

Appendix C1_Heritage Impact Assessment

Ms N. Higgit
Manager: Development Applications
South African Heritage Resource Agency
P O Box 4637
Cape Town
8000

4 July 2024

Dear Ms N. Higgit

THE PROPOSED AMENDMENT OF MINING RIGHT 80 MR FOR THE EXPANSION OF THE KWEZI UNDERGROUND MINING OPERATIONS, RUSTENBURG LOCAL MUNICIPALITY, NORTH WEST PROVINCE

Project Background

Client: Sibanye Stillwater
Activity: Kwezi Shaft MR Extension Block A & Block B Underground Mining Operations.
Environmental Impact Assessor: Alta van Dyk Environmental Consultants (Pty) Ltd.

Sibanye Stillwater proposes to expand their underground mining activities at Kwezi Shaft, north of Rustenburg. Two blocks have been identified, named Block A and Block B respectively. All mining activities will take place approximately 40m below the current ground surface and no surface infrastructure would be required as existing approved infrastructure will be used.

Alta van Dyk Environmental Consultants (Pty) Ltd were appointed to conduct a basic assessment process for the proposed development.

In an e-mail dated 7 June 2024 to the EAP, Ms Natasha Higitt, Manager: Development Applications Unit, at SAHRA confirmed the following: If the development is following a NEMA EA process, the impact to heritage resources is a requirement of NEMA and therefore an application must be made to the relevant Heritage Authority, in this case SAHRA. It was indicated that either a HIA or a compliance statement would be required in order to determine if any heritage resources would be affected in case of subsidence occurring as a result of the underground mining.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by *Alta van Dyk Environmental Consultants (Pty) Ltd* to review the area and produce a compliance statement on the potential of sites, features or objects of cultural heritage occurring in the project area.

Results of the desktop heritage assessment:

For an indication of the location of the Project Area, please see Figure 1 and Table 1 in Section 4 below.

The desktop assessment done for this project consisted of two elements. Firstly, a review was done of all available published as well as unpublished papers, books and reports (mostly HIA's) in the larger region as well as the Project Area self. The second element consisted of a diachronic review of available official topographic maps (mostly at a 1:50 000 scale) and aerial photographs of the Project Area specifically. Although not usually required for a compliance statement or when a motivation for exemption from a full Phase I HIA is done, a site visit was conducted by the heritage consultant in order to verify the conclusions reached during the desktop assessment – see photographic evidence presented below.

Based on this assessment, it became clear that this region has a low sensitivity for heritage sites and it is highly unlikely that any sites, features or objects of cultural significance would have existed within the boundaries of the Project Area. Various factors would have contributed to this:

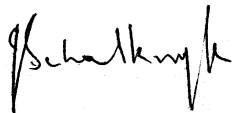
- The absence of perennial streams, hills and outcrops would have made this unattractive for settlement during pre-colonial times. Outcrops and hills were used during the Stone Age for people to shelter in. During the Iron Age, especially the Late Iron Age, settlements were developed based on strict socio-cultural and religious viewpoints that had to be adhered to. In order express this, walling, either from wood, mud or stone were used to create the various required spaces.
- The soils of the surrounding area, covering most of the Springbok flats, is generally not considered suitable for building on as the clayey nature makes it to retain water and it becomes sticky and even plasticine like. On drying out, shrinkage occur and any built structure without suitable foundations quickly starts to crack.
- Past and recent activities such as farming (ploughing), urban expansion and the development of the mining activities would have negatively impacted on and destroyed any heritage sites and features if it did exist in the Project Area in the past.

Furthermore, the SAHRIS Palaeontological Sensitivity Map (Fig. 2) indicates that the Project Area has an insignificant to zero sensitivity of fossil remains to be found and therefore a palaeontological assessment is not required.

In conclusion, it is the opinion of the heritage consultant that there are no known sites, features or objects of cultural heritage significance that would be compromised in the event of any subsidence occurring as a result of the underground mining and it is our view that from a heritage point of view the mining project should be allowed to proceed.

If any additional information regarding this report or the development that is planned is required, please contact the lead environmental assessment practitioner indicated above..

Yours sincerely,



J A van Schalkwyk
(D Litt et Phil)

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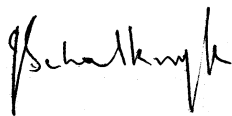


SPECIALIST DECLARATION

I, J.A. van Schalkwyk, as the appointed independent specialist, in terms of the 2014 EIA Regulations (as amended), hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 (as amended) and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist



J A van Schalkwyk
July 2024

1. REGIONAL OVERVIEW

The cultural landscape qualities of the region essentially consist of two components. The first is a rural area in which the human occupation is made up of a limited pre-colonial element (Stone Age and Iron Age) component. The second is later colonial (farmer) component with a rapidly expanding industrial and associated urban development.

