



**UHAMBISO CONSULTING: CLUSER 2 NOLUTHANDO AND LUKHAVALA  
WATER SUPPLY PROJECT, CHRIS HANI DISTRICT MUNICIPALITY,  
EASTERN CAPE, EASTERN CAPE PROVINCE**

**Archaeological Impact Assessment**

Prepared for: Uhambiso Consult (Pty) Ltd  
Document version 1.0 Draft  
Compiled by N. Kruger

**November 2013**



Proudly Supporting  
**TOUCHING AFRICA**

Prepared by



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**ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF SURFACE AREAS  
DEMARCATED FOR THE PROPOSED CLUSER 2 LOKHUVALA & NOLUTHANDO  
WATER SUPPLY PROJECTS, CHRIS HANI DISTRICT MUNICIPALITY, EASTERN  
CAPE PROVINCE**

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**November 2013**

Document Version 1 (Draft)

**Conducted on behalf of:**

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**DECLARATION**

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I, Nelius Le Roux Kruger, declare that –

- I act as the independent specialist;
- I am conducting any work and activity relating to the Lukhavala and Noluthando Water Supply Project in an objective manner, even if this results in views and findings that are not favourable to the client;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the required expertise in conducting the specialist report and I will comply with legislation, including the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999, Human Tissue Act 65 of 1983 as amended, Removal of Graves and Dead Bodies Ordinance no. 7 of 1925, Excavations Ordinance no. 12 of 1980), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- 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;
- All the particulars furnished by me in this declaration are true and correct.



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**SIGNATURE OF SPECIALIST**

**Company:** Africa Geo-Environmental Services Gauteng (Pty) Ltd.

**Date:** 30 November 2013

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## EXECUTIVE SUMMARY

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This report details the results of an Archaeological Impact Assessment (AIA) study for the Lukhavalala and Noluthando Water Supply Project, subject to and Environmental Impact Assessment (EIA). The project area is situated east of Queenstown in the Chris Hani District Municipality of the Eastern Cape Province. The report includes background information on the area's archaeology, its representation in southern Africa, and the history of the larger area under investigation, survey methodology and results as well as heritage legislation and conservation policies. A copy of the report will be supplied to the South African Heritage Resources Agency (SAHRA) and recommendations contained in this document will be reviewed in order to consider the conservation priority of sites located in the area.

The larger landscape around Queenstown is rich in pre-historical and historical remnants where heritage signatures demonstrate a rich and influential deep, recent and current history. In addition to this significant landscape, a number of areas of heritage significance were documented during the site survey for the Lukhavalala and Noluthando Water Supply Project.

### ***Palaeontology:***

Since the palaeontological sensitivity of rock units within the study area is generally low the impact significance of the proposed mining activities as far as fossil heritage is concerned, is likely to be small. However, a Palaeontological Impact Assessment should be considered and, should fossil remains such as fossil fish, reptiles or vitrified wood be exposed during construction, these objects should be carefully safeguarded and the relevant heritage resources authority (SAHRA) should be notified immediately so that the appropriate action can be taken by a professional palaeontologist.

### ***Stone Age Remains:***

During the survey, a low density Middle Stone Age scatter (**Site LKS01**) was identified along erosion gullies on a high ridge west of Lukhavalala. These Stone Age occurrences and its cultural context are of limited value due to the low concentration of formal stone tools and the loss of artefact context due to poor site preservation and are therefore the site is of medium-low significance. The site is situated within the demarcated water pipe routes and the impact on the site by the proposed activity will be direct and of permanent duration where in essence, the impact might result in the possible confusing of the archaeological context and potential loss of archaeological material. It is recommended that any activities around this MSA occurrence be monitored in order to avoid the destruction of significant and previously undetected Stone Age occurrences.

### ***Iron Age (Farmer Period):***

No Iron Age (Farmer Period) occurrences were observed in the survey area.

### ***Historical/ Colonial Period:***

The Historical Period farmstead in Lukhavalala (**Site LKH01**) is considered to be of medium significance as the site might yield an understanding of the recent occupational and social history of the area, as well as historical architectural and settlement developments in the larger landscape. However the site occurs away from water supply infrastructure alignments in the general landscape around the project area and impact on the site by the proposed activities is expected to be none. The recent Historical Period settlement area (**Site LKH02**) is of medium-low significance due to the poor preservation of the structures. The site occurs in close proximity of proposed Lukhavalala water supply infrastructure alignments and the impact on the site by the proposed activities is expected to be direct and of permanent duration where in essence, the impact might result in the possible



destruction of sites and / or potential loss of archaeological material and it is recommended that the site be documented and monitored should any development activities impact on the site. Further recent Historical Period remains of huts and cattle byres (**Site LKH03, Site LKH04**) are also of medium-low significance due to the poor preservation of the structures. The sites occurs in close proximity of proposed Lukhavala water supply infrastructure alignments and the impact on the sites by the proposed activities is expected to be direct and of permanent duration where in essence, the impact might result in the possible destruction of sites and / or potential loss of archaeological material. It is recommended that activities pertaining to the development occurring in this area be monitored in order to minimise impact on the resource and to avoid the destruction of previously undetected heritage remains. If any of the above mentioned sites are to be impacted on by construction activities, destruction permits from the relevant heritage resources authorities will be required.

### **Graves:**

A total of 5 burial sites were recorded in the Lukhavala area (**Sites LKB01 – LKB05**), directly or in close proximity of proposed Lukhavala water supply infrastructure alignments and the impact on these sites by the proposed activities is expected to be direct and permanent where in essence, the impact might result the potential damage / loss of burials. The intrinsic heritage and social value of the graves and cemeteries in this landscape implies that these resources carry high significance ratings. As such, these sites require special management attention and the burials necessitate a conservation buffer zone of at least 20m around all graves and cemeteries. It is recommended that portions of the proposed pipeline alignment in the proximity of identified graves and burials be rerouted to avoid these sites and the required conservation buffers. In addition, it is strongly recommended that all cemeteries and graves in the proximity of the proposed activities be properly fenced and access control be implemented. However, should the graves or the required 20m buffer zone be impacted in any way by the planned activities, full grave relocations are recommended for these burials. This measure should be undertaken by a qualified archaeologist, and in accordance with the Human Tissue Act (Act 65 of 1983 as amended), the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the National Heritage Resources Act (Act no. 25 of 1999) and any local and regional provisions, laws and by-laws pertaining to human remains. A full social consultation process should occur in conjunction with the mitigation of cemeteries and burials. Two cemeteries documented in Noluthando (**Sites NDB01, Site NDB02**) are also of heritage priority and carries high significance ratings but these sites are away from water supply infrastructure alignments and impact on the sites by the proposed activities is expected to be none. The resources carry high significance ratings and it is recommended that a conservation buffer zone of at least 20m be maintained around all graves and cemeteries. It is also recommended that all stages of construction and development near burials be closely monitored in order avoid the destruction of previously undetected graves.

It should be stressed that the landscape around Queenstown is of high tangible and intangible heritage value and it is essential that cognisance be taken of the larger archaeological landscape of the area in order to avoid the destruction of previously undetected heritage sites. Here, care should be taken around rock faces and outcrops in the larger landscape, as rock art is known to occur on these outcrops. Water sources such as drainage lines and rivers should also be regarded as potentially sensitive in terms of possible Stone Age and Iron Age deposits. The possible existence of Historical Period resources deriving from the area's more recent history should also be considered. Ultimately, it is essential that the archaeological and cultural heritage of the Eastern Cape Province be respected.

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## NOTATIONS AND TERMS

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**Absolute dating:**

Absolute dating provides specific dates or range of dates expressed in years.

**Archaeology:**

The study of the human past through its material remains.

**Archaeological record:**

The archaeological record minimally includes all the material remains documented by archaeologists. More comprehensive definitions also include the record of culture history and everything written about the past by archaeologists.

**Artefact:**

Entities whose characteristics result or partially result from human activity. The shape and other characteristics of the artefact are not altered by removal of the surroundings in which they are discovered. In the southern African context examples of artefacts include potsherds, iron objects, stone tools, beads and hut remains.

**Assemblage:**

A group of artefacts recurring together at a particular time and place, and representing the sum of human activities.

**<sup>14</sup>C or radiocarbon dating:**

The <sup>14</sup>C method determines the absolute age of organic material by studying the radioactivity of carbon. It is reliable for objects not older 70 000 years by means of isotopic enrichment. The method becomes increasingly inaccurate for samples younger than ±250 years.

**Ceramic Facies:**

In terms of the cultural representation of ceramics, a facies is denoted by a specific branch of a larger ceramic tradition. A number of ceramic facies thus constitute a ceramic tradition.

**Ceramic Tradition:**

In terms of the cultural representation of ceramics, a series of ceramic units constitutes as ceramic tradition.

**Context:**

An artefact's context usually consists of its immediate *matrix*, its *provenience* and its *association* with other artefacts. When found in *primary context*, the original artefact or structure was undisturbed by natural or human factors until excavation and if in *secondary context*, disturbance or displacement by later ecological action or human activities occurred.

**Culture:**

A contested term, "culture" could minimally be defined as the learned and shared things that people have, do and think.

**Cultural Heritage Resource:**

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

**Cultural landscape:**

A cultural landscape refers to a distinctive geographic area with cultural significance.

**Cultural Resource Management (CRM):**

A system of measures for safeguarding the archaeological heritage of a given area, generally applied within the framework of legislation designed to safeguard the past.

**Ecofact:**

Non artefactual material remains that has cultural relevance which provides information about past human activities. Examples would include remains or evidence of domesticated animals or plant species.



**Excavation:**

The principal method of data acquisition in archaeology, involving the systematic uncovering of archaeological remains through the removal of the deposits of soil and the other material covering and accompanying it.

**Feature:**

Non-portable artefacts, in other words artefacts that cannot be removed from their surroundings without destroying or altering their original form. Hearths, roads, and storage pits are examples of archaeological features

**GIS:**

Geographic Information Systems are computer software that allows layering of various types of data to produce complex maps; useful for predicting site location and for representing the analysis of collected data within sites and across regions.

**Historical archaeology:**

Primarily that aspect of archaeology which is complementary to history based on the study of written sources. In the South African context it concerns the recovery and interpretation of relics left in the ground in the course of Europe's discovery of South Africa, as well as the movements of the indigenous groups during, and after the "Great Scattering" of Bantu-speaking groups – known as the *mfecane* or *difaqane*.

**Impact:** A description of the effect of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.

**Iron Age:**

Also known as "Farmer Period", the "Iron Age" is an archaeological term used to define a period associated with domesticated livestock and grains, metal working and ceramic manufacture.

**Lithic:**

Stone tools or waste from stone tool manufacturing found on archaeological sites.

**Management / Management Actions:**

Actions – including planning and design changes - that enhance benefits associated with a proposed development, or that avoid, mitigate, restore, rehabilitate or compensate for the negative impacts.

**Matrix:**

The material in which an artefact is situated (sediments such as sand, ashy soil, mud, water, etcetera). The matrix may be of natural origin or human-made.

**Megalith:**

A large stone, often found in association with others and forming an alignment or monument, such as large stone statues.

**Midden:**

Refuse that accumulates in a concentrated heap.

**Microlith:**

A small stone tool, typically knapped of flint or chert, usually about three centimetres long or less.

**Monolith:**

A geological feature such as a large rock, consisting of a single massive stone or rock, or a single piece of rock placed as, or within, a monument or site.

**Oral Histories:**

The historical narratives, stories and traditions passed from generation to generation by word of mouth.

**Phase 1 CRM Assessment:**

An Impact Assessment which identifies archaeological and heritage sites, assesses their significance and comments on the impact of a given development on the sites. Recommendations for site mitigation or conservation are also made during this phase.

**Phase 2 CRM Study:**

In-depth studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling is required. Mitigation / Rescue involves planning the protection of significant sites or sampling through excavation or

collection (in terms of a permit) at sites that may be lost as a result of a given development.

**Phase 3 CRM Measure:**

A Heritage Site Management Plan (for heritage conservation), is required in rare cases where the site is so important that development will not be allowed and sometimes developers are encouraged to enhance the value of the sites retained on their properties with appropriate interpretive material or displays.

**Prehistoric archaeology:**

That aspect of archaeology which concerns itself with the development of humans and their culture before the invention of writing. In South Africa, prehistoric archaeology comprises the study of the Early Stone Age, the Middle Stone Age and the greater part of the Later Stone Age and the Iron Age.

**Probabilistic Sampling:**

A sampling strategy that is not biased by any person's judgment or opinion. Also known as statistical sampling, it includes systematic, random and stratified sampling strategies.

**Provenience**

Provenience is the three-dimensional (horizontal and vertical) position in which artefacts are found. Fundamental to ascertaining the provenience of an artefact is *association*, the co-occurrence of an artefact with other archaeological remains; and *superposition*, the principle whereby artefacts in lower levels of a matrix were deposited before the artefacts found in the layers above them, and are therefore older.

**Random Sampling:**

A probabilistic sampling strategy whereby randomly selected sample blocks in an area are surveyed. These are fixed by drawing coordinates of the sample blocks from a table of random numbers.

**Relative dating:**

The process whereby the relative antiquity of sites and objects are determined by putting them in sequential order but not assigning specific dates.

**Remote Sensing:**

The small or large-scale acquisition of information of an object or phenomenon, by the use of either recording or real-time sensing device(s) that is not in physical or intimate contact with the object (such as by way of aircraft, spacecraft or satellite). Here, ground-based geophysical methods such as Ground Penetrating Radar and Magnetometry are often used for archaeological imaging.

**Rock Art Research:**

Rock art can be "decoded" in order to inform about cultural attributes of prehistoric societies, such as dress-code, hunting and food gathering, social behaviour, religious practice, gender issues and political issues.

**Scoping Assessment:**

The process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an impact assessment. The main purpose is to focus the impact assessment on a manageable number of important questions on which decision making is expected to focus and to ensure that only key issues and reasonable alternatives are examined. The outcome of the scoping process is a Scoping Report that includes issues raised during the scoping process, appropriate responses and, where required, terms of reference for specialist involvement.

**Sensitive:**

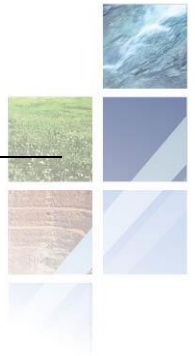
Often refers to graves and burial sites although not necessarily a heritage place, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

**Site (Archaeological):**

A distinct spatial clustering of artefacts, features, structures, and organic and environmental remains, as the residue of human activity. These include surface sites, caves and rock shelters, larger open-air sites, sealed sites (deposits) and river deposits. Common functions of archaeological sites include living or habitation sites, kill sites, ceremonial sites, burial sites, trading, quarry, and art sites,

**Slag:**

The material residue of smelting processes from metalworking.

**Stone Age:**

An archaeological term used to define a period of stone tool use and manufacture.

**Stratigraphy:**

This principle examines and describes the observable layers of sediments and the arrangement of strata in deposits

**Stratified Sampling:**

A probabilistic sampling strategy whereby a study area is divided into appropriate zones – often based on the probable location of archaeological areas, after which each zone is sampled at random.

**Systematic Sampling:**

A probabilistic sampling strategy whereby a grid of sample blocks is set up over the survey area and each of these blocks is equally spaced and searched.

**Tradition:**

Artefact types, assemblages of tools, architectural styles, economic practices or art styles that last longer than a phase and even a horizon are describe by the term *tradition*. A common example of this is the early Iron Age tradition of Southern Africa that originated  $\pm$  200 AD and came to an end at about 900 AD.

**Trigger:** A particular characteristic of either the receiving environment or the proposed project which indicates that there is likely to be an *issue* and/or potentially significant *impact* associated with that proposed development that may require specialist input. Legal requirements of existing and future legislation may also trigger the need for specialist involvement.

**Tuyère:**

A ceramic blow-tube used in the process of iron smelting / reduction.

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**LIST OF ABBREVIATIONS**


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<b>Abbreviation</b>	<b>Description</b>
AGES	Africa Geo Environmental Services Gauteng Pty Ltd
ASAPA	Association for South African Professional Archaeologists
AIA	Archaeological Impact Assessment
BP	Before Present
BCE	Before Common Era
CRM	Culture Resources Management
EIA	Early Iron Age (also Early Farmer Period)
EIA	Environmental Impact Assessment
EFP	Early Farmer Period (also Early Iron Age)
ESA	Earlier Stone Age
GIS	Geographic Information Systems
HIA	Heritage Impact Assessment
ICOMOS	International Council on Monuments and Sites
K2/Map	K2/Mapungubwe Period
LFP	Later Farmer Period (also Later Iron Age)
LIA	Later Iron Age (also Later Farmer Period)
LSA	Later Stone Age
MIA	Middle Iron Age (also Early later Farmer Period)
MRA	Mining Right Area
MSA	Middle Stone Age
NHRA	National Heritage Resources Act No.25 of 1999, Section 35
PFS	Pre-Feasibility Study
PHRA	Provincial Heritage Resources Authorities
SAFA	Society for Africanist Archaeologists
SAHRA	South African Heritage Resources Association
YCE	Years before Common Era (Present)

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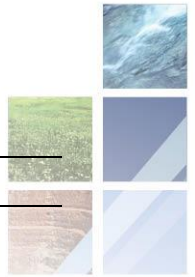
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## 1 BACKGROUND

### 1.1 Scope and Motivation

AGES Gauteng was commissioned by Uhambiso Consulting for an Archaeological Impact Assessment (AIA) study for the Lukhavala and Noluthando Water Supply Project, east of Queenstown in the Chris Hani District Municipality of the Eastern Cape Province. The rationale of this AIA, which forms part of an Environmental Impact Assessment (EIA) is to determine the presence of heritage resources such as archaeological and historical sites and features, graves and places of religious and cultural significance in previously unstudied areas; to consider the impact of the proposed project on such heritage resources, and to submit appropriate recommendations with regard to the cultural resources management measures that may be required at affected sites / features.

