

Appendix L:
Heritage Resources Specialist
Assessment

**HERITAGE IMPACT ASSESSMENT FOR THE
PROPOSED PHOLA-KUSILE COAL CONVEYOR,
NKANGALA DISTRICT MUNICIPALITY, MPUMALANGA
PROVINCE**

(EIA REFERENCE: S0403-PK-HER-01-Heritage-Impact-Assessment)

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED PHOLA-KUSILE OVERLAND COAL CONVEYOR, NKANGALA DISTRICT MUNICIPALITY, MPUMALANGA PROVINCE

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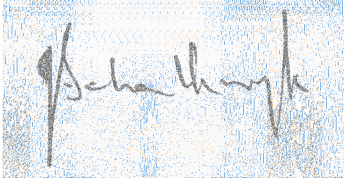
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Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services.

A handwritten signature in black ink, appearing to read 'J.A. van Schalkwyk', is centered on a light blue, textured rectangular background.

J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
September 2011

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED PHOLA-KUSILE OVERLAND COAL CONVEYOR, NKANGALA DISTRICT MUNICIPALITY, MPUMALANGA PROVINCE

EXECUTIVE SUMMARY

Anglo American (AA), through its subsidiary Anglo American Inyosi Coal (Pty) Ltd (AAIC), is proposing to construct an overland conveyor system, the Phola-Kusile Overland Coal Conveyor, to transport coal from the Phola Coal Processing Plant (Phola CPP) to Eskom's Kusile Power Station (Kusile) in the Mpumalanga Province, to meet the demand for coal at the Kusile Power Station.

The Phola-Kusile Coal Conveyor will start at the Phola Coal Processing Plant and it will end at the coal stockyard of the Kusile Power Station. Various alternatives conveyor routes were evaluated but the preferred route is approximately 23 km in length (for details please refer to the main EIA report).

An overland conveyor can put constraints on heritage resources. Therefore, in accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Synergistics Environmental Services (Pty) Ltd** on behalf of the applicant, Anglo American Inyosi Coal (Pty) Ltd (AAIC), to conduct a Heritage Impact Assessment (HIA), as part of the Environmental Impact Assessment (EIA) for the Phola-Kusile Overland Coal Conveyor, to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the conveyor.

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age and Iron Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.

Irrespective of this low density of habitation, a variety of heritage sites dating to all periods of the past are known to exist in the larger region. The aim of this survey was therefore to locate, identify, evaluate and document any sites, objects and structures of cultural significance found within the area of the proposed development, to assess the significance thereof, and to consider alternatives and plans for the mitigation of any adverse impacts.

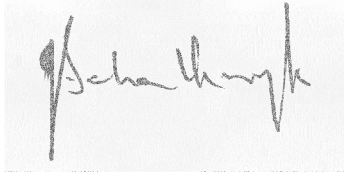
Some grave sites were identified within a 200 m area around the Phola-Kusile Coal Conveyor proposed route.

It is anticipated that the overall impact of the development will be largely indirect. Graves located outside the conveyor servitude will not be directly impacted, and impacts will therefore be visual but posing no physical threat to the graves. Since the servitude will be fenced and the graves will be located outside the fenced servitude, they will not be impacted.

Where the graves are located in the conveyor servitude, impact will be direct and it is recommended that these graves are relocated, after consultation with family and other affected parties, and the necessary permits have been obtained from the police, Department of Health as well as SAHRA.

Therefore, from a heritage point of view it is recommended that the proposed development be allowed to continue on acceptance of the recommended mitigation measures.

It is also requested that should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

A handwritten signature in black ink, appearing to read 'J A van Schalkwyk', written on a light-colored, textured background.

J A van Schalkwyk
Heritage Consultant
September 2011

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GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 & 2.

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

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

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

Historical Period: Since the arrival of the white settlers - c. AD 1800 - in this part of the country

ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
BP	Before Present
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED PHOLA-KUSILE OVERLAND COAL CONVEYOR, NKANGALA DISTRICT MUNICIPALITY, MPUMALANGA PROVINCE

1. INTRODUCTION

Anglo American (AA) through its subsidiary Anglo American Inyosi Coal (Pty) Ltd (AAIC) is proposing to construct an overland conveyor system, the Phola-Kusile Overland Coal Conveyor, to transport coal from the Phola Coal Processing Plant (Phola CPP) to Eskom's Kusile Power Station (Kusile) in the Mpumalanga Province, to meet the demand for coal at the Kusile Power Station.

