

# **PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT**

**for**

**Environmental Assurance  
(Pty) Ltd**

**for**

**the Construction of the  
Mareesburg Haul Road near  
Boschfontein, Mpumalanga**

**Author ©:**

**Tobias Coetzee, MA (Archaeology) (UP)**

**July 2018**

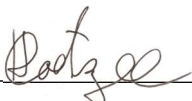
A Phase 1 Archaeological Impact Assessment for Environmental Assurance  
(Pty) Ltd for the Construction of the Mareesburg Haul Road near  
Boschfontein, Mpumalanga

For: Environmental Assurance (Pty) Ltd  
394 Tram Street  
New Muckleneuk  
Pretoria  
0181

Email: tobias.coetzee@gmail.com

I, Tobias Coetzee, declare that –

- I act as the independent specialist;
- I am conducting any work and activity relating to the proposed haul road in an objective manner, even if this results in views and findings that are not favourable to the client;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the required expertise in conducting the specialist report and I will comply with legislation, regulations and any guidelines that have relevance to the proposed activity;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- 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;
- All the particulars furnished by me in this declaration are true and correct.

  
\_\_\_\_\_

Date: 31 July 2018

## Executive Summary

The author was appointed by Environmental Assurance (Pty) Ltd to undertake an Archaeological Phase 1 study for Eastern Platinum Limited for the construction of the Mareesburg haul road near Boschfontein in Mpumalanga on various farm portions belonging to the Farms Schaapkraal 42 JT, Sterkfontein 53 JT, Uitvalgrond 12 JT and Vygenhoek 10 JT. The study area is located about 30 km south of Steelpoort and 27 km west of Mashishing. The aim of the study is to determine the scope of archaeological resources that could be affected by the proposed construction of a haul road leading to Portion 6 of the Farm Mareesburg 8 JT.

During the survey on the demarcated portions, 35 sites were observed. These are: Seven historical sites consisting of angular stone walling, as well as buildings constructed from bricks and cement; 10 LIA / Farmer sites consisting of linear stone walling and stone-walled enclosures; six stone cairns that might be grave sites; two formal graveyards and two modern sites. The majority of the sites are located on Portion 2 of the Farm Vygenhoek 10 JT, followed by Portion 5 and Portion 4 of the same Farm.

The significance of the larger historical and pre-historical landscape must be stressed as the Steelpoort area is well known for numerous and significant Iron Age Farmer remains as well as sites dating to the Historical Period. Several studies done in the area recorded remains dating to these time periods.

### **The proposed Mareesburg haul road**

The two formal graveyards and six stone cairns observed should not be impacted by the proposed construction of the haul road. It is therefore advised that the formal graveyard consisting of two graves on Portion 5 of the Farm Sterkfontein 53 JT be fenced-off and that the fence between the existing road and the formal graveyard on Portion 8 of the Farm Schaapkraal 42 JT be upgraded. The stone cairns should also be treated as graves. The graves may be relocated by a qualified graves relocation unit should impact on these sites not be avoidable.

The historical sites located along Route 1 most likely exceed 60 years of age and are therefore protected under the National Heritage Resources Act (25 of 1999). These sites, therefore, should not be affected by the construction of the proposed haul road. Should the need exist to demolish these sites or if impact is unavoidable, it is recommended that the sites be recorded via drawings and photographs by a qualified archaeologist and that a destruction permit be obtained from SAHRA.

Because a high number of heritage sites are located in close proximity of Route 2, it is advised that this route not be considered for the construction of the haul road. However, should this route be selected it is recommended that the route be adjusted with the help of a qualified archaeologist in order to minimise the impact on heritage resources.

Seven sites of heritage importance were located along the shared section between Routes 1 & 2 towards the north. These sites consist of six LIA / Farmer sites and one historical site. Because these sites are located in close proximity of the proposed haul road they will most likely be impacted. Therefore, it is recommended that this section of the route be adjusted with the aid of a qualified archaeologist to avoid destruction of heritage resources. Should this not be possible a qualified archaeologist should properly record the sites via detailed site plans and photographic record. A destruction permit must also be obtained from SAHRA.

Subject to adherence of the recommendations and approval by SAHRA, the construction of the haul road may continue along the proposed routes. Should skeletal remains be exposed during development and construction phases, all activities must be suspended and the relevant heritage resources authority contacted (See National Heritage and Resources Act, 25 of 1999 section 36 (6)). Also, should culturally significant material be discovered during the course of the said construction, all activities must be suspended pending further investigation by a qualified archaeologist.

## Table of Contents

<b>Executive Summary</b> .....	<b>3</b>
<b>1. Project Background</b> .....	<b>8</b>
1.1 Introduction.....	8
1.2 Legislation .....	8
1.2.1 The EIA and AIA processes .....	8
1.2.2 Legislation regarding archaeology and heritage sites .....	10
<b>2. Study Area and Project Description</b> .....	<b>13</b>
2.1 Location & Physical Environment.....	13
2.2 Project description .....	13
<b>3. Archaeological Background</b> .....	<b>18</b>
3.1 The Stone Age.....	18
3.2 The Iron Age & Historical Period .....	19
3.2.1 Steelpoort Archaeo-History .....	20
<b>4. Methodology</b> .....	<b>23</b>
4.1 Sources of information.....	35
4.1.1 Previous Research.....	35
4.2 Limitations .....	36
<b>5. Archaeological and Historical Remains</b> .....	<b>36</b>
5.1 Stone Age Remains.....	36
5.2 Iron Age Farmer Remains .....	37
5.3 Historical Remains.....	45
5.4 Recent Remains/Other .....	53
5.5 Graves .....	55
<b>6. Evaluation</b> .....	<b>61</b>
6.1 Field Rating .....	61
<b>7. Statement of Significance &amp; Recommendations</b> .....	<b>63</b>
7.1 Statement of significance .....	63
7.2 Recommendations.....	64
<b>8. Addendum: Terminology</b> .....	<b>66</b>
<b>9. References</b> .....	<b>68</b>

## List of Figures

Figure 1: Regional and Provincial location of the study area. ....	15
Figure 2: Segment of SA 1: 50 000 2530 AA indicating the proposed haul road. ....	16
Figure 3: Segment of SA 1: 50 000 2530 AA indicating the proposed haul road and sites. ....	17
Figure 4: Rough indication of the study area on a map compiled by Merensky (Extract from: Merensky 1875). ....	23
Figure 5: Aerial imagery of the upper half of Routes 1 & 2. ....	25
Figure 6: Aerial imagery of the lower half of Routes 1 & 2. ....	26
Figure 7: Aerial imagery of the upper half of the Mareesburg Road. ....	27
Figure 8: Aerial imagery of the middle section of the Mareesburg Road. ....	28
Figure 9: Environment along Route 2 on portion 4 of the Farm Vygenhoek 10 JT. ....	30
Figure 10: Environment along Route 2 on portion 2 of the Farm Vygenhoek 10 JT. ....	30
Figure 11: The end of the proposed haul road at Portion 6 of the Farm Mareesburg 8 JT. ....	31
Figure 12: View from the end of the proposed haul road towards the south. ....	31
Figure 13: Settlements along Route 1 on Portion 2 of the Farm Vygenhoek 10 JT. ....	32
Figure 14: Existing road coinciding with Route 1 on Portion 2 of the Farm Vygenhoek 10 JT. ....	32
Figure 15: Location where Route 2 joins the Mareesburg Road on Portion 1 of the Farm Vygenhoek 10 JT. ....	33
Figure 16: Existing Mareesburg Road section on Portions 1 & 8 of the Farm Vygenhoek 10 JT. ....	33
Figure 17: View of the provincial road that will be used. ....	34
Figure 18: Gravel/tar road intersection on Portion 2 of the Farm Sterkfontein 53 JT. ....	34
Figure 19: ESA artefacts from Sterkfontein (Volman 1984). ....	37
Figure 20: MSA artefacts from Howiesons Poort (Volman 1984). ....	37
Figure 21: LSA scrapers (Klein 1984). ....	37
Figure 22: Circular stone enclosure at Site H02. ....	39
Figure 23: Possible granary base at H02. ....	39
Figure 24: Poorly preserved stone walling at H02. ....	40
Figure 25: Stone-walled enclosure H08. ....	40
Figure 26: Stone-walled enclosure H11. ....	41
Figure 27: poorly preserved linear stone wall H13. ....	41
Figure 28: Bottom grinding stone associated with H13. ....	42
Figure 29: Dilapidated stone-walled enclosure H19. ....	42
Figure 30: Linear stone walling H20. ....	43
Figure 31: Linear stone walling H22. ....	43
Figure 32: Circular stone enclosure H21. ....	44
Figure 33: Potshards associated with enclosure H21. ....	44
Figure 34: Entrance structures H29. ....	47
Figure 35: Animal dip H03. ....	47
Figure 36: Dilapidated structure H04. ....	48
Figure 37: Linear walling H05. ....	48
Figure 38: Angular stone-walled enclosure H12. ....	49
Figure 39: Angular foundations H14. ....	49
Figure 40: Circular stone-walled enclosure H15. ....	50
Figure 41: Linear stone walling H16. ....	50
Figure 42: Circular and angular stone-walled enclosure H18. ....	51
Figure 43: Dilapidated angular stone-wall enclosure H23. ....	51

Figure 44: Building H26. ....	52
Figure 45: Building H27. ....	52
Figure 46: Building H34. ....	53
Figure 47: Modern foundation H01. ....	54
Figure 48: Modern structure and container H28.....	54
Figure 49: Stone cairn H06. ....	56
Figure 50: Stone cairn H07. ....	56
Figure 51: Broken bottom grinding stone at stone cairn H07.....	57
Figure 52: Stone cairn H09. ....	57
Figure 53: Stone cairn H10. ....	58
Figure 54: Stone cairn H30. ....	58
Figure 55: Upright stone H33. ....	59
Figure 56: Grave consisting of stacked stones in graveyard H31.....	59
Figure 57: Modern grave in graveyard H31. ....	60
Figure 58: Graveyard H32.....	60

**Tables**

Table 1: Property name & coordinates.....	14
Table 2: Site coordinates .....	29
Table 3: Field Ratings.....	61
Table 4: Individual site ratings.....	62

**Appendices**

<b>Appendix A: Historical Aerial Images .....</b>	<b>A</b>
---	----------

**List of Figures in Appendix A**

Figure 1: 1956 imagery of the upper half of Route 1 & 2. ....	B
Figure 2: 1964 imagery of the upper half of Route 1 & 2. ....	C
Figure 3: 1956 imagery of the lower half of Route 1 & 2.....	D
Figure 4: 1964 imagery of the lower half of Route 1 & 2.....	E

# 1. Project Background

## 1.1 Introduction

Environmental Assurance (Pty) Ltd appointed the author to undertake an Archaeological Phase 1 study for Eastern Platinum Limited on several farm portions near Boschfontein in Mpumalanga: Schaapkraal 42 JT, Sterkfontein 53 JT, Uitvalgrond 12 JT and Vygenhoek 10 JT (**Figures 1 & 2**). The purpose of this study is to examine the proposed Mareesburg haul road on the demarcated portions in order to determine if any archaeological resources of heritage value will be impacted on by the proposed construction, as well as to archaeologically contextualise the general study area. The aim of this report is to provide the developer with information regarding the location of heritage resources in the vicinity of the proposed haul road.

In the following report, I discuss the implications for the construction of a haul road to Portion 6 of the Farm Mareesburg 8 JT with regard to heritage resources. The legislation section included serves as a guide towards the effective identification and protection of heritage resources and will apply to any such material unearthed during development and construction phases of the road.

## 1.2 Legislation

The South African Heritage Resources Agency (SAHRA) aims to conserve and control the management, research, alteration and destruction of cultural resources of South Africa and to prosecute if necessary. It is therefore crucially important to adhere to heritage resource legislation contained in the Government Gazette of the Republic of South Africa (Act No.25 of 1999), as many heritage sites are threatened daily by development. Conservation legislation requires an impact assessment report to be submitted for development authorisation that must include an AIA if triggered.

