

Prepared for:

JMA CONSULTING (PTY) LTD

SASOL MINING SECUNDA

**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR
SASOL MINING'S PROPOSED SHONDONI PROJECT AND FOR
BLOCK 8 ON THE EASTERN HIGHVELD IN THE MPUMALANGA
PROVINCE OF SOUTH AFRICA**

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EXECUTIVE SUMMARY

The Phase I Heritage Impact Assessment (HIA) study for Sasol Mining's proposed Shondoni Project and for Block 8 on the Eastern Highveld in the Mpumalanga Province of South Africa was done according to Section 38 of the National Heritage Resources Act (No 25 of 1999). The areas to be affected by the Shondoni Project as well as the three pieces of land which constitute Sasol's Block 8 are here referred to as the Sasol Project Area. The Shondoni Project and the three pieces of land constituting Block 8 are collectively referred to as the Sasol Project in this report.

The aims with the Phase I HIA 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.
- To determine the significance of these heritage resources and whether any of these types and ranges of heritage resources will be affected by the Sasol Project, and if so, to determine mitigation measures for those heritage resources that will be affected by the Sasol Project.

The Phase I Heritage Impact Assessment (HIA) for the Sasol Project Area revealed the following types and ranges of heritage resources in and near 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.

Remains from the recent past also occur in the Sasol Project Area but have no historical significance and therefore were not geo-referenced or mapped and are not discussed in this report.

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

The significance of the heritage resources is indicated and mitigation measures are outlined for those heritage resources which may be affected by the Sasol Project.

The significance of the heritage resources

It is possible that a farmstead complex (FC04), graveyards (GY15, GY16, GY17 and GY18) as well as a cattle enclosure (CE02) may be affected (impacted) by the Sasol Project. The significance of the various types and ranges of heritage resources in the Sasol Project Area therefore is indicated whilst mitigation measures are outlined for those heritage resources which may be affected by the Sasol Project.

The significance of the heritage resources in the Sasol Project Area is indicated by means of stipulations derived from the National Heritage Resources Act (No 25 of 1999).

The farmstead complex and cattle enclosure

The historical farmstead complexes as well as the cattle enclosure are older than sixty years and therefore are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). The significance of the historical farmsteads complexes as well as the cattle enclosures therefore has been indicated as high (Table 1).

The level of significance of these heritage resources is determined by means of criteria such as their historical, cultural (social), aesthetic, technological and scientific value in relation to their uniqueness, state of preservation and research potential. Heritage resources which have low significance are viewed as fully recorded during this survey. Any impact on these heritage resources therefore are considered to be low. Heritage resources with medium to high significance will require further mitigation and/or management measures.

Graveyards and graves

All graveyards and graves can be considered to be of high significance and are protected by various laws (Table 2). Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years.

The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

A commemorative beacon

The commemorative beacon in the No. 8 Harmony gold shaft in the Middelbult Mining Area will not to be affected by future coal mining activities and are therefore not further discussed.

Mitigating the heritage resources

The following mitigation measures have to be followed whenever FC04, CE02 and GY15 to GY18 are to be affected by the Sasol Project.

The farmstead complex and cattle enclosure

The farmstead complex and cattle enclosure may not be affected (demolish, renovate, alter) by the Sasol Project *prior* to their investigation by a historical architect in good standing with the South African Heritage Resources Agency (SAHRA). The historical architect has to acquire a permit from SAHRA before any of these structures may be affected (demolish, alter, renovate) as a result of the Sasol Project.

Graveyards and graves

Graveyards and graves can be mitigated by means of exhumation and relocation. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

General

It is highly likely that this Phase I HIA study 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 a Phase I Heritage Impact Assessment (HIA) study which was done for Sasol Mining's proposed Shondoni Project and for Sasol's Block 8 on the Eastern Highveld in the Mpumalanga Province of South Africa.

Focused archaeological research has been conducted in the Mpumalanga Province for more than four decades. This research consists of surveys and of excavations of Stone Age and Iron Age sites as well as the recording of rock art and historical sites. The Mpumalanga Province has a rich heritage comprised of remains dating from the pre-historical and from the historical (or colonial) periods of South Africa. Pre-historical and historical remains in the Mpumalanga Province of South Africa therefore form a record of the heritage of most groups living in South Africa today.