The proposed Phola-Kusile Overland Coal Conveyor will fall within the Nkangala District Municipality, and the Victor Khanye (Delmas) and eMalahleni (Witbank) Local Municipalities. The towns in close proximity to the proposed conveyor are Wilge (~4 km east), Phola (~3 km southeast), Ogies (~5 km south-southeast) and eMalahleni (~25 km east).

The Phola-Kusile Coal Conveyor will start at the Phola Coal Processing Plant and it will end at the coal stockyard of the Kusile Power Station. Various alternatives conveyor routes were evaluated but the preferred route is approximately 23 km in length (for details refer to the main EIA report).

An overland conveyor can put constraints on heritage resources. Therefore, in accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Synergistics Environmental Services (Pty) Ltd** on behalf of the applicant, Anglo American Inyosi Coal (Pty) Ltd (AAIC), to conduct a Heritage Impact Assessment (HIA), as part of the Environmental Impact Assessment (EIA) for the Phola-Kusile Overland Coal Conveyor, to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the conveyor.

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age and Iron Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.

2. TERMS OF REFERENCE

2.1 Scope of work

The aim of this HIA, broadly speaking, is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the Phola-Kusile Overland Coal Conveyor.

The scope of work for this study consisted of:

- Conducting a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied;
- A visit to the proposed development area.

The objectives were to:

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

2.2 Limitations

- It must be kept in mind that by its very nature, archaeological sites occur below ground surface, making its detection in some cases, difficult.

Table 1: Applicable category of heritage impact assessment study and report

Type of study	Aim	SAHRA involved	SAHRA response
Heritage Impact Assessment	<p>The aim of a full HIA investigation is to provide an informed heritage-related opinion about the proposed development by an appropriate heritage specialist. The objectives are to identify heritage resources (involving site inspections, existing heritage data and additional heritage specialists if necessary); assess their significances; assess alternatives in order to promote heritage conservation issues; and to assess the acceptability of the proposed development from a heritage perspective.</p> <p>The result of this investigation is a heritage impact assessment report indicating the presence/ absence of heritage resources and how to manage them in the context of the proposed development.</p> <p>Depending on SAHRA's acceptance of this report, the developer will receive permission to proceed with the proposed development, on condition of successful implementation of proposed mitigation measures.</p>	Provincial Heritage Resources Authority	Comments on built environment and decision to approve or not
		SAHRA Archaeology, Palaeontology and Meteorites Unit	Comments and decision to approve or not

3. HERITAGE RESOURCES

3.1 The National Estate

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

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

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

3.2 Cultural significance

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

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

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

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 1 & 2.

4.2 Methodology

4.2.1 Preliminary investigation

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. Some published books and papers deal with areas, events or groups of people in the larger region (e.g. Cloete 2000; De Jong 2004; Pelsers et al 2006; Van Schalkwyk 2002, 2004a, 2004b, 2006).

- All of these sources contributed some information on historic events in the larger region as well as on the location of specific heritage sites and features.

4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General (CS-G)* and the *National Archives of South Africa (NASA)* were consulted.

- Database surveys produced information on a number of sites located in the larger region of the proposed development.
- The original Title Deeds of some of the farms were located, but produced limited information of use such as the dating of farmsteads, etc.

4.2.1.3 Other sources

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

- Information of a very general nature were obtained from these sources

4.2.2 Field survey

The area that had to be investigated was identified by **Synergistics Environmental Services (Pty) Ltd** by means of maps.

As this is a linear development the survey was done by travelling the conveyor route as far as possible.