AIAs should be done by qualified professionals with adequate knowledge to (a) identify all heritage resources that might occur in areas of development and (b) make recommendations for protection or mitigation of the impact of the sites.

### 1.2.1 The EIA and AIA processes

Phase 1 Archaeological Impact Assessments generally involve the identification of sites during a field survey with assessment of their significance, the possible impact development might have and relevant recommendations.

All Archaeological Impact Assessment reports should include:

- a. Location of the sites that are found;
- b. Short descriptions of the characteristics of each site;



- c. Short assessments of how important each site is, indicating which should be conserved and which mitigated;
- d. Assessments of the potential impact of the development on the site(s);
- e. In some cases a shovel test, to establish the extent of a site, or collection of material, to identify the associations of the site, may be necessary (a pre-arranged SAHRA permit is required); and
- f. Recommendations for conservation or mitigation.

This AIA report is intended to inform the client about the legislative protection of heritage resources and their significance and make appropriate recommendations. It is essential to also provide the heritage authority with sufficient information about the sites to enable the authority to assess with confidence:

- a. Whether or not it has objections to a development;
- b. What the conditions are upon which such development might proceed;
- c. Which sites require permits for mitigation or destruction;
- d. Which sites require mitigation and what this should comprise;
- e. Whether sites must be conserved and what alternatives can be proposed to relocate the development in such a way as to conserve other sites; and
- f. What measures should or could be put in place to protect the sites which should be conserved.

When a Phase 1 AIA is part of an EIA, wider issues such as public consultation and assessment of the spatial and visual impacts of the development may be undertaken as part of the general study and may not be required from the archaeologist. If, however, the Phase 1 project forms a major component of an AIA it will be necessary to ensure that the study addresses such issues and complies with Section 38 of the National Heritage Resources Act.

## 1.2.2 Legislation regarding archaeology and heritage sites

*National Heritage Resource Act No.25 of April 1999*

Buildings are among the most enduring features of human occupation, and this definition therefore includes all buildings older than 60 years, modern architecture as well as ruins, fortifications and Farming Community settlements. The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;
- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996), or in a provincial law pertaining to records or archives;
- any other prescribed category.

With regards to activities and work on archaeological and heritage sites this Act states that:

*“No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.” (34. [1] 1999:58)*

and

*“No person may, without a permit issued by the responsible heritage resources authority:*

- (a) *destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*

- (b) *destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) *trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) *bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.”(35. [4] 1999:58)*

and

*“No person may, without a permit issued by SAHRA or a provincial heritage resources authority:*

- (a) *destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (b) *destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority;*
- (c) *bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals.” (36. [3] 1999:60)*

On the development of any area the gazette states that:

*“...any person who intends to undertake a development categorised as:*

- (a) *the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) *the construction of a bridge or similar structure exceeding 50m in length;*
- (c) *any development or other activity which will change the character of a site-*
  - i. *exceeding 5000m<sup>2</sup> in extent; or*
  - ii. *involving three or more existing erven or subdivisions thereof; or*
  - iii. *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*

- iv. *the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (d) *the re-zoning of a site exceeding 10000m<sup>2</sup> in extent; or*
- (e) *any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.” (38. [1] 1999:62-64)*

and

*“The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:*

- (a) *The identification and mapping of all heritage resources in the area affected;*
- (b) *an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (c) *an assessment of the impact of the development on such heritage resources;*
- (d) *an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) *the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) *if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) *plans for mitigation of any adverse effects during and after the completion of the proposed development.” (38. [3] 1999:64)*

#### *Human Tissue Act and Ordinance 7 of 1925*

The Human Tissues Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities. Graves 60 years or older fall under the jurisdiction of the National Heritage Resources Act as well as the Human Tissues Act, 1983.

## 2. Study Area and Project Description

### 2.1 Location & Physical Environment

The study area is located in the Mpumalanga Province and lies between Steelpoort and Mashishing within the Ehlanzeni District Municipality and Thaba Chweu Local Municipality (**Figure 1**). Steelpoort is located roughly 30 km north of the study area and Mashishing 27 km to the east. In terms of vegetation, the study area falls within the Savannah Biome, which covers approximately 32.8% of South Africa (Mucina & Rutherford 2006). On a local scale, the proposed haul road falls within the Sekhukhune Montane Grassland Vegetation type. This type of vegetation generally occurs between altitudes of 1300 and 1960 metres above sea level and consists of the undulating norite hills near Roosenekal and the area between Schurinksberg in the north and Stofberg in the south. The Sekhukhune Montane Grassland Vegetation type is considered vulnerable and vast sections are mined for vanadium using strip mining. The majority of this vegetation type is associated with a very low erosion rate (Mucina & Rutherford 2006).

The study area falls within the summer rainfall region with an annual rainfall of about 625 mm. The annual average temperatures may vary between a maximum of 24.3 °C in January and a minimum of 3.1 °C in July (SA Explorer 2018).

In terms of topography the general study area slopes from a higher elevation in the south to a lower elevation in the north, is bordered by a ridge on the eastern side and a river valley on the western side. A difference of approximately 290m is noted between the southern and northern points. The elevation of the project area is roughly 1700 metres above sea level.

The study area falls within the Quaternary catchment B41G. The closest perennial rivers to the study area are the Groot-Dwarsrivier and the Watervalriver, which flows roughly 4.5 km east and west of the proposed haul road. It should be noted that several non-perennial streams cross the proposed haul road.

The proposed areas not based on an existing road appear not to be used for any commercial activities. Cattle grazing, however, is common in the general area.

### 2.2 Project description

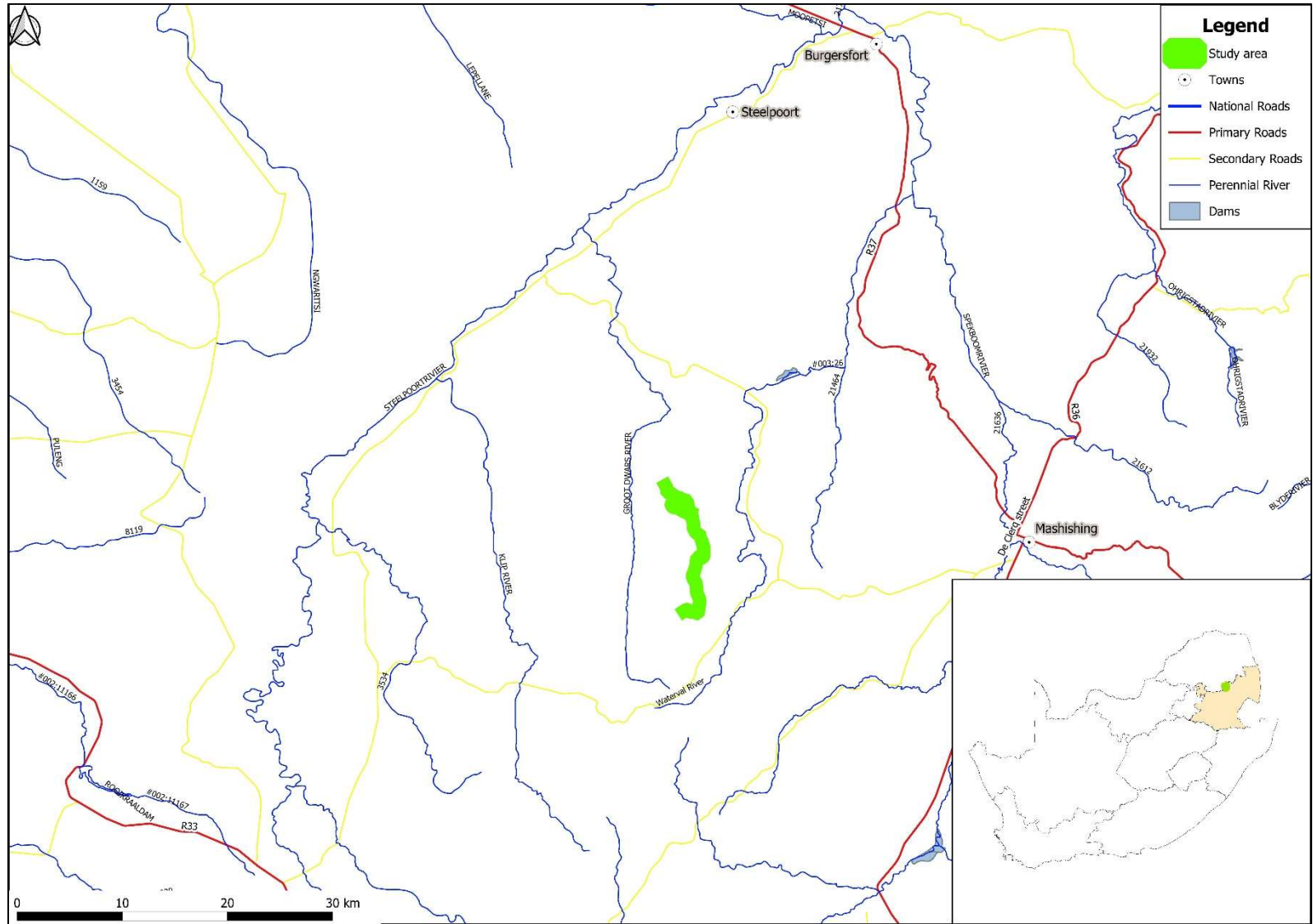
Spitzkop, Kennedy's Vale and Mareesburg Section are three mining operations owned by Eastern Platinum Limited. Although approved EMPRs and EAs are in place, no mining activities are present on these areas yet (Oosthuizen 2018). The proposed Mareesburg haul road will run between the Everest Platinum Mine in the south

to Portion 6 of the Farm Mareesburg 8 JT in the north. The proposed haul road will consist of two sections: Routes 1 or 2 and the Mareesburg section (**Figure 2**). The majority of the Mareesburg section forms part of a provincial gravel road, while the remaining portion is slightly narrower. The provincial road section, stretching 9.5 km, should be wide enough for the proposed traffic. This means that no alterations will be required. The narrower section is 2.6 km in length and might require some upgrades. Route 2 continues from the narrower section of the Mareesburg Road in a northwest direction, curves to the northeast around a hill before continuing in a north-western direction towards Portion 6 of the Farm Mareesburg 8 JT. This initial section of this route is based on a jeep track for about 700 m before cutting across open country. The length of this section before joining with Route 1 is about 2.9 km. Route 1 splits in a northern direction from the Route 2 about 260 m from the narrower section of the Mareesburg Road. From here, Route 1 follows an existing road around the northern side of a hill to the point where it joins Route 2. Route 1 consists entirely of jeep track and will have to be widened to accommodate the proposed traffic, whereas no road exists for the majority of Route 2.

The Mareesburg Road section is 12.1 km, Route 1 (including the shared section with Route 2) is 4 km and Route 2 is 4.61 km.