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;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- (i) sites of significance relating to the history of slavery in South Africa

2 TERMS OF REFERENCE

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

The various developmental components for the Shondoni Project as well as the three pieces of land which constitute Sasol's Block 8 are collectively here referred to as the Sasol Project Area. The Shondoni Project and the three pieces of land constituting Block 8 are here collectively referred to as the Sasol Project. This study outlines the Phase I HIA study which was done for the Sasol Project.

The aims with the Phase I HIA 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.
- To determine the significance of these heritage resources and whether any of these types and ranges of heritage resources will be affected by the Sasol Project, and if so, to determine mitigation measures for those heritage resources that will be affected by the Sasol Project.

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 (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 which is here referred to include the following (developmental) components, namely:

- Sasol's proposed Shondoni Project which involves the development of a new shaft, associated infrastructure around the shaft area and an overland conveyor belt running southwards from the shaft to one of Sasol's existing conveyor belts

further to the south. This development component is primarily 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 areas to be affected by the Shondoni Project as well as the three pieces of land which constitute Sasol's Block 8 are here referred to as the Sasol Project Area. The Shondoni Project and the three pieces of land constituting Block 8 are collectively referred to as the Sasol Project in this report.

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 9 '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).

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.

4.1 Fieldwork

The proposed Sasol Project Area was surveyed with a vehicle where accessible roads existed while selected, sensitive spots in the project area were surveyed on foot.

4.2 Databases, literature survey and maps

Databases kept and maintained at institutions such as the Provincial Heritage Resources Agency (PHRA) and the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria 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 not unacquainted with the Sasol Project Area at large as he had done several heritage impact assessment studies near the proposed project area (see Part 9, '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.

4.3 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 desolated areas or in maize fields where they remains undetected if not pointed out by persons, such as farmers and workers, who are well acquainted with the Sasol Project Area (see Part 8, 'Spokespersons consulted').

4.4 Assumptions and limitations

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.

This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the mitigation measures.

4.5 Some remarks on terminology

Terms that may be used in this report are briefly outlined in Box 2.

Box 2. Terminologies that may be used in this report

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, 1999 (Act No 25 of 1999) (See Box 1).

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

The term 'pre-historical' refers to the time before any historical documents were written or any written language developed in a particular area or region of the world. The historical period and historical remains refer, for the Sasol Project Area, to the first appearance or use of 'modern' Western writing brought to the Eastern Highveld by the first Colonists who settled in this area during the 1830's.

The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may, in the near future, qualify as heritage resources.

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

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

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

The term 'Iron Age' refers to the last two millennia and 'Early Iron Age' to the first thousand years AD. 'Late Iron Age' refers to the period between the 16th century and the 19th century and can therefore include the historical period.

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

The term 'study area', or 'Sasol Project Area' refers to the area where the developer wants to focus its development activities (refer to plan).

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.

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 Olduvian 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, Khoi Khoi herders and EIA farmers. Approximately 400 rock art sites are distributed throughout Mpumalanga, notably 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 Khoe Khoe 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 1st millennium AD) and the Later Iron Age (LIA) (covers the first 880 years of the 2nd 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 (Kwa Maza 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 French Hoek Valley near Stellenbosch in the Cape Province in 1699. The first reported discovery of coal in the interior of South Africa was in the mid-1830 when coal was mined in 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 19th century well into the early 20th 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 ('oukclip'), dolerite ('bloukclip'), 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 PHASE I HERITAGE IMPACT ASSESSMENT

6.1 Types and ranges of heritage resources

The Phase I Heritage Impact Assessment (HIA) for the Sasol Project Area revealed the following types and ranges of heritage resources in and near 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.

Remains from the recent past also occur in the Sasol Project Area but have no historical significance and therefore were not geo-referenced or mapped and are not discussed in this report.

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

The significance of the heritage resources is indicated and mitigation measures are outlined for those heritage resources which may be affected by the Sasol Project.