4.2.3 Structuring of the Report in terms of GNR 543 Section 32 Requirements (EIA Regulations)

Legal and Regulatory Requirement	Cross Reference to Report Section
GNR 543 Section 32	
Specialist reports and reports on specialized processes	
1. An applicant or the <u>EAP</u> managing an application <u>may appoint a person to carry out a specialist study</u> or specialized process.	Appendices to the EIA main report
2. The person referred to in sub-regulation (1) must comply with the requirements of regulation 17 [declaration of independence]	Declaration of independence signed by specialists provided at back of each specialist report
3. A specialist report or a report on a specialized process prepared in terms of these Regulations must contain-	

Legal and Regulatory Requirement	Cross Reference to Report Section
GNR 543 Section 32	
(a) Details of- (i) the <u>person who prepared the report</u> ; and (ii) the <u>expertise of that person to carry out the specialist study or specialized process</u> ;	Heritage Impact Assessment Front page of report
(b) A <u>declaration that the person is independent</u> in a form as may be specified by the competent authority;	Declaration of independence signed by specialists provided at back of each specialist report
(c) An <u>indication of the scope</u> of, and the purpose for which, the report was prepared;	Heritage Impact Assessment Section 2 of report
(d) A description of the <u>methodology</u> adopted in preparing the report or carrying out the specialized process;	Heritage Impact Assessment Section 4 of report
(e) A description of any <u>assumptions</u> made and any uncertainties or <u>gaps</u> in knowledge;	Heritage Impact Assessment Section 3 and Section 2.2 of report
(f) A description of the <u>findings</u> and <u>potential implications of such findings</u> on the impact of the proposed activity, including identified alternatives, on the environment;	Heritage Impact Assessment Section 5 of report
(g) <u>Recommendations</u> in respect of any <u>mitigation measures</u> that should be considered by the applicant and the competent authority;	Heritage Impact Assessment Section 7 of report
(h) A <u>description of any consultation process</u> that was undertaken during the course of carrying out the study;	Consultation Process discussed in EIA main report
(i) A <u>summary and copies of any comments</u> that were received during any consultation process; and	All issues received to date included in EIA main report
(j) Any other <u>information requested by the competent authority</u> .	Not applicable

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Site location and description

The study area forms a corridor from the east of the town of Kendal, northwards, turning west at the N12 some distance, before turning north again towards the new Kusile Power Station (Fig. 1).

