

TO:

AFRICAN EPA

**A HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR THE
PROPOSED NEW OPTIMUM COLLIERY ON THE FARM
SCHOONOORD 164IS IN THE MPUMALANGA PROVINCE OF
SOUTH AFRICA**

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EXECUTIVE SUMMARY

A Heritage Impact Assessment (HIA) study as required in terms of the National Heritage Resources Act (Act 25 of 1999) was done for the proposed new Optimum Colliery to be established on the farm Schoonoord 164IS in the Mpumalanga Province of South Africa.

The HIA study revealed the presence of heritage resources in the critical and in the peripheral areas of the proposed new Optimum Colliery. The heritage resources in the peripheral area will not be affected by the proposed new development project. Even if these resources may be threatened in the future the same mitigation measures as those proposed for the heritage resources in the critical area will apply as the resources in the critical and peripheral areas belong to the same types and ranges.

The heritage resources in the critical area include historical structures (HH01); graveyards (GY01, GY02, GY03) and remains dating from the relatively recent past (Site RRP01).

The three graveyards (GY01, GY02, and GY03) can be considered to be of outstanding significance. These graveyards have to be relocated to accommodate the proposed new Optimum Colliery. It is recommended that the graves be exhumed and relocated. This work must be conducted by forensic archaeologists. (Contact details are provided). The forensic archaeologists will require all the necessary permits for the exhumation and relocation of the graves. Various laws, provincial regulations and administrative procedures regulate this activity.

The historical remains (HH01) can be considered to be of some significance with regard to criteria such cultural historical significance, research value, uniqueness and aesthetic appearance. However, these structures have been altered in the past and they do not represent outstanding examples (such as HH03 and HH04, in the peripheral area) of pioneer dwellings any more. A historical architect may require that HH01 and associated shed be documented before they are demolished.

The remains dating from the relatively recent past (Site RRP01) can not be considered to be of outstanding significance and can be demolished.

Heritage resources are protected by legislation. Consequently, Optimum Colliery requires a permit from the South African Heritage Resources Agency (SAHRA) before the historical structures and the remains from the relatively recent past may be affected by development activity. It is recommended that Optimum Colliery approaches SAHRA for a permit which allows for the demolishing of the remains dating from the relatively recent past (Site RRP01) and for the historical structures after they have been studied by a historical architect.

The historical houses, outbuildings and graveyards which occur in the proposed new Optimum Colliery's peripheral area represent unique examples of sandstone architecture in South Africa's architectural and cultural history. These remains are the last remnants of a late 19th and an early 20th century pioneer lifestyle in the Eastern Bankeveld that will disappear for ever if deliberate efforts are not made to conserve these remains and consequently the lifestyle, culture and ideology it reflects. Optimum Colliers Environmental Management Programme can provide for the conservation, restoration and utilization of these and other resources in Ingwe's coal mining areas by implementing long term development projects that provide for the development of site museums (houses), historical trails, information centres, etc around these resources.

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1 INTRODUCTION

This document contains the report on the results of a Heritage Impact Assessment (HIA) study done for the proposed new Optimum Colliery on the farm Schoonoord 164IS in the Eastern Bankeveld in the Mpumalanga Province of South Africa.

The Eastern Bankeveld as a whole has a rich archaeological heritage comprised of remains dating from the pre-historical and from the historical (or colonial) periods of South Africa. Pre-historical and historical remains in the Eastern Bankeveld form a record of the cultural heritage of most groups living in South Africa today. Various types and ranges of heritage resources that qualify as part of South Africa's 'national estate' (outlined in the National Heritage Resources Act [Act No 25 of 1999]) occur in this region (see Box 1, next page).

BOX 1: TYPES AND RANGES OF HERITAGE RESOURCES AS OUTLINED IN THE NATIONAL HERITAGE RESOURCES ACT (ACT NO 25 OF 1999)

The National Heritage Resources Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of heritage resources that qualify as part of the national estate, namely:

- (a) places, buildings structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and paleontological sites;
- (g) graves and burial grounds including-
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders
 - (iii) graves of victims of conflict
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983 (Act No 65 of 1983)
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) moveable objects, including -
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographs, 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).

The National Heritage Resources Act (Act No 25 of 1999, Art 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

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

2 AIMS WITH THIS REPORT

Optimum Colliery intends to establish a new coal mine on a part of the farm Schoonoord 1641S between Middelburg (north) and Hendrina (south) in the Mpumalanga Province of South Africa. In order to comply with legislation, Optimum Colliery requires knowledge of the presence, relevance and the significance of any heritage resources that may occur in the study area where the proposed new coal mine is to be established. Optimum Colliery needs this information in order to take pro-active measures with regard to any heritage resources that may be affected by the new development as such remains may be affected, damaged or destroyed when the new coal mine and its associated infrastructure is established. Optimum Colliery and African EPA therefore commissioned me to undertake a Heritage Impact Assessment (HIA) study of the study area to be affected by the proposed new development. The aims of the HIA study are:

- to establish whether any heritage resources do occur in the proposed new coal mine area and, if so, to determine the nature, the extent and the significance of these remains;
- to determine whether such remains will be affected by the proposed development project; and
- to evaluate what appropriate actions could be taken to reduce the impact of the development activities on such remains.