1.1 Stone Age

The larger Mogale City area has been inhabited by different hominids since early Pliocene times, but it was only from about 2.5 million years ago that they started to produce stone tools, effectively beginning the Early Stone Age (ESA). Tools dating to this period are mostly, although not exclusively, found in the vicinity of watercourses – only one site containing in situ assemblage of ESA material is known from the area, namely Sterkfontein (Kuman 2003). The oldest of these tools, belong to the Olduvai industry and are known as choppers. They are crudely produced from large pebbles found in riverbeds. Later, *Homo erectus* (now called *Homo ergaster*) and early *Homo sapiens* people made tools shaped on both sides, called bifaces. This is one of the longest-lasting technologies the world has known, spanning a period of more than 1,5 million years.

During Middle Stone Age (MSA) times (c. 150 000 - 30 000 BP), people became more mobile, occupying areas formerly avoided. The MSA is identified as a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology (Thackeray 1992). Open sites were still preferred near watercourses. These people were adept at exploiting the huge herds of animals that passed through the area on their seasonal migration. Invariably, the stone tools belonging to this phase is exposed in areas where sheet erosion is taking place, thereby depositing the lithics onto a single floor and thereby increasing the number of tools that would in ordinary circumstance found in a single strata.

Late Stone Age (LSA) people had even more advanced technology than the MSA people and therefore succeeded in occupying even more diverse habitats. Also, for the first time we now get evidence of people's activities derived from material other than stone tools. Ostrich eggshell beads, ground bone arrowheads, small, bored stones and wood fragments with incised markings are traditionally linked with the LSA. A number of sites dating to this period have been studied by Wadley (1987) in the Magaliesberg area. In the case of the LSA people, they have also left us with a rich legacy of rock art, which is an expression of their complex social and spiritual beliefs. Some rock engravings occur near Hekpoort.

1.2 Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom, dating to AD 470, located south of Hartebeespoort Dam area. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area (Huffman 1993).

The occupation of the region by Iron Age communities did not start much before the 1500s. Due to climatic fluctuations, bringing about colder and drier conditions, people were forced to avoid this area. Following a dry spell that ended just before the turn of the millennium the climate became better again until about AD 1300. This coincided with the arrival of the ancestors of the present-day Sotho-, Tswana- and Nguni-speakers in southern Africa, forcing them to avoid large sections of the interior.

By approximately AD 1500 the climate again changed for the better and we found that early Sotho-Tswana speakers moved into areas formerly avoided. The climate became warmer and wetter, creating conditions that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example

the Witwatersrand and the Free State. At the same time, new cereal crops, e.g. maize, was introduced from Maputo and grown extensively. This increase in food production probably led to increased populations in coastal area as well as the central highveld interior by the beginning of the 19th century. This wet period came to an end sometime between 1800 and 1820 by a major drought lasting 3 to 5 years. The drought must have caused an agricultural collapse on a large, subcontinent scale. This was also a period of great military tension. Qriqua and Korana raiders were active in the northern Cape and Orange Free State by about 1790. The Xhosa were raiding across the Orange River about 1805. Military pressure from Zululand spilled onto the highveld by at least 1821. Various marauding groups of displaced Tswana moved across the plateau in the 1820s. Mzilikazi raided the plateau extensively between 1825 and 1837. The first white settlers trekked into this area in the 1830s.

As a result of this troubled period, Tswana people concentrated into large towns for defensive purposes. Because of the lack of trees, they built their settlements in stone. From the air, these homesteads and towns are easily recognized, and it is also possible to determine variations in smaller detail. These are all stone walled sites, with large deposits containing ash, faunal remains, potsherds and other cultural remains. At present it is impossible to say if these sites are all contemporary, but, based on layout and factors such as erosion, it is possible to identify some sites as being older than others.

In contrast to Early Iron Age sites, these can be linked to historical known groups, in this case the Tswana speakers. Recent research has indicated that some of the stone walled sites, e.g. those at Doornspuit, appear similar to Zulu settlements in plan and can most likely be associated with Mzilikazi and the Ndebele (Huffman 2004).

In this particular area, preference was given to areas close to the hills or outcrops. Not only did this provide a source of stone for building of the walls, but it was also possible to avoid settling on the turf.

Traditionally, villages grew up around the homestead of the most senior person to settle at a place. Here his house and the houses of his different wives would be found in an arch, with the *lešaka* (cattle kraal) in front and gathering place for men (*kgoro*) next to it. Female space is usually indicated by objects such as grindstones and fireplaces (cooking hearths). Other dependents and strangers would settle in increasing distances from this original core. The whole village would be surrounded by an area used for agricultural fields and grazing. This would represent the ideal pattern of settlement.

The location of the *malapa* of the various homesteads are determined by social status and rank: the family group of the senior lineage head lives immediately to the left of the entrance to the senior lineage head's dwelling and the second most senior group to the right of the entrance and the third most senior group to the left again, etc.

While the *lapa* of a polygamist's senior wife is normally situated in a central position in the *kgoro*, the second wife's dwelling is located to the right of the senior wife. The third wife's *lapa* is to the left of the senior wife and the *lapa* of the fourth is located to the right again, etc.

