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**THE SOUTH AFRICAN HERITAGE RESOURCES AUTHORITY (SAHRA)
FULLESHOWARD AND DE LANGE
(PHD) DOUGLAS COLLIERY**

Results of a Phase II Heritage Impact Assessment Study:

**AN INVESTIGATION OF A HISTORICAL SANDSTONE FARMSTEAD AND
OUTBUILDINGS ON THE BANKS OF THE OLIFANTS RIVER ON THE FARM
KLEYNKOPJE 1518 WITHIN THE BOUNDARIES OF DOUGLAS COLLIERY IN
THE MPUMALANGA PROVINCE OF SOUTH AFRICA**

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1 INTRODUCTION

A Phase I Heritage Impact Assessment (HIA) study was done for the EMP amendment for Douglas Colliery on the farms Wolvekrans 17IS, Kleinkopje 15IS, Steenkoolspruit 18IS and Van Dyksdrift 19IS in the Eastern Highveld in the

Mpumalanga Province of South Africa during May 2004. The results of the Phase I HIA study was summarised in the 'Executive Summary' which reads as follows:

'A Heritage Impact Assessment (HIA) study as required in terms of the National Heritage Resources Act (No 25 of 1999) was done for the EMP amendment for Douglas Colliery in the Mpumalanga Province of South Africa.

The HIA study revealed the presence of the following types and ranges of heritage resources in the Douglas Colliery Mining Area: a Historical House (HH01); six Informal Graveyard (GY01 to GY06), remains (sites) dating from the Relatively Recent Past (Site RRP01 to Site RRP09) and a number of closed mine shafts. These resources have been mapped (Figure 1) while the coordinates of the graveyards and the remains dating from the Relatively Recent Past have been tabulated (Tables 1 & 2). The levels of significance of the Historical House and the remains dating from the Relatively Recent Past have been determined using various criteria (Table 2).

The graveyards can be considered to be of outstanding significance. Graveyards that will be affected by future mining activities must be relocated to accommodate expanding mining activities. This (Phase II) work must be done by forensic archaeologists who will acquire all the necessary permits for the exhumation and relocation of the graveyards. Various laws, provincial regulations and administrative procedures regulate this activity.

The Historical House (HH01) can be considered significant with regard to various criteria. However, this structure is dilapidated and cannot be restored to its former grandeur. Outstanding examples of similar (colonial) sandstone farm homesteads exist near Middelburg on the Eastern Highveld. It is recommended that this structure be subjected to a Phase II investigation as required by the National Heritage Resources Act (Act No 25 of 1999). This investigation's aim will be to document the house prior to its destruction. This information will be stored in SAHRA's databank (register) for future use in research projects.

The remains (sites) dating from the Relatively Recent Past (Site RRP01 to Site RRP09) cannot be considered to be of outstanding significance and can be demolished. However, a permit for their destruction is required.

The closed mine shafts qualify as part of the national estate. Douglas Colliery started with coal mining more than a century ago. It is the oldest colliery on the Eastern Highveld and may consider preserving one of the impressive mine shafts in order to reflect its remarkable coal mining history which is only equalled by coal mines in Kwa Zulu/Natal. A rapid changing coal mining technology make some of these shafts (which only date from the last two/three decades) appear to be 'ancient' when compared with current opencast drag line operations that are used to main coal. The coal mine can over time be developed into an open-air mine museum to which other displays of abandoned equipment, etc. can be added. However, such a venture can only be undertaken taking into consideration regulations such as health and safety as laid down by mine legislation (e.g. the Mine Health and Safety Act [Act No 29 of 1996] and the Mineral Petroleum Resources Development Act [Act No 28 of 2002]).'

According to Mrs Marietjie Eksteen (director at Pulles, Howard and De Lange [PHD] the environmental company responsible for finalising the EMP amendment for Douglas Colliery) the following progress has been made with regard to the various recommendations that have been put forward in the Phase I HIA study:

- Martin Funerals (registered undertaker) and Archaetnos (forensic archaeologists) have been appointed to exhume and to relocate the graveyards. The social consultation process is nearing completion and work is scheduled to start within the next one to two months. SAHRA and the Department of Health (national and provincial) have granted the necessary permits.
- The shafts mentioned within the HIA report lies outside of the new proposed mining area and no further action has therefore been taken in this regard.

The Historical House (HH01) has been subjected to a Phase II investigation of which the results are discussed in this report.

2 AIMS WITH THIS REPORT

The Eastern Highveld (the southern part of the Mpumalanga Province) is 'under enormous economic pressure' as the country's largest reserves of coal occur in this region (Huntly, *et al* in Naude 1994). Coal mining on the Eastern Highveld is now older than one century. Whilst millions of tons of high-grade coal are annually exported overseas more than 80% of the country's electricity is generated on low-grade coal in Eskom's power stations such as Duvha, Matla and Arnot situated near coalmines on the Eastern Highveld.

Heritage resources on the Eastern Highveld seem to be characterised by Late Iron Age sites which are restricted to certain areas, historical sites in urban as well as in rural areas and various types of graveyards ranging between formal and informal and between historical graveyards and graveyards that date from the recent past. Historical sites in the Eastern Highveld are associated with a unique vernacular stone architecture, which is only equalled elsewhere in South Africa in the eastern parts of the Orange Free State and in the Karoo.

