CHRIS HANI DISTRICT MUNICIPALITY (CHDM): NGCOBO CLUSTER 6 RISING MAIN WEST BULK WATER SUPPLY SCHEME, EASTERN CAPE PROVINCE

Archaeological Impact Assessment Report

November 2013

Document version 3.0 (Draft)
Compiled by N. Kruger

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ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE NGCOBO CLUSTER 6 RISING MAIN WEST BULK WATER SUPPLY SCHEME, UPPER GCAKA AREA, EASTERN CAPE PROVINCE

Document Version 3 (Draft)

November 2013

Conducted on behalf of:

Eastern Cape Department of Roads & Public Works
AGES Eastern Cape

Compiled by:

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DECLARATION

I, Nelius Le Roux Kruger, declare that –

- I act as the independent specialist;
- I am conducting any work and activity relating to the Ngcobo Cluster 6 Rising Main West Bulk 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 expertise in conducting the specialist report relevant to this application, including knowledge of 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 will comply with the Act, regulations and all other applicable legislation;
- 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.

_____

SIGNATURE OF SPECIALIST

Company: AGES Gauteng (Pty) Ltd.

Date: 4 November 2013

NOTATIONS AND TERMS

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 artifact 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.

^{14}C or radiocarbon dating:
The ^{14}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 artifactual 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 artifacts, in other words artifacts 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 in 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 ± 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.

LIST OF ABBREVIATIONS

Abbreviation	Description
ASAPA	Association for South African Professional Archaeologists
AIA	Archaeological Impact Assessment
BP	Before Present
BCE	Before Common Era
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
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 Rights Application
MSA	Middle Stone Age
NHRA	National Heritage Resources Act No.25 of 1999, Section 35
SAHRA	South African Heritage Resources Association
YCE	Years before Common Era (Present)

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1 EXECUTIVE SUMMARY

This report details the results of an Archaeological Impact Assessment (AIA) study in the Upper Gqaka area, west of Mthatha in the Eastern Cape Province. The assessment has been requested by the Chris Hani District Municipality, subject to the Ngcobo Cluster 6 Rising Main West Bulk Water Supply Project. The project comprises the construction of a bulk water supply pipeline and associated infrastructure, a command reservoir and an access road in this area. 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.

Limited academic archaeological and historical studies have been conducted in this section of the Eastern Cape. However, the area encompasses a rich and diverse archaeological landscape, representative of most phases of human and cultural development in southern Africa. Similarly, two areas of archaeological and heritage potential were located during the AIA survey which focused on surface areas across a total of approximately 12km along the route of the proposed for the Bulk Water Supply pipeline, access roads and associated infrastructure.

Palaeontology:

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, it is recommended that the general landscape be closely monitored during construction, in order not to disturb undetected palaeontological remains. Should fossil remains such as fossil fish, reptiles or vitrified wood be exposed during construction, a suitably qualified palaeontologist should be consulted in order to establish the significance, and provide management measures for such resources. These objects should carefully safeguarded and the relevant heritage resources authority (SAHRA) should be notified immediately.

Historical/ Colonial Period:

Possible recent historical period remnants in the form of an old ruined homestead and stock kraal occur along the proposed water supply route. The exact age of the homestead is not known but it probably dates to the recent Historical Period. It is recommended that the site be recorded and that the context and temporality of the sites be established by means of desktop studies and ethnographic inferences if they are to be impacted in any way. A destruction permit should be obtained from the relevant heritage resources authority (SAHRA) prior to any means of alteration of the sites.

Graves/ Burials:

At least 6 burial sites, containing a total of 15 graves were identified along the proposed water supply and access road routes. The burials, all situated within the context of homesteads, are of high heritage significance and require special management attention. It is primarily recommended that the suggested pipeline and access road routes be rerouted where burials will be impacted. In addition, conservation buffer zones of at least 20m around the graves, as well as the fencing off of the burials are recommended. However, should the graves or the proposed 20m buffer zones be inevitably impacted on by the planned activities, full grave relocations are recommended for the burials. These measures should be undertaken by a qualified archaeologist, and in accordance with relevant legislation and subject to any local and regional provisions and laws and by-laws pertaining to human remains. A full social consultation process should occur in conjunction with the mitigation of

cemeteries and burials. **As burial locations in this area follow a general (and fairly common) pattern where graves occur within the context of homestead complexes, utmost care should be taken during construction in occupation areas, not to disturb previously undetected burials.**

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 deposits. The possible existence of Historical Period resources deriving from the area's more recent history should also be considered. Graves and cemeteries generally occur within settlements, often around homesteads and utmost care should be taken not to disturb these high risk heritage resources as they involve complex intrinsic social and ritual attributes within the community.

Generally, 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 be exposed during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately

This report details the methodology, limitations and recommendations relevant to these heritage areas, as well as areas of proposed development. It should be noted that mitigation measures are valid for the duration of the development process, and mitigation measures might have to be implemented on additional features of heritage importance not detected during this Phase 1 assessment (e.g. uncovered during the construction process).

2 BACKGROUND

2.1 Scope and Motivation

AGES was appointed by the Chris Hani District Municipality for an Archaeological Impact Assessment (AIA) Study for the proposed Ngcobo Cluster 6 Rising Main West project in the Eastern Cape Province. The upgrade will entail the construction of a Bulk Water Supply pipeline and associated infrastructure in the Upper Gqaka area. The rationale of the study was to determine the presence of heritage resources such as archaeological and historical sites and features, graves and places of religious and cultural significance; 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.

2.2 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 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.

2.3 Project Brief

The design for the Ngcobo Cluster 6 Rising Main West water supply is based on the initial utilisation of spring water and then augmentation of this supply by the bulk supply from two abstraction points once the bulk scheme has been implemented.

- Abstraction point I is on the Nciancule River and treated water will be pumped from the proposed Ggaga Water Treatment Works via Bulk Rising Main East to Command Reservoir 1 (Supply Area 1) and via Bulk Rising Main West to Command Reservoir 2 (Supply Area 2) from where it will gravitate to the Village Reservoirs of the respethe Village Supply Schemes.
- Abstraction point 2 is on the Mbashe River and treated water will be pumped from the proposed Sitholeni Water treatment Works via a Bulk Rising Main to Command Reservoir 3 (Supply Area 3) from where it will gravitate to the Village Reservoirs of the respective Village Supply Schemes.

The Rising Main West project will thus include the construction of the following infrastructure (See Figure 2-1):

- Rising main bulk water supply pipeline.
- First and second stage pipelines.
- Command reservoirs.
- An access road to service the construction of pipeline infrastructure.

