

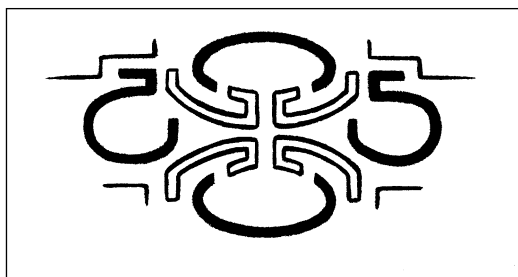
## **Cultural Heritage Impact Assessment:**

**Phase 1 Investigation for a Proposed Mining Permit Combined with a Waste License Application for the Mining of Stone Aggregate (Gravel) and Stone Aggregate (from Waste Dump) including Associated Infrastructure, Structure, and Earthworks on a Portion of Portion 90 of the Farm Elandsfontein 34 IP, Ditsobotla Local Municipality, Ngaka Modiri Molema District Municipality, North West Province**



For

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<b>Date:</b>	<b>August 2022</b>
<b>Version:</b>	<b>1 (Final Report)</b>

## Executive Summary

This report contains a comprehensive heritage impact assessment investigation in accordance with the provisions of Sections 38(1) and 38(3) of the *National Heritage Resources Act* (Act No. 25 of 1999) (NHRA) and focuses on the survey results from a cultural heritage survey as requested by Milnex CC. Milnex CC was contracted by GCG Crushers CC as the independent environmental consultant to undertake the Basic Assessment Report (BAR) and Environmental Management Programme Report (EMPr) for the Proposed Mining Permit combined with a Waste License Application for the Mining of Stone Aggregate (Gravel) and Stone Aggregate (from a waste dump) including associated infrastructure, structure, and earthworks on a Portion of Portion 90 of the Farm Elandsfontein 34 IP, Ditsobotla Local Municipality, Ngaka Modiri Molema District Municipality, North West Province. The BAR and EMPr process for Environmental Authorisation for the proposed mining permit is conducted in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended).

Please note that no historical or archaeological (both Stone Age and Iron Age) artefacts, assemblages, features, structures or settlements were recorded during the survey of the project footprint.

It is therefore recommended, from a cultural heritage perspective that the proposed mining permit application may proceed.

Also, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* NHRA (Act No. 25 of 1999), Section 36 (6)).

## Definitions and abbreviations

BAR:	Basic Assessment Report
EMPr:	Environmental Management Plan Report
Midden:	Refuse that accumulates in a concentrated heap.
Stone Age:	An archaeological term used to define a period of stone tool use and manufacture
Iron Age:	An archaeological term used to define a period associated with domesticated livestock and grains, metal working and ceramic manufacture
LIA:	Late Iron Age sites are usually demarcated by stone-walled enclosures
NHRA:	National Heritage Resources Act (Act No. 25 of 1999)
SAHRA:	South African Heritage Resources Agency
SAHRIS:	South African Heritage Resources Information System
PHRA-G:	Provincial Heritage Resources Authority - Gauteng
GDARD:	Gauteng Department of Agriculture and Rural Development
HIA:	Heritage Impact Assessment
DMR:	Department of Mineral Resources
I&APs:	Interested and Affected Parties

I, Francois Coetzee, hereby confirm my independence as a cultural heritage specialist and declare that I do not have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of the listed environmental processes, other than fair remuneration for work performed on this project.



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## **Contents**

1. <i>Introduction and Terms of Reference</i> .....	6
2. <i>Objectives</i> .....	6
3. <i>Description of Physical Environment of Study Area</i> .....	6
4. <i>Proposed Project Description</i> .....	12
5. <i>Legal Framework</i> .....	13
6. <i>Study Approach/Methodology</i> .....	15
6.1 <i>Review of existing information/data</i> .....	16
6.2 <i>Palaeontological sensitivity</i> .....	19
6.3 <i>Site visits</i> .....	20
6.4 <i>Social interaction and current inhabitants</i> .....	20
6.5 <i>Public Consultation and Stakeholder Engagement</i> .....	20
6.6 <i>Assumptions, restrictions, gaps and limitations</i> .....	20
7. <i>The Cultural Heritage Sites</i> .....	21
8. <i>Locations and Evaluation of Sites</i> .....	22
9. <i>Management Measures</i> .....	22
9.1 <i>Objectives</i> .....	22
9.2 <i>Control</i> .....	23
10. <i>Recommendations and Conclusions</i> .....	23
11. <i>References</i> .....	23
<i>Addendum 1: Archaeological and Historical Sequence</i> .....	26
<i>Addendum 2: Description of the Recorded Sites</i> .....	37
<i>Addendum 3: Surveyor General Farm Diagram</i> .....	39
<i>Addendum 4: Relocation of Graves</i> .....	40

## **Figures**

<i>Figure 1: Regional context of the survey footprint located north-west of Lichtenburg (indicated by the red area)</i> .....	8
<i>Figure 2: Local context of the survey area located north-west of Lichtenburg (indicated by the red areas)</i> .....	8
<i>Figure 3: Local context of the survey footprint (1:250 000 Map 2626)</i> .....	9
<i>Figure 4: The survey area as indicated on the 1:50 000 topographic map 2626AA (1992)</i> .....	9
<i>Figure 7: Detail of survey area as indicated on Google Earth Pro (2022)</i> .....	10
<i>Figure 6: General view of the central section of the survey footprint</i> .....	10
<i>Figure 7: General view of the north eastern section of the survey footprint</i> .....	10
<i>Figure 8: General view of the southern section of the survey footprint (showing surface disturbance)</i> .....	11
<i>Figure 9: General view of the western section of the survey footprint (showing dolomite ridges)</i> .....	11
<i>Figure 10: General view of the south-western section of the survey footprint (general disturbances)</i> .....	11
<i>Figure 11: General view of the northern section of the mining pit, with the survey footprint to the left of the frame</i> .....	12
<i>Figure 12: General view of the central section of the survey footprint (existing infrastructure)</i> .....	12
<i>Figure 13: Recorded survey tracks for the project</i> .....	16

<i>Figure 14: Jeppe's Map dating to 1899 indicates the location the farms under investigation</i>	17
<i>Figure 15: The farm indicated on the War Intelligence Department Map of 1899</i>	17
<i>Figure 16: Recorded sites near the survey footprint (SAHRIS as at July 2022)</i>	18
<i>Figure 17: Provincial declared heritage site in Lichtenburg (SAHRIS as at July 2022)</i>	18
<i>Figure 18: The survey footprint as indicated on the 1:50 000 topographic map 2626AA (1984)</i>	19
<i>Figure 19: Palaeontological sensitivity zones as indicated for Zevenfontein 240 HO (SAHRIS 2022)</i>	19
<i>Figure 20: The location of the major spheres of influence of Mzilikazi from the early 1820s to late 1830s</i>	33
<i>Figure 21: Movement of Mzilikazi's warriors relative to the survey area around Schweizer-Reneke (after Bergh 1998)</i>	33
<i>Figure 22: Schweizer-Reneke with Mossweu's stronghold at Mamusa Hill (after Bergh 1998)</i>	34
<i>Figure 23: Surveyor General's sketch of the farm Elandsfontein 34 IP was first surveyed in 1925</i>	39

### **Tables**

<i>Table 1: Physical Environment</i>	6
<i>Table 2: Socio-economic environment</i>	8
<i>Table 3: Legal framework</i>	13
<i>Table 4: Listing notices</i>	14
<i>Table 5: Activities that trigger Section 38 of the NHRA</i>	14
<i>Table 6: Field rating system to determine site significance</i>	14

## 1. Introduction and Terms of Reference

Milnex CC was contracted by GCG Crushers CC as the independent environmental consultant to undertake the Basic Assessment Report (BAR) and Environmental Management Programme Report (EMPr) for the Proposed Mining Permit Combined with a Waste License Application for the Mining of Stone Aggregate (Gravel) and Stone Aggregate (from a waste dump) including associated infrastructure, structure, and earthworks on a Portion of Portion 90 of the Farm Elandsfontein 34 IP, Ditsobotla Local Municipality, Ngaka Modiri Molema District Municipality, North West Province. The property is located approximately 4 km north of Lichtenburg adjacent the R505 on route to Ottoshoop. The BAR and EMPr process for Environmental Authorisation for the proposed mining permit is conducted in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended). A Cultural Heritage Impact Assessment (HIA) was requested by Milnex CC on behalf of the client to evaluate the potential impact of the proposed mining permit application and waste license. Reference number for the project: NW30/5/1/3/2/11013MP.

## 2. Objectives

The general objective of the cultural heritage survey is to record and document cultural heritage remains consisting of both tangible and intangible archaeological and historical artefacts, structures (including graves), settlements and oral traditions of cultural significance.

As such the terms of reference of this survey are as follows:

- Identify and provide a detailed description of all artefacts, assemblages, settlements and structures of an archaeological or historical nature (cultural heritage sites) located on the study area,
- Estimate the level of significance/importance of these remains in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value,
- Assess any impact on the archaeological and historical remains within the area emanating from the development activities, and
- Propose recommendations to mitigate heritage resources where complete or partial conservation may not be possible and thereby limit or prevent any further impact.

## 3. Description of Physical Environment of Study Area

The heritage survey focussed on an area situated approximately 4km north of Lichtenburg adjacent the R505 on route to Ottoshoop.

Farm Name(s) and Portions	<ul style="list-style-type: none"> <li>• Elandsfontein 34               <ul style="list-style-type: none"> <li>○ A portion of Portion 90</li> </ul> </li> </ul>
Size of Survey Area	5 hectares
Magisterial District	Ngaka Modiri Molema District Municipality Ditsobotla Local Municipality
1:50 000 Map Sheet	2626AA
1:250 000 Map Sheet	2626
Central Coordinates of the Development	26.115654°E 26.127009°S

**Table 1: Physical Environment**

The survey footprint falls within the Grassland Biome, particularly the Dry Highveld Grassland Bioregion and more specifically the Carletonville Dolomite Grassland (Gh 15). This vegetation type occurs mostly in North West Province and Gauteng and marginally into the Free State Province and also in the region of Potchefstroom, Ventersdorp and Carletonville, extending westwards to the vicinity of Ottoshoop, but also occurring as far east as Centurion and Bapsfontein in Gauteng Province (Mucina & Rutherford 2006).

The vegetation and landscape can be described as slightly undulating plains dissected by prominent rocky chert ridges. Species-rich grasslands forming a complex mosaic pattern dominated by many species. Infrastructure consists of the several gravel roads that provide access to the area, as well as fences, and the adjacent aggregate mining operation.