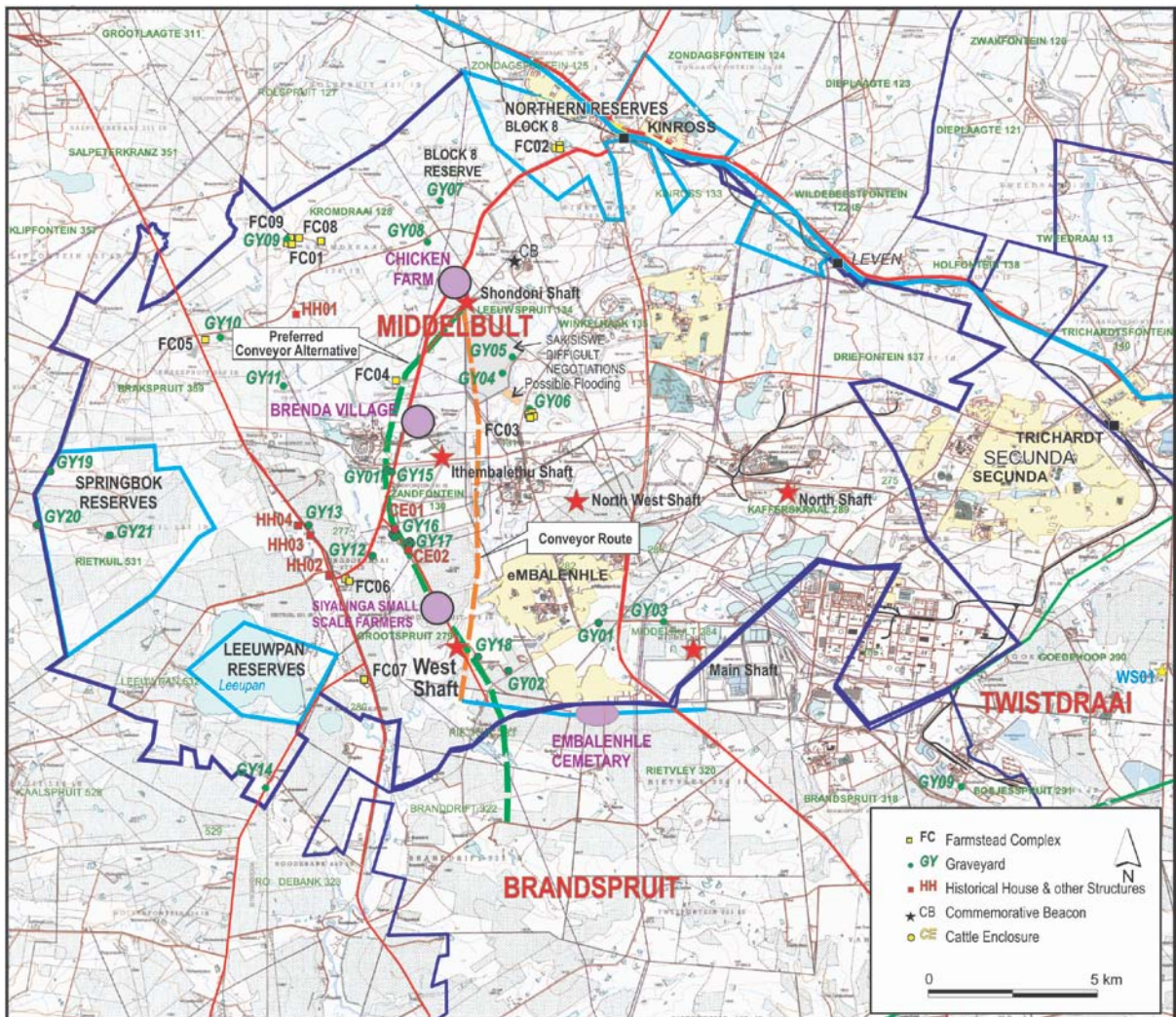


Figure 2- The Sasol Project Area involves the various developmental components for the Sasol Project as well as three portions of land (with coal reserves) which constitute Block 8. Note the presence of farmstead complexes, historical structures such as cattle enclosures and graveyards in and near the Sasol Project Area (above).

6.2 Historical structures

Historical structures are divided into farmstead complexes and historical houses.

6.2.1 Farmstead complexes

The following farmstead complexes were observed in the Middelbult Mining Area.

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. Frikkie Oosthuizen and his wife and comprises of the following individual structures:

- An excellently well preserved main residence in an Edwardian style which was constructed with sandstone and with 'stoeps' (verandas) on at least two sides. 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 'bywonershouse' 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 were constructed with sandstone in FC02.



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') on Witkleifontein 181IS which was constructed with dolerite stone in FC03 (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 south-east 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.
- Dairy 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 but that the original farm dwellings have been demolished a long time ago.