1.3 Historic period

Originally the trekkers who settled in the region occupied themselves with farming. After the discovery of gold on the Witwatersrand, exploration also started in this area, e.g. the well-known Harry and Fred Struben were exploring in the Sterkfontein area during 1884. One of the oldest gold mines was established in 1874 at Blaauwbank and another in 1891 on the farm Kromdraai. This development eventually gave rise to the establishment of the village of Magaliesburg. However, it never developed much as the mine played out a few years later, as well as the fact that towns such as Krugersdorp and Rustenburg developed much quicker.

Rustenburg was founded in 1851 as an administrative centre for the farming community by the Voortrekkers who had settled in the area a decade before. In 1863 the president of the then *Zuid*

Afrikaansche Republiek, Paul Kruger, purchased the farm Boekenhoutfontein located north west of Rustenburg, which is today the Paul Kruger Country Museum. Some of the first colonial settlers in Rustenburg included a family of Indian descent, the Bhyat's, after whom *Fatima Bhyat Street* was renamed, who came to Rustenburg in 1877. Paul Kruger assisted the Bafokeng in buying land rights from the settlers, which allowed the Bafokeng to purchase tracts of land during the late 19th and early 20th centuries.

On 16 December 1880 the ZAR officially declared independence from Britain and started the war known as the First Boer War. A small British fort in the Rustenburg area came under siege from the *Boers* between 22 December 1880 and 6 January 1881, and fortified "block houses" can still be seen in the area.

During the Second South African War (1899-1902), a number of skirmishes took place in the larger area. The biggest battle was in the vicinity of Nooitgedacht on the southern foothills of the Magaliesberg range on 13 December 1900. Here, the Republicans, under the overall command of Gen. De la Rey, soundly defeated a much larger British force under the command of Gen. R. Clements (Van den Berg 1996).

The area remained up till recently a largely farming orientated community. Much of the heritage potential of the study area is therefore located within the many farmsteads in the area. Farmhouses and related structures (e.g. barns, sheds, etc.), as well as cemeteries dot the landscape. Equally important, are the homesteads, related structures and cemeteries of the farm labourers living on these farms.

The character and economic focus of Rustenburg changed rapidly after platinum mining started in the area in 1929. However, the recent explosion in demand for the platinum group of metals occurring in abundance in the region, totally changed the landscape. Add to this, the quarrying of dimension stone (granite, etc.) also contribute to the change in the character of the landscape.

2. SITE SPECIFIC OVERVIEW

The review presented below is based on an interpretation of a number of historic aerial photographs and topographic maps – see the images presented below.

The project area is located in a region that has experienced a dramatic change in character during the past few decades. It went from an essentially rural area to an urban one when a number of townships were established during the 1940s and 1950s. These were established to accommodate the increasing number of black people that entered to region looking for work in the steadily growing Rustenburg and surrounding areas. The development of adjacent areas into light industrial zones, done to create jobs for the ever-growing population and the development of a number of mines in the larger region, brought about a huge surge in population, eventually also leading to the establishment of informal settlements in open spaces.

Despite this population growth, the project area always seems to have been open space, probably serving as agricultural fields. Analysis of historic aerial photographs and topographic maps shows no evidence of any built features on the site. Heritage surveys done in the larger region also indicates that this is a region of low to no occupation during the Late Iron Age. It was only during the early 1980s that the character of the area started to change with the development of a number of powerlines and railway tracks. This was followed some time later, during the 1990s in the project area, of light industrial industries and associated infrastructure such as roads.

3. CONCLUSION

Based on this assessment, it became clear that this region has a low sensitivity for heritage sites and it is highly unlikely that any sites, features or objects of cultural significance would have existed within the boundaries of the Project Area. Various factors would have contributed to this (see the review presented below):

- The absence of perennial streams, hills and outcrops would have made this unattractive for settlement during pre-colonial times. Outcrops and hills were used during the Stone Age for people to shelter in. During the Iron Age, especially the Late Iron Age, settlements were developed based on strict socio-cultural and religious viewpoints that had to be adhered to. In order express this, walling, either from wood, mud or stone were used to create the various required spaces.
- The soils of the surrounding area, covering most of the Springbok flats, is generally not considered suitable for building on as the clayey nature makes it to retain water and it becomes sticky and even plasticine like. On drying out, shrinkage occur and any built structure without suitable foundations quickly starts to crack.
- Past and recent activities such as farming (ploughing) and the development of the mining activities would have impacted on and destroyed any heritage features if it did exist on the site in the past.

Furthermore, the SAHRIS Palaeontological Sensitivity Map (Fig. 2) indicates that the Project Area has an insignificant to zero sensitivity of fossil remains to be found and therefore a palaeontological assessment is not required.

