Prepared for:
CLEAN STREAM ENVIRONMENTAL
AND
SASOL SECUNDA

A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR
SASOL'S PROPOSED NEW CONVEYOR BELT ROUTE RUNNING
FROM THE IMPUMELELO SHAFT COMPLEX TO THE SASOL
SECUNDA PLANT ON THE EASTERN HIGHLVELD IN THE
MPUMALANGA PROVINCE OF SOUTH AFRICA

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EXECUTIVE SUMMARY

Sasol intends to establish a conveyor between the Impumelelo Shaft Complex and Sasol Secunda on the Eastern Highveld in the Mpumalanga Province of South Africa. Activities relating to the Sasol Project (construction of the conveyor) may impact on any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No. 25 of 1999).

Consequently, Sasol and Clean Stream Environmental Company commissioned the author to undertake a Phase I HIA study according to Section 38 of the National Heritage Resources Act (No 25 of 1999) for the proposed Sasol Project Area with the following aims

- 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) do occur within the perimeters of the Sasol Project Area and, if so, to determine the level of significance of these heritage resources.
- To make recommendations regarding the mitigation or the conservation of any significant heritage resources that may be affected by the proposed Sasol Project.

The Phase I HIA study for the 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 outbuildings.
- Historical houses.
- Graveyards.

These heritage resources were geo-referenced, mapped and discussed (Figure 2; Tables 1-3). (Remains from the recent past also occur in the Sasol Project Area but have no historical significance and therefore were not geo-referenced, mapped or discussed).

The significance of the heritage resources is also indicated (Tables 1-3) while mitigation measures are proposed for those heritage resources which may be affected by the proposed Sasol Project.
The significance of the heritage resources
It is possible that some of these types and ranges of heritage resources may be affected by the Sasol Project. The significance of the various types and ranges of heritage resources in the Sasol Project Area therefore is indicated while mitigation measures are outlined for those heritage resources which may be affected by the proposed 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).

Historical farmstead complexes and houses
Historical farmstead complexes and houses older than sixty years old, or structures which are approaching this age, are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). The significance of historical farmstead complexes and houses therefore has been indicated as HIGH (Tables 1 & 2).

The significance of individual historical farmstead complexes or houses can further be investigated if any of these structures are to be affected by the Sasol Project. The following criteria can be used to determine the significance of these historical remains, namely: the cultural-historical background of these structures; their scientific or architectural value; their use in the field of tourism, museums or education as well as their aesthetic appearance; repeatability (scarcity), or their emotional (ideological) value.

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

Mitigating the heritage resources
It is possible that some of the heritage resources may be affected by the Sasol Project.
The following mitigation measures have to be followed whenever historical farmstead complexes, historical houses or graveyards may be affected by the Sasol Project.

**Historical farmstead complexes and houses**

Historical farmstead complexes and houses may not be affected (demolished, renovated, altered) 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 the South African Heritage Resources Authority (SAHRA) *prior* to any of these historical structures been affected or altered as a result of the Sasol Project.

**Graveyards**

Graveyards that may be affected by the Sasol Project can be mitigated by following one of the following strategies, namely:

- Graveyards can be conserved *in situ* by means of demarcating these features with brick walls or with fences. A buffer zone of at least twenty metres should be maintained between the graveyards and the conveyor.

- Graveyards can also be exhumed and relocated. 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**

If any heritage resources of significance is exposed during the construction of the proposed conveyor belt 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 notified 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.
## Executive Summary

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1 INTRODUCTION

Sasol intends to establish a conveyor between the proposed Impumelelo Shaft Complex on the farm Impumelelo 542 and the Sasol Secunda Plant on the Eastern Highveld in the Mpumalanga Province of South Africa. The conveyor development project is referred to as the Sasol Project and the conveyor corridor as the Sasol Project Area. The Sasol Project can impact on 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). Consequently, Sasol and Clean Stream Environmental Company commissioned the author to undertake a Phase I Heritage Impact Assessment (HIA) for the Sasol Project Area.

This document contains the report on the results of the Phase I Heritage Impact Assessment (HIA) study which was done for the proposed Sasol Project.

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.