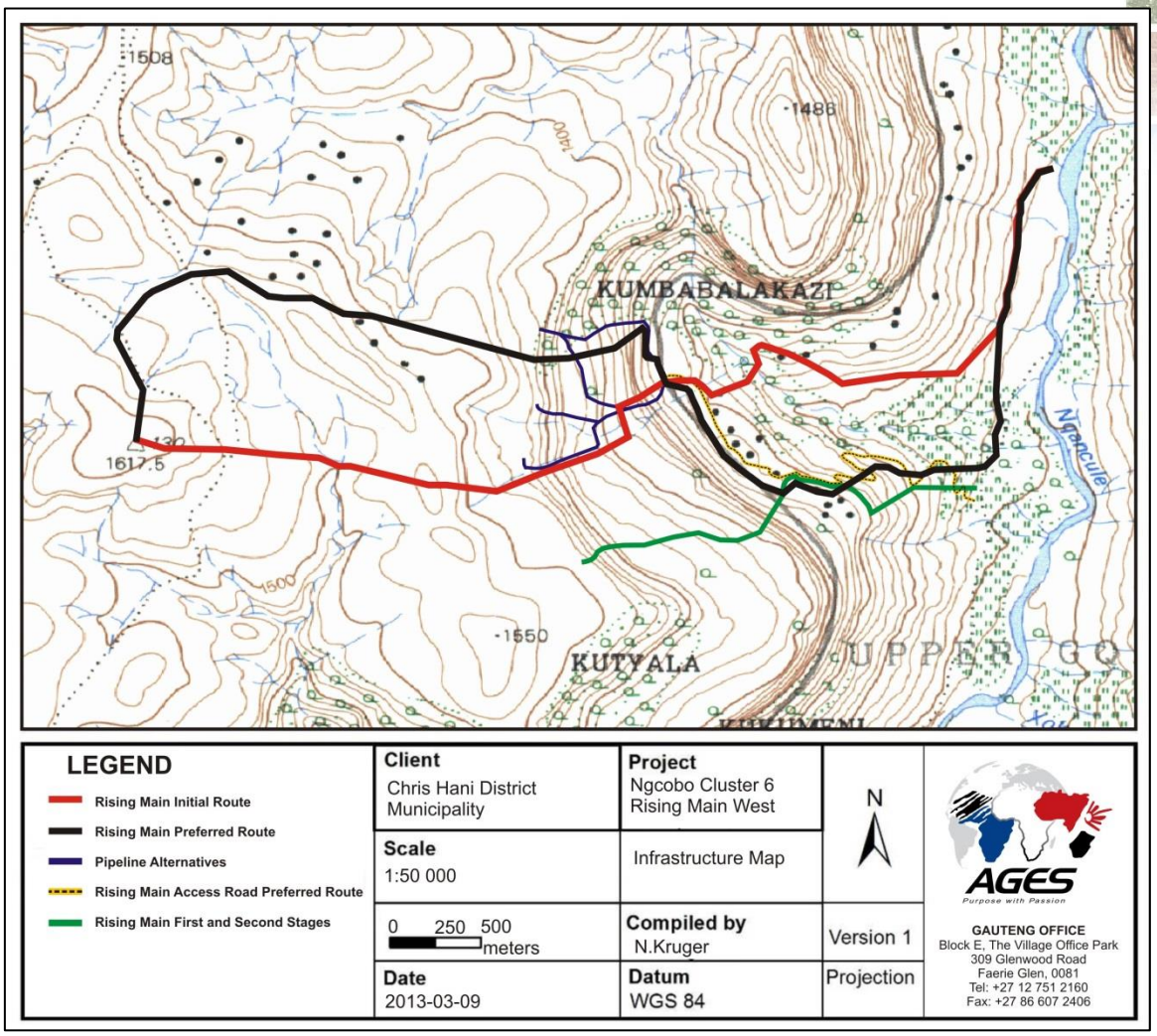

Figure 2-1: Map representation indicating the Ngcobo Cluster 6 Rising Main West project scope and infrastructure alternatives.

2.4 Terms of Reference

Heritage specialist input in Environmental Impact Assessment (EIA) processes is essential to ensure that through the management of change, development conserves our heritage. 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 categories of development defined in the relevant heritage legislation, which may have an impact on heritage resources.

Thus, EIAs should, in all cases, include the 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), archaeological sites and material (see Section 35) and graves as well as burial sites (see Section 36). 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:

- *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).*

2.5 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.

2.5.1 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.

- *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) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60)."

- *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.

2.5.2 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 of 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 50 m in length;

(c) any development or other activity which will change the character of a site:

(i) exceeding 5 000 m^2 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^2 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 aesthetics, 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.

3 REGIONAL CONTEXT

3.1 Area Location

The study area is located on the banks of the Nqancule River in a large valley in the Upper Gqaga area near the village of Kumbabalakazi, approximately 60km west of the town of Mtatha in the Eastern Cape Province, generally at **S31°27'41.64" E28°12'01.02".**