### 1.2 Project Direction

AGES's expertise ensures that all projects be conducted to the highest international ethical and professional standards. As archaeological specialist for AGES, Mr Neels Kruger acted as field director for the project; responsible for the assimilation of all information, the compilation of the final consolidated AIA report and recommendations in terms of heritage resources on the demarcated project areas. Mr Kruger is an accredited archaeologist and Culture Resources Management (CRM) practitioner with the Association of South African Professional Archaeologists (ASAPA), a member of the Society for Africanist Archaeologists (SAFA) and the Pan African Archaeological Association (PAA) as well as a Master's Degree candidate in archaeology at the University of Pretoria.

### 1.3 Project Brief

The Lukhavala and Noluthando Water Supply Project forms part of the Chris Hani District Municipality Cluster 2 Water Backlog project. Proposed infrastructure for the project includes the following (see Figure 2-6 & Figure 2-7):

- Lukhavala Water Supply Project:
  - o New spring capture box;
  - o New gravity main from Spring No 2 to existing Erichsen reservoir;
  - o New reticulation main from existing reservoir to standpipes;
  - o New main reticulation pipes shall be laid to provide for a better distribution of water to the greater area. The existing reticulation pipelines shall be retained and shall be connected to the new reticulation pipeline;
  - o Water treatment works
- Noluthando Water Supply Project:
  - o New weir structure;
  - o Gravity main;
  - o Water treatment works;
  - o Reservoir storage.

## 1.4 Terms of Reference

Heritage specialist input into the Environmental Impact Assessment (EIA) process is essential to ensure that through the management of change, developments still conserve our heritage resources. Heritage specialist input in EIA processes can play a positive role in the development process by enriching an understanding of the past and its contribution to the present. It is also a legal requirement for certain development categories which may have an impact on heritage resources (Refer to Section 1.5.2.).

Thus, EIAs should always include an assessment of Heritage Resources. The heritage component of the EIA is provided for in the **National Environmental Management Act, (Act 107 of 1998)** and endorsed by section 38 of the **National Heritage Resources Act (NHRA - Act 25 of 1999)**. In addition, the NHRA protects all structures and features older than 60 years (see Section 34 of the Act), archaeological sites and material (see Section 35 of the Act) and graves as well as burial sites (see Section 36 of the Act). The objective of this legislation is to enable and to facilitate developers to employ measures to limit the potentially negative effects that the development could have on heritage resources.

Based hereon, this project functioned according to the following **terms of reference** for heritage specialist input:

- *Assess findings in the previous Heritage and Archaeological Impact Assessment Studies.*
- *Provide a detailed description of all archaeological artefacts, structures (including graves) and settlements which may be affected, if any.*
- *Assess the nature and degree of significance of such resources within the area.*
- *Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance.*
- *Assess any possible impact on the archaeological and historical remains within the area emanating from the proposed development activities.*
- *Propose possible heritage management measures provided that such action is necessitated by the development.*
- *Liaise and consult with the South African Heritage Resources Agency (SAHRA)).*

## 1.5 CRM: Legislation, Conservation and Heritage Management

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

### 1.5.1 Legislation regarding archaeology and heritage sites

The South African Heritage Resources Agency (SAHRA) and their provincial offices aim to conserve and control the management, research, alteration and destruction of cultural resources of South Africa. It is therefore vitally important to adhere to heritage resource legislation at all times.

#### a. **National Heritage Resources Act No 25 of 1999, section 35**

According to the National Heritage Resources Act of 1999 a historical site is any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 60 years. This clause is commonly known as the "60-years clause". Buildings are amongst the most enduring features of human occupation, and this definition

therefore includes all buildings older than 60 years, modern architecture as well as ruins, fortifications and Iron Age settlements. "Tell" refers to the evidence of human existence which is no longer above ground level, such as building foundations and buried remains of settlements (including artefacts).

The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects, meteorites and rare geological specimens
- visual art objects
- military objects
- numismatic objects
- objects of cultural and historical significance
- objects to which oral traditions are attached and which are associated with living heritage
- objects of scientific or technological interest
- any other prescribed category

With regards to activities and work on archaeological and heritage sites this Act states that:

*"No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority." (34. [1] 1999:58)*

and

*"No person may, without a permit issued by the responsible heritage resources authority-*

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites. (35. [4] 1999:58)."*

and

*"No person may, without a permit issued by SAHRA or a provincial heritage resources agency-*

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority;*

- (c) *bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60)."*

**b. Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925**

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and the Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

### 1.5.2 Background to HIA and AIA 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. Heritage sites are frequently threatened by development projects and both the environmental and heritage legislation require impact assessments (HIAs & AIAs) that identify all heritage resources in areas to be developed. Particularly, these assessments are required to make recommendations for protection or mitigation of the impact of the sites. HIAs and AIAs should be done by qualified professionals with adequate knowledge to (a) identify all heritage resources including archaeological and palaeontological sites that might occur in areas to be developed and (b) make recommendations for protection or mitigation of the impact on the sites.

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 m<sup>2</sup> 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 m<sup>2</sup> 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:

“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 (38. [3] 1999:64).”

Consequently, section 35 of the Act requires Heritage Impact Assessments (HIAs) or Archaeological Impact Assessments (AIAs) to be done for such developments in order for all heritage resources, that is, all places or objects of aesthetic, architectural, historic, scientific, social, spiritual, linguistic or technological value or significance to be protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

## 2 REGIONAL CONTEXT

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### 2.1 Area Location

The Lukhavala and Noluthando Water Supply Project is located in Chris Hani District Municipality, Eastern Cape Province, generally at **S31.748295° E27.110093°** (Lukhavala) and **S31.715350° E27.123654°** (Noluthando) on 1:50 000 map 3127CA.

The project area is situated approximately 30 kilometres north-east of the town of Queenstown in the Chris Hani District Municipality, Eastern Cape Province, along the R396 regional road connecting Queenstown to Elliot.



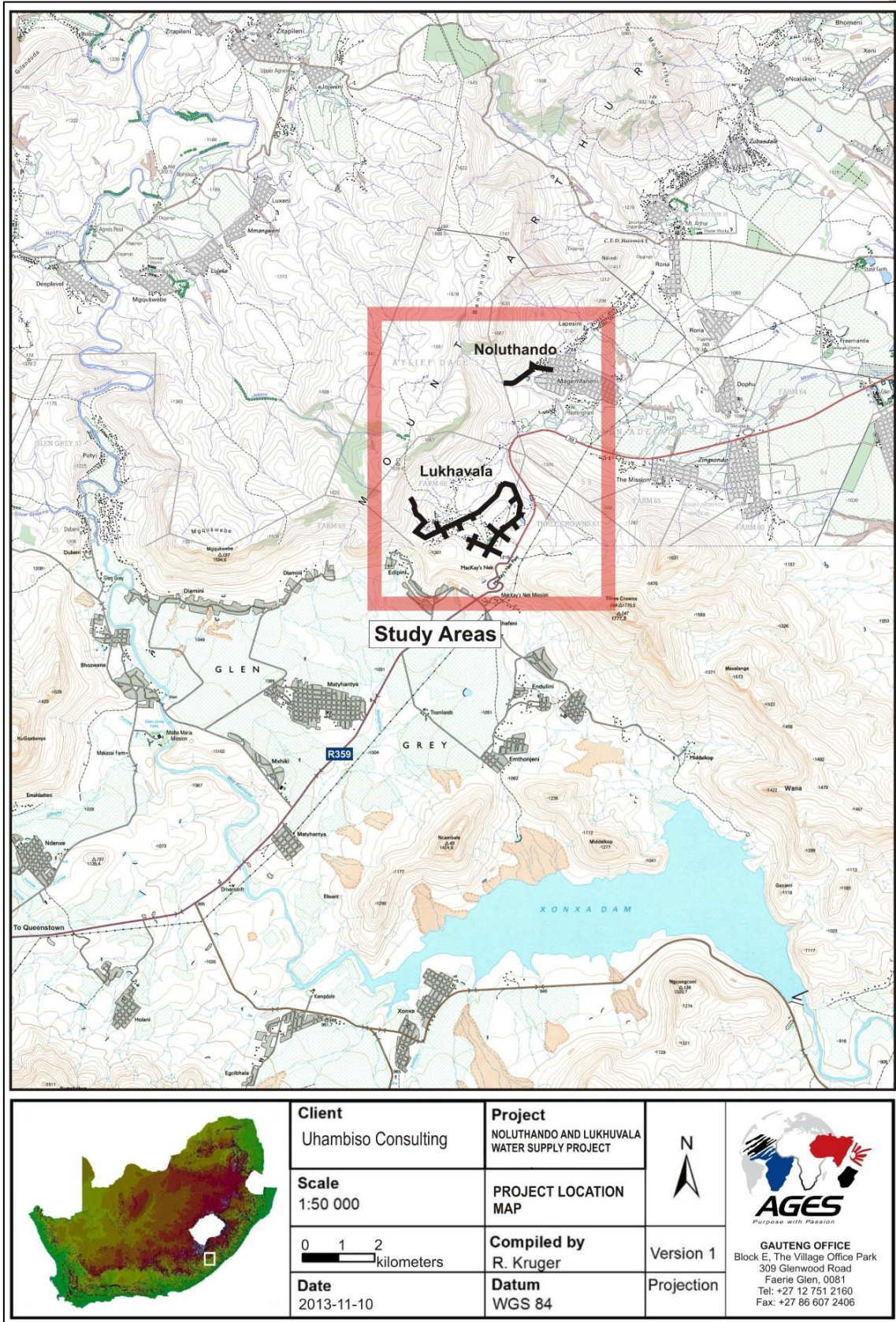
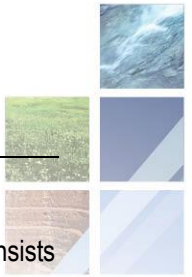


Figure 2-1: 1:50 000 Map representation of the location of the Lukhavalala and Noluthando Water Supply Project (3127CA).





## 2.2 Area Description: Receiving Environment

The landscape around the proposed Lukhavala and Noluthando Water Supply Project terrain consists predominantly of mountainous areas with flatter parcels of developable land on the plateaus, terraces and areas adjacent to the rivers. The vegetation mainly consists of grassland, with pockets of natural bush thicket around the watercourses emanating from the mountain slopes. A significant proportion of this area, particularly on the mountain slopes, has rock which is less than one metre below the natural ground level. The area represents communal land.



Figure 2-2: General surroundings in Lukhavala at the time of the survey (October 2013).



Figure 2-3: General surroundings in Noluthando at the time of the survey (October 2013)



Figure 2-4: Existing reservoir on a high ridge south west of Lukhavala.



Figure 2-5: Existing reservoir and associated infrastructure on a ridge west of Noluthando.

### 2.3 Site Description

The Lukhavala and Noluthando Water Supply Project is located in a rolling to mountainous terrain. The village of Lukhavala is located on a relatively flat plateau surrounded by high hills where Noluthando occurs on a gradual mountain slope.

Infrastructure proposed for the Lukhavala area extends from a high ridge to a low lying drainage line towards the R396 road. The proposed Noluthando pipeline originates on a high ridge in a drainage line where a weir is planned as catchment for the water supply infrastructure. Generally, vegetation in the villages is scattered and scant where overgrazing, erosion and agricultural activities have altered much of the landscape.



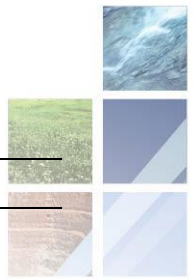


Figure 2-6: Aerial imagery indicating a regional context and infrastructure alignments in Lukhavala for Lukhavala and Noluthando Water Supply Project.





Figure 2-7: Aerial imagery indicating a regional context and infrastructure alignments in Noluthando for Lukhavala and Noluthando Water Supply Project.



### **3 METHOD OF ENQUIRY**

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#### **3.1 Sources of Information**

Data from detailed desktop, aerial and field studies were employed in order to sample surface areas systematically and to ensure a high probability of heritage site recording.

##### **3.1.1 Desktop Study**

A desktop study was prepared in order to contextualize the proposed project within a larger historical milieu. The study focused on relevant previous studies, archaeological and archival sources, aerial photographs, historical maps and local histories, all pertaining to the Queenstown area and the larger landscape of this section of the Eastern Cape Province. The desktop study examined relevant previous research studies, archival sources, historical photographs and maps and local histories – all pertaining to the study area. The Eastern Cape Heritage Resources Agency, the South African Heritage Resources Agency (SAHRA) and the SAHRA online heritage database (SAHRIS) were consulted with respect to material pertaining to the study.

##### **3.1.2 Aerial Representations and Survey**

Aerial photography is often employed to locate and study archaeological sites, particularly where larger scale area surveys are performed. This method was applied to great success prior to the pedestrian and vehicular survey, where contour lines of elevations, depressions, variation in vegetation, soil marks and landmarks were examined. Specific attention was given to shadow sites (shadows of walls or earthworks which are visible early or late in the day), crop mark sites (crop mark sites are visible because disturbances beneath crops cause variations in their height, vigour and type) and soil marks (e.g. differently coloured or textured soil (soil marks) might indicate ploughed-out burial mounds). Attention was also given to moisture differences, as prolonged dampening of soil as a result of precipitation frequently occurs over walls or embankments. By superimposing high frequency aerial photographs with images generated with Google Earth, potential sensitive areas were subsequently identified, geo-referenced and transferred to a handheld GPS device. In addition, based on existing knowledge of the local heritage landscape, the corridor was divided into smaller survey zones centred around areas of higher site catchment probability (where human activity was likely to occur in prehistoric and historic times e.g. around water sources, near soils fit for agriculture, on ridges). These survey zones were then transferred to a handheld GPS device. These areas served as referenced points from where further vehicular and pedestrian surveys were carried out.

##### **3.1.3 Field Survey**

Archaeological survey implies the systematic procedure of the identification of archaeological sites. An archaeological survey of areas to be potentially impacted by the Lukhavala and Noluthando Water Supply Project was conducted in October 2013. The process encompassed a systematic field survey in accordance with standard archaeological practice by which heritage resources are observed and documented. In order to sample surface areas systematically and to ensure a high probability of site recording the proposed road alignments were systematically surveyed on foot and by motor vehicle, GPS reference points were visited and random spot checks were made (see detail in previous section). Using a Garmin E-trex Legend GPS objects and structures of archaeological / heritage value were recorded and photographed with a Canon 450D Digital camera. Real time aerial orientation, by means of a mobile Google Earth application was also employed to investigate possible disturbed areas during the survey.

As most archaeological material occur in single or multiple stratified layers beneath the soil surface, special



attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion.

### 3.1.4 General Public Liaison

In single cases, consultation with local residents and community members provided information on the general history of the area, possible locations of heritage resources and brief commentaries on the recent history of the area.

## 3.2 Limitations

### 3.2.1 Access

Both Lukhavala and Noluthando are easily accessible directly from the R359 regional road from Queenstown to Elliot. Access control is not applied to any area relevant to this assessment and no restrictions were encountered during the site visit.

### 3.2.2 Visibility

The surrounding vegetation in the Queenstown area is mostly comprised out of mixed grasslands, scattered trees with the occurrence of wetland flora in places. The general visibility at the time of the AIA survey (October 2013) was moderate to high since the alignment of the proposed new road generally follows existing roads and footpaths, has been adversely altered by overgrazing and erosion (see Figures 3-1 to 3-6). In single cases during the survey sub-surface inspection was possible. Where applied, this revealed no archaeological deposits.



Figure 3-1: View from the western offset of the proposed Lukhavala water supply infrastructure at a water spring, looking east towards the village.

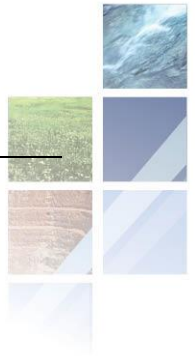


Figure 3-2: View of homesteads at Lukhavala along proposed water pipe alignments, looking north.



Figure 3-3: View of general surroundings in Lukhavala, looking east.



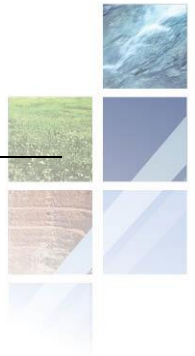


Figure 3-4: View of a small drainage line at the site of the proposed weir and the offset of water supply infrastructure at Noluthando.



Figure 3-5: View of general surroundings along the proposed alignment of water for the water supply project, looking north towards the village.



Figure 3-6: View of Noluthando and existing decommissioned reservoirs in the village.

### 3.2.3 Limitations and Constraints

The pedestrian and vehicular site survey for the Lukhavala and Noluthando Water Supply Project primarily focused around areas tentatively identified as sensitive and of high heritage probability (i.e. those noted during the aerial survey) as well as areas of high human settlement catchment. No major constraints were encountered during the site survey.

However, even though it might be assumed that survey findings are representative of the heritage landscape of the Lukhavala and Noluthando Water Supply Project, it should be stated that the possibility exists that individual sites could be missed due to the localised nature of some heritage remains as well as the possible presence of sub-surface archaeology. Therefore, maintaining due cognisance of the integrity and accuracy of the archaeological survey, it should be stated that the heritage resources identified during the study do not necessarily represent all the heritage resources present in the project area. The subterranean nature of some archaeological sites, dense vegetation cover and visibility constraints sometimes distort heritage representations and any additional heritage resources located during consequent development phases must be reported to the Heritage Resources Authority or an archaeological specialist.



