Prepared for:
JMA CONSULTING (PTY) LTD

**SASOL MINING SECUNDA** 

A (REVISED) BASELINE HERITAGE STUDY FOR SASOL MINING'S PROPOSED SHONDONI PROJECT AND FOR THE BLOCK 8 RESERVES ON THE EASTERN HIGHVELD IN THE MPUMALANGA PROVINCE OF SOUTH AFRICA

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#### **EXECUTIVE SUMMARY**

This document contains a (revised) baseline heritage study which was done for Sasol Mining's proposed Shondoni Project and for the Block 8 Reserves on the Eastern Highveld in the Mpumalanga Province of South Africa.

The developmental components for the Shondoni Project (shaft, associated infrastructure and conveyer routes) as well as the three pieces of land (Springbokdraai, Leeuwpan and Northern Reserves) which constitute Sasol's Block 8 Reserves are collectively here referred to as the Sasol Project Area. The Shondoni Project (a mining development project) and the three pieces of land constituting Block 8 are here collectively referred to as the Sasol Project.

This baseline heritage impact assessment (HIA) study for the Sasol Project Area was done according to Section 38 of the National Heritage Resources Act (No 25 of 1999).

The aims with the baseline heritage impact assessment were the following:

 To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) do occur within the perimeters of the Sasol Project Area.

The baseline heritage study for the proposed Sasol Project Area revealed the following types and ranges of heritage resources in the Sasol Project Area as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), namely:

- Farmstead complexes associated with historical houses, outbuildings and cattle enclosures.
- Informal and formal graveyards.
- A commemorative beacon.

(No archaeological [pre-historical] remains were recorded neither did this author undertook a paleontological study for the Sasol Project Area).

These heritage resources were geo-referenced and mapped (Figure 2, Tables 1-3).

A Phase I Heritage Impact Assessment (HIA) study which was done for the Sasol Shondoni Conveyer (Amendment) Project is a separate specialist report which considers the level of significance of various types and ranges of heritage resources which were recorded in the Sasol Shondoni Conveyer Project Area as well as the mitigation measures that were proposed for those heritage resources (historical remains and graveyards) which will be affected by the Sasol Shondoni Conveyer Project, namely:

 Pistorius, J.C.C. 2013. 'A (Revised) Phase I Heritage Impact Assessment study for the proposed SASOL Shondoni Conveyer Amendment Project on the Eastern Highveld in the Mpumalanga Province'. Unpublished report prepared for JMA Consulting (Pty) Ltd and Sasol Mining.

#### **General**

It is highly likely that this baseline heritage survey may have missed heritage resources in the Sasol Project Area considering the size of the area and the fact that heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance is exposed during the Shondoni Project or during any future exploration, mining or other development activities, the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notify in order to determine appropriate mitigation measures for the discovered finds.

#### 1 INTRODUCTION

This document contains the report on the baseline heritage survey which was done for Sasol Mining's proposed Shondoni Project as well as for Sasol's Block 8 on the Eastern Highveld in the Mpumalanga Province of South Africa.

Previous heritage surveys conducted for Sasol Mining indicated that the most common types and ranges of heritage resources on the Eastern Highveld in the Mpumalanga Province include historical farmstead complexes associated with formal and informal graveyards. Stone walled settlements dating from the Late Iron Age and Historical Period also occur but are limited to areas where low, dolerite kopjes and randjes exist. These topographical features are generally scarce in the mining areas where Sasol is operational.

However, various types and ranges of heritage resources that qualify as part of South Africa's 'national estate' as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur across the Mpumalanga Province (see Box 1, next page).

# Box 1: Types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999).

The National Heritage Resources Act (Act No 25 of 1999, Section 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;
- 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 TERMS OF REFERENCE

Sasol Mining intends to develop the Shondoni Project whilst the Sasol Mining Block 8 Reserves was not yet subjected to a baseline heritage study. Consequently, JMA Consulting who is responsible for compiling an Environmental Impact Assessment (EIA) study for the Shondoni Project commissioned the author to undertake a baseline heritage study for the Shondoni Project as well as for Sasol's Block 8 Reserves.

This report therefore outlines a baseline heritage survey which was done for Sasol Mining's Block 8Reserves and for the Sasol ShondoniProject which are collectively referred to as the Sasol Project and the Sasol Project Area.

A Phase I Heritage Impact Assessment (HIA) study which was done for the Sasol ShondoniConveyer (Amendment)Project is a separate specialist report which considers the level of significance of various types and ranges of heritage resources which were recorded in the Sasol Shondoni ConveyerProject Area as well as the mitigation measures that were proposed for thoseheritage resources (historical remains and graveyards) which will be affected by the Sasol Shondoni Conveyer Project, namely:

 Pistorius, J.C.C. 2013. 'A (Revised) Phase I Heritage Impact Assessment study for the proposed SASOL Shondoni Conveyer Amendment Project on the Eastern Highveld in the Mpumalanga Province'. Unpublished report prepared for JMA Consulting (Pty) Ltd and Sasol Mining.

The aims with the baseline heritage study were the following:

 To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) do occur within the perimeters of the Sasol Project Area.

#### 3 THE SASOL PROJECT AREA

#### 3.1 Location

Sasol Mining's mine lease area incorporates a vast track of land on the Eastern Highveld in the Mpumalanga Province of South Africa. The mine lease area is demarcated in various mining areas such as the Middelbult, Brandspruit, Twistdraai and Bosjesspruit Mining Areas which are located to the south of Leandra and Kinross and which stretches towards Balfour and Belfast in the south; the Block A (North) and Block B (South) Mining Areas which are located further to the west incorporating the village of VAL and which stretches towards Greylingstad further to the south as well as Sasol's Block 8 Mining Area which incorporates the Springbokdraai Reserves, Leeuwpan Reserves and the Northern Reserves.

This report focuses on the Shondoni Project which is located in the Middelbult Mining Area and on Sasol's Block 8 which incorporates the Springbokdraai Reserves, Leeuwpan Reserves and the Northern Reserves which are located on the farms Rietkuil 531IR, Leeuwpan 532IR and Zondagsfontein 124IS.(Figure 2) (2628BD Leandra; 1: 50 000 topographical map & 2628 East Rand; 1:250 000 map).

The Sasol Project Area stretches across an undulating piece of veldt which incorporates agricultural fields as well as stretches with pristine grass veldt. The area has been transformed in the north where the towns of Leandra and Kinross are located as a result of town and mine development. Towards the south, untransformed grass veldt and relatively pristine heritage resources such as colonial farmsteads and graveyards are common.

Few trees occur in the Sasol Project Area. Those that do occur are exotics such as Blue Gum lots, poplar-groves on the banks of streams and Oak trees which are usually located near historical farm homesteads. Most of these trees are anthropogenic as they have been introduced by human activities in the area in the past.