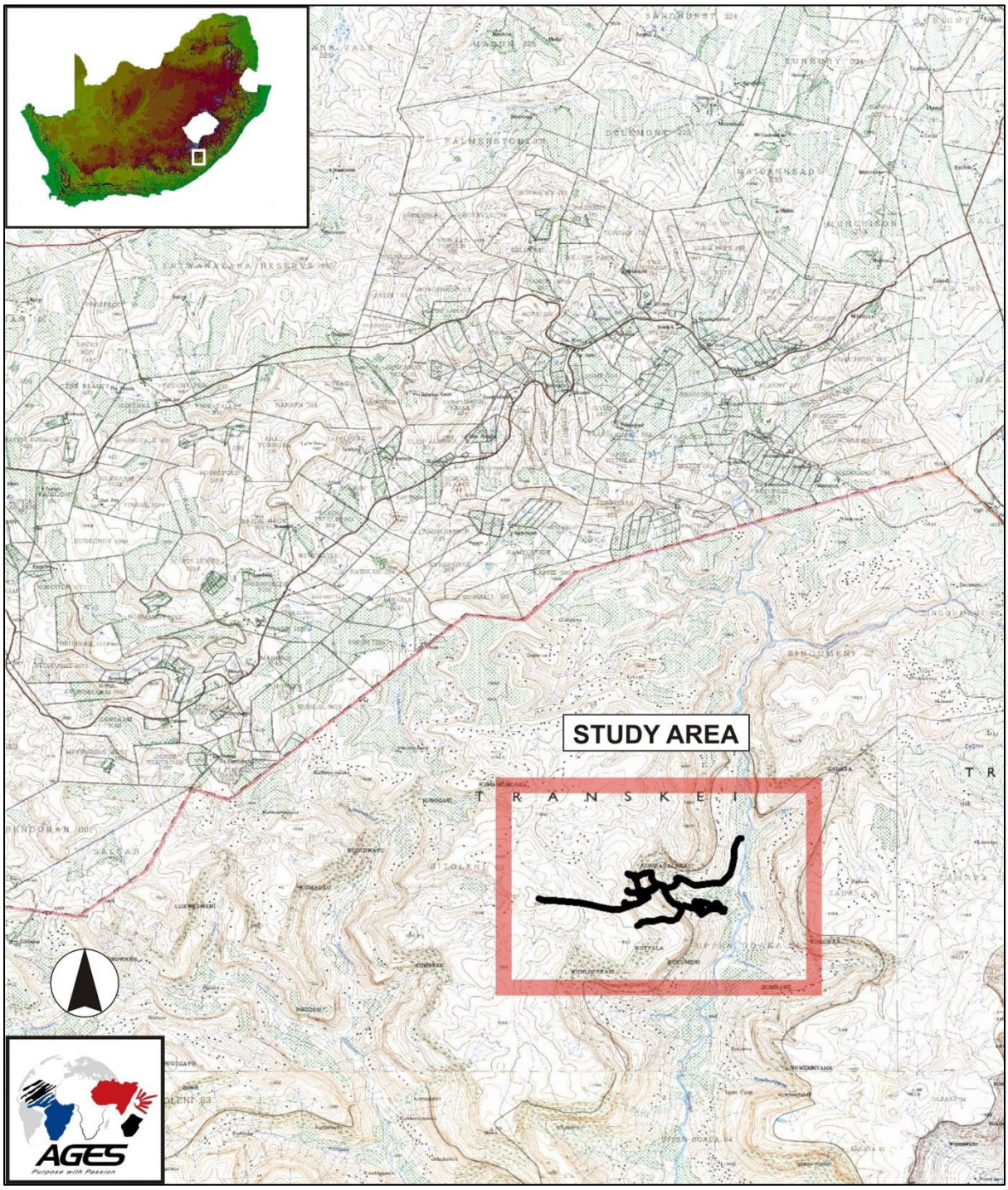

Figure 3-1: 1:50 00 Map representation of the Ngcobo Cluster 6 Rising Main West project location (3128AC).

3.2 Area Description: Receiving Environment

The Upper Gqaka region is situated on the hills of the Eastern Cape grasslands south of the Drakensberg. The ecological landscape is defined as a combination of mixed grasslands and forest / scrub forest, typically dominated by mixed grassveld and forests at differing altitudes. The annual rainfall ranges between 1150 to over 1300mm per annum. The geology of the larger region is constituted by mudstones and sandstones of the Beaufort group and towards the coast, shales, mudstones and sandstones of the Ecca group, with exposures of dolerite intrusions mostly in the higher lying areas, are found. Soils in the area are moderate to deep and vary between sandy loams in the upper half to clayey loam in the downstream half. Several perennial and non-perennial streams and drainage lines, most of them originating in the surrounding hills, transect the area. The proposed Bulk Water Supply pipeline is situated within expanding rural residential areas and surface disturbances are prevalent in the study areas. These disturbance agents include agricultural activities such as ploughing and grazing and severe surface erosion and decomposition of low-lying geomorphological deposits.

Figure 3-2: General surroundings in the Kumbabalakazi area, looking north-east towards the offset of the proposed Ngcobo Cluster 6 Rising Main West pipeline.

Figure 3-3: General surroundings towards Ngqayi, looking east at Kumbabalakazi and the offset of the proposed Ngcobo Cluster 6 Rising Main West.

3.3 Site Description

The areas demarcating the Ngcobo Cluster 6 Rising Main West Water Supply infrastructure extends over an east-west area of approximately 12km covering more or less 100ha. A number of small settlements occur around the Nqancule River in this area, specifically Kumbabalakazi, Kutyala and Zabasa but also to the west at Ngqayi. The area is transected by the Nqancule River, a tributary of the larger Mbashe River to the east. Extensive surface disturbances, the result of erosion activity are prevalent in areas along the river.

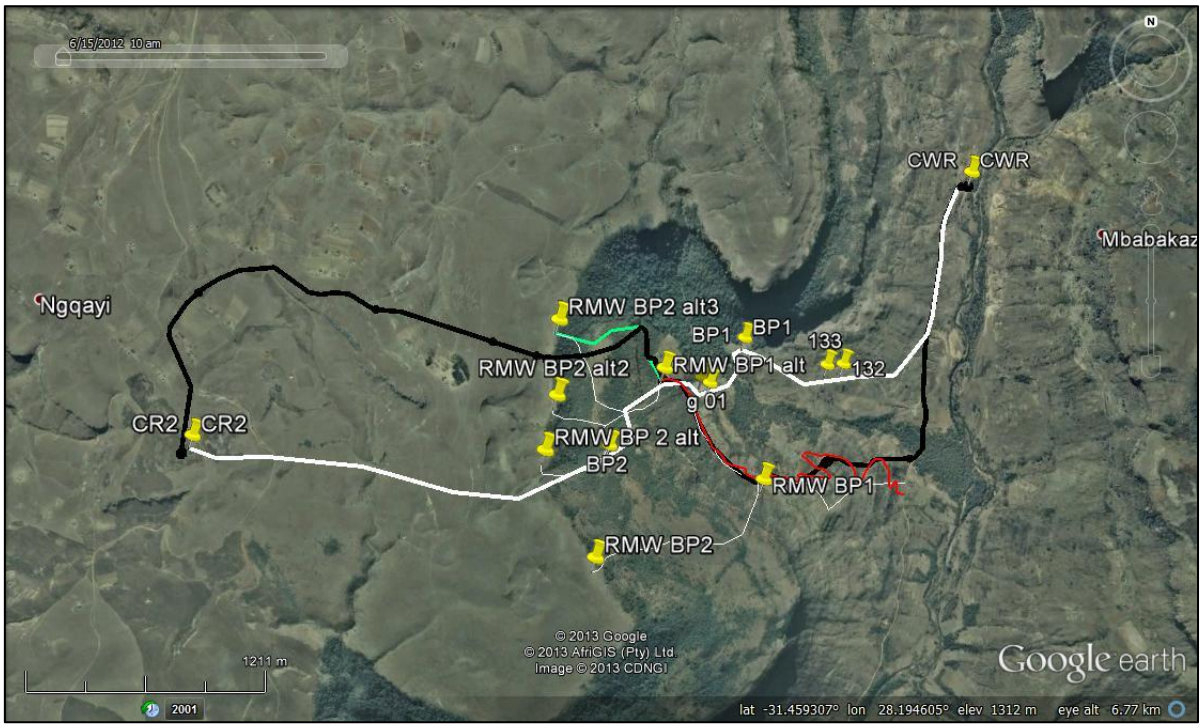

Figure 3-4: Aerial representation of the Ngcobo Cluster 6 Rising Main West infrastructure extent.

4 METHOD OF ENQUIRY

4.1 Sources of Information

4.1.1 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, Heritage Impact Assessment Reports, aerial photographs, historical maps and local histories, all pertaining to the larger landscape of this section of the Eastern Cape Province.

4.1.2 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 aid the pedestrian and vehicular survey in the Ngcobo Cluster 6 Rising Main West project area and surroundings, where contour lines of elevations, depressions, variation in vegetation, soil marks and landmarks were examined.

