PGS
HERITAGE & GRAVE
RELOCATION CONSULTANTS

HERITAGE IMPACT ASSESSMENT

Proposed construction of a new police station in Lusikisiki, Ingquza Local Municipality, O.R. Tambo District Municipality, Eastern Cape

Version **1.0**

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ACKNOWLEDGEMENT OF RECEIPT

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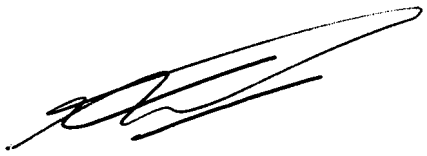
SIGNATURE: 

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iii. The recommendations delivered to the Client.

Declaration of Independence

The report has been compiled by PGS Heritage & Grave Relocation Consultants an appointed Heritage Specialist for Subsolar. The views stipulated in this report are purely objective and no other interests are displayed during the decision making processes discussed in the Archaeological Impact Assessment Process.

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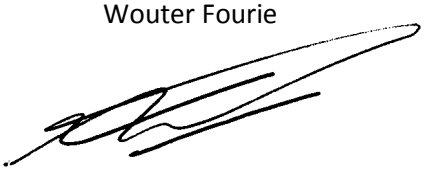
SIGNATURE: 

Executive Summary

PGS Heritage and Grave Relocation Consultants was appointed by Terreco Environmental cc, to undertake an Heritage Assessment for the Construction of a new SAPS police station in Lusikisiki, Inguquza Municipality, Eastern Cape.

During the survey no sites of heritage significance were found.

The archival research has shown that the greater area of Lusikisiki is rich in local history and its influence of the history of South Africa. Although some of the sites identified during the background research is close to the study area no adverse effects on any of the sites mentioned or the general surrounding landscape is envisaged by the construction of the new SAPS building at Lusikisiki.

Palaeontological analysis of the available data and geotechnical work conducted on the site has recommended an exemption from any further palaeontological studies.

General recommendations

- If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.
- Any substantial fossil remains (e.g. vertebrates, petrified wood) encountered during excavation should be reported to SAHRA for possible mitigation by a professional palaeontologist.

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1. INTRODUCTION

PGS Heritage and Grave Relocation Consultants was appointed by Terreco Environmental cc, to undertake an Heritage Assessment for the Construction of a new SAPS police station in Lusikisiki, Inguquza Municipality, Eastern Cape.

1.1 Project Background

The National Department of Public Works (the Applicant) proposes to establish a new police station in the Lusikisiki/Flagstaff area. The project site is situated between Lusikisiki and Flagstaff on the R61 approximately 1 km west of the Lusikisiki Central Business District. The project falls within the O.R. Tambo District Municipality and under the local Ingquza Municipality.

1.2 Site location

The project site is situated between Lusikisiki and Flagstaff on the R61 approximately 1 km west of the Lusikisiki Central Business District. The project falls within the O.R. Tambo District Municipality and under the local Ingquza Municipality. The site boundary covers an area of approximately 7.1m x 141m and is offset by 13 metres of the provincial road R61 (**Figure 1**).

The proposed new police station consists of several single and double storey buildings linked together by means of ramps with the cell block positioned in the centre of the facility. Surfaced parking area for 50 vehicles is proposed adjacent to the main entrance of the facility while a staff parking bay is proposed at the bottom end of the facility. The two parking bays will be connected by a surfaced road which will also lead to the cell block. The entire site will be fenced using normal palisade fence with brick piers infill low full brick walls. The surfaced area will be finished with concrete interlocking block pavers set between precast kerbing and channels to route storm water runoff into storm water service lines. A new intersection off the provincial road incorporating a 300 metre turning lane will be constructed to allow safe access to the site.

An elevated steel tank situated in the south west corner of the site will provide the facility with a gravity fed water supply. An on-site package plant sewer treatment works will be installed on the south east corner of the site. Treated effluent from the package plant treatment works will be released into the wetland area approximately 300 metres to the north of the site. The treatment works will incorporate drying beds for sludge.