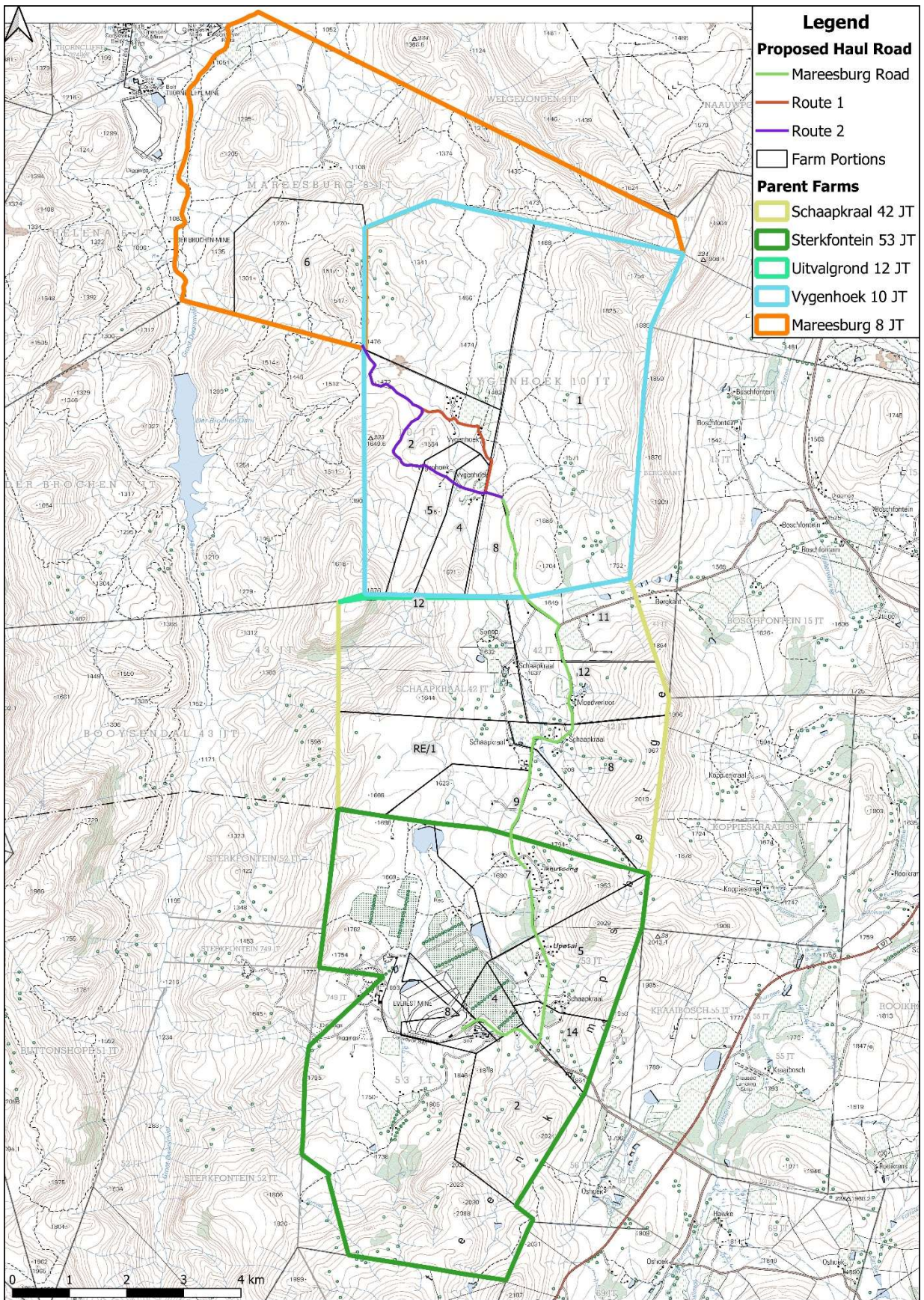
**Table 1:** Property name & coordinates

Property	Portion	Road Section	Map Reference (1:50 000)	South (Y)	East (X)
Vygenhoek 10 JT	1	Route 1&2, Mar	2530AA	-25.060452	30.181878
Vygenhoek 10 JT	2	Route 1 & 2	2530AA	-25.067356	30.155415
Vygenhoek 10 JT	4	Route 2	2530AA	-25.080548	30.162992
Vygenhoek 10 JT	5	Route 2	2530AA	-25.077777	30.158341
Vygenhoek 10 JT	8	Route 2	2530AA	-25.083690	30.168740
Uitvalgrond 12 JT	12	Mareesburg Rd	2530AA	-25.090367	30.156096
Schaapkraal 42 JT	RE/1	Mareesburg Rd	2530AA	-25.115278	30.156226
Schaapkraal 42 JT	8	Mareesburg Rd	2530AA	-25.118180	30.186824
Schaapkraal 42 JT	9	Mareesburg Rd	2530AA	-25.123611	30.171972
Schaapkraal 42 JT	11	Mareesburg Rd	2530AA	-25.094543	30.185230
Schaapkraal 42 JT	12	Mareesburg Rd	2530AA	-25.103189	30.182136
Sterkfontein 53 JT	2	Mareesburg Rd	2530AA	-25.171431	30.172055
Sterkfontein 53 JT	4	Mareesburg Rd	2530AA	-25.154697	30.168537
Sterkfontein 53 JT	5	Mareesburg Rd	2530AA	-25.147184	30.182077
Sterkfontein 53 JT	7	Mareesburg Rd	2530AA	-25.135210	30.173783
Sterkfontein 53 JT	8	Mareesburg Rd	2530AA	-25.158686	30.161621
Sterkfontein 53 JT	14	Mareesburg Rd	2530AA	-25.159889	30.180231



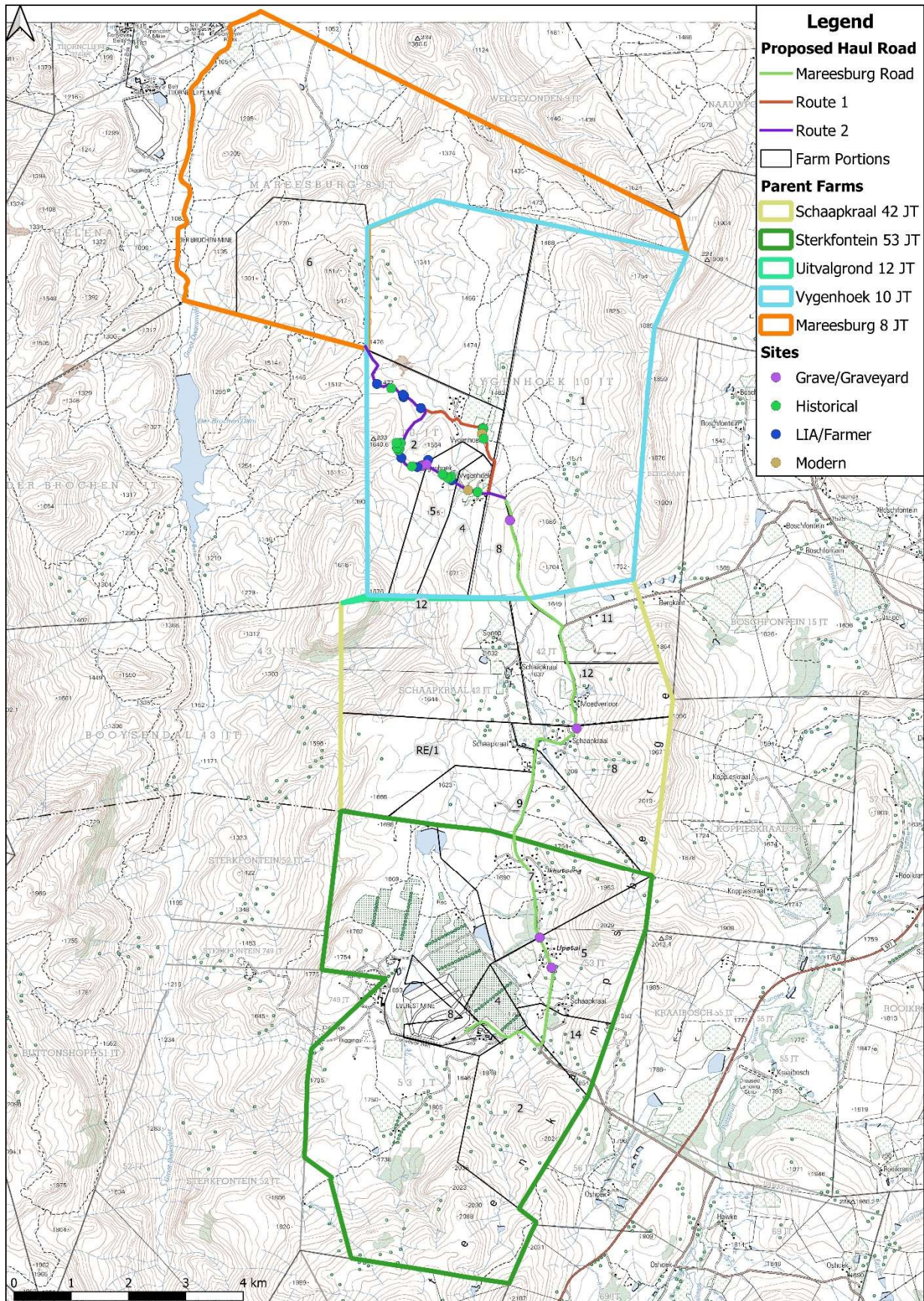
**Figure 1:** Regional and Provincial location of the study area.





**Figure 2:** Segment of SA 1: 50 000 2530 AA indicating the proposed haul road.





**Figure 3:** Segment of SA 1: 50 000 2530 AA indicating the proposed haul road and sites.

Tobias Coetzee ©

Mareesburg Haul Road AIA: 3107181

July 2018



### 3. Archaeological Background

Southern African archaeology is broadly divided into the Early, Middle and Later Stone Ages; Early, Middle and Late Iron Ages; and Historical or Colonial Periods. This section of the report provides a general background to archaeology in South Africa and also focuses on more site specific elements where relevant.

#### 3.1 The Stone Age

The earliest stone tool industry, the Oldowan, was developed by early human ancestors which were the earliest members of the genus *Homo*, such as *Homo habilis*, around 2.6 million years ago. It comprises tools such as cobble cores and pebble choppers (Toth & Schick 2007). Archaeologists suggest these stone tools are the earliest direct evidence for culture in southern Africa (Clarke & Kuman 2000). The advent of culture indicates the advent of more cognitively modern hominins (Mitchell 2002: 56, 57)

The Acheulean industry completely replaced the Oldowan industry. The Acheulean industry was first developed by *Homo ergaster* between 1.8 to 1.65 million years ago and lasted until around 300 000 years ago. Archaeological evidence from this period is also found at Swartkrans, Kromdraai and Sterkfontein. The most typical tools of the ESA are handaxes, cleavers, choppers and spheroids. Although hominins seemingly used handaxes often, scholars disagree about their use. There are no indications of hafting, and some artefacts are far too large for it. Hominins likely used choppers and scrapers for skinning and butchering scavenged animals and often obtained sharp ended sticks for digging up edible roots. Presumably, early humans used wooden spears as early as 5 million years ago to hunt small animals.

Middle Stone Age artefacts started appearing about 250 000 years ago and replaced the larger Early Stone Age bifaces, handaxes and cleavers with smaller flake industries consisting of scrapers, points and blades. These artefacts roughly fall in the 40-100 mm size range and were, in some cases, attached to handles, indicating a significant technical advance. The first *Homo sapiens* species also emerged during this period. Associated sites are Klasies River Mouth, Blombos Cave and Border Cave (Deacon & Deacon 1999).

Although the transition from the Middle Stone Age to the Later Stone Age did not occur simultaneously across the whole of southern Africa, the Later Stone Age ranges from about 20 000 to 2000 years ago. Stone tools from this period are generally smaller, but were used to do the same job as those from previous periods; only in a different, more efficient way. The Later Stone Age is associated with: rock art, smaller stone tools (microliths), bows and arrows, bored stones, grooved stones, polished bone tools, earthenware pottery and beads. Examples of Later Stone Age sites are Nelson Bay Cave, Rose Cottage Cave and Boomplaas Cave (Deacon & Deacon 1999).