Figure 4-1: Aerial representation of the initial route proposed for the Ngcobo Cluster 6 Rising Main West bulk water supply pipeline, indicating areas of possible heritage significance identified prior to the field survey.

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. These areas served as referenced points from where further pedestrian surveys were carried out.

4.1.3 Field Survey

Archaeological survey implies the systematic procedure of the identification of archaeological sites. Archaeological surveys of areas to be impacted by the Rising Main West Bulk Water Supply pipeline were done in November 2012, February 2013 and October 2013. The field work was conducted by means of a systematic pedestrian survey in accordance with standard archaeological practise by which heritage resources are observed and documented. In order to sample surface areas systematically and to ensure a high probability of site recording, proposed infrastructure routes for the bulk water pipeline, first and second stages and an access road, including am impact footprint zone of approximately 20m were surveyed on foot and, using a Garmin E-trex Legend GPS objects and structures of archaeological / heritage value were recorded and photographed with a Canon 450D Digital camera. The pedestrian survey particularly focused around potentially sensitive areas e.g. sites of higher catchment probability – for example around water sources, on ridges and in drainage lines. 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.

4.1.4 General Public Liaison

In single cases, consultation with local residents provided information on the general history of the area, possible

locations of heritage resources and brief commentaries on the recent history of the area.

4.2 Limitations

4.2.1 Access

The survey area is accessed from the south-east via a regional dirt road which connects the villages of Kumbabalakazi and Zabasa to the R61 Umtata - Encobo road. Access control is not applied to the area, and the valley which the proposed pipeline route follows can be reached on foot. However, certain sections of the proposed infrastructure (e.g. the Rising Main first and second stage routes, the initial bulk water supply line and some alternatives towards the west of Kumbabalakazi) cannot reached via pedestrian access since the routes cover inaccessible sheer cliffs and steep gradients in places.

4.2.2 Visibility

The surrounding vegetation in the Upper Gqaka area is mostly comprised out of mixed grasslands and riverine bush. The general visibility at the time of the site surveys (November 2012, February 2013, October 2013) was moderate to low due to relatively dense surface cover in the region, particularly along drainage lines and higher up in mountain forests. However, visibility along disturbed areas such as erosion gullies was moderate to high. In single cases during the survey sub-surface inspection was possible but where applied, this revealed no substantial archaeological deposits.

Figure 4-2: View of the study area at Kumbabalakazi, looking south.

Figure 4-3: View of surface disturbances and erosion gullies in the study area at Kumbabalakazi.

Figure 4-4: View of homesteads near Kumbabalakazi in the study area.

Figure 4-5: View of the proposed Rising Main Route near Kumbabalakazi, looking south.

Figure 4-6: General surroundings on a high plateau at Kumbabalakazi along the proposed Rising Main Route.

Figure 4-7: General surroundings on a high plateau at Kumbabalakazi along the proposed Rising Main second stage route.

Figure 4-8: General surroundings on a high plateau at Ngqayi, along the preferred Rising Main bulk water supply route.

4.2.3 Limitations and Constraints

Due to the large extent of the surface area subject to the AIA study, the pedestrian and vehicular site survey 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. However, the following constraints were encountered:

- **Survey Time and Extent:** Generally, time restrictions in terms of the site survey proved to be a constraint due to the vast and, in places inaccessible surface extent of proposed infrastructure route alignments for the Ngcobo Cluster 6 Rising Main West West Bulk Water Supply Project. Therefore, pedestrian site surveys focused around areas tentatively identified as sensitive (i.e. along drainage lines and those noted during the aerial survey) as well as zones to be directly impacted by the proposed pipeline.
- **Access:** Sections of the Rising Main first and second stage routes, the initial bulk water supply line and some pipe line alternatives towards the west of Kumbabalakazi cannot reached via pedestrian access since the routes cover inaccessible sheer cliffs and steep gradients in places. These sites were not surveyed on foot but careful aerial examination of these infrastructure option sections omitted the presence of surface heritage remains.
- **Visibility:** Visibility proved to be a constraint in more pristine areas where documented sites proved to be densely overgrown and obstructed by surface vegetation. In addition, dense fog heavily constrained visibility towards the western offset of the route high on the plateau.

Thus, 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 on the property. 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.