Figure 1 – Locality Map of the Study Area

1.3 Legislative Framework

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

i. National Environmental Management Act (NEMA) Act 107 of 1998
ii. National Heritage Resources Act (NHRA) Act 25 of 1999
iii. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
iv. Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

i. National Environmental Management Act (NEMA) Act 107 of 1998 as promulgated in the Regulations.
    a. Basic Environmental Assessment (BEA) – Section (23)(2)(d)
    b. Environmental Scoping Report (ESR) – Section (29)(1)(d)
    c. Environmental Impacts Assessment (EIA) – Section (32)(2)(d)
    d. Environmental Management Plan (EMP) – Section (34)(b)
ii. National Heritage Resources Act (NHRA) Act 25 of 1999
    a. Protection of Heritage resources – Sections 34 to 36; and
    b. Heritage Resources Management – Section 38

i. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
    a. Section 39(3)
ii. Development Facilitation Act (DFA) Act 67 of 1995
    a. The GNR.1 of 7 January 2000: Regulations and rules in terms of the Development Facilitation Act, 1995. Section 31.

The NHRA stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34 (1) of the NHRA states that "no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority…". The NEMA (No 107 of 1998) states that an integrated environmental management plan should (23:2 (b)) "…identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage". In accordance with legislative requirements and EIA rating criteria, the regulations of SAHRA and Association of Southern African Professional Archaeologists (ASAPA) have also been incorporated to ensure that a comprehensive legally compatible AIA report is compiled. The heritage impact assessment criteria are described in more detail in ***Appendix A***.

1.4 TERMINOLOGY

Abbreviations	***Description***
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
DWA	Department of Water Affairs
EIA practitioner	Environmental Impact Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
I&AP	Interested & Affected Party
LSA	Late Stone Age
LIA	Late Iron Age
MSA	Middle Stone Age
MIA	Middle Iron Age
NEMA	National Environmental Management Act

NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
PSSA	Palaeontological Society of South Africa
ROD	Record of Decision
SADC	Southern African Development Community
SAHRA	South African Heritage Resources Agency

Archaeological resources

This includes:

i. material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;

ii. rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;

iii. wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;

iv. features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in the change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

i. construction, alteration, demolition, removal or change in use of a place or a structure at a place;

ii. carrying out any works on or over or under a place;

iii. subdivision or consolidation of land comprising a place, including the structures or airspace of a place;

iv. constructing or putting up for display signs or boards;

v. any change to the natural or existing condition or topography of land; and

vi. any removal or destruction of trees, or removal of vegetation or topsoil

Early Stone Age

The archaeology of the Stone Age between 700 000 and 2500 000 years ago.

Fossil

Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.

Heritage

That which is inherited and forms part of the National Estate (Historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999).

Heritage resources

This means any place or object of cultural significance

Holocene

The most recent geological time period which commenced 10 000 years ago.

Late Stone Age

The archaeology of the last 20 000 years associated with fully modern people.

Late Iron Age (Early Farming Communities)

The archaeology of the last 1000 years up to the 1800's, associated with iron working and farming activities such as herding and agriculture.

Middle Stone Age

The archaeology of the Stone Age between 20-300 000 years ago associated with early modern humans.