The average yearly temperature for the year in Lichtenburg is 17.3°C. The warmest month, on average, is January with an average temperature of 21.7°C. The coolest month on average is July, with an average temperature of 10.3°C. The average amount of precipitation for the year in Lichtenburg is 609 mm. The month with the most precipitation on average is February with 103 mm. The month with the least precipitation on average is July with an average of 4 mm. On average there are 73 days of precipitation, with the most precipitation occurring in January with 14.5 days and the least precipitation occurring in July with 0.87 days (Maquassi Hills Local Municipality IDP 2022).

Current Zoning	Agricultural (Cultivation) Cattle grazing (pastoralism)
Economic activities	Farming Mining
Soil and basic geology	The Kraaipan Group, most commonly found in the districts of the North West Province, consists of three groups namely the Gold Ridge Formation, Ferndale Formation and the Khunwana Formation. The Kraaipan rocks are extensively folded, sheared and veined. The Kraaipan Formation are subdivided into a lower group, which consisted of magnetite-quartzite, a middle group comprising cherty rocks, and an upper group consisting of magnetic slate, cherty rock, pyllite and schist. The schists are fine grained and deeply weathered, which makes identification of minerals difficult. The mica- and pyrophyllite schists are monomineralic rocks; the latter show some secondary iron enrichment along the foliation planes. Quartz-chlorite schists comprise equal amounts of quartz and chlorite, with some subordinate muscovite.
Prior activities	Livestock farming and agriculture Mining
Socio Economic Environment	The population growth of Ditsobotla Local Municipality has shown a steady average growth of 1% between 1996 and 2016. The municipality is home to approximately 181 8651 people. The analysis of the above graphic presentation indicates a highly youthful age structure of 66%. The proportion of the working group population (aged 15 – 64) is approximately 73%. According to the Community Survey 2016, there is a significant improvement in the proportion of people with access to education in the secondary schooling category (from 50.2% to 60.7%). There is a downward trend in the category of people with primary education, which shows a decline from 28.6% to 4.2% and seems to correlate

	with an increase in the number of people without any schooling (from 14.7% to 21.2% during the same period). Approximately 13% of the households have no income. The majority of households earn in the range of R10 000 – R20 000 and R20 000 - R40 000 per annum (Ditsobotla Local Municipality IDP 2022).
Evaluation of Impact	An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits NHRA (Act No. 25 of 1999, Section 38(3d)): <b>Positive</b>

Table 2: Socio-economic environment

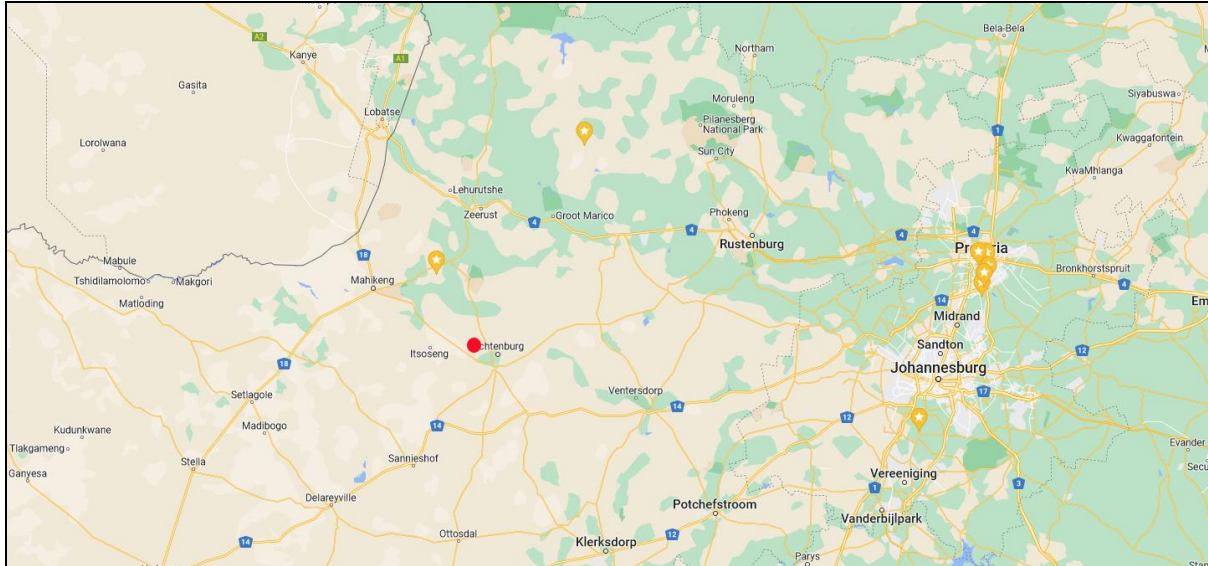


Figure 1: Regional context of the survey footprint located north-west of Lichtenburg (indicated by the red area)

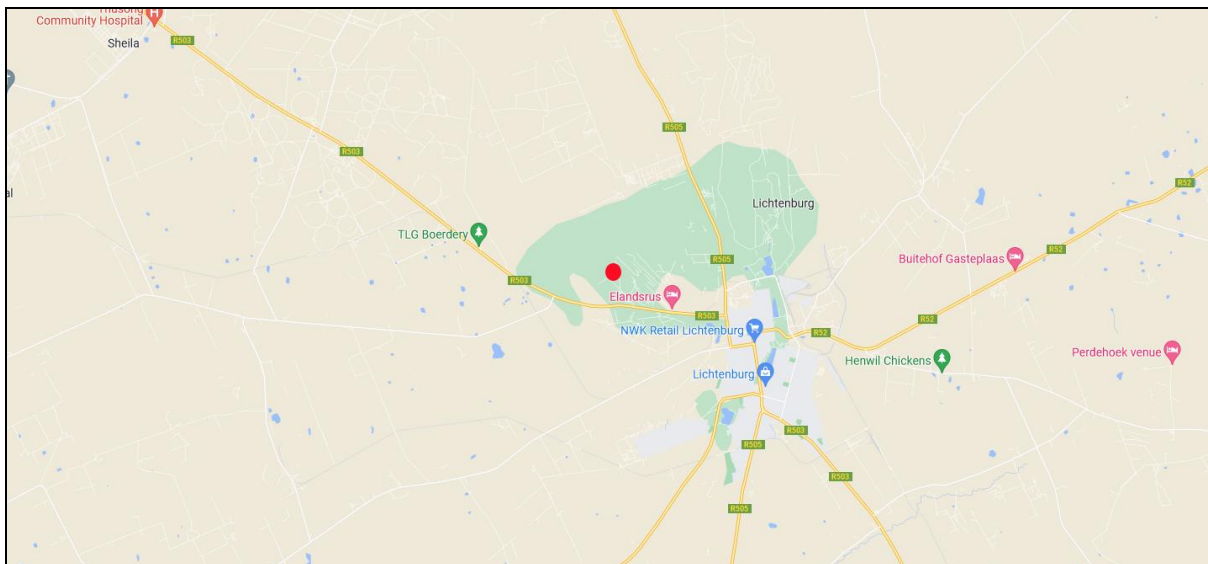


Figure 2: Local context of the survey area located north-west of Lichtenburg (indicated by the red areas)



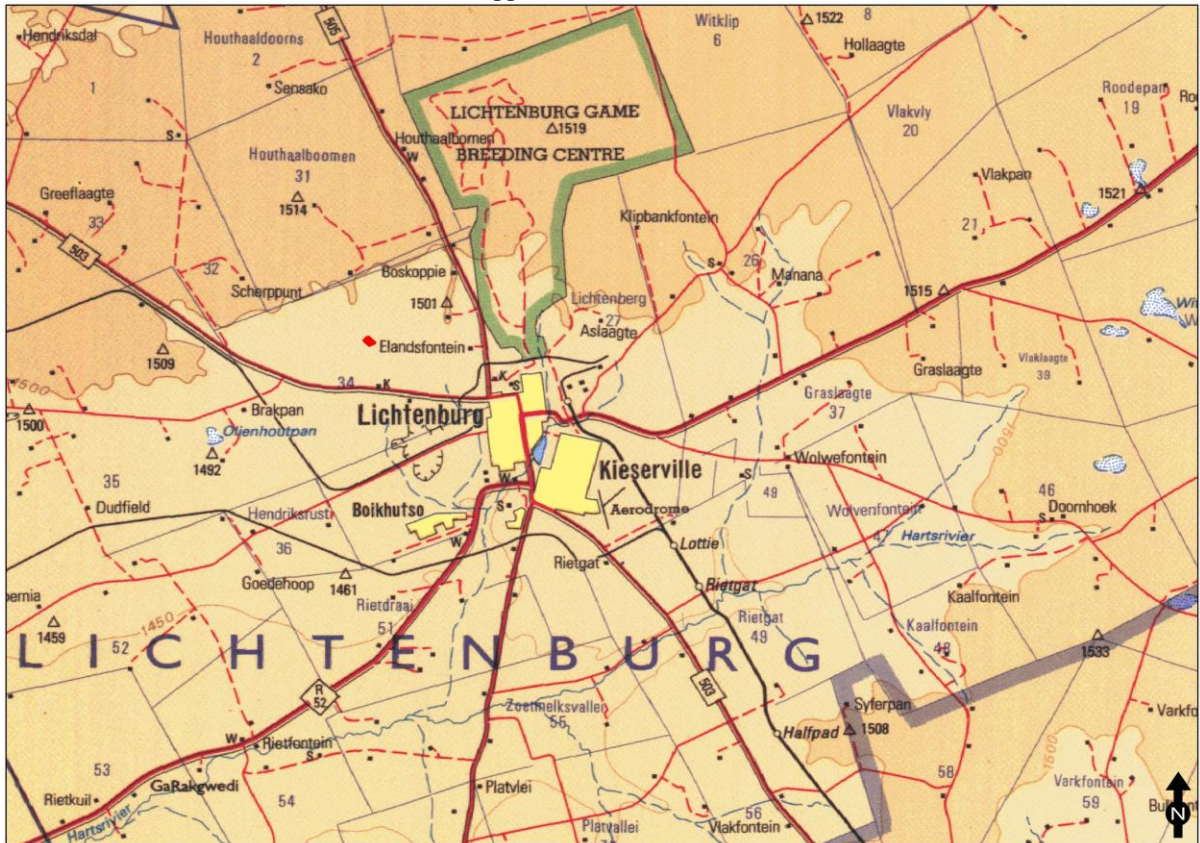


Figure 3: Local context of the survey footprint (1:250 000 Map 2626)