## 3.2 The Iron Age & Historical Period

The Early Iron Age marks the movement of farming communities into South Africa in the first millennium AD, or around 2500 years ago (Mitchell 2002:259, 260). These groups were agro-pastoralist communities that settled in the vicinity of water in order to provide subsistence for their cattle and crops. Archaeological evidence from Early Iron Age sites is mostly artefacts in the form of ceramic assemblages. The origins and archaeological identities of this period are largely based upon ceramic typologies. Some scholars classify Early Iron Age ceramic traditions into different “streams” or “trends” in pot types and decoration, which emerged over time in southern Africa. These “streams” are identified as the Kwale Branch (east), the Nkope Branch (central) and the Kalundu Branch (west). Early Iron Age ceramics typically display features such as large and prominent inverted rims, large neck areas and fine elaborate decorations. This period continued until the end of the first millennium AD (Mitchell 2002; Huffman 2007). Some well-known Early Iron Age sites include the Lydenburg Heads in Mpumalanga, Happy Rest in the Limpopo Province and Mzonjani in Kwa-Zulu Natal.

The Middle Iron Age roughly stretches from AD 900 to 1300 and marks the origins of the Zimbabwe culture. During this period cattle herding appeared to play an increasingly important role in society. However, it was proved that cattle remained an important source of wealth throughout the Iron Age. An important shift in the Iron Age of southern Africa took place in the Shashe-Limpopo basin during this period, namely the development of class distinction and sacred leadership. The Zimbabwe culture can be divided into three periods based on certain capitals. Mapungubwe, the first period, dates from AD 1220 to 1300, Great Zimbabwe from AD 1300 to 1450, and Khami from AD 1450 to 1820 (Huffman 2007: 361, 362).

The Late Iron Age roughly dates from AD 1300 to 1840. It is generally accepted that Great Zimbabwe replaced Mapungubwe. Some characteristics include a greater focus on economic growth and the increased importance of trade. Specialisation in terms of natural resources also started to play a role, as can be seen from the distribution of iron slag which tend to occur only in certain localities compared to a wide distribution during earlier times. It was also during the Late Iron Age that different areas of South Africa were populated, such as the interior of KwaZulu Natal, the Free State, the Gauteng Highveld and the Transkei. Another characteristic is the increased use of stone as building material. Some artefacts associated with this period are knife-blades, hoes, adzes, awls, other metal objects as well as bone tools and grinding stones.

The Historical period mainly deals with Europe’s discovery, settlement and impact on southern Africa. Some topics covered by the Historical period include Dutch settlement in the Western Cape, early mission stations, Voortrekker routes and the Anglo Boer War.

### 3.2.1 Steelpoort Archaeo-History

The Steelpoort area has a rich history spanning from early to Historical times. Below is a brief account of earlier events in the Steelpoort area.

The general study area is associated with the Pedi, especially since Phiring, a Pedi town, is located roughly 80km the northwest of the study area.

Pedi origins are not clear-cut, but Van Warmelo (1935: 108-110) classified the Pedi under the Central Sotho living in Bopedi (Mönnig 1988: 11). Although oral histories differ it is generally accepted that Thobele, also known as Lellelateng, is considered to be the founder of the Pedi. Accordingly they moved from the southwest in the vicinity of Pretoria, crossed the Leolo Mountains and settled at Mogokgomeng just south of the Steelpoort station around 1650 (Hunt 1931: 281). It should be noted, however, that when the Pedi first arrived in what later became known as Bopedi, several other groups were already established there. These include Kwena, Roka and Koni groups, of which all recognised the superiority of the first arrivals in the area, the Mongatane (Kwena) (Mönnig 1988: 17). The Pedi recognised the authority of the Mongatane and paid tribute as well. According to Hunt (1931: 277) oral traditions recall conflict between the Pedi and people known as Mapalakat, who were described as having light complexions, long hair, wore long white dresses and carried rifles. They might have been of Arabian origin. Accordingly a few such parties were killed and their rifles taken. Thobele was succeeded by Kabu, who in turn was succeeded by Thobejane. The reign of Thobejane was characterised by a period of peace and prosperity. Moukangwe eventually succeeded Thobejane and in turn was succeeded by Mohube (Mönnig 1988: 19).

During Mohube's reign a significant change took place which led to the creation of the Pedi empire. The exact reasons are not very clear but resulted in the death of Mohube at the hand of the Komane, a Koni group. The new Pedi leader, Mampuru, successfully repulsed a Mongatane attack and defeat the Komane. The Pedi proved victorious and Mampuru organised his regiments into fighting units (Mönnig 1988: 19-20). Conflict ensued between Mampuru and Morwamotše, the rightful heir, and resulted in Mampuru moving away to the north (Hunt 1931: 280). Mampuru also rebuilt his village at a safer location slightly to the north along the Steelpoort River. Dikotope succeeded Morwamotše but clashed with his brother, Thulare. Thulare, with the help of Mampuru, defeated Dikotope who joined forces with the Mongatane. Under Thulare's reign the Pedi saw their greatest expansion and period of prosperity (Mönnig 1988: 21).

After Thulare's death in 1824 a period of confusion and disorder followed as disagreement existed among the sons of Thulare. This also resulted in gaps in historic events. During this period of turmoil the Matabele under Mzilikazi raided a large amount of cattle and fled from the Zulu to the south-western Transvaal. From here Mzilikazi raided surrounding communities (Posselt 1919: 4). Phethedi, a son of Thulare, encountered one such

party and successfully defeated them (Bryant 1929: 427 & Hunt 1931: 285). This, however, was answered by Mzilikazi who sent an army that crushed the Pedi and killed all remaining sons of Thulare, except for two. Sekwati, one of the two sons who remained, fled with the remaining Pedi to the north and took refuge with the Ramapulana. They returned to Bopedi four years later (Merensky 1899: 71 & Hunt 1931: 286).

After Sekwati's return his greatest opposition was Morangrang, a Koni leader. Morangrang was apparently defeated by the Kgaga of Mphahlele. Sekwati also defeated his half-brother, Kabu and reduced the power of the Magakala and re-established the paramountcy of the Pedi (Mönnig 1988: 23). Sekwati settled at Phiring, which is roughly 45km southwest of the current study area. The settlement was located on a rocky hilltop where Sekwati successfully repulsed Swazi and Zulu attacks.

In 1837 a trek under Louis Trichardt saw the first contact between the Voortrekkers and the Pedi under Sekwati. This initial contact was peaceful (Van Rooyen 1951: 97). In 1845 the Voortrekker Hendrik Potgieter entered Bopedi from the south and met with Sekwati. The Voortrekkers then settled to the east at Ohrigstad (Mönnig 1988: 24). The Pedi heartland at this stage was located in the triangular area between the Steelpoort and Olifants Rivers. In certain places, however, their territory did extend to areas north of the Olifants River (Bergh 1999: 157), an area associated with rich iron and copper deposits (Bergh 1999: 8).

The initial peaceful relationship between the Voortrekkers and the Pedi was short-lived as a result of arguments relating to land encroachment and stock-theft. Potgieter unsuccessfully attacked the Pedi at Phiring in 1847 and again in 1852. Afterwards Sekwati relocated his stronghold to Thaba-Mosego on the eastern slopes of the Leolo Mountains and called his village Tšate. It should be noted that the Leolo Mountains border the study area to the south. On 17 November 1857 a peace treaty was signed between the Boers and the Pedi and saw a period of peace. On 22 September 1861 Sekwati died and the chieftainship was forcefully taken by Sekhukhune (Mönnig 1988: 24-26).

A period of strife and unrest existed during Sekhukhune's reign. Again initial relations with the Boers were peaceful and both parties accepted the Steelpoort River as boundary. During this time two groups of Swazi sought refuge with the Pedi and Sekhukhune allowed them to settle in the Leolo Mountains. The Swazi sent an army to recapture these groups, but was crushed by the Pedi. Sekhukhune also welcomed missionary work and allowed a mission station to be built closer to Tšate. Many people were converted, also Sekhukhune's half-brother, Johannes Dinkwanyane. Johannes Dinkwanyane and Merensky, however, fled with their following to Botšabelo near Middelburg in November of 1864. This was the result of Sekhukhune regarding missionary work as a threat to his rule (Mönnig 1988: 26-28). In 1873 Dinkwanyane moved with a considerable Koni following to the Spekboom valley north of Lydenburg or Mashishing as it is known as today, and Sekhukhune accepted him as a

Pedi chief. Here Johannes Dinkwanyane established Mafolofolo. His aim was to move to Elandspruit, which used to be Koni territory, but was made difficult by the Lydenburg Landdros (Delius & Schoeman 2008: 155).

The first Sekhukhune War started on 16 May 1876 and to a large extent resulted from conflict originating from land encroachment. After the Boers successfully defeated Dinkwanyane's stronghold they moved towards Tšate, but retreated after they failed to dislodge the Pedi (Mönnig1988: 28-29). Fort Weeber was built west of the Leolo Mountains to hold the boundary between the Pedi and the Boers, but also to harass the Pedi where possible. The fort was manned by Captain Ferreira and 100 men (Van Rooyen 1951: 266). Later as second fort, Fort Burgers, was built at the Steelpoort River. **Figure 4** indicates the rough location of the study area on a map compiled by Merensky in 1875.

In February of 1877 Pedi and Boer representatives met at Botšabelo to discuss peace terms. The treaty was signed on 15 February 1877. The treaty stated that the Pedi had to pay 2000 head of cattle and that the Pedi would become subjects of the Republic. Two months later, however, the British annexed the Transvaal but considered the treaty valid. The Pedi would therefore be recognised as British subjects. The British under Sir Theophilus Shepstone demanded a payment of 2000 head of cattle from the Pedi. This set the stage for the second Sekhukhune war when a full payment could not be made. Accordingly the Pedi sent raiding parties across the border. With the end of the Zulu war General Sir Garnet Wolseley proposed peace with the Pedi should they agree with the following terms: Sekhukhune should recognise the sovereignty of the British Crown, pay taxes to the British Government in Transvaal, permit the erection of several forts in Bopedi, and pay a fine of 2500 head of cattle. Sekhukhune refused and Sir Garnet Wolseley mobilised his army of about 12000 men. Sir Garnet Wolseley defeated Sekhukhune on 28 November 1878 and was sent to prison in Pretoria. This crushed the Pedi empire and ended the Sekhukhune era (Mönnig1988: 30-31).



Figure 4: Rough indication of the study area on a map compiled by Merensky (Extract from: Merensky 1875).

#### 4. Methodology

I conducted archaeological reconnaissance of the study area through a systematic site survey (Figure 3). Routes 1, 2 and a section of the Maresburg Road were surveyed by following the routes on foot using a handheld GPS (Global Positioning System). These sections consist of either narrow jeep tracks or no road at all, which means that these sections will see maximum impact by the proposed road. The remainder of the Maresburg Road section, which largely consists of a gravel provincial road, was surveyed by driving and inspecting potential heritage sites in the road reserve. Because this section of the road is wide enough, minimal alteration should be required by the proposed development. Sites were recorded via GPS location and photographic record (Table 2 & Figures 5 – 8). General site conditions of the different portions were recorded via photographic record (Figures 9 – 18). Also, the site was inspected beforehand on Google as well as black and white aerial imagery in order to identify possible heritage remains. Several stone-walled enclosures were observed in the general vicinity of the study area, but dense vegetation hampered visibility on aerial images. The total proposed road length surveyed was 17.6 km.

The reconnaissance of the area under investigation served a twofold purpose:

- To obtain an indication of heritage material found in the general area as well as to identify or locate archaeological sites that would be impacted by the construction of the proposed haul road. This was done in order to establish a heritage context and to supplement background information that would benefit the mining company through identifying areas that are sensitive from a heritage perspective.

- All archaeological and historical events have spatial definitions in addition to their cultural and chronological context. Where applicable, spatial recording of these definitions were done by means of a handheld GPS during the site visit.