3 METHODOLOGY

This HIA study was conducted by means of fieldwork, a survey of literature and the consulting of archaeological (heritage) data bases.

3.1 Fieldwork

The study area where the proposed new Optimum Colliery will be established was subjected to a survey with a vehicle while selected areas were subjected to a survey on foot.

The author of this report has also done a few HIA studies in the immediate surroundings of the study area and is therefore not totally unacquainted with the broader area in which the development is planned (see Part 8, 'Selected Bibliography'). The possible presence as well as the types and ranges of heritage resources in the study area are therefore to a certain extent predictable on the basis of experience gained from earlier fieldwork in the broader area.

The coordinates for the various types and ranges of heritage were determined with a GPS instrument. These features were also mapped and their significance determined using various criteria (Figure 1 & Table 1).

4.2 Databases and literature survey

Information derived from databases kept and maintained at institutions such as the South African Heritage Resources Agency (SAHRA) and the National Cultural History Museum in Pretoria was consulted to determine whether any heritage resources have been identified in the broader study area.

A survey of literature relating to the cultural and historical context of the proposed new Optimum Colliery was also undertaken in order to contextualise any possible

heritage resources and sensitive remains that may occur in or near the area that is proposed for the new mine (see Parts 4 & 8).

4.3 Assumptions and limitations

It must be made aware that heritage resources at times appear in the most unexpected places. It must also be kept in mind that surveys may not detect all heritage resources in any given study area. While certain remains may simply be missed during surveys (observations), others may occur below the surface of the earth and may only be exposed once development (such as mining) commences.

4.4 Some remarks on terminology

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act (Act No 25 of 1999) (See Box 1).

Heritage resources (cultural resources) include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

The term 'pre-historical' refers to the time before any historical documents were written or any written language developed in a particular area or region of the world. The historical period and historical remains refer, for the Middelburg District, to the first appearance or use of 'modern' Western writing brought to Middelburg by the first Colonists who settled in this area after c. 1840.

The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological

or historical remains. Some of these remains, however, may be close to sixty years of age and may, in the near future, qualify as heritage resources.

It is not always possible, based on observations alone, to distinguish clearly between archaeological remains and historical remains, or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or, when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floor plans (a historical feature) may serve as a guideline. However, circular and square floors may occur together on the same site.

The term 'sensitive remains' is sometimes used to distinguish graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves in particular are not necessarily heritage resources if they date from the recent past and do not have tombstones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by white (colonists) and by black people. This distinction may be important as different cultural groups may uphold different traditions and values with regard to their ancestors. These values have to be recognised and honoured whenever graveyards are exhumed and relocated.

The term 'Stone Age' refers to the prehistoric past, although Late Stone Age peoples lived in South Africa well into the historical period. The Stone Age is divided into an Earlier Stone Age (3 million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years to 40 000 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term 'Late Iron Age' refers to the period between the 17th century and the 19th century and can therefore include the historical period.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, that may date from the prehistorically, historical or relatively recent past.

The term 'study area' or 'project area' refers to the area where Optimum Colliery wants to focus its development activities.

The 'critical area' refers to the area that will be affected by Optimum Colliery's proposed development project.

The 'peripheral area' refers to the area where Optimum Colliery does not intend to focus its development activities but which are in close proximity or which borders on the critical area.

Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types of heritage resources in any given area.

Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of bodies and the relocation of graveyards, etc. Phase II work requires the co-operation and approval of SAHRA.

4 THE STUDY AREA

4.1 Location

The proposed new Optimum Colliery will be established on the farm Schoonoord 164IS between Middelburg and Hendrina in the Ngankala District Municipality in the Mpumalanga Province of South Africa. The study area is located directly to the east of Road 38 running from the N4 in the north to Hendrina in the south. The Arnot Power Station is an important beacon located to the north of the proposed new Optimum Colliery (2529DD; 2629BB [1:50 000]; 2528 Pretoria; 2628 East Rand [1: 250 000]) (Figure 1).

The study area is spread out over an undulating piece of land that is largely covered with agricultural fields. A small stream is located near the northern edge of the study area and is joined by a small stream flowing from the south across the middle of the study area. These streams eventually merge with the Klein Olifants River located to the west of Road 38. Few trees occur in the study area, the majority of which are Blue Gums trees that are clustered where old farm homesteads used to exist in the past.

4.2 Contextual background

Considering the range and types of heritage resources listed in the National Heritage Resources Act (Act No 25 of 1999, see Box 1), it is possible that the following types of heritage resources may exist in Optimum's study area, namely:

- Stone tools that date from any of the Stone Age periods;
- Historical remains associated with the establishment of the earliest (white) farmers in the area
- Mining remains that can be associated with the earliest coal mining activities in the area.

- Remains dating from the more recent past such as homesteads occupied by farmers and their co-workers. These residential remains may be associated with single graves or with small cemeteries.

The following brief historical overview will help to contextualise the proposed new Optimum Colliery study area.