The Eastern Highveld's vernacular stone architecture can today be found in two prime localities, namely on farms that are still in the possession of private land owners (mostly farmers) and within the territories of mega coal mining companies who are gradually encroaching on increasing larger parts of the Eastern Highveld. Heritage resources in both these localities are today endangered by circumstances unique to farming and coal mining.

Farm workers usually reoccupy historical farm homesteads on privately owned farms after these structures have been replaced with modern farm residences. Most of the farm workers don't have the economic means to maintain these buildings of which the majority are already severely dilapidated when occupied by the new residents. Whenever these buildings are abandoned they became vandalised and eventually crumble into ruins. Sheds and outbuildings are also used as storage rooms or as enclosures where sheep are sheltered at night. Many abandoned historical farmsteads

are also systematically (and illegally) stripped of building material such as roofs, trusses, doors and windows (Naude 1994).

Coal mining occurs through open cast and underground mining activities. Whereas underground mining has less of an impact on the natural environment as well as on historically significant surface infrastructure, new surface mining operations involve technology which devastates large tracks of land in order to strip coal deposits from the earth. Massive waste dumps left behind these drag line operations are rehabilitation into new landscapes - without the original cultural character that once characterised the region. Unused historical structures in mining areas also sometimes fall prey to vandalism and eventual decay.

It is therefore clear that the Eastern Highveld's vernacular stone architecture is seriously threatened by the expansion of coalmines, natural decay and the absence of an awareness of the significance of this unique heritage amongst inhabitants of the area and environmentalist attached to mines. The loss of this heritage is further compounded by the absence of any heritage management programme conducted under the auspices of SAHRA (national or provincial) or private enterprise such as the coal mining companies. A heritage management programme must provide for the recording and mapping of all historical farm homesteads in the region and the selected documenting of outstanding historical significant buildings and structures. This data then has to be incorporated in SAHRA's heritage data bank.

This Phase II study is the result of recognising the importance of a historical farmstead with outbuildings that was discovered within the boundaries of Douglas Colliery which may be destroyed by future mining activities. A realisation of the historical significance of these structures became clear after the author observed several farm homesteads that were built with sandstone, ferricrete and dolerite whilst conducting Phase I HIA studies for new proposed coal mining areas on the Eastern Highveld during the last three years.

This Phase II report subsequently contains the results of the investigation of the historical farmstead and its associated outbuildings by means of limited excavations and a survey of literature on the vernacular stone architecture of the Eastern Highveld. It is trusted that this information may be of assistance to any researcher interested in the vernacular stone architecture of the Eastern Highveld and that it will be stored in SAHRA's heritage register for future use.

3 METHODOLOGY

The historical farmstead and its associated outbuildings were studied by means of:

- limited excavations;
- documenting the exposed remains of the farmstead and outbuildings;
- contextualising the historical structures with the help of a review of literature relating to the vernacular stone architecture of the Eastern Highveld; and
- a general description (illustrated with photographs) of historical farmsteads and outbuildings observed in new proposed coal mining areas on the Eastern Highveld.

It must be emphasised that this report is merely descriptive in nature as it only focuses on describing and illustrating the remains of the farmstead and its outbuildings which are still intact. These remains are limited to the foundations of the farmstead and two associated rondavels (outbuildings). No parts of the upper structures of these buildings have survived. It is possible that these structures were demolished and robbed for building material as little else than the foundations, including the heavy massive corner stones of the farmstead, have remained *in situ*.

3.1 Excavations

Excavations of the farmstead and rondavels merely consisted of the clearing of the interiors and boundaries of the outer walls of these structures. All three structures were cleared from vegetation and from excessive rubble in order to expose the floor plans of these structures. The exposed foundations and inner walls of the three structures were then documented. Small test excavations in all three rooms of the farmstead were done to establish whether any of these rooms had some kind of floor. (A sand floor was found in one of the rooms).

As the foundations and inner walls of the farmstead and rondavels served as the main features which directed the clearing and excavation of these structures in a controlled way, a fully controlled archaeological excavation with spatial and temporal guidelines (a

grid system and stratigraphic controlled layers) was not used. Excavated soil was not sieved. Very few artefacts were found in association with the buildings (see Part 6.2.3).

3.2 Documentation

The documentation of the farmstead and outbuildings consisted of the surveying and mapping of these structures. The remains of these buildings were also photographed as well as detail features of these structures. A contour plan indicates the spatial location of the historical farmstead and outbuildings next to the Olifants River (Figure 1.) The floor plans of the farmstead and rondavels as well as a drawing of the north-western profile of the farmstead's foundation were combined with photographs that illustrate some of the detail features of the various buildings (Figures 2—4).

3.3 Brief literature review

A brief review of literature relating to historical farm homesteads in the Eastern Highveld was made in order to help with the interpretation of the significance and meaning of the farmstead and outbuildings on the mining premises of Douglas Colliery. These sources are limited as little research has been done on vernacular stone architecture in this part of the country. The main sources outlining the importance and significance of the vernacular stone architecture in the Eastern Highveld are the publications of Mr. Mauritz Naude (see 'Select Bibliography', Part 9). These publications are general in nature and mainly focus on the types and ranges of farm homesteads, outbuildings and other structures that may be found in the southern parts of the Mpumalanga Province.

