

**PREPARED FOR:
GOLDER ASSOCIATES**

**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY
FOR A PROPOSED NEW CALCINE WASTE DISPOSAL
FACILITY AT VANCHEM NEAR EMALAHLENI (WITBANK) IN
THE MPUMALANGA PROVINCE OF SOUTH AFRICA**

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EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999) was done for a proposed new Calcine Waste Disposal Facility (WDF) at Vanchem near Emalahleni (Witbank) in the Mpumalanga Province of South Africa.

The aims with the Phase I HIA study were:

- To establish whether any of the types and ranges of heritage resources ('national estate') as outlined in the National Heritage Resources Act (Act 25 of 1999) (see Box 1) do occur in the proposed Vanchem Project Area and, if so, to determine the nature, the extent and the significance of these remains;
- To determine whether such remains will be affected by the proposed extension mining activities; and, if so to evaluate what appropriate actions could be taken to reduce the impact of the proposed development activities on such remains.

The Phase I HIA study for the proposed Vanchem Project Area revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (Act 25 of 1999).

There is consequently no reason from a heritage point of view why the proposed new Calcine Waste Disposal Facility (WDF) should not be constructed.

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

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1 INTRODUCTION

This document contains a report on the results of a Phase I Heritage Impact Assessment (HIA) study which was done for a proposed new Calcine Waste Disposal Facility (WDF) at Vanchem near Emalahleni (Witbank) in the Mpumalanga Province of South Africa.

The Mpumalanga Province of South Africa has a rich heritage, comprised of remains dating from the pre-historic and from the historical (or colonial) periods of South Africa. Pre-historic and historical remains in the Mpumalanga Province 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' as outlined in the National Heritage Resources Act (Act 25 of 1999) occur in this region (see Box 1).

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

The National Heritage Resources Act (Act 25 of 1999, Section 3) outlines the following types and ranges of heritage resources that qualify as part of the national estate:

- (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 palaeontological 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 the Human Tissue Act (Act 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 palaeontological 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 (Act 43 of 1996).

The National Heritage Resources Act (Act 25 of 1999, Section 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

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

2 AIMS WITH THIS REPORT

Vanchem intends establishing a proposed new Calcine Waste Disposal Facility (WDF) near Emalahleni (Witbank) in the Mpumalanga Province of South Africa. Heritage resources that may occur in the proposed Vanchem Project Area therefore may be affected by the development of the proposed new WDF. Consequently, Golder Associates, the environmental company responsible for compiling the Environmental Impact Assessment report for the proposed new Calcine Waste Disposal Facility, commissioned the author to conduct a Phase I Heritage Impact Assessment (HIA) study for the Vanchem Project Area.

The aims with the Phase I HIA study were:

- To establish whether any of the types and ranges of heritage resources ('national estate') as outlined in the National Heritage Resources Act (Act 25 of 1999) (see Box 1) do occur in the proposed Vanchem Project Area and, if so, to determine the nature, the extent and the significance of these remains;
- To determine whether such remains will be affected by the proposed new development; and, if so, to evaluate what appropriate actions could be taken to reduce the impact of the proposed development activities on such remains.

3 METHODOLOGY

This Phase I HIA study was conducted by

- Surveying the proposed Vanchem Project Area on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Vanchem Project Area;
- Consulting maps of the proposed project area.
- Consulting archaeological (heritage) data bases.
- Synthesising all information obtained from the fieldwork survey, literature review, maps and heritage data bases into this report.

3.1 Fieldwork

The Vanchem Project Area was surveyed on foot and sensitive spots in particular investigated for possible heritage resources.

3.2 Databases, literature survey and maps

Databases kept and maintained at institutions such as the Provincial Heritage Resources Agency 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 Vanchem Project Area.

The author is not unacquainted with the project area at large as he had done earlier heritage impact assessment studies in the larger area (see 'Select Bibliography', Part 7).

Literature relating to the pre-historical and the historical unfolding of the larger area where the proposed new development is planned was briefly reviewed (see Part 5, 'Contextualising the Vanchem Project Area').

In addition, the Vanchem Project Area was studied by means of the 1:50 000 topographical maps on which the project area appears (2529CC Witbank; 1: 50 000 topographical map).

3.3 Assumptions and limitations

It must be pointed out that heritage resources can be found in the most unexpected places. It must also be borne in mind that surveys may not detect all the heritage resources in a given project area. While some remains may simply be missed during surveys (observations), others may occur below the surface of the earth and may only be exposed once mining development commences.