4.2.1 **Stone Age sites**

Stone Age sites are usually associated with stone artefacts usually found scattered on the surface or as part of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age, the Middle Stone Age and the Late Stone Age. The Early Stone Age covers the period from 2.5 million years ago to 250 000 years ago. The Middle Stone Age refers to the time period from 250 000 years ago to 22 000 years ago and the Late Stone Age is the period 22 000 years ago to 2 000 years ago. Each of these 'ages' are divided into different 'cultural' periods, which may differ chronologically or which may have existed roughly simultaneous in different regions and therefore under different climatic conditions in South Africa.

Heritage surveys done in the Ngankala District Municipality where the proposed new Optimum Colliery will be located has not revealed the presence of significant numbers of Stone Age sites from any of the different periods identified for the Stone Age. This little information about Stone Age sites can partly be attributed to a lack of archaeological surveys done in this part of South Africa. Stone Age sites are numerous all over South Africa and tend to crop up even where the presence of humans in the past was not remotely expected.

4.2.2 Late Iron Age remains

Numerous pre-*difaqane* and *difaqane* wars took place in the Bankeveld during the last quarter of the 18th century and the first three decades of the 19th century. These wars led to the displacement of large numbers of Tswana clans in the Central Bankeveld where Mzilikazi's Ndebele caused chaos and havoc. The Ndebele established several settlement complexes in this region although it is possible that Mzilikazi may have had settlements in the Eastern Bankeveld, between Pretoria and Witbank, although the location of these settlements have not yet been pointed out by research.

4.2.3 Historical remains

It is generally accepted that Middelburg's name is derived from the fact that the Transvaal Republic established the town midway between Pretoria and Lydenburg. The town was established on the farms of Klipfontein and Keerom on the banks of the Klein Olifants River in 1859.

The choice for Middelburg's location was not well accepted by the inhabitants and it was moved to the farm Sterkfontein. Here, a town was established and named Nasaret (Nazareth). However, the name did not appeal to the local community and its original name was reinstated. Middelburg temporary served as the seat of the Transvaal Republic after the siege of Pretoria during the Second Anglo Boer War.

Today Middelburg is an important centre where coal is mined and transported to Richards Bay from where it is exported all over the world. Middelburg has become the trade, communication and industrial hub of a district covering 5 700 square km where coal is mined on a large scale.

During the 1970's a railway line was built between Broodsniersplaas, 35km south of Middelburg to join the railway line between Ermelo and Piet Retief to Richards Bay. From here coal and anthracite are exported to various parts of the country. The railway line carries some of the longest and heaviest trains in the world.

Heritage resources in Middelburg include 'Meyer se klipbrug' (Meyer's bridge) which dates from 1896, the Dutch Reformed Church ('die Wit Kerk') which was built in 1890 and a commemorative museum which was built where the Second Anglo Boer War concentration camp used to exist. This concentration camp housed 1 381 women and children. The Berlin Missionary Society and Alexander Merensky established the Merensky Missionary Station in 1865 on the old ox wagon route between Pretoria and Lydenburg on the banks of the Klein Olifants River on the northern outskirts of Middelburg. The missionary station served as a safe haven ('Botshabelo') for Pedi refugees who fled before Sekhukhune, chief of the Pedi.

The Missionary Station incorporates a place of worship, a fort, a school and a second church which was put into service in 1873. It served as the largest church in the Transvaal for many years. A nature reserve was developed around the Missionary Station in more recent years.

Hendrina to the south of the proposed new Optimum Mine is known as the place where two of Eskom's largest power stations are situated, namely Arnot and Hendrina.

Hendrina is situated 53km south-east of Middelburg and was established in 1914 when the farm Garsfontein was bought from Gerard Beukes. The new town was named after his wife.

4.2.4 A coal mining heritage

The earliest use of coal (charcoal) in South Africa was during the Iron Age (300-1880AD) when metal workers used charcoal, iron and copper ores and fluxes (quartzite, bone) to smelt iron and copper in clay furnaces.

Colonists are said to have discovered coal in the French Hoek Valley near Stellenbosch in the Cape Province in 1699. The first reported discovery of coal in the interior of South Africa was in the mid-1830 when coal was mined in Natal/Kwa Zulu.

The first exploitation for coal was probably in Natal/Kwa Zulu as documentary evidence refers to a wagon load of coal brought to Pietermaritzburg to be sold in 1842. In 1860 the coal trade started in Dundee when a certain Pieter Smith charged ten shillings for a load of coal dug by the buyer from a coal outcrop in a stream. In 1864 a coal mine was opened in Molteno. The explorer, Thomas Baines mentioned that farmers worked coal deposits in the neighbourhood of Bethal (Transvaal) in 1868. Until the discovery of diamonds in 1867 and gold on the Witwatersrand in 1886, coal mining only satisfied a very small domestic demand.

With the discovery of gold in the Southern Transvaal and the development of the gold mining industry around Johannesburg came the exploitation of the Boksburg-Spring coal fields, which is now largely worked out. By 1899, at least four colliers were operating in the Middelburg-Witbank district, also supplying the gold mining industry. At this time coal mining also has started in Vereeniging. The Natal Colliers importance was boosted by the need to find an alternative for imported Welsh anthracite used by the Natal Government Railways.