The Sasol Project Area is known for the production of agricultural crops such as maize wheat, sorghum, dairy, potatoes and other vegetables. Cattle and sheep ranching also make a significant contribution to the local economy. Coal, gold and silica mines also occur in the area.



Figure 1- The Sasol Project Area on the Eastern Highveld of the Mpumalanga Province is an undulating piece of land which is characterised by outstretched grass veldt interspersed with agricultural fields.

This tract of land is dotted with farmstead complexes which are usually associated with Blue Gum avenues or with smaller plantations of these trees (above).

## 3.2 The Sasol Project

The Sasol Project dealt with in this report includes the following, namely:

- Sasol's proposed Shondoni Project which involves the development of the Shondoni Shaft with its associated infrastructure concentrated around the shaft and proposed routes for an overland conveyor belt which runs southwards from the shaft to one of Sasol's existing conveyor belts further to the south. This development component is located in the Middelbult Mining Area.
- Sasol's Block 8 which includes the Springbokdraai Reserves, Leeuwpan Reserves and the Northern Reserves. These three mining areas involves parts of the following farms, namely Rietkuil 531IR, Leeuwpan 532IR and Zondagsfontein 124IS.

The developmental components for the Shondoni Project (shaft, associated infrastructure and conveyer routes) as well as the three pieces of land (Springbokdraai, Leeuwpan and Northern Reserves) which constitute Sasol's Block 8 Reserves are collectively here referred to as the Sasol Project Area. The Shondoni Project (a mining development project) and the three pieces of land constituting Block 8 are here collectively referred to as the Sasol Project (Figure 2).

## 3.3 Within a cultural landscape

The Sasol Project Area is located in the midst of a cultural landscape that is marked by heritage remains dating from the pre-historical into the historical (colonial) period. Stone Age sites, Iron Age sites and colonial remains therefore do occur in the Eastern Highveld (see Part 8 'Select Bibliography').

The archaeological and historical significance of this cultural landscape therefore must be described and explained in more detail before the results of the Phase I HIA study is discussed (see below, Part 5 "Contextualising the Sasol Project Area").

#### 4 METHODOLOGY

This Phase I HIA study was conducted by means of the following:

- Surveying the proposed Sasol Project Area with a vehicle and selected spots on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Sasol Project Area.
- Consulting maps of the proposed Sasol Project Area.
- Consulting archaeological (heritage) data bases.
- Consulting spokespersons regarding the possible presence of graves and graveyards in the project area.
- Synthesising all information obtained from the data bases, fieldwork, maps and literature survey into this report.

## 4.1 Field survey

The field survey involved covering the proposed Shondoni Project's associated developmental components, namely the shaft area; w ide area around the shaft where the mine infrastructure will be established and the proposed conveyer route. The total length of the surveyor corridor was investigated. These areas were surveyed on foot.

The three areas which comprise Block 8 (Springbokdraai Reserves, Leeuwpan Reserves and Northern Reserves) as well as the intermediate area between Block 8 and the proposed Shondoni Shaft with infrastructure (Middelbult Mining Area) was surveyed with a vehicle where access was available. Selected stretches and spots in this vast area was surveyed on foot according to ecological markers such as cleared spots in the vegetation; alien vegetation (mostly intruder species); surface features (soil [mud] dumps, protrusions, depressions, etc.), Blue Gum plantations and other concentration of exotic trees. Heritage resources such as farmstead complexes and formal graveyards were clearly noticeable on the landscape.

## 4.2 Consulting spokespersons

Spokespersons living in the Sasol Project Area were consulted regarding the possible presence of solitary graves and graveyards. Many graveyards on the Eastern Highveld have been abandoned or occur in isolated areas or in maize fields where they remain undetected if not pointed out by persons, such as farmers and workers, who are well acquainted with the Sasol Project Area (see Part 9, 'Spokespersons consulted').

## 4.3 Databases, literature survey and maps

Databases kept and maintained at institutions such as the Provincial Heritage Resources Agency (PHRA), the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria and SAHRA's national archive (SAHRIS) were consulted to determine whether any heritage resources of significance has been identified during earlier heritage surveys in or near the Sasol Project Area.

The author is acquainted with the Sasol Project Area at large as he had done several heritage impact assessment studies near the proposed project area (see Part 8, 'Select Bibliography').

Literature relating to the pre-historical and the historical unfolding of the Eastern Highveld where the Sasol Project Area is located was reviewed (see Part 5, 'Contextualising the Sasol Project Area'). It is important to contextualise the pre-historical and historical background of the Sasol Project Area in order to comprehend the identity and meaning of heritage sites in and near the project area.

In addition, the Sasol Project Area was studied by means of 1:50 000 topographical maps and the 1:250 000 map on which it appears(2628BD Leandra; 1: 50 000 topographical map & 2628 East Rand, 1:250 000 map).

#### 4 ASSUMPTIONS AND LIMITATIONS

Although due consideration was given to the observing and documenting of all heritage resources in the Sasol Project Area some resources may not have been detected due to various reasons (occurring beneath the surface, unmarked, inconspicuous or eroded nature, covered by vegetation, human failure to recognise, etc.).

If any heritage resources of significance is exposed during the Sasol Project the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notify in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the mitigation measures.

This heritage study did not provide for any paleontological study of the Sasol Project Area.

#### 5 CONTEXTUALISING THE SASOL PROJECT AREA

The following brief overview of pre-historical, historical, cultural and economic evidence will help to contextualise the Sasol Project Area.

# 5.1 Stone Age and rock art sites

Stone Age sites are marked by stone artefacts that are found scattered on the surface of the earth or as parts of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age (ESA) (covers the period from 2.5 million years ago to 250 000 years ago), the Middle Stone Age (MSA) (refers to the period from 250 000 years ago to 22 000 years ago) and the Late Stone Age (LSA) (the period from 22 000 years ago to 200 years ago).

Dongas and eroded areas at Maleoskop near Groblersdal is one of only a few places in Mpumalanga where ESA Olduwan and Acheulian artefacts have been recorded.

Evidence for the MSA has been excavated at the Bushman Rock Shelter near Ohrigstad. This cave was repeatedly visited over a prolonged period. The oldest layers date back to 40 000 years BP and the youngest to 27 000BP.

LSA occupation of the Mpumalanga Province also has been researched at Bushman Rock Shelter where it dates back 12 000BP to 9 000BP and at Höningnestkrans near Badfontein where a LSA site dates back to 4 870BP to 200BP.

The LSA is also associated with rock paintings and engravings which were done by San hunter-gatherers, KhoiKhoi herders and EIA farmers. Approximately 400 rock art sites are distributed throughout Mpumalanga, note-ably in the northern and eastern regions at places such as Emalahleni (Witbank) (4), Lydenburg (2), White River and the southern Kruger National Park (76), Nelspruit and the Nsikazi District (250). The Ermelo area holds eight rock paintings.