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

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

<u>Farmstead complex (FC07)</u> This farmstead complex on Springbokdraai 277IS holds the following structures: 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'	HIGH
<u>Historical House 01</u> Farm house on Brakspruit 359IH	26° 28.156' 29° 00.453'	HIGH
<u>Historical House 02</u> Farm house on Springbokdraai 277IS	26° 32.290' 29° 01.043'	HIGH
<u>Historical House 03</u> Farm house on Rietkuil 531IR next to the Leandra-Balfour road (De la Rey)	26° 31.666' 29° 00.720'	HIGH
<u>Historical House 04</u> Second farm house on Rietkuil 531IR next to the Leandra-Balfour road (De la Rey)	26° 27.825' 29° 58.364'	HIGH
<u>Wagon shed (WS)</u> Wagon shed on Rietkuil 531IR constructed with sandstone next to the Leandra-Balfour road	26° 28.119' 29° 58.687'	HIGH
<u>Cattle enclosure (CE01)</u>	26° 31.636' 29° 02.027'	HIGH
<u>Cattle enclosure (CE02)</u>	26° 31.962' 29° 02.257'	HIGH

Table 1- Coordinates and significance rating for historical structures in the Middelbult Mining Area (above).

6.2.3 Graveyards

The following graveyards were observed in the Middelbult Mining Area:

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 Ramokhampe Oompie Mooketsi O hlahle ka 24-10-1937 A hlokahahla KA 16-01-1962'
- 'Andries Mfungeni 18-4-1963 20-12-1963'
- 'Alfred Mawela Mofokeng 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:

- 'Hier rus ons moeder Jaenetta Jacoba Nel Gebore Gouws 18-3-1895 Oorlede 21-12-1939'



Figure 14- The historical graveyard on Witkleifontein 138IS dates from the 20th century and even possibly from the 19th 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 headstone 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:

- 'Hier rus my dierbare eggenoot ons vader en grootvader Gielaum Jacobus Pieterse Gebore 28-10-1892 Oorlede 28-?-1954 Jes 40:7 Die gras verdor die blom verwelk'
- 'Hier rus ons moeder en grootmoeder Elizabetha Magrietha Pieterse Gebore van den Berg 7-12-1895 Oorlede 17-3-1958 Uit liefde vir al u sorg en trou'
- Hier rus my geliefde eggenoot Barend Paul Pieterse Gebore 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:

- 'Dlamini Finose *22-09-1942 †19-04-1992 Lala Ngokuthula Siyakuthanda'
- 'Mashiyane Jabulane Born 25-08-1943 Died 16-01-1990 lala ngo xolo'
- 'In memory of our mother Merriam Moldieni Mashiane *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.

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 Hier rus Josea Jacobus Oberholster Gebore 19 Februarie 1892 Oorlede 22-?-1895 Ges 29 V3'
- 'Hier rus ons moeder 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:

- 'Mathebesi Mahlangu washona 1969-05-22 Lala ngoxolo sobona na kwelizayo yimi 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:

- 'Lizz Mathakwende 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.