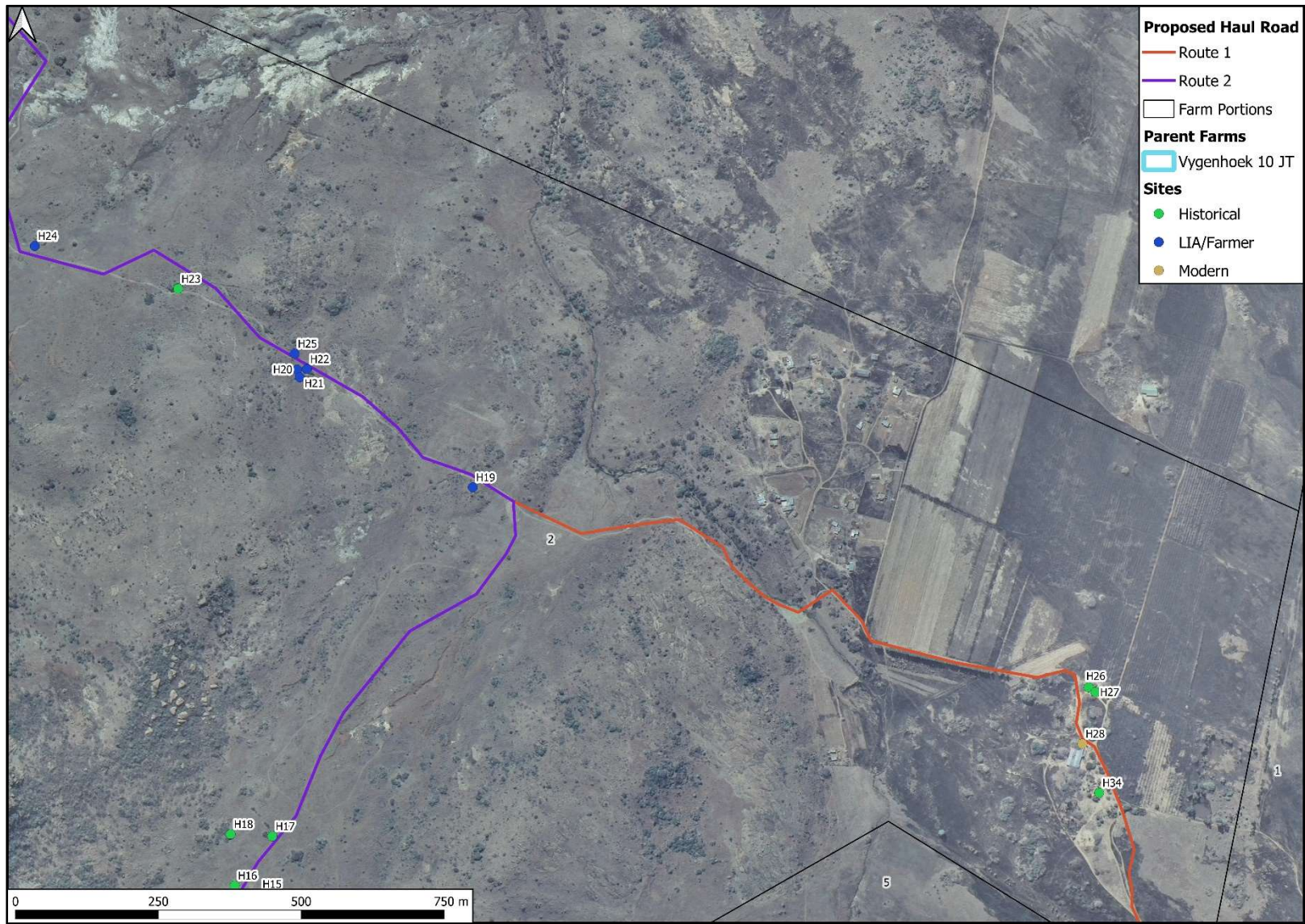


Figure 5: Aerial imagery of the upper half of Routes 1 & 2.



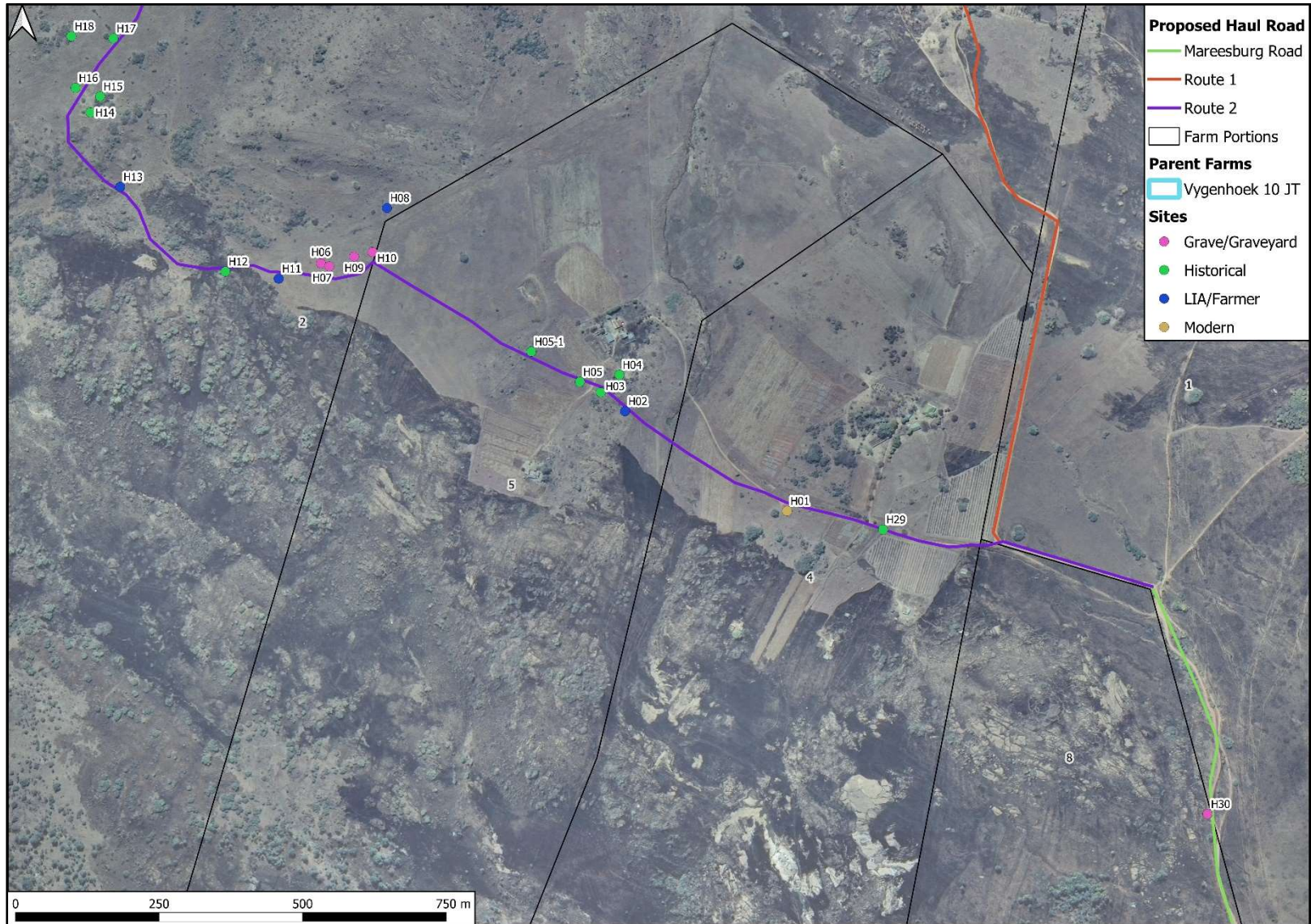


Figure 6: Aerial imagery of the lower half of Routes 1 & 2.





Figure 7: Aerial imagery of the upper half of the Mareesburg Road.





**Figure 8:** Aerial imagery of the middle section of the Maresburg Road.

**Table 2: Site coordinates**

<b>Site / Survey Point Name</b>	<b>South (Y)</b>	<b>East (X)</b>
H01	-25.073475	30.164327
H02	-25.071916	30.161790
H03	-25.071620	30.161412
H04	-25.071345	30.161703
H05	-25.071456	30.161085
H05-1	-25.070983	30.160327
H06	-25.069603	30.157035
H07	-25.069650	30.157165
H08	-25.068737	30.158066
H09	-25.069497	30.157553
H10	-25.069426	30.157841
H11	-25.069841	30.156373
H12	-25.069730	30.155538
H13	-25.068406	30.153892
H14	-25.067244	30.153429
H15	-25.066990	30.153579
H16	-25.066857	30.153194
H17	-25.066083	30.153785
H18	-25.066050	30.153130
H19	-25.060602	30.156936
H20	-25.058751	30.154175
H21	-25.058872	30.154218
H22	-25.058743	30.154328
H23	-25.057482	30.152305
H24	-25.056811	30.150051
H25	-25.058500	30.154135
H26	-25.063745	30.166618
H27	-25.063818	30.166723
H28	-25.064629	30.166518
H29	-25.073767	30.165829
H30	-25.078215	30.170908
H31	-25.110816	30.181359
H32	-25.148430	30.177424
H33	-25.143726	30.175555
H34	-25.065400	30.166782





**Figure 9:** Environment along Route 2 on portion 4 of the Farm Vygenhoek 10 JT.



**Figure 10:** Environment along Route 2 on portion 2 of the Farm Vygenhoek 10 JT.



**Figure 11:** The end of the proposed haul road at Portion 6 of the Farm Mareesburg 8 JT.



**Figure 12:** View from the end of the proposed haul road towards the south.





**Figure 13:** Settlements along Route 1 on Portion 2 of the Farm Vygenhoek 10 JT.



**Figure 14:** Existing road coinciding with Route 1 on Portion 2 of the Farm Vygenhoek 10 JT.





**Figure 15:** Location where Route 2 joins the Maresburg Road on Portion 1 of the Farm Vygenhoek 10 JT.



**Figure 16:** Existing Maresburg Road section on Portions 1 & 8 of the Farm Vygenhoek 10 JT.



**Figure 17:** View of the provincial road that will be used.



**Figure 18:** Gravel/tar road intersection on Portion 2 of the Farm Sterkfontein 53 JT.

## 4.1 Sources of information

At all times during the survey, I followed standard archaeological procedures for the observation of heritage resources. As most archaeological material occurs in single or multiple stratified layers beneath the soil surface, I paid special attention to disturbances; both man-made such as roads and clearings, and those made by natural agents such as burrowing animals and erosion. I recorded locations of archaeological material remains by means of a Garmin Oregon 550 GPS and photographed these sites as well as general conditions on the terrain with a Sony Cyber-shot camera.

I conducted a literature study, which incorporated previous work done in the region, in order to place the study area into context from a heritage perspective.

According to Michael from Eastern Platinum Limited, who arranged access to the farm portions, no graves are located within close proximity to the proposed haul road.

### 4.1.1 Previous Research

#### **Everest North Mining Development, Vygenhoek 10 JT**

A phase 1 HIA was done for the Everest North Mining development, which is located on the Farm Vygenhoek 10 JT. The mining project, commissioned by Aquarius Platinum SA (Pty) Ltd, is located within the Groot Dwars River Valley and borders the study area concerned in this project to the north. The HIA revealed several stone-walled enclosures, extensive stone walling, stone foundations, graves/burial sites, potsherds, as well as upper and lower grinding stones belonging to the Later Iron Age. Some MSA material was found as well (Du Piesanie 2012).

#### **Der Brochen Project, Mpumalanga**

The Phase 1 Archaeological Assessment done for the mining of platinum in the Groot Dwars River Valley on the Farms Der Brochen 7 JT, Booyendal 43 JT and Helena 6 JT was conducted by ARM in 2002. The project included the waste rock dump and processing plant on the Farm Helena 6 JT, a second shaft and waste rock dump on the Farm Der Brochen 7 JT, a third shaft and waste rock dump on the Farm Booyendal 43 JT, a fourth shaft and waste rock dump on the Farm Buttonshope 51 JT, and a tailings dam on the Farm Mareesburg 8 JT. Additional infrastructure included new roads, road improvements and overhead power lines. The mentioned farms are located to the south and west of the project area concerned in this study. During the Der Brochen Project study 25 sites or occurrences that included material from the MSA, Iron Age and Historical periods were observed. These included MSA flakes, pottery, rock engravings, smelting sites and iron slag from the Iron Age, and historic homesteads with low lapa walls. Several graves were also observed (Huffman & Schoeman 2002).