Palaeontology

Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

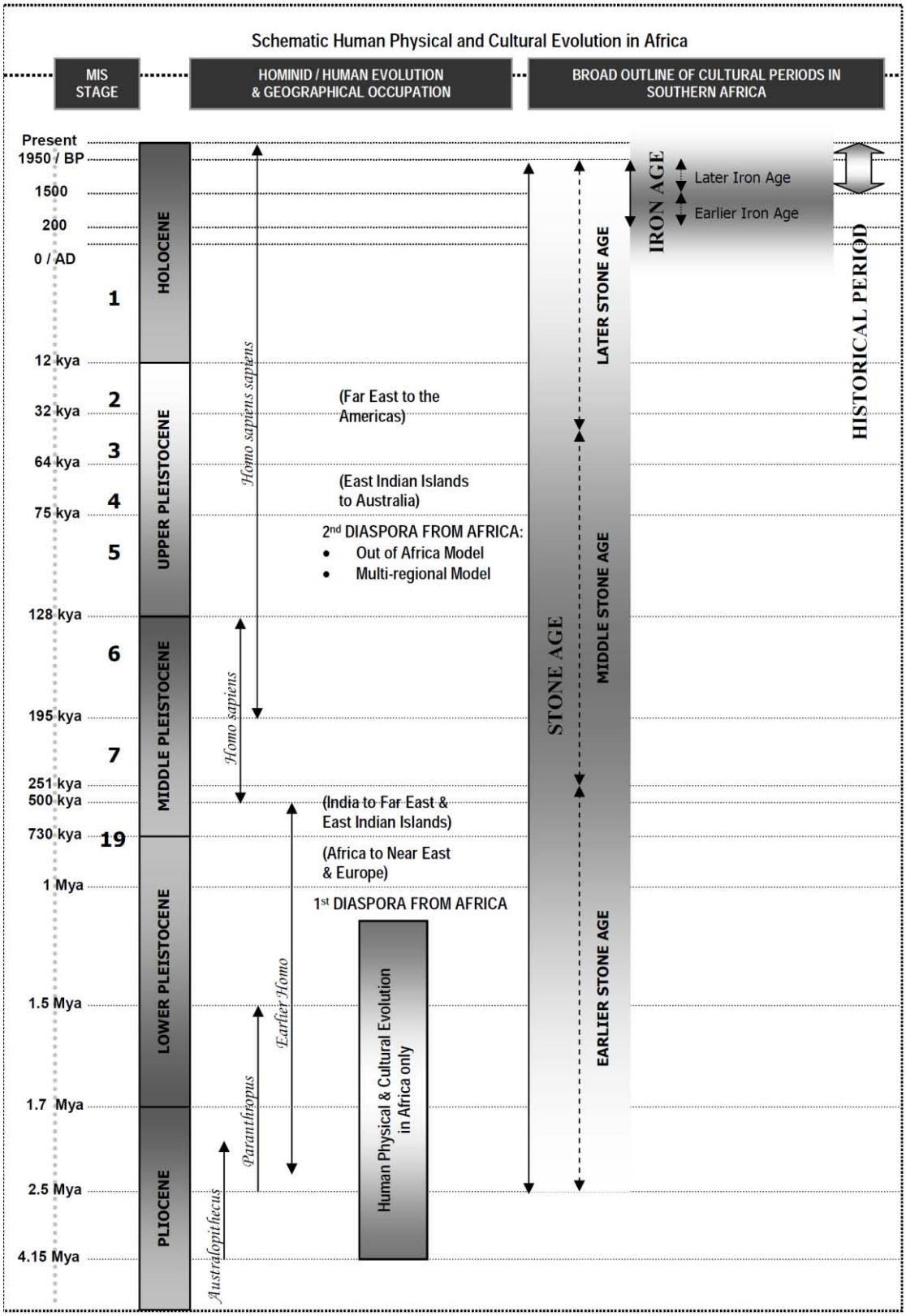

Figure 2 – Human and Cultural Time line in Africa (Morris, 2008)

1.5 Assumptions and Limitations

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and the current dense vegetation cover in some areas. As such, should any heritage features and/or objects not included in the present inventory be located or observed, an archaeologists must immediately be contacted.

Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time as the archaeologist has been able to make an assessment as to the significance of the site (or material) in question. This applies to graves and cemeteries as well. In the event that any graves or burial places are located during the development the procedures and requirements pertaining to graves and burials will apply.

2. DESCRIPTION OF AFFECTED ENVIRONMENT

The site is largely transformed grass land and is currently utilised for grazing purposes. It is bordered by open grass land and the R61 just outside of Lusikisiki (**Figure 3**).

Figure 3 – General view of site (© PGS, 2011)

3. ASSESSMEN METHODOLOGY & APPROACH

3.1 General Approach

This chapter describes the evaluation criteria to be used for the sites listed below and to be identified during the ground thruthing.

The significance of archaeological sites was based on four 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)
    - Low - <10/50m2
    - Medium - 10-50/50m2
    - High - >50/50m2
- uniqueness; and
- potential to answer present research questions.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

A - No further action necessary;

B - Mapping of the site and controlled sampling required;

C – Extensive mapping before destruction and preserve section where possible

D - Preserve site, or extensive data collection and mapping of the site; and

E - Preserve site

Impacts on these sites by the development will be evaluated as follows

Impact

The potential environmental impacts that may result from the proposed development activities.

Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate impacts.

3.2 Evaluation Methods

Site Significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report.