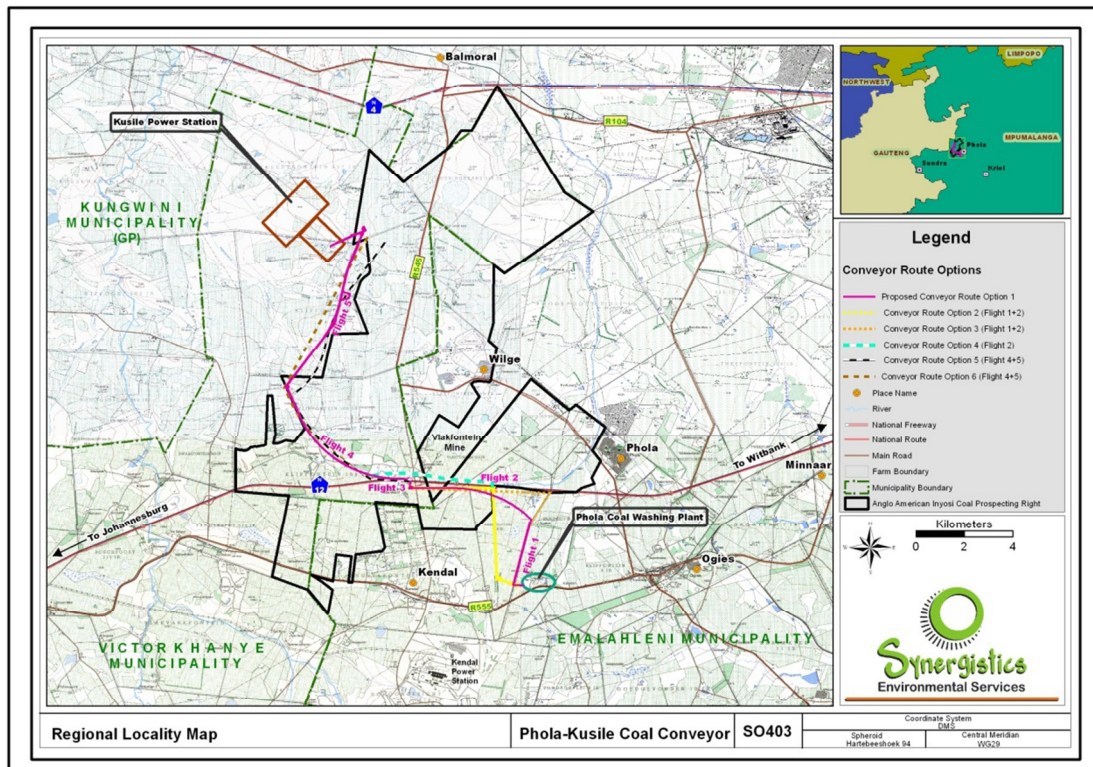


Fig. 1. Location of the study area in regional context



Fig. 2. Elements of the landscape through which the conveyor route will pass
(Clockwise from top left – northern end to southern end)

The geology of the area is quite complex, being made up of irregular intrusions of tillite, norite, arenite and granite, overlain in areas by shale. The original vegetation is classified as Moist Cool Highveld Grassland, but has been replaced over most of the area by agricultural fields, mining activities or wattle plantations. The topography is described as gently rolling hills. A few small rivers pass through the area, with the Wilge River as the most significant. A number of pans occur sporadically throughout the area.

As a result of the above environmental factors the following aspects can be seen to dominate in the environment:

- Plains which make up the largest section of the study area. Much of these areas are used for either agricultural fields or for grazing. Water sources and potential shelter is limited.
- A number of small rivers cross through the area, many of which are perennial. These would have offered an attractive choice for settlement as the plains were largely denuded of trees, whereas in the vicinity of water trees grew in abundance, offering not only shelter, but firewood as well as material for house construction.

5.2 Overview of the region

The cultural landscape qualities of the larger region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age and Iron Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.

Figure 3 presents an overview of the location of known sites of heritage significance. Due to the scale of presentation, some sites overlap, with the result that there seems to be fewer sites than is the case. In similar vein, it might seem that sites occur in the various corridors, but are actually some distance from the exact route.

5.2.1 Pre-colonial period

Very little habitation of the highveld area took place during Stone Age times. Tools dating to the Early Stone Age period are mostly found in the vicinity of larger watercourses, e.g. the Vaal River, or in sheltered areas such as the Magaliesberg. During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. The MSA is a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology. Open sites were still preferred near watercourses and outcrops where suitable material for the making of tools could be obtained, were exploited (Fig. 4).

Late Stone Age (LSA) people had even more advanced technology than the MSA people and therefore succeeded in occupying even more diverse habitats. Some sites are known to occur in the region. These vary from sealed (i.e. cave) sites, located to the north and south of the study area, to open sites in the Magaliesberg. Also, for the first time we get evidence of people's activities derived from material other than stone tools. Ostrich eggshell beads, ground bone arrowheads, small bored stones and wood fragments with incised markings are traditionally linked with the LSA. The LSA people have also left us with a rich legacy of rock art, which is an expression of their complex social and spiritual beliefs.