3.4 Assumptions and limitations

The investigation of the farmstead and outbuildings on Kleinkopje 15IS was subjected to time restrictions due to the mine safety regulations. Budget constraints also limited work.

Extensive excavations of the farmstead and outbuildings may have provided more information about the architecture, building techniques and features of these historical structures as well as about the general ways of life of the colonists who occupied these buildings.

3.5 Some remarks on terminology

Only a few terms relevant to this report needs wider clarification, namely:

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 project area, to the first appearance or use of 'modern' Western writing brought to Witbank and Middelburg in the Mpumalanga Province 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 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 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.

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 may require the input of specialists and requires the co-operation and approval of SAHRA.

A farm homestead refers to all buildings, structures, utilities and spaces that comprise a single farm. The farm homestead therefore would not only incorporate the core structures associated with the farm such as the farmstead and outbuildings but also structures further afield such as enclosures used to shelter domestic stock, spaces (fields) utilized for agricultural activities, roads leading to the farmstead, etc. The term farm homestead therefore is a holistic concept encompassing part of or a total cultural landscape.

The farmstead refers to the farmhouse and core structures in its immediate surroundings such as a shed and outbuildings such as rondavels. This report's main concern is the farmstead.

4 THE PROJECT AREA

4.1 Location

Douglas Colliery is situated on the farms Wolvekraal 17IS, Kleinkopje 15IS, Steenkoolspruit 18IS and Van Dyksdrift 19IS to the south of Witbank in the Emalahleni Municipality in the East Vaal District of Mpumalanga. The mine is located approximately 30km to the south of Witbank to the west of Road 544 running from Witbank (north) to Kinross (south).

The historical farmstead with outbuildings are located on the farm Kleynkopje 15IS, along the eastern banks of the Olifants River that runs along the western perimeter of Douglas Colliery and are therefore part of the undulating landscape of the southerly districts of the Mpumalanga Province. Today, the area around these structures is largely covered with agricultural fields and opencast mining activities. Few trees occur in the study area, the majority of which are blue gum trees and wattles.

A single, solitary Oak tree is located further to the south of the farmstead and rondavels where it is associated with the foundation of a fourth historical structure. A grove with poplar trees in which a graveyard was found occurs on the lower banks of the Olifants River, close to the historical structures. It appears as if the northern banks of the Olifants River, in the present Douglas Colliery mining area, may have been favoured as a farming (and living) area in the past (2629AB Van Dyksdrift [1:50 000]; 2628 East Rand [1: 250 000]) (Figure 1).

4.2 Historical context

Modern towns closest to Douglas Colliery include Witbank, Middelburg, Belfast and Carolina. Witbank came into being as the railway line between Pretoria and Lourenzo Marques that was built in 1894 passed close to where Witbank is located today. The first Europeans who came to the area observed the abundance of coal,

which is evident on the surface or in the beds of streams. A stage post for wagons close to a large outcrop of whitish stones (a 'white ridge') gave the town its name. Witbank was established in 1903 on a farm known as Swartbos that belonged to Jacob Taljaard.

Middelburg is one of the oldest towns that were established by the Voortrekkers in the previous Transvaal. The town was established on the farms of Klipfontein and Keerom on the banks of the Klein Olifants River in 1859. 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 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 and Witbank are important centres where coal is mined and transported to Richards Bay from where it is exported all over the world. The 20th century also saw the introduction of large-scale irrigation and dry land farming on the Eastern Highveld. Today the economic activities of the area include diamond and coal mining, light and heavy industries as well as steel and vanadium operations.

Belfast was founded on 30 June 1890. Farmer Richard O' Neil bought the farm Tweefontein near where the expected railway line between Pretoria and Lourenço Marques in Mozambique would run. He set up a store and applied for permission to lay out a village. He named it Belfast in honour of the city in Ireland from where his father had immigrated. The railway reached the village in 1894 and the first village council took office in 1902.

The area where the town of Carolina was proclaimed on 16 June 1886 served as a popular stopover for transport riders for several years – especially after a gold reef

was discovered in what was to become Barberton in 1884. Traffic increased to such an extent that a trading and staging post was soon established. However, there is uncertainty about the origins of Carolina. A notice in the Transvaal government gazette stated that it was laid out on the farms Groenvlei and Goede Hoop. According to another sources Cornelis Coetzee made available part of his farm Steynsdraai for a village provided it was given the name of his wife, Carolina.

Figure 1- The historical farmstead and rondavels next to the Olifants River on the farm Kleinkopje 15IS in the Eastern Highveld in the Mpumalanga Province.