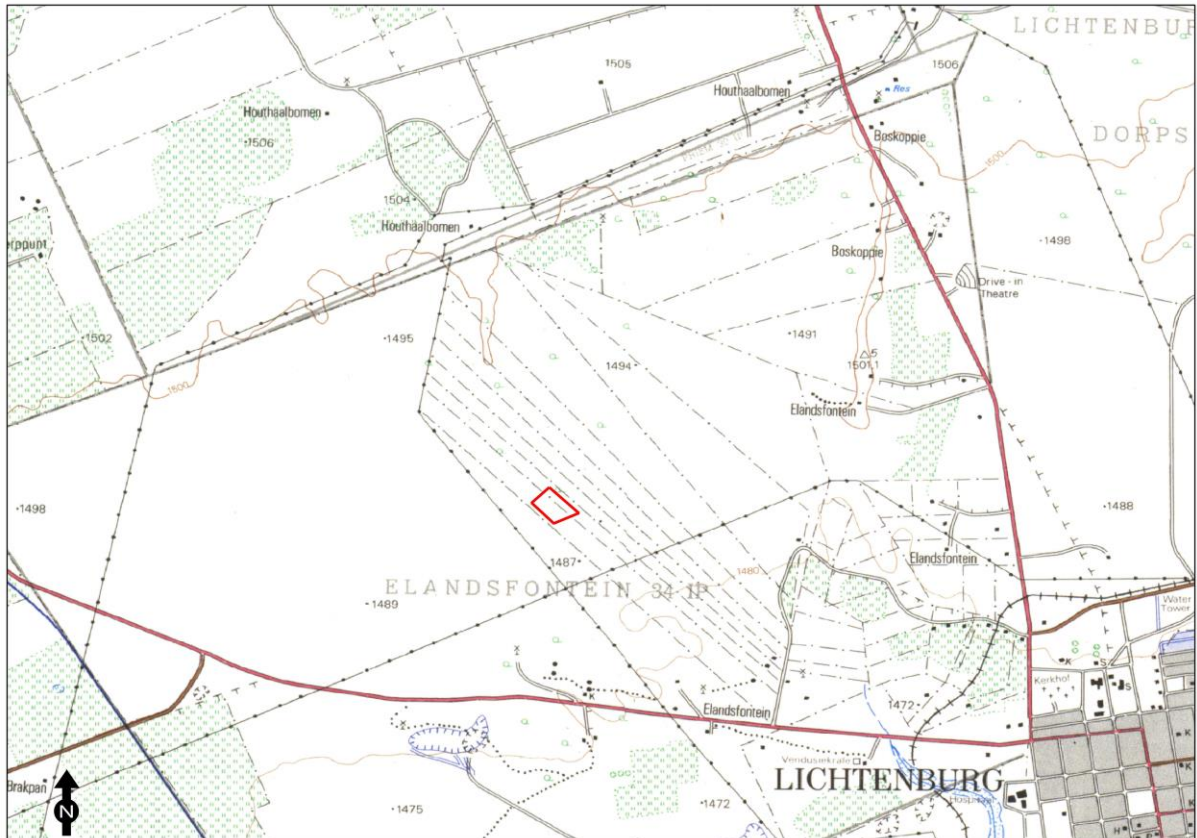


Figure 4: The survey area as indicated on the 1:50 000 topographic map 2626AA (1992)



Figure 5: Detail of survey area as indicated on Google Earth Pro (2022)



Figure 6: General view of the central section of the survey footprint



Figure 7: General view of the north eastern section of the survey footprint



**Figure 8: General view of the southern section of the survey footprint (showing surface disturbance)**



**Figure 9: General view of the western section of the survey footprint (showing dolomite ridges)**



**Figure 10: General view of the south-western section of the survey footprint (general disturbances)**



Figure 11: General view of the northern section of the mining pit, with the survey footprint to the left of the frame)



Figure 12: General view of the central section of the survey footprint (existing infrastructure)

#### 4. Proposed Project Description

The stone aggregate mining methodology in the open pit environment will be:

- The clearance of vegetation (if not already cleared);
- Stripping and stockpiling of topsoil for future rehabilitation (if topsoil exists);
- Blasting of rock;
- Material blasted will be removed from the pit with an excavator. The material will be loaded onto dumper trucks from where it will be moved to the crusher;
- The gravel will be stockpiled and fed into the crusher;
- In the pilot crusher the material will be crushed from 800 mm to approximately 50 mm;
- It will be screened into 50 mm material and crusher dust;
- The material not screened will again be crushed by a cone crusher;
- This will mainly be 50 mm material which will be crushed to less than 20 mm material;
- The plant will be used for road building material;
- The material will be screened in 19.2 mm, 13.2 mm, 9.5 mm, 6.7 mm and crusher dust;
- In relation to the sand operation, the sand will be removed by an excavator and stockpiled; and
- Rehabilitation will follow.

## 5. Legal Framework

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE APPLIED
The Constitution of the Republic of South Africa (Act No. 108 of 1996)	
The National Environmental Management Act (Act No. 107 of 1998)	Section 24 Section 28
The National Water Act (Act No. 36 of 1998)	Section 21 (a)(b)
Regulation 2, Appendix 2 of Governmental Notice Regulation (GNR) 982	Appendix 2 (a-l)
Air Quality Act (Act No. 39 of 2004)	Section 21
National Forests Act, Act of 84 of 1998	Chap 3 (Part 1), Section 12(1), Section 15(1)
The National Heritage Resources Act (Act No. 25 of 1999)	Section 38, 34, 35, 36
Conservation of Agricultural Resources Act (Act No. 85 of 1983)	
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	
The National Water Act (Act No. 36 of 1998);	Section 2
Mine Health and Safety Act (Act No. 29 of 1996) (MHSA)	
Biodiversity Act (Act 10 of 2004)	
National Infrastructure Plan	
Ditsobotla Local Municipality IDP 2022	

**Table 3: Legal framework**

NAME OF ACTIVITY (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	Aerial extent of the Activity Ha or m <sup>2</sup>	LISTED ACTIVITY Mark with an X where applicable or affected.	APPLICABLE LISTING NOTICE (GNR 324, GNR 325 or GNR 326)
<b>Mining permit:</b> <b>Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21:</b> <i>“Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice on in Listing Notice 3 of 2014, required to exercise the mining permit”</i>	The application area is 5ha	X	Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21
<b>Clearance of indigenous vegetation:</b> <b>Listing Notice 1 (GNR 327), Activity 27:</b> <i>“The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.”</i>	The application area is 5ha	X	Listing Notice 1 (GNR 327), Activity 27
<b>Listing Notice 3 (GNR 324), Activity 4:</b> <i>“The development of a road wider than 4 metres with a reserve less than 13,5 metres. (h): North West: (iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority; (vi) Areas within 5 kilometres from protected areas identified in terms of NEMPAA or from a biosphere reserve.</i>	The application area is 5ha	X	Listing Notice 3 (GNR 324), Activity 4 (h)(iv)(vi)

<b>Clearance of vegetation:</b> <b>Listing Notice 3 (GNR 324), Activity 12:</b> <i>The clearance of an area of 300 square metres or more of indigenous vegetation (h) North West: (iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;</i>	The application area is 5ha	X	Listing Notice 3 (GNR 324), Activity 12 (h)(iv)
<b>NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15):</b> <i>The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</i>	The application area is 5ha	X	NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15)

**Table 4: Listing notices**

- Section 38 of the NHRA (Act No. 25 of 1999) stipulates that the following activities trigger a heritage survey:

Development criteria in terms of Section 38(1a-e) of the NHRA (Act No. 25 of 1999)	Yes/No
Construction of road, wall, powerline, pipeline, canal or other linear form of development or barrier exceeding 300m in length	No
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 m <sup>2</sup> in extent	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 m <sup>2</sup>	No
Any other development category, public open space, squares, parks, recreation grounds	No

**Table 5: Activities that trigger Section 38 of the NHRA**

- Field rating system as recommended by SAHRA:

Field Rating	Grade	Significance	Recommended Mitigation
National Significance	Grade I	High significance	Conservation by SAHRA, national site nomination, mention any relevant international ranking. No alteration
Provincial Significance	Grade II	High significance	Conservation by provincial heritage authority, provincial site nomination. No alteration whatsoever without permit
Local Significance	Grade III-A	High significance	Conservation by local authority, no alteration whatsoever without permit from provincial heritage authority. Mitigation as part of development process not
Local Significance	Grade III-B	High significance	Conservation by local authority, no external alteration without permit from provincial heritage authority. Could
Generally Protected A	Grade IV-A	High/medium significance	Conservation by local authority. Site should be mitigated before destruction. Destruction permit required from
Generally Protected B	Grade IV-B	Medium significance	Conservation by local authority. Site should be recorded before destruction. Destruction permit required from provincial heritage authority.
Generally Protected C	Grade IV-C	Low significance	Conservation by local authority. Site has been sufficiently recorded in the Phase 1 HIA. It requires no further recording before destruction. Destruction permit

**Table 6: Field rating system to determine site significance**

- Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and they are valuable, finite, non-renewable and irreplaceable.
- All archaeological remains, features, structures and artefacts older than 100 years and historic structures older than 60 years are protected by the relevant legislation, in this case the **National Heritage Resources Act (NHRA) (Act No. 25 of 1999, Section 34 & 35)**. The Act makes an archaeological impact assessment as part of an EIA and EMPR mandatory (see **Section 38**). No archaeological artefact, assemblage or settlement (site) may be moved or destroyed without the necessary approval from the **South African Heritage Resources Agency (SAHRA)**. Full cognisance is taken of this Act in making recommendations in this report.
- Cognisance will also be taken of the Mineral and Petroleum Resources Development Act (Act No 28 of 2002) and the National Environmental Management Act (Act No 107 of 1998) when making any recommendations.
- Human remains older than 60 years are protected by the NHRA, with reference to Section 36. Human remains that are less than 60 years old are protected by the Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003 as well as local Ordinances and regulations.
- With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise.
- The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3, and the Australian ICOMOS (International Council on Monuments and Sites) Charter (also known as the Burra Charter) are used when determining the cultural significance or other special value of archaeological or historical sites.
- A copy of this report will be submitted on SAHRIS as stipulated by the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), Section 38 (especially subsection 4) and the relevant Provincial Heritage Resources Authority (PHRA).
- Note that the final decision for the approval of permits, or the removal or destruction of sites, structures and artefacts identified in this report, rests with the SAHRA (or relevant PHRA).

## 6. Study Approach/Methodology

Geographical information (ESRI shapefiles) on the proposed prospecting areas was supplied by Milnex 189 CC. The most up-to-date Google Earth images and topographic maps were used to indicate the survey area. Topographic maps were sources from the Surveyor General. Please note that all maps are orientated with north facing upwards (unless stated otherwise).

The strategy during this survey was to investigate the entire survey footprint that forms part of the application. As a result a detailed pedestrian (foot) and predictive survey were therefore conducted of the survey footprint.