5 RESULTS: ARCHAEOLOGICAL SURVEY

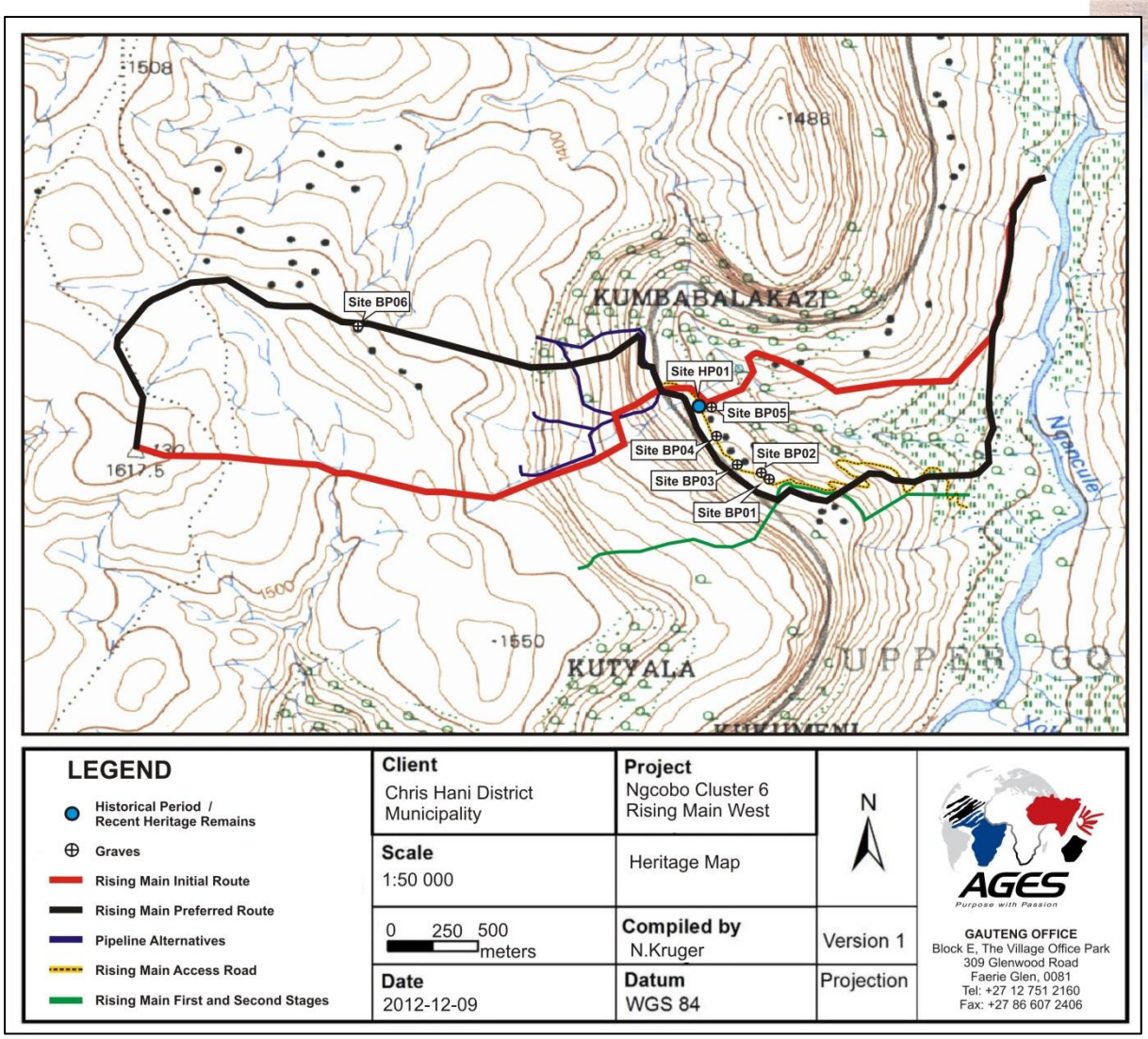

Figure 5-1: Map indicating the locations of archaeological and historical occurrences discussed in the text.

5.1 The Stone Age

No Stone Age material was identified in areas directly associated with the Ngcobo Cluster 6 Rising Main West project. However, it is likely that Earlier, Middle and possibly Later Stone Age scatters will occur in subsurface deposits the area, specifically along drainage lines.

5.2 The Iron Age (Farmer Period)

No Iron Age material was identified in areas directly associated with the Ngcobo Cluster 6 Rising Main West project. Earlier Iron Age sites might be encountered along drainage lines and rivers in the study area and Later Iron Age sites could occur on higher plateaus and mountain slopes, as well as near sources of water and along drainage lines.

5.3 Historical / Colonial Period and recent times

A single site of possible recent Historical period origin occurs along the proposed route of the Ngcobo Cluster 6 Rising Main West pipeline.

- **Site HP01: S31.46090 E28.20011 (Historical / Recent Period Structure)**

The ruins of a homestead occur along the initial Rising Main West bulk water supply proposed pipeline route. At the site, the remains of 2 huts (foundation structures, floors and walls), a partially intact square stone stock kraal and material culture in the form of artefact remains (glass, metal, plastic, stone, grind stones) were noted.

Even though a temporal context for the site could not be ascertained, a relative recent age for the structures is estimated. These estimations are based on the following inferences:

- As a general rule, southern African Iron Age farming communities constructed irregular circular stock enclosures. Squarely built enclosures only appear consequent to Colonial contact, which implies that the cattle kraals at these ruins did not belong to Iron Age stock farmers, but rather later more recent family units.
- Material culture and artefact remains found in association with the sites date to recent times. Objects such as glass fragments, tin cans, metal and plastic containers place the period of occupation of the sites within recent times, provided that the sites have been occupied for a single continuous phase which produced the material culture.
- The sites' close proximity to other similar homesteads currently in use, suggests that these sites were occupied during early phases of the same occupational period of current homesteads in the area.

The similarity in general appearance, size and use, between the ruined homesteads and homesteads currently in use in the direct surroundings suggest a contemporaneous occupation of sites which is indicative of a recent age of the ruined sites.

Figure 5-2: View of hut, grind stone and other material culture from Site HP01.

It highly likely that further historical period remains will be present in areas surrounding infrastructure proposed for the Ngcobo Cluster 6 Rising Main West project.

5.4 Graves

In this area graves and cemeteries generally occur within settlements, often around homesteads and it is highly probable that these heritage resources might be encountered during construction, in addition to the sites noted below.

- **Site BP01: S31.46453 E28.20287**

This burial site, located at a large boulder next to circular stone foundation structures and homestead remains contains at least 5 graves. The graves are dressed with stone cairns and soil mounds, and some of the burials hold rough headstones.

Figure 5-3: View of Site BP01, indicating circular foundation structure and associated graves (visible burials indicated with arrows).

- **Site BP02: S31.46437 E28.20271**

This site, a single grave occurs near the ruins of a homestead. The grave is demarcated by a soil-filled stone cairn and a rough headstone.

Figure 5-4: Site BP02, a single stone dressed grave.

- **Site BP03: S31.46394 E28.20164**

4 Graves occur in a small open field next to homesteads and a stock kraal structure. One of the graves is dressed with a brick structure in blue paint. The following is printed in white on the headstone:

Mrebe Nocingile
1930-01-02
Ded 2011-26-01

The other graves are roughly dressed with stone and soil.

Figure 5-5: Site BP03, detailing stone dressed graves (left) and grave with painted brick dressing and inscribed headstone.

- **Site BP04: S31.46256 E28.20064**

A single grave occurs in an open field near the ruins of a stack kraal. The grave is demarcated by a soil mound with a clearly visible headstone.

Figure 5-6: A single grave at Site BP04. Note headstone and soil mound indicating grave pit.

- **Site BP05: S31.46099 E28.20052**

A single grave, dressed with stone and soil, was documented next to the cattle kraal at site HP01. A prominent headstone is visible on the burial.

Figure 5-7: The burial at Site BP01 close to the cattle kraal. Note the headstone on the grave.

- **Site BP06: S31.45709 E28.18337**

Three graves were documented on a high ridge towards the western offset of the bulk water supply pipeline. The burials occur in an open field near the ruins of a stock kraal. The graves are demarcated by soil-filled stone cairns with clearly visible headstones.