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

3.4 Some remarks on terminology

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

Box 2 - Terms relevant to this report

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey and impact assessment of heritage resources as outlined in the National Heritage Resources Act (Act 25 of 1999) (see Box 1).

Heritage resources (cultural resources) include all phenomena made by humans and intangible products that are the results of human thought. Natural, technological or industrial features may also be part of heritage resources, as are 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-historic' refers to the time before any historical documents were written or any written language developed in a particular area or region of the world. The historical period and historical remains refer, for the Project Area, to the first appearance or use of 'modern' Western writing brought to Groblersdal in the Mpumalanga Province by the first Colonists who settled in this area after c. 1840.

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

It is not always possible, based on observation 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 it possible to make such distinctions, 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 refers to graveyards that were used by colonists and by indigenous people respectively. 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. Early-Late Iron Age remains refer to a period between the Early and Late Iron Age.

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

The term 'study area' or 'Project Area' refers to the area where the developer wants to focus development activities.

Phase I studies refer to surveys using various data sources 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, excavation and sometimes laboratory work. Phase II work may include the documentation of rock art, engravings 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

4 THE VANCHEM PROJECT AREA

4.1 Location

Vanchem's proposed new Calcine WDF is situated on the northern border of an industrial area which is located directly to the west of the town of Emalahleni (Witbank) in the East Vaal District of Mpumalanga. The industrial area is located directly to the west of the town of Emalahleni (Witbank).

The Calcine WDF will be established to the north of an existing tailings facility and is roughly demarcated by a dirt road in the west, plantations with Blue Gum trees in the east and south and Eskom's power lines further to the north (2529CC Witbank [1:50 000]; 2628 East Rand [1: 250 000]) (Figure 1).

The project area is covers a piece of grass veldt with Blue Gum trees on its southern perimeter. The northern tip of the project area has been scarred by bulldozer activities. Although the land in the west is relatively untouched, the project area at large cannot be described as a pristine piece of land any longer (Figures 2 & 3).

4.2 Contextualising the Vanchem Project Area

The following brief historical overview will help to contextualise the Vanchem Project Area.

4.2.1 Stone Age sites

Stone Age sites are usually associated with stone artefacts usually found scattered on the surface or as part of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age, the Middle Stone Age and the Late Stone Age. The Early Stone Age covers the period from 2.5 million years ago to 250 000 years

ago. The Middle Stone Age refers to the time period from 250 000 years ago to 22 000 years ago and the Late Stone Age is the period 22 000 years ago to 2 000 years ago. Each of these 'ages' are divided into different 'cultural' periods, which may differ chronologically or which may have existed roughly simultaneous in different regions and therefore under different climatic conditions in South Africa.