Table 2: Site significance classification standards as prescribed by SAHRA

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	-	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction
Generally Protected C (GP.A)	-	Low Significance	Destruction

Impact Rating

VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with a VERY HIGH significance.

HIGH

These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.
Example: The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.
Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.
Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.
Example: The temporary change in the water table of a wetland habitat, as these systems is adapted to fluctuating water levels.
Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.
Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

Certainty

DEFINITE: More than 90% sure of a particular fact. Substantial supportive data exists to verify the assessment.
PROBABLE: Over 70% certainty of a particular fact, or of the likelihood of an impact occurring.
POSSIBLE: Only over 40% certainty of a particular fact or of the likelihood of an impact occurring.
UNSURE: Less than 40% certainty of a particular fact or likelihood of an impact occurring.

Duration

SHORT TERM: 0 to 5 years
MEDIUM: 6 to 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

Example

Evaluation

Impact	Impact Significance	Heritage Significance	Certainty	Duration	Mitigation
Negative	Moderate	Grade GP.B	Possible	Short term	B

3.3 Findings of Fieldwork and research

3.3.1 Field work

The site has been walked through and surveyed by an archaeologist from PGS. The site is characterised by open grass land with some areas disturbed by dumping of building rubble.

Figure 4 – Dumped building rubble on site (© PGS, 2011)

Figure 5 – Disturbed grass land on site (© PGS, 2011)

Figure 6 – View and access road to site from Lusikisiki (© PGS, 2011)

During the survey no sites of heritage significance were found.

3.3.2 Palaeontological Analysis

The proposed development site near Lusikisiki is underlain by Karoo Supergroup sediments (Dwyka and Ecca Groups) that are generally of low palaeontological sensitivity in this part of the Eastern Cape. Their sparse fossil content in the study area – mainly low-diversity trace fossil assemblages within thinly laminated mudrocks - has often been compromised by deep chemical weathering and nearby dolerite intrusions. The Karoo Supergroup bedrocks in this area are mantled by deep soils that are themselves largely unfossiliferous. The construction of the proposed police station near Lusikisiki is therefore not considered to pose a serious threat to local fossil heritage. *It is therefore recommended that exemption from further specialist palaeontological studies is granted for the Lusikisiki police station development.* (Refer to **Appendix B** for full Palaeontological Analysis)

3.3.3 Historical Background

The area around Lusikisiki has a rich history of settlement in the area of the AmaPondo. Lusikisiki was established as a military outpost around 1894 when Pondoland was annexed by the Cape Colony. The years after annexation were of relative calm to the mid-1900's with the rise of the AmaPondo against the Bantu Administration activities of the Apartheid government around 1955. This upheaval culminated in the Pondo Revolt and the Ngquca Hill killings on 6 June 1960.

amaPondo

Between 500 to 1200 years ago the movement of Bantu speaking people from the Great lakes area of Central Africa reached the Eastern Cape Region of South Africa (Huffman, 2007). The Xhosa speaking people that settled on the south eastern coast of Southern Africa consist of 12 tribes of which the amaPondo is one. The amaPondo migrated across the Mtamvuna River in the late 1700's due to population pressure from the Zulu clan expansion from the north, and settled in the area between the Mtamvuna and Mzimvubu Rivers.

The most significant ruler of the amaPondo was Faku who ruled from 1824 to 1867. During his reign the amaPondo moved west over the Mzimvubu River to establish his first capital near the Mngazi River, that he later relocated to Qaukeni (some 14 kilometers from the study area) (Commission on Traditional Leadership Disputes and Claim, 2006).

Up to 1867 the amaPondo had one principal leader as united clan. The rightful heir to the kingship of the amaPondo was that of Mqikela born from the great house. However his brother Ndamase from the right hand house refused to accept Mqikela as rightful heir. Ndamase left Qaukeni and settled to the west of the Mzimvubu River around 1845.

Mqikela's succession of Faku, was seen as undesirable by the Colonial powers and in 1878 Nqwiliso (Son of Ndamase) was elevated to paramount chief by the British Colonial government. This act divided Pondoland in to Eastern and Western Pondoland. This manufactured division still resonates up to present with claims of kingship

addressed and disputed with the Commission on Traditional Leadership Disputes and Claims handling the matter in 2006 and the dispute settled in 2010 (although not to the satisfaction of the Mqikela lineage)..