**Figure 13: Recorded survey tracks for the project**

## 6.1 Review of existing information/data

Additional information on the cultural heritage of the area was sourced from the following records:

- National Mapping Project by SAHRA (which lists heritage impact assessment reports submitted for South Africa);
- Environmental Potential Atlas (ENPAT);
- Online SAHRIS database;
- National Automated Archival Information retrieval System (NAAIRS);
- Maps and information documents supplied by the client; and
- Several heritage surveys have been conducted in the vicinity of the survey area (published and unpublished) material on the area (Fourie 2016; Hutten 2012; Mathoho 2016; Van der Walt 2013a, 2013b; Van Schalkwyk 2018)

Although several heritage impact assessments have been completed in the general vicinity of the survey area, no previous survey has been recorded inside the survey footprint. A survey conducted on the farm Hibernia 52 IP, which is situated south of the current survey footprint, recorded a MSA scatter and a graveyard (Van der Walt 2013a). A survey on the farm La Rey Stryd 51 IO further west of the currently survey footprint yielded no archaeological or historical remains or structures (Van Schalkwyk 2018). A heritage survey of the Rietdraai 51 IP, situated to the south of the current survey footprint, was conducted and revealed no archaeological or historical remains (Mathoho 2016). A heritage survey on the farm Townlands 27 IP, situated to the east of the current survey footprint yielded no archaeological or historical remains (Hutten 2012). A heritage scoping (desktop) assessment was conducted in an area north of Lichtenburg on the farm Houthaalboomen 31 IP, situated to the east of the current survey footprint and yielded a low possibility of archaeological or historical remains



(Fourie 2016). Another heritage survey was done on the same farm namely Houthaalboomen 31 IP which yielded a number of MSA and LSA concentrations as well as a single grave (Van der Walt 2013b).

According to the Surveyor General's database the farm Elandsfontein 34 IP was originally surveyed in November 1925 but the Deed of Transfer was already granted to R.J. de Villiers on 18 October 1866 (also see Addendum 3).

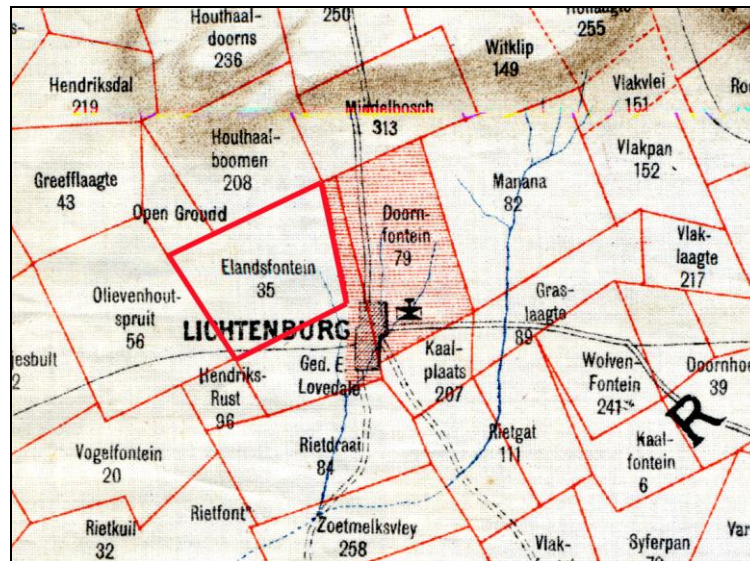


Figure 14: Jeppe's Map dating to 1899 indicates the location the farms under investigation

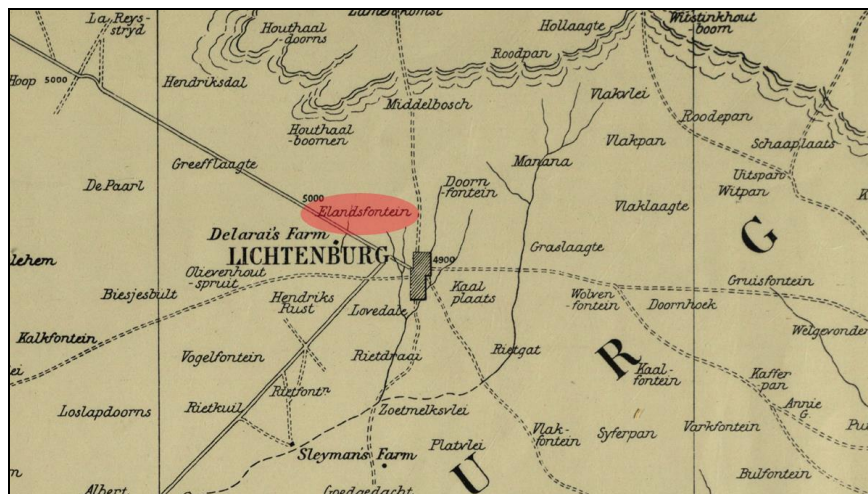


Figure 15: The farm indicated on the War Intelligence Department Map of 1899

Note that there is one declared Provincial Heritage site recorded in the Lichtenburg:

- Nederduitse Gereformeerde Church (Ref no: 9/2/235/0005) Published in the State Gazette on 31/07/1981.

According to the SAHRIS database no heritage sites are recorded near the survey footprint, although a number of historical buildings and graveyards are indicated in Lichtenburg and further to the north and east.

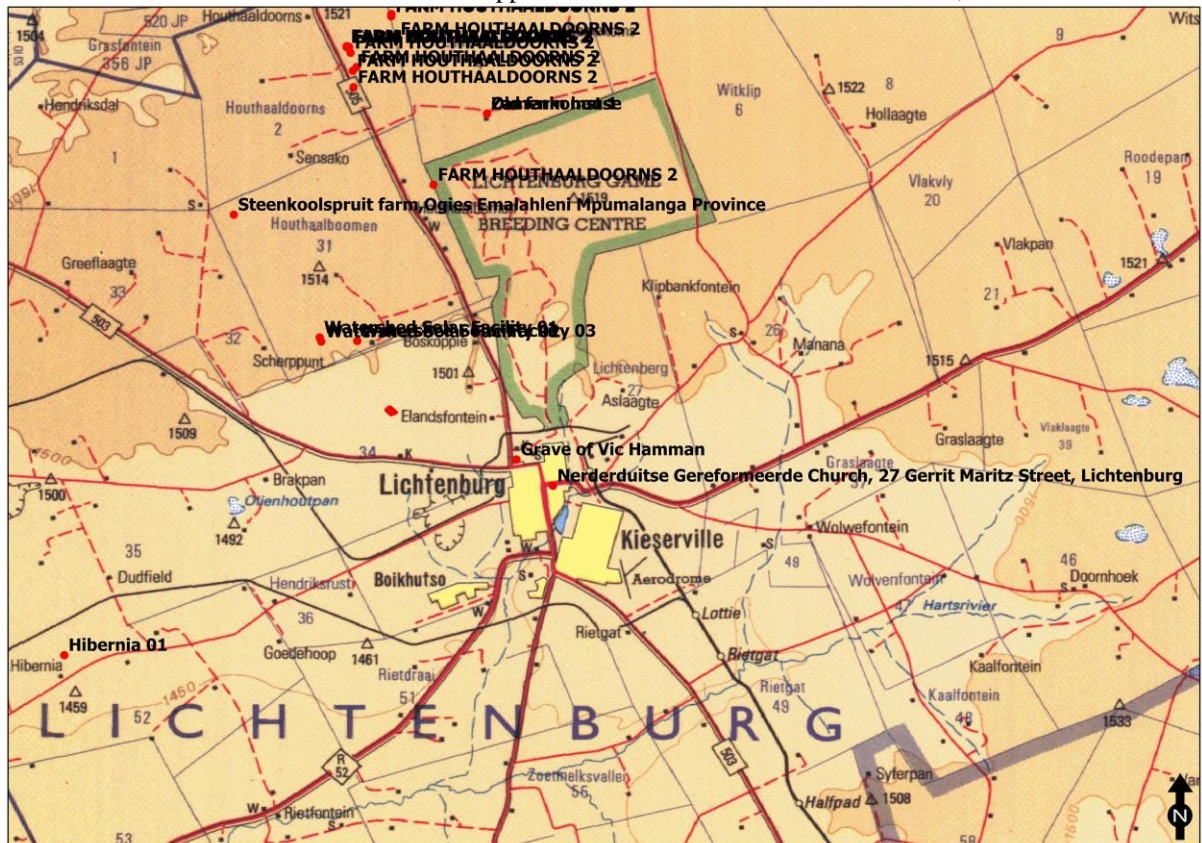


Figure 16: Recorded sites near the survey footprint (SAHRIS as at July 2022)



Figure 17: Provincial declared heritage site in Lichtenburg (SAHRIS as at July 2022)

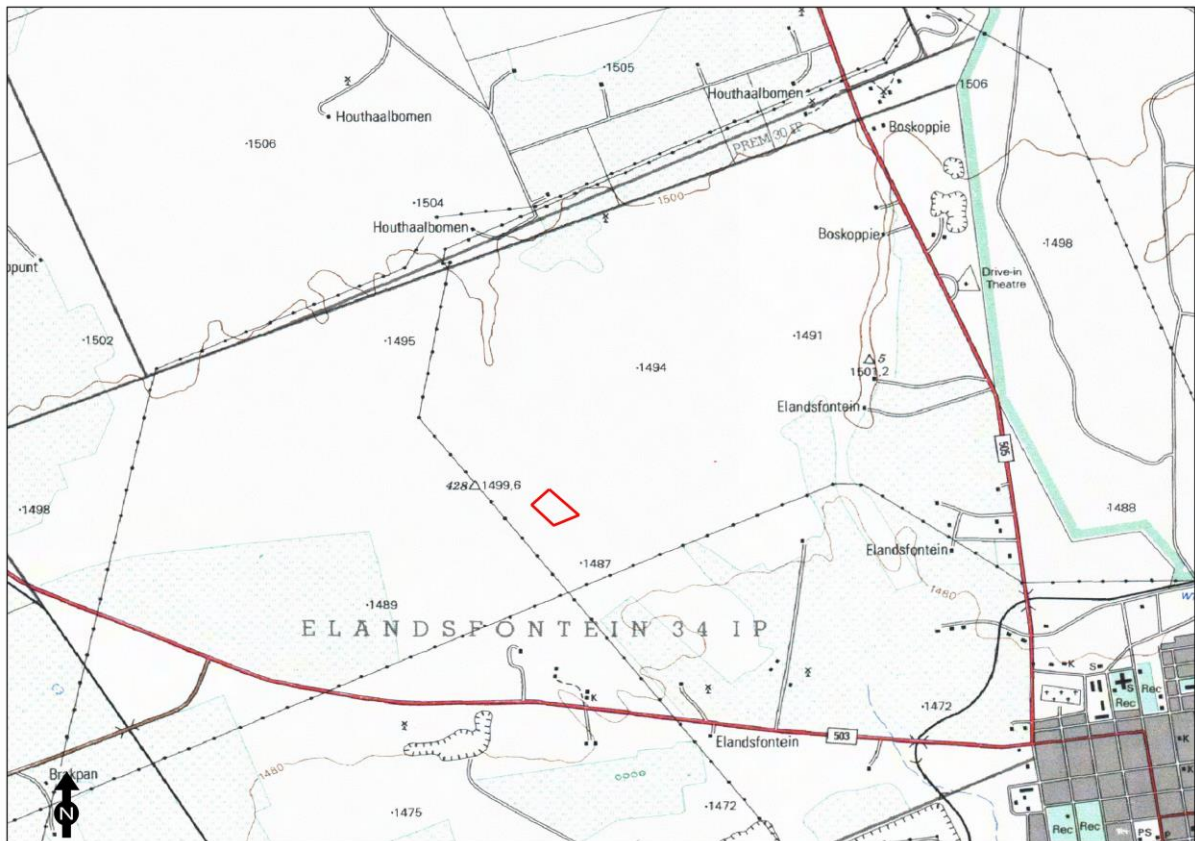


Figure 18: The survey footprint as indicated on the 1:50 000 topographic map 2626AA (1984)