Various types and ranges of heritage resources that qualify as part of South Africa’s ‘national estate’, outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), occur in 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).

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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 intends to establish a conveyor between the Impumelelo Shaft Complex and Sasol Secunda on the Eastern Highveld in the Mpumalanga Province of South Africa. Activities relating to the Sasol Project (construction of the conveyor) may impact on any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No. 25 of 1999).

Consequently, Sasol and Clean Stream Environmental Company commissioned the author to undertake a Phase I HIA study for the proposed Sasol Project Area with the following aims

- 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 and, if so, to determine the level of significance of these heritage resources.
- To make recommendations regarding the mitigation or the conservation of any significant heritage resources that may be affected by the proposed Sasol Project.
3 THE SASOL PROJECT AREA

3.1 Location

The Sasol Project Area stretches from the Impumelelo Shaft Complex on the farm Impumelelo 542 across an undulating piece of land that is partly covered with agricultural fields to Sasol Secunda on the Eastern Highveld of the Mpumalanga Province of South Africa (2628DB Willemsdal 1:50 0000 topographical map; 2628 East Rand 1:250 000) (Figure 1).

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 in the area by means of early human activities in the past.

This part of the Mpumalanga Province is known for its long standing 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. Gold and silica mines also occur in the area.

3.2 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 on the Eastern Highveld (see Part 8 ‘Select Bibliography’).

The archaeological and historical significance of this cultural landscape must be described in more detail before the results of the Phase I HIA study is discussed (see below, Part 5).
Figure 1- Sasol's proposed new conveyor will run across the Eastern Highveld of the Mpumalanga Province which is an undulating piece of land that is characterised by outstretched grass veldt and agricultural fields.

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

In addition, the Sasol Project Area was studied by means of maps on which it appears (2628DB Willemsdal 1: 50 000 and 2628 East Rand 1: 250 000).

4.3 Consulting spokespersons

Spokespersons living in the Sasol Project Area were consulted regarding the possible presence of solitary graves and graveyards. Heritage questionnaires completed by some of the landowners also aided with the identification with some of the heritage resources in the project area. Many graveyards on the Eastern Highveld occur in maize fields where they remain undetected if not pointed out by persons, such as farmers and workers, who are well acquainted with the project area (see Part 9, ‘Spokespersons consulted’).

4.4 Assumptions and limitations

It is possible that this Phase I HIA study may have missed heritage resources in the Sasol Project Area as 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 construction of the proposed conveyor belt 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 notified 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 proposed Sasol Project Area.

5.1 Stone Age 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 (covers the period from 2.5 million years ago to 250,000 years ago), the Middle Stone Age (refers to the period from 250,000 years ago to 22,000 years ago) and the Late Stone Age (the period from 22,000 years ago to 200 years ago).

The Later Stone Age is also associated with rock paintings and engravings which were done by the San, Khoi Khoi and in more recent times by Iron Age farmers.

Heritage surveys up to now have recorded few Stone Age sites, rock paintings and engravings in the Eastern Highveld.

5.2 Iron Age remains

The Iron Age is associated with the first agro-pastoralists 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 (covers the 1\textsuperscript{st} millennium AD) and the Later Iron Age (covers the first 880 years of the 2\textsuperscript{nd} millennium AD).

The Eastern Highveld has not been occupied by Early Iron Age communities but was occupied by Late Iron Age communities such as the Sotho, Swazi and
Ndebele who established settlement complexes that are associated with stone walls.

5.3 The historical period

Towns closest to the Sasol Project Area include Secunda, Kinross, Devon and Leandra in the north. Balfour and Greylingstad occur to the west and Frankfort and Standerton to the south of the project area.

Devon is one of a number of small towns on the Eastern Highveld located approximately 40km to the south-east of Springs. The town give the impression of a scarce number of scattered buildings held together by a giant grain silo. The town's name is derived from the hometown of the surveyor, namely Devon in England. Nearby, but inaccessible to everybody but the military, is the underground nerve centre of the country's northern radar defence system.

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.

Evander, south of Kinross, was established in 1955 by the Union Corporation as a residential township for the employees of the Winkelkaak. 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.