This dispute was first addressed in 1921 and continued up to 1938 when one of the claimants to the kingship of the amaPondo, Botha Sigcau, requested the Governor –General to intervene on the dispute. The 1938 Commission appointed Botha Sigcau as paramount chief under the Black Administration Act 28 of 1927. However this appointment was felt not to be in line with the customary law and customs of the amaPondo.

This dispute also played a large part in the Pondo Revolt, as the amaPondo saw Botha Sigcau as a pawn of the Government and the implementation of the Bantu Authorities Act.

Pondo Revolt

The National Government aimed at implementing the Bantu Authorities Act, by utilising Chief Botha Sigcau to implement the Act. This resulted in widespread resentment and along with the planned implementation of their policy of agricultural improvement in the various reserves and later homeland areas. During a series of public meetings largely centred around Bizana, the Pondo people rejected the attempts by the government officials to inform them of the planne changes to their living conditions. This resulted in the use of police force and the subsequent alienation of the amaPondo chief and his staff.

A further meeting on taxation resulted in a large impi marching to the homestead of Saul Mabude, where the homestead was destructed and all his livestock slaughtered. As a result of this action meetings were banned. Meetings were secretly organised on mountain ridges and formed a movement known as Intaba.

Figure 7 – Ngcuza Hill Monument with graves visible in background (Müller, 2009)

On 6 June 1960 such a gathering on Ngquza Hill (hallway between Lusikisiki and Flagstaff) was attacked by security forces, during which 11 people was killed. The struggle in Transkei gained momentum and by November of 1960 the government declared a state of emergency. During this time thousands of people were detained and between August and October of 1961, 30 Pondo people where sentenced to death due to their involvement in the Pondo Revolt.

Medicine Man Khotso Sethuntsa

Khotso Sethuntsa (**Figure 8**) was born in Lesotho in 1898. He worked his way from Qacha's Nek and Kokstad to eventually settle just outside of Lusikisiki on the road to Flagstaff. His became famous and rich as an herbalist and medicine man, known for his powerful medicine and the believe in his ability to control of wealth-giving snakes (mamlambo).

Such was his notoriety that he became wealthy, by providing services and advise on various matters to those who would pay the required fee. By the mid 1960's he owned an estimated 38 properties that included 18 palatial structures, with blue and white tiles, archways and statues of lions (Wood, 2004).

Figure 8 – Khotso Sethuntsa (Jacana Books, 2011)

Khostso was forced to move from Kokstad under the Group Areas Act. His move to Lusikisiki coincided with the Pondo Revolt of that same year. He developed a palatial housing compound and was surrounded by followers, servants and concubines.

Although Khotso passed way in 1972 his home, known as Mount Nelson, just outside Lusikisiki (2 kilometres north of the study area on the R61) (**Figure 9**) still visited by tourists.

General Impact on Heritage resource of the area and cultural landscape is seen as low to negligible.

Figure 9 – Mount Nelson (Yellow marker) in relation to study area (red boundary)

4. RECOMMENDATIONS

During the survey no sites of heritage significance were found.

The archival research has shown that the greater area of Lusikisiki is rich in local history and its influence of the history of South Afirca. Although some of the sites identified during the background research is close to the study area no adverse effects on any of the sites mentioned or the general surrounding landscape is envisaged by the construction of the new SAPS building at Lusikisiki.

Palaeontological analysis of the available data and geotechnical work conducted on the site has recommended an exemption from any further palaeontological studies.

General recommendations

- If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.
- Any substantial fossil remains (e.g. vertebrates, petrified wood) encountered during excavation should be reported to SAHRA for possible mitigation by a professional palaeontologist.