The rock art of the Mpumalanga Province can be divided into San rock art which is the most wide spread, herder or KhoeKhoe paintings (thin scattering from the Limpopo Valley) through the Lydenburg district into the Nelspruit area) and localised late white farmer paintings. Farmer paintings can be divided into Sotho-Tswana finger paintings and Nguni engravings (Only 20 engravings occur at Boomplaats, north-west of Lydenburg). Farmer paintings are more localised than San or herder paintings and were mainly used by the painters for instructional purposes.

During the LSA and Historical Period, San people called the Batwa lived in sandstones caves and rock shelters near Lake Chrissie in the Ermelo area. The Batwa are descendants of the San, the majority of which intermarried with Bantu-Negroid people such as the Nhlapo from Swazi-descend and Sotho-Tswana clans such as the Pai and Pulana. Significant intermarriages and cultural exchanges occurred between these groups. The Batwa were hunter-gatherers who lived from food which they collected from the veldt as well as from the pans and swamps in the area. During times of unrest, such as the *difaqane* in the early nineteenth century, the San would converge on Lake Chrissie for food and sanctuary. The caves, lakes, water pans and swamps provided relatively security and camouflage. Here, some of the San lived on the surfaces of the water bodies by establishing platforms with reeds. With the arrival of the first colonists in the nineteenth century many of the local Batwa family groups were employed as farm labourers. Descendants of the Batwa people still live in the larger Project Area.

## 5.2 Iron Age remains

The Iron Age is associated with the first agro-pastoralists or farming communities who lived in semi-permanent villages and who practised metal working during the last two millennia. The Iron Age is usually divided into the Early Iron Age (EIA) (covers the 1<sup>st</sup> millennium AD) and the Later Iron Age (LIA) (covers the first 880 years of the 2<sup>nd</sup> millennium AD).

Evidence for the first farming communities in the Mpumalanga Province is derived from a few EIA potsherds which occur in association with the LSA occupation of the Höningnest Shelter near Badfontein. The co-existence of EIA potsherds and LSA

stone tools suggest some form of 'symbiotic relationship' between the Stone Age hunter-gatherers who lived in the cave and EIA farmers in the area (also note Batwa and Swazi/Sotho Tswana relationship).

The Welgelegen Shelter on the banks of the Vaal River near Ermelo also reflects some relationship between EIA farmers who lived in this shelter and hunter-gatherers who manufactured stone tools and who occupied a less favourable overhang nearby during AD1200.

EIA sites were also investigated at Sterkspruit near Lydenburg (AD720) and in Nelspruit where the provincial governmental offices were constructed. The most infamous EIA site in South Africa is the Lydenburg head site which provided two occupation dates, namely during AD600 and from AD900 to AD1100. At this site the Lydenburg terracotta heads were brought to light. Doornkop, located south of Lydenburg, dates from AD740 and AD810.

The Late Iron Age is well represented in Mpumalanga and stretches from AD1500 well into the nineteenth century and the Historical Period. Several spheres of influence, mostly associated with stone walled sites, can be distinguished in the region. Some of the historically well known spheres of influence include the following:

- Early arrivals in the Mpumalanga Province such as Bakone clans who lived between Lydenburg and Machadodorp and Eastern Sotho clans such as the Pai, Pulana and Kutswe who established themselves in the eastern parts of the province.
- Swazi expansion into the Highveld and Lowveld of the Mpumalanga Province occurred during the reign of Sobhuza (AD1815 to 1836/39) and Mswati (AD1845 to 1868) while Shangaan clans entered the province across the Lembombo Mountains in the east during the second half of the nineteenth century.
- The Bakgatla (Pedi) chiefdom in the Steelpoort Valley rose to prominence under Thulare during the early 1800's and was later ruled by Sekwati and

Sekhukune from the village of Tsjate in the Leolo Mountains. The Pedi maintained an extended sphere of influence across the Limpopo and Mpumalanga Provinces during the nineteenth century.

- The Ndzundza-Ndebele established settlements at the foot of the Bothasberge (KwaMaza and Esikhunjini) in the 1700's and lived at Erholweni from AD1839 to AD1883 where the Ndzundza-Ndebele's sphere of influence became known as KoNomthjarhelo which stretched across the Steenkampsberge.
- The Bakopa lived at Maleoskop (1840 to 1864) where they were massacred by the Swazi while the Bantwane live in the greater Groblersdal and Marble Hall areas.
- Corbelled stone huts which are associated with ancestors of the Sotho on Tafelkop near Davel which date from the AD1700's into the nineteenth century.
- Stone walled settlements spread out along the eastern edge of the Groot Dwarsriver Valley served as the early abode for smaller clans such as the Choma and Phetla communities which date from the nineteenth century.

#### 5.3 The Historical Period

Historical towns closest to the Sasol Project Area include Leandra, Kinross, Evander and Secunda.

The town of Leandra's name is derived from two townships, Leslie and Eendrag, which are incorporated in this mining village.

Kinross, about 20 km east of Leandra, is the railhead for the township of Leandra and four gold mines in the region, namely Winkelhaak, Leslie, Bracken and Kinross who all opened in the 1950's.

The village was proclaimed in the 1915 and named for Kinross in Scotland by the engineers who constructed the railway line between Springs and Breyton. Kinross is near the watershed that separates the rivers flowing towards the Indian Ocean in the east and the rivers flowing towards the Atlantic Ocean in the west.

Secunda developed around Sasol 1 and Sasol 2 in the 1970's. Sasol was born during the oil crisis of 1973 when OPEC virtually quadrupled the price of crude oil overnight. Construction started in 1976 and the first oil was delivered on 1 March 1980. Following the overthrow of the Shah of Iran in 1979, South Africa's major source of crude oil at the time, the government announced the construction of a second plant at Secunda to double output. Sasol 3 delivered its first oil from coal in May 1982. The total costs of the two plants came to R 5,8 billion, mostly financed by levies on motorists.

Sasol 2 and 3 use about 35 million tons of coal a year to produce mostly liquid fuels. The coal is produced by four mines collectively known as Secunda Colliers which is the world's largest underground mining complex and by a new open-cast mine at Syferfontein.

Evander, south of Kinross, was established in 1955 by the Union Corporation as a residential township for the employees of the Winkelhaak. Leslie and Bracken mines. The name Evander is a composite of Evelyn and Anderson, the names of the widow of the managing director of the company when prospecting began in the area.

Several large coal mines which feed the Sasol plants at Secunda and Eskom's giant power stations on the Eastern Highveld are located near the project area. The Sasol Project Area is one of the most productive agricultural areas in the country. The principal crops which are produced in the region include maize, wheat, sorghum, dairy, potatoes and other vegetables.

