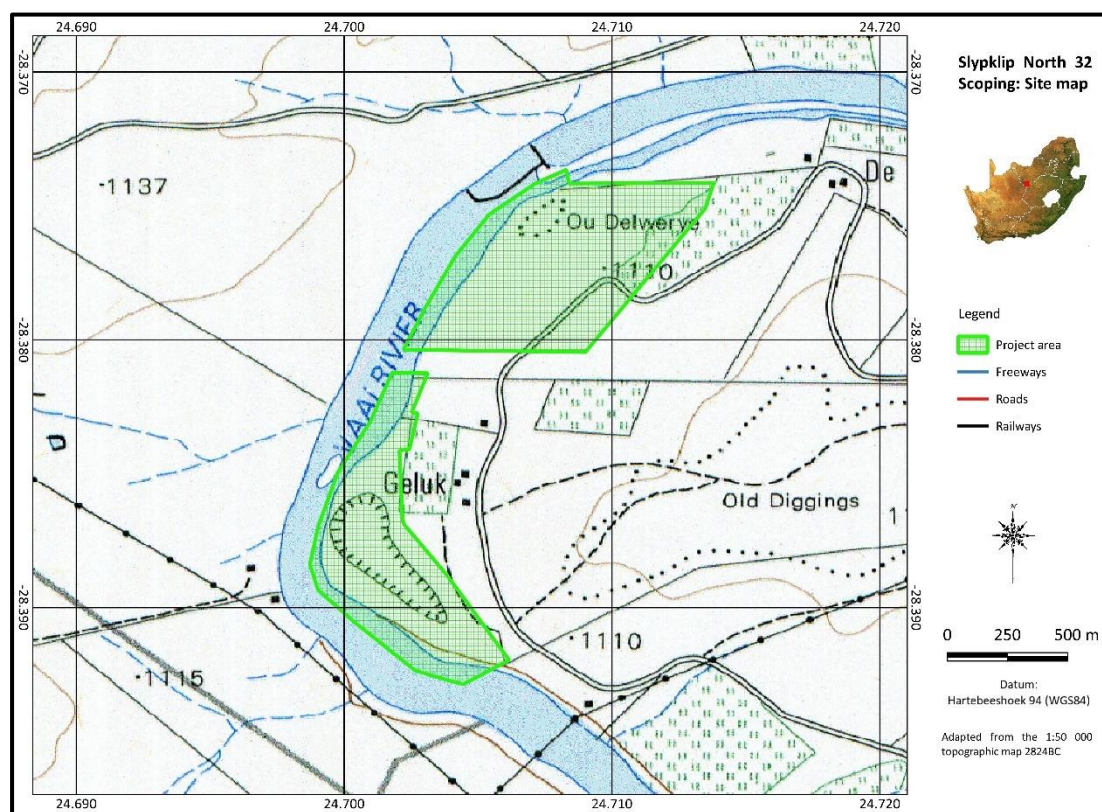


Figure 4. The project area on the 1986 version of the topographic map

7.2 Heritage assessment criteria and grading

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

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

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

7.3 Statement of significance

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

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

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

8. CONCLUSIONS AND RECOMMENDATIONS

The aim of the review was to determine, at desktop level if any sites, objects and structures of cultural significance would occur within the area in which the development is proposed.

The cultural landscape qualities of the region are made up of a pre-colonial element consisting of Stone Age and a much later colonial (farmer) component. This changed somewhat over the last one hundred and fifty years with the development of alluvial diamond mining which led to a number of settlements that were established in the region.

- A very low-density scatters, of Middle and Later Stone Age tools can be expected in the project area.
- It is highly possible that sites, feature or objects dating the historic period would be identified in the project area, especially in the vicinity of the river. These could include burial sites, built structures and mining related features.

Therefore, from a heritage point of view we recommend that a full heritage impact assessment is done before the proposed development can continue.

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SAHRIS Database

9.2 Literature

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Wangemann, H.T. 1868. *Ein Reisjahr in Südafrika*. Berlin.

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9.3 Archival sources, maps and aerial photographs

1: 50 000 Topographic maps

Google Earth

Aerial Photographs: Chief Surveyor-General

<http://artefacts.co.za>

<https://csg.esri-southafrica.com>

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10. ADDENDUM

1. Indemnity and terms of use of this report

The findings, results, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information. The report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken and the author reserve the right to modify aspects of the report including the recommendations if and when new information may become available from ongoing research or further work in this field, or pertaining to this investigation.

Although all possible care is taken to identify all sites of cultural importance during the investigation of project areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. The author of this report will not be held liable for such oversights or for costs incurred as a result of such oversights.

Although the author exercises due care and diligence in rendering services and preparing documents, he accepts no liability and the client, by receiving this document, indemnifies the author against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by the author and by the use of the information contained in this document.

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of this report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

2. Curriculum vitae

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Qualifications

1995 DLitt et Phil (Anthropology), University of South Africa
1985 MA (Anthropology), University of Pretoria
1981 BA (Hons), Anthropology, University of Pretoria
1979 Post Graduate Diploma in Museology, University of Pretoria
1978 BA (Hons), Archaeology, University of Pretoria
1976 BA, University of Pretoria

Non-academic qualifications

12th HSRC-School in Research Methodology - July 1990
Dept. of Education and Training Management Course - June 1992
Social Assessment Professional Development Course - 1994
Integrated Environmental Management Course, UCT - 1994

Professional experience

Private Practice
2017 - current: Professional Heritage Consultant

National Museum of Cultural History

1992 - 2017: Senior researcher: Head of Department of Research. Manage an average of seven researchers in this department and supervise them in their research projects. Did various projects relating to Anthropology and Archaeology in Limpopo Province, Mpumalanga, North West Province and Gauteng. Headed the Museum's Section for Heritage Impact Assessments.
1978 - 1991: Curator of the Anthropological Department of the Museum. Carried out extensive fieldwork in both anthropology and archaeology

Department of Archaeology, University of Pretoria

1976 - 1977: Assistant researcher responsible for excavations at various sites in Limpopo Province and Mpumalanga.

Awards and grants

1. Hanisch Book Prize for the best final year Archaeology student, University of Pretoria - 1976.
2. Special merit award, National Cultural History Museum - 1986.
3. Special merit award, National Cultural History Museum - 1991.
4. Grant by the Department of Arts, Culture, Science and Technology, to visit the various African countries to study museums, sites and cultural programmes - 1993.
5. Grant by the USA National Parks Service, to visit the United States of America to study museums, sites, tourism development, cultural programmes and impact assessment programmes - 1998.
6. Grant by the USA embassy, Pretoria, under the Bi-national Commission Exchange Support Fund, to visit cultural institutions in the USA and to attend a conference in Charleston - 2000.
7. Grant by the National Research Foundation to develop a model for community-based tourism - 2001.

8. Grant by the National Research Foundation to develop a model for community-based tourism - 2013. In association with RARI, Wits University.

Publications

Published more than 70 papers, mostly in scientifically accredited journals, but also as chapters in books.

Conference Contributions

Regularly presented papers at conferences, locally as well as internationally, on various research topics, ranging in scope from archaeology, anthropological, historical, cultural historical and tourism development.

Heritage Impact Assessments

Since 1992, I have done more than 2000 Phase 1 and Phase 2 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, roads, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.

Latest publications

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