## **Der Brochen Tailings Dams – Helena and St. George Farms, Mpumalanga Province**

Frans Rood (2003) conducted a Phase 1 Heritage Impact Assessment for the construction of two tailings dams on the Farms Helena 6 JT and St. George 2 JT for Anglo Platinum. The study revealed number of Middle and Later Iron Age sites, historical ruins and graves. Material culture identified during the study include metal slag, Pedi style pottery, terracing, bored stone fragments, Eiland pottery, hut rubble, tuyère fragments, circular and rectangular stone-walled enclosures, communal grinding stones and graves. The concerned farms are located roughly 6 km northwest of the study area concerned in this project.

### **4.2 Limitations**

The vegetation of the study area consists mainly of relatively thick ground cover and trees. The general visibility was poor during the time of surveying as a result of dense vegetation, as well as a significant amount of rocks occurring on the surface (July 2018).

## **5. Archaeological and Historical Remains**

### **5.1 Stone Age Remains**

No Stone Age material were observed along the proposed haul road survey.

Both the Everest North Mining Development (Du Piesanie 2012) and the Der Brochen Project (Huffman & Schoeman 2002) revealed MSA remains, although not abundant. The study for the Der Brochen Tailings Dams (Rood 2003), however, did not reveal any Stone Age material.

Although there were no Stone Age archaeological remains visible, some might occur in the area. These artefacts are often associated with rocky outcrops or water sources. **Figures 19 - 21** below are examples of stone tools often associated with the Early, Middle and Later Stone Age of southern Africa.

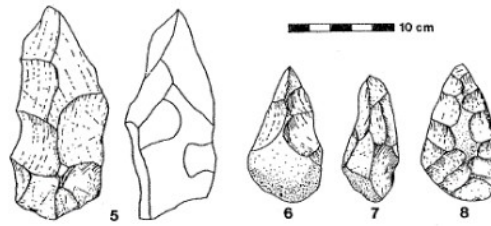


Figure 19: ESA artefacts from Sterkfontein (Volman 1984).

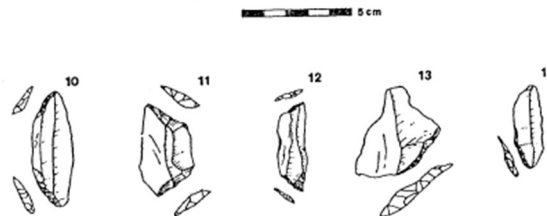


Figure 20: MSA artefacts from Howiesons Poort (Volman 1984).



Figure 21: LSA scrapers (Klein 1984).

## 5.2 Iron Age Farmer Remains

I found several Iron Age Farmer archaeological remains along the proposed haul road. The majority of these sites occur along Route 2. It should also be noted that several of these sites appear in the vicinity of historical sites. In areas where only sections of stone walling remain, it was classified under the time period of the surrounding sites. All the Iron Age/Farmer sites are located on Portion 2 of the Farm Vygenhoek 10 JT with the exception of H02, which falls on Portion 5 of the same farm.

Site H02 is located against the southern slope of a small hill, about 5 m from Route 2 and consists of a single row of stones packed in a circular formation (**Figure 22**), possible granary bases (**Figure 23**) and poorly preserved stone walling (**Figure 24**). The circular enclosure is roughly 5 m in diameter and falls on Portion 5 of the Farm Vygenhoek 10 JT. No material culture were observed in the vicinity of the site.

Site H08 (**Figure 25**) consists of a small stone-walled enclosure roughly 4 m in diameter. This site is located about 70 m north of the proposed Route 2, along the southern slopes of a hill and forms part several other enclosures running east-west along the slope of the hill.

Site H11 (**Figure 26**), a stone-walled enclosure about 15 m in diameter, is located 10 m south of Route 2. The walls are relatively well preserved and are roughly 80 cm in height. No material culture were observed.

Site H13 (**Figure 27**) is a poorly preserved stone wall running upslope and 5 m from proposed Route 2. The exact length could not be established as a result of poor preservation and dense vegetation cover. A lower grinding stone was found next to the wall (**Figure 28**).

Site H19 (**Figure 29**) appears to have been a stone-walled enclosure similar to site H08, but is poorly preserved. The site is located about 15 m south of the proposed haul road. Again, no material culture were observed.

Sites H20 – H22 and H25 are located in close proximity of each other with an existing road running between the sites. H20 (**Figure 30**) and H22 (**Figure 31**) consist of linear stone walling of which the extent is unclear due to dense vegetation cover and poor preservation. The visible sections are about 800 cm wide and 40 cm high. Similar to Site H02, Site H21 (**Figure 32**) consists of a single row of stones arranged in a circular formation. H21 is significantly smaller, measuring about 3 m in diameter and is associated with undecorated potshards (**Figure 33**). H25, located 20 m to the north, consists of a larger circular shaped stone wall of which the extent is unclear. Site H25 borders the proposed haul road to the north, while H20 – H22 borders the road to the south.

The studies conducted by Du Piesanie (2012), Huffman & Schoeman (2002) and Rood (2003) revealed a variety of Iron Age material as well.





**Figure 22:** Circular stone enclosure at Site H02.



**Figure 23:** Possible granary base at H02.





**Figure 24:** Poorly preserved stone walling at H02.



**Figure 25:** Stone-walled enclosure H08.





**Figure 26:** Stone-walled enclosure H11.



**Figure 27:** poorly preserved linear stone wall H13.





**Figure 28:** Bottom grinding stone associated with H13.



**Figure 29:** Dilapidated stone-walled enclosure H19.





**Figure 30:** Linear stone walling H20.



**Figure 31:** Linear stone walling H22





**Figure 32:** Circular stone enclosure H21.



**Figure 33:** Potshards associated with enclosure H21.

### 5.3 Historical Remains

A total of 15 historical sites were identified along the proposed haul road, of which 11 are located along Route 2, three along Route 1 and one along the combined section towards the end. No material culture were observed at any of the historical sites.

Site H29 (**Figure 34**) consists of what appears to be an entrance structure built from stone and cement. Because the nearby farmhouse, located on Portion 4 of the Farm Vygenhoek 10 JT, is visible on historical imagery dating 1956 (**Appendix A: Figure 3**), a chance exists that these structures are older than 60 years and therefore protected under the National Heritage Resources Act (25 of 1999). These structures are located on either side of an existing road that will be upgraded if Route 2 is selected for the proposed haul road.

Site H03 (**Figure 35**) consists of the remains of an animal dip and H04 (**Figure 36**) of the remains of a square building measuring 10 X 8 m. The remains are not visible on historical aerial imagery, but are constructed from similar material as Site H29. Also, other structures on Portion 5 of the Farm Vygenhoek 10 JT do appear on historical imagery dating to 1956 (**Appendix A: Figure 1**) and might therefore be associated with the rest of the building remains.

Sites H05 (**Figure 37**) and H05-1 mark the presence of linear stone walling. Due to dense vegetation cover and poor preservation the exact extent could not be determined. The walling also don't appear on aerial imagery. However, if historical aerial imagery is inspected the area appear to have been used for agricultural fields. Therefore, the walling might have served as boundary walls to separate different agricultural fields or grazing fields from agricultural fields. The proposed haul road (Route 2) intersects H05 and is located 10 m from H03 and 40 m from H04.

Site H12 (**Figure 38**) consists of an angular stone-walled enclosure measuring about 18 X 12 m and is located 5 m south of the proposed haul road (Route 2).

Site H14 (**Figure 39**) represents the square building remains of what appears to have been houses constructed from mud. The extent measures 4.5 X 4.5 m and are located about 22 m from the proposed haul road (Route 2).

Sites H15-H18 are located relatively close to each other and were therefore grouped together under 'Historical' due to the presence of mostly angular stone walling. H15 (**Figure 40**) has a circular form with a diameter of roughly roughly 7 m and is located next to H14 and 25 m form the proposed haul road.

Sites H16 (**Figure 41**) & H17 (No image available) consist of linear stone walling running east-west. Due to dense vegetation and a poor level of preservation, the exact extent could not be determined. Similarly to H05, the walling might have been used for the same reasons due to what appears to be agricultural fields on historical imagery (**Appendix A: Figures 1 & 2**). These two sites are located 8 m west of the proposed haul road.

H18 (**Figure 42**) consists of relatively well preserved stone-walled enclosures comprising several angular, as well as circular enclosures. This site is located about 65 m west of the proposed haul road and just next to possible agricultural fields as can be seen on the historical images (**Appendix A: Figures 1 & 2**)

Site H23 (**Figure 43**), a dilapidated angular stone-wall enclosure, is located about 30 m south of the proposed Haul Road and on top of a small hill. The site measures about 5 X 5 m.

Building H26 (**Figure 44**) and building H27 (**Figure 45**) do not appear on the 1956 (**Appendix A: Figure 1**) aerial imagery but do appear on 1964 images (**Appendix A: Figure 2**). Building H34 (**Figure 46**), however, appears on 1956 imagery. All three structures appear to be from roughly the same time period and are constructed from brick and cement, therefore, it is possible that H26 and H27 were built between 1956 and 1958, making them older than 60 years. H26 is located 17 m from the proposed haul road and measures about 1.5 X 1.5 m. H27 is located 29 m from the proposed road and measures 16 X 13 m, while H34 is located 20 m from the proposed road and measures 13 X 13 m.

The studies by Huffman & Schoeman (2002) and Rood (2003) identified historical remains. These generally include historic homestead remains and pottery with a Pedi affiliation.





**Figure 34:** Entrance structures H29.



**Figure 35:** Animal dip H03.





**Figure 36:** Dilapidated structure H04.



**Figure 37:** Linear walling H05.





**Figure 38:** Angular stone-walled enclosure H12.



**Figure 39:** Angular foundations H14.





**Figure 40:** Circular stone-walled enclosure H15.



**Figure 41:** Linear stone walling H16.





**Figure 42:** Circular and angular stone-walled enclosure H18.



**Figure 43:** Dilapidated angular stone-wall enclosure H23.





**Figure 44:** Building H26.



**Figure 45:** Building H27.



**Figure 46:** Building H34.

#### **5.4 Recent Remains/Other**

A cement foundation (H01) measuring 3.5 X 3.5 m is located on Portion 4 of the Farm Vygenhoek 10 JT and 10 m from the proposed haul road (Route 2). No material culture were observed in the vicinity of the foundation (**Figure 47**).

The remains of what appear to have been a warehouse constructed from metal pipes and a cement foundation (H28) is located on Portion 2 of the Farm Vygenhoek 10 JT and approximately 13 m northeast of the proposed haul road (Route 2). The structure measures 33 X 20 m but the corrugated iron sheets visible on aerial imagery have since been removed (**Figure 48**). A metal container is also present next to the structure.





**Figure 47:** Modern foundation H01.



**Figure 48:** Modern structure and container H28.

## 5.5 Graves

Two formal graveyards (H31 & H32) and six stone cairns (H06, H07, H09, H10, H30 and H33) were observed along the proposed haul road. Four stone cairns (H06, H07, H09 and H10) are located on Portion 2 of the Farm Vygenhoek 10 JT and about 15 m north of the proposed haul road (Route 2) (**Figures 49 – 53**). It is possible that these sites relate to the nearby stone walling against the hill to the north, especially because of the north-south orientation. One of these sites, H07, is associated with a broken bottom grinding stone. No other material culture were observed.

Stone cairn H30 is located in the road reserve on Portion 8 of the Farm Vygenhoek 10 JT (**Figure 54**), while stone cairn H33 (**Figure 55**) is located in the road reserve on Portion 5 of the Farm Sterkfontein 53 JT. No material culture were visible at these sites. Site H33, however, consists of an upright stone with two additional stones supporting it.