By 1920 the output of all operating colliers in South Africa attained an annual figure of 9,5million tonnes. Total in-situ reserves were estimated to be 23 billion tonnes in Witbank-Springs, Natal and Vereeniging. The total in situ reserves today are calculated to be 121 billion tonnes. The largest consumers of coal are Sasol, Iscor and Eskom.

Optimum Colliery is located in the Witbank coal field region of South Africa. It is owned and operated by Ingwe. Optimum is a large opencast coal mine producing 13.5 million tonnes of coal per annum for three markets: the Hendrina Power Station; other inland markets and exports of higher quality coal to overseas steam-coal markets.

Optimum Colliery began as an underground operation and produced its first coal in 1970. The mine is a strip mining operation with eight draglines. The coal is crushed, screened and processed through a double stage washing plant. It is then transported either by conveyor belt to Eskom's Hendrina Power Station or by rail to Richards Bay Coal Terminal and other inland markets.

Other economic ventures in the Witbank, Middelburg and Hendrina area include mixed farming. Colonial farmers and their co-workers established pioneer dwellings in this part of the Eastern Bankeveld from the second half of the 19th century. These farm-homesteads with their outbuildings and cemeteries are now gradually absorbed by the expanding coal industry that has become such a marked feature on the Eastern Bankeveld during the last few decades.

Figure 1. The proposed new Optimum Colliery on the farm Schoonoord 164IS in the Eastern Bankeveld in the Mpumalanga Province of South Africa. The most important heritage resources discovered in the critical area of the proposed new mining area include graves and historical farm homesteads.

5 THE HERITAGE IMPACT ASSESSMENT STUDY (HIA)

The survey of the Schoonoord study area revealed several types and ranges of heritage resources as outlined in the National Heritage Resources Act (Act No 25 of 1999) in the critical and in the peripheral areas of the proposed new Optimum Colliery. These resources are now listed and discussed.

5.1 Types and ranges of heritage resources discovered

The types and ranges of heritage resources that were discovered in the critical and in the peripheral areas of the proposed new Optimum Colliery on Schoonoord 164IS include:

- At least four historical houses (farm homesteads) of which at least two have associated outbuildings.
- At least seven graveyards of which some are historical as they can be associated with the historical farm homesteads. The graveyards also include formal and informal graveyards while some date from the relatively recent past.
- Remains dating from the relatively recent past.
- Modern farm complexes consisting of residences with outbuildings, cattle kraals, farm sheds ranging in size from small to massive, farming equipment and miscellaneous buildings and equipment.

The coordinates for the heritage resources in the critical area were determined with a GPS instrument. These features were also mapped and their significance determined using various criteria (Figure 1; Table 1).

A broad description of these resources illustrated with photographs is now provided. A distinction is made between resources that occur in the critical (mining) area and resources in the peripheral (outside the mining) area. All heritage resources have been designated a code and number to simplify the descriptions of these resources.

5.1.1 Historical houses and outbuildings

Four historical houses (farm homesteads), two of which are associated with outbuildings were observed in the critical and in the peripheral areas. Two of these historical houses are also associated with (historical) graveyards. A fifth historical house may have been altered in more recent times to such extent that its (historical) core can no longer be recognised.

The historical farm homesteads and outbuildings date from the turn of the 19th century and represent pioneer (Colonial dwellings) that were established in the Middelburg District by the first (white) farmers. The farm homesteads were square structures and were built with sandstone. Sometimes ferricrete blocks were used in conjunction with the sandstone. However, it seems as if the combined use of these two materials may reflect alterations and extensions to farm houses and outbuildings that may have been done in more recent times. The houses were covered with pitch corrugated zink roofs. Outbuildings mainly consist of a main shed and other secondary structures that were inferior in quality as the majority are demolished or severely dilapidated.

The following historical houses and outbuildings were observed (Figure 1; Table 1):

Historical houses and outbuildings in the critical area

Historical House 01 (HH01)

This farm homestead and outbuilding are located in the second Modern Farm Complex (MFC02) in the southern part of the study area and falls within the critical area. It includes a number of modern structures as well as the historical farm house and shed that can be considered to be of historical value.

The farm house was partly built with sandstone blocks and with ferricrete slabs and is covered with a pitched corrugated iron roof (currently painted green). It seems as if the

interior of the house has been altered significantly. The lean-to on the western side of the house may have been added in more recent times (Figure 2).



Figure 2- Historical House 01 (HH01) is located in the centre of MFC02 in the southern part of the study area. This house was built with sandstone blocks while the lean-to was also constructed with slabs of ferricrete.

An outbuilding (shed) which is contemporary with HH01 is situated to the north of the latter structure. This structure was also built with blocks of sandstone and with ferricrete slabs. The shed is covered with a pitched corrugated iron roof that is painted red. The shed is linked to a square courtyard. The walls of the courtyard were built with blocks of ferricrete stone. The shed and courtyard is now probably used to shelter sheep.



Figure 3- The outbuilding (shed) that is associated with Historical House 02 (HH02) is located slightly to the north of the historical farm homestead. Note the light-brown (sandstone) and dark-brown (ferricrete) blocks that were used to build the walls.