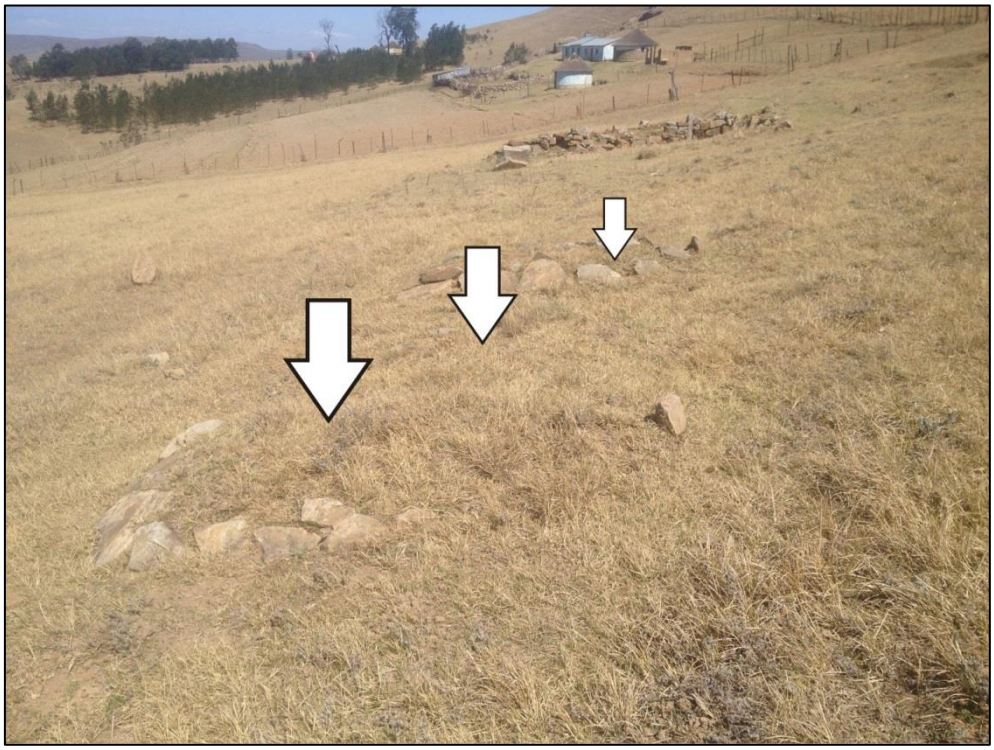

Figure 5-8: 3 Burials at Site BP06 on a high ridge. The locations of grave pits are indicated by white arrows.

6 ARCHAEO-HISTORICAL CONTEXT

6.1 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:

Period	Epoch	Associated cultural groups	Typical Material Expressions
Early Stone Age 2.5m – 250 000 YCE	Pleistocene	Early Hominins: *Australopithecines* *Homo habilis* *Homo erectus*	Typically large stone tools such as hand axes, choppers and cleavers.
Middle Stone Age 250 000 – 25 000 YCE	Pleistocene	First *Homo sapiens* species	Typically smaller stone tools such as scrapers, blades and points.
Late Stone Age 20 000 BC – present	Pleistocene / Holocene	*Homo sapiens sapiens* 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	Holocene	Bantu-speaking groups, ancestors of present-day	Typically distinct ceramics, bead ware and iron / gold / copper objects, trade goods and grinding

900 – 1350 AD		groups	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.

6.1.1 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 fill 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.

6.1.2 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 ±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.

6.1.3 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.

6.2 Upper Gqaka Area: Specific Themes

The regions surrounding the Eastern Cape and the Lesotho frontier have been the subject of few archaeological research projects. However, the area displays a rich archaeological landscape with significant palaeontological, archaeological and historical sites.

6.2.1 Palaeontology

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.

6.2.2 The Stone Age Period

Early Stone Age (ESA) material (1.5 million years ago-250 000 years ago) such as hand axes and cleavers is relatively rare in the Eastern Cape with sites occurring mostly in major river valleys. Generally these artefacts are not found *in situ* and are likely to be out of their primary context. Middle Stone Age (MSA) material (250 000-30 000 years ago) typically made from quartzite, dolerite, or hornfels, occurs as surface scatters at sites throughout the Eastern Cape Highlands along minor and major river courses, usually also not *in situ.* 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 Middle Stone Age 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. The Later Stone Age (LSA) (30 000 years ago – present) is abundantly represented with LSA material found across the Eastern Cape. The area is renowned for its rich rock art heritage. The majority of these rock markings can be associated with Later Stone Age San hunter-gatherers.

6.2.3 Hunters-gatherers, Herders and Shell Middens

Figure 6-1: Large shell midden off the coast of southern Africa.

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 dating to the terminal Pleistocene and Holocene that litter the coastal areas of southern Africa (see Figure 6-1). 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.

6.2.4 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.

Figure 6-2: Hunter-Gatherer Rock Art from southern Lesotho.

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.

6.2.5 Iron Age / Farmer Period Sites

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 Mtatha 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).

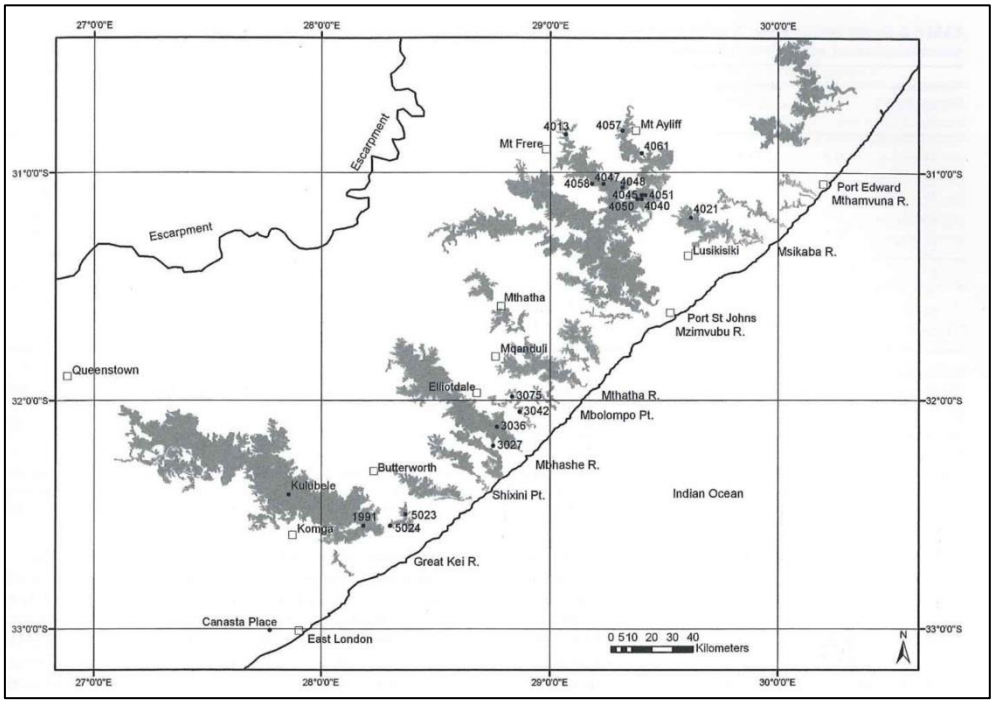

Figure 6-3: Early Iron Age farmer period sites in the Eastern Cape around Mthahta (after Feely & Bell-Cross 2011).

Relatively little research has been conducted on the archaeology of later farmer communities of Lesotho 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.

6.2.6 Later History: Historical archaeology 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 Grensoorlöe ("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.

7 RESULTS: STATEMENT OF SIGNIFICANCE AND IMPACT RATING

7.1 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.

7.2 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 local PHRA.
- 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.

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.