5. LIST OF PREPARES

PGS Heritage and Grave Relocation Consultants have seconded the following specialist to this project:
Team Leader: Wouter Fourie (BA (Hon) Archaeology), Accredited Professional Archaeologist (ASAPA) – CRM Accredited Principal Investigator.
Field Archaeologist: Henk Steyn (BA (Hon) Archaeology), Accredited Professional Archaeologist (ASAPA) – CRM Accredited Principal Investigator.
Palaeontologist: Dr John Almond, PhD in Palaeontology. Accredited member of PSSA and APHAP

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APPENDIX A

LEGISLATIVE PRINCIPLES

LEGISLATIVE REQUIREMENTS – TERMINOLOGY AND ASSESSMENT CRITERIA

3.1 General principles

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the new legislation, permits are required to damage, destroy, alter, or disturb them. People who already possess material are required to register it. The management of heritage resources are integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have interest in the graves: they may be consulted before any disturbance takes place. The graves of victims of conflict and those associated with the liberation struggle will be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the construction company's cost. Thus, the construction company will be able to proceed without uncertainty about whether work will have to be stopped if an archaeological or heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:
An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including –

- 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;
- books, records, documents, photographic positives and negatives, graphic material, film or video or sound recordings, excluding those that are public records as defined in section 1 (xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

Under the National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection, to all historic and pre-historic cultural remains, including graves and human remains.

3.2 Graves and cemeteries

Graves younger than 60 years fall under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning, or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above SAHRA authorisation.

If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws set by the cemetery authority must be adhered to.

APPENDIX B

PALAEONTOLOGICAL LETTER OF EXEMPTION

RECOMMENDED EXEMPTION FROM FURTHER PALAEONTOLOGICAL STUDIES:

Proposed new police station between Lusikisiki and Flagstaff, O.R. Tambo District Municipality, Eastern Cape Province

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1. OUTLINE OF DEVELOPMENT

The National Department of Public Works is proposing to construct a new police station in the Lusikisiki / Flagstaff area, some 30 km north of Port St Johns, Eastern Cape. The development site (approximately 7.1m x 141m) is situated between Lusikisiki and Flagstaff on the south side of the R61 and approximately 1 km west of the Lusikisiki Central Business District (Fig. 1). The project falls within the O.R. Tambo District Municipality and under the local Ingquza Municipality.

The proposed new police station consists of several single and double storey buildings linked together by means of ramps with the cell block positioned in the centre of the facility. Surfaced parking area for 50 vehicles is proposed adjacent to the main entrance of the facility while a staff parking bay is proposed at the bottom end of the facility. A new intersection off the provincial road incorporating a 300 metre turning lane will be constructed to allow safe access to the site. An on-site package plant sewer treatment works will be installed on the south east corner of the site.

2. GEOLOGICAL BACKGROUND

The geology of the study area in the highly-dissected coastal interior to the north of Port St Johns is shown on the 1: 250 000 scale geological map 3128 Umtata (Council for Geoscience, Pretoria; Karpeta & Johnson 1979) (Fig. 2). The study site at Lusikisiki lies close to the contact between Permo-Carboniferous glacial-related rocks of the **Dwyka Group** (**Pd**) and the stratigraphically overlying Early to Late Permian **Ecca Group** (**Pe**; Kungurian to Tatarian). Further to the west the latter succession is extensively intruded by Early Jurassic basic intrusions of **Karoo Dolerite Suite** (**Jd**).

The Dwyka Group rocks in the Umtata sheet area comprise a thick (*c*. 500m) succession of coarse, poorly sorted diamictites of probable glacial origin and occasional thin successions of laminated mudrocks representing suspension settling of fine-grained sediment during warmer, interglacial intervals (Karpeta & Johnson 1979, Johnson *et al.* 2006).

The Ecca Group succession in the south-eastern portion of the Main Karoo Basin near Port St Johns is not clearly differentiated into a series of well-differentiated formations (Johnson *et al.* 1996, 2006). According to Karpeta and Johnson (1979) the undifferentiated Ecca Group succession here comprises some 900m of dark, rhythmically-bedded, well-laminated mudrocks (shales, rhythmitites) with intermittent thin sandy units. Dominant depositional processes in the offshore epicontinental basin here were suspension settling with occasional influx of fine-grained distal turbidites and tempestite (storm) sandstones. The generally held view is that the Ecca Sea was a largely land-locked, non-marine depository (*e.g.* McLachlan & Anderson 1973) but the presence of the mineral glauconite in the Vryheid Formation as well as the recent report of a marine megadesmid bivalve from the upper Volksrust Formation in KZN suggests that a degree of marine influence persisted into Late Permian times in this portion of the Main Karoo Basin at least (Cairncross *et al.* 2005).