Historical houses and outbuildings in the peripheral area

Historical House 02 (HH02)

A single historical house occurs in the fourth Modern Farm Complex (MFC04). This farm homestead was built with sandstone and a pitched corrugated zink roof and is located in the centre of MFC04. This house has become part of the modern farm complex and is being utilized as a storage facility. It is situated next to the modern farm house and is linked to a modern garage. This structure is designated Historical House 02 (HH02) (Figure 4).



Figure 4- Historical House 02 (HH02) is located in the centre of MFC04. This house is situated next to a modern residence (not visible in the photograph) and is linked to a double garage (left).

Historical House 03 (HH03)

This historical house is located outside the western border of the mining area. It is situated on a reef overlooking the proposed new mining area to the south. This house was built with sandstone and a pitched corrugated zink roof but is larger than the other historical farm houses in the area. Two large (historical) Oak trees are still standing next to the house (Figure 5).

A circular structure such as a rondavel that was built with sandstone and stone walls occur some distance from the house. These structures are probably contemporary and therefore historically part of the farm homestead.

This historical farm homestead complex is also associated with a (historical) Blue Gum plantation that is currently being chopped down.



Figure 5- Historical House 03 (HH03) is located on a reef overlooking the proposed new mining area. Note the large (historical) Oak tree next to the house.

Historical House 04 (HH04)

This farm homestead and shed is located in the third Modern farm Complex (MFC03) outside the north-western boundary of the proposed new Optimum Colliery. These resources reflect the pioneer lifestyle of the first colonial farmers who established themselves in the Middelburg District from as early as the second half of the 19th century. This house and shed is designated HH04 and is associated with Graveyard 05 (GY05) (Figure 5).



Figure 6- Historical House 04 (HH04) is located outside the north-western border of the mining area and therefore in the peripheral area. It represents an excellent example of the pioneer dwellings established by the first Colonists when they arrived in the Middelburg District during the second half of the 20th century.

5.1.2 Graveyards

Graves are the most common type of heritage resource in the critical and peripheral areas as seven graveyards were located. Three of these occur in the critical area and four in the peripheral area. At least two of the graveyards are associated with historical farm homesteads. A distinction is made between 'formal' and 'informal graveyards'.

Graveyards in the critical area

The following cemeteries occur in the critical area (Figure 1; Table 1):

Graveyard 01 (GY01)

This informal graveyard contain four graves that can be associated with black people as the graveyard is located on the perimeter of the dwellings that date from the relatively recent past (Site RRP01).

The graveyard contains four graves that are covered with heaps of stone. The graves are located close to each other and contain no tombstones with inscriptions (Figure 7). The graves must date from the time when the village from the recent past was occupied by a black community working on Schoonoord.



Figure 7- Informal Graveyard 01 (GY01) with four graves. These graves can be associated with remains dating from the relatively recent past (Site RRP01). This graveyard will be affected by mining activities.

Graveyard 02 (GY01)

This graveyard contains five graves and is located next to a maize field in the southern part of the study area. It seems as if all the graves can be classified as historical.

The graveyard was demarcated with a fence which does not exist anymore. Three corner poles are still located near three of the corners of the cemetery (Figure 8).

A brief description of the graves (from north to south) is given:

The first grave is covered with long slabs of sandstone and its surface is plastered with cement. The four sandstone slabs that used to edge the grave have been removed and lay next to the grave. It appears as if attempts were made to vandalise this grave. The grave has a headstone with the following inscription:

'In liefdevolle herinnering aan my eggenoot en vader'
(In a half-circle along the edge of the top of the tombstone)
'In Gedagtenis
H.J.C. van Wyk
Geb 21 Sept 1183
Oorl 31 Okt 1918
Van Poppie en kinders'

The second grave's edges consist of sandstone slabs while a small piece of sandstone serves as a headstone. It is small in size and may be the grave of a child.

The third grave is covered with sandstone slabs while a small piece of sandstone serves as a headstone.

The fourth grave is coffin shaped with a head stone. Both the head stone and lower part of the grave were built with cement. The headstone contains the following inscription:

'Johan Jesper
Geb 10 Oct 1860
Ovl 21 Sept 1918
Gesang 38 Vers 8
Verflaauwikhelp
My zwakken Gaan
Enz'



Figure 8- The historical graveyard (GY02) in the southern part of the study area. It will be affected by the mining activities.

The fifth grave is marked by side strips (sandstone slabs) which are partly buried in the ground. It has a small inconspicuous headstone which bears no inscription.

A sixth structure consists of a heap of ferricrete stone which may have been removed from the earth when the graves were dug. However, graves that are covered with ferricrete stone are not uncommon in the area.

Graveyard 03 (GY03)

This graveyard is located in a maize field in the southern part of the study area. It contains five graves – all covered with stones. Each grave has a small white painted cement head stone. According to the inscriptions on the headstones the Motau family was buried in this graveyard. The tombstones contain the following inscriptions:

Petros Motau Braam Matau
61/8/65 64/12/64

Elijah Motau Rita Matau
65/2/65 60/8/68

Eltas Mashioana
74/2/17

(The first or last number either refers to the age of the deceased or the year in which the deceased died. The 2nd number refers to the month of birth or death).