## 4 RESULTS: ARCHAEOLOGICAL SURVEY

### 4.1 The Lukhavala Area

#### 4.1.1 The Stone Age

One Stone Age site was identified in areas directly associated with the Lukhavala Water Supply infrastructure proposed alignments. The site was arbitrarily coded “**LKS**” (“Lukhavala Stone Age”). It is highly likely that Earlier, Middle and possibly Later Stone Age scatters will occur in the area, specifically along drainage lines and water sources

##### - **Site LKS01 (S31.74607 E27.09414)**

During the survey, a low density Middle Stone Age Scatter was identified on a ridge along a drainage line west of Lukhavala, near the existing reservoir. The density of the scatter was arbitrarily estimated by placing a one-meter drawing frame, sub-divided into quadrants, on a randomly-selected area displaying higher amounts of surface lithics. By plotting the counts of all lithic elements present in the 1x1 metre square relative density per m<sup>2</sup> was established and rated on a scale of low (<10), medium (10-20) and high (>20). This method has been adapted as expedient and non-invasive sampling technique that is particularly useful in value assessment of lithic occurrences during Phase 1 AIA’s (see Van Der Ryst 2012). Typologically, the artefacts can tentatively attribute to the Middle Stone Age and the location of these scatters corresponds with a general Stone Age site distribution pattern in the area where archaeological sites in the landscape occur near water sources close to local sources of rare raw materials in lithic manufacture. Amongst the lithics observed, were lightly smoothed dolerite and hornfels artefacts, cores with some peripheral preparation and scattered debris. Single formal tools, specifically a blade, point and scrapers were observed. The occurrence is probably of limited scientific value due to the mixing of artefacts and the low density of the lithics.



Figure 4-1: View of a bedrock exposures and a drainage line at Site LKS01.

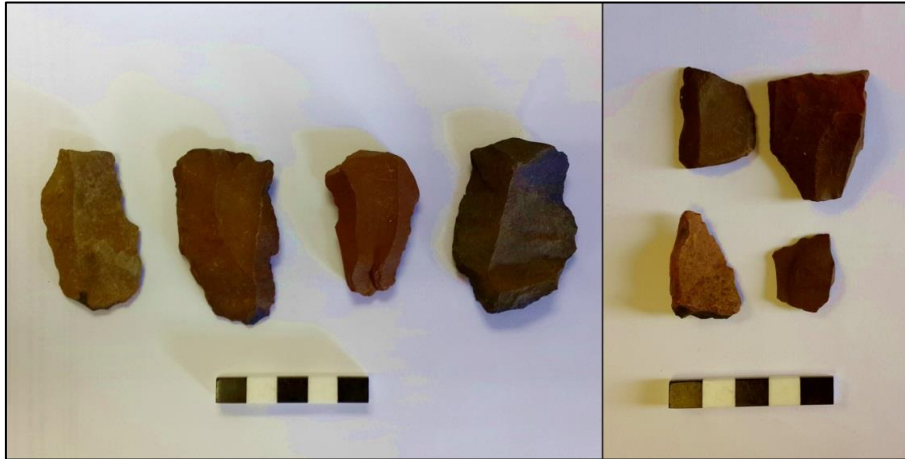


Figure 4-2: Middle Stone Age lithics from Site LKS01. Note side scrapers and fragmented blades (left) and debris flakes (right).

#### 4.1.2 The Iron Age Farmer Period

No Iron Age (Farmer Period) occurrences were observed in the survey area.

#### 4.1.3 Historical / Colonial Period and recent times

Four areas of Historical and recent-Historical potential were identified along the Lukhavala Water Supply infrastructure proposed alignments. These sites were arbitrarily coded “LKH” (“Lukhavala Historical”).

##### - Site LKH01 (S31.74300 E27.10538)

Lukhavala is surrounded by farming communities and Historical and Colonial Period houses and structures occur across the landscape around the study area. As such, a Western style farmstead with a number of poorly preserved structures occurs near a drainage line in Lukhavala. The structures include the remains of a farm house and outbuildings constructed out of stone and mud brick. It is evident that the farmstead complex has not been in use for a long time and the structures display architectural style reminiscent of the Historical Colonial Period. Even though the preservation of the site is poor, the buildings are of historical architectural value. The site occurs away from water supply infrastructure alignments but it is located in the general landscape around the project area.



Figure 4-3: The dilapidated remains of a Historical Period farm house at Site LKH01.

- **Site LKH02 (S31.74143 E27.11706)**

The remains of a small Historical Period settlement occur to the east of Lukhavala near the R359 road. At the sites, the poorly preserved remains of mud wall huts and foundations, cattle pens and kraals as well as monoliths and unidentified stones structures remain. At least 3 unmarked burials (**Site LKB04**) were also identified in association with the features. The site occurs in close proximity of proposed Lukhavala water supply infrastructure alignments.



Figure 4-4: Recent-historical house structures I clay (right) and stone (left) at Site LKH02.





Figure 4-5: Recent-historical hut remains at Site LKH02.

- Site LKH03 (S31.74617 E27.09989)
- Site LKH04 (S31.74485 E27.10334)

The remains of a number of poorly preserved Historical Period homesteads occur in Lukhavala. Hut foundations and sections of mud walls of huts, cattle pens and kraals occur at the sites. The sites occur in close proximity of proposed Lukhavala water supply infrastructure alignments.



Figure 4-6: A recent-historical livestock enclosure at Site LKH03.



Figure 4-7: Recent-historical house structure (right) and the remains of a cattle pen (left) at Site LKH04.

#### 4.1.4 Graves

At least 5 burial sites or possible burials sites were identified along the Lukhavala Water Supply infrastructure proposed alignments. These sites were arbitrarily coded “**LKB**” (“Lukhavala Burial”).

##### - Site LKB01 (S31.74528 E27.09770)

A small informal cemetery occurs in on a ridge in an open field next to a large stone cattle enclosure. The cemetery holds at least 6 unmarked graves which are dressed with stone cairns and soil mounds with rough headstones in places. The graves, which are not maintained and in a poor state of preservation, occur in close proximity of proposed Lukhavala water supply infrastructure alignments.

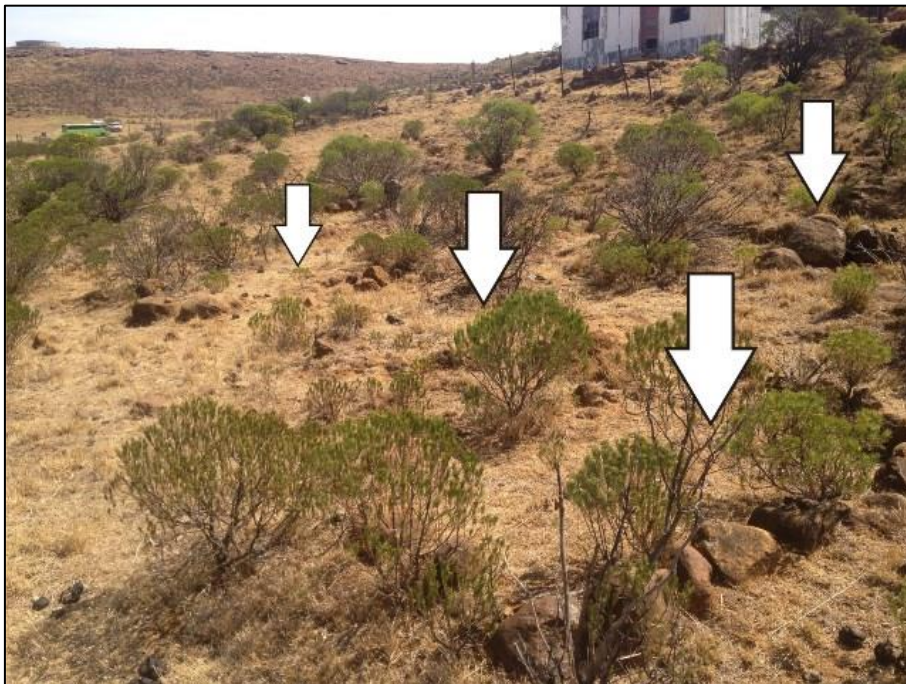


Figure 4-8: Unmarked graves at Site LKB01 (white arrows indicate burial locations).





Figure 4-9: A large stone cattle enclosure occurring in association with Site LKB01.

- **Site LKB02 (S31.74423 E27.10454)**

At least 3 unmarked graves occur in an open field next to a number of homesteads. The burials are demarcated by rectangular stone structures which are filled with soil. The graves, which are not maintained and in a poor state of preservation, occur in close proximity of proposed Lukhavala water supply infrastructure alignments.



Figure 4-10: Unmarked graves at Site LKB02.

- **Site LKB03 (S31.74437 E27.10611)**

Two unmarked graves occur on a small plateau next to homesteads. The burials are dressed with rectangular stone structures which are filled with soil. The graves are not maintained but preservation of the structures is fair. The site occurs in close proximity of proposed Lukhavala water supply infrastructure alignments.



Figure 4-11: Unmarked burials at Site LKB03.

- **Site LKB04 (S31.74185 E27.11663)**

At least 3 unmarked graves occur in association with dilapidated homestead structures (**Site LKH02**) an open field. The burials, which are demarcated by rectangular and circular stone structures are not maintained and in a very poor state of preservation. The graves occur in close proximity of proposed Lukhavala water supply infrastructure alignments.

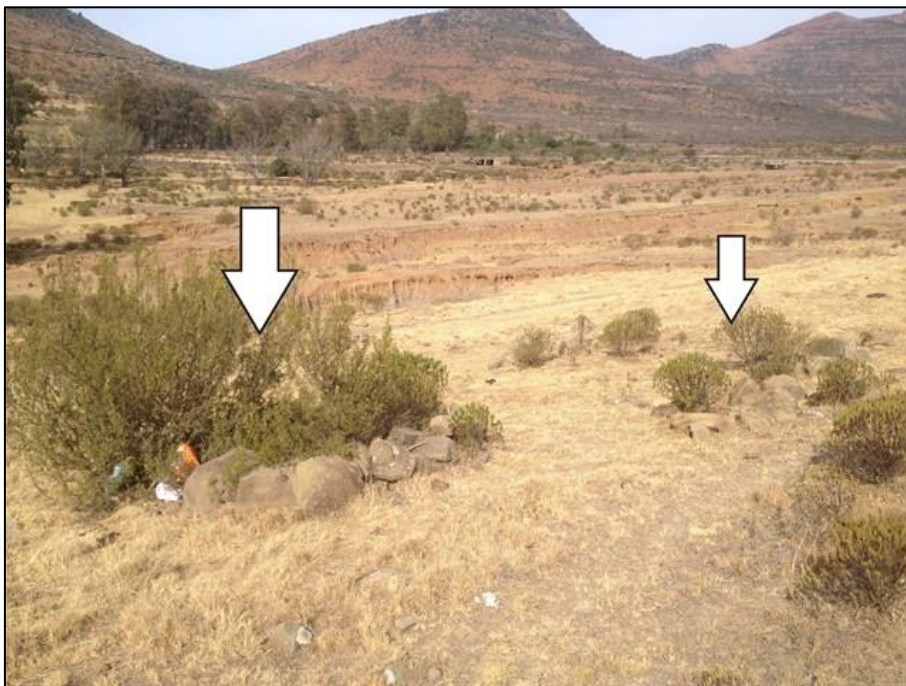
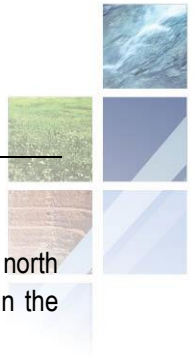


Figure 4-12: Two unmarked graves at Site LKB04.





- **Site LKB05 (S31.73880 E27.11574)**

A rectangular stone feature, strongly resembling a burial occurs in an open field near a drainage line to the north of Lukhavala. The structure is dressed with stone and soil but is poorly preserved. The feature occurs in the general vicinity of proposed Lukhavala water supply infrastructure alignments.



Figure 4-13: A possible grave at Site LKB05.

## 4.2 Noluthando Area

### 4.2.1 The Stone Age

No Stone Age occurrences were observed in the survey area.

### 4.2.2 The Iron Age Farmer Period

No Iron Age (Farmer Period) occurrences were observed in the survey area.

### 4.2.3 Historical / Colonial Period and recent times

No Iron Age (Farmer Period) occurrences were observed in the survey area.

### 4.2.4 Graves

At least 2 burial sites were identified along the Noluthando Water Supply infrastructure proposed alignments. These sites were arbitrarily coded “**NDB**” (“Noluthando Burial”).

- **Site NDB01 (S31.71511 E27.12416)**

Three unmarked graves occur at a homestead near a fenced crop field in Noluthando. The burials are dressed with rectangular stone structures which are filled with soil. The graves are not maintained but preservation of the

structures is fair. The site occurs in the general vicinity of proposed Noluthando water supply infrastructure alignments.



Figure 4-14: Unmarked burials at Site NDB01.

- **Site NDB02 (S31.71534 E27.12516)**

Another two unmarked graves occur at fenced homestead in Noluthando. The burials are dressed with rectangular stone structures which are filled with soil. The graves are not maintained and preservation of the structures is poor. The site occurs in the general vicinity of proposed Noluthando water supply infrastructure alignments.



Figure 4-15: Two unmarked burials at Site NDB01.



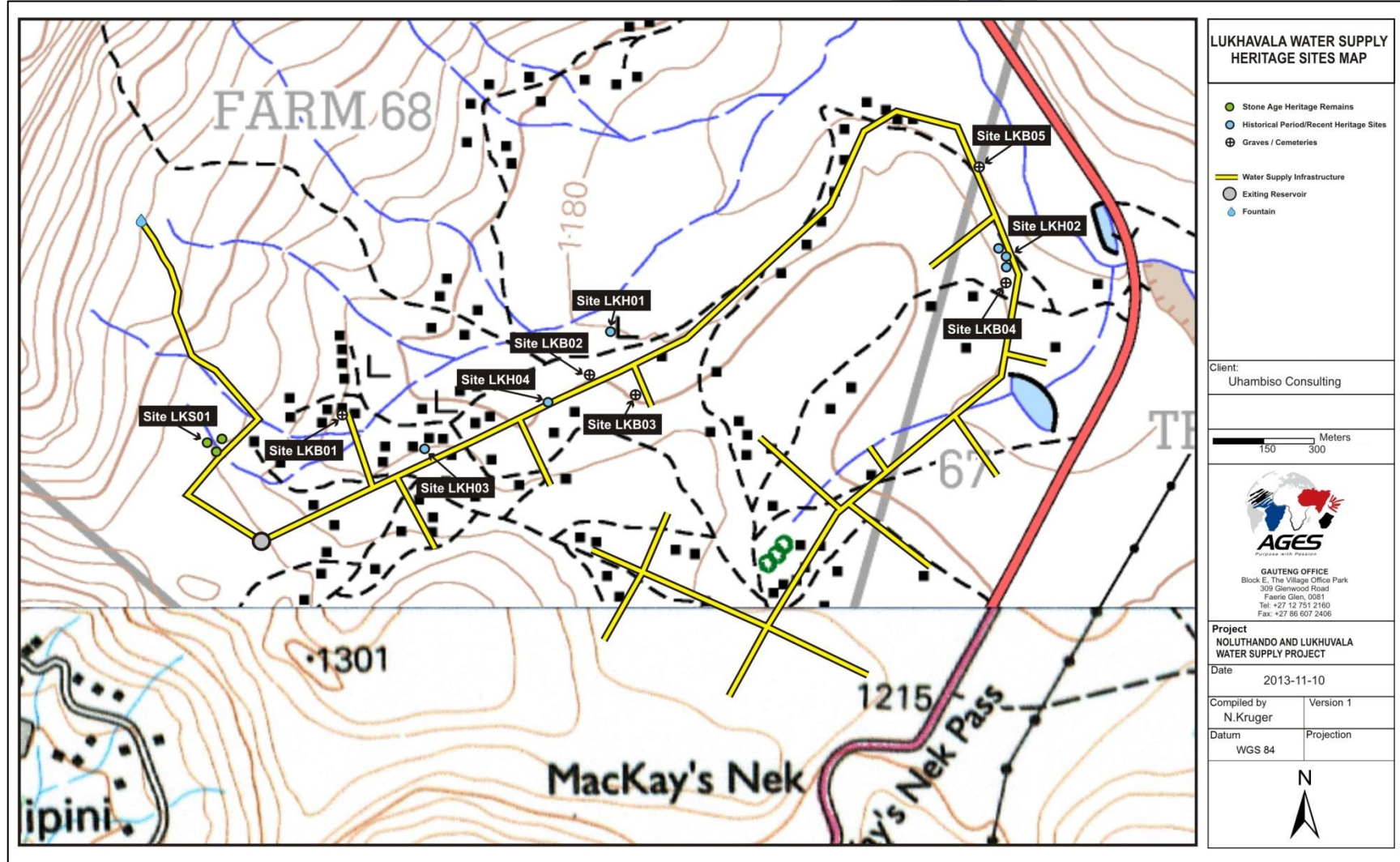


Figure 4-16: Map indicating the locations of heritage sensitive areas and sites occurring in the Lukhvala area, discussed in the text.