## 5.4 A coal mining heritage

Coal mining on the Eastern Highveld is now older than one century and has become the most important coal mining region in South Africa. 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.

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 stone and bone) to smelt iron and copper in clay furnaces.

Colonists are said to have discovered coal in the FrenchHoekValley 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 Kwa Zulu/Natal.

The first exploitation for coal was probably in Kwa Zulu/Natal 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 collieries 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 Collieries 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.

# 5.5 A vernacular stone architectural heritage

A unique stone architectural heritage was established in the Eastern Highveld from the second half of the 19<sup>th</sup> century well into the early 20<sup>th</sup> century. During this time period stone was used to build farmsteads and dwellings, both in urban and in rural areas. Although a contemporary stone architecture also existed in the Karoo and in the Eastern Free State Province of South Africa a wider variety of stone types were used in the Eastern Highveld. These included sandstone, ferricrete ('ouklip'), dolerite ('blouklip'), granite, shale and slate.

The origins of a vernacular stone architecture in the Eastern Highveld may be ascribed to various reasons of which the ecological characteristics of the region may be the most important. Whilst this region is generally devoid of any natural trees which could be used as timber in the construction of farmsteads, outbuildings, cattle enclosures and other structures, the scarcity of fire wood also prevented the manufacture of baked clay bricks. Consequently stone served as the most important building material in the Eastern Highveld.

LIA Sotho, Pedi, Ndebele and Swazi communities contributed to the Eastern Highveld's stone walled architecture. The tradition set by these groups influenced settlers from Natal and the Cape Colony to utilize the same resources to construct dwellings and shelters. Farmers from Scottish, Irish, Dutch, German and Scandinavian descend settled and farmed in the Eastern Highveld. They brought the knowledge of stone masonry from Europe. This compensated for the lack of fire wood on the eastern Highveld which was necessary to bake clay bricks.

#### 6 THE BASE LINE HERITAGE SURVEY

# 6.1 Types and ranges of heritage resources

The baseline heritage impact assessment for the proposed Sasol Project Area revealed the following types and ranges of heritage resources in the Sasol Project Area as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), namely:

- Farmstead complexes associated with historical houses, outbuildings and cattle enclosures.
- Informal and formal graveyards.
- A commemorative beacon.

(No archaeological [pre-historical] remains were recorded).

These heritage resources were geo-referenced and mapped (Figure 2, Tables 1-2).

The baseline heritage survey is now discussed and illuminated with photographs.

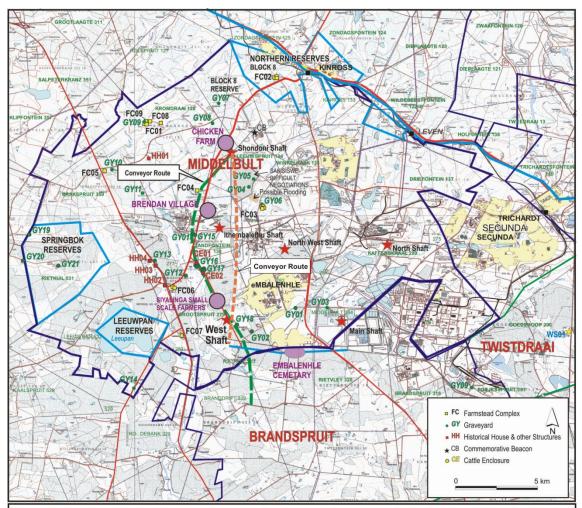


Figure 2- The Sasol Project Area involving the developmental components for the Sasol Shondoni Project (Shondoni Shaft and conveyer routes) and Sasol's Block 8 (Springbokdraai, Leeuwpan and the Northern Reserves).

The baseline heritage survey covered the largest part of the Middelbult Mining Area.

Note the presence of historical farmstead complexes with houses and outbuildings, cattle enclosures and graveyards in the Sasol Project Area (above).

#### 6.2 Historical structures

Historical structures were divided into farmstead complexes and historical houses.

## 6.2.1 Farmstead complexes

The following farmstead complexes were recorded.

## 6.2.1.1 Farmstead Complex 01

FC01 on Kromdraai 128IS is associated with some of the oldest graves that were observed in the area. The complex comprises of the following individual buildings:

- A wagon shed which was constructed with sandstone bricks and dolerite stone.
- A rondavel which was constructed with dolerite.
- An extended residence which was built with sandstone and dolerite stone.
- A cattle enclosure with exceptionally high walls which was probably used as an enclosure for cattle but which may also has served as a wagon shed.



Figure 3- A historical wagon shed on Kromdraai 128IS which is part of FC01 (above).



Figure 4- The main residence in FC01 on Kromdraai 128IS consists of a residence which was built with sandstone bricks and dolerite stone (above).

## 6.2.1.2 Farmstead Complex 02

This farmstead complex on Winkelhaak 139IS is occupied by Mr.FrikkieOosthuizen and his wife and comprises of the following individual structures:

- An excellently well preserved main residence (Edwardian style) which was constructed with sandstone and with 'stoeps' (verandas) on at least two sides of the house. It is fitted with a pitched iron corrugated roof.
- A wagon shed which was constructed with sandstone and which is fitted with a pitched corrugated iron roof.
- A possible 'bywonershuis' which was constructed with sandstone and which is fitted with a pitched corrugated iron roof.



Figures 5 & 6- The main residence on Winkelhaak 139IS with Edwardian features and the 'bywonershuis' (above and below). Both structures in FC02 were constructed with sandstone.



## 6.2.1.3 Farmstead Complex 03

This farmstead complex on Witkleifontein 181IS is associated with the Pieterse family whose remains occur in a graveyard (GY06) some distance from the farmstead complex. This complex holds the following individual structures:

- A wagon shed which was constructed with sandstone bricks and dolerite stone.
- A small square structure which was constructed with dolerite stone, possibly a 'bywonershuis' or cool room ('koelkamer').
- A main residence which was constructed with sandstone bricks and with dolerite stones.
- An elongated cattle enclosure which was built with rocks.



Figure 7- A possible 'bywonershuis' or a cool room ('koelkamer') in FC03 on Witkleifontein 181IS which was constructed with dolerite stone (above).



Figure 8- A cattle enclosure on Witkleifontein 181IS which is part of FC03 which was constructed with stones (above).

# 6.2.1.4 Farmstead complex 04

This farmstead complex on Zandfontein 190IS is currently occupied by the Brits family and involves a number of individual buildings, namely:

- A residence constructed with sandstone.
- A wagon shed constructed with sandstone.

This farmstead complex was not accessible at the time when the fieldwork was done.