7.3 Potential Impacts and Significance Ratings[1]

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 7.3.1, Section 7.3.2 & Section 7.3.3) for the

[1] Based on: W inter, S. & Baumann, N. 2005. *Guideline for involving heritage specialists in EIA processes: Edition 1.*

rating of impacts and recommendation of management actions for sites of heritage potential in the Ngcobo Cluster 6 Rising Main West project area, as supplied in section 7.3.4.

7.3.1 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.

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. sitespecific, local, regional, national or international) and the relationship between the heritage resource, its setting and its associations.

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.

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.

Duration

Here it should be indicated whether the lifespan of the impact will be:

- Short term, (needs to be defined in context)
- Medium term, (needs to be defined in context)
- Long term where the impact will persist indefinitely, possibly beyond the operational life of the activity, either because of natural processes or by human intervention; or
- Permanent where mitigation either by natural process or by human intervention 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.

Intensity

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; and
- High, where heritage value is altered to the extent that it will temporarily or permanently be damaged or destroyed.

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

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:

- 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.

7.3.2 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.

	TYPE OF DEVELOPMENT			
HERITAGE CONTEXT	**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
CONTEXT 3 Medium to low heritage value	Little or no heritage impact expected	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected
CONTEXT 4 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

NOTE: A DEFAULT "LITTLE OR NO HERITAGE IMPACT EXPECTED" VALUE APPLIES WHERE A HERITAGE RESOURCE OCCURS OUTSIDE THE IMPACT ZONE OF THE DEVELOPMENT.

HERITAGE CONTEXTS	CATEGORIES OF DEVELOPMENT
Context 1: 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 **Context 2:** Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources.	**Category A: Minimal intensity development** - No rezoning involved; within existing use rights. - No subdivision involved. - Upgrading of existing infrastructure within existing envelopes - Minor internal changes to existing structures - New building footprints limited to less than 1000m2. **Category B: Low-key intensity development**

Context 3: Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources **Context 4:** Of little or no intrinsic, associational or contextual heritage value due to disturbed, degraded conditions or extent of irreversible damage.	- Spot rezoning with no change to overall zoning of a site. - Linear development less than 100m - Building footprints between 1000m2-2000m2 - Minor changes to external envelop of existing structures (less than 25%) - Minor changes in relation to bulk and height of immediately adjacent structures (less than 25%). **Category C: Moderate intensity development** - Rezoning of a site between 5000m2-10 000m2. - Linear development between 100m and 300m. - Building footprints between 2000m2 and 5000m2 - Substantial changes to external envelop of existing structures (more than 50%) - Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 50%) **Category D: High intensity development** - Rezoning of a site in excess of 10 000m2 - Linear development in excess of 300m. - Any development changing the character of a site exceeding 5000m2 or involving the subdivision of a site into three or more erven. - Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 100%)

7.3.3 Management actions

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

No further action / Monitoring

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.

Avoidance

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.

Mitigation

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.

Compensation

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.

7.3.4 Site significance and impact rating

Refer to Section 7.3.1, Section 7.3.2 & Section 7.3.3 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 7.3.5.

- **Site HP01**

1. SITE DESCRIPTION : Historical / Recent Structure							
1.1 General Site Description							
Homestead remains and cattle kraal.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	**Eastern Cape Province**			Map Number	**3128AC**		
Farm Name	**Upper Gqaka Area**			Co-ordinates	**S31.46090**	**E28.20011**	
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	**X – pastoral**		
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	**X**	Plains	
Other / Comments							
Vegetation							
Riverine forest		Bushveld		Savannah	**X**	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	**X**	House Remains	**X**	Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal	**X**	Ceramics (Pottery)		Ceramics (Porcelain)	**X**	Stone (non-lithic)	**X**
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass	**X**	Lithics	**X**	Smelting Residues	
Other:				Other:			
1.3 Site Condition							
The integrity of sites have been greatly compromised and sites are ruined.							
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	

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]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	X
Generally Protected C [Low significance, no further action]	

C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International			
National			
Provincial			
Local			X
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	X
High	

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

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

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 – 100 METERS

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

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)	X

	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 "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.	**Moderate heritage impact**

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Site Monitoring

Comments on recommended management

If further impact is envisaged:
- **Further desktop study to more accurately ascertain context of sites.**
- **Relevant Permitting from Heritage Resources Authority.**

H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

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

- **Sites BP01, BP02, BP03, BP04, BP05, BP06**

1. SITE DESCRIPTION : Marked / unmarked graves and burial places

1.1 General Site Description

A number of marked and unmarked graves and burials.

1.2 Site features / artefacts / Other

Site Location

Province / Dsitrict	**Eastern Cape Province**	Map Number	**3128AC**	
Farm Name	**Upper Gqaka Area**	Co-ordinates	**S31.46453** **S31.46437** **S31.46394** **S31.46256** **S31.46099** **S31.45709**	**E28.20287** **E28.20271** **E28.20164** **E28.20064** **E28.20052 E28.18337**

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	X	Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld		Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	

Age Classification

Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical		Other	X – recent				

Material Culture

Midden		House Remains		Stone Walling		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other: **X – grave dressing**				Other:			

1.3 Site Condition

The site integrity is good as the burials are of recent age.

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	

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]	

C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE	
Low	
Medium	
High	X

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 – 30 METERS

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

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 "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.	Very high heritage impact

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Mitigation / Avoidance

Comments on recommended management

If possible, changes to development layout and impact threshold should be considered in order to avoid impact on the burials.

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.**

H. 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**

7.4 Discussion: Evaluation of Results and Impacts

Previous studies conducted in the larger Eastern Cape area suggest a rich and diverse, yet relatively understudied archaeological landscape and cognisance should be taken of archaeological material that might be present in surface and sub-surface deposits. 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 Impact Assessment Matrix Table below).

The recent Historical Period remains of a homestead and cattle kraal at **Site HP01** is of medium-low significance due to the poor preservation of the structures. However, the provenance of some of the structure is not known and significance ratings might change according to further investigations of the sites. The site is located in close proximity of demarcated infrastructure alignments (bulk water supply pipeline, access road) and the impact on the site by the proposed activities is expected to be peripheral and of permanent duration where in essence, the impact might result in the possible destruction of structures and / or potential loss of historical material. **The significance of the impact on the heritage resources is considered LOW 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 occurring in the study area (**Site BP01 – Site BP06)** is of heritage priority and carries high significance ratings. In all of the burial locations the sites occur within or in close proximity of demarcated infrastructure alignments (bulk water supply pipeline, access road) 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.**