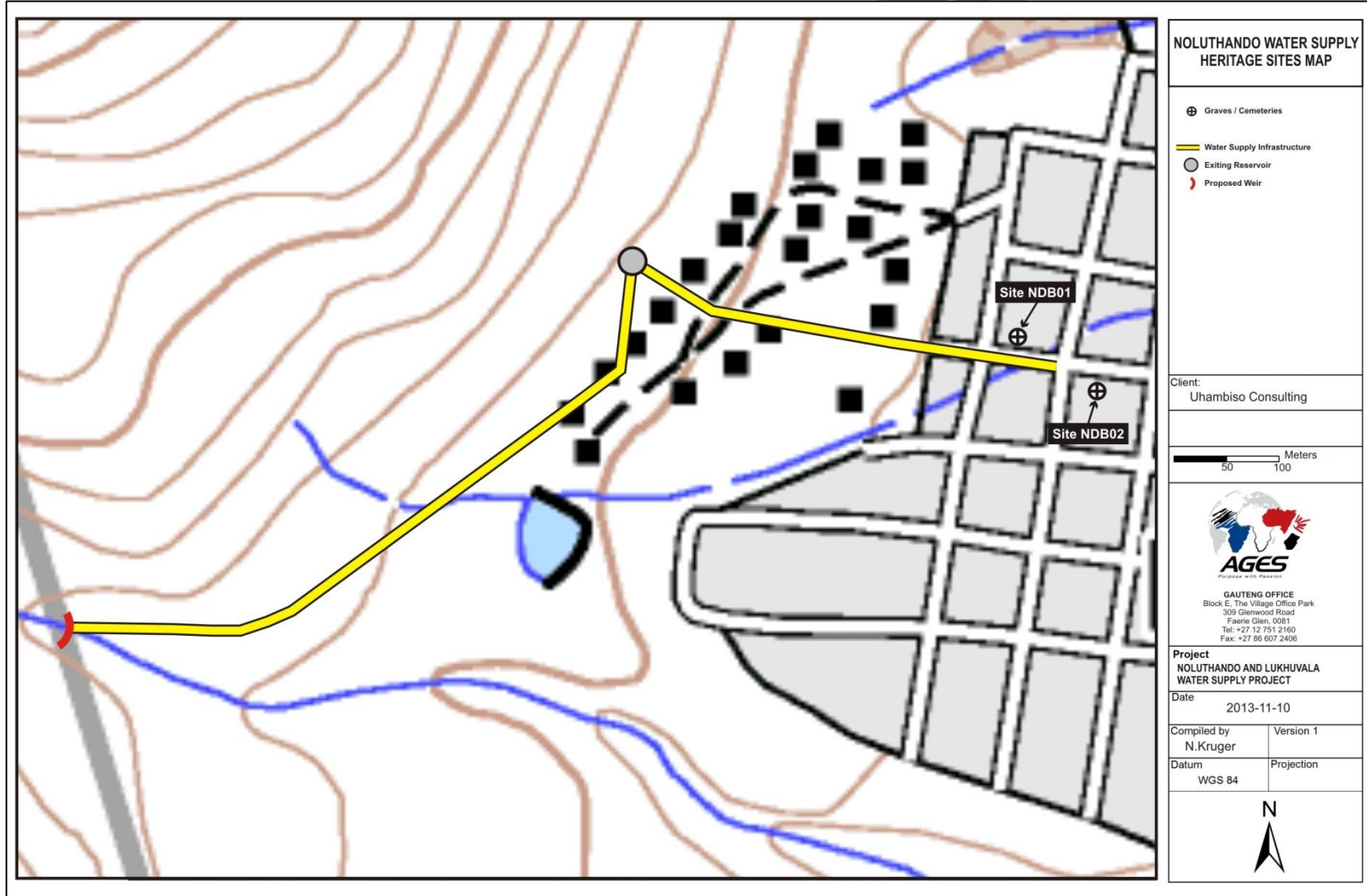


Figure 4-17: Map indicating the locations of heritage sensitive areas and sites occurring in the Noluthando area, discussed in the text.



## 5 ARCHAEO-HISTORICAL CONTEXT

### 5.1 The archaeology of Southern Africa

Archaeology in southern Africa is typically divided into two main fields of study, the **Stone Age** and the **Iron Age** or **Farmer Period**. The following table provides a concise outline of the chronological sequence of periods, events, cultural groups and material expressions in Southern African pre-history and history.

Table 1 Chronological Periods across southern Africa

Period	Epoch	Associated cultural groups	Typical Material Expressions
Early Stone Age 2.5m – 250 000 YCE	Pleistocene	Early Hominins: <i>Australopithecines</i> <i>Homo habilis</i> <i>Homo erectus</i>	Typically large stone tools such as hand axes, choppers and cleavers.
Middle Stone Age 250 000 – 25 000 YCE	Pleistocene	First <i>Homo sapiens</i> species	Typically smaller stone tools such as scrapers, blades and points.
Late Stone Age 20 000 BC – present	Pleistocene / Holocene	<i>Homo sapiens sapiens</i> including San people	Typically small to minute stone tools such as arrow heads, points and bladelets.
Early Iron Age / Early Farmer Period 300 – 900 AD	Holocene	First Bantu-speaking groups	Typically distinct ceramics, bead ware, iron objects, grinding stones.
Middle Iron Age (Mapungubwe / K2) / early Later Farmer Period 900 – 1350 AD	Holocene	Bantu-speaking groups, ancestors of present-day groups	Typically distinct ceramics, bead ware and iron / gold / copper objects, trade goods and grinding stones.
Late Iron Age / Later Farmer Period 1400 AD -1850 AD	Holocene	Various Bantu-speaking groups including Venda, Thonga, Sotho-Tswana and Zulu	Distinct ceramics, grinding stones, iron objects, trade objects, remains of iron smelting activities including iron smelting furnace, iron slag and residue as well as iron ore.
Historical / Colonial Period ±1850 AD – present	Holocene	Various Bantu-speaking groups as well as European farmers, settlers and explorers	Remains of historical structures e.g. homesteads, missionary schools etc. as well as, glass, porcelain, metal and ceramics.

#### 5.1.1 The Stone Ages

##### - The Earlier Stone Age (ESA)

Earlier Stone Age deposits typically occur on the flood-plains of perennial rivers and may date to between 2 million and 250 000 years ago. These ESA open sites sometimes contain stone tool scatters and manufacturing debris ranging from pebble tool choppers to core tools such as handaxes and cleavers. These stone tools were made by the earliest hominins. These groups seldom actively hunted and relied heavily on the opportunistic scavenging of meat from carnivore kill sites.

##### - The Middle Stone Age (MSA)

The majority of Middle Stone Age (MSA) sites occur on flood plains and sometimes in caves and rock shelters. Sites usually consist of large concentrations of knapped stone flakes such as scrapers, points and blades and associated manufacturing debris. Tools may have been hafted but organic materials, such as those used in hafting, seldom remain preserved in the archaeological record. Limited drive-hunting activities are also associated with the MSA.



### - **The Later Stone Age (LSA)**

Sites dating to the Later Stone Age (LSA) are better preserved in rock shelters, although open sites with scatters of mainly stone tools can occur. Well-protected deposits in shelters allow for stable conditions that result in the preservation of organic materials such as wood, bone, hearths, ostrich eggshell beads and even bedding material. By using San (Bushman) ethnographic data a better understanding of this period is possible. South African rock art is also associated with the LSA.

## **5.1.2 The Iron Age Farmer Period**

### - **Early Iron Age (Early Farming Communities)**

The Early Iron Age (also Early Farmer Period) marks the movement of Bantu speaking farming communities into South Africa at around 200 A.D. These groups were agro-pastoralists that settled in the vicinity of water in order to provide subsistence for their cattle and crops. Artefact evidence from Early Farmer Period sites is mostly found in the form of ceramic assemblages and the origins and archaeological identities of this period are largely based upon ceramic typologies and sequences, where diagnostic pottery assemblages can be used to infer group identities and to trace movements across the landscape. Early Farmer Period ceramic traditions are classified by some scholars into different “streams” or trends in pot types and decoration that, over time emerged in southern Africa. These “streams” are identified as the Kwale Branch (east), the Nkope Branch (central) and the Kalundu Branch (west). More specifically, in the northern regions of South Africa at least three settlement phases have been distinguished for prehistoric Bantu-speaking agropastoralists. The first phase of the Early Iron Age, known as Happy Rest (named after the site where the ceramics were first identified), is representative of the Western Stream of migrations, and dates to AD 400 - AD 600. The second phase of Diamant is dated to AD 600 - AD 900 and was first recognized at the eponymous site of Diamant in the western Waterberg. The third phase, characterised by herringbone-decorated pottery of the Eiland tradition, is regarded as the final expression of the Early Iron Age (EIA) and occurs over large parts of the North West Province, Northern Province, Gauteng and Mpumalanga. This phase has been dated to about AD 900 - AD 1200. Early Farmer Period ceramics typically display features such as large and prominent inverted rims, large neck areas and fine elaborate decorations. The Early Iron Age continued up to the end of the first millennium AD.

### - **Middle Iron Age / K2 Mapungubwe Period (early Later Farming Communities)**

The onset of the middle Iron Age dates back to  $\pm 900$  AD, a period more commonly known as the Mapungubwe / K2 phase. These names refer to the well known archaeological sites that are today the pinnacle of South Africa’s Iron Age heritage. The inhabitants of K2 and Mapungubwe, situated on the banks of the Limpopo, were agriculturalists and pastoralists and were engaged in extensive trade activities with local and foreign traders. Although the identity of this Bantu-speaking group remains a point of contestation, the Mapungubwe people were the first state-organized society southern Africa has known. A considerable amount of golden objects, ivory, beads (glass and gold), trade goods and clay figurines as well as large amounts of potsherds were found at these sites and also appear in sites dating back to this phase of the Iron Age. Ceramics of this tradition take the form of beakers with upright sides and decorations around the base (K2) and shallow-shouldered bowls with decorations as well as globular pots with long necks. (Mapungubwe). The site of Mapungubwe was deserted at around 1250 AD and this also marks the relative conclusion of this phase of the Iron Age.

### - **Later Iron Age (Later Farming Communities)**

The late Iron Age of southern Africa marks the grouping of Bantu speaking groups into different cultural units. It also signals one of the most influential events of the second millennium AD in southern Africa, the difaqane. The difaqane (also known as “the scattering”) brought about a dramatic and sudden ending to centuries of stable

society in southern Africa. Reasons for this change was essentially the first penetration of the southern African interior by Portuguese traders, military conquests by various Bantu speaking groups primarily the ambitious Zulu King Shaka and the beginning of industrial developments in South Africa. Different cultural groups were scattered over large areas of the interior. These groups conveyed with them their customs that in the archaeological record manifest in ceramics, beads and other artefacts. This means that distinct pottery typologies can be found in the different late Iron Age groups of South Africa.

#### - **Bantu Speaking Groups in the South African interior**

*It should be noted that terms such as “Nguni”, “Sotho”, “Venda” and others refer to broad and comprehensive language groups that demonstrated similarities in their origins and language. It does not imply that these Nguni / Sotho groups were homogeneous and static; they rather moved through the landscape and influenced each other in continuous processes marked by cultural fluidity.*

Ethnographers generally divide major Bantu-speaking groups of southern Africa into two broad linguistic groups, the Nguni and the Sotho with smaller subdivisions under these two main groups. Nguni groups were found in the eastern parts of the interior of South Africa and can be divided into the northern Nguni and the southern Nguni. The various Zulu and Swazi groups were generally associated with the northern Nguni whereas the southern Nguni comprised the Xhosa, Mpondo, Thembu and Mpondomise groups. The same geographically based divisions exist among Sotho groups where, under the western Sotho (or Tswana), groups such as the Rolong, Hurutshe, Kwena, Fokeng and Kgatla are found. The northern Sotho included the Pedi and amalgamation of smaller groups united to become the southern Sotho group or the Basutho. Other smaller language groups such as the Venda, Lemba and Tshonga Shangana transpired outside these major entities but as time progressed they were, however to lesser or greater extent influenced and absorbed by neighbouring groups.

### **5.1.3 Historical and Colonial Times and Recent History**

The Historical period in southern Africa encompass the course of Europe's discovery of South Africa and the spreading of European settlements along the East Coast and subsequently into the interior. In addition, the formation stages of this period are marked by the large scale movements of various Bantu-speaking groups in the interior of South Africa, which profoundly influenced the course of European settlement. Finally, the final retreat of the San and Khoekhoen groups into their present-day living areas also occurred in the Historical period in southern Africa.

## **5.2 Discussion: The Queenstown Area Heritage Landscape**

The history of the Northern Cape Province is reflected in a rich archaeological landscape, mostly dominated by Stone Age occurrences. Numerous sites, documenting Earlier, Middle and Later Stone Age habitation occur across the province, mostly in open air locales or in sediments alongside rivers or pans. In addition, a wealth of Later Stone Age rock art sites, most of which are in the form of rock engravings are to be found in the larger landscape. These sites occur on hilltops, slopes, rock outcrops and occasionally in river beds. Sites dating to the Iron Age occur in the north eastern part of the Province but environmental factors delegated that the spread of Iron Age farming westwards from the 17th century was constrained mainly to the area east of the Langeberg Mountains. However, evidence of an Iron Age presence as far as the Upington area in the eighteenth century occurs in this area. Moving into recent times, the archaeological record reflects the development of a rich colonial frontier, characterised by, amongst others, a complex industrial archaeological landscape such as mining developments at Kimberley, which herald the modern era in South African history.





### 5.2.1 Palaeontology and Early History

A large number of paleontological sites occur around the Eastern Cape and in areas towards Lesotho. Material found in and around Lesotho, the Eastern Cape Highlands and in the Karoo of South Africa is significant as it documents the late Triassic to early Jurassic transition, which is the period for the evolution of true dinosaurs, crocodile ancestors, bird ancestors and early mammals.

### 5.2.2 The Early and Middle stone Ages in the Eastern Cape

Most Early Stone Age (ESA) sites (1.5 million years ago-250 000 years ago) in South Africa can probably be connected with the hominin species known as *Homo erectus*. Simply modified stones, hand axes, scraping tools, and other bifacial artifacts had a wide variety of purposes, including butchering animal carcasses, scraping hides, and digging for plant foods. Most South African archaeological sites from this period are the remains of open camps, often by the sides of rivers and lakes, although some are rock shelters, such as Montagu Cave in the Cape region. ESA sites are relatively rare in the Eastern Cape, occurring mostly in major river valleys. Generally EIA artefacts are not found *in situ* and are likely to be out of their primary context. ESA handaxes, cleavers and other stone tools have been documented mainly in inland areas such as in the districts of Middledrift, Kentani, Butterworth, Idutywa and Lusikiki to name a few.

The Middle Stone Age (MSA) (250 000-30 000 years ago) is characterised by stone tools typically made from quartzite, dolerite, or hornfels. Such sites occur as surface scatters at sites throughout the Eastern Cape Highlands along minor and major river courses. Specifically, these sites occur in exposed and disturbed areas such as quarries, erosion dongas, gravel farm roads and 'manmade' dams (Binneman *et al.* 2010). Data obtained from the MSA deposits in the Eastern, Western, and Southern Cape have provided detailed palaeoenvironmental records with long occupation sequences providing evidence of occupation for much of the Late Pleistocene. Open camps and rock overhangs were used for shelter. Day-to-day debris has survived to provide some evidence of early ways of life, although plant foods have rarely been preserved. MSA bands hunted medium-sized and large prey, including antelope and zebra, although they tended to avoid the largest and most dangerous animals, such as the elephant and the rhinoceros. They also ate seabirds and marine mammals that could be found along the shore and sometimes collected tortoises and ostrich eggs in large quantities.

The Later Stone Age (LSA) (40 000 years ago – present) is abundantly represented with LSA material found across the Eastern Cape. Basic toolmaking techniques began to undergo additional change about 40 000 years ago. Small finely worked stone implements known as microliths became more common, while the heavier scrapers and points of the Middle Stone Age appeared less frequently and archaeologists refer to this technological stage as the Late Stone Age. The numerous collections of stone tools from South African archaeological sites show a great degree of variation through time and across the subcontinent. Bands moved with the seasons as they followed game into higher lands in the spring and early summer months, when plant foods could also be found. When available, rock overhangs became shelters; otherwise, windbreaks were built. Shellfish, crayfish, seals, and seabirds were also important sources of food, as were fish caught on lines, with spears, in traps, and possibly with nets. Dating from this period are numerous engravings on rock surfaces, mostly on the interior plateau, and paintings on the walls of rock shelters in the mountainous regions, such as the Drakensberg and Cederberg ranges. The images were made over a period of at least 25 000 years and the paintings are closely associated with the work of medicine men, shamans who were involved in the well-being of the band and often worked in a state of trance. Specific representations include depictions of trance dances, metaphors for trance such as death and flight, rainmaking, and control of the movement of antelope herds..

### 5.2.3 Hunters-gatherers, Herders and Shell Middens

Hunter-gatherer and herder sites occur widely in the Eastern Cape. It is sometimes difficult to distinguish between hunter-gatherer and herder sites, because the former may have acquired stock through theft or herder clientship and the latter largely relied on hunting and gathering to supplement pastoral resources. Both groups collected shellfish and used other food sources from the sea, and both groups hunted and gathered plant food. Excavations at sites indicate that shellfish and marine animals, and in particular seals, specifically formed a major part of their diet. The intensive utilization of shellfish manifests in the archaeological record through hundreds of shell middens (large piles of marine shell) dating to the terminal Pleistocene and Holocene that litter the coastal areas of southern Africa (see Figure 6-1 & Figure 6-2). These were campsites of San, Khoisan and Bantu-speakers who lived along the immediate coast. Human remains are frequently found in the middens, mixed with shell, other food remains and cultural material. A large number of shell middens were situated east of Coega River Mouth and numerous middens, ceramic pot sherds (from Later Stone Age Khoekhoen pastoralist origin - last 2 000 years) and other archaeological material, occur between the Coega and Sunday's River Mouths. These remains date mainly from Holocene Later Stone Age (last 10 000 years). Human remains have also been found in the dunes along the coast.