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

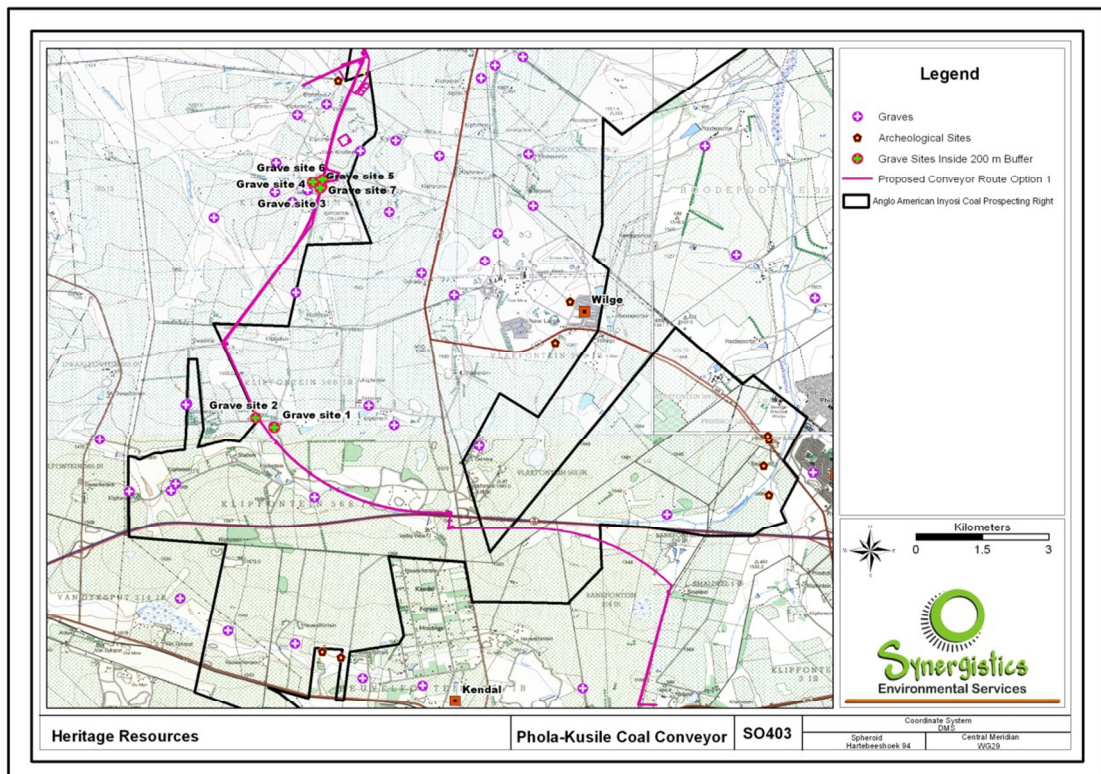


Fig. 3. Location of identified heritage sites in relation to the conveyor (pink line)

The occupation of the larger geographical area (including the study area) did not start much before the 1500s. By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the treeless plains of the Free State and the Mpumalanga highveld.

This wet period came to a sudden end sometime between 1800 and 1820 by a major drought lasting 3 to 5 years. The drought must have caused an agricultural collapse on a large, subcontinent scale.

This was also a period of great military tension. Military pressure from Zululand spilled onto the highveld by at least 1821. Various marauding groups of displaced Sotho-Tswana moved across the plateau in the 1820s. Mzilikazi raided the plateau extensively between 1825 and 1837. The Boers trekked into this area in the 1830s. And throughout this time settled communities of Tswana people also attacked each other.

As a result of this troubled period, Sotho-Tswana people concentrated into large towns for defensive purposes. Because of the lack of trees they built their settlements in stone. These stone-walled villages were almost always located near cultivatable soil and a source of water. Such sites are known to occur near Kriel (e.g. Pelsler et al 2006) and in the Bronkhorstspuit area.

- Archaeological sites

NHRA Category	Archaeological and palaeontological sites
Protection status	General Protection - Section 35: Archaeology, palaeontology and meteorites



Fig. 4. Factory site dating to the Middle Stone Age and Late Iron Age stone walling

5.2.2 Historic period

White settlers moved into the area during the first half of the 19th century. They were largely self-sufficient, basing their survival on cattle/sheep farming and hunting. Few towns were established and it remained an undeveloped area until the discovery of coal and later, gold. The establishment of the NZASM railway line in the 1880s, linking Pretoria with Lourenço Marques and the world at large, brought much infra-structural and administrative development to the area. This railway line also became the scene of many battles during the Anglo-Boer War and a concentration camp was established near the Balmoral station to the northwest.

During the Anglo-Boer War, a number of skirmishes occurred in the larger region, with one of the last and biggest battles fought that being at Bakenlaagte south of the town of Kriel on 30 October 1901. In line with the 'scorched earth' policy, most farmsteads were destroyed by the British during the latter part of the hostilities.

Coal mining occurred only sporadically in the area. However, with the discovery of the Witwatersrand gold fields, the need for a source of cheap energy became important, and coal mining developed on a large scale in various regions. By 1899, at least four collieries were operating in the Middelburg-Witbank¹ district, supplying the gold mining industry.