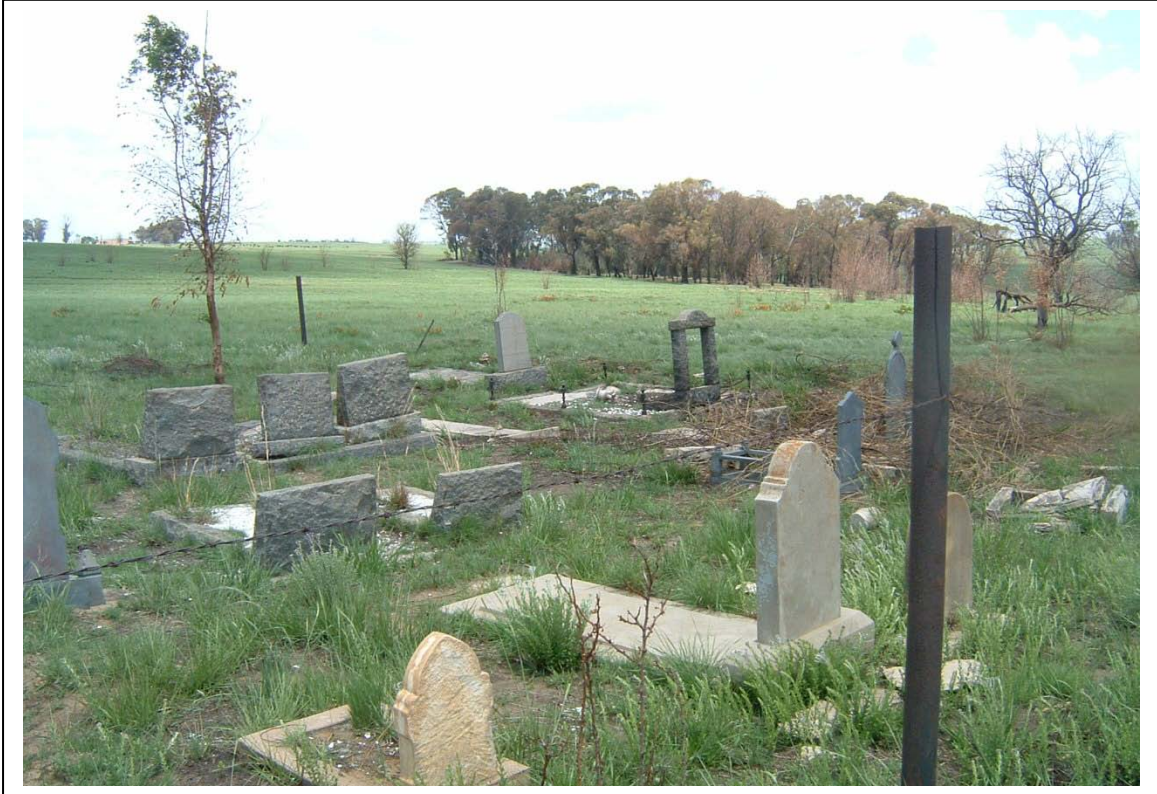


Figure 19- GY14 is a large historical graveyard on Roodebank 329IS on the eastern shoulder of the R547 (above).

6.2.3.15 Graveyard 15

GY15 is located 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 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. GY02 is demarcated with a low wall which was constructed with dolerite.

6.2.3.17 Graveyard 17

GY17 is 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:

- 'Hier rus Jan Hendrik Adriaan Roets Geb 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:

- ‘Dorema Bhava wala Ngoaku Lusa lalango xolo’
- ‘Musafa Macuva washona 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 Robala Kakootso’
- ‘Robala ka kgotso Ntate wa Rona JMK, born 17-12-901 Died 18-5-1979 Segopotso sa Raborifi’
- ‘* 1949-11-30 † 1950-02-02 Mamojakgomo robala kakgotso phuti Robala ka khotso Masipati 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. GY07 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 begraven ons geliefd zontje Geboren 22 November 1891 Overleden 19 April 1892 Zoon van EJ Bezuidenhout en WCJ Bezuidenhout'
- 'Hier light begraven on steer geliefd dochtertjie Jacomina Hendrina Johanna Bezuidenhout Geboren 27 Februyarie 1885 Overleden 19 Februarie 1886'
- Hier rust onze geliefde dochter Anna Magdalena Bezuidenhout Geboren 7 Augustus 1882 Overleden 22 Julie 1892'

6.2.3.21 Graveyard 21

Graveyard 21 is a historical graveyard which holds the remains of the Du Plooy and Booyesen 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:

- 'Hier rus ons geliefde eggenote en vader Frederik Carel Booyesen Geb 30 Mei 1885 Oorl 28 Junie 1944 Openb 14 V13 Salig is van nouaf die dode wat in die Here sterwe MCB'
- 'Hier rus Francois N Booyesen Geb 8-2-1930 Oorl 30-11-1939'
- 'Cornelle Johannes Du Plooy Geb 14 Junie 1927 Ovl 7 April 1929 Veilig in Jesus Armen Rus in Vrede'
- 'Petrus Nuclaas Johannes Du Plooy Geb 6 April 1922 Ovl 3 April 1928 Gez 181 Vers 4'
- 'Hier rus Frederik J Botha Geb 5-8-1871 Ovl 30-8-1938'



Figure 23- The wall that demarcates GY20 is constructed with dolerite stone and capped with sandstone trimmings (above).