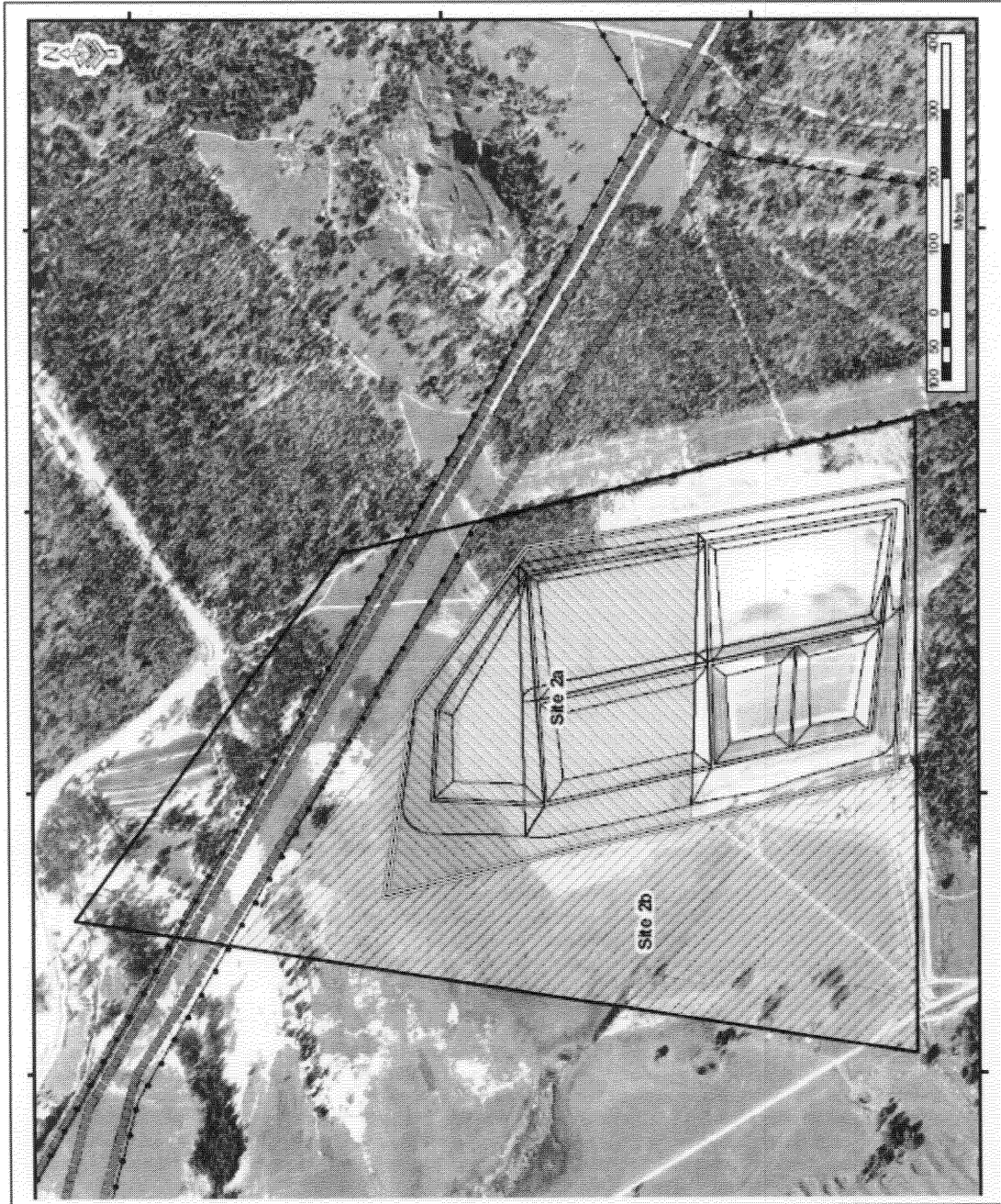


Figure 1- The Vanchem Project Area (Site 2b) on the northern outskirts of an industrial area to the west of Emalahleni (Witbank) in the Mpumalanga Province of South Africa (above). No heritage resources of significance were observed in the project area.

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

4.2.2 Late Iron Age remains

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

4.2.3 Historical remains

Long established towns closest to the Calcine WDF include Emalahleni (Witbank) and Middelburg. Witbank came into being as the railway line between Pretoria and Lourenzo Marques which was built in 1894 passed close to where Witbank is located today. The first Europeans who came to the area observed the abundance of coal, which is evident on the surface or in the beds of streams. A stage post for wagons close to a large outcrop of whitish stones (a 'white ridge') gave the town its name. Witbank was established in 1903 on a farm known as Swartbos which belonged to Jacob Taljaard.

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

Today Middelburg and Witbank are important centres where coal is mined and transported to Richards Bay from where it is exported all over the world. The 20th century also saw the introduction of large-scale irrigation and dry land farming on the Eastern Highveld.. Today the economic activities of the area include diamond and coal mining, light and heavy industries as well as steel and vanadium operations.

5 THE HERITAGE IMPACT ASSESSMENT STUDY (HIA)

5.1 Types and ranges of heritage resources

The Phase I HIA study for the proposed Vanchem Project Area revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (Act 25 of 1999).

The Phase I HIA study is now briefly discussed and illustrated with photographs.



Figure 2- The Vanchem Project Area is covered with grass veldt with Blue Gum trees on its southern perimeter (above). No heritage resources were observed in this part of the project area.



Figure 3- A number of Blue Gum and other exotic trees dots the northern perimeter of the project area which appears to be devoid of any heritage resources of significance (above).

6 CONCLUSION AND RECOMMENDATIONS

The Phase I HIA study for the proposed Vanchem Project Area revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (Act 25 of 1999).

There is consequently no reason from a heritage point of view why the proposed new Calcine Disposal Facility (WDF) should not be constructed.

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



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