The village of Trichard, 20km to the east of Kinross, was proclaimed a town in 1906 and was founded as the new Dutch Reformed parish. It was named after Carl Trichardt, son of Voortrekker leader Louis Trichardt. Today it is dwarfed by its newly created neighbour, Secunda.

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.

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

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 wider 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 KwaZulu/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 colliers were operating in the Middelburg-Witbank district, also supplying the gold mining industry. At this time coal mining also has started in Vereeniging. The Natal 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 (‘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.
Late Iron Age communities who contributed to the Eastern Highveld’s stone walled architecture were the Sotho, Pedi, Ndebele and Swazi. The tradition set by these indigenous groups may have influenced the first settlers from Natal and the Cape Colony to utilize the same resources that their predecessors did. Many farmers from Scottish, Irish, Dutch, German and Scandinavian descend settled and farmed in the Eastern Highveld. These colonials brought the knowledge of stone masonry from Europe which compensated for the lack of fire wood necessary to manufacture baked clay bricks.
6 THE PHASE I HERITAGE IMPACT ASSESSMENT

6.1 Types and ranges of heritage resources

The Phase I HIA study for the 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 outbuildings.
- Historical houses.
- Graveyards.

These heritage resources were geo-referenced, mapped and discussed (Figure 2; Tables 1-3). (Remains from the recent past also occur in the Sasol Project Area but have no historical significance and therefore were not geo-referenced, mapped or discussed).

The significance of the heritage resources is also indicated (Tables 1-3) while mitigation measures are proposed for those heritage resources which may be affected by the proposed Sasol Project.

The Phase I HIA study is now briefly discussed and illustrated with photographs.
Figure 2: The Sasol Project Area stretches from the Impumelelo Shaft Complex in the west across part of the Eastern Highveld to the Sasol Secunda Plant in the east. Note the presence of farmstead complexes, historical houses and graveyards in and near the Sasol Project Area (above).
6.2 Farmstead complexes

At least two farmstead complexes with historical significance occur in the Project Area. These farmstead complexes are associated with farm houses and outbuildings such as second dwellings, rondavels and wagon sheds. These complexes therefore comprise of more than one historical structure in a particular spatial relationship with each other. In some instances these complexes may constitute cultural landscapes of small proportions.

Individual historical houses are discussed under a separate heading. Graveyards are also discussed separately, although they may be part of farmstead complexes or historical houses.

6.2.1 Farmstead Complex 01

This farmstead complex (FC01) is composed of a main residence, a wagon shed and a structure which possibly was used to pen domestic stock such as pigs. It is located on Holgatsfontein 535.

The complex consists of the following structures:

- An extended main residence which probably dates from the early 1900’s. It was constructed with sandstone. The exterior of the house was painted white in more recent times (FC01.1).
- A wagon shed which was constructed with sandstone and which was also painted white. It is fitted, as the house, with a red-painted pitched corrugated iron roof. A possible second residence was attached to this structure but has largely been demolished (FC01.2).
- A structure which was partly constructed with sandstone as well as with clay bricks. It was probably used to pen stock (FC01.3)
Figures 3 & 4- Main residence (FC02.1) and wagon shed (FC02.2) in Farmstead Complex 02 on Holgatsfontein 535 (above).
6.2.2 Farmstead Complex 02

This farmstead complex (FC02) is severely dilapidated and is composed of at least four individual structures, namely:

- A wagon shed which was constructed with sandstone and whose walls are still partly standing (FC02.1).
- A severely dilapidated sandstone house (FC02.2) which was extended with cement bricks sometime in the past.
- A house dating from the more recent past which was constructed with sandstone collected from surrounding older structures and clay and cement bricks (FC02.3).
- A small sandstone structure which probably served as an outbuilding (FC02.4).

Figure 4: A small building constructed with sandstone. This possible residence is part of FC02 (above).
6.2 Historical houses

The following historical houses were observed in close proximity of the Project Area.

6.2.1 Historical House 01

HH01 on Holgatsfontein 535 is currently occupied by Mr. Boland Kotze and his family. The farm house is part of a complex which includes older as well as younger outbuildings. The main farm house probably dates from the 1940’s.