## 6.2.1.5 Farmstead complex 05

This farmstead complex on Brakspruit 359IH belongs to the Bekker family and consists of the following individual buildings, namely:

- Three wagon sheds next to each other which were constructed with clay bricks and whose walls are plastered. The sheds are fitted with pitched corrugated iron roofs.
- A main residence which was constructed with clay bricks and whose walls are plastered. The house is fitted with a pitched corrugated iron roof. This residence dated from the 1930/40's.

## 6.2.1.6 Farmstead complex 06

This farmstead complex on Springbokdraai 277IS is located near the T-junction between the Kinross road with the Leandra-Balfour road on Springbokdraai 277IS and incorporates the following two structures:

- A wagon shed constructed with corrugated zinc
- A dilapidated sandstone house.

These two structures are standing on a slight rise overlooking part of the Eastern Highveld.

#### 6.2.1.7 Farmstead complex 07

This farmstead complex is located on Vaalbank on Roodebank 325IS to the southeast of Leeuwpan and consists of the following buildings and structures, namely:

- A house constructed with sandstone and fitted with a pitched corrugated iron roof.
- Large shed constructed with sandstone fitted with a pitched corrugated iron roof and a stand for a water tank.
- Diary constructed with sandstone and fitted with a pitched corrugated iron roof.

#### 6.2.2 Historical houses and other structures

A number of individual structures, mostly houses with historical significance occur in the Sasol Project Area. Some may have been part of farmstead complexes but may represent the only structures that are left of these historical complexes.

#### 6.2.2.1 Historical House 01

This farm residence on Brakspruit 359IH is fitted with a pitched corrugated iron roof. It was constructed with clay bricks and its walls are plastered.

This residence probably dates from the 1920's. It is associated with an outbuilding which probably served as a garage for a vehicle.



Figure 9- The historical house on Brakspruit 359IH which probably dates from the 1910/20's (above).

#### 6.2.2.2 Historical House 02

This sandstone house on Rietkuil 531IR near the T-junction between the Kinross road with the Leandra-Balfour road is partly constructed with sandstone and possibly with clay bricks as well. It is fitted with a pitched corrugated iron roof and is painted green.

#### 6.2.2.3 Historical House 03

This house on Rietkuil 531IR next to the Leandra-Balfour road was constructed during the 1930/40's and was built with clay bricks and cement. The walls of the house were plastered with cement and it is fitted with a pitched corrugated iron roof. It belongs to the De la Rey family.



Figure 10- A wagon shed constructed with sandstone on Rietkuil 531IR next to the Leandra-Balfour road (above).

#### 6.2.2.4 Historical House 04

This house on Rietkuil 531IR next to the Leandra-Balfour road was constructed during the 1930/40's and was built with clay bricks and cement.

The front part of HH04 is fitted with a gable. The walls of the house were plastered with cement and it is fitted with a pitched corrugated iron roof. This residence belongs to the De la Rey family.

## 6.2.2.5 Wagon shed

This wagon shed on Rietkuil 531IR was constructed with sandstone and fitted with a pitched corrugated iron roof.

#### 6.2.2.6 Cattle enclosures

Two cattle enclosures are located on the high ridge where the proposed overland conveyor belt will be constructed. Both enclosures were constructed with dolerite stone and are rectangular in ground plan.

The two enclosures (CE01, CE02) are respectively associated with GY16 and GY17.

It is highly likely that the two enclosures were associated with farm dwellings as well as with the graveyards. However, the original farm dwelling has been demolished a long time ago (and is nowhere to be seen).



Figure 11- One of two cattle enclosures built with dolerite stone in the Sasol Project Area (above).

Historical structures	Coordinates	Significance	
Farmstead complex (FC01)		HIGH	(older
This farmstead complex on Kromdraai 128IS		than	sixty
consists of the following structures:		years)	
Main residence (FC01a)	26° 27.026' 29° 00.328'		
Wagon shed (FC01b)	26° 27.001' 29° 00.855'		
Rondavel (FC01c)	26° 27.021' 29° 00.331'		
Cattle kraal (FC01d)	26° 27.022' 29° 00.364'		
Farmstead complex (FC02)		HIGH	(older
This farmstead complex on Winkelhaak 139IS		than	sixty
consists of the following structures:		years)	
Main residence (FC01a)	26° 25.507' 29° 04.590'		
Wagon shed (FC02b)	26° 25.500' 29° 04.624'		
'Bywonershuis' (FC02c)	26° 25.499' 29° 04.645'		
Farmstead complex (FC03)		HIGH	(older
This farmstead complex on Witkleifontein 181IS is		than	sixty
associated with the Pieterse family and consists of		years)	
the following structures:			
Main residence (FC03a)	26° 29.761' 29° 04.209'		
Wagon shed (FC03b)	26° 29.723' 29° 04.204'		
'Bywonershuis' (Cool room) (FC03c)	26° 29.756' 29° 04.216'		
Elongated cattle enclosure (FC03d)	26° 29.747' 29° 04.166'		
Farmstead complex (FC04)		HIGH	(older
This farmstead complex on Zandfontein 190IS is		than	sixty
occupied consists of the following structures:		years)	
Main residence			
Wagon shed	26° 29.209' 29° 02.037'		
'Bywonershuis'			
Farmstead complex (FC05)		HIGH	(older
This farmstead complex on Brakspruit 359IH holds		than	sixty
the following structures:		years)	
Main residence (1930/40's) (FC05a)			
)Three Wagon shed (FC05b)	26° 30.616' 29° 59.995'		
Farmstead complex (FC06)		HIGH	
This farmstead complex on Springbokdraai 277IS			
holds the following structures:			
A wagon shed constructed with	26° 32.400' 29° 01.283'		
corrugated iron (FC06a)	26° 32.376′ 29° 01.256′		
A dilapidated sandstone house (FC06b)			

Farmstead complex (FC07)		HIGH	(older
This farmstead complex on Roodebank 325IS		than	sixty
holds the following structures:		years)	
A wagon shed constructed with sandstone			
A residence constructed with sandstone			
A diary constructed with sandstone			
A stand for a water tank	26° 33.971' 29° 01.538'		
Historical House 01		HIGH	(older
Farm house on Brakspruit 359IH	26° 28.156′ 29° 00.453′	than	sixty
		years)	
Historical House 02		HIGH	(older
Farm house on Rietkuil 359IH	26° 32.290' 29° 01.043'	than	sixty
		years)	
Historical House 03		HIGH	(older
Farm house on Rietkuil 531IR next to the Leandra-	26° 31.666′ 29° 00.720′	than	sixty
Balfour road (De la Rey)		years)	
Historical House 04		HIGH	(older
Second farm house on Rietkuil 531IR next to the		than	sixty
Leandra-Balfour road (De la Rey)	26° 27.825' 29° 58.364'	years)	
Wagon shed (WS)		HIGH	(older
Wagon shed on Rietkuil 531IR constructed with	26° 28.119' 29° 58.687'	than	sixty
sandstone next to the Leandra-Balfour road		years)	
Cattle enclosure (CE01)	26° 31.636' 29° 02.027'	HIGH	(older
		than years)	sixty
Cattle enclosure (CE02)	26° 31.962′ 29° 02.257′	HIGH	(older
		than years)	sixty

Table 1- Coordinates and significance rating for historical structures in the Sasol Project Area (above). The significance rating is based on the fact that these structures are older than sixty years.