According to the geotechnical report for this project the Karoo Supergroup bedrocks are mantled by deep (up to 3.5m or more) colluvial and residual soils, and bedrock was not encountered in trial pits.

Fig. 1. Google Earth© satellite image of the western outskirts of Lusikisiki, some 30 km north of Port St. Johns, Eastern Cape, showing the location of the proposed new police station on the south side of the R61(yellow polygon).

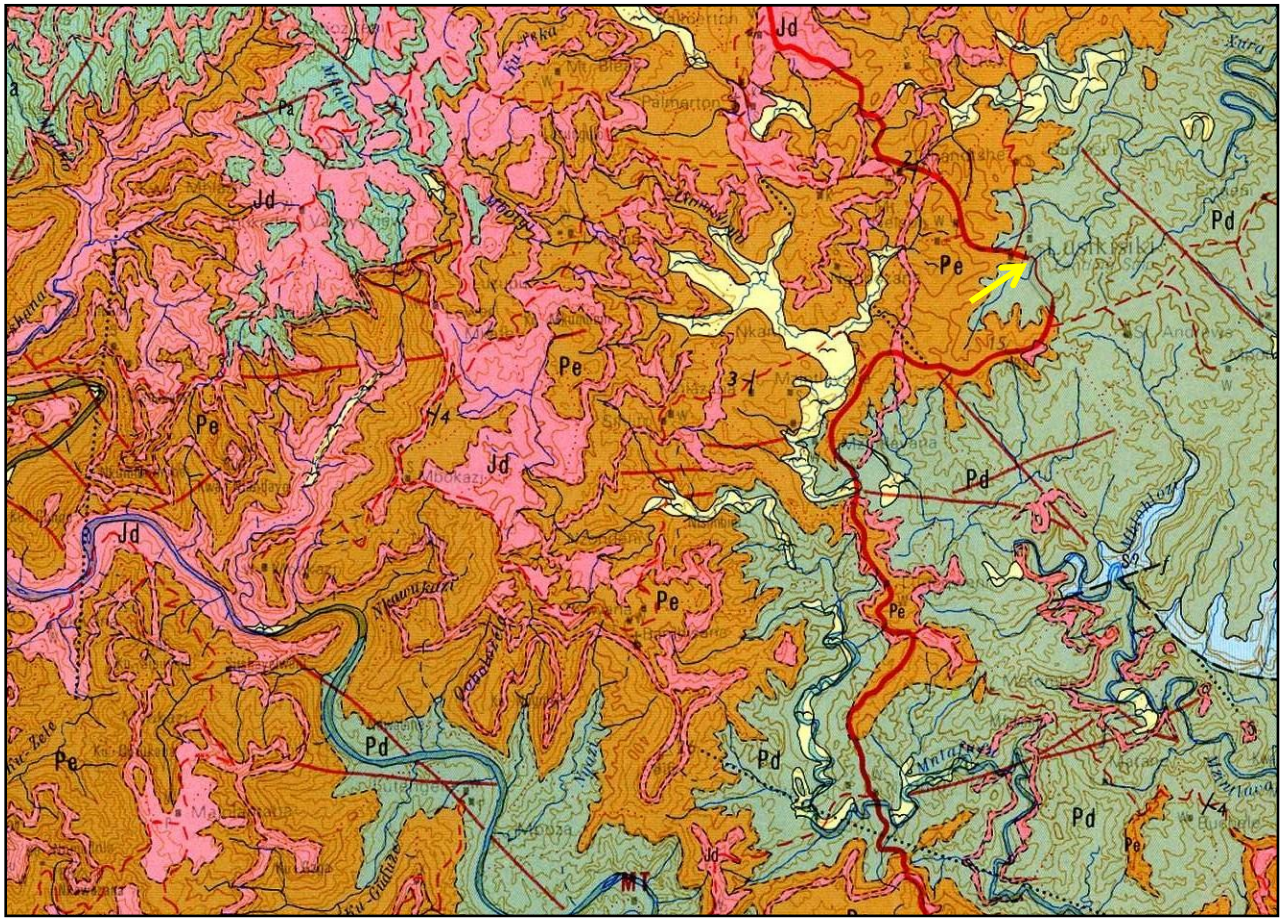

Fig. 2. Extract from 1: 250 000 geological map 3128 Umtata (Council for Geoscience, Pretoria) showing *approximate* location of the proposed new police station (yellow arrow), close to the boundary between the Permo-Carboniferous Dwyka Group (Pd, grey-green) and the Early Permian Ecca Group (Pe, brown) at Lusikisiki, Eastern Cape. Dolerite bodies of the Karoo Dolerite Suite (Jd, pink) intrude Ecca Group rocks to the west of the study area.