Figure 5- HH02 on Holgatsfontein 535 is an elongated residence with lean-to’s constructed on both the frontal and backsides of the house (above).
6.2.2 Historical House 02

HH02 on Holgatsfontein 535 is located on the southern shoulder of the Boschmansfontein road. It is an elongated structure with a pitched corrugated iron roof which is painted red.

6.2.3 Historical House 03

HH03 was constructed with sandstone and dolerite but is in a severe state of ruin.

This structure is currently overgrown with vegetation and its remaining walls are barely visible above the shoulder-length grass which surrounds this building.

Figure 6- HH03 is in a severe state of ruin and is located in close proximity of the proposed conveyer belt corridor (above).
6.2.4 Historical House 04

HH04 was constructed with dolerite stone but is in a severe state of ruin. This structure is located near a clump of Blue Gum trees close to the R548 that runs into Kinross.

6.2.5 Historical House 05

This house was not accessible and could not be evaluated. Judging from a distance it seems as if this structure was constructed with sandstone. However, it is nearly totally demolished and its remaining walls are barely visible above the knee-high length grass that surrounds the structure.
6.2.6  Historical House 06

HH06 is situated near the junction of two dirt roads. It is part of a complex of structures, some older and others younger, which are in a severely dilapidated condition.

An avenue with historical oak trees is associated with this complex of buildings. HH06 has been altered extensively in the past and only a small part of its sandstone wall is still visible today.

6.3  Graveyards

The following graveyards were observed in the Sasol Project Area:

6.3.1  Graveyard 01

This large informal cemetery on Holgatfontein 535 is located along the foot of a low randje. It holds the remains of approximately forty three individuals. Most of the graves are covered with piles of stone. At least twelve are fitted with cement headstones. Some bear the following inscriptions:

- 'William Mshibe Death 16091975'
- 'Meschack Kini Ngubeni Born 1926'
- 'Maria Thombolozi Mshibe Death 24061972 RIP'
- 'Betty Zabi Mshibe Born 1929'

6.3.2  Graveyard 02

This neglected graveyard holds the remains of five colonial graves. Inscriptions on three of the granite headstones bear the following inscriptions:

- 'Seuntjie ...............? '
- 'Hier rus ons dierbare vader en moeder........'
• 'In tere herinnering aan Dollie Oosthuizen Geb 1.9.1905........................
  3.3.1943 Geliefde eggenote van Willie en moeder van Maury Ps 100 V4'

Figure 8- GY01 holds the remains of forty-three individuals and is located along the lower foot slope of a randje on Holgatsfontein 535 (above).

6.3.3 Graveyard 03

This historical graveyard is located on the northern shoulder of the Holgatsfontein dirt road. It is located next to a maize field under two pine trees. It holds two graves which are fitted with cement slabs and tomb stones. Inscriptions on the two tombstones read as follow:
  • 'Anna Magdalena Brits Geb 24/11/? Oorl 1/12/38'
  • 'Hier rus Stehanus Petrus Olivier Geb 16 Sept 1884 Ovl 31 Okt 1931'
6.3.4 Graveyard 04

GY04 is a historical graveyard located in association with FC02. It holds nine graves belonging to the Abraham family. Five of the graves are fitted with granite headstones and trimmings while four are edged with cement strips.

Inscriptions on two of the headstones read as follow:

- 'Ter nagedagtenis aan William George Eggberry Abraham Geb 22 Okt 1869 Oorl 21 Mei 1945 Ruwe stormen mogen woeden... Ges 58 V7'
- In liefdevolle herinnering aan my eggenote ons moeder Cornelia Jacoba Abraham Geb Scheepers 27-8-1941 Oorl 8-8-1941 Lank kan die dood nie skei want in Christus is ons nie geskei nie'

Figure 9- GY04 belongs to the Abraham family and holds the remains of nine members of this family (above).
6.3.5 Graveyard 05

This severely vandalised graveyard is located in what seems to be a sand quarry, next to the farmstead complex of the Abraham family. It holds at least five graves within the confines of an elongated structure which was constructed and demarcated with dolerite stone walls. Another four graves which are covered with piles of stone occur outside the demarcated graveyard.