Figure 8- The Informal Graveyard (GY03) of the Motau family is located in a maize field in the southern part of the study area. It will be affected by the mining activities.

Graveyards in the peripheral area

The following graves and cemeteries occur in the peripheral area (Figure 1; Table 1):

Graveyard 04 (GY04)

This graveyard is located outside the western boundary of the proposed new Optimum Colliery. This informal graveyard contains the remains of as many as fifty two individuals. The majority of the graves are covered with stones. Only one of the graves has a sandstone headstone with an inserted granite slab bearing the following inscription:

‘Simon Grasman Mokoena’



Figure 9- Informal Graveyard 04 (GY04) on the western boundary of the proposed new Optimum Colliery.

Graveyard 05 (GY05)

This formal graveyard is located outside the north-western boundary of the mining area and contains as many as five graves with tombstones and nineteen graves that are covered with stones (Figure 10). One of the graves was covered with a cement slab and is fitted with a headstone. This grave is also fenced-in.

Two graves with headstones bear the following inscriptions, namely:

'In Gods volmaakte vrede
Rus my eggenoot en ons pappie
Gideon Johannes Esterhuizen
Geb. 3 Nov 1878
Ovl. 20 Nov 1944
Hoe pynlik is die
wond o Heer ons
sien sy graf maar
hom nie meer
Psalm 184, Vers 8'

The inscription on the second tombstone reads as follows:

'Hier Rust
my geliefde egge
noot en vader
Johannes
A Beetge
Geb 13 Feb 1886
Ovl 4 Feb 1919

U graf verkondig
ons die droefig
leer ons het op
aard geen ander
meer'



Figure 10- Formal Graveyard 05 (GY05) on the north-western boundary of the proposed new Optimum Colliery.

Graveyard 06 (GY06)

This small graveyard is located in a maize field close to MFC04. At the time when the fieldwork was done the graves could not be approached as a swarm of bees had occupied a hole next to one of the graves. The graveyard is also covered with thick grass so that the number of graves could not be ascertained. However, a limited number of graves occur in this small fenced-in graveyard (Figure 11).



Figure 11- Formal Graveyard 06 (GY06) in the maize field to the north of MFC04.

Graveyard 07 (GY07)

Graveyard 07 is a formal graveyard with four graves that are demarcated with a brick wall. The four graves are the following (Figure 12);

The first grave is that of Martha Oosthuysen. This grave is marked by granite edgings and a granite headstone with the following inscription:

'Hier rus
ons dogtertjie
Martha Oosthuysen
Geb 19.9.1995
Oorl 23.9.1955
Ps. 131 Vers 2'

The second grave is that of Aletta Grobler which is covered with stones but which has a small sandstone headstone with the following inscription:

'Hier rus
Aletta Catrina
Grobler geb Erasmus
Geb 1840 De 16 Okt
Ovl 1919 De 30 Decem
Gez 20 Vers 8
Als my doodsvallei betreen
Laat ons elk aardsch
Vriend alleen'



Figure 12- Formal Graveyard 07 (GY07) in MFC05. This graveyard is composed of four graves.

The third grave has sandstone edgings and is covered with three sandstone slabs. It also has a massive headstone but the inscription has weathered away.

The fourth grave is covered with a cement slab. It has a cement headstone which bears no inscription.

5.1.3 Remains from the relatively recent past

Remains consisting of heaps of soil and foundation stones occur near the eastern edge of the proposed new mining area. These remains are concentrated in two spots on opposite sides (north and south) of a fence and a dirt road and are also associated with one of the informal graveyards (GY01). These remains were designated Site RRP01 and occur in the critical area.



Figure 13- Remains from the relatively recent past (Site RRP01) consisting of heaps of mud and upright foundation stones.

The remains dating from the relatively recent past are those of dwellings that were built with soil walls and with stone foundations (Figure 13). Although the remains are disintegrated it is possible to distinguish at least two square dwellings, each with two rooms that were linked together. These dwellings were probably small square mud buildings with stone foundations. Their roofs may have consisted of corrugated iron or asbestos plates that have been removed and reused elsewhere.

Two coordinates are available for these resources. The first coordinates are for those structures located to the north of the dirt road and the second coordinates for structures located to the south of the dirt road (Table 1).

5.1.4 Modern Farm Complexes

Modern farm houses with outbuildings, cattle kraals, farm sheds ranging in size from small to massive, farming equipment and other miscellaneous buildings and equipment are located in the critical and in the peripheral areas. These complexes were termed Modern Farm Complexes (MFC) and were numbered MFC01, MFC02, MFC03 and MFC04. All the farm complexes can be considered to be of no historical significance due to their modernity. Exceptions include historical structures that have become part of these complexes, namely HH01 and HH02.

Modern Farm Complexes in the critical areas

Modern Farm Complex 01 (MFC01)

This farm complex is located on the eastern perimeter of the new proposed Optimim Colliery and therefore partly in the critical area. This complex consists of modern building structures that include two large sheds; a modern residence; labourer's quarters; a pig stay; a cattle kraal and dip and an elevated reservoir on a platform.

This complex of buildings is new and has no historical significance.