Graveyards	Coordinates	Significance
GY01. Large graveyard on Langverwacht 282IS between villages	26° 33.081' 29° 05.181'	HIGH
GY02. Graveyard on Rietkuil 333IS close to Eskom's power lines on outskirts of village		HIGH
GY03. Graveyard on Middelbult close to one of Eskom's entrance gates	26° 33.021' 29° 06.294'	HIGH
GY04. J.C. Kruger's abandoned farmstead complex on Witkleifontein 181IS with six graves	26° 29.095' 29° 03.740'	HIGH
GY05. Graveyard on Witkleifontein 181IS in squatter camp.	26° 28.845' 29° 03.902'	HIGH
GY06. Pieterse graveyard on Witkleifontein 181IS in open veldt near historical farmstead complex	26° 29.656' 29° 04.158'	HIGH
GY07. Graveyard on Kromdraai 128IS in patch with cosmos flowers	26° 26.288' 29° 02.421'	HIGH
GY08. Graveyard on Kromdraai 128IS next to a border fence	26° 26.940' 29° 00.491'	HIGH
GY09. Voortrekker graves on Kromdraai 128IS	26° 26.965' 29° 00.371'	HIGH
GY10. Informal graveyard on Brakspruit IH	26° 28.573' 29° 59.750'	HIGH
GY11. Voortrekker graves on Brakspruit IH near Eskom's power lines	26° 29.284' 29° 00.225'	HIGH
GY12. On Zandfontein 230IS next to Kinross road and Eskom's 400kV power line.	26° 31.999' 29° 01.658'	HIGH
GY13. Next to road running between Leandra and Balfour on Springbokdraai 277IS.	26° 31.509' 29° 00.658'	HIGH
GY14. Graveyard on the eastern shoulder of the R547	26° 35.689' 28° 59.972'	HIGH
GY15. Approximately 11 graves in a Blue Gum plantation next to tar road.	26° 30.679' 29° 01.969'	HIGH
GY16. Historical graveyard on ridge. (Four corner posts, use one coordinate)	26° 31.682' 29° 02.036' 26° 31.684' 29° 02.029' 26° 31.680' 29° 02.031' 26° 31.691' 29° 02.036'	HIGH
GY17. Second historical graveyard on ridge. (Four corner posts, use one coordinate)	26° 31.842' 29° 02.281' 26° 31.844' 29° 02.256' 26° 31.835' 29° 02.259' 26° 31.835' 29° 02.254'	HIGH
GY18. Approximately 13 graves next to tar road	26° 33.675' 29° 03.375'	HIGH

running to the Middelbult West Shaft		
GY19. Approximately 50 graves located on both sides of the western border of the Springbokdraai Reserves	26° 30.650' 29° 56.515'	HIGH
GY20. Holds the remains of three children of the Bezuidenhout family	26° 31.548' 28° 56.282'	HIGH
GY21. Holds the remains of the Du Plooy and Booyesen families	26° 31.701' 28° 57.450'	HIGH

Table 2- Coordinates and significance rating for graveyards in the Middelbult Mining Area (above).

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 (*Rhus Lancea*) 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'	HIGH

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

7 THE SIGNIFICANCE, POSSIBLE IMPACT ON AND MITIGATION OF THE HERITAGE RESOURCES

7.1 Types and ranges of heritage resources

The Phase I Heritage Impact Assessment (HIA) for the Sasol Project Area revealed the following types and ranges of heritage resources in and near 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.

7.2 The significance of the heritage resources

It is possible that a farmstead complex (FC04), graveyards (GY15, GY16, GY17 and GY18) as well as a cattle enclosure (CE02) may be affected (impacted) by the Sasol Project. The significance of the various types and ranges of heritage resources in the Sasol Project Area therefore is indicated whilst mitigation measures are outlined for those heritage resources which may be affected by the Sasol Project.

The significance of the heritage resources in the Sasol Project Area is indicated by means of stipulations derived from the National Heritage Resources Act (No 25 of 1999).

7.2.1 The farmstead complex and cattle enclosure

The historical farmstead complexes as well as the cattle enclosure are older than sixty years and therefore are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). The significance of the historical farmsteads complexes as well as the cattle enclosures therefore has been indicated as high (Table 1).

The level of significance of these heritage resources is determined by means of criteria such as their historical, cultural (social), aesthetic, technological and scientific value in relation to their uniqueness, state of preservation and research potential. Heritage resources which have low significance are viewed as fully recorded during this survey. Any impact on these heritage resources therefore are considered to be low. Heritage resources with medium to high significance will require further mitigation and/or management measures.

7.2.2 Graveyards and graves

All graveyards and graves can be considered to be of high significance and are protected by various laws (Table 2). Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years.