5 A VERNACULAR STONE ARCHITECTURE ON THE EASTERN HIGHVELD (SOUTHERN MPUMALANGA)

The south-eastern Transvaal Highveld covers the region between Bronkhorstspruit in the west (Gauteng Province), the border of Swaziland in the east (Mpumalanga Province) and the area from Middleburg in the north (Mpumalanga Province) to Bethlehem in the south (Free State Province) and includes as many as eleven magisterial districts. This region, also referred to as the southern districts of the Mpumalanga Province of South Africa, is characterised by a vernacular architecture in which stone was used to build farmsteads and dwellings in urban as well as in rural areas.

A historical stone vernacular architecture also occurred in the Karoo and in the eastern parts of the Free State Province of South Africa. One of the major differences in the vernacular stone architecture in the Eastern Highveld and in the eastern Free State Province and in the Karoo is the use of a wider variety of stone types in the Eastern Highveld. In the Karoo and in the eastern Free State Province only sandstone was used as building material (Naude 2004).

5.1 Origins of a vernacular stone architecture in Mpumalanga

The origins of a vernacular stone architecture in the southern parts of the Mpumalanga Province may be ascribed to various reasons of which the ecological characteristics of the region may be the most important. Other reasons may include the 'general use' of stone as building material by Late Iron Age communities over large parts of the country from as early as AD1600 and the influence that was brought by European immigrants to the Eastern Highveld during the late 18th and early 19th centuries. The fusion of ecological, traditional, new ideas (influences) and logic therefore may explain the use of stone as building material on the Eastern Highveld (Naude 2004).

The ecological character of the Eastern Highveld favoured the use of stone as building material as this region is generally devoid of any natural trees which could be used for

timber in the construction of dwellings, outbuildings, cattle enclosures, etc. The scarcity of wood, which was primarily used as fuel for cooking, also prevented the manufacturing of baked (clay) bricks. (Sun-dried bricks were of a lower quality than those baked on a stack). The need for timber in buildings on the Eastern Highveld therefore required that timber had to be imported from the Bushveld and from east of the escarpment into this region (Naude 2004).

Late Iron Age settlements characterised by extensive dry stonewalls and dating from the 17th century do occur in the Mpumalanga region, particularly in the area between Lydenburg and Machadodorp (Mason 1962; Inskeep 1978; Evers 1981), but not close to the project area. Late Iron Age communities who contributed to this stone walled architecture were the Sotho, Pedi, Ndebele and Swazi. The stone building tradition that these indigenous groups established many decades before the first colonial settlers arrived, may have influenced the new arrivals to utilize the same resources that their predecessors did.

Many farmers from Scottish, Irish, Dutch, German and Scandinavian descent farmed in the Eastern Highveld. These colonials brought knowledge of stone masonry from Europe that compensated for the lack of firewood to bake clay bricks. European architectural influence can also be seen in missionary stations such as Botšabelo near Middelburg which was constructed in the second half of the 19th century. Here the missionary's house, the school buildings and churches all have stone foundations while some of the buildings in the complex have been built in their entirety with stone (Naude 1994).

5.2 Rock types used

Rock types preferred in the southern districts of the Mpumalanga Province were sandstone, ferricrete ('ouklip') granite, shale and slate. The characteristics of these rock types have been investigated by Naude (2000). Only sandstone and ferricrete are discussed here.

5.2.1 Sandstone

Sandstone is formed when the sand grains of sediments are cemented with the help of silica or calcium carbonate into solid rock. Sandstone is also known as 'witklip' and was commonly used as building material due to features such as its natural shape, colour and versatility. However, the most important characteristic of sandstone is the fact that it breaks around its grains which leaves the sandstone intact. Sandstone can then be chipped into any direction into planes, which leaves the stone cubic in form and therefore suitable for use as bricks or building blocks.

When sandstone is used in its natural form when picked up from the surface it is called 'koppeklip'. Undressed 'koppeklip' was used without any binding material while dressed sandstone was stacked on top of each other with the aid of binding material. Pointing was done according to the preference of the mason.

Sandstone was used in a variety of sizes. While small stones were usually used for sneeking, massive sandstone blocks were used as corner stones in buildings. Sandstone was not only used as bricks but also for windowsills, window and door lintels and as thresholds. It was also used to build fences and served as bridges across water furrows. Sandstone was also favoured for quoining as it can easily be cut and shaped into cubes.

5.2.2 Ferricrete

Although ferricrete was not used as a building material in the farmhouse and outbuildings under discussion, this material was used in other buildings and structures which the author observed during Phase I HIA studies in coal mining areas near the current project area. The qualities and characteristics of this building material are therefore briefly discussed.

Ferricrete were mainly used for kraals and other minor buildings although some farmsteads were entirely built with this material. Ferricrete can be chipped into square

blocks or it may be used undressed and stacked as dry stonewalls. Sometimes ferricrete was used with mortar to stabilize walls. Ferricrete was also used as flooring material in open stables and in kraals where cows were milked. However, due to its coarse texture and the fact that it is hard underfoot it was not used around the farmstead.

6 THE FARMSTEAD ON KLEINKOPJE 15IS

This historical farmstead and rondavels are situated in the northern part of the Douglas Colliery mining area on the farm Kleinkopje 15IS. The farmstead and outbuildings are located against a gentle slope on the eastern banks of the Olifants River. A plantation of blue gum trees which served as windbreak and as a canopy against the summer sun is set as a backdrop behind the structures, higher up the banks of the Olifants River. From this position the residents of the house looked down on the Olifants River as it meandered towards the south (Figure 1).