3. PALAEONTOLOGICAL HERITAGE

The fossil record of the **Dwyka Group** is generally very sparse (Almond et al. 2008). Interglacial and post-glacial trace fossil assemblages – such as fish swimming trails and arthropod trackways - of the non-marine *Mermia* Ichnofacies are usually associated with the laminated mudrock units. Body fossils of molluscs, palaeoniscoid fish, sharks, and plants (mainly silicified wood) have been recorded from the Dwyka / Ecca boundary elsewhere in the main Karoo Basin (*e.g.* McLachlan & Anderson 1973).

The Mid to Late Permian fossil heritage of the basinal, mudrock-dominated **Ecca Group** succession in the Port St Johns area is also very sparse and poorly-known. This is partially, but not entirely, attributable to poor levels of bedrock exposure and extensive surface weathering in the region as a whole. According to Du Toit and Rogers (1917) as well as Karpeta and Johnson (1979) body fossils have not been recorded from the Ecca beds here but trace fossils ("fucoid-like impressions") are locally very abundant. The following fossil groups are likely to occur, albeit sparsely, within the Ecca Group study area in the Port St Johns region:

- acritarchs (organic-walled microfossils)
- megadesmid bivalves
- rare temnospondyl amphibian remains
- vertebrate microfossils (*e.g.* fish teeth, spines, scales) within diagenetic nodules
- wind-blown insect remains
- petrified driftwoods ("*Dadoxylon*")
- low-diversity trace fossils assemblages of the *Cruziana, Scoyenia* and – especially - *Mermia* ichnofacies

4. CONCLUSIONS & RECOMMENDATIONS

The proposed development site near Lusikisiki is underlain by Karoo Supergroup sediments (Dwyka and Ecca Groups) that are generally of low palaeontological sensitivity in this part of the Eastern Cape. Their sparse fossil content in the study area – mainly low-diversity trace fossil assemblages within thinly laminated mudrocks - has often been compromised by deep chemical weathering and nearby dolerite intrusions. The Karoo Supergroup bedrocks in this area are mantled by deep soils that are themselves largely unfossiliferous. The construction of the proposed police station near Lusikisiki is therefore not considered to pose a serious threat to local fossil heritage. **It is therefore recommended that exemption from further specialist palaeontological studies is granted for the Lusikisiki police station development.**

Any substantial fossil remains (*e.g.* vertebrates, petrified wood) encountered during excavation should be reported to SAHRA for possible mitigation by a professional palaeontologist.

5. REFERENCES

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8. QUALIFICATIONS & EXPERIENCE OF THE AUTHOR

Dr John Almond has an Honours Degree in Natural Sciences (Zoology) as well as a PhD in Palaeontology from the University of Cambridge, UK. He has been awarded post-doctoral research fellowships at Cambridge University and in Germany, and has carried out palaeontological research in Europe, North America, the Middle East as well as North and South Africa. For eight years he was a scientific officer (palaeontologist) for the Geological Survey / Council for Geoscience in the RSA. His current palaeontological research focuses on fossil record of the Precambrian - Cambrian boundary and the Cape Supergroup of South Africa. He has recently written palaeontological reviews for several 1: 250 000 geological maps published by the Council for Geoscience and has contributed educational material on fossils and evolution for new school textbooks in the RSA.

Since 2002 Dr Almond has also carried out palaeontological impact assessments for developments and conservation areas in the Western, Eastern and Northern Cape under the aegis of his Cape Town-based company *Natura Viva* cc. He is a long-standing member of the Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC) and an advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA. He is currently compiling technical reports on the provincial palaeontological heritage of Western, Northern and Eastern Cape as well as Limpopo, Free State and Gauteng for SAHRA and HWC. Dr Almond is an accredited member of PSSA and APHAP (Association of Professional Heritage Assessment Practitioners – Western Cape).

Declaration of Independence

I, John E. Almond, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.

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