Two of the graves in the graveyard have been vandalised. It seems as if attempts were made to either rob the graves of possible valuable items or attempts were made to get hold of the human remains - perhaps to be used as 'medicine' by traditional healers.

The inscriptions on the majestic marble headstone of the main grave, which has been damaged extensively, read as follow:

- 'Pretorius Daniel Pieter Geb 28 Sep 1821 Oorl 8 Sep 1894 In lewen warme Afrikander voorstander zijner kerk vriend van reizigers en vreemdeling'

6.3.6 Graveyard 06

This graveyard is located next to a two track road. It holds the remains of at least eight individuals which are covered with piles of stone.

6.3.7 Graveyard 07

GY07 is located on the western shoulder of the R50. It contains the remains of at least forty-five individuals. Most of the graves are covered with piles of stone.

Two of the graves which are fitted with cement headstones contain the following inscriptions:
• 'Simon Sibeko Robele ka kgotso Ntata ohlokahtse kadi 31-12-1963'
• 'Simon Monareng'

Figure 10- GY05 holds the remains of amongst others Daniel Pretorius (born 1821) whose grave is severely vandalised (above).
7 THE SIGNIFICANCE, POSSIBLE IMPACT ON AND MITIGATION OF THE HERITAGE RESOURCES

7.1 Types and ranges of heritage resources

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

- Farmstead complexes associated with outbuildings.
- Historical houses.
- Graveyards.

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

7.2 The significance of the heritage resources

It is possible that some of these types and ranges of heritage resources may be affected by the Sasol Project. The significance of the various types and ranges of heritage resources in the Sasol Project Area therefore is indicated while mitigation measures are outlined for those heritage resources which may be affected by the proposed 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 Historical farmstead complexes and houses

Historical farmstead complexes and historical houses older than sixty years old, or structures which are approaching this age, are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). The significance of historical farmstead complexes and houses therefore has been indicated as HIGH (Tables 1 & 2).

The significance of individual historical farmstead complexes or houses can further be investigated if any of these structures are to be affected by the Sasol Project. The following criteria can be used to determine the significance of these historical remains, namely: the cultural-historical background of these structures; their scientific or architectural value; their use in the field of tourism, museums or education as well as their aesthetic appearance; repeatability (scarcity), or their emotional (ideological) value.

7.2.2 Graveyards

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

7.3 Mitigating the heritage resources

It is possible that some of the heritage resources may be affected by the Sasol Project.
The following mitigation measures have to be followed whenever historical farmstead complexes, historical houses or graveyards may be affected by the Sasol Project.

### 7.3.1 Historical farmstead complexes and houses

Historical farmstead complexes and historical houses may not be affected (demolished, renovated, altered) 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 the South African Heritage Resources Authority (SAHRA) prior to any of these historical structures been affected or altered as a result of the Sasol Project.

### 7.3.2 Graveyards

Graveyards that may be affected by the Sasol Project can be mitigated by following one of the following strategies, namely:

- Graveyards can be conserved *in situ* by means of demarcating these features with brick walls or with fences. A buffer zone of at least twenty metres should be maintained between the graveyards and the conveyor.
- Graveyards can also be exhumed and relocated. 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.
The Phase I HIA study for the 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 outbuildings.
- Historical houses.
- Graveyards.

These heritage resources were geo-referenced, mapped and discussed (Figure 2; Tables 1-3). (Remains from the recent past also occur in the Sasol Project Area but have no historical significance and therefore were not geo-referenced, mapped or discussed).

The significance of the heritage resources is also indicated (Tables 1-3) while mitigation measures are proposed for those heritage resources which may be affected by the proposed Sasol Project.

**The significance of the heritage resources**

It is possible that some of these types and ranges of heritage resources may be affected by the Sasol Project. The significance of the various types and ranges of heritage resources in the Sasol Project Area therefore is indicated while mitigation measures are outlined for those heritage resources which may be affected by the proposed 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).
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Historical farmstead complexes and houses older than sixty years old, or structures which are approaching this age, are protected by Section 34 of the National Heritage Resources Act (No 25 of 1999). The significance of historical farmstead complexes and houses therefore has been indicated as HIGH (Tables 1 & 2).