### 6.2.3 Graveyards

The following graveyards were recorded, namely:

### 6.2.3.1 Graveyard 01

This large informal cemetery is located at a crossing between several rural villages and squatter camps on Langverwacht 282IS and holds hundreds of graves. It seems as if the graveyard is divided into two sections.

### 6.2.3.2 Graveyard 02

This graveyard is located on the southern perimeter of a rural village on Grootspruit 479IS near Eskom's existing power lines and holds as many as forty graves. Most of the graves are fitted with cement headstones and a few with granite headstones.

Inscriptions on a few of the headstones read as follow:

- 'Jonas RamokhampeOompieMooketsi O hlahleka 24-10-1937 A hlokahahla KA 16-01-1962'
- 'AndriesMfungeni 18-4-1963 20-12-1963'
- 'Alfred MawelaMofokeng 1905 1975-09-28'

### 6.2.3.3 Graveyard 03

This graveyard is located on the northern shoulder of the road on Middelbult 289IS that runs to Sasol's main gate. It contains approximately twelve graves. A few of the graves are demarcated with red clay bricks and fitted with cement head stones. No inscriptions are visible on any of the headstones of the graves.



Figures 12 & 13- GY02 is a historical graveyard located in close proximity of Eskom's existing power lines (above). GY03 is located on the northern shoulder of the road running to one of Sasol's entrance gates (below).



## 6.2.3.4 **Graveyard 04**

This historical graveyard is located near the abandoned farmstead complex of J.C. Kruger on Witkleifontein 138IS and holds the remains of six visible graves two of which are covered with piles of stone; three are fitted cement head and tombstones and one is decorated with a granite tombstone and headstone. The inscription on the headstone reads as follow:

• 'HierrusonsmoederJaenettaJacoba Nel GeboreGouws 18-3-1895 Oorlede 21-12-1939'



Figure 14- The historical graveyard on Witkleifontein 138IS dates from the 20<sup>th</sup> century and even possibly from the 19<sup>th</sup> century.

## 6.2.3.5 **Graveyard 05**

This informal graveyard on Witkleifontein 138IS is located in the midst of a squatter camp. It holds the remains of approximately twenty individuals. Most of the graves are covered with piles of stone. A few cement headstoneswithout any inscriptions occur.



Figure 15- An informal graveyard on Witkleifontein 138IS which is barely visible in the midst of a squatter camp (above).

## 6.2.3.6 **Graveyard 06**

This historical graveyard on Witkleifontein 138IS is associated with Farmstead Complex 03 and holds the remains of approximately twelve individuals, mostly from the Pieterse family.

GY06 is located in open veldt some distance from the farmstead complex. Most of the graves are covered with cement tombstones. A few granite headstones occur as well as a marble headstone. The inscriptions on these headstones read as follow:

- 'Hierrus my dierbareeggenootonsvader en grootvaderGielaumJacobusPieterseGebore 28-10-1892 Oorlede 28-?-1954 Jes 40:7 Die grasverdor die blomverwelk'
- 'Hierrusonsmoeder en grootmoederElizabethaMagriethaPieterseGebore van den Berg 7-12-1895 Oorlede 17-3-1958 Uitliefdevir al u sorg en trou'
- Hierrus my geliefdeeggenootBarend Paul PieterseGebore 19 Julie 1835
   Oorlede 23 November 1916 Gesang 62 Heilig Jesus Heilig my'



Figure 16- Historical graveyard 06 of the Pieterse family near farmstead complex (FC03) in open veldt. Some of the graves have been vandalised (above).

## 6.2.3.7 **Graveyard 07**

This informal graveyard on Kromdraai 128IS is located within a patch with cosmos flowers. The graveyard is overgrown but holds the remains of at least ten individuals.

Inscriptions on some of the granite headstones read as follow:

- 'DlaminiFinose\*22-09-1942 †19-04-1992 LalaNgokuthulaSiyakuthanda'
- 'MashiyaneJabulane Born 25-08-1943 Died 16-01-1990 lalangoxolo'
- 'In memory of our mother Merriam MoldieniMashiane\*01-03-1937 28-02-1948'



Figure 17- An informal graveyard with at least ten graves in a field with cosmos flowers on Kromdraai 128IS (above).

#### 6.2.3.8 **Graveyard 08**

This informal graveyard Kromdraai 128IS is located next to a border fence and contains approximately ten graves. Only two of the graves are fitted with cement headstones with no inscriptions.

### 6.2.3.9 Graveyard 09

This historical graveyard on Kromdraai 128IS is currently overgrown with popular trees. It may hold as many as ten or more graves, most of which comprises of heaps of dolerite stone.

One of the graves is fitted with a cement head stone which bears the following inscription:

'Hier rust Sameul Pieter Marthinus Mulder BG 16 Januarie 1882 Gesneuveld
 12 Mei 1901 Gs 22 Rus my siel u God is koning wees tevrede met u lot'

A second gave contains a weathered sandstone headstone with the following inscription:

'Jan Simon Venter Voortrekker'

#### 6.2.3.10 Graveyard 10

This informal graveyard on Brakspruit 359IH contains as many as fifty graves. Most of the graves are covered with piles of stone. Some are fitted with cement headstones but with no inscriptions on them.

### 6.2.3.11 Graveyard 11

GY11 is a historical graveyard on Brakspruit 359IH and is located near Eskom's 400kV power line. This small demarcated graveyard is overgrown but may hold as many as six graves.

Inscriptions on some of the headstones read as follow:

- 'J.J. Oberholster 1880-1945 HierrusJoseaJacobusOberholsterGebore 19 Februarie 1892 Oorlede 22-?-1895 Ges 29 V3'
- 'Hierrusonsmoeder Magdalena Dreyer Gebore Jun1895 Overlede 5 Julie 1933 Ges V1'



Figure 18– A historical graveyard on Brakspruit 359IH in open veldt near Eskom's power lines (above).

### 6.2.3.12 Graveyard 12

This graveyard on Zandfontein 230IS is located near the Kinross road which is linked with the road running between Leandra and Balfour. It is also situated near Eskom's 400kV power line. GY12 holds approximately seven graves consisting of three heaps of stone, two with granite headstones and two with cement headstones and cement edges.