## 6.2 Palaeontological sensitivity

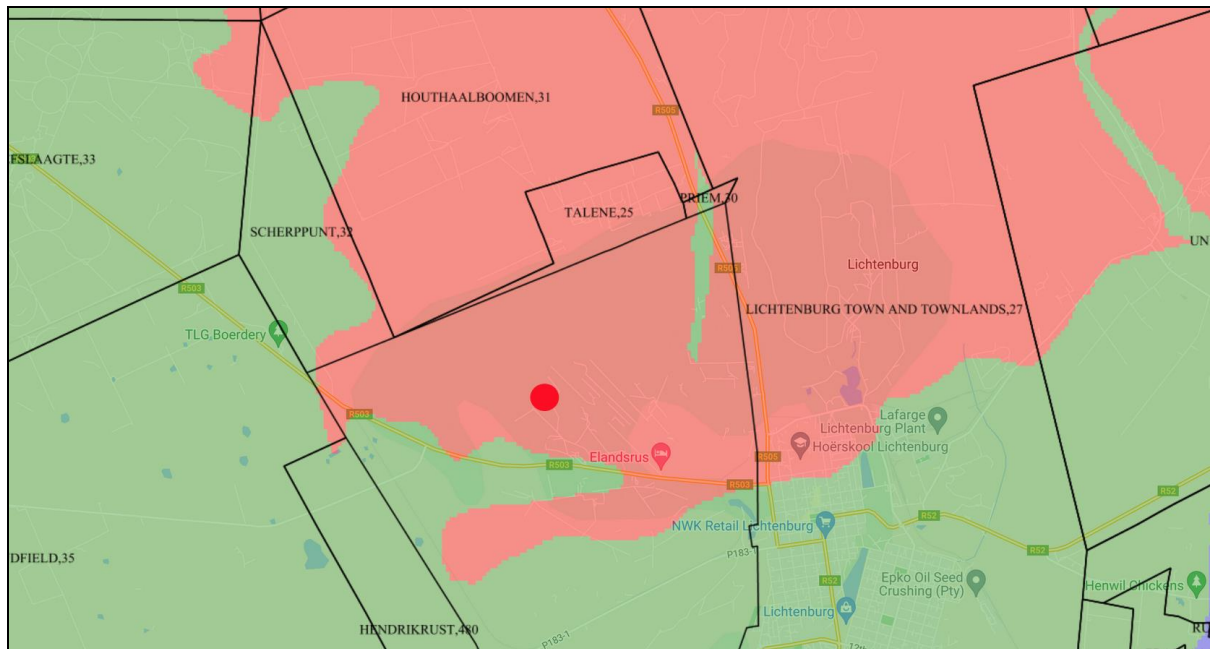


Figure 19: Palaeontological sensitivity zones as indicated for Zevenfontein 240 HO (SAHRIS 2022)

Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	Desktop study is required

BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	Will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

The palaeontological sensitivity map was extracted from the SAHRIS database and indicates a red (very high) sensitivity for both the farms. As a result a field palaeontological assessment will be required for the survey footprints.

### 6.3 Site visits

The field survey was conducted on 16 August 2022.

### 6.4 Social interaction and current inhabitants

Local landowners and mine workers were consulted during this survey.

### 6.5 Public Consultation and Stakeholder Engagement

An advertisement will be placed in English in the local newspaper (NOORDWESTER) notifying the public of the EIA process and requesting Interested and Affected Parties (I&APs) to register with, and submit their comments to Milnex CC. I&APs were given the opportunity to raise comments within 30 days of the advertisement. Site notices was placed (as anticipated on the coordinates below) on site in English to inform surrounding communities and immediately adjacent landowners of the proposed development. I&APs will be given the opportunity to raise comments.

### 6.6 Assumptions, restrictions, gaps and limitations

No physical restrictions were encountered as the survey area was accessible. As a result all areas were investigated in detail.

### 6.7 Methodology for assessment of potential impacts

All impacts identified during the EIA stage of the study will be classified in terms of their significance. Issues were assessed in terms of the following criteria:

- The **nature**, a description of what causes the effect, what will be affected and how it will be affected;
- The **physical extent**, wherein it is indicated whether:
  - 1 - the impact will be limited to the site;
  - 2 - the impact will be limited to the local area;
  - 3 - the impact will be limited to the region;
  - 4 - the impact will be national; or
  - 5 - the impact will be international.
- The **duration**, wherein it is indicated whether the lifetime of the impact will be:
  - 1 - of a very short duration (0–1 years);
  - 2 - of a short duration (2-5 years);
  - 3 - of a medium-term (5–15 years);

- 4 - of a long term (> 15 years); or
- 5 - permanent.
- The **magnitude** of impact, quantified on a scale from 0-10, where a score is assigned:
  - 0 - small and will have no effect;
  - 2 - minor and will not result in an impact;
  - 4 - low and will cause a slight impact;
  - 6 - moderate and will result in processes continuing but in a modified way;
  - 8 - high, (processes are altered to the extent that they temporarily cease); or
  - 10 - very high and results in complete destruction of patterns and permanent cessation of processes;
- The **probability** of occurrence, which describes the likelihood of the impact actually occurring and is estimated on a scale where:
  - 1 - very improbable (probably will not happen);
  - 2 - improbable (some possibility, but low likelihood);
  - 3 - probable (distinct possibility);
  - 4 - highly probable (most likely); or
  - 5 - definite (impact will occur regardless of any prevention measures);
- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- The **status**, which is described as either positive, negative or neutral;
  - The degree to which the impact can be reversed;
  - The degree to which the impact may cause irreplaceable loss of resources; and
  - The degree to which the impact can be mitigated.

The significance is determined by combining the criteria in the following formula:

$S = (E+D+M) \times P$ ; where:

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

Points	Significance Weighting	Discussion
< 30 points	Low	Where this impact would not have a direct influence on the decision to develop in the area.
31-60 point	Medium	Where the impact could influence the decision to develop in the area unless it is effectively mitigated.
> 60 points	High	Where the impact must have an influence on the decision process to develop in the area.

## 7. The Cultural Heritage Sites

### 7.1. Isolated occurrences

Isolated occurrences are artefacts or small features recorded on the surface with no contextual information. No other associated material culture (in the form of structures or deposits) was noted that might provide any further context. This can be the result of various impacts and environmental factors such as erosion and modern developments. By contrast archaeological sites are often complex sites with evidence of archaeological deposit and various interrelated features such as complex deposits, stone walls and middens. However, these isolated occurrences are seen as remains of erstwhile complex or larger sites and they therefore

provide a broad indication of possible types of sites or structures that might be expected to occur or have occurred in the survey footprint.

No isolated finds were recorded during the survey.

## **7.2 Heritage sites**

None

## **8. Locations and Evaluation of Sites**

None

## **9. Management Measures**

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

### **9.1 Objectives**

- Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.
- The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during construction activities

The following shall apply:

- Known sites should be clearly marked in order that they can be avoided during construction activities.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1).

## 9.2 Control

In order to achieve this, the following should be in place:

- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

## 10. Recommendations and Conclusions

Please note that no historical or archaeological (both Stone Age and Iron Age) artefacts, assemblages, features, structures or settlements were recorded during the survey of the project footprint.

It is therefore recommended, from a cultural heritage perspective that the proposed mining permit application may proceed.

Also, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* NHRA (Act No. 25 of 1999), Section 36 (6)).

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## Addendum 1: Archaeological and Historical Sequence

The table provides a general overview of the chronological sequence of the archaeological periods in South Africa.

PERIOD	APPROXIMATE DATES
Earlier Stone Age	more than 2 million years ago to >200 000 years ago
Middle Stone Age	<300 000 years ago to >20 000 years ago
Later Stone Age (Includes hunter-gatherer rock art)	<40 000 years ago up to historical times in certain areas
Early Iron Age	c. AD 200 - c. AD 900
Middle Iron Age	c. AD 900 – c. AD 1300
Late Iron Age (Stonewalled sites)	c. AD 1300 - c. AD 1840 (c. AD 1640 - c. AD 1840)

< = less than; > = greater than

### Archaeological Context

#### Stone Age Sequence

Concentrations of Early Stone Age (ESA) sites are usually present on the flood-plains of perennial rivers and may date to over 2 million years ago. These ESA open sites may contain scatters of stone tools and manufacturing debris and secondly, large concentrated deposits ranging from pebble tool choppers to core tools such as handaxes and cleavers. The earliest hominins who made these stone tools, probably not always actively hunted, instead relying on the opportunistic scavenging of meat from carnivore kill sites.

Middle Stone Age (MSA) sites also occur on flood plains, but are also associated with caves and rock shelters (overhangs). Sites usually consist of large concentrations of knapped stone flakes such as scrapers, points and blades and associated manufacturing debris. Tools may have been hafted but organic materials, such as those used in hafting, seldom preserve. Limited drive-hunting activities are also associated with this period.

Sites dating to the Later Stone Age (LSA) are better preserved in rock shelters, although open sites with scatters of mainly stone tools can occur. Well-protected deposits in shelters allow for stable conditions that result in the preservation of organic materials such as wood, bone, hearths, ostrich eggshell beads and even bedding material. By using San (Bushman) ethnographic data a better understanding of this period is possible. South African rock art is also associated with the LSA.