Modern Farm Complex 02 (MFC02)

This complex of structures is located in the southern part of the study area and falls within the critical area. The structures in MFC02 include the following (from the south to the north): a cement dam; demolished rooms (such as a compound); one farmhouse; three outbuildings (one with a courtyard) and other temporary structures such as corrugated iron shacks and reservoirs. The most important of these structures are:

- A demolished compound that consisted of several rooms that were linked together on the southern perimeter of MCF02. This structure was built with clay and mud bricks as well as ferricrete stone. The (demolished) rooms were linked to a courtyard the remains of which consist of upright cement bricks.
- The historical farm homestead and shed that were built with sandstone and with ferricrete and with pitched corrugated zink roofs (currently painted green and red).
- An outbuilding constructed with clay bricks and cement is located next (to the west) of the farm house. This structure is plastered with cement. It has a corrugated zink roof with a slant angle. A corrugated iron reservoir on a ferricrete plinth and a plastic reservoir on a stand are situated next to the outbuilding. The corrugated zink reservoir has been adapted to serve as a room and is fitted with a door.
- An elongated modern outbuilding (next to the historical shed) was built with cement bricks and a corrugated iron zink roof. It has two cement ramps giving entrance to the building.

Modern farm complexes in the peripheral area

Modern Farm Complex 03 (MFC03)

This modern farm complex is located outside the north-western boundary of the new proposed Optimum Colliery in the peripheral area where it will not be affected by the mining activities. However, this complex which mainly includes modern residences and outbuildings is mentioned as it includes a historical house with outbuildings (HH03) and a historical graveyard (GY05).

Modern Farm Complex 04 (MFC04)

This farm complex is currently occupied and located outside the northern boundary of the mining area. It consists of a modern face brick building; at least three sheds built with clay bricks; a massive shed built with cement bricks and farming equipment consisting of tractors, lorries trailers, etc.

A historical farm homestead (HH02) built with sandstone and with a pitched corrugated zink roof is located in the centre of MFC04. This house has been incorporated in the modern farm complex and is linked with a modern garage. It is situated between the garage and the main residence.

The historical house is still in a relatively good condition although its interior has been altered.

Modern Farm Complex 05 (MFC04)

This complex is located outside the northern border of the mining area in the peripheral area. It consists of an abandoned complex of structures that is associated with

Graveyard 07 (GY07). The two most important structures in this complex are a farm homestead and a shed. The shed was built with sandstone and ferricrete blocks while the farm homestead was built with clay bricks and with cement. It has several rooms and a pitched corrugated zink roof. Its modernity is reflected by steel window panes.

The core of this farm homestead may have been a historical farm homestead which has been altered to such an extent that the historical character (and core) of the house can no longer be recognised. This structure is currently used as a store room. It has no outstanding architectural features or any other outstanding historical significance. It is abandoned for many years and seems to be structurally unsafe.

Other modern buildings in the complex include a small square cement and brick outbuilding without a roof; a dilapidated wooden shed linked to a corrugated zink shed; a square elongated structure built with clay bricks and no roof (chicken shed or pig stay?); a large elongated cement brick shed used to store fodder and a reservoir built with ferricrete (and plastered over).

A shed built with sandstone blocks and with slabs of ferricrete stone and with a pitched corrugated zink roof stone is also part of this complex. The shed is a historical structure but is severely dilapidated and has partly collapsed. It is currently used as a shelter for sheep. Enclosures built with corrugated zink were added to the shed.

This complex is also marked by scattered heaps of metal scrap including the wrecks of motor vehicles and zink reservoirs.

5.2 Possible impact on the heritage resources

A clear distinction has been drawn between heritage resources that occur in the critical (mining) area and those heritage resources that occur outside the mining area (in the peripheral) area of the proposed new Optimum Colliery.

The heritage resources that occur in the critical area and which may be affected by the proposed new mining development are the following:

Historical Houses

- Historical House 01 (HH01)

Graveyards

- Graveyard 01 (GY01)
- Graveyard 02 (GY02)
- Graveyard 03 (GY03)

Remains from the relatively recent past

- Site RRP01

Modern Farm Complexes

- MFC02

6 RATING THE SIGNIFICANCE OF HERITAGE RESOURCES IN OPTIMUM COLLIERS CRITICAL AREA

The heritage resources that occur in Optimum Colliery's critical area include historical structures (HH01); graveyards (GY01, GY02 and GY03); remains dating from the relatively recent past (Site RRP01) and a modern farm complex (MFC02). These resources have been tabulated and their coordinates (except the modern farm complex) have been determined (Table 1). The levels of significance of these resources have been determined using various criteria.

The heritage resources that occur in Optimum Colliery's peripheral area will not be affected by the proposed new development project. Even if these resources may be threatened in the future the same mitigation measures as those proposed for the heritage resources in the critical area apply as the resources in the critical and peripheral areas belong to the same types and ranges.