4. ILLUSTRATIONS

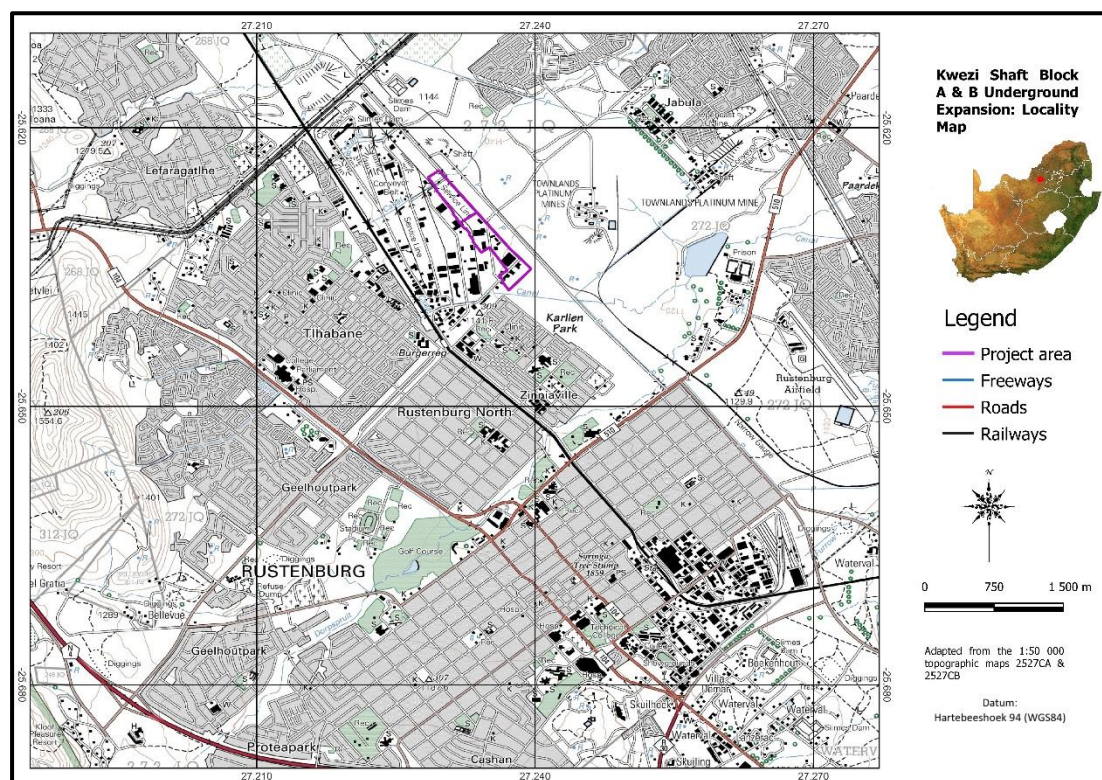


Figure 1. Locality of the project area in regional context

Table 1: Locational information of the Project Area

Property details						
Province	North West					
Magisterial district	Rustenburg					
Local municipality	Rustenburg					
Topographic map	2527CA					
Farm name	(Original) Town and Townlands of Rustenburg 272JQ					
Closest town	Rustenburg					
Coordinates	End points (approximate)					
	No	Latitude	Longitude	No	Latitude	Longitude
	1	S 25,63624	E 27,23853	2	S 25,62483	S 27,22904
.kml files			 Kwezi shaft MR extension block A, B1			



Figure 2. The Palaeontological sensitivity of the study area

Table 2: Pre-Feasibility Assessment of the project area

(Only sources that indicated the presence of sites and features were included)

Category	Period	Probability	Reference
Landscapes			
Natural/Cultural		Low	Aerial photographs; Historic maps
Early hominin	Pliocene – Lower Pleistocene		
	Early hominin	None	-
Stone Age	Lower Pleistocene – Holocene		
	Early Stone Age	Low	Heritage Atlas Database; Van Schalkwyk (2011)
	Middle Stone Age	Low	Heritage Atlas Database; Van Schalkwyk (2011)
	Later Stone Age	Unknown	-
	Rock Art	None	-
Iron age	Holocene		
	Early Iron Age	None	-
	Middle Iron Age	None	-
	Late Iron Age	Low	Fourie (2009); Huffman (2007); Pelser (1997, 1999); Pistorius (2007); Royal Bafokeng Nation (2013); Van Schalkwyk (2003; 2007, 2011)
Colonial period	Holocene		