6.1 The historical farm homestead

The original farm homestead on the banks of the Olifants River probably comprised of more structures than the foundations of the single farmstead and two rondavels that can still be recognised today. A scattered heap of stones and the ruins of a structure associated with an Oak tree that were not mapped may have been part of the original farm homestead that was located along the northern banks of the Olifants River.

Whilst the scattered heap of stones is located next to the two rondavels, the ruins of a square structure next to an Oak tree are located a considerable distance to the south of the main farmstead and rondavels.

Small agricultural fields for crop plants may have existed in the sandy soils of the banks of the Olifants River, near the farmstead. However, it is highly unlikely that these historical features will leave any traces that are observable today.

The Blue Gum plantation not only served as protection against natural elements such as wind and rain but was also used for its wood that could be utilized as fuel, building material, etc.

Sandstone may have been quarried from the extensive sandstone outcrops lower down the banks of the Olifants River, in close proximity of the farmstead and outbuildings. Today, these quarries are probably covered by sand deposits as a result of the river changing its course over time.

6.2 The farmstead and outbuildings

The farmstead and rondavels are located in close proximity clearly reflecting the supportive role of these three structures. Both the farmstead and rondavels were built with sandstone. No ferricrete, dolerite or slate was used in the construction of these structures. Whilst it is clear that the sandstone used for the farmstead's foundation was quarried and carefully dressed, the sandstone used for the inner walls of the farmstead as well as for the outer walls of the rondavels (or their foundations at least) were undressed.

The sandstone that was used in all three structures varied considerably in size. No standardization in the length of sandstones can be noted. Also note-able is the occurrence of massive corner stones in the farmstead. Sandstone were made to fit (or to join) at important junctures, such as at corner posts. Made-fit sandstone (not cubes any longer) was observed in the rubble. The door (or door frame) of the farmstead was fitted into a hole in one of the foundation stones.

Both the farmstead's outer and inner walls as well as the rondavels' outer walls were constructed with two parallel layers of stone. The sandstone that was used for the farmstead's inner walls as well as for the rondavel's outer walls was undressed. Inner walls were also constructed with smaller sandstone which also seems to be of a lower standard and quality than the dressed large sandstone that was used in the outer layer of the farmstead's foundation.

The walls of the farmstead and rondavels were 'cemented' with mortar of which the main ingredient consisted of sand. Smaller pieces of stone (rubble) were used in

conjunction with the mortar in order to fill spaces between the sandstone but also to help to wedge the stones in the various layers of the walls.

Figure 2- Floor plan of farmstead showing two small north facing rooms and a single larger south facing room.

6.2.1 The farmstead

The farmstead's exterior measured 10,52m (35' 6") x 7,38m (24' 3") and its interior measurements were 9,48m (31' 1") x 6,43m (21' 1"). The outer walls of the farmstead therefore are 1' 6" thick on either of its long and short sides. The farmstead covers a surface of 60,9m² (656,2ft²) (Figure 2).

At least three rooms can be distinguished in the farmstead, namely two small adjacently located rooms that face towards the north and a single larger room that faces towards the Olifants River (the south). The single large room gave access through an opening (door?) into the two smaller rooms while the two smaller rooms are connected with each other through another opening. Only one door opening, situated above the steps on the farmstead's southern side, is recognizable in the farmstead.

The larger of the two north facing rooms revealed a floor, which was built with white river sand. The sand was coloured red or pink with some kind of colorant. The sand floor is still well preserved as it was compacted. The floor may have been coloured with a mixture of milk and a red powder derived from either sand or shale (hornfels) from the area (Naude 2004). No evidence for a floor of any kind was found in the second small room or in the large room.

Pioneer farmstead usually had a front and a back orientation. The front of the farmstead usually had a view or faced towards the sun or the road. The front view served as the high status part of the farmstead and is usually reserved for decoration and for the reception of guests. In contrast with the front high status orientation the backside of the farmstead served as a lower status area that was usually not used by any guests. Most of the pioneer farmsteads in the Waterberg had only three rooms. These consisted of two bedrooms at each side of a lounge ('voorkamer' or 'voorhuis'). (Naude 1990, 2004).

The kitchen only developed as an extension to the farmstead at a later point in time. Initially, open fireplaces or cooking screens ('kookskerms') located at the back of the farmstead served as kitchens. Later on kitchens were added as lean-to's against the farmstead while rondavels were also used as kitchens (Naude 1994, 2000, 2004).

An outdoor privy must have existed. These structures were usually built with wood and corrugated iron. (Sandstone privies were a rare occurrence). These toilets were pit-types and were not emptied but left to fill up over a few years of continuous use. When full they were sealed and the toilet building was moved over a newly dug pit. This procedure was followed until pit latrines were replaced with a bucket system (Naude 2000).