Inscriptions on two of the granite headstones read as follow:

'MathebesiMahlanguwashona 1969-05-22
 Lalangoxolosobonanakwelizayoyimi u sesi stand 3556 x10 Leskie'

• 'Miss Sara Mndawesi Born 1918 Died Nov 1962'

### 6.2.3.13 Graveyard 13

This graveyard is located on Springbokdraai 277IS in a soya field next to the road running to Leandra. It holds an unknown number of graves. The following can be distinguished: four graves with cement head stones; two graves with granite headstones and at least two stone piles.

Inscriptions on the granite headstones read as follow:

- 'LizzMathakwende 20-10-1977'
- 'Oubaas James Mathakwende 1948'

### 6.2.3.14 Graveyard 14

This is a large historical graveyard on Roodebank 329IS which is located on the eastern shoulder of the R547.

Most of the graves are decorated and are fitted with sandstone, marble and granite headstones and other decorations.

At the time of the survey the graveyard could not be accessed to obtain inscriptions on the headstones due to heavy downpours.



Figure 19- GY14 is a large historical graveyard on Roodebank 329IS on the eastern shoulder of the R547 (above).

### 6.2.3.15 Graveyard 15

GY15 is located on Zandfontein 230IS in a Blue Gum plantation near the western shoulder of the road running to Kinross further to the north. It holds the remains of at least eleven individuals. All the graves are covered with piles of stone. Only one is fitted with a granite headstone with the following inscription:

'Maria Mahlangu 31-12-1974'

## 6.2.3.16 Graveyard 16

This historical graveyard is situated on the higher ridge on Grootspruit 279IS where the proposed conveyor belt will be constructed. GY16 holds at least seven graves of which four are lined with cement strips and fitted with headstones. Inscriptions on the headstones are indecipherable. Three graves are covered with piles of stone.GY16 is demarcated with a low wall which was constructed with dolerite.

### 6.2.3.17 Graveyard 17

GY17 on Grootspruit 279IS s demarcated with a solidly constructed dolerite wall and is also located on the high ridge where the proposed conveyor belt will be constructed.

This graveyard holds at least five or six graves which all have been vandalised. Only one cement headstone is still standing. It has the following inscription:

 'Hierrus Jan HendrikAdriaanRoetsGeb 24 Mei 1859 Oorl 28 Sept 1940 Ges 182:1'



Figure 20- GY17 is one of two historical graveyards located on a ridge in close proximity of Sasol's proposed new conveyor belt (above).

### 6.2.3.18 **Graveyard 18**

GY18 is located on the northern shoulder of the tar road running to the Middelbult West Shaft. It contains as many as thirteen graves mostly covered with piles of stone. A few of the graves are fitted with cement headstones which have the following inscriptions:

- 'DoremaBhavawalaNgoakuLusalalangoxolo'
- 'MusafaMacuvawashona 14-2-1971'



Figure 21- GY18 holding approximately thirteen graves next to the road running to the Middelbult West Shaft (above).

#### 6.2.3.19 Graveyard 19

This graveyard contains approximately fifty graves which are located on both sides (west and east) of the border fence for the Springbok Reserves. Several of the graves are covered with stones while another number are fitted with granite and concrete headstones and edged with the same material.

Inscriptions on a few of the headstones read as follow:

- 'Mokgathle Raborifi 12-12-62 39-03-63 RobalaKakootso'
- 'RobalakakgotsoNtatewa Rona JMK, born 17-12-901 Died 18-5-1979
   Segopotsosa Raborifi'
- '\* 1949-11-30 † 1950-02-02 MamojakgomorobalakakgotsophutiRobalakakhotsoMasipati R Nyakale Born 20-2-1872 Died 2-12-1949'



Figure 22- GY19 on both sides of a fence holds at least fifty graves, some of which seems to have been vandalised in the more recent past (above).

### 6.2.3.20 Graveyard 20

This historical graveyard is demarcated with a low wall which was constructed with dolerite stone of which the outer surface was chiselled and chipped in order to obtain a roughened surface which was darkened with some substance. The top of the wall was constructed with sandstone.

GY20 contains the graves of three children of the Bezuidenhout family. The headstones of the graves were manufactured from sandstone and bear the following inscriptions:

- 'Hier light begravenonsgeliefdzoontjeGeboren 22 November 1891 Overleden
   19 April 1892 Zoon van EJ Bezuidenhout en WCJ Bezuidenhout'
- 'Hier light begraven on steer geliefddochtertjieJacominaHendrina Johanna BezuidenhoutGeboren 27 Februyarie 1885 Overleden 19 Februarie 1886'

Hier rust onzegeliefdedochter Anna Magdalena BezuidenhoutGeboren 7
 Augustus 1882 Overleden 22 Julie 1892'

# 6.2.3.21 Graveyard 21

Graveyard 21 holds the remains of the Du Plooy and Booysen families. Six graves can be identified. They are all fitted with marble (one), sandstone (three) and cement headstones (three). These headstones bear the following inscriptions, namely:

- 'Hierrusonsgeliefdeeggenote en vaderFrederikCarel Booysen Geb 30 Mei 1885 Oorl 28 Junie 1944 Openb 14 V13 Salig is van nouaf die dodewat in die Here sterwe MCB'
- 'Hierrus Francois N Booysen Geb 8-2-1930 Oorl 30-11-1939'
- 'Cornelle Johannes Du PlooyGeb 14 Junie 1927 Ovl 7 April 1929 Veilig in Jesus ArmenRus in Vrede'
- 'PetrusNuclaas Johannes Du PlooyGeb 6 April 1922 Ovl 3 April 1928 Gez 181 Vers 4'
- 'HierrusFrederik J Botha Geb 5-8-1871 Ovl 30-8-1938'



Figure 23- The wall around GY20 is constructed with dolerite which is capped with sandstone trimmings (above).