The following chronological sequence was recently established by prominent Stone Age archaeologists (Lombard et al 2012):

#### Later Stone Age

- Age Range: recent to 20-40 thousand years ago

- General characteristics: expect variability between assemblages, a wide range of formal tools, particularly scrapers (microlithic and macrolithic), backed artefacts, evidence of hafted stone and bone tools, borers, bored stones, upper and lower grindstones, grooved stones, ostrich eggshell (OES) beads and other ornaments, undecorated/decorated OES fragments, flasks/flask fragments, bone tools (sometimes with decoration), fishing equipment, rock art, and ceramics in the final phase.
  - **Ceramic or Final Later Stone Age**
    - Generally < 2 thousand years ago
    - MIS 1
    - Contemporaneous with, and broadly similar to, final Later Stone Age, but includes ceramics
    - Economy may be associated with hunter-gatherers or herders

#### **Technological characteristics**

- Stone tool assemblages are often microlithic
  - In some areas they are dominated by long end scrapers and few backed microliths; in others formal tools are absent or rare
  - Grindstones are common, ground stone artefacts, stone bowls and boat-shaped grinding grooves may occur
  - Includes grit- or grass-tempered pottery
  - Ceramics can be coarse, or well-fired and thin-walled; some times with lugs, spouts and conical bases; sometimes with decoration; sometimes shaped as bowls
  - Ochre is common
  - Ostrich eggshell (OES) is common
  - Metal objects, glass beads and glass artefacts also occur
- **Final Later Stone Age**
    - 100 – 4000 years ago
    - MIS 1
    - Hunter-gatherer economy

#### **Technological characteristics**

- Much variability can be expected
  - Variants include macrolithic (similar to Smithfield [Sampson 1974]) and/or microlithic (similar to Wilton) assemblages
  - Assemblages are mostly informal (Smithfield)
  - Often characterised by large untrimmed flakes (Smithfield)
  - Sometimes microlithic with scrapers, blades and bladelets, backed tools and adzes (Wilton-like)
  - Worked bone is common
  - OES is common
  - Ochre is common
  - Iron objects are rare
  - Ceramics are absent
- **Wilton**
    - 4000 – 8000 years ago
    - MIS 1

- At some sites continues into the final Later Stone Age as regional variants (e.g. Wilton Large Rock Shelter and Cave James)

### **Technological characteristics**

- Fully developed microlithic tradition with numerous formal tools
  - Highly standardised backed microliths and small convex scrapers (for definition of standardisation see Eerkens & Bettinger 2001)
  - OES is common
  - Ochre is common
  - Bone, shell and wooden artefacts occur
- **Oakhurst**
    - 7000 – 12 000 years ago
    - MIS 1
    - Includes Albany, Lockshoek and Kuruman as regional variants

### **Technological characteristics**

- Flake based industry
  - Characterised by round, end, and D-shaped scrapers and adzes
  - Wide range of polished bone tools
  - Few or no microliths
- **Robberg**
    - 12 000 to 18 000 years ago
    - MIS 2

### **Technological characteristics**

- Characterised by systematic bladelet (<26mm) production and the occurrence of outils ecaillés or scaled pieces
  - Significant numbers of unretouched bladelets and bladelet cores
  - Few formal tools
  - Some sites have significant macrolithic elements
- **Early Late Stone Age**
    - 18 000 – 40 000 years ago
    - MIS 2-3
    - Informal designation
    - Also known as transitional MSA-LSA
    - Overlapping in time with final Middle Stone Age

### **Technological Characteristics**

- Characterised by unstandardised, often microlithic, pieces and includes the bipolar technique
- Described at some sites, but not always clear whether assemblages represent a real archaeological phase or a mixture of LSA/MSA artefacts

### **Middle Stone Age**

- Age Range: 20 000 – 30 000 years ago

- General characteristics: Levallois or prepared core techniques (for definitions see Van Peer 1992; Boeda 1995; Pleurdeau 2005) occur in which triangular flakes with convergent dorsal scars, often with faceted striking platforms, are produced. Discoidal systems (for definition see Inizan et al. 1999) and intentional blade production from volumetric cores (for definition see Pleurdeau 2005) also occur; formal tools may include unifacially and bifacially retouched points, backed artefacts, scrapers, and denticulates (for definition see Bisson 2000); evidence of hafted tools; occasionally includes marine shell beads, bone points, engraved ochre nodules, engraved OES fragments, engraved bone fragments, and grindstones.
- In the sequence below we highlight differences or characteristics that may be used to refine interpretations depending on context.
- **Final Middle Stone Age**
  - 20 000 – 40 000 years ago
  - MIS 3
  - Informal designation partly based on the Sibudu sequence

#### **Technological characteristics**

- Characterised by high regional variability that may include, e.g. bifacial tools, bifacially retouched points, hollow-based points
- Triangular flake and blade industries (similar to Strathalan and Melikane)
- Small bifacial and unifacial points (similar to Sibudu and Rose Cottage Cave)
- Sibudu point characteristics: short, stout, lighter in mass compared to points from the Sibudu technocomplex, but heavier than those from the Still Bay
- Can be microlithic
- Can include bipolar technology
- Could include backed geometric shapes such as segments, as well as side scrapers

#### **Sibudu**

- 45 000 – 58 000 years ago
- MIS 3
- Previously published as informal late Middle Stone Age and post-Howieson's Poort at Sibudu
- Formerly known post-Howieson's Poort, MSA 3 generally, and MSA III at Klasies River

#### **Technological characteristics**

- Most points are produced using Levallois technique
- Most formal retouch aimed at producing unifacial points
- Sibudu unifacial point (type fossil) characteristics: faceted platform; shape is somewhat elongated with a mean length of 43.9 mm), a mean breadth of 26.8 mm and mean thickness of 8.8 mm (L/B ratio 1.7); their mean mass is 11.8 g (Mohapi, 2012)
- Some plain butts
- Rare bifacially retouched points
- Some side scrapers are present
- Backed pieces are rare
- **Howieson's Poort**
  - 58 000 – 66 000 years ago
  - MIS 3-4

**Technological characteristics**

- Characterised by blade technology
- Includes small (<4 cm) backed tools, e.g. segments, scrapers, trapezes and backed blades
- Some denticulate blades
- Pointed forms are rare or absent
- **Still Bay**
  - 70 000 – 77 000 years ago
  - MIS 4-5a

**Technological characteristics**

- Characterised by thin (<10 mm), bifacially worked foliate or lanceolate points
- Semi-circular or wide-angled pointed butts
- Could include blades and finely serrated points (Lombard et al. 2010)
- **Pre-Still Bay**
  - 72 000 – 96 000 years ago
  - MIS 4-5

**Technological characteristics**

- Characteristics currently being determined / studied
- **Mossel Bay**
  - 77 000 to —105 000 years ago
  - MIS 5a-4
  - Also known as MSA II at Klasies River or MSA 2b generally

**Technological characteristics**

- Characterised by recurrent unipolar Levallois point and blade reduction
- Products have straight profiles; percussion bulbs are prominent and often splintered or ring-cracked
- Formal retouch is infrequent and restricted to sharpening the tip or shaping the butt
- **Klasies River**
  - 105 000 to —130 000 years ago
  - MIS 5d-5e
  - Also referred to as MSA I at Klasies River or MSA 2a generally

**Technological characteristics**

- Recurrent blade and convergent flake production
- End products are elongated and relatively thin, often with curved profiles
- Platforms are often small with diffused bulbs
- Low frequencies of retouch
- Denticulate pieces
- **Early Middle Stone Age**
  - Suggested age MIS 6 to MIS 8 (130 000 to —300 000 years ago)
  - Informal designation

**Technological characteristics**

- This phase needs future clarification regarding the designation of cultural material and sequencing
- Includes discoidal and Levallois flake technologies, blades from volumetric cores and a generalised toolkit
- **Earlier Stone Age**
  - Age range: >200 000 to 2 000 000 years ago
  - General characteristics: early stages include simple flakes struck from cobbles, core and pebble tools; later stages include intentionally shaped handaxes, cleavers and picks; final or transitional stages have tools that are smaller than the preceding stages and include large blades.
  - In the sequence below we highlight differences or characteristics that may be used to refine interpretations depending on context.
- **ESA-MSA transition**
- 200 to —600 thousand years ago
- MIS 7-15

**Technological characteristics**

- Described at some sites as Fauresmith or Sangoan
- Relationships, descriptions, issues of mixing and ages yet to be clarified
- Fauresmith assemblages have large blades, points, Levallois technology, and the remaining ESA components have small bifaces
- The Sangoan contains small bifaces (<100 mm), picks, heavy and light-duty denticulated and notched scrapers
- The Sangoan is less well described than the Fauresmith
- **Acheulean**
  - 300 thousand to —1.5 million years ago
  - MIS 8-50

**Technological characteristics**

- Bifacially worked handaxes and cleavers, large flakes > 10 cm
- Some flakes with deliberate retouch, sometimes classified as scrapers
- Gives impression of being deliberately shaped, but could indicate result of knapping strategy
- Sometimes shows core preparation
- Generally found in disturbed open-air locations
- **Oldowan**
  - 1.5 to >2 million years ago
  - MIS 50-75

**Technological characteristics**

- Cobble, core or flake tools with little retouch and no flaking to predetermined patterns
- Hammerstones, manuports, cores
- Polished bone fragments/tools

## Iron Age Sequence

In the northern regions of South Africa at least three settlement phases have been distinguished for early prehistoric agropastoralist settlements during the **Early Iron Age** (EIA). Diagnostic pottery assemblages can be used to infer group identities and to trace movements across the landscape. The first phase of the Early Iron Age, known as **Happy Rest** (named after the site where the ceramics were first identified), is representative of the Western Stream of migrations, and dates to AD 400 - AD 600. The second phase of **Diamant** is dated to AD 600 - AD 900 and was first recognized at the eponymous site of Diamant in the western Waterberg. The third phase, characterised by herringbone-decorated pottery of the **Eiland** tradition, is regarded as the final expression of the Early Iron Age (EIA) and occurs over large parts of the North West Province, Northern Province, Gauteng and Mpumalanga. This phase has been dated to about AD 900 - AD 1200. These sites are usually located on low-lying spurs close to water.

The Late Iron Age (LIA) settlements are characterised by stone-walled enclosures situated on defensive hilltops c. AD 1640 - AD 1830). This occupation phase has been linked to the arrival of ancestral Northern Sotho, Tswana and Ndebele (Nguni-speakers) in the northern regions of South Africa with associated sites dating between the sixteenth and seventeenth centuries AD. The terminal LIA is represented by late 18th/early 19th century settlements with multichrome Moloko pottery commonly attributed to the Sotho-Tswana. These settlements can in many instances be correlated with oral traditions on population movements during which African farming communities sought refuge in mountainous regions during the processes of disruption in the northern interior of South Africa, resulting from the so-called difaqane (or mfecane).