A rating scheme was devised to determine the significance of the heritage resources in the critical area. These criteria were used in order to establish different levels of significance for the heritage resources that will be negatively affected by the mining activities. The values accorded to each of these categories varied between 1 (low significance), 2 (medium significance) and 3 (high significance). This scheme considers criteria such as the following (Table 1):

Ideological (symbolic) significance

This category of significance refers to sites, structures or features that may have symbolic or ideological significance, e.g. cattle kraals that may have been used as

burial grounds, or stone cairns in initiation schools that symbolise the regiments (of men) moulded during these puberty ceremonies, etc. Burial grounds, graves, cemeteries and sites that are venerated would also score high on ideological significance.

Aesthetic significance

This category of significance refers to the beauty, craftsmanship or workmanship evident in sites, structures or features of historical and pre-historical sites. In this regard, one thinks of the spatial composition and layout of settlements, the spatial location of settlements on majestic or impressive mountains or kopjes, etc. Other aesthetic aspects include architectural style and building features such as stone walls, stone platforms, the shape and size of enclosures, etc.

Unique (ness)

The uniqueness of sites, structures and features refers to the fact that such sites, structures or features may be scarce and may not be repeated in other sites or at other places.

Cultural historical significance

The cultural historical significance of sites refers primarily to the age and the cultural affiliation of sites. However, these criteria may include the aesthetics or appearance of sites, the uniqueness of sites and the association of sites with peoples (as well as individuals) and with important events in the past.

State of preservation

The state of preservation of sites, structures and features refers to the condition of remains, which may be affected by development activities. Sites may be badly damaged or may still be in a pristine condition.

Research value

The research value of sites, structures and features refers to the knowledge that can be derived from these remains, through documentation, excavation or research of these remains. Research has little value if the results are not published to the benefit of the community.

HERITAGE RESOURCES	Ideological/symbolic significance	Aesthetic significance	Uniqueness	Cultural Historical significance	State of preservation	Research value
Informal Graveyard 01 (Farm workers) 26° 01' 11" S 29° 47' 57" E	3	1	1	2	1	3
Formal Graveyard 02 (Farmers) 26° 01' 26" S 29° 45' 55" E	3	2	1	2	1	3
Informal Graveyard 03 (Farm workers) 26° 01' 29" S 29° 46' 12" E	3	1	1	2	1	2
Historical buildings (HH01) (MFC02)	2	2	3	3	2	3
Remains: recent past (Site RRP01) 26° 01' 13" S 29° 47' 45" E (North) 26° 01' 17" S 29° 48' 00" E (South)	1	1	1	1	1	2

Table 1. Levels of significance for the heritage resources discovered in the critical area of the proposed new Optimum Colliery on the farm Schoonoord 164IS in the Mpumalanga Province of South Africa.

Lowsignificance(1);Mediumpsignificance(2);Highsignificance(3)

7 CONCLUSION AND RECOMMENDATIONS

The HIA study revealed the presence of heritage resources in the critical and in the peripheral areas of the proposed new Optimum Colliery.

The heritage resources in the peripheral area will not be affected by the proposed new development project.

The heritage resources in the critical area include historical structures (HH01); graveyards (GY01, GY02 and GY03) and remains dating from the relatively recent past (Site RRP01).

The three graveyards (GY01, GY02, and GY03) can be considered to be of outstanding significance. These graveyards have to be relocated to accommodate the proposed new Optimum Colliery. It is recommended that the deceased be exhumed and the graveyards be relocated. This work must be conducted by forensic archaeologists. Contact details for these specialists are the following:

Prof. Maryna Steyn
Department of Anatomy
University of Pretoria
(tel. 012 4203256).

The forensic archaeologists will require all the necessary permits for the exhumation of the graves and the relocation of the graveyards. Various laws, provincial regulations and administrative procedures regulate this activity.

The historical remains (HH01) can be considered to be of some significance with regard to criteria such cultural historical significance, research value, uniqueness and aesthetic appearance. However, the historical house and shed have been altered in the past and they do not represent outstanding examples such as HH03 and HH04 which are located in the peripheral area. A historical architect may decide to document HH01

before this farm homestead and shed are demolished. Dr. Johan Bruwer is a historical architect. His contact details are:

Dr Johan Bruwer
14 Generaal Olivierstraat
Meyerton
(tel. 016 3623740).

The remains dating from the relatively recent past (Site RRP01) can not be considered to be of outstanding significance and can be demolished.

As heritage resources are protected by legislation Optimum Colliery has to acquire a permit from the South African Heritage Resources Agency (SAHRA) before the historical structures and the remains from the relatively recent past can be affected by any development activity. It is recommended that Optimum Colliery approaches SAHRA for a permit which allows for the demolishing of the remains dating from the relatively recent past (Site RRP01) and for the historical structures after they have been studied by a historical architect.

The historical houses, outbuildings and graveyards which occur in the proposed new Optimum Colliery's peripheral area represent unique examples of a sandstone architecture that is unique in South Africa's architectural and cultural history. These remains are the last remnants of a late 19th and an early 20th century pioneer lifestyle in the Eastern Bankeveld that will disappear for ever if deliberate efforts are not made to conserve some of these remains and the lifestyle, culture and ideology that is attached to these remains. Optimum Colliers Environmental Management Programme can provide for the conservation, restoration and utilization of these resources occurring in Ingwe's coal mining areas by implementing long term development projects such as site museums (houses), historical trails, information centres, etc around these resources.

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