Mega-middens which accumulated in coastal and inland areas probably represent alternative seasonal food resources and the shellfish species from middens reflect the species available in the immediate vicinity and also provide information on the environment. Inland shell middens are also found in the Eastern Cape and these shell accumulations date to the last 3000 years. The existence of these features implies the use of alternative food sources as a result of the spread of pastoralists and Iron Age people (Deacon 1984b). Various researchers have observed that the occurrence of seasonally restricted food remains in archaeological deposits could be linked to historically known seasonal movements by the early Khoisan and Khoekhoen hunters and herders of the Cape. In other places, those Khoi who had lost their stock (to drought, disease or raiders), as well as San who had none, may have subsisted mainly or entirely on seafood, but for the rest pastoralism, involving cattle and perhaps fat-tailed sheep, was the principal focus of subsistence, accompanied by a few crops in the fertile river valleys (Elphick 1977). This pattern of subsistence was continued - with different emphases and eventually on a larger scale - by those who succeeded the Khoi on this coast, the Cape Nguni, or Xhosa. By the 16th century, the Khoi peoples of the Wild Coast had been largely displaced or absorbed by Nguni speakers (Peires 1976).

### 5.2.4 A landscape of rock markings: Rock Art

The Eastern Cape and Lesotho regions are renowned for their rich rock art heritage. The majority of these rock markings can be associated with Later Stone Age hunter-gatherers, more specifically a group known locally as the Maloti San. This group was probably widespread in Lesotho and adjacent areas over the last few thousand years, but they may have retreated into mountainous areas year-round when farmers moved into the region. The rock art is found in different densities in various parts of Lesotho and the Eastern Cape, mostly in areas with appropriate rock shelters. This rock art images are composed of very finely drawn polychromatic images with narrow lines, small dots and gradated colouring. The images usually depict eland, rhebok, or humans in various states, activities, or postures. Occasionally, lions, other carnivores, other antelope, baboons, cattle, horses, horseback riders, snakes, and extraordinary creatures with human and animal features (known as therianthropes) are depicted. This imagery is associated with the religious, spiritual and healing activities of the Maloti San groups.

Some examples of non-hunter-gatherer rock art also occur in the area. Historical "farmer rock art" for example, is characterized by large figures in a single colour made with broad blocky lines and are uniformly filled with colour. This tradition is characterized by large geometric designs, usually in either red or white, or both. "Farmer" and

“herder” rock art traditions are not as common as hunter-gatherer rock art but they are equally important as they are probably records of the historical period of the larger region during which many social and political transformations occurred.



Figure 5-1: Hunter-Gatherer Rock Art from southern Lesotho.

### 5.2.5 The Iron Age / Farmer Period in the Eastern Cape Province

Archaeological evidence shows that Bantu-speaking agriculturists first settled in southern Africa around AD 300. Bantu-speakers originated in the vicinity of modern Cameroon from where they began to move eastwards and southwards, some time after 400 BC, skirting around the equatorial forest. An extremely rapid spread throughout much of sub-equatorial Africa followed: dating shows that the earliest communities in Tanzania and South Africa are separated in time by only 200 years, despite the 3 000 km distance between the two regions. It seems likely that the speed of the spread was a consequence of agriculturists deliberately seeking iron ore sources and particular combinations of soil and climate suitable for the cultivation of their crops.

The earliest agricultural sites in KwaZulu-Natal date to between AD 400 and 550. All are situated close to sources of iron ore, and within 15 km of the coast. Current evidence suggests it may have been too dry further inland at this time for successful cultivation. From 650 onwards, however, climatic conditions improved and agriculturists expanded into the valleys of KwaZulu-Natal, where they settled close to rivers in savanna or bushveld environments. There is a considerable body of information available about these early agriculturists. Seed remains show that they cultivated finger millet, bulrush millet, sorghum and probably the African melon. It seems likely that they also planted African groundnuts and cowpeas, though direct evidence for these plants is lacking from the earlier periods. Faunal remains indicate that they kept sheep, cattle, goats, chickens and dogs, with cattle and sheep providing most of the meat. Men hunted, perhaps with dogs, but hunted animals made only a limited contribution to the diet in the region.

Metal production was a key activity since it provided the tools of cultivation and hunting. The evidence indicates that people who worked metal lived in almost every village, even those that were considerable distances from ore sources.



The beginnings of the Iron Age (Farmer Period) in southern Africa are associated with the arrival of a new Bantu speaking population group at around the third century AD. These newcomers introduced a new way of life into areas that were occupied by Later Stone Age hunter-gatherers and Khoekhoe herders. Distinctive features of the Iron Age are a settled village life, food production (agriculture and animal husbandry), metallurgy (the mining, smelting and working of iron, copper and gold) and the manufacture of pottery. Iron Age farming communities generally preferred to occupy river valleys within the eastern half of southern Africa owing to the summer-rainfall climate that was conducive for growing millet and sorghum. According to Huffman (2007) an eastern migration stream, known as the Chifumbaze Complex spread southwards from East Africa south into southern Africa during the period of about AD 200—300 where several KwaZulu-Natal and north-Eastern Cape sites were occupied. Evidence of numerous Early Iron Age (EIA) sites or material occurs in the area surrounding Mthatha and the Eastern Cape (Feely & Bell-Cross 2011). Evidence in the form of thick-walled well-decorated pot sherds are present along other parts of the Transkei coast as is evident from sites that were excavated at Mpame River Mouth (Cronin 1982) and just west of East London (Nongwaza 1994). Research in the adjacent Kei River Valley area indicates that the first mixed farmers were already settled in the Eastern Cape region between A.D. 600 - 700 (Binneman 1994, Feely & Bell-Cross 2011). Thus far the closest documented and well-researched Early Iron Age site is located within the Great Kei River Valley. The site is situated some 200 m below the plateau and 60 km inland from the coast, within the borders of the Transkei, approximately 100 km up the coast towards Durban. There has been some speculation that EIA populations may have spread well south of the Transkei into the Ciskei, possibly up to the Great Fish River (Binneman et al. 1992), however, no further research has been undertaken to confirm these statements. Two closer EIA sites have been documented, one to the south of East London (Cronin 1982) and the other is situated 12 km west of East London on the west bank of the Buffalo River (Nogwaza 1994). Thicker and decorated pottery sherds, kraals, possible remains of domesticated animals, upper and lower grindstones and storage pits are associated for identifying Early Iron Age sites. The sites are generally large settlements, but the archaeological visibility may in most cases be difficult owing to the organic nature of the homesteads. Metal and iron implements are also associated with Early Iron Age communities.

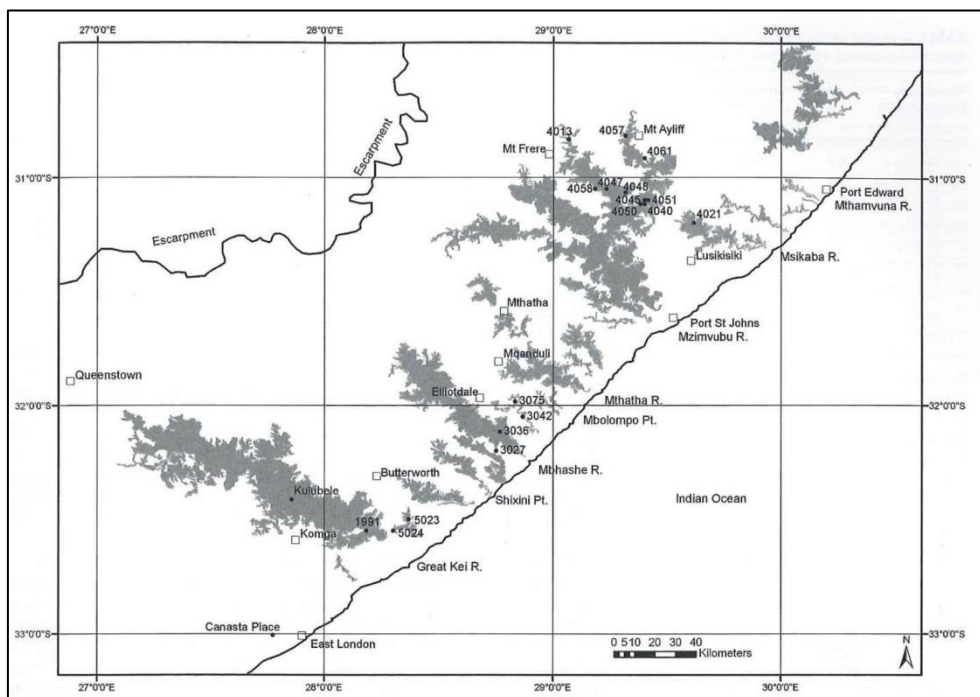


Figure 5-2: Early Iron Age farmer period sites in the Eastern Cape around Mthatha (after Feely & Bell-Cross 2011).

Relatively little research has been conducted on the archaeology of later farmer communities of the Eastern Cape and adjacent areas. According to research in adjacent parts of South Africa, there was little or no settlement in the dry high-altitude grasslands of the north-western parts of the Eastern Cape and Lesotho until after AD 1600 (e.g. Walton 1956; Maggs 1976; Hall 1990; Mitchell 2002). In many instances, Later Iron Age farmer communities moved from river valleys to the hilltops, such settlements have been formally recorded by the Albany Museum and cover a relatively extended area in comparison to the Early Iron Age settlement patterns (Binneman et al. 2010). As such, Later Iron Age communities gradually expanded into the grasslands of the KwaZulu-Natal and north Eastern Cape interior. An early phase of the Late Iron Age has been uncovered in KwaZulu-Natal which transpired in a ceramic style known as "Blackburn". This ceramic style represents a break with that of the Early Iron Age. Since there is a resemblance between Blackburn pottery and Nguni pottery, Huffman (1989) postulates that Blackburn reflects the migration of the Nguni to KwaZulu-Natal and later to the Transkei. Consequently, sites belonging to the final phase of the Late Iron Age can often be linked with historically known Nguni groups. The most southern Iron Age site, Kulubele, excavated by archaeologists from the Albany Museum during the 1990's, is situated along the banks of the Kei River in the Kei River Valley. The earliest date for the site is 1250 BP yielded numerous settlement areas, thick-walled pottery, animal bones, and most importantly chicken bones that illustrates contact between the first farming communities and European seafarers. Contact with the Cape Colony initially stimulated an already flexible and dynamic characteristic of the Cape Nguni political economy. When trade opportunities developed in the late 18th century, the Xhosa would exchange cattle (and permission for and guidance in hunting elephants) in return for copper, iron, beads (Peires 1981:95); they would then exchange these goods at a profit for cattle with their African neighbours to the east, bringing about a kind of speculation in cattle.

#### **5.2.6 Eastern Cape Later History: Reorganization, Colonial Contact and living heritage.**

The oral and written history of the Eastern Cape pertaining to the last centuries is relatively abundant resulting from an assimilation of local folklore and Historical sources such as missionary accounts. The Historical period for this area can be divided into three periods of settlement, as described in oral traditions and local histories. First in the area were the pioneers, arriving between the nineteenth century and early twentieth century, depending on the region. They may have lived in caves at first (sometimes in association with San), or had compounds in places not occupied today. Second, the main population established villages on the high shoulders of the mountains and hills when areas were formally allocated to chiefs. This period lasted until the 1940s or 1950 when the chieftaincies were transformed by the paramount chief. The older villages in many areas were abandoned, were combined and/or moved to more accessible locations at lower elevations. Villages of this final phase are often still occupied today (Cain 2005).

At the time of white settlement of the Cape, Xhosa groups were living far inland, into the area between Bushman's River and the Kei River. Since around 1770, they had been confronted with the Afrikaner Trek Boers who approached from the west. Both the Boers and the Xhosa were stock-farmers. The competition for grazing land led first to quarrels between the two groups, and eventually it came to a number of wars known as the Grensoorlōe ("border wars" in Afrikaans). The politics of the colonial government attempted to enforce the separation of white and black settlement areas with the Fish River as the border. But the more the colony developed into a modern state with a strong military organization, the more the whites tended towards a policy of land annexing and the subjugation of the black population. In the middle of the 19th century, all the land formerly inhabited by Xhosa was in the hands of white settlers. With the founding of the South African Union in 1910, the British colony and the independent Boer Republics were united. Other types of Historical sites found in the Eastern Cape include early schools and Missions which are part of the cultural transformations between the mid-19th and mid-20th centuries. These sites are often valuable sources of oral histories and written documents and

they present a later regional social development in the area where European expansion brought about dramatic changes in social and cultural land tenure on the Eastern Cape frontier.

The region was given nominal autonomy in 1963, under the “Separate Development” act and “full independence” followed in 1976 where after the area became known as Transkei (meaning: the land beyond the Kei River). The newly-formed Transkei state was not recognized internationally and remained diplomatically isolated and politically unstable. The area was reincorporated into South Africa’s after 1994 when it became part of the Eastern Cape Province.

By the closing decades of the 18th century, South Africa had fallen into two broad regions: west and east. Colonial settlement dominated the west, including the winter rainfall region around the Cape of Good Hope, the coastal hinterland northward toward the present-day border with Namibia, and the dry lands of the interior. Trekboers took increasingly more land from the Khoekhoe and from remnant hunter-gatherer communities, who were killed, were forced into marginal areas, or became labourers tied to the farms of their new overlords. Indigenous farmers controlled both the coastal and valley lowlands and the Highveld of the interior in the east, where summer rainfall and good grazing made mixed farming economies possible.

A large group of British settlers arrived in the Eastern Cape in 1820; this, together with a high European birth rate and wasteful land usage, produced an acute land shortage, which was alleviated only when the British acquired more land through massive military intervention against Africans on the eastern frontier. Until the 1840s the British vision of the colony did not include African citizens (referred to pejoratively by the British as “Kaffirs”), so, as Africans lost their land, they were expelled across the Great Fish River, the unilaterally proclaimed eastern border of the colony.

The first step in this process included attacks in 1811–12 by the British army on the Xhosa groups, the Gqunukhwebe and Ndlambe. An attack by the Rharhabe-Xhosa on Graham’s Town in 1819 provided the pretext for the annexation of more African territory, to the Keiskamma River. Various Rharhabe-Xhosa groups were driven from their lands throughout the early 1830s. They counterattacked in December 1834, and Governor Benjamin D’Urban ordered a major invasion the following year, during which thousands of Rharhabe-Xhosa died. The British crossed the Great Kei River and ravaged territory of the Gcaleka-Xhosa as well; the Gcaleka chief, Hintsa, invited to hold discussions with British military officials, was held hostage and died trying to escape. The British colonial secretary, Lord Glenelg, who disapproved of D’Urban’s policy, halted the seizure of all African land east of the Great Kei. D’Urban’s initial attempt to rule conquered Africans with European magistrates and soldiers was overturned by Glenelg; instead, for a time, Africans east of the Keiskamma retained their autonomy and dealt with the colony through diplomatic agents.

However, after further fighting with the Rharhabe-Xhosa on the eastern frontier in 1846, Governor Colonel Harry Smith finally annexed, over the next two years, not only the region between the Great Fish and the Great Kei rivers (establishing British Kaffraria) but also a large area between the Orange and Vaal rivers, thus establishing the Orange River Sovereignty. These moves provoked further warfare in 1851–53 with the Xhosa (joined once more by many Khoe), with a few British politicians ineffectively trying to influence events.

The Pondo people, under Faku (and west of the Kei), had never clashed with the British and the British treated the amaPondo as an independent nation<sup>8</sup>. However, the Boers who trekked into Natal (now KwaZulu-Natal) to escape British rule in first the Western and then the Eastern Cape, found themselves under British sovereignty again. They sought new farms in Pondo territory and Faku turned to the British to help him resist the Boer



invasion.

As the first of the amaPondo kings to rule a united nation, he was deemed by his own people and the British to have the authority to sign the Maitland Treaty of 1844. The treaty confirmed his claim to the land of the amaPondo (from the Drakensberg mountains in the west to the coast in the east, and from Mthatha in the south to the Umzimkhulu River in the north). It also guaranteed him protection from annexation of that land by the British. In addition, the colonial government promised to stand by him should he need to defend his own territory and gave him cattle valued at seventy-five pounds.

In return, he committed the amaPondo to avoiding conflict with the Cape Colony, handing over any criminal elements who tried to hide on his land, returning any stolen cattle to their rightful owners, protecting the whites living legitimately on his land as well as traders passing through his territory, maintaining peace amongst the various clans under his sovereignty, and supporting the Cape government with his forces if requested.