## Ethno-historical Context

### *Difaqane (mfecane)*

The period of upheaval known as the Difaqane (Mfecane) had widespread implications for the northern interior of South Africa. Mzilikazi, one of the generals of King Shaka of the Zulu kingdom left KwaZulu-Natal in 1820 and took his Khumalo clan north-westward on a journey which changed the face of the South African interior. He first reached to Pedi people north of the Olifants and Steelpoort Rivers and took over their land. A year later and after a lengthy sojourn the group arrived at the slopes of the Magaliesberg Mountains in the Pretoria area in about 1827. Mzilikazi established two military kraal or capitals. The one was situated on the Apies River called enDinaneni which was situated north-west of Pretoria on the road to Hartebeespoort Dam and enKungweni which was built along the Daspoort range of hills.

His main residence was on the south side of Meintjieskop, but he later moved to the north of the Magaliesberg Mountains, to a place named emHlahlandlela. This aggressive occupation of the land forced the local Ndebele (Ndzundza) groups to scatter and hide in mountainous areas. Later during the 1830s Mzilikazi moved further west to establish a capital at Gabeni, north of Zeerust where he subjugated various Sotho Tswana groups in the area. His power was only challenged in 1837 by a combined Boer, Tswana and Griqua force. Mzilikazi later migrated into Zimbabwe and established his next capital, Bulawayo (Rasmussen 1977).



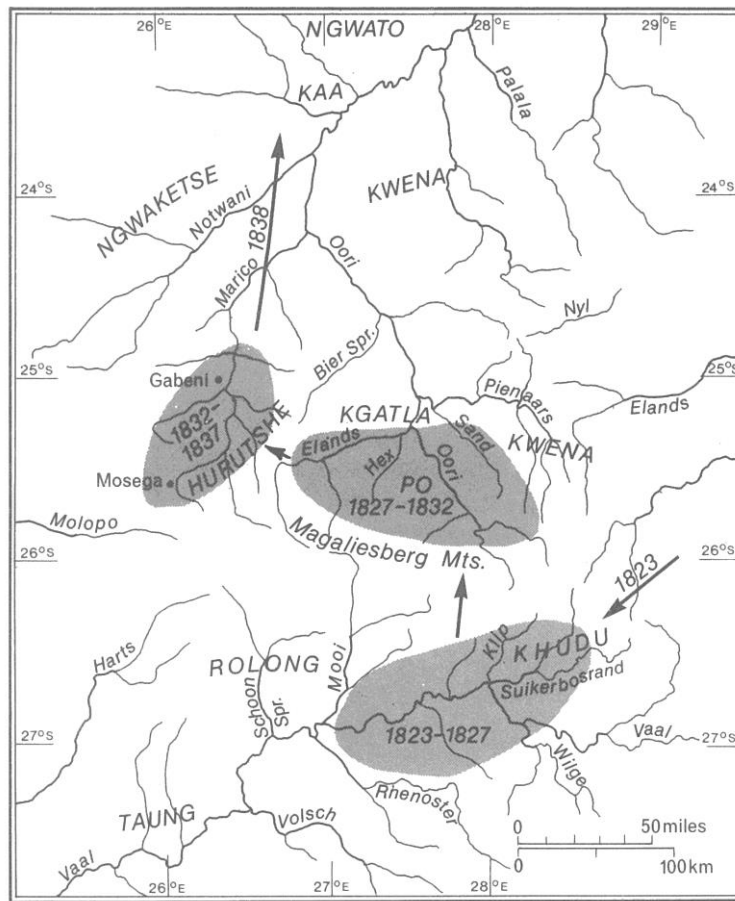


Figure 20: The location of the major spheres of influence of Mzilikazi from the early 1820s to late 1830s

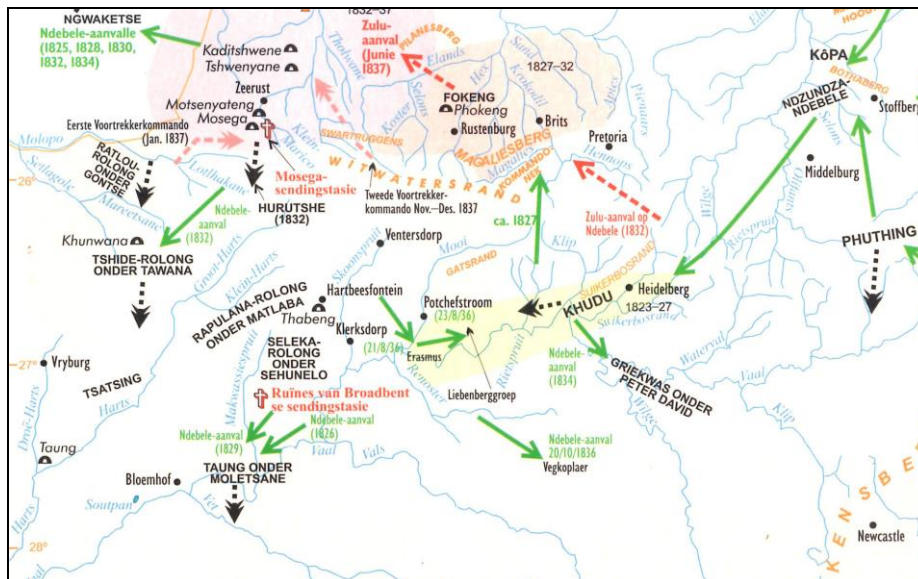


Figure 21: Movement of Mzilikazi's warriors relative to the survey area around Schweizer-Reneke (after Bergh 1998)

*Schweizer-Reneke*

In the early 1880s, the indigenous Koranas of Chief Mossweu (also known as David Massouw by the early white farmers) occupied the hill Mamusa on the banks of the Harts River. Competing for natural resources (grazing and firewood) were the Thlaping Tswana of Chief Mankurwane who occupied the region between the Vaal and the Harts River. This area

was also known as Mamusa. In the war that resulted from this competition, both sides had enlisted the aid of White mercenaries. Approximately 300 Boers supported Mossweu and the British supported Chief Mankurwane. Through various skirmishes Mankurwane was forced to sign a treaty on 26 July 1882 with the result that Chief Mossweu honoured his promise of giving land to the Boers who supported him. Farms were laid out during September 1882 starting from Vryburg. This eventually resulted in the establishment of the Boer Republic of Stellaland in 1883. The town Schweizer-Reneke which was founded on 1 October 1888 is named after Captain C.A. Schweizer and Field Cornet C.M. Reneke, both of whom died during one of the decisive battles of the war (Bergh 1998:244-245; www.sahistory.org.za).

Hendrik Willem Lock was then one of the Boers who received a farm for his part in the battle. As a result Maroetjiesfontein 135 (Maraetchesfontein 54 HO) (size 744 morgen or 637 hectares) was given to him as compensation for his part in the war. The Title Deed was registered in both Lock and Lodewyk Johannes Roos' name and later divided into portions (Boschkop). Hendrik Willem Lock arrived in the region in 1870 and was of German descent. His son Jacobus Coenraad Lock, also farmed in the area. Today the fifth generation Lock family members are still farming on some of the original farms in the area (Koos Lock Pers Comm.).

The occupation of the larger geographical region took place since Early Stone Age, especially in the region of the Vaal River. However, the biggest legacy dating to the Stone Age are the numerous sites with rock engravings found in the area. This is substantiated by the surrounding land owners who confirmed the occurrence of the drawings on their farms in the region. Some of the farms in the Christiana region are also known to have rock engravings such as on Townlands and Twaalfkameelbomen. As yet, no sites dating to the Early Iron Age have been reported from the region and most sites date to the Late Iron Age. According to Breutz (1959) stone walled sites dating to the Late Iron Age and which can be linked to the Tswana occupation of the area, are found on a number of farms in the region, e.g. Waai Hoek and Brul Pan. However, the historic most important one, named Dithakong, is located some distance to the north-west. This site was first visited by early travellers such as Lichtenstein and John Campbell in the early part of the 19th century.

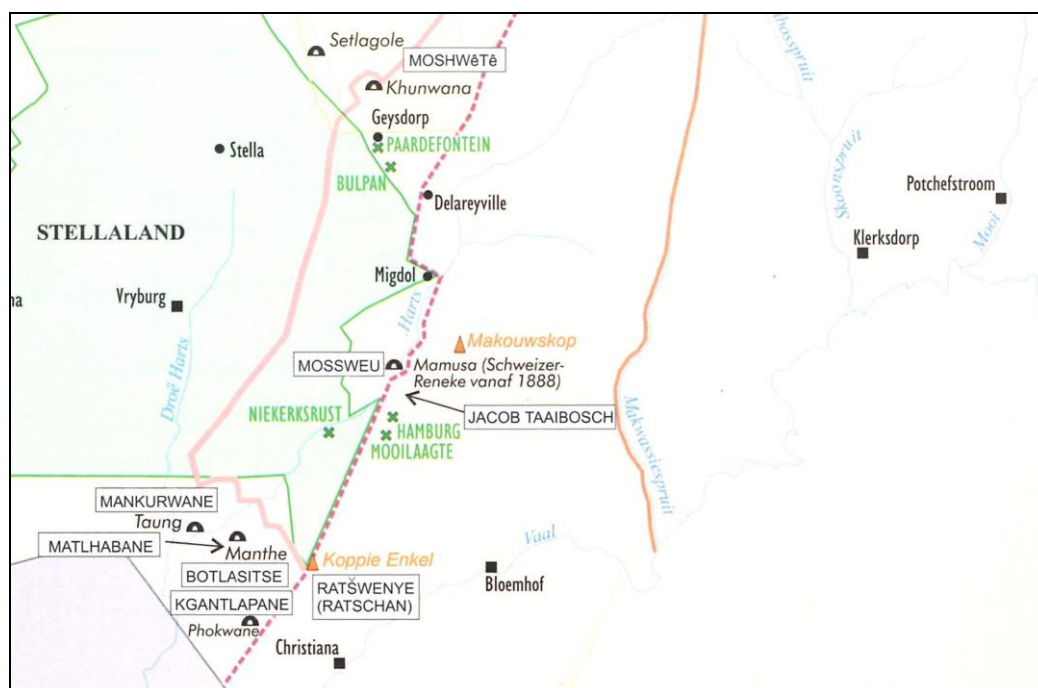


Figure 22: Schweizer-Reneke with Mossweu's stronghold at Mamusa Hill (after Bergh 1998)

### ***Bloemhof***

The town of Bloemhof, situated next to the Vaal River, was established on the farm Klipfontein in March 1866. The farm belonged to John Barclay who laid out the town on his farm and named it after a garden of flowers made by his daughter. A ferry (pontoon) provided access across the Vaal River to the town. It has been administered by a village council since 1917.