The frontal (high status) part of the Kleinkopje farmstead probably faced towards the Olifants River (where the only door in the house occurred). This view, away from the sun and the Blue Gum plantation, probably faced towards a road next to the Olifants River that led to the farmstead. Guests were received in the large room, which then probably served as the 'voorkamer' with the two smaller rooms as bedrooms 'in the back' of the house. A piece of glass that was excavated in the smaller one of the two back rooms suggests that this room may have been fitted with a window that faced north.

The farmstead was probably covered with a pitched corrugated iron roof.

Figure 3- Profile drawing of north-western foundation of farmstead. Also note profiles of north-eastern corner post (Detail A) and north-western corner post (Detail B).

6.2.2 The rondavels

The two rondavels' inner diameters respectively measure 6' and 8' 8". (Their respective radii are $r=1,83\text{m}$ (5' 6") and $r=2,65\text{m}$ (8')). The entrances into both these structures can still be observed. No evidence for any kinds of floors or inner walls was found in any of the two structures. Both these structures' outer walls are double and built with undressed sandstone (Figure 4).

The close spatial location between the farmstead and the rondavels reflect their support role as rondavels located directly around the farmstead were usually used for a multitude of purposes. The most common usages include storage or the use of these structures as meat or milk rooms or as additional bedrooms for guests or children. Some rondavels were also used as kitchens and even as smoke rooms where meat was smoked. The interiors of milk and meat rooms built with stone were usually whitewashed with lime. Painting was done directly on the stone without any plastering. These structures are usually covered with timber frames that are thatched with grass to keep inside temperatures down. (A corrugated iron roof would have an opposite affect). Rondavels were seldom fitted with windows with glass panes. Ventilation was created through louvers that were installed at the gable ends (above ceiling height) or through the top half of doors (Naude 1994, 2000).

The two Kleinkopje rondavels were probably used as a milk/meat room (small rondavel) and as an additional bedroom (large rondavel), particularly if an open kitchen did exist outside the farmstead. The heap of stones next to the rondavel may have served as a cooking shelter where food was prepared. Cooking shelters were usually rudimentary structures that left little traces of their original existence.

The rondavels were probably covered with grass thatch roofs.

6.2.3 Materials and artefacts

The deposits from the farmstead and the rondavels were not excavated. However the following material and artefacts were retrieved from the farmstead:

- Several pieces of white and blue porcelain.
- A piece of glass (probably from a window in the small north-facing room).
- A metal object such as a plumb that may have been used when the house was built. This tool indicated that specialist workmen (builders) were responsible for the construction of the farmstead. The precision in the outer (34ft x24ft) and inner diameters (31ftx21ft) of the farmstead is indicative of the fact that specialist workmen were responsible for the building of the farmstead.

Figure 4- Floor plans of the two rondavels next to the farmstead.

7 FARM HOMESTEADS IN COAL MINING AREAS ON THE EASTERN HIGHVELD

Several farm homesteads characteristic of the vernacular sandstone architecture of the Eastern Highveld were observed in the Witbank-Middelburg area during Phase I HIA studies that were done for environmental companies compiling EMP reports for coal mining companies during the last three years. These farm homesteads occur in context with sheds, outbuildings, graveyards, Blue Gum plantations and Oak trees and therefore as part of historical (cultural) landscapes, although in most instances altered to a more or lesser degree due to modernization.

These pioneer (colonial) farm homesteads were established by the first European farmers who occupied this part of the Mpumalanga Province. The earliest of these historical farm homesteads probably date from the turn of the 19th century although the majority may date from the first decades of the 20th century. More accurate chronological evidence for these landscapes may be established by studying the inscriptions of graveyards near some of these farmsteads.

The following is a brief outline of some of these farm homesteads and associated infrastructure that were observed in the Witbank-Middelburg area. These farm homesteads have also been mapped in order to provide some spatial data for those researchers interested in pursuing the vernacular stone architecture of the Eastern Highveld (Figure 5). Not all the site localities that have been indicated are discussed.

This description of the farm homesteads and their associated infrastructure are broad based and only focuses on exterior appearances.

Figure 5- The location of historical farm homesteads observed on the Eastern Highveld during heritage impact assessment work. The majority of these historical sites occur in new proposed coal mining areas where their future existence is not guaranteed. (Not all the sites are discussed in this report).

7.1 Farmsteads on Schoonoord 164IS

The farm Schoonoord 164IS is situated between Middelburg and Hendrina. At least four historical farm homesteads, some associated with sheds, rondavels, graveyards and Oak trees are located on this farm. The majority of these structures occur to the east of Road 38 running from the N4 (north) to Hendrina (south) (Figure 5). Although some these farm homesteads have been altered to a more or a lesser degree the historical character of all these sites are obvious. A fifth farmstead has been incorporated into a new dwelling altering its original appearance to such an extent that its (historical) core can no longer be recognised.

The rectangular farmsteads and outbuildings were built with sandstone and ferricrete while the pitched roofs of these structures consist of pitch corrugated iron sheet. Some of these structures are still in an excellent condition whilst others are either dilapidated or are approaching total disintegration as a result of neglect and abandonment.