Graveyard H31 (**Figures 56 & 57**) is fenced-off and consists of several graves oriented in an east-west direction. The graves consist of a combinations of stacked stones with headstones and modern graves. It is evident that one of the graves dating to 1912 has a new and modern gravestone. The grave is in a good condition and appears to be well kept and visited. The dates on the majority of the rest of the gravestones are unclear. The graveyard borders the provincial road to the east on Portion 8 of the Farm Schaapkraal 42 JT. Graveyard H32 borders the provincial road to the west on Portion 5 of the Farm Sterkfontein 53 JT (**Figure 58**). This graveyard consists of two graves constructed from stone and cement with headstones and material culture in the form of tin cups. No recent activity, however, is visible at the graves and the dates on the headstones are unclear. Also, the fence next to the road runs across both graves.

Graves are common in the area as all three studies mentioned above (Du Piesanie 2012, Huffman & Schoeman 2002 and Rood 2003) observed graves/burial sites. Burial sites may consist of formal graves with modern headstones or informal graves consisting of stacked stones without any inscriptions.





**Figure 49:** Stone cairn H06.



**Figure 50:** Stone cairn H07.





**Figure 51:** Broken bottom grinding stone at stone cairn H07.



**Figure 52:** Stone cairn H09.





**Figure 53:** Stone cairn H10.



**Figure 54:** Stone cairn H30.





**Figure 55:** Upright stone H33.



**Figure 56:** Grave consisting of stacked stones in graveyard H31.





**Figure 57:** Modern grave in graveyard H31.



**Figure 58:** Graveyard H32.

## 6. Evaluation

The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

A fundamental aspect in the conservation of a heritage resource relates to whether the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. There are many aspects that must be taken into consideration when determining significance, such as rarity, national significance, scientific importance, cultural and religious significance, and not least, community preferences. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and if appropriate mitigated in order to gain data / information which would otherwise be lost. Such sites must be adequately recorded and sampled before being destroyed.

All the sites identified along the proposed haul road, except the two recent structures (H01 & H28) are significant from a heritage perspective. Additionally, the greater area falls within an archaeologically sensitive area that include material culture that date from the Stone Age to historical times.

### 6.1 Field Rating

All sites should include a field rating in order to comply with section 38 of the National Heritage Resources Act (Act No. 25 of 1999). The field rating and classification in this report is prescribed by SAHRA.

**Table 3:** Field Ratings

Rating	Field Rating/Grade	Significance	Recommendation
National	Grade 1		National site
Provincial	Grade 2		Provincial site
Local	Grade 3 A	High	Mitigation not advised
Local	Grade 3 B	High	Part of site should be retained
General protection A	4 A	High/Medium	Mitigate site
General Protection B	4 B	Medium	Record site
General Protection C	4 C	Low	No recording necessary



**Table 4:** Individual site ratings

Site	Type	Rating	Field Rating/Grade	Significance	Recommendation
H01	Modern	General Protection B	4 B	Medium	Record site
H02	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H03	Historical	General Protection B	4 B	Medium	Record site
H04	Historical	General Protection B	4 B	Medium	Record site
H05	Historical	General Protection B	4 B	Medium	Record site
H05-1	Historical	General Protection B	4 B	Medium	Record site
H06	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H07	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H08	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H09	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H10	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H11	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H12	Historical	Local	Grade 3 A	High	Mitigation not advised
H13	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H14	Historical	Local	Grade 3 A	High	Mitigation not advised
H15	Historical	Local	Grade 3 A	High	Mitigation not advised
H16	Historical	Local	Grade 3 A	High	Mitigation not advised
H17	Historical	Local	Grade 3 A	High	Mitigation not advised
H18	Historical	Local	Grade 3 A	High	Mitigation not advised
H19	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H20	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H21	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H22	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H23	Historical	Local	Grade 3 A	High	Mitigation not advised
H24	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H25	LIA/Farmer	Local	Grade 3 A	High	Mitigation not advised
H26	Historical	General Protection B	4 B	Medium	Record site
H27	Historical	General Protection B	4 B	Medium	Record site
H28	Modern	General Protection B	4 B	Medium	Record site
H29	Historical	General Protection B	4 B	Medium	Record site
H30	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H31	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H32	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H33	Grave/Graveyard	Local	Grade 3 A	High	Mitigation not advised
H34	Historical	Local	Grade 3 A	High	Mitigation not advised

## 7. Statement of Significance & Recommendations

### 7.1 Statement of significance

#### **The demarcated haul road consisting of Route 1, Route 2 and the Mareesburg Road**

I observed several areas of heritage importance along the proposed haul road. The majority of the sites were located along Route 2. This section revealed 10 LIA / Farmer sites (H02, H08, H11, H13, H19, H20, H21, H22, H24, and H25), 12 Historical sites (H03, H04, H05, H05-1, H12, H14, H15, H16, H17, H18, H23 and H29) and four graveyard sites (H06, H07, H09 and H10). It should be noted that Sites H19-H25 are located on the mutual section of Routes 1 & 2.

I located three sites of heritage importance along Route 1, excluding the mutual section of Route 2. All three sites are historical structures built from bricks and cement (H26, H27 and H34).

Four sites were located along the Mareesburg Road section, three of which are located next to the provincial road section. Two of the sites (H30 and H33) are stone cairns in the road reserve, while the remaining two (H31 & H32) are formal graveyards located just outside of the road reserve. Because stone cairns often indicate grave locations, the identified stone cairns should be treated as graves, regardless of orientation.

The LIA / Farmer sites identified in this study consist of linear stone walling and stone-walled enclosures of varying complexity. These sites, however, should not be regarded as individual sites. It is clear that the majority of the sites form part of the greater archaeological landscape and should therefore be seen together with surrounding sites, features and artefacts. To gain a better understanding of these sites, it is therefore required to first identify the extent, type and level of preservation of the surrounding sites. What adds to the complexity of these LIA / Farmer sites is the presence of historical aspects in terms of angular stone-walled features that are either separate structures or form part of circular enclosures. These occurrences, therefore, might point toward a transition to the historical time period made visible through a change in building style influenced by a western presence.

The identified sites fall within an archaeologically rich and sensitive area, as can be seen from the studies done by Du Piesanie (2012), Huffman & Schoeman (2002) and Rood (2003). Accordingly, there is a strong association with Middle Iron Age remains that stretch to the Historical Period in the post-Sekhukhune wars era. The most information available, however, is found in oral histories identifying the Pedi as a key role player in the general area. The sites observed within the study area are therefore likely to date to the Iron Age/Historical period. The possibility of additional informal graves located within this area should be kept in mind.

## 7.2 Recommendations

The archaeological and historical landscape around Lydenburg/Steelpoort infers a rich and diverse cultural horizon. Therefore, the following recommendations are made in terms with the National Heritage Resources Act (25 of 1999) in order to avoid the destruction of heritage remains in areas demarcated for development:

- The two formal graveyards (H31 & H32) located along the provincial road are located just outside of the road reserve and should therefore not be impacted by the proposed development. The road along this section should be wide enough and should not require additional upgrades. However, it is recommended that the fence between the road and graveyard H31 be upgraded in order to prevent the accidental destruction of the graves. Graveyard H32 should be completely fenced-off to prevent damage to the graves. Should it not be possible to avoid impact on the affected sites, the graves may be relocated by a qualified graves relocation unit to a premises earmarked by the local municipality, but will set in motion a substantial process as new legislation will be triggered. These processes, however, must be performed in accordance with the involvement of community leaders and the relatives of the deceased.
- The two stone cairns (H30 & H33) along the Mareesburg Road should be regarded as graves and should be avoided by construction activities. Should the need exist to upgrade the road sections next to these sites without avoiding impact, the stone cairns may be investigated and relocated by a qualified graves relocation unit to a premises earmarked by the local municipality, but will set in motion a substantial process as new legislation will be triggered. These processes, however, must be performed in accordance with the involvement of community leaders and the relatives of the deceased if possible.
- The following recommendations are made for Route 1: Building H26 and building H27 most likely exceed 60 years of age, while building H37 is at least 62 years of age and therefore protected under the National Heritage Resources Act (25 of 1999). Should the need exist to demolish these sites or if impact is unavoidable, it is recommended that the sites be recorded via drawings and photographs by a qualified archaeologist and that a destruction permit be obtained from SAHRA. The recent structure along this section of the road (H28) do not exceed 60 years of age and is therefore not protected under the National Heritage Resources Act (25 of 1999).
- Because of the high number of heritage sites associated with Route 2, excluding the section shared with Route 1, it is recommended that this route not be considered for the construction of the haul road. However, should this route be selected, it is recommended that the route be adjusted with the help of a qualified archaeologist in order to minimise the impact on heritage resources. This will include the mapping of heritage sites in the general surroundings of Route 2 when the vegetation is not as dense.



- The following sites are located along the shared section between Routes 1 & 2 towards the north: H19-H25. These sites consist of six LIA / Farmer sites and one historical site. Because these sites are located in close proximity to the proposed haul road, they will most likely be impacted. Therefore, it is recommended that this section of the route be adjusted with the aid of a qualified archaeologist to avoid destruction of heritage resources. Should this not be possible a qualified archaeologist should properly record the sites via detailed site plans and photographic record. A destruction permit must also be obtained from SAHRA.
- Because archaeological artefacts generally occur below surface, the possibility exists that culturally significant material may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist. Also, should skeletal remains be exposed during development and construction phases, all activities must be suspended and the relevant heritage resources authority contacted (See National Heritage Resources Act, 25 of 1999 section 36 (6)).
- Should the need arise to expand the development beyond the surveyed area mentioned in this study, the following applies: a qualified archaeologist must conduct a full Phase 1 Archaeological Impact Assessment (AIA) on the sections beyond the demarcated areas which will be affected by the expansion, in order to determine the occurrence and extent of any archaeological sites and the impact development might have on these sites.
- From a heritage point of view, construction of the haul road may proceed, subject to the abovementioned conditions, recommendations and approval by the South African Heritage Resources Agency.

## 8. Addendum: Terminology

### **Archaeology:**

The study of the human past through its material remains.

### **Artefact:**

Any portable object used, modified, or made by humans; e.g. pottery and metal objects.

### **Assemblage:**

A group of artefacts occurring together at a particular time and place, and representing the sum of human activities.

### **Context:**

An artefact's context usually consist of its immediate *matrix* (the material surrounding it e.g. gravel, clay or sand), its *provenience* (horizontal and vertical position within the matrix), and its *association* with other artefacts (occurrence together with other archaeological remains, usually in the same matrix).

### **Cultural Resource Management (CRM):**

The safeguarding of the archaeological heritage through the protection of sites and through salvage archaeology (rescue archaeology), generally within the framework of legislation designed to safeguard the past.

### **Excavation:**

The principal method of data acquisition in archaeology, involving the systematic uncovering of archaeological remains through the removal of the deposits of soil and other material covering and accompanying it.

### **Feature:**

An irremovable artefact; e.g. hearths or architectural elements.

### **Ground Reconnaissance:**

A collective name for a wide variety of methods for identifying individual archaeological sites, including consultation of documentary sources, place-name evidence, local folklore, and legend, but primarily actual fieldwork.

### **Matrix:**

The physical material within which artefacts is embedded or supported, i.e. the material surrounding it e.g. gravel, clay or sand.

### **Phase 1 Assessments:**

Scoping surveys to establish the presence of and to evaluate heritage resources in a given area.

**Phase 2 Assessments:**

In-depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling is required.

**Sensitive:**

Often refers to graves and burial sites although not necessarily a heritage place, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

**Site:**

A distinct spatial clustering of artefacts, features, structures, and organic and environmental remains, as the residue of human activity.

**Surface survey:**

There are two kinds: (1) unsystematic and (2) systematic. The former involves field walking, i.e. scanning the ground along one's path and recording the location of artefacts and surface features. Systematic survey by comparison is less subjective and involves a grid system, such that the survey area is divided into sectors and these are walked ally, thus making the recording of finds more accurate.