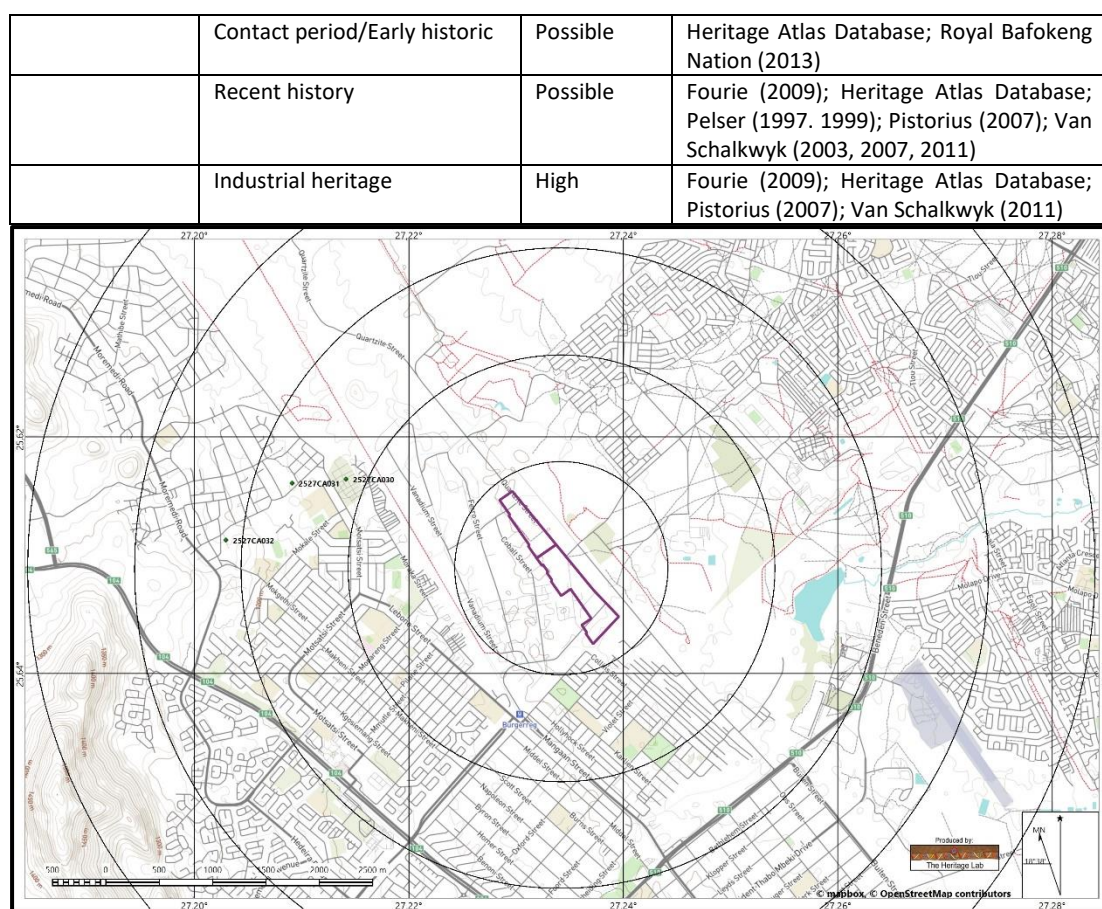


Figure 3. Location of known heritage sites (coded green dots) in the region of the project area

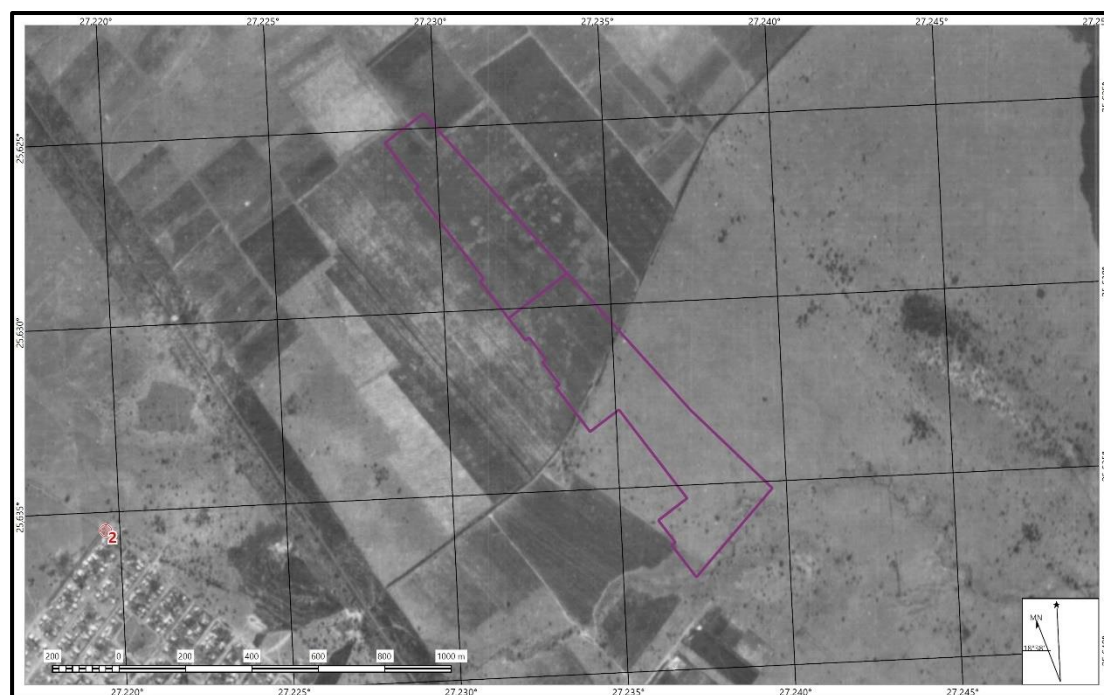


Figure 4. The study area on the 1955 version of the aerial photograph (NGI photo: 350_005_05524)