Graveyards	Coordinates	Significance	
GY01. Large graveyard on Langverwacht 282IS	26° 33.081' 29° 05.181'	HIGH	
between villages		(According	to
		legislation)	
GY02. Graveyard on Grootspruit279IS close to		HIGH	
Eskom's power lines on outskirts of village		(According	to
		legislation)	
GY03. Graveyard on Middelbult close to one of	26° 33.021' 29° 06.294	HIGH	
Eskom's entrance gates		(According	to
		legislation)	
GY04. J.C. Kruger's abandoned farmstead complex	26° 29.095' 29° 03.740'	HIGH	
on Witkleifontein 181IS with six graves		(According	to
		legislation)	
GY05. Graveyard on Witkleifontein 181IS in squatter	26° 28.845' 29° 03.902'	HIGH	
camp.		(According	to
		legislation)	
GY06. Pieterse graveyard on Witkleifontein 181IS in	26° 29.656' 29° 04.158'	HIGH	
open veldt near historical farmstead complex		(According	to
		legislation)	
GY07. Graveyard on Kromdraai 128IS in patch with	26° 26.288' 29° 02.421'	HIGH	
cosmos flowers		(According	to
		legislation)	
GY08. Graveyard on Kromdraai 128IS next to a	26° 26.940' 29° 00.491'	HIGH	
border fence		(According	to
		legislation)	
GY09. Voortrekker graves on Kromdraai 128IS	26° 26.965' 29° 00.371'	HIGH	
		(According	to
		legislation)	
GY10. Informal graveyard on Brakspruit359IH	26° 28.573' 29° 59.750'	HIGH	
		(According	to
		legislation)	
GY11. Voortrekker graves on Brakspruit359IH near	26° 29.284' 29° 00.225'	HIGH	
Eskom's power lines		(According	to
		legislation)	
GY12. On Zandfontein 230IS next to Kinross road	26° 31.999' 29° 01.658'	HIGH	
and Eskom's 400kV power line.		(According	to
·		legislation)	
GY13. Next to road running between Leandra and	26° 31.509' 29° 00.658'	HIGH	
Balfour on Springbokdraai 277IS.		(According	to
. •		legislation)	
		129.2.2	

GY14. Graveyard on Roodebank 329IS is located on	26° 35.689' 28° 59.972'	HIGH
the eastern shoulder of the R547		(According to
		legislation)
GY15. Approximately 11 graves in a Blue Gum	26° 30.679' 29° 01.969'	HIGH(According
plantation next to tar road on Zandfontein 230IS.		to legislation)
GY16.Historical graveyard on ridge on Grootspruit	26° 31.682′ 29° 02.036′	HIGH(According
279IS.	26° 31.684' 29° 02.029'	to legislation)
(Four corner posts, use one coordinate)	26° 31.680' 29° 02.031'	
	26° 31.691' 29° 02.036'	
GY17. Second historical graveyard on	26° 31.842′ 29° 02.281′	HIGH(According
ridgeGrootspruit 279IS	26° 31.844' 29° 02.256'	to legislation)
(Four corner posts, use one coordinate)	26° 31.835′ 29° 02.259′	
(Four corner posts, use one coordinate)	26° 31.835' 29° 02.254'	
GY18. Approximately 13 graves next to tar road on	26° 33.675′ 29° 03.375′	HIGH(According
Grootspruit 279IS running to the Middelbult West		to legislation)
Shaft		
GY19. Approximately 50 graves located on both	26° 30.650' 29° 56.515'	HIGH(According
sides of the western border of the Springbokdraai		to legislation)
Reserves on Rietkuil531IR		
GY20. Holds the remains of three children of the	26° 31.548' 28° 56.282'	HIGH(According
Bezuidenhout familyon Rietkuil531IR		to legislation)
GY21. Holds the remains of the Du Plooy and	26° 31.701' 28° 57.450'	HIGH(According
Booysen familieson Rietkuil531IR.		to legislation)

Table 2- Coordinates and significance rating for graveyards in the Sasol Project Area (above). The significance rating is based on stipulations derived from legislation.

#### 6.2.2.3 Commemorative beacon

A commemorative beacon for mine workers who died in a mine accident on 16 September 1986 is erected within the confines of Harmony's No 8 Shaft complex. This granite tombstone bears the following inscription:

• 'In memory of the employees who died in the disaster 16 September 1986.

Erected 16 September 1995'

A Karee tree (*RhusLancea*) was planted next to the commemorative beacon to commemorate this event on 16 September 1994.



Figure 24- A commemorative beacon in honour of mine workers who died during a mine disaster on 16 September 1986 in the No 8 Shaft of Harmony gold mine (above).

Heritage resource	Coordinates	Significance
Commemorative beacon	26° 27.312' 29° 03.924'	HIGH
Karee tree	26° 27.312' 29° 03.924'	(According to legislation)

Table 3- Coordinates and significance rating for commemorative beacon and Karee tree in the No 8 Harmony gold shaft in the Sasol Project Area (above).

#### General note:

Graveyards 015, GY16 and GY17 identified during this survey correspond with GY01, GY02 and GY03 recorded in the Shondoni Conveyer Amendment report:

 Pistorius, J.C.C. 2013. 'A (Revised) Phase I Heritage Impact Assessment study for the proposed SASOL Shondoni Conveyer Amendment Project on the Eastern Highveld in the Mpumalanga Province'. Unpublished report prepared for JMA Consulting (Pty) Ltd and Sasol Mining.

## 7 CONCLUSION AND RECOMMENDATIONS

This baseline heritage study for the Sasol Project Area was done according to Section 38 of the National Heritage Resources Act (No 25 of 1999).

The aims with the baseline heritage survey were the following:

 To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) do occur within the perimeters of the Sasol Project Area.

The baseline heritage study for the proposed Sasol Project Area revealed the following types and ranges of heritage resources in the Sasol Project Area as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), namely:

- Farmstead complexes associated with historical houses, outbuildings and cattle enclosures.
- Informal and formal graveyards.
- A commemorative beacon.

(No archaeological [pre-historical] remains were recorded in the Sasol Project Area. This author also did not undertake a paleontological study.

These heritage resources were geo-referenced and mapped (Figure 2, Tables 1-3).

A Phase I Heritage Impact Assessment (HIA) study which was done for the Sasol Shondoni Conveyer (Amendment) Project is a separate specialist report which considers the level of significance of various types and ranges of heritage resources which were recorded in the Sasol Shondoni Conveyer Project Area as well as the mitigation measures that were proposed for those heritage resources (historical remains and graveyards) which will be affected by the Sasol Shondoni Conveyer Project, namely:

 Pistorius, J.C.C. 2013. 'A (Revised) Phase I Heritage Impact Assessment study for the proposed SASOL Shondoni Conveyer Amendment Project on the Eastern Highveld in the Mpumalanga Province'. Unpublished report prepared for JMA Consulting (Pty) Ltd and Sasol Mining.

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#### 9 SPOKESPERSONS CONSULTED

SollyNdlof. Farm labourer on Kromdraai 128IS

Mike Combrick. Farm owner of several farms in the Middelbult Mining Area

Willie Oosthuizen. Tenant of farmstead complex on Winkelhaak 139IS

Robbie Bekker. Farm owner on Brakspruit 359IH

Francois Bekker. Farm owner on Brakspruit 359IH

Steve Shabangu. Resident on Witkleifontein 138IS

Hennie Pretorius. Farm owner on Springbokdraai 277IS

BoetConradie. Environmental Manager, Harmony Gold.

Wynne Song. Farm owner Brakspruit 359JR.

Frans Els, farm owner Wildebeesspruit 356JR

Alfred Kudeka, farm worker Wildebeesspruit 356JR