- Farmsteads

Farmsteads are complex features in the landscape, being made up of different yet interconnected elements. Typically these consist of a main house, gardens, outbuildings, sheds and barns, with some distance from that labourer housing and various cemeteries. In addition, roads and tracks, stock pens and wind mills complete the setup. An impact on one element therefore impacts on the whole.

The architecture of these farmsteads can be described as an eclectic mix of styles modified to adapt to local circumstances. Farm buildings were generally single storied. Walls were thick and built in stone or bricks. The roof was either flat or ridged and thatched or tiled and was terminated at either end by simple linear parapet gables.

¹Witbank was only established after 1903.

In some cases outbuildings would be in the same style as the main house, if they date to the same period. However, they tend to vary considerably in style and materials used as they were erected later as and when they were required.

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	
General Protection - Section 34: Structures older than 60 years	



Fig. 5. Examples of farmsteads and farming related features identified in the region

- Cemeteries

Apart from the formal cemeteries that occur in municipal areas (towns or villages), a number of these, some quite informal, i.e. without fencing, are expected to occur sporadically all over, but probably in the vicinity of the various farmsteads. Many might also have been forgotten, making it very difficult to trace the descendants in a case where the graves are to be relocated.

Most of these cemeteries, irrespective of the fact that they are for land owners or farm labourers (with a few exceptions where they were integrated), are family orientated. They therefore serve as important 'documents' linking people directly by name to the land.

NHRA Category	Graves, cemeteries and burial grounds
Protection status	
General Protection - Section 36: Graves or burial grounds	



Fig. 6. Examples of informal cemeteries identified in the region

- Infrastructure and industrial heritage

In many cases this aspect of heritage is left out of surveys, largely due to the fact that it is taken for granted. However, the land and its resources could not be accessed and exploited without the development of features such as roads, bridges, railway lines, electricity lines and telephone lines, as well as industries that exploit locally available resources.

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	
General Protection - Section 34: Structures older than 60 years	



Fig. 7. Remains of an old sandstone bridge

5.3 Identified sites

The following sites that would be impacted on by the proposed development of the conveyor, line have been identified, although these must be dealt with on a case by case basis to determine the exact distance to the preferred conveyor route and to determine which measures must be put in place to deal with these sites. For more information on their approximate location and significance, please see Section 5.3.3.1.

5.3.1 Stone Age

- No sites, features or objects dating to the Stone Age were identified in the study area.

5.3.2 Iron Age

- No sites, features or objects dating to the Iron Age were identified in the study area.

5.3.3 Historic period

Some grave sites have been identified to occur within a 200 m area around the Proposed Phola-Kusile Coal Conveyor route.

5.3.3.1 Grave sites identified along the preferred Phola – Kusile Conveyor Route

The following grave sites were identified along the preferred Phola-Kusile Conveyor Route:

- A number of graves were found to be present on farm **Klipfontein 568 JR, Portion 36** (owned by AAIC). This graveyard is w~ 175 meters from the of the proposed conveyor route and will not be impacted as it is outside and some distance away from the fenced conveyor servitude.
- A number of graves were found to be present on farm **Klipfontein 568 JR, Portion 4** (owned by AAIC). This site is ~30 to 50 m from the proposed conveyor route. Depending on the final route alignment, this site is expected to fall outside the fenced conveyor servitude and impact can therefore be avoided.
- Individual graves were found to be present on farm **Klipfontein 566 JR, Portion 44** (owned by Eskom Holdings Ltd) from 8 metres to 50 metres from the conveyor route. Depending on the final route alignment, some graves is expected to fall outside the fenced conveyor servitude and impact can therefore be avoided, but graves falling within the conveyor route will require mitigation and relocation, after consultation with family and other affected parties and the necessary permits have been obtained from the police, Department of Health as well as SAHRA.

6. SITE SIGNIFICANCE AND ASSESSMENT

6.1 Heritage assessment criteria and grading

According to the NHRA, No. 25 of 1999, Section 2(vi), the *significance* of heritage sites and artefacts is determined by it aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential.

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

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

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

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites.

6.2 Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the proposed development.

- Some grave sites have been identified to occur within a 200 m area around the preferred Phola-Kusile Coal Conveyor route (see Section 5.3.3.1).
- Depending on the final route alignment, some graves is expected to fall outside the fenced conveyor servitude and impact can therefore be avoided.
- Graves falling within the conveyor route will require mitigation and relocation, after consultation with family and other affected parties and the necessary permits have been obtained from the police, Department of Health as well as SAHRA.