Between 1811 and 1858 colonial aggression deprived Africans of most of their land between the Sundays and Great Kei rivers and produced poverty and despair. From the mid-1850s British magistrates held political power in British Kaffraria, destroying the power of the Xhosa chiefs. Following a severe lung sickness epidemic among their cattle in 1854–56, the Xhosa killed many of their remaining cattle and in 1857–58 grew few crops in response to a millenarian prophecy that this would cause their ancestors to rise from the dead and destroy the whites. Many thousands of Xhosa starved to death, and large numbers of survivors were driven into the Cape Colony to work. British Kaffraria fused with the Cape Colony in 1865, and thousands of Africans newly defined as Fingo resettled east of the Great Kei, thereby creating Fingoland. After Faku died in 1867, Mqikela refused to cooperate with the government. Accordingly, the Cape government curtailed his powers, dividing Pondoland, as it had become known, into two and threatening to elevate Nqwiliso, the son and successor to Ndamase, to paramountcy. In 1878, in order to ensure that he did indeed get the paramount, Nqwiliso sold land at Port St. Johns to the British for one thousand pounds. The British wanted the land to secure the port for their ships. On his accession to power Nqwiliso made it clear that, while recognising Mqikela's house as the Great House of the amaPondo, he intended to follow in Ndamase's footsteps and owe allegiance to no one, and maintain his position as an independent chief. That meant he would suffer no interference from Mqikela. In this declaration he was supported by the Government. Once again, dissent among the amaPondo gave the colonial power an opportunity to further erode traditional leadership. Colonial officialdom either ignored traditional authorities completely or allowed them to, at best, play a marginal role in governing their communities.

### **5.2.7 The Landscape around Lukhvala and Noluthando**

The town of Queenstown was founded in 1853 as a military outpost designed to protect the British subjects from attack during the time of the Frontier wars. The town was laid out around a central hexagon, which was to be the lager to which the citizens would flee in time of trouble. Although still a distinguishing feature of the town today, the hexagon was never used for its intended purpose. Queenstown became a service town for farmers in the district. It was known for the quality of its wagon building and for the general quality of its imported merchandise. In the late 19th century, Queenstown prospered, and number noteworthy local sand stone buildings were built, some of which remain today e.g. the Town Hall façade, the Methodist Church, the Anglican Church and the Dutch Reformed Church. After the world wide depression in the 1920's, Queenstown once again entered a period of prosperity while still acting as a supply and educational centre for surrounding farmers and smaller towns. After 1948, and the beginning of the Apartheid era, the district changed character as white owned farms were bought out and the land incorporated in the Transkei and Ciskei and settled with people. Queenstown has since then been a service centre for these communities. Mlungisi, the traditionally African settlement has been incorporated into Queenstown since 1984. Mlungisi was perhaps best known as a training ground for political

activists, and also for the dedication of its school teachers. Many of the leaders of the present government have had links with the town through its political connections over the years. The political clout of Mlungisi was demonstrated by the resident's participation in a consumer boycott in 1985 resulting from conditions in the township. Ezibeleni was a town established near Queenstown in the 1960's as part of a master plan to move all Black people to the homelands. It was incorporated into Queenstown after 1984. The Lukhanji Municipality came into being on 5 December 2000 and includes Queenstown, Whittlesea, Sada and Lesseyton.

The town of Lady Frere is a settlement in Chris Hani District Municipality on the Cacadu River, 51 km north-east of Queenstown and 53 km south-west of Cala. It was established in 1879, was administered by a village management council from 1886, and became a municipality in 1900. Named after the wife of Sir Bartle Frere (1815-1884), Governor of the Cape Colony from 1877 to 1880, Lady Frere is made up of several villages which include Kundulu, Xonxa, Mkhaphusi, Matyhantya, Mtsheko, Machibini, Tshatshu Gqebanya amongst others.

#### - **The Bulhoek Massacre**

Of note in the region of Queenstown is the site of the Bullhoek Massacre, 45 km from Queenstown. Here, 183 members of the Israelites, an African religious sect under the leadership of Enoch Mgijima, were gunned down by police on 24 May 1921 during a clash over land issues. Mgijima was born in 1868 as one of nine children, whose parents brought them up as Wesleyans. Whereas his brothers studied up to tertiary level, Enoch only got as far as Grade Five because he suffered from terrible headaches, remaining at home in Ntabelenga (Mountain of the rising Sun). Here he became a landowner and hunter as well as a lay preacher in the Wesleyan Methodist Church. Later, after a vision, he left the Wesleyans to join a small church from the USA, the Church of God and Saints of Christ, which was run by Native Americans. After running into trouble with the leadership, he started his own faction of the church called the 'Israelites'.

In 1919, Enoch uttered a prophecy that was interpreted as a command for his followers should go to his home, Ntabelenga, to wait for the Lord's coming. The Israelites decided not to leave after celebrating Passover as they usually did. By 1921, there were about 3 000 Israelites living at Ntabelenga who had come from all over the country. Some of the people who already lived in the location resented the presence of the strangers and their domestic animals. The government accused the Israelites of illegal squatting and tried to persuade them to leave. Negotiations between the government and the Israelites failed. On the 24th May 1921, the police, acting under the government's instructions, confronted the Israelites who made it clear that they would fight. Although the figures are disputed, it seems between 160 and 170 Israelites were killed when the police started shooting. 129 were wounded and 95 taken prisoner, including Enoch, who was sentenced to six years in prison. He died four years after being released.

## 6 RESULTS: STATEMENT OF SIGNIFICANCE AND IMPACT RATING

### 6.1 Heritage resources management and conservation

Archaeological sites, as previously defined in the National Heritage Resources Act (Act 25 of 1999) are places in the landscape where people have lived in the past – generally more than 60 years ago – and have left traces of their presence behind. In South Africa, archaeological sites include hominid fossil sites, places where people of the Earlier, Middle and Later Stone Age lived in open sites, river gravels, rock shelters and caves, Iron Age sites, graves, and a variety of historical sites and structures in rural areas, towns and cities. Palaeontological sites are those with fossil remains of plants and animals where people were not involved in the accumulation of the deposits. The basic principle of cultural heritage conservation is that archaeological and other heritage sites are valuable, scarce and *non-renewable*. Many such sites are unfortunately lost on a daily basis through development for housing, roads and infrastructure and once archaeological sites are damaged, they cannot be re-created as site integrity and authenticity is permanently lost. Archaeological sites have the potential to contribute to our understanding of the history of the region and of our country and continent. By preserving links with our past, we may not be able to revive lost cultural traditions, but it enables us to appreciate the role they have played in the history of our country.

### 6.2 Categories of significance

Rating the significance of archaeological sites, and consequently grading the potential impact on the resources is linked to the significance of the site itself. The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences. The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3 are used when determining the cultural significance or other special value of archaeological or historical sites. In addition, ICOMOS (the Australian Committee of the International Council on Monuments and Sites) highlights four cultural attributes, which are valuable to any given culture:

- *Aesthetic value:*

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria include consideration of the form, scale, colour, texture and material of the fabric, the general atmosphere associated with the place and its uses and also the aesthetic values commonly assessed in the analysis of landscapes and townscape.

- *Historic value:*

Historic value encompasses the history of aesthetics, science and society and therefore to a large extent underlies all of the attributes discussed here. Usually a place has historical value because of some kind of influence by an event, person, phase or activity.

- *Scientific value:*

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality and on the degree to which the place may contribute further substantial information.

- *Social value:*

Social value includes the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a certain group.

It is important for heritage specialist input in the EIA process to take into account the heritage management structure set up by the NHR Act. It makes provision for a 3-tier system of management including the South Africa



Heritage Resources Agency (SAHRA) at a national level, Provincial Heritage Resources Authorities (PHRAs) at a provincial and the local authority. The Act makes provision for two types or forms of protection of heritage resources; i.e. formally protected and generally protected sites:

#### Formally protected sites:

- Grade 1 or national heritage sites, which are managed by SAHRA
- Grade 2 or provincial heritage sites, which are managed by the provincial HRA.
- Grade 3 or local heritage sites.

#### Generally protected sites:

- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 70 years.
- Structures older than 60 years.

With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise and if the significance of the site is rated high, the significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low. The significance of archaeological sites is generally ranked into the following categories.

**Table 2: Heritage Site Significance Ratings**

Significance	Rating Action
No significance: sites that do not require mitigation.	None
Low significance: sites, which may require mitigation.	2a. Recording and documentation (Phase 1) of site; no further action required 2b. Controlled sampling (shovel test pits, augering), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction
Medium significance: sites, which require mitigation.	3. Excavation of representative sample, C14 dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]
High significance: sites, where disturbance should be avoided.	4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism
High significance: Graves and burial places	4b. Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; exhumation and reinterment [including 2a, 2b & 3]

Furthermore, the significance of archaeological sites was based on six main criteria:

- Site integrity (i.e. primary vs. secondary context),
- Amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter),
- Social value,
- Uniqueness, and
- Potential to answer current and future research questions.

**A fundamental aspect in assessing the significance and protection status of a heritage resource is often whether or not the sustainable social and economic benefits of a proposed development outweigh the**

conservation issues at stake. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and mitigated in order to gain data / information, which would otherwise be lost.

### 6.3 Potential Impacts and Significance Ratings<sup>6</sup>

The following section provides a background to the identification and assessment of possible impacts and alternatives, as well as a range of risk situations and scenarios commonly associated with heritage resources management. The section ultimately provides a guideline (Section 6.3.1, Section 6.3.2 & Section 6.3.3) for the rating of impacts and recommendation of management actions for sites of heritage potential in the Lukhavala and Noluthando Water Supply Project Area.

#### 6.3.1 General assessment of impacts on resources

Generally, the value and significance of archaeological and other heritage sites might be impacted on by any activity that would result immediately or in the future in the destruction, damage, excavation, alteration, removal or collection from its original position, any archaeological material or object (as indicated in the National Heritage Resources Act (No 25 of 1999)). Thus, the destructive impacts that are possible in terms of heritage resources would tend to be direct, once-off events occurring during the initial construction period. However, in the long run, the proximity of operations in any given area could result in secondary indirect impacts. The EIA process therefore specifies impact assessment criteria which can be utilised from the perspective of a heritage specialist study which elucidates the overall extent of impacts.

#### A. HERITAGE SPECIFIC DIRECT IMPACT ASSESSMENT

##### Nature of the impact

This is an assessment of the nature of the impact of the activity on a heritage resource, with some indication of its positive and/or negative effect/s. It is strongly informed by the statement of resource significance. In other words, the nature of the impact may be historical, aesthetic, social, scientific, linguistic or architectural, intrinsic, associational or contextual (visual or non-visual). In many cases, the nature of the impact will include more than one value.

##### Confidence

This should relate to the level of confidence that the specialist has in establishing the nature and degree of impacts. It relates to the level and reliability of information, the nature and degree of consultation with I&AP's and the dynamic of the broader socio-political context.

- High, where the information is comprehensive and accurate, where there has been a high degree of Consultation and the socio-political context is relatively stable.
- Medium, where the information is sufficient but is based mainly on secondary sources, where there has been a limited targeted consultation and socio-political context is fluid.
- Low, where the information is poor, a high degree of contestation is evident and there is a state of socio-political flux.

##### Impact Significance

The significance of impacts can be determined through a synthesis of the aspects produced in terms of the nature and degree of heritage significance and the nature, duration, intensity, extent, probability and confidence of impacts and can be described as:

<sup>6</sup> Based on: Winter, S. & Baumann, N. 2005. *Guideline for involving heritage specialists in EIA processes: Edition 1.*

- Low; where it would have a negligible effect on heritage and on the decision
- Medium, where it would have a moderate effect on heritage and should influence the decision.
- High, where it would have, or there would be a high risk of, a big effect on heritage. Impacts of high significance should have a major influence on the decision;
- Very high, where it would have, or there would be high risk of, an irreversible and possibly irreplaceable negative impact on heritage. Impacts of very high significance should be a central factor in decision-making.

## B. ENVIRONMENTAL IMPACT ASSESSMENT (PLOMP 2004)

An impact can be defined as any change in the physical-chemical, biological, cultural and/or socio-economic environmental system that can be attributed to human activities related to alternatives under study for meeting a project need. The significance of the impacts will be determined through a synthesis of the criteria below (Plomp, 2004):

### Probability

This should describe the likelihood of the impact actually occurring indicated as:

- Improbable, where the possibility of the impact to materialize is very low either because of design or historic experience;
- Probable, where there is a distinct possibility that the impact will occur;
- Highly probable, where it is most likely that the impact will occur; or
- Definite, where the impact will definitely occur regardless of any mitigation measures

### Duration

The lifetime of the impact:

- Short term: The impact will either disappear with mitigation or will be mitigated through natural processes in a time span shorter than any of the phases.
- Medium term: The impact will last up to the end of the phases, where after it will be negated.
- Long term: The impact will last for the entire operational phase of the project but will be mitigated by direct human action or by natural processes thereafter.
- Permanent: Impact that will be non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.

Of relevance to the duration of an impact are the following considerations:

- Reversibility of the impact; and
- Renewability of the heritage resource.

### Scale / Extent

Here it should be indicated whether the impact will be experienced:

- On a site scale, i.e. extend only as far as the activity;
- Within the immediate context of a heritage resource;
- On a local scale, e.g. town or suburb
- On a metropolitan or regional scale; or



- On a national/international scale.

### Magnitude / Severity

Here it should be established whether the impact should be indicated as:

- Low, where the impact affects the resource in such a way that its heritage value is not affected;
- Medium, where the affected resource is altered but its heritage value continues to exist albeit in a modified way;
- High, where heritage value is altered to the extent that it will temporarily or permanently be damaged or destroyed.

### Significance (of the heritage resource)

This is a statement of the nature and degree of significance of the heritage resource being affected by the activity. From a heritage management perspective it is useful to distinguish between whether the significance is embedded in the physical fabric or in associations with events or persons or in the experience of a place; i.e. its visual and non-visual qualities. This statement is a primary informant to the nature and degree of significance of an impact and thus needs to be thoroughly considered. Consideration needs to be given to the significance of a heritage resource at different scales (i.e. site specific, local, regional, national or international) and the relationship between the heritage resource, its setting and its associations.

- Negligible: The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.
- Low: The impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.
- Moderate: The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.

The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

### 6.3.2 Direct impact rating

**Direct or primary effects** on heritage resources occur at the same time and in the same space as the activity, e.g. loss of historical fabric through demolition work. **Indirect effects or secondary effects** on heritage resources occur later in time or at a different place from the causal activity, or as a result of a complex pathway, e.g. restriction of access to a heritage resource resulting in the gradual erosion of its significance, which is dependent on ritual patterns of access. The following table provides an outline as to the relationship between the significance of a heritage context, the intensity of development and the significance of heritage impacts to be expected.

Table 3: Direct Impact Assessment Criteria

HERITAGE CONTEXT	TYPE OF DEVELOPMENT			
	CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY D
CONTEXT 1 High heritage Value	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected	Very high heritage impact expected
CONTEXT 2 Medium to high heritage value	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected

<b>CONTEXT 3</b> Medium to low heritage value	Little or no heritage impact expected	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected
<b>CONTEXT 4</b> Low to no heritage value	Little or no heritage impact expected	Little or no heritage impact expected	Minimal heritage value expected	Moderate heritage impact expected
<b>NOTE: A DEFAULT "LITTLE OR NO HERITAGE IMPACT EXPECTED" VALUE APPLIES WHERE A HERITAGE RESOURCE OCCURS OUTSIDE THE IMPACT ZONE OF THE DEVELOPMENT.</b>				
<b>HERITAGE CONTEXTS</b>		<b>CATEGORIES OF DEVELOPMENT</b>		
<p><b>Context 1:</b> Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources</p> <p><b>Context 2:</b> Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources.</p> <p><b>Context 3:</b> Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources</p> <p><b>Context 4:</b> Of little or no intrinsic, associational or contextual heritage value due to disturbed, degraded conditions or extent of irreversible damage.</p>		<p><b>Category A: Minimal intensity development</b></p> <ul style="list-style-type: none"> <li>- No rezoning involved; within existing use rights.</li> <li>- No subdivision involved.</li> <li>- Upgrading of existing infrastructure within existing envelopes</li> <li>- Minor internal changes to existing structures</li> <li>- New building footprints limited to less than 1000m<sup>2</sup>.</li> </ul> <p><b>Category B: Low-key intensity development</b></p> <ul style="list-style-type: none"> <li>- Spot rezoning with no change to overall zoning of a site.</li> <li>- Linear development less than 100m</li> <li>- Building footprints between 1000m<sup>2</sup>-2000m<sup>2</sup></li> <li>- Minor changes to external envelop of existing structures (less than 25%)</li> <li>- Minor changes in relation to bulk and height of immediately adjacent structures (less than 25%).</li> </ul> <p><b>Category C: Moderate intensity development</b></p> <ul style="list-style-type: none"> <li>- Rezoning of a site between 5000m<sup>2</sup>-10 000m<sup>2</sup>.</li> <li>- Linear development between 100m and 300m.</li> <li>- Building footprints between 2000m<sup>2</sup> and 5000m<sup>2</sup></li> <li>- Substantial changes to external envelop of existing structures (more than 50%)</li> <li>- Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 50%)</li> </ul> <p><b>Category D: High intensity development</b></p> <ul style="list-style-type: none"> <li>- Rezoning of a site in excess of 10 000m<sup>2</sup></li> <li>- Linear development in excess of 300m.</li> <li>- Any development changing the character of a site exceeding 5000m<sup>2</sup> or involving the subdivision of a site into three or more erven.</li> <li>- Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 100%)</li> </ul>		

### 6.3.3 Management actions

Recommendations for relevant heritage resources management actions are vital to the conservation of heritage resources. Recommended management actions may include the following:

**Table 4: Management and Mitigation Actions**

<p><b>No further action / Monitoring</b></p> <p>Where no heritage resources have been documented, heritage resources occur well outside the impact zone of any development or the primary context of the surroundings at a development footprint has been largely destroyed or altered, no further immediate action is required. Site monitoring during development, by an ECO or the heritage specialist are often added to this recommendation in order to ensure that no undetected heritage remains are destroyed.</p> <p><b>Avoidance</b></p> <p>This is appropriate where any type of development occurs within a formally protected or significant or sensitive heritage context and is likely to have a high negative impact. Mitigation is not acceptable or not possible. This measure often includes the change / alteration of development planning and therefore impact zones in order not to impact on resources.</p> <p><b>Mitigation</b></p> <p>This is appropriate where development occurs in a context of heritage significance and where the impact is such that it can be mitigated to a degree of medium to low significance, e.g. the high to medium impact of a development on an archaeological site could be mitigated through sampling/excavation of the remains. Not all negative impacts can be mitigated.</p> <p><b>Compensation</b></p>
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Compensation is generally not an appropriate heritage management action. The main function of management actions should be to conserve the resource for the benefit of future generations. Once lost it cannot be renewed. The circumstances around the potential public or heritage benefits would need to be exceptional to warrant this type of action, especially in the case of where the impact was high.