Ferricrete were used in conjunction with sandstone in several of the structures on Schoonoord. The combined use of these two materials sometimes reflects extensions to structures with ferricrete being used as to the younger (more recent) building material. Outbuildings mainly consist of sheds and rondavels. Graveyards are important components of some of these farm homesteads. Other secondary or tertiary structures such as pig stays, chicken sheds, ovens, outdoor toilets, etc did not survive. Kraals for sheep were observed as these structures usually occur as extensions to sheds.

The following farmsteads and associated infrastructure were observed:

- The first farm homestead (Site SCH01) comprises of a farmstead, a shed and a graveyard located in close proximity to each other.

- The second farm homestead (Site SCH02) comprises of a farmstead, a shed with an attached kraal and a rondavel. A graveyard located some distance from these structures may be associated with this farm homestead.
- The third site merely comprises of a farmstead (Site SCH03) that has been incorporated in a modern farm complex.
- The fourth site consists of a farmstead (SCH04), a rondavel and the remains of what may have been a shed.

Some of these structures are now briefly described and illustrated with photographs.

7.1.1 Site SCH01 (farmstead, shed and graveyard)



Figure 6- The farmstead in Site SCH01 consists of a rectangular core structure build with sandstone. Note the extensions (lean-to's) constructed on at least two sides of the house. This is the 'normal way' through which the core of the farmstead was extended over time. This farmstead is associated with a shed and with a graveyard.



Figures 7 & 8- The shed associated with farm homestead SCH01. This structure is currently used as a store and to shelter sheep (above). A historical graveyard is located in close proximity to the shed and farmstead (below).



7.1.2 Site SCH02 (farmstead, shed, kraal and rondavel)

Site SCH02 incorporates a farmstead, a shed with a kraal attached to it and a rondavel. This farmstead was built with sandstone and is covered with a pitched corrugated iron roof (currently painted green). The lean-to on the houses' right hand side has been added later and was built with sandstone and ferricrete (Figure 9).



Figure 9- The farmstead in Site SCH02 was built with sandstone while the lean-to was also constructed with ferricrete.

Figure 10- The shed associated with Site SCH02. This structure was built with sandstone and ferricrete while its roof is covered with a pitched corrugated iron roof (painted red).

The shed is linked to a square courtyard which was constructed with ferricrete and which served as a kraal (for sheep). The kraal may have been added some time after the shed was constructed. The cement brick structure to the right is another (still later) addition to the shed.

The shed was probably used for wagons or coaches. Note the single large door at one of the gable ends (below).



7.1.3 Site SCH03 (farmstead)

This structure comprises a farmstead that has become incorporated in a modern farm complex. This rectangular structure was built with sandstone and with a pitched corrugated iron roof. Currently it is being utilized as a store. It is situated next to the modern farmhouse (not visible in the photograph) and is linked with a garage (below).



Figure 11- A historical farmstead that has been incorporated in a modern working farm complex where it is being used as a store (above).

7.1.4 Site SCH04 (farmstead, shed, rondavel and trees)

This farm homestead is located directly to the east of Road 38 running from the N4 in the north to Hendrina in the south. It is situated on a reef and overlooks a valley beyond (to the south) of the farm homestead. This house was built with sandstone and with a pitched corrugated iron roof. It is probably the largest or second largest farmstead that the author has observed in the Witbank-Middelburg area.

A rondavel that was built with sandstone occurs some distance from the house whilst the dilapidated remains of what must have been a shed are noticeable between the farmstead and the rondavel.

Two large Oak trees are standing next to the farmstead. The farm homestead is also associated with a Blue Gum plantation that is currently being chopped down (Figure 12).



Figure 12- The excellently preserved remains of a sandstone farmstead associated with Site SCH04. Note the large (historical) Oak tree next to the house. The house has been extended several times from its original core, mainly by means of lean-to's (above).

7.2 Farmsteads on Wonderfontein 428JS

At least two farmsteads were observed on the farm Wonderfontein 428JS that is situated approximately 10km to the south of the N4 along (to the west) of Road 33 that runs from the N4 (north) to Carolina (south) (Figure 5).

The two farmsteads are located next to each other. Whilst one of the dwellings was built with sandstone, the second was built with ferricrete (Figure 13). Both these structures are occupied by farm workers and are still in a relatively good condition.



Figure 13- A sandstone and a ferricrete house next to each other (above). Note the lean-to constructed against the square structure. The entire ferricrete house was built with dressed ferricrete, which was shaped in a standard size so that it could be laid in level layers. The mortar between the layers was whitewashed. The two houses are also associated with a historical graveyard.

7.3 Farmsteads on Middelkraal 50IS

The farm Middelkraal 50IS is located directly to the east of the national road (R35) that runs between Middelburg and Bethal. The well-preserved remains of a shed and a kraal complex are here located on the western perimeter of a Blue Gum plantation, near Road 35. Both the shed and kraal complex were constructed with sandstone, ferricrete ('ouklip') and dolerite ('blouklip'). (It is possible that the shed and kraal complex may have been part of a farm homestead that incorporated a farmstead which may have been demolished some time in the past) (Figures 14 & 15).

The shed is a square structure built with a solid foundation consisting of dolerite stone. The walls of the shed were constructed with dolerite, sandstone and ferricrete. Sandstone was used for quoining while undressed dolerite and ferricrete served as the bulk of the material in the walls of the shed. The walls were wedged with small pieces of stone. Sand mixed with another substance was used as mortar ('cement').