The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

7.2.3 A commemorative beacon

The commemorative beacon in the No. 8 Harmony gold shaft in the Middelbult Mining Area will not to be affected by future coal mining activities and are therefore not further discussed.

7.3 Mitigating the heritage resources

The following mitigation measures have to be followed whenever FC04, CE02 and GY15 to GY18 are to be affected by the Sasol Project.

7.3.1 The farmstead complex and cattle enclosure

The farmstead complex and cattle enclosure may not be affected (demolish, renovate,

alter) by the Sasol Project *prior* to their investigation by a historical architect in good standing with the South African Heritage Resources Agency (SAHRA). The historical architect has to acquire a permit from SAHRA before any of these structures may be affected (demolish, alter, renovate) as a result of the Sasol Project.

7.3.2 Graveyards and graves

Graveyards and graves can be mitigated by means of exhumation and relocation. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

8 CONCLUSION AND RECOMMENDATIONS

The Phase I Heritage Impact Assessment (HIA) for the Sasol Project Area revealed the following types and ranges of heritage resources in and near 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.

Remains from the recent past also occur in the Sasol Project Area but have no historical significance and therefore were not geo-referenced or mapped and are not discussed in this report.

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

The significance of the heritage resources is indicated and mitigation measures are outlined for those heritage resources which may be affected by the Sasol Project.

The significance of the heritage resources

It is possible that a farmstead complex (FC04), graveyards (GY15, GY16, GY17 and GY18) as well as a cattle enclosure (CE02) may be affected (impacted) by the Sasol Project. The significance of the various types and ranges of heritage resources in the Sasol Project Area therefore is indicated whilst mitigation measures are outlined for those heritage resources which may be affected by the Sasol Project.

The significance of the heritage resources in the Sasol Project Area is indicated by means of stipulations derived from the National Heritage Resources Act (No 25 of 1999).

The farmstead complex and cattle enclosure

The historical farmstead complexes as well as the cattle enclosure are older than sixty years and therefore are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). The significance of the historical farmsteads complexes as well as the cattle enclosures therefore has been indicated as high (Table 1).

The level of significance of these heritage resources is determined by means of criteria such as their historical, cultural (social), aesthetic, technological and scientific value in relation to their uniqueness, state of preservation and research potential. Heritage resources which have low significance are viewed as fully recorded during this survey. Any impact on these heritage resources therefore are considered to be low. Heritage resources with medium to high significance will require further mitigation and/or management measures.

Graveyards and graves

All graveyards and graves can be considered to be of high significance and are protected by various laws (Table 2). Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years.

The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

A commemorative beacon

The commemorative beacon in the No. 8 Harmony gold shaft in the Middelbult Mining Area will not to be affected by future coal mining activities and are therefore not further discussed.

Mitigating the heritage resources

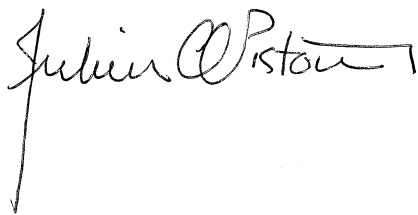
The following mitigation measures have to be followed whenever FC04, CE02 and GY15 to GY18 are to be affected by the Sasol Project.

The farmstead complex and cattle enclosure

The farmstead complex and cattle enclosure may not be affected (demolish, renovate, alter) by the Sasol Project *prior* to their investigation by a historical architect in good standing with the South African Heritage Resources Agency (SAHRA). The historical architect has to acquire a permit from SAHRA before any of these structures may be affected (demolish, alter, renovate) as a result of the Sasol Project.

Graveyards and graves

Graveyards and graves can be mitigated by means of exhumation and relocation. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

A handwritten signature in black ink, appearing to read 'Julius CC Pistorius', with a long vertical line extending downwards from the end of the signature.

DR JULIUS CC PISTORIUS

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Member ASAPA

9 SELECT BIBLIOGRAPHY

Bergh, J.S. (red.) 1998. *Geskiedenisatlas van Suid Afrika. Die vier noordelike provinsies*. J.L. van Schaik: Pretoria.

Erasmus, B.P.J. 1995. *Oppad in Suid Afrika. 'n Gids tot Suid Afrika, Streek vir Streek*. Jonathan Ball Uitgewers Bpk.

Evers, T.M. 1981. The Iron Age in the Eastern Transvaal, South Africa. In Voight, E.A. (ed). *Guide to archaeological sites in Northern and Eastern Transvaal*. Pretoria: South African Association of Archaeologists, 64-109.