### ***Wolmaransstad***

The town is situated in the valley of the Makwassie River. In 1876 a trader Thomas Leask opened a store at the site. On 16 October 1891 a town was established there and named after JMA Wolmarans, a member of the Executive Council of the South Africa.

### ***Lichtenburg***

The town of Lichtenburg: Hendrik Adriaan Greeff was born on the farm Lichtenburg close to Durbanville in the Cape Province. He became a hunter and started to frequent the then ZAR area. Greeff settled in the late 1860 on the farms Doornfontein and Kaalplaats. Potchefstroom was the closest trading centre and approximately 150 km or "14 uur rijdens te paarde" away. A need for a town with a church and shops became stronger and Greeff and the Boers in the area saw Doornfontein with its abundant water, firewood and building material as the designated place. In 1865 the first application for town establishment was addressed to the House of Assembly, signed by 132 males in the area, and they started compiling a number of town regulations. Greeff wanted to name the town Lichtenburg, a name that he carried from his birth and because he wanted it to be a town whose light would shine over the area, not just with regard to hospitality and prosperity, but also in respect of religion.

In 1868 the name "Lichtenberg", (a mistake still commonly made) appeared on the official map of the SAR, but the House of Assembly did not react yet. The men met again to discuss the town regulations and to obtain an appeal on speedy proclamation from the House of Assembly. The well-known Voortrekker savant, JG Bantjes, also established himself in Lichtenburg and signed the regulation as witness.

Eventually Lichtenburg was officially proclaimed as town in mid-winter on 25 July 1873 by Pres. TF Burgers. During the Boer War the town of Lichtenburg was occupied by a British garrison of 620 men under the command of Lieutenant-Colonel CGC Money. The market square was turned into a fortified redoubt and strong pickets and sangars on the outskirts of town. On 3 March 1901, General De la Rey planned to attack the town with the help of General Cilliers and Commandant Lemmer and their followers, amounting to 1200 men. An attacking force of between 300-400 men was to assault the town. Due to the marshy terrain and a premature charge by General Liebenberg, the attack was repulsed with equal losses on both sides.

The Lichtenburg area is known for the 1926-27 diamond rush. In December 1924, a diamond of 3 carats was discovered by the Voorendyk family on the farm Elandsputte. Initial prospecting in 1925 produced a high yield of diamonds and the area was proclaimed as a "diggings" in February 1926. By 1945 a total of 104 diggings were proclaimed on 13 farms. It was the richest public diggings in the world, with the biggest gathering of diggers in history. A shanty town rose within a year or two, which housed in the region of 150 000 people, about 5 times as big as Lichtenburg today. Bakers, called after the owner Albert Baker, and later known as Bakerville, was the "main town". Here the houses and shacks stood

‘cheek by jowl’ for several kilometers. In the business centre there were as many as 250 diamond buyers' offices, as well as about 60 cafes, shops, barbers, butcheries and other businesses.

**Addendum 2: Description of the Recorded Sites**

A system for grading the significance of heritage sites was established by the NHRA (Act No. 25 of 1999) and further developed by the South African Heritage Resources Agency (SAHRA 2007) and has been approved by ASAPA for use in southern Africa and was utilised during this assessment.

**Example**

<b>A. GENERAL SITE DESCRIPTION</b>				
<b>Site type</b>				
<b>Site Period</b>				
<b>Physical description</b>				
<b>Integrity of deposits or structures</b>				
<b>Site extent</b>				
<b>B. SITE EVALUATION</b>				
<b>B1. HERITAGE VALUE</b>			<b>Yes</b>	<b>No</b>
<b>Historic Value</b>				
It has importance to the community or pattern of South Africa's history or precolonial history.				
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				
It has significance relating to the history of slavery in South Africa.				
<b>Aesthetic Value</b>				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				
<b>Scientific Value</b>				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.				
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.				
<b>Social Value</b>				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				
<b>Tourism Value</b>				
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.				
<b>Rarity Value</b>				
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				
<b>Representative Value</b>				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				
<b>B2. REGIONAL CONTEXT</b>				
Other similar sites in the regional landscape.				
<b>C. SPHERE OF SIGNIFICANCE</b>		<b>High</b>	<b>Medium</b>	<b>Low</b>
International				
National				
Provincial				
Local				
Specific community				
<b>D. FIELD REGISTER RATING</b>				
National/Grade 1 [should be registered, retained]				
Provincial/Grade 2 [should be registered, retained]				
Local/Grade 3A [should be registered, mitigation not advised]				

Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	
<b>E. GENERAL STATEMENT OF SITE SIGNIFICANCE</b>	
Low	
Medium	
High	
<b>F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT</b>	
None	
Peripheral	
Destruction	
Uncertain	
<b>G. RECOMMENDED MITIGATION</b>	
<b>H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS</b>	
<b>I. PHOTOGRAPHS</b>	

**Addendum 3: Surveyor General Farm Diagram**

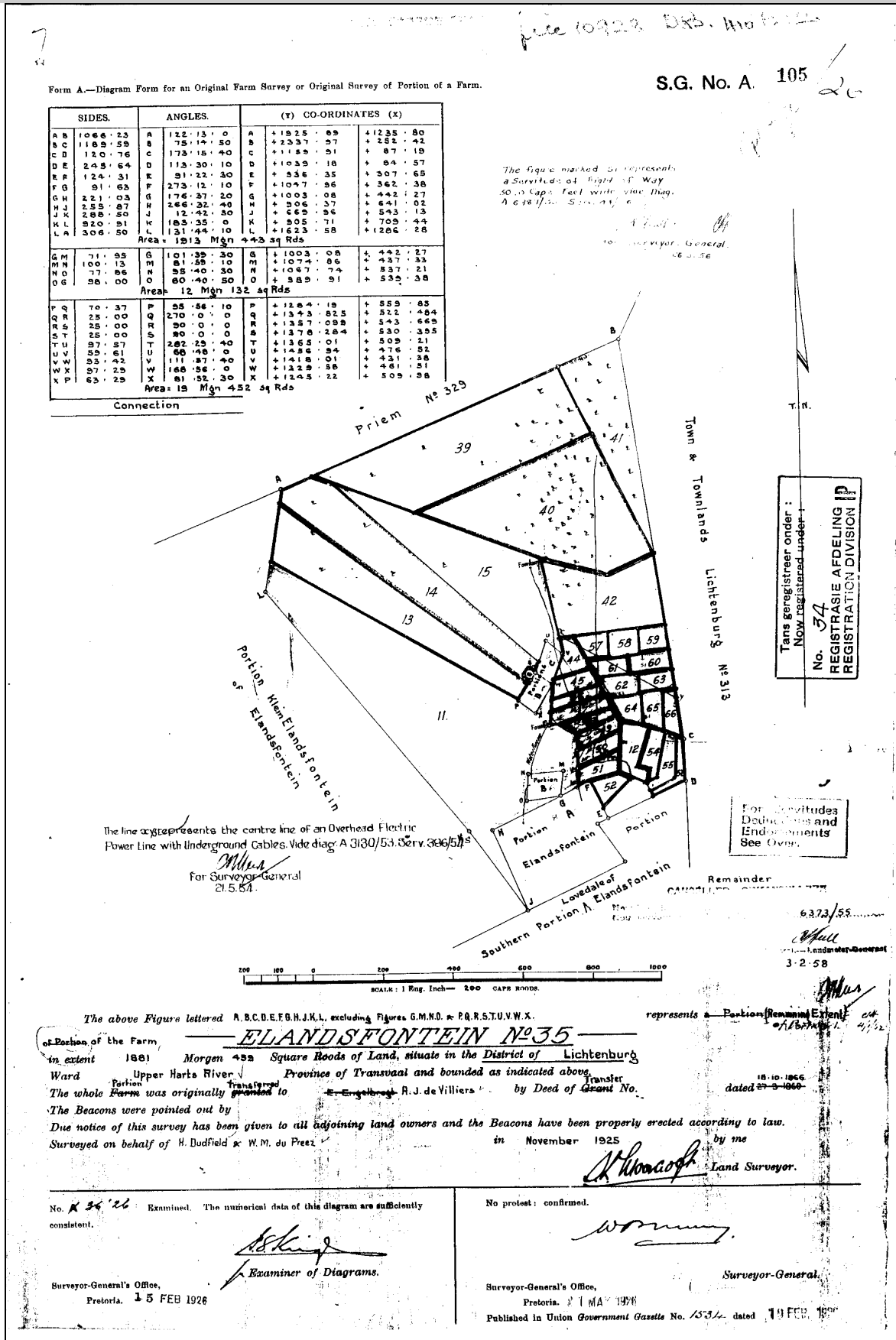


Figure 23: Surveyor General's sketch of the farm Elandsfontein 34 IP was first surveyed in 1925

## Addendum 4: Relocation of Graves

Marked graves younger than 60 years do not fall under the protection of the NHRA (Act No. 25 of 1999) with the result that exhumation, relocation and reburial can be conducted by an undertaker. This will include logistical aspects such as social consultation, purchasing of plots in cemeteries, procurement of coffins, etc. Other legislative measures which may be pertinent include the Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925), Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003, Ordinance on Exhumations (Ordinance No. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

Marked graves older than 60 years are protected by the NHRA (Act No. 25 of 1999) and as a result an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. Note that unmarked graves are by default regarded as older than 60 years and therefore also falls under the NHRA (Act No. 25 of 1999, Section 36).

The relocation of graves entails the following procedure:

- Notices of intent to relocate the graves must be put up at the burial site for a period of 60 days. This should contain contact information where communities and family members can register as interested and affected parties. All information pertaining to the identification of the graves must be documented for the application of a SAHRA permit. All notices must be in at least 3 languages, of which English is one. This is a requirement by law.
- These notices of intention must also be placed in at least two local newspapers and have the same information as above.
- Local radio stations can also be used to try contact family members. This is not required by law, but can be helpful.
- During this time (60 days) a suitable cemetery must be identified near to the development or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account.
- Once the 60 days have passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.
- Once the permit has been issued, the graves may be exhumed and relocated.
- All headstones must be relocated with the graves as well as any remains and any additional objects found in the grave.

Information needed for the SAHRA permit application

- The permit application must be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- A letter of permission from the landowner granting permission to the developer to exhume and relocate the graves.



- A letter (or proof of purchase of the plots) from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

Graves are generally be classified into four categories. These are:

- Graves younger than 60 years;
- Graves older than 60 years, but younger than 100 years;
- Graves older than 100 years; and
- Graves of victims of conflict or of individuals of royal descent.