## 9. References

- Bergh, J. L. 1999. *Geskiedenisatlas van Suid-Afrika: Die Vier Noordelike Provinsies*. Pretoria: Van Schaik Uitgewers.
- Bryant, A. T. 1929. *Olden Times in Zululand and Natal*. London: Longmans, Green.
- Clarke, R. J. & Kuman, K. 2000. *The Sterkfontein Caves Palaeontological and Archaeological Sites*. Johannesburg: University of the Witwatersrand.
- Deacon, H. & Deacon, J. 1999. *Human beginnings in South Africa*. Cape Town: David Philip.
- Delius, P. & Schoeman, M.H. 2008. Revisiting Bokoni: populating the stone ruins of the Mpumalanga Escarpment. In Swanepoel, N., Esterhuysen, A., Bonner, P. (eds) *Five Hundred Years Rediscovered: Southern African Precedents and Prospect, 500 Years Initiative 2007 Conference Proceedings*: 135-167. Johannesburg: Wits University Press.
- Du Piesanie, J. 2012. Heritage Impact Assessment for the Everest North Mining Development, 2530 AA, Vygenhoek 10 JT, Mpumalanga. Randburg: Digby Wells Environmental
- Huffman, T. N. 2007. *Handbook to the Iron Age*. Pietermaritzburg: UKZN Press.
- Huffman, T. N. & Schoeman M. H. 2002. Archaeological Assessment of the Der Brochen Project, Mpumalanga. University of the Witwatersrand: Archaeological Resources Management.
- Hunt, D. R. 1931. An Account of the Bapedi. *Bantu Studies V*: 291-326.
- Klein, R. G. (ed.) 1984. *South African prehistory and paleoenvironments*. Rotterdam: Balkema.
- Merensky, A. 1899. *Erinnerungen aus dem Missionsleben in Transvaal 1859-1882*. Berlin: Evnagel. Missiongesellschaft.
- Mitchell, P. 2002. *The archaeology of southern Africa*. Cambridge: Cambridge University Press.
- Mönnig, H. O. 1988. *The Pedi*. Pretoria: J.L. van Schaik.
- Mucina, L. & Rutherford, M. C. 2006. *The Vegetation of South Africa, Lesotho and Swaziland*. Pretoria: South African National Biodiversity Institute, Strelitzia 19.
- Oosthuizen, P. J. 2018. Storm Water Management Plan (SWMP) for Mareesburg Haul Road. Pretoria: MVD Kalahari

Posselt, F. W. T. 1919. Mzilikazi, The Rise of the Amandebela. *Rhod. Sci. Ass. XVIII*.

Sa Explorer. Lydenburg Climate. [http://www.saexplorer.co.za/south-africa/climate/hendrina\\_climate.asp](http://www.saexplorer.co.za/south-africa/climate/hendrina_climate.asp). Accessed 28-07-2018.

Toth, N. & Schick, K. 2007. *Handbook of paleoanthropology*. Berlin: Springer.

Van Rooyen, T. S. 1951. Die verhouding tussen die Boere, Engelse en Naturelle in die geskiedenis van die Oos-Transvaal tot 1882. *Archives year book for South African History XVII*.

Van Warmelo, N. J. 1935. *A Preliminary Survey of the Bantu Tribes of South Africa*. Pretoria: Government Printer.

Volman, T. P. 1984. Early Prehistory of southern Africa. In: Klein, R. G. (ed.) *Southern African prehistory and paleoenvironments*. Rotterdam: Balkema.

*Human Tissue Act No. 65 of 1983, Government Gazette, Cape Town*

*National Heritage Resource Act No.25 of 1999, Government Gazette, Cape Town*

*Removal of Graves and Dead Bodies Ordinance No. 7 of 1925, Government Gazette, Cape Town*

## **Maps**

Merensky, A. 1880. Map of the Transvaal.

## **Appendix A: Historical Aerial Images**





Figure 1: 1956 imagery of the upper half of Route 1 & 2.

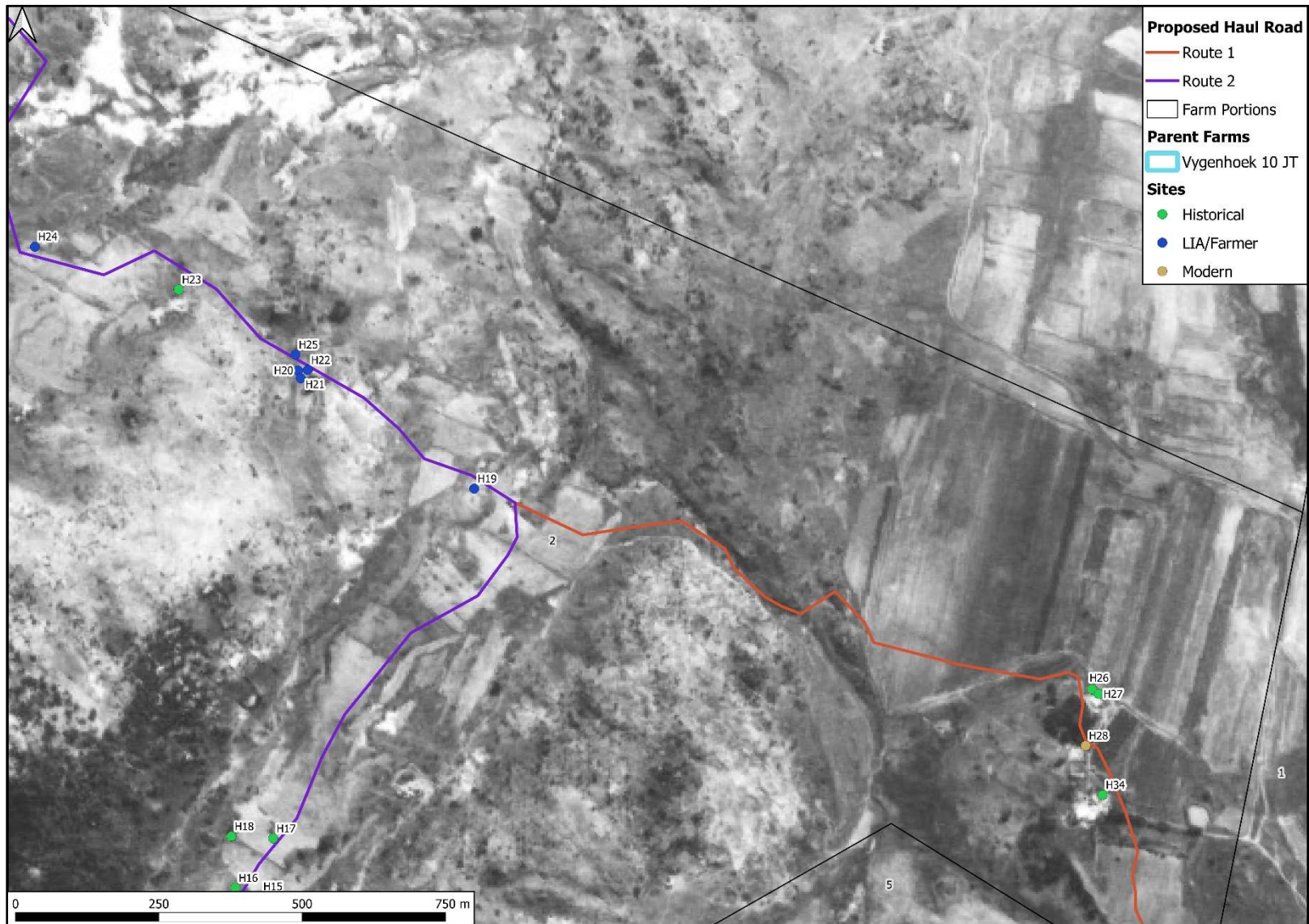


Figure 2: 1964 imagery of the upper half of Route 1 & 2.





Figure 3: 1956 imagery of the lower half of Route 1 & 2.



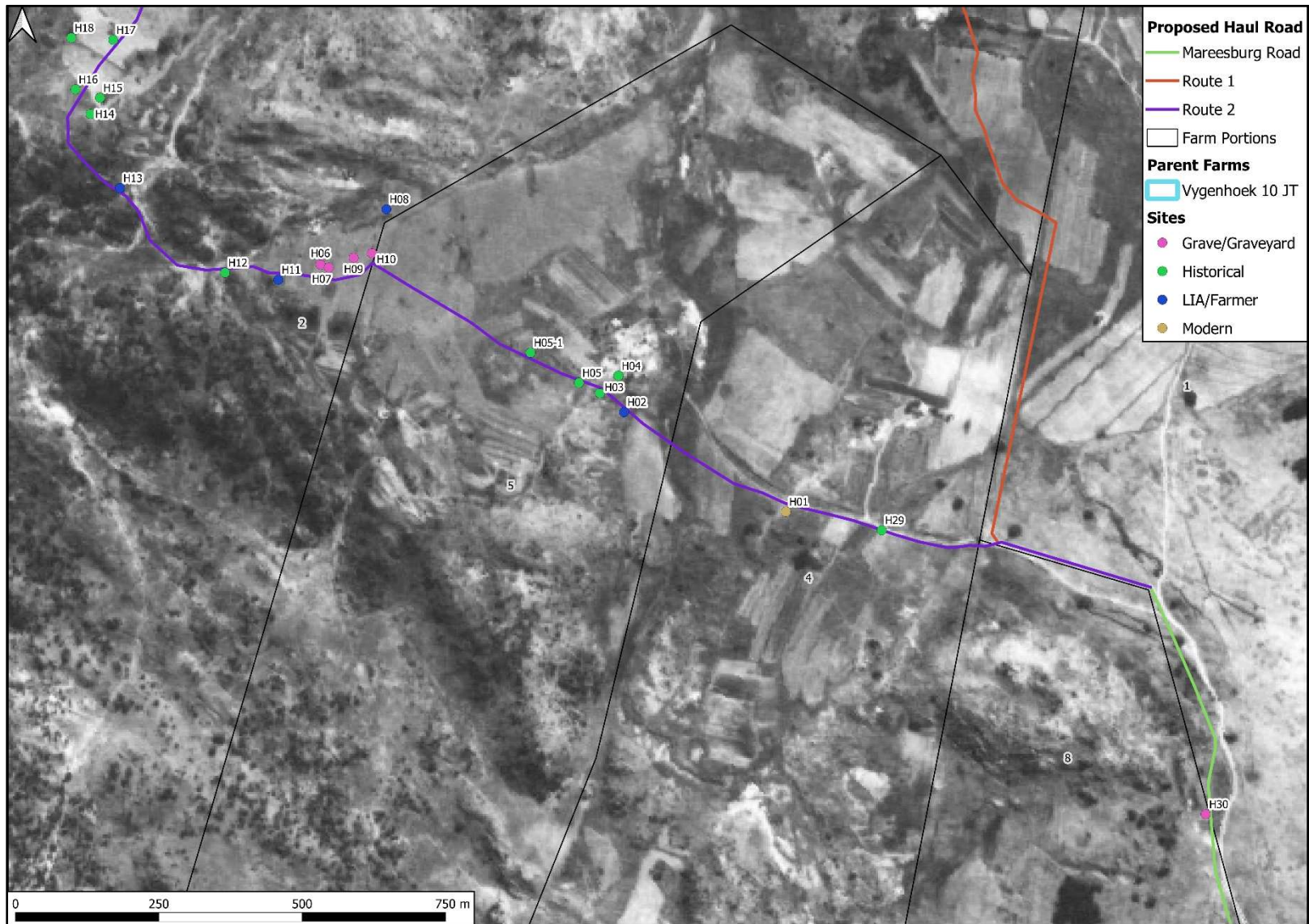


Figure 4: 1964 imagery of the lower half of Route 1 & 2.