Mason, R.J. 1968. Transvaal and Natal Iron Age settlement revealed by aerial photography and excavation. *African Studies*. 27:167-180.

Naude, M. 1993. The use of stone on farmsteads on the eastern Transvaal. *Africana Society of Pretoria* (11): 49-55.

Naude, M. 2000. Vernacular stone buildings and structures on farmsteads in the southern districts of the Mpumalanga Province. *South African Journal of Cultural History*. 14(2): 31-64

Pistorius, J.C.C. 2002. *A Heritage Impact Assessment (HIA) study for a new power line on the farm Rietvallei 397JS between Middelburg and Arnot in the Mpumalanga Province of South Africa*. Unpublished report done for Eskom, Menlyn.

Pistorius, J.C.C. 2003. *A Heritage Impact Assessment study for the proposed 22kV Duvha Colliery power line deviation near Middelburg in the Mpumalanga Province of South Africa*. Unpublished report done for Eskom, Menlyn.

Pistorius, J.C.C. 2004. *A Heritage Impact Assessment (HIA) study for the EMP Amendment for Douglas Colliery in the Mpumalanga Province of South Africa*. Unpublished report for Pulles, Howard and De Lange.

Pistorius, J.C.C. 2004. *A Heritage Impact Assessment (HIA) study for the proposed new Optimum Colliery on the farm Schoonoord 164IS in the Mpumalanga Province of South Africa*. Unpublished report done for African EPA.

Pistorius, J.C.C. 2005. *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 15IS within the boundaries of Douglas Colliery in the Mpumalanga Province of South Africa*. Unpublished report for the South African Heritage Resources Authority (SAHRA), Pulles Howard and De Lange (PHD) and Douglas Colliery.

Pistorius, J.C.C. 2007. *A Phase I Heritage Impact Assessment (HIA) study for the proposed deviation of a tributary of the Riet River in the Matla Colliery mining area on the Eastern Highveld in the Mpumalanga Province of South Africa*. Unpublished report for Golder.

Pistorius, J.C.C. 2008. *A Phase I Heritage Impact Assessment (HIA) study for the proposed new Harmony South underground mine near Leandra on the Eastern Highveld in the Mpumalanga Province of South Africa*. Unpublished report prepared for Turgis Consulting and Harmony.

Pistorius, J.C.C. 2008. *A Phase I Heritage Impact Assessment (HIA) study for Sasol's South Block on the Eastern Highveld in the Mpumalanga Province of South Africa*. Unpublished report for Clean Stream Environmental Services.

Pistorius, J.C.C. 2008. *A Phase I Heritage Impact Assessment (HIA) study for Sasol's North Block on the Eastern Highveld in the Mpumalanga Province of South Africa*. Unpublished report for Clean Stream Environmental Services.

Pistorius, J.C.C. 2008. *A Phase I Heritage Impact Assessment (HIA) study for Sasol's proposed new shaft complex on Strybult 542 and for the North Block on the Eastern*

Highveld in the Mpumalanga Province of South Africa. Unpublished report for Clean Stream Environmental Services.

Pistorius, J.C.C. 2008. *A Phase I Heritage Impact Assessment (HIA) study for Sasol's proposed new gas and liquid pipelines (along a corridor) from Sasol Synfuels in Secunda (Mpumalanga) to Sasol Infrachem and Natref in Sasolburg (Free State) on the Highveld in the Republic of South Africa. Unpublished report for Nature and Business Alliance Africa (Pty) Ltd.*

Pistorius, J.C.C. 2008. *A Phase I Heritage Impact Assessment (HIA) study for Sasol's proposed new conveyor belt running from the Strybult Shaft Complex to the Sasol Secunda Plant on the Eastern Highveld in the Mpumalanga Province of South Africa. Unpublished report for Clean Stream Environmental Services.*

Pretorius, Fransjohan. 1999. *Life on commando during the Anglo Boer War 1899-1902.* Human & Rousseau: Cape Town.

Smith, Quinton. 1997. *Kimton, My land my life.* (Published by the author).

10 SPOKESPERSONS CONSULTED

Solly Ndlof. 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

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Wynne Song. Farm owner Brakspruit 359JR.

Frans Els. Farm owner Wildebeesspruit 356JR

Alfred Kudeka. Farm worker Wildebeesspruit 356JR