#### Rehabilitation

Rehabilitation is considered in heritage management terms as a intervention typically involving the adding of a new heritage layer to enable a new sustainable use. It is not appropriate when the process necessitates the removal of previous historical layers, i.e. restoration of a building or place to the previous state/period. It is an appropriate heritage management action in the following cases:

- The heritage resource is degraded or in the process of degradation and would benefit from rehabilitation.
- Where rehabilitation implies appropriate conservation interventions, i.e. adaptive reuse, repair and maintenance, consolidation and minimal loss of historical fabric.
- Where the rehabilitation process will not result in a negative impact on the intrinsic value of the resource.

#### Enhancement

Enhancement is appropriate where the overall heritage significance and its public appreciation value are improved. It does not imply creation of a condition that might never have occurred during the evolution of a place, e.g. the tendency to sanitize the past. This management action might result from the removal of previous layers where these layers are culturally of low significance and detract from the significance of the resource. It would be appropriate in a range of heritage contexts and applicable to a range of resources. In the case of formally protected or significant resources, appropriate enhancement action should be encouraged. Care should, however, be taken to ensure that the process does not have a negative impact on the character and context of the resource. It would thus have to be carefully monitored.

## 6.4 Site significance and impact rating

Refer to Section 6.3.1, Section 6.3.2 & Section 6.3.3 for background on the rating of impacts and recommendation of management actions for sites of heritage potential. Impact thresholds and management measures for the sites are further discussed in section 6.3.5.

### 6.4.1 Site LKS01

1. SITE DESCRIPTION : Middle Stone Age Scatter							
1.1 General Site Description							
A low density Middle Stone Age Scatter.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District		Eastern Cape Province			Map Number		3127CA
Farm / Settlement / Zone		Lukhavala					
Co-ordinates		Site LKS01		S31.74607		E27.09414	
Site Type							
Surface sites		X		Caves and rock shelters			
Larger open-air sites				Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation		X		Kill			
Ceremonial				Burial			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor				Hill top			
Dam				River Bank			
Other / Comments				Vlei/swamp			
				Slope		X	
				River Mouth			
				Plains			
Vegetation							
Riverine forest				Bushveld			
				Savannah			
				Mountain forest			



Thornveld		Grassland	X	Cultivated	X	Other	
<b>Age Classification</b>							
Stone Age	X	Early Iron Age		Middle Iron Age		Later Iron Age	
Historical		Other					
<b>Material Culture</b>							
Midden		House Remains		Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Potter)		Ceramics (Porcelain)		Stone (non-lithic)	X
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	
Other:				Other:			
<b>1.3 Site Condition</b>							
<b>The site integrity has been severely compromised due to the mixing of artefacts. .</b>							
<b>2. SITE EVALUATION</b>							
<b>2.1 Heritage Value (NHRA, section 2 [3])</b>					<b>High</b>	<b>Medium</b>	<b>Low</b>
It has importance to the community or pattern of South Africa's history or pre-colonial history.						X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.							X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.						X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.							X
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.						X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.							X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).							X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.						X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.							X
It has significance relating to the history of slavery in South Africa.							X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.						X	
<b>2.2 Field Register Rating</b>							
National/Grade 1 [should be registered, retained]							
Provincial/Grade 2 [should be registered, retained]							
Local/Grade 3A [should be registered, mitigation not advised]							
Local/Grade 3B [High significance; mitigation, partly retained]							
Generally Protected A [High/Medium significance, mitigation]							
Generally protected B [Medium significance, to be recorded]							X
Generally Protected C [Low significance, no further action]							
<b>2.3 Sphere of Significance</b>					<b>High</b>	<b>Medium</b>	<b>Low</b>
International							
National							
Provincial							
Local						X	
Specific community							
<b>3. IMPACT RATING AND MITIGATION</b>							
<b>3.1 Impact assessment</b>							

**APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 50 METERS**

**NATURE OF IMPACT: HISTORICAL, SCIENTIFIC.**

**EXTENT OF IMPACT: Local**

**SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High**

### 3.2 Impact Significance and Severity

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Duration	Permanent	Short Term
	Intensity	Moderate	Low
	Probability	Definite	Improbable
	Impact Significance	Moderate	Negligible

### 3.3 Direct Impact Rating

Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	<b>X</b>

#### Direct impact rating (Refer to Section 7.3.2)

Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.

**High Heritage Impact Expected.**

### 3.4 Recommended Management\* (refer to section 7.3.3)

#### Avoidance / Monitoring

#### Comments on recommended management

**Avoidance: Management of development process in order to avoid impact on the resources.**

**Monitoring: It is necessary that the sites be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:**

- Documentation of sites.
- Relevant Permitting from Heritage Resources Authority where applicable. .

### 4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- National Heritage Resources Act (Act no. 25 of 1999)
- Local and regional provisions, laws and by-laws

## 6.4.2 Site LKH01

1. SITE DESCRIPTION : Recent Historical Homestead Remains			
1.2 General Site Description			
The remains of a historical farmstead complex.			
1.2 Site features / artefacts / Other			
Site Location			
Province / District	Eastern Cape Province	Map Number	3127CA
Farm / Settlement / Zone	Lukhavala		
Co-ordinates	Site LKH01	S31.74300	E27.10538
Site Type			
Surface sites	<b>X</b>	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	
Site Function			
Living / habitation	<b>X</b>	Kill	
Ceremonial		Burial	
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	
Site Placement			

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	X	Plains	X
Other / Comments							
<b>Vegetation</b>							
Riverine forest		Bushveld		Savannah		Mountain forest	
Thornveld		Grassland	X	Cultivated	X	Other	
<b>Age Classification</b>							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X – Recent Historical				
<b>Material Culture</b>							
Midden		House Remains	X	Stone Walling		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Potter)		Ceramics (Porcelain)		Stone (non-lithic)	X
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other:				Other:			
<b>1.3 Site Condition</b>							
The site integrity has been severely compromised as structures are dilapidated and have collapsed.							
<b>2. SITE EVALUATION</b>							
<b>2.1 Heritage Value (NHRA, section 2 [3])</b>				<b>High</b>	<b>Medium</b>	<b>Low</b>	
It has importance to the community or pattern of South Africa's history or pre-colonial history.							X
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.							X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.							X
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.							X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.					X		
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).					X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.							X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.							X
It has significance relating to the history of slavery in South Africa.							X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.					X		
<b>2.2 Field Register Rating</b>							
National/Grade 1 [should be registered, retained]							
Provincial/Grade 2 [should be registered, retained]							
Local/Grade 3A [should be registered, mitigation not advised]							
Local/Grade 3B [High significance; mitigation, partly retained]							
Generally Protected A [High/Medium significance, mitigation]							
Generally protected B [Medium significance, to be recorded]							X
Generally Protected C [Low significance, no further action]							
<b>2.3 Sphere of Significance</b>				<b>High</b>	<b>Medium</b>	<b>Low</b>	
International							



National			
Provincial			
Local			X
Specific community			
<b>3. IMPACT RATING AND MITIGATION</b>			
<b>3.1 Impact assessment</b>			
<b>APPROXIMATE DISTANCE FROM DEVELOPMENT: 50 - 100 METERS</b>			
<b>NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL &amp; VISUAL.</b>			
<b>EXTENT OF IMPACT: Local</b>			
<b>SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High</b>			
<b>3.2 Impact Significance and Severity</b>			
General assessment of impacts on resource (Refer to Section 7.3.1)		<b>Without Management*</b>	<b>With Management*</b>
	Duration	<b>Permanent</b>	<b>Short Term</b>
	Intensity	<b>Low</b>	<b>Low</b>
	Probability	<b>Improbable</b>	<b>Improbable</b>
	Impact Significance	<b>Low</b>	<b>Negligible</b>
<b>3.3 Direct Impact Rating</b>			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.			<b>No Heritage Impact Expected.</b>
<b>3.4 Recommended Management* (refer to section 7.3.3)</b>			
<b>Monitoring</b>			
<b>Comments on recommended management</b>			
<p><b>Monitoring: It is necessary that the sites be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:</b></p> <ul style="list-style-type: none"> <li>- Documentation of sites.</li> <li>- Further desktop study and community consultation to more accurately ascertain context of sites.</li> <li>- Relevant Permitting from Heritage Resources Authority where applicable. .</li> </ul>			
<b>4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS</b>			
<ul style="list-style-type: none"> <li>- National Heritage Resources Act (Act no. 25 of 1999)</li> <li>- Local and regional provisions, laws and by-laws</li> </ul>			

### 6.4.3 Site LKH02

<b>1. SITE DESCRIPTION : Recent Historical Homestead Remains</b>			
<b>1.3 General Site Description</b>			
The remains of a small Historical Period settlement.			
<b>1.2 Site features / artefacts / Other</b>			
<b>Site Location</b>			
Province / District	Eastern Cape Province	Map Number	3127CA
Farm / Settlement / Zone	Lukhavala		
Co-ordinates	Site LKH02	E27.11706	E27.11706
<b>Site Type</b>			
Surface sites	X	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	

River deposits		Other	
<b>Site Function</b>			
Living / habitation	X	Kill	
Ceremonial		Burial	
Trading / Barter	X	Art	
Quarry / Mining / Smelting		Other	
<b>Site Placement</b>			
Valley floor		Hill top	
Dam		River Bank	
Other / Comments		Vlei/swamp	
		Slope	
		River Mouth	
		Plains	X
<b>Vegetation</b>			
Riverine forest		Bushveld	
Thornveld		Grassland	X
		Savannah	
		Cultivated	X
		Mountain forest	
		Other	
<b>Age Classification</b>			
Stone Age		Early Iron Age	
Historical		Other	X – recent historical
		Middle Iron Age	
		Later Iron Age	
<b>Material Culture</b>			
Midden		House Remains	X
Granary		Grinding Stone (L)	
Metal	X	Ceramics (Potter)	
Metal slag		Tuyere	
Bead (OES / Shell)		Glass	X
Other:		Stone Walling	
		Grinding Stone (U)	
		Ceramics (Porcelain)	X
		Fauna	
		Lithics	
		Stone Structures	X
		Granary Stand	
		Stone (non-lithic)	X
		Bead (Glass)	
		Smelting Residues	
		Other:	
<b>1.3 Site Condition</b>			
<b>The site preservation is good.</b>			
<b>2. SITE EVALUATION</b>			
<b>2.1 Heritage Value (NHRA, section 2 [3])</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
It has importance to the community or pattern of South Africa's history or pre-colonial history.			X
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).		X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	
<b>2.2 Field Register Rating</b>			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			

Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			X
Generally Protected C [Low significance, no further action]			
<b>2.3 Sphere of Significance</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
International			
National			
Provincial			
Local			X
Specific community			
<b>3. IMPACT RATING AND MITIGATION</b>			
<b>3.1 Impact assessment</b>			
<b>APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 50 METERS</b>			
<b>NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL &amp; VISUAL.</b>			
<b>EXTENT OF IMPACT: Local</b>			
<b>SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High</b>			
<b>3.2 Impact Significance and Severity</b>			
General assessment of impacts on resource (Refer to Section 7.3.1)		<b>Without Management*</b>	<b>With Management*</b>
	Duration	Permanent	Short Term
	Intensity	Moderate	Low
	Probability	Definite	Improbable
	Impact Significance	Moderate	Negligible
<b>3.3 Direct Impact Rating</b>			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		X
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		<b>High Heritage Impact Expected.</b>	
<b>3.4 Recommended Management* (refer to section 7.3.3)</b>			
<b>Monitoring</b>			
<b>Comments on recommended management</b>			
<p><b>Monitoring: It is necessary that the sites be monitored to ensure that [previously undetected heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:</b></p> <ul style="list-style-type: none"> <li>- Documentation of sites.</li> <li>- Further desktop study and community consultation to more accurately ascertain context of sites.</li> <li>- Relevant Permitting from Heritage Resources Authority where applicable. .</li> </ul>			
<b>4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS</b>			
<ul style="list-style-type: none"> <li>- National Heritage Resources Act (Act no. 25 of 1999)</li> <li>- Local and regional provisions, laws and by-laws</li> </ul>			

#### 6.4.4 Site LKH03, Site LKH04

<b>1. SITE DESCRIPTION : Recent Historical Homestead Remains</b>
<b>1.4 General Site Description</b>
The remains of Historical Period homesteads.
<b>1.2 Site features / artefacts / Other</b>
<b>Site Location</b>



Province / District	Eastern Cape Province		Map Number	3127CA	
Farm / Settlement / Zone	Lukhavalala				
Co-ordinates	Site LKH03 Site LKH04	S31.74617 S31.74485	E27.09989 E27.10334		
<b>Site Type</b>					
Surface sites	X	Caves and rock shelters			
Larger open-air sites		Sealed sites (deposits)			
River deposits		Other			
<b>Site Function</b>					
Living / habitation	X	Kill			
Ceremonial		Burial			
Trading / Barter	X	Art			
Quarry / Mining / Smelting		Other			
<b>Site Placement</b>					
Valley floor		Hill top		Vlei/swamp	River Mouth
Dam		River Bank		Slope	Plains
Other / Comments					
<b>Vegetation</b>					
Riverine forest		Bushveld		Savannah	Mountain forest
Thornveld		Grassland	X	Cultivated	Other
<b>Age Classification</b>					
Stone Age		Early Iron Age		Middle Iron Age	Later Iron Age
Historical		Other	X – recent historical		
<b>Material Culture</b>					
Midden		House Remains	X	Stone Walling	Stone Structures
Granary		Grinding Stone (L)		Grinding Stone (U)	Granary Stand
Metal	X	Ceramics (Potter)		Ceramics (Porcelain)	Stone (non-lithic)
Metal slag		Tuyere		Fauna	Bead (Glass)
Bead (OES / Shell)		Glass	X	Lithics	Smelting Residues
Other:				Other:	
<b>1.3 Site Condition</b>					
The site preservation is good.					
<b>2. SITE EVALUATION</b>					
<b>2.1 Heritage Value (NHRA, section 2 [3])</b>			High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.					X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.				X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.					X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.					X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.					X

It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	
<b>2.2 Field Register Rating</b>			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			X
Generally Protected C [Low significance, no further action]			
<b>2.3 Sphere of Significance</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
International			
National			
Provincial			
Local			X
Specific community			
<b>3. IMPACT RATING AND MITIGATION</b>			
<b>3.1 Impact assessment</b>			
<b>APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 50 METERS</b>			
<b>NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL &amp; VISUAL.</b>			
<b>EXTENT OF IMPACT: Local</b>			
<b>SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High</b>			
<b>3.2 Impact Significance and Severity</b>			
General assessment of impacts on resource (Refer to Section 7.3.1)		<b>Without Management*</b>	<b>With Management*</b>
	Duration	<b>Permanent</b>	<b>Short Term</b>
	Intensity	<b>Moderate</b>	<b>Low</b>
	Probability	<b>Definite</b>	<b>Improbable</b>
	Impact Significance	<b>Moderate</b>	<b>Negligible</b>
<b>3.3 Direct Impact Rating</b>			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		X
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.			<b>High Heritage Impact Expected.</b>
<b>3.4 Recommended Management* (refer to section 7.3.3)</b>			
<b>Monitoring</b>			
<b>Comments on recommended management</b>			
<b>Monitoring: It is necessary that the sites be monitored to ensure that [previously undetected heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:</b> <ul style="list-style-type: none"> <li>- Documentation of sites.</li> <li>- Further desktop study and community consultation to more accurately ascertain context of sites.</li> <li>- Relevant Permitting from Heritage Resources Authority where applicable. .</li> </ul>			
<b>4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS</b>			
<ul style="list-style-type: none"> <li>- National Heritage Resources Act (Act no. 25 of 1999)</li> <li>- Local and regional provisions, laws and by-laws</li> </ul>			

## 6.4.5 Site LKB01 – Site LKB05

1. SITE DESCRIPTION : Informal Burial Places							
1.5 General Site Description							
Informal burial places in the form of soil and stone mounds and cairns.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District		Eastern Cape Province			Map Number		3127CA
Farm / Settlement / Zone		Lukhavala					
Co-ordinates		Site LKB01	Site LKB02	Site LKB03	Site LKB04	Site LKB05	
		S31.74528	S31.74423	S31.74437	S31.74185	S31.73880	E27.09770
							E27.10454
							E27.10611
							E27.11663
							E27.11574
Site Type							
Surface sites		X			Caves and rock shelters		
Larger open-air sites					Sealed sites (deposits		
River deposits					Other		
Site Function							
Living / habitation					Kill		
Ceremonial					Burial		X
Trading / Barter					Art		
Quarry / Mining / Smelting					Other		
Site Placement							
Valley floor			Hill top		Vlei/swamp		River Mouth
Dam			River Bank		Slope		Plains
Other / Comments							
Vegetation							
Riverine forest			Bushveld		Savannah		Mountain forest
Thornveld			Grassland	X	Cultivated	X	Other
Age Classification							
Stone Age			Early Iron Age		Middle Iron Age		Later Iron Age
Historical		X	Other	X - recent			
Material Culture							
Midden			House Remains		Stone Walling		Stone Structures
Granary			Grinding Stone (L)		Grinding Stone (U)		Granary Stand
Metal			Ceramics (Potter)		Ceramics (Porcelain)		Stone (non-lithic)
Metal slag			Tuyere		Fauna		Bead (Glass)
Bead (OES / Shell)			Glass		Lithics		Smelting Residues
Other: X - Marble, tile and concrete grave dressings					Other: X - concrete		
1.3 Site Condition							
The site integrity ranges between poor in burials that are not maintained, to good in maintained and more recent graves.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])					High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.						X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.					X		
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.						X	

It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.	X		
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	
<b>2.2 Field Register Rating</b>			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			X
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
<b>2.3 Sphere of Significance</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
International			
National			
Provincial			
Local	X		
Specific community			
<b>3. IMPACT RATING AND MITIGATION</b>			
<b>3.1 Impact assessment</b>			
<b>APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 50 METERS</b>			
<b>NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL &amp; VISUAL.</b>			
<b>EXTENT OF IMPACT: Local</b>			
<b>SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High</b>			
<b>3.2 Impact Significance and Severity</b>			
General assessment of impacts on resource (Refer to Section 7.3.1)	Duration	Without Management*	With Management*
	Intensity	Permanent	Short Term
	Probability	High	Low
	Impact Significance	Definite	Improbable
		High	Negligible
<b>3.3 Direct Impact Rating</b>			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		X
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		<b>Very High Heritage Impact Expected.</b>	
<b>3.4 Recommended Management* (refer to section 7.3.3)</b>			



**Avoidance / Mitigation / Monitoring****Comments on recommended management**

**Avoidance:** Changes to development layout and routes in order to avoid impact on the burials or conservation buffers.

**Monitoring:** Ensure that sites are not impacted on.

**However, if this measure is not plausible, the following mitigation actions would be required:**

- Documentation of site.
- Exhumation and reburial
- Full social consultation.
- Possible conservation management and protection measures.
- Relevant Permitting from Heritage Resources Authority.