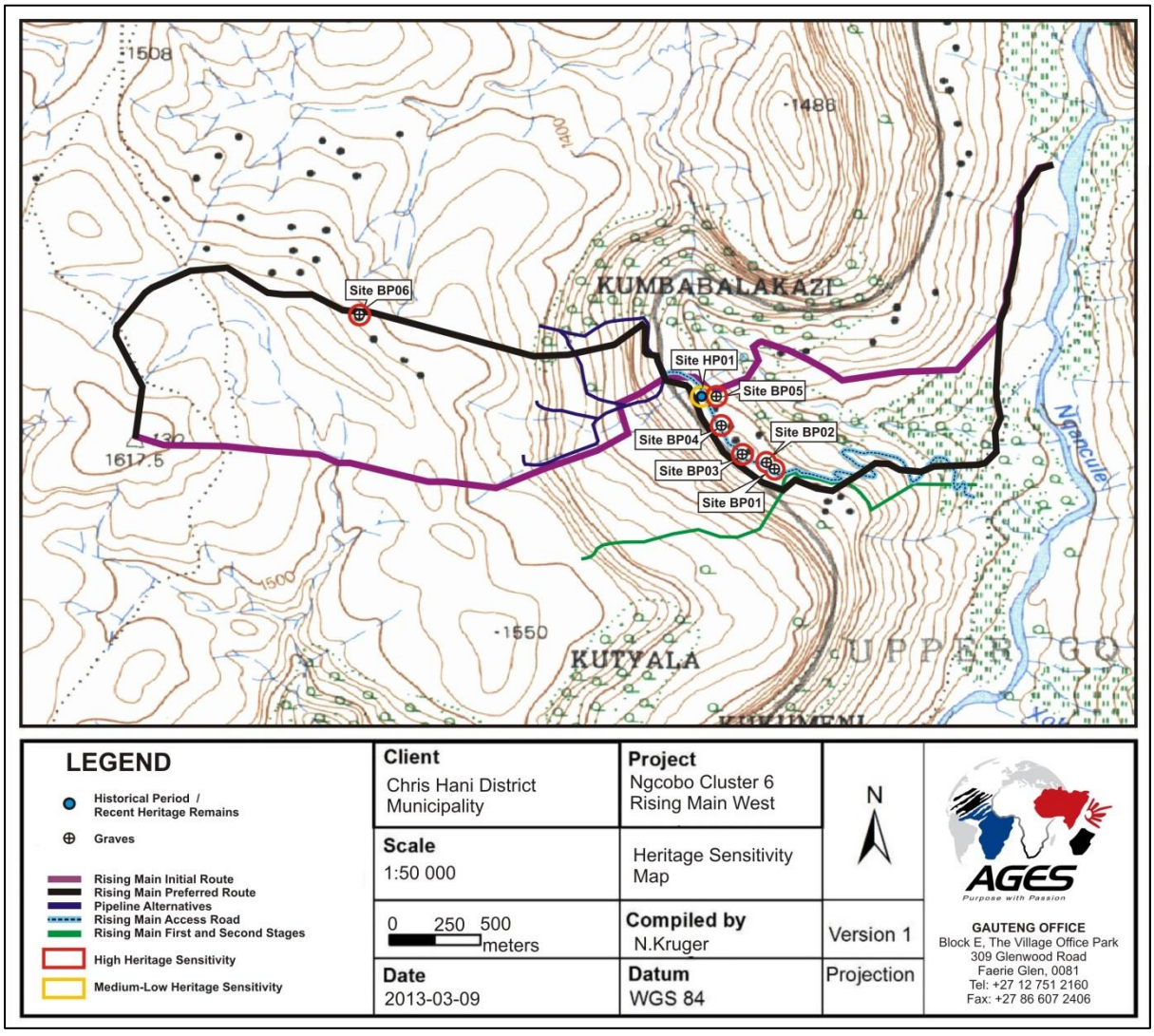

Figure 7-1: Heritage sensitivity map for the Sitholeni Rising Main West Bulk Water Supply Project Area.

Impact assessment matrix for Ngcobo Cluster 6 Rising Main West Bulk Water Supply Project Heritage Resources

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 HP01	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	5	5	1	2	40	Low	Documentation & Monitoring	1	1	1	2	4	Negligible
Site BP01 - Site BP06	Pre-Construction, Construction, Operation and Closure	Loss of Heritage Resource and Attributes	5	5	1	8	70	High	Avoidance, Monitoring & Conservation / Mitigation	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

8 RECOMMENDATIONS

The larger landscape around Upper Gqaka area is rich in pre-historical and historical remnants. 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 study 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, it is recommended that the general landscape be closely monitored during construction, in order not to disturb undetected palaeontological remains. Should fossil remains such as fossil fish, reptiles or vitrified wood be exposed during construction, a suitably qualified palaeontologist should be consulted in order to establish the significance, and provide management measures for such resources. These objects should carefully safeguarded and the relevant heritage resources authority (SAHRA) should be notified immediately.
- The poorly preserved homestead and cattle kraal (**Site HP01)** occurring along the proposed route of the pipeline is of low significance and site monitoring of these structures are recommended when development commences. If the site was to be impacted on by the road upgrade, a destruction permit should be obtained from the relevant heritage resources authority (SAHRA).
- In principle, graves or any possible burials should be excluded from mitigation measures as the legal, moral and ethical aspects of the disturbance of graves are extremely complex. Also, graves older than 60 years, or unmarked burial places are protected under the NHRA (Act 25 of 1999). The intrinsic heritage and social value of the graves along the proposed Rising Main West **(Site BP01, Site BP02, Site BP03, Site BP04, Site BP05** and **Site BP06)** requires special management attention. These sites are all situated within proposed Rising Main West infrastructure routes and it is primarily recommended that infrastructure options be rerouted to avoid impact on the resources. In addition, the sites necessitate a conservation buffer zone of at least 20m around all graves and it is further recommended that the graves be properly fenced and access control be implemented. However, should the burials or the proposed 20m buffer zone be impacted in any way by the planned activities, full grave relocation measures are is recommended for the burials. These measures 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, careful social consultation process should occur in conjunction with the mitigation of cemeteries and burials.
- Due cognisance should be taken of the larger palaeontological, archaeological and historical landscape of the area in order to avoid the destruction of previously undetected heritage sites in the area. Here, care should be taken around sandstone outcrops and rock faces, as rock art is known to occur on such features. Water sources such as drainage lines, springs and pans should also be regarded as potentially sensitive in terms of possible Stone Age deposits. The existence of Historical Period and recent resources deriving from the area's contemporary farming history should also be considered.
- A careful watching brief monitoring process is recommended for all stages of construction and infrastructure development. Should any subsurface paleontological / archaeological / historical material be exposed during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately

In addition to these site-specific recommendations, careful cognizance 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.
- 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 Stone Age material seems to originate from below present soil surfaces in eroded areas, the larger landscape should be regarded as potentially sensitive in terms of possible subsurface deposits.
- 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 Upper Gqaka area 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.

9 GENERAL COMMENTS AND CONDITIONS

This AIA report serves to confirm the extent and significance of archaeological material along on the proposed Ngcobo Cluster 6 Rising Main West Bulk Water Supply Project area. In addition to heritage resources occurring here, the larger Eastern Cape and Wild Coast encompasses a rich and diverse archaeological landscape 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 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 a 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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