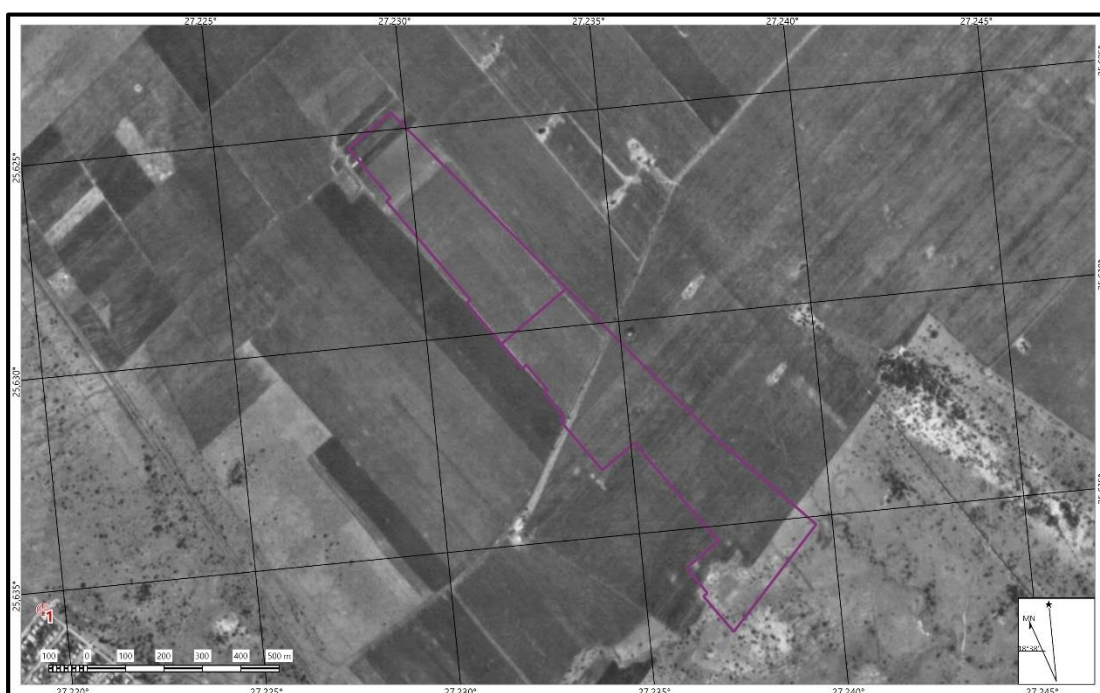


Figure 5. The study area on the 1962 version of the aerial photograph (NGI photo: 476_003_06524)