Two door openings occur on the two gable ends of the shed. One of the doors served as an entrance for humans while the second were used as entrance for wagons or coaches. Both door openings are fitted with wooden lintels. The original doors and doorframes have been removed from the shed. One window opening is still visible.

The shed's pitched roof consists of corrugated iron. The original trusses of the shed were replaced with the trunks of young blue gum trees. The structure's interior is plastered with sand.

The kraal complex that is associated with the shed has a square ground plan and is composed of at least three different kraals. The three kraals of varying sizes are linked together. The building material used in this structure consists of undressed ferricrete and dolerite. A part of the wall of the kraal complex that is still standing reaches a height of 2m.



Figures 14 & 15- Shed constructed with sandstone, ferricrete and dolerite (above). Kraal complex with several enclosures that were built with undressed dolerite and ferricrete (below).



8 CONCLUSION

A Phase I HIA study was done for the EMP amendment for Douglas Colliery on the farms Wolvekrans 17IS, Kleinkopje 15IS, Steenkoolspruit 18IS and Van Dyksdrift 19IS in the Eastern Highveld in the Mpumalanga Province of South Africa during May 2004. The Phase I report recommended amongst others that a Historical House (HH01) be subjected to a Phase II investigation before this structure is destroyed by coal mining activities. Consequently, this report contains the results of the Phase II investigation of the historical sandstone farmstead with its two associated rondavels.

Historical sites in the Eastern Highveld are associated with a unique and remarkable vernacular stone architecture, which is only equalled elsewhere in South Africa in the eastern parts of the Orange Free State and in the Karoo. This vernacular stone architecture is found in two prime localities, namely on farms that are still in the possession of private land owners (farmers) and within the territories of new mega coal mining companies who are gradually incorporating larger parts of the Eastern Highveld for the purpose of coal mining.

The historical farmstead with its associated outbuildings are located against a gentle slope on the north-eastern banks of the Olifants River on the farm Kleynekopje 15IS. The original farm homestead must have incorporated other infrastructure such as a privy, enclosures for domestic stock and agricultural fields. However, none of the structures or features can be identified today.

The farmstead and rondavels are located in close proximity reflecting the interactive and supportive role between these structures. Both the farmstead and rondavels were built with sandstone. At least three rooms can be distinguished in the farmstead, namely two small rooms next to each that faced towards the north and which represented the lower status part of the dwelling. The single larger room ('voorkamer') or high status part of the farmstead faced southwards towards the Olifants River. The frontal view, across the southwards meandering Olifants River away from the sun and the Blue Gum plantation, probably faced towards a road next to the Olifants River that

led to the farmstead. Guests were received in the 'voorkamer' while the two smaller rooms served as bedrooms 'in the back' of the house.

The farmstead was probably covered with a pitched corrugated iron roof.

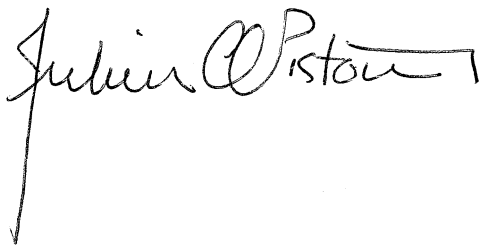
The two Kleinkopje rondavels were probably used as a milk/meat room (small rondavel) and as an additional bedroom (large rondavel), particularly if an open kitchen did exist outside the farmstead. Both were probably covered with thatched roofs. The heap of stones next to the rondavel may have served as a cooking shelter where food was prepared. Cooking shelters were rudimentary structures that would leave few traces of their original existence.

Materials and artefacts that were retrieved from the farmstead included several pieces of white and blue porcelain; a piece of glass (probably from a window in the small north-facing room) and a metal object such as a plumb that may have been used when the house was built. This tool indicated that specialist workmen (builders) were responsible for the construction of the farmstead. The precise inner and outer dimensions of the farmstead also suggest that (hired?) builders constructed the farmstead and not necessarily the owner of the farmstead who may have been a farmer.

The Eastern Highveld is 'under enormous economic pressure' as the country's largest reserves of coal occur in this region. The unique vernacular stone architecture of the region is therefore seriously threatened by the expansion of coal mining activities. The destruction and loss of this heritage is also compounded by the absence of any heritage management programme driven either by SAHRA (national or provincial) or by private enterprise (such as a coal mining company) with the aim of conserving part of this unique heritage. A heritage management programme must record the spatial distribution of historical farm homesteads in the region and must see to the documenting of outstanding historical farmsteads and associated infrastructure. The programme must also see to the conservation of a few farm

homesteads, some of which can be developed into open air museums and subsequently be preserved for posterity.

This Phase II report acknowledges the importance of the disappearing vernacular stone architecture of the Eastern Highveld and although merely touching this subject it is hoped that this report may contain useful information to those researchers interested in doing more in-depth research into the vernacular stone architecture of the Eastern Highveld.

A handwritten signature in black ink that reads "Julius CC Pistorius". The signature is written in a cursive style with a long vertical line extending downwards from the end of the name.

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