The significance of individual historical farmstead complexes or houses can further be investigated if any of these structures are to be affected by the Sasol Project. The following criteria can be used to determine the significance of these historical remains, namely: the cultural-historical background of these structures; their scientific or architectural value; their use in the field of tourism, museums or education as well as their aesthetic appearance; repeatability (scarcity), or their emotional (ideological) value.

**Graveyards**

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

**Mitigating the heritage resources**

It is possible that some of the heritage resources may be affected by the Sasol Project.

The following mitigation measures have to be followed whenever historical farmstead complexes, historical houses or graveyards may be affected by the Sasol Project.
**Historical farmstead complexes and houses**

Historical farmstead complexes and houses may not be affected (demolished, renovated, altered) 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 the South African Heritage Resources Authority (SAHRA) *prior* to any of these historical structures been affected or altered as a result of the Sasol Project.

**Graveyards**

Graveyards that may be affected by the Sasol Project can be mitigated by following one of the following strategies, namely:

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9 SELECT BIBLIOGRAPHY


report for the South African Heritage Resources Authority (SAHRA), Pulles Howard and De Lange (PHD) and Douglas Colliery.


10 SPOKESPERSONS CONSULTED

Mr. Hardus Botha. Holgatsfontein 535

Mr Boland Coetzee. Holgatsfontein 535.

Mr Paulus Dlamini. Wolvenfontein 514
### Farmstead complexes

<table>
<thead>
<tr>
<th>Farmstead Complex 01 (FC01)</th>
<th>Coordinates</th>
<th>Significance</th>
</tr>
</thead>
</table>
| FC01.1 Main residence       | 26° 37.786’ 28° 55.336’  
26° 37.802’ 28° 55.321’  
26° 37.617’ 28° 55.346’ | HIGH         |
| FC01.2 Wagon shed with possible second residence |             |              |
| FC01.3 Enclosures for domestic stock |             |              |

<table>
<thead>
<tr>
<th>Farmstead Complex 02 (FC02)</th>
<th>Coordinates</th>
<th>Significance</th>
</tr>
</thead>
</table>
| FC02.1 Sandstone house      | 26° 36.720’ 29° 01.090’  
26° 36.731’ 29° 01.114’ | HIGH         |
| FC02.2 Wagon shed constructed with sandstone | | |
| FC02.3 Residence constructed with sandstone and clay and cement bricks | 26° 36.704’ 29° 01.078’ | |
| FC02.4 Small outbuilding   | 26° 36.678’ 29° 01.048’ |              |

#### Table 1- Coordinates for historical farmstead complexes in and near the Sasol Project Area (above).
<table>
<thead>
<tr>
<th>GRAVEYARDS AND GRAVES</th>
<th>COORDINATES</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GY01. This informal graveyard on Holgatsfontein 535 is located against the slope of a kopje. It holds approximately 43 graves</td>
<td>26° 38.047 28° 53.960'</td>
<td>HIGH</td>
</tr>
<tr>
<td>GY02. This graveyard on Holgatsfontein 535 contains five colonial graves</td>
<td>26° 37.558 28° 54.573’</td>
<td>HIGH</td>
</tr>
<tr>
<td>GY03. This historical graveyard on Holgatsfontein 535 holds two graves dating from the 1930’s.</td>
<td>26° 37.687 28° 55.308’</td>
<td>HIGH</td>
</tr>
<tr>
<td>GY04. Graveyard of the Abraham family.</td>
<td>26° 36.683 29° 01.139</td>
<td>HIGH</td>
</tr>
<tr>
<td>GY05. Vandalised graveyard in sand quarry.</td>
<td></td>
<td>HIGH</td>
</tr>
<tr>
<td>GY06. Informal graveyard with eight graves next to a dirt track road.</td>
<td>26° 36.756 29° 01.225</td>
<td>HIGH</td>
</tr>
<tr>
<td>GY07. Graveyard with approximately 45 graves next to the R50</td>
<td>26° 36.955 29° 01.468</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

Table 3- Coordinates for graveyards in and near the Sasol Project Area (above).