**4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS**

- Human Tissue Act (Act 65 of 1983 as amended).
- Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925)
- Ordinance on Excavations (Ordinance no. 12 of 1980)
- Local and regional provisions, laws and by-laws
- National Heritage Resources Act (Act no. 25 of 1999)
- Permit from SAHRA for removal

**6.4.6 Site NDB01, Site NDB02**

1. SITE DESCRIPTION : Informal Burial Places							
1.6 General Site Description							
Informal burial places in the form of soil and stone mounds and cairns.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Eastern Cape Province			Map Number	3127CA		
Farm / Settlement / Zone	Noluthando						
Co-ordinates	Site NDB01	S31.71511	E27.12416	Site NDB02	S31.71534	E27.12516	
Site Type							
Surface sites	X		Caves and rock shelters				
Larger open-air sites			Sealed sites (deposits)				
River deposits			Other				
Site Function							
Living / habitation			Kill				
Ceremonial			Burial	X			
Trading / Barter			Art				
Quarry / Mining / Smelting			Other				
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld		Savannah		Mountain forest	
Thornveld		Grassland	X	Cultivated	X	Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X - recent				
Material Culture							
Midden		House Remains		Stone Walling		Stone Structures	X

Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Potter)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other: X - Marble, tile and concrete grave dressings				Other: X - concrete			

### 1.3 Site Condition

The site integrity ranges between poor in burials that are not maintained, to good in maintained and more recent graves.

## 2. SITE EVALUATION

### 2.1 Heritage Value (NHRA, section 2 [3])

	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.	X		
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.	X		
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

### 2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	X
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	

### 2.3 Sphere of Significance

	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

## 3. IMPACT RATING AND MITIGATION

### 3.1 Impact assessment

**APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 50 METERS**

**NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL & VISUAL.**

**EXTENT OF IMPACT: Local**

**SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High**

### 3.2 Impact Significance and Severity

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Duration	Permanent	Short Term
	Intensity	Low	Low
	Probability	Probable	Improbable
	Impact Significance	High	Negligible
<b>3.3 Direct Impact Rating</b>			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		No Heritage Impact Expected.	
<b>3.4 Recommended Management* (refer to section 7.3.3)</b>			
<b>Avoidance / Monitoring</b>			
<b>Comments on recommended management</b>			
<b>Avoidance &amp; Monitoring:</b> - Ensure that sites are not impacted on.			
<b>4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS</b>			
<ul style="list-style-type: none"> <li>- Human Tissue Act (Act 65 of 1983 as amended).</li> <li>- Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925)</li> <li>- Ordinance on Excavations (Ordinance no. 12 of 1980)</li> <li>- Local and regional provisions, laws and by-laws</li> <li>- National Heritage Resources Act (Act no. 25 of 1999)</li> <li>- Permit from SAHRA for removal</li> </ul>			

## 6.5 Discussion: Evaluation of Results

The landscape around the villages of Lukhavala and Noluthando encompass a rich and diverse cultural and historical landscape. The following impact assessment discussion summarises the extent of heritage significance and impact on resources, cognisant of this rich larger archae-historical landscape (refer to Section 2.3 for infrastructure description and Table 6 for impact assessment matrix).

Sites dating to the **Stone Age Period** in occur in the study area.

- Low densities of Middle Stone Age artefacts occur at **Site LKS01** in a drainage line. These Stone Age occurrences and its cultural context is of limited value due to the low concentration of formal stone tools and the loss of artefact context due to poor site preservation and are therefore the site is of medium-low significance. The site is situated within the demarcated water pipe routes and the impact on the site by the proposed activity will be direct and of permanent duration where in essence, the impact might result in the possible confusing of the archaeological context and potential loss of archaeological material. **The significance of the impact on the heritage resources is considered to be MODERATE but the threshold of the impact can be limited to a NEGLIBLE impact by the implementation of mitigation measures (avoidance, conservation, documentation, monitoring) for the sites, if / when required.**

Sites dating to the **Historical / Colonial Period** in occur in the study area.

- The Historical Period farmstead in Lukhavala (**Site LKH01**) is considered to be of medium significance as the site might yield an understanding of the recent occupational and social history of the area, as well as historical architectural and settlement developments in the larger landscape. However the site occurs

away from water supply infrastructure alignments in the general landscape around the project area and impact on the site by the proposed activities is expected to be none. **The significance of the impact on the heritage resources is considered to be NEGLIBLE and this impact is expected to remain unchanged with the implementation of mitigation measures (avoidance, conservation, documentation, monitoring) for the sites, if / when required.** The recent Historical Period settlement area (**Site LKH02**) is of medium-low significance due to the poor preservation of the structures. The site occurs in close proximity of proposed Lukhavala water supply infrastructure alignments and the impact on the site by the proposed activities is expected to be direct and of permanent duration where in essence, the impact might result in the possible destruction of sites and / or potential loss of archaeological material. **The significance of the impact on the heritage resources is considered MODERATE but the threshold of the impact can be limited to a NEGLIBLE impact by the implementation of mitigation measures (documentation, monitoring) for the site, if / when required.** Further recent Historical Period remains of huts and cattle byres (**Site LKH03, Site LKH04**) are also of medium-low significance due to the poor preservation of the structures. The sites occurs in close proximity of proposed Lukhavala water supply infrastructure alignments and the impact on the sites by the proposed activities is expected to be direct and of permanent duration where in essence, the impact might result in the possible destruction of sites and / or potential loss of archaeological material. **The significance of the impact on the heritage resources is considered MODERATE but the threshold of the impact can be limited to a NEGLIBLE impact by the implementation of mitigation measures (documentation, monitoring) for the site, if / when required.**

The large number of graves and cemeteries occurring in the Lukhavala area (**Sites LKB01 – LKB05**) are of heritage priority and carries high significance ratings. In almost all of the burial locations, sites occur within or in close proximity of proposed Lukhavala water supply infrastructure alignments and the impact on these sites by the proposed activities is expected to be direct and permanent where in essence, the impact might result the potential damage / loss of burials. **The significance of the impact on these heritage resources is considered to be HIGH but the threshold of the impact can be limited to a NEGLIBLE impact by the implementation of mitigation measures (avoidance, conservation & monitoring or relocation) for the sites, if / when required.** Two cemeteries documented in Noluthando (**Sites NDB01, Site NDB02**) are also of heritage priority and carries high significance ratings but these sites our away from water supply infrastructure alignments and impact on the sites by the proposed activities is expected to be none. **The significance of the impact on these heritage resources is considered to be LOW and the threshold of the impact can be limited to a NEGLIBLE impact by the implementation of mitigation measures (avoidance, conservation & monitoring or relocation) for the sites, if / when required.**





Table 6: Impact assessment matrix for Magubu & Madonisi Access Roads Project Heritage Resources (See Section 6.3.1 B).

Site	Activity	Impact	P	D	S	M/S	Significance Before Mitigation		Mitigation Measures	P	D	S	M / S	Significance After Mitigation	
															Pre-Construction, Construction, Operation and Closure
									Pre-Construction and Construction Phase						
Site LKS01	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	5	5	1	6	60	Moderate	Documentation & Monitoring	1	1	1	2	4	Negligible
Site LKH01	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	1	5	1	6	12	Negligible	Monitoring & Avoidance	1	1	1	2	4	Negligible
Site LKH02	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	5	5	1	6	60	Moderate	Monitoring	1	1	1	2	4	Negligible
Site LKH03, Site LKH04	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	5	5	1	6	60	Moderate	Monitoring	1	1	1	2	4	Negligible
Site LKB01 - Site LKB05	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	5	5	1	8	70	High	Avoidance, Monitoring & Conservation / Relocation	1	1	1	2	4	Negligible
Site NDB01, Site NDB02	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	2	5	1	8	28	Low	Avoidance, Monitoring & Conservation / Relocation	1	1	1	2	4	Negligible

Aspect	Description	Weight	Aspect	Description	Weight	Aspect	Description	Weight	Aspect	Description	Weight	Aspect	Description	Weight
Probability	Improbable	1	Duration	Short term	1	Scale	Local	1	Magnitude/Severity	Low	2	Significance	Sum(Duration, Scale, Magnitude) x Probability	
	Probable	2		Medium term	3		Site	2		Medium	6		Negligible	<20
	Highly Probable	4		Long term	4		Regional	3		High	8		Low	<40
	Definite	5		Permanent	5								Moderate	<60
													High	>60

## 7 RECOMMENDATIONS

The larger landscape around Queenstown is rich in pre-historical and historical remnants where heritage signatures demonstrate a rich and influential deep, recent and current history. Cognisant of this historically significant landscape and the need for the conservation of its heritage resources, the following recommendations are made based on general observations in the proposed the Lukhavala and Noluthando Water Supply Project Area:

- Since the palaeontological sensitivity of rock units within the study area is generally low the impact significance of the proposed prospecting activities as far as fossil heritage is concerned, is likely to be small. However, a Palaeontological Impact Assessment is recommended and, should fossil remains such as fossil fish, reptiles or petrified wood be exposed during construction, these objects should carefully safeguarded and the relevant heritage resources authority (SAHRA) should be notified immediately so that the appropriate action can be taken by a professional palaeontologist.
- Considering the localised nature of heritage remains, a careful watching brief monitoring process is recommended for all stages of the project, specifically around heritage sensitive areas i.e. historical period structures and graves. Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately
- It is recommended that any activities around the MSA occurrences of medium-low significance identified in the study area (**Site MAS01**), be monitored in order to avoid the destruction of significant and previously undetected Stone Age occurrences.
- The Historical Period farmstead in Lukhavala (**Site LKH01**) is considered to be of medium significance but the site occurs away from water supply infrastructure alignments and no further site-specific recommendations are made. The recent Historical Period settlement area (**Site LKH02**) is of medium-low significance due to the poor preservation of the structures. The site occurs in close proximity of proposed water supply infrastructure alignments and it is recommended that the site be documented and monitored should any development activities impact on the site. Further recent Historical Period remains of huts and cattle byres (**Site LKH03, Site LKH04**) are also of medium-low significance due to the poor preservation of the structures. The sites occurs in close proximity of proposed Lukhavala water supply infrastructure alignments and it is recommended that activities pertaining to the development occurring in this area be monitored in order to minimise impact on the resource and to avoid the destruction of previously undetected heritage remains. If any of the above mentioned sites are to be impacted on by construction activities, destruction permits from the relevant heritage resources authorities (SAHRA) will be required.
- Burial sites of high significance in the Lukhavala area (**Sites LKB01 – LKB05**) occur directly or in close proximity of proposed Lukhavala water supply infrastructure alignments and it is recommended these alignments in the proximity of identified graves and burials be rerouted to avoid these sites. In addition, a conservation buffer zone of at least 20m around all graves and cemeteries is recommended. It is strongly recommended that all cemeteries and graves in the proximity of the proposed activities be properly fenced and access control be implemented. However, should the graves or the required 20m buffer zone be impacted in any way by the planned activities, full grave relocations are recommended for these burials. This measure should be undertaken by a qualified archaeologist, and in accordance with the Human Tissue Act (Act 65 of 1983 as amended), the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the National Heritage Resources Act (Act no. 25 of 1999) and any local and regional provisions, laws and by-laws pertaining to human remains. A full social consultation process should occur in conjunction with the mitigation of cemeteries and burials. Two cemeteries documented in Noluthando (**Sites NDB01, Site NDB02**) occur away from water supply infrastructure

alignments and impact on the sites by the proposed activities is expected to be none. However, it is recommended that a conservation buffer zone of at least 20m be maintained around all graves and cemeteries. It is also recommended that all stages of construction and development near burials be closely monitored in order to avoid the destruction of previously undetected graves.

- It is essential that cognisance be taken of the larger archaeological landscape of the area in order to avoid the destruction of previously undetected heritage sites. It should be stated that it is likely that further undetected archaeological remains will occur elsewhere in the Study Area along water sources and drainage lines, fountains and pans would often have attracted human activity in the past. Burials and historically significant structures dating to the Colonial Period occur on farms in the area and these resources should be avoided during all phases of construction and development.

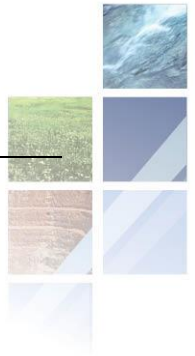
In addition to these site-specific recommendations, careful cognisance should be taken of the following:

- Archaeological traces of Iron Age settlements in this area are sometimes ephemeral unless the characteristic stone-wall towns are identified or surface scatters of thick-walled pottery.
- As noted in this report, rock art is known to exist in sandstone overhangs and rock faces in the larger landscape. Such geological features occur in the landscape but no rock art or markings were identified. Such sandstone outcrops and rock faces should nonetheless be regarded as potentially sensitive in terms of rock markings.
- Water sources such as drainage lines, fountains and pans would often have attracted human activity in the past.
- As Palaeontological remains occur where bedrock has been exposed, such geological features should be regarded as sensitive in terms of impacts on fossilized resources.
- The landscape around Lukhavala and Noluthando has been occupied for many centuries and places of "Living Heritage" might be present in the landscape. Here, "Living Heritage" can broadly refer to a place of cultural heritage and sacred nature; with cultural attributions that are not generally physically manifested. Such places might include initiation sites, places of ritual seclusion, old farmsteads, ritual graves and specific meeting areas. These sites and possible material residues thereof convey an intangible cultural significance beyond the site, shelter or object, where the meaning speaks directly of a sense of place and lived experience. Therefore, Historical period and recent material culture and structures should be regarded as potentially sensitive in terms of the tangible and intangible value of such resources.

## 8 GENERAL COMMENTS AND CONDITIONS

This AIA report serves to confirm the extent and significance of archaeological material in the proposed Lukhavala and Noluthando Water Supply Project area. In addition to heritage resources occurring here, the larger Eastern Cape encompasses rich and diverse archaeological landscapes and cognisance should be taken of heritage resources and archaeological material that might be present in surface and sub-surface deposits. If, during construction, any possible archaeological material culture discoveries are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find. Such material culture might include:

- Formal Earlier Stone Age stone tools such as handaxes, choppers and cleavers.
- Formal Middle Stone Age stone tools such as points, blades and scrapers.
- Formal Later Stone Age stone tools such as microlithic blades, points and scrapers.
- Lithic residues and debris such as stone cores and flakes.



- Decorated and undecorated potsherds.
- Iron objects.
- Beads made from ostrich eggshell and glass.
- Ash middens and cattle dung deposits and accumulations.
- Animal bones and faunal remains.
- Human remains/graves.
- Stone walling or any sub-surface structures.
- Historical glass, tin or ceramics.
- Fossils.

If such site were to be encountered or impacted by any proposed developments, recommendations contained in this report, as well as endorsement of mitigation measures as set out by SAHRA, the National Resources Act and the CRM section of ASAPA will be required. Please note that this report is an archaeological scoping study only and does not include or exempt other required heritage impact assessments.

It must be emphasised that the conclusions and recommendations expressed in this archaeological heritage sensitivity investigation are based on the visibility of archaeological sites/features and may not therefore, represent the area's complete archaeological legacy. Many sites/features may be covered by soil and vegetation and might only be located during sub-surface investigations. If subsurface archaeological deposits, artefacts or skeletal material were to be recovered in the area during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately (**cf. NHRA (Act No. 25 of 1999), Section 36 (6)**).

It must also be clear that Archaeological Specialist Reports will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which should give a permit or a formal letter of permission for the destruction of any cultural sites.





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