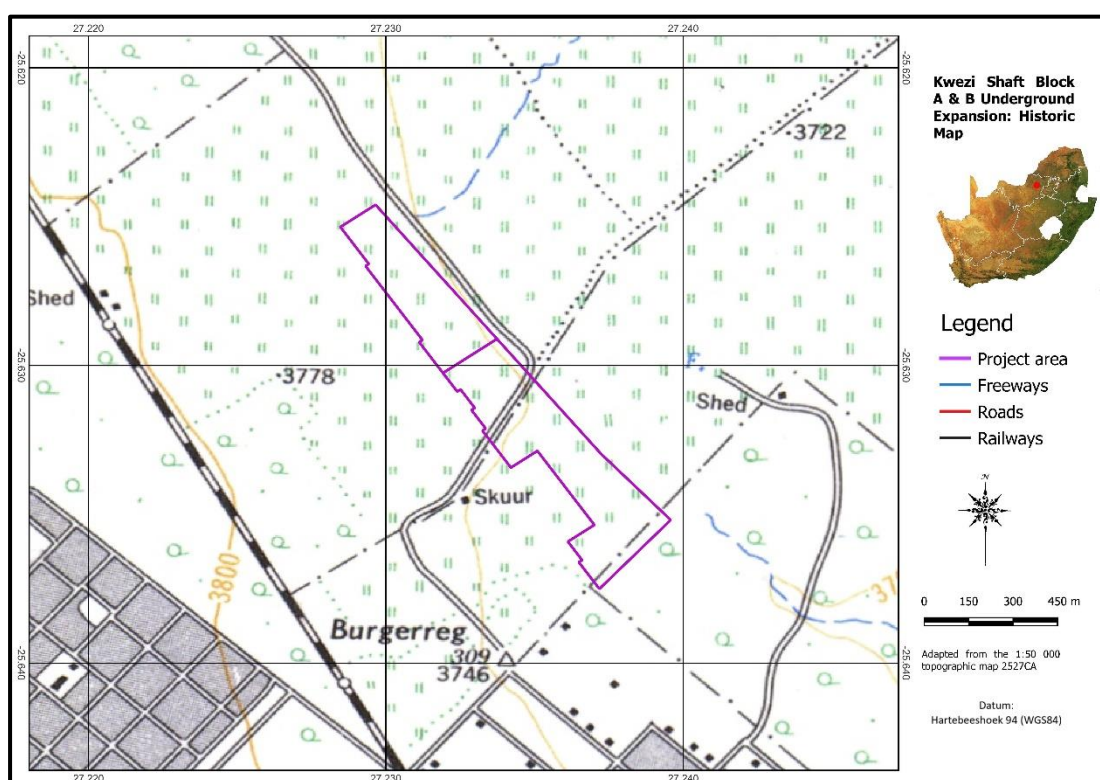


Figure 6. The study area on the 1968 version of the 1:50 000 topographic map

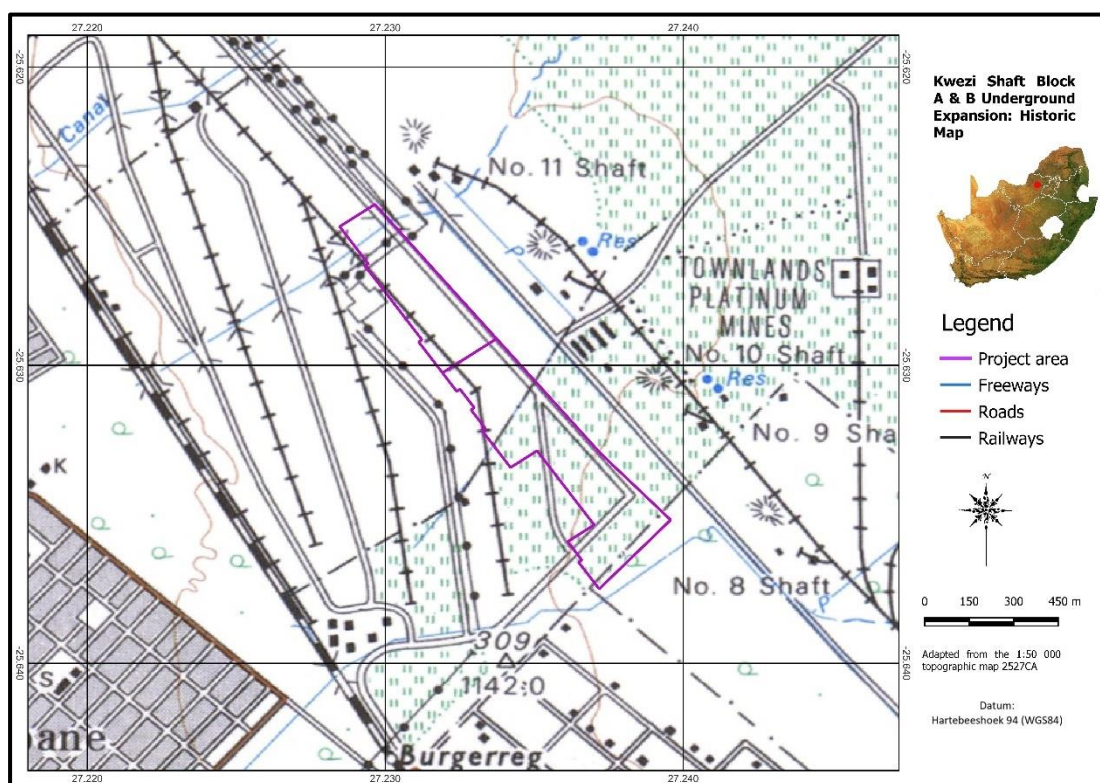


Figure 7. The project area on the 1980 version of the 1:50 000 topographic map

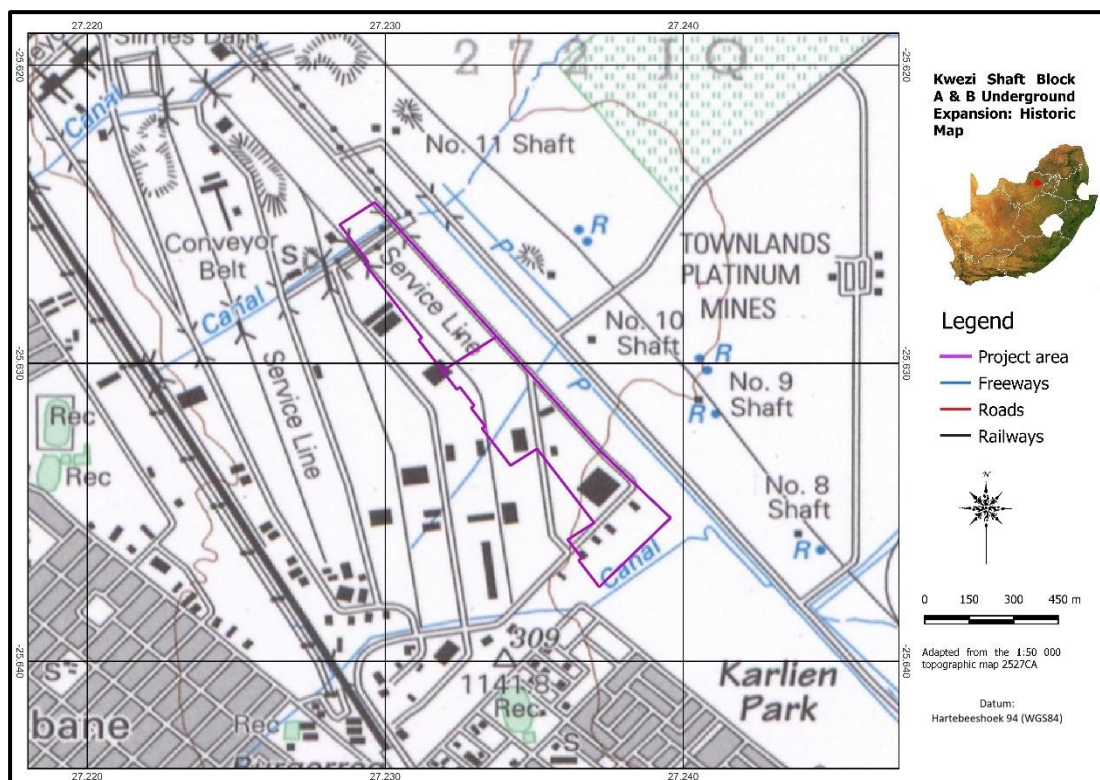


Figure 7. The project area on the 1996 version of the 1:50 000 topographic map



Figure 8. The project area in 2004
(Image: Google Earth)



Figure 8. The project area in 2010
(Image: Google Earth)

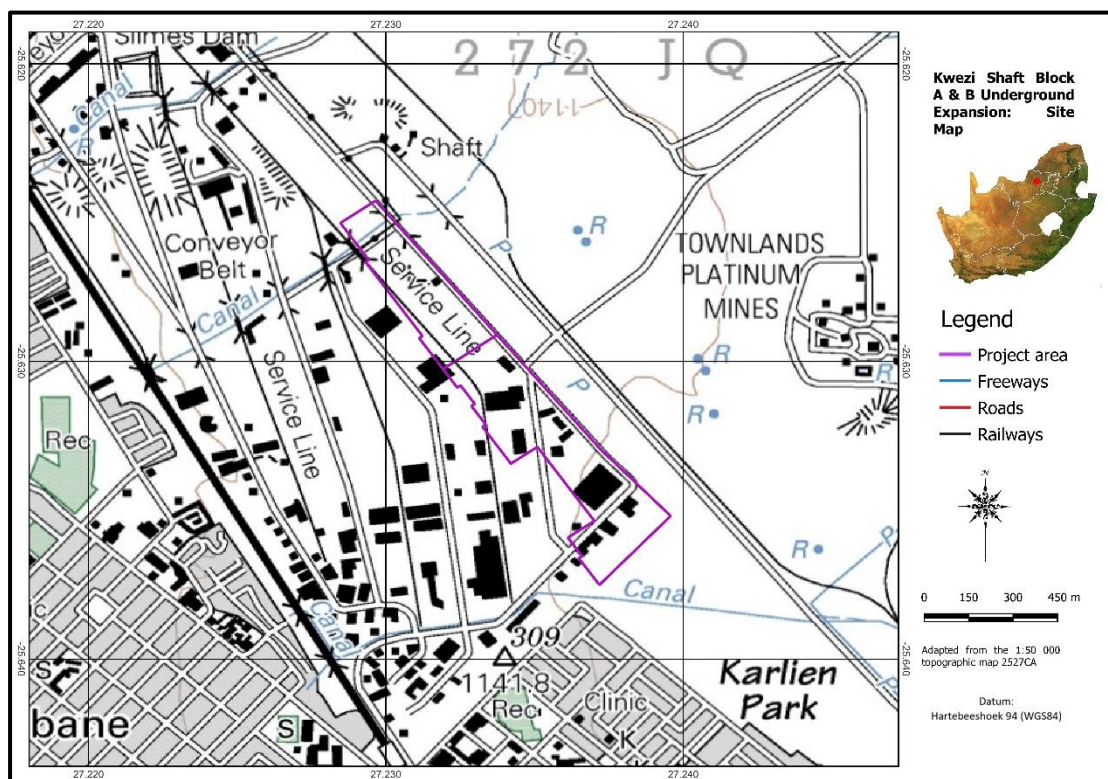


Figure 9. The project area on the 2010 version of the 1:50 000 topographic map



Figure 10. The project area in 2024
(Image: Google Earth)



Street views



Street views



Street views



Informal settlements



Open spaces



Open spaces

5. REFERENCES

5.1 Data bases

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Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria
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5.2 Literature

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5.3 Maps and aerial photographs

1: 50 000 Topographic maps

Google Earth

Aerial Photographs: Chief Surveyor-General

<http://artefacts.co.za>

<https://csg.esri-southafrica.com>

<https://screening.environment.gov.za/screeningtool>

<https://sahris.sahra.org.za/map/palaeo>

<http://vmus.adu.org.za>