7. RECOMMENDED MANAGEMENT MEASURES

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted on by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

7.1 Objectives

- Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.
- The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during mining activities.

It is recommended that once the final route has been determined, the route be walked again to determine the exact impacts on the graves and mitigation required on a case by case basis.

The following shall apply:

- Known sites should be clearly marked in order that they can be avoided during construction activities.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

7.2 Control

In order to achieve this, the following should be in place:

- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

8. CONCLUSIONS

The cultural landscape qualities of the larger region essentially consist of a two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age and Iron Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.

Irrespective of this low density of habitation, a variety of heritage sites dating to all periods of the past are known to exist in the larger region. The aim of this survey was therefore to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area of the proposed development, to assess the significance thereof and to consider alternatives and plans for the mitigation of any adverse impacts.

Some grave sites have been identified to occur within a 200 m area around the preferred Phola-Kusile Coal Conveyor route (see Section 5.3.3.1). Depending on the final route alignment, some graves is expected to fall outside the fenced conveyor servitude and impact can therefore be avoided. Graves falling within the conveyor route will require mitigation and relocation, after consultation with family and other affected parties and the necessary permits have been obtained from the police, Department of Health as well as SAHRA.

Therefore, from a heritage point of view it is recommended that the proposed development be allowed to continue on acceptance of the recommended mitigation measures.

It is also requested that should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

9. REFERENCES

9.1 Data bases

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National Archives of South Africa
South African Heritage Resources Agency

9.2 Literature

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Van Schalkwyk, J.A 2006. *Heritage impact assessment for the proposed new power station, Witbank Area*. Unpublished report 2006KH111. Pretoria: National Cultural History Museum.

9.3 Maps and aerial photographs

1:50 000 Topocadastral maps

Google Earth

APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

1. Historic value			
Is it important in the community, or pattern of history			
Does it have strong or special association with the life or work of a person, group or organisation of importance in history			
Does it have significance relating to the history of slavery			
2. Aesthetic value			
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group			
3. Scientific value			
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage			
Is it important in demonstrating a high degree of creative or technical achievement at a particular period			
4. Social value			
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons			
5. Rarity			
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage			
6. Representivity			
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects			
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class			
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.			
7. Sphere of Significance		High	Medium
International			
National			
Provincial			
Regional			
Local			
Specific community			
8. Significance rating of feature			
1.	Low		
2.	Medium		
3.	High		

APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) 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.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

- (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; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.



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Department:
Economic Development, Environment and Tourism
MPUMALANGA PROVINCIAL GOVERNMENT

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Phola-Kusile Coal Conveyor, Mpumalanga

Specialist:	J A van Schalkwyk, Heritage Consultant		
Nature of specialist study compiled:	Heritage Impact Assessment		
Contact person:	J A van Schalkwyk		
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Qualifications & relevant experience:	D Litt et Phil; Principal Investigator		
Professional affiliation(s) (if any)	Association of Southern African Professional Archaeologists, Registration No. 168		

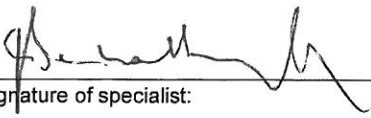


The specialist appointed in terms of the Regulations

I, J A van Schalkwyk declare that -

General declaration:


- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, 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 form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.


Signature of specialist:

Name of company:

1 October 2011

Date:


Signature of Commissioner of Oaths

01/10/2011
Date:

Commissioner of Oaths - 290/8/10
Designation:

Official stamp (below)

YOLANDI WIRTH
COMMISSIONER OF OATHS 290/8/10 PRETORIA
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I certify that the DEPONENT has acknowledged that he/she knows and understands the contents of this affidavit, that he/she does not have any objection to taking the oath, and that he/she considers it to be binding on his/her conscience, and which was sworn to and signed before me at Pretoria on this the 01 day of October 2011 and that the administering oath complied with the regulations contained in Government Gazette No R1258 of 21 July 1972, as amended.

