



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT DONE FOR
PROPOSED QUARRIES ON THE FARM HARRIET'S WISH 393 LR, PORTION 3,
FORMING PART OF THE PLATINUM GROUP METALS WATERBERG
PROSPECTING AREA, LIMPOPO PROVINCE**

For:

Platinum Group Metals (RSA) (Pty) Ltd
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REPORT NO.: AE02230V

By:

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26 September 2022

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SUBMISSION OF REPORT

Please note that the South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report.

It is the client's responsibility to do the submission via the SAHRIS System on the SAHRA website.

Clients are advised not to proceed with any action before receiving the necessary comments from SAHRA.

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Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites is as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof.

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Any changes to the scope of a project will require an additional appointment.

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EXECUTIVE SUMMARY

Archaetnos cc was requested by the Platinum Group Metals (RSA) Pty Ltd to conduct a cultural heritage impact assessment (HIA) for a proposed Quarries as part of the Waterberg Mining development. The Project lies to the west of the town of Bochum in the Limpopo Province. The HIA was done on portion 3 of the farm Harriet's Wish 393 LR.

The field survey for the project was conducted according to generally accepted HIA practices and was aimed at locating possible objects, sites and features of cultural significance in the area of proposed development. One regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration. However, since the area is extremely large the study is merely an indication of what cultural resources can be expected in the area.

Two sites of cultural importance were identified in the study area. One of these sites will be impacted on and therefore mitigation measures are proposed.

The following is recommended:

- Site no. 1 is a grave, located within the proposed quarry area A3. It will be directly impacted on by the development. If it is possible to move the quarry in such a way that the grave is outside thereof, Option 1 is recommended. The site needs to be at least 20 m from the quarry.
- If the above is not possible, Option 2 is recommended for site 1. This is to exhume the mortal remains and then to have it relocated. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA.
- For site 2, which in any event falls outside of the project area, the description in this phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.
- The project may continue only after receiving the necessary comments from SAHRA as well as the implementation of the mitigation measures indicated above.
- It should always be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

It is also important to take cognizance that it is the client's responsibility to do the submission of this report via the SAHRIS System on the SAHRA website. No work on site may commence before receiving the necessary comments from SAHRA.

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- *Since 2012*: Archaeologist and heritage official, Department of Environment and Agriculture, City of Tshwane
- *Since 2015*: Extraordinary Professor of History at the North-West University

Previous:

- *1988-1991*: Fort Klapperkop Military Museum - Researcher
- *1991-1999*: National Cultural History Museum. Work as Archaeologist, as well as Curator/Manager of Pioneer Museum (1994-1997)
- *1999-2002*: City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- *2002-2007*: City of Tshwane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- *August 2007* – present – Managing Director for Archaetnos Archaeologists.
- *1988-2003*: Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.
- *2014-2015*: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria
- *2020-2021*: Part-time lecturer in History at the North-West University

OTHER

- NRF C2 Research rating.

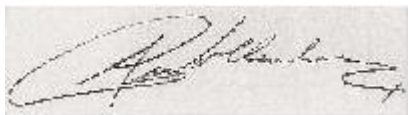
- Has published 41 peer-reviewed and 54 popular articles.
- Has written 13 books/book contributions/conference proceedings .
- Has been the author and co-author of over 1076 unpublished reports on cultural resources surveys and archaeological work.
- Has delivered more than 83 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 – 2006.
- Member of the South African Academy for Science and Art.
- Member of Association for South African Professional Archaeologists.
- Member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014; 2018-2021).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Editorial member of various scientific journals.
- Member of the Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2024).

A list of reports can be viewed on www.archaetnos.co.za.

DECLARATION OF INDEPENDENCE

I, Anton Carl van Vollenhoven from Archaetnos, hereby declare that I am an independent specialist within the field of heritage management.

Signed:



Date: 26 September 2022

LIST OF ACRONYMS:

AIA – Archaeological Impact Assessment
 CMP – Cultural Management Plan
 EAP – Environmental Assessment Practitioner
 EIA – Environmental Impact Assessment
 HIA – Heritage Impact Assessment
 PIA – Palaeontological Impact Assessment
 SAHRA –South African Heritage Resources Agency

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1. INTRODUCTION

Archaetnos cc was requested by the Platinum Group Metals (RSA) Pty) Ltd to conduct a cultural heritage impact assessment (HIA) for a proposed Quarries as part of the Waterberg Mining development. The Project lies to the west of the town of Bochum in the Limpopo Province (Figure 1-3). The HIA was done on portion 3 of the farm Harriet's Wish 393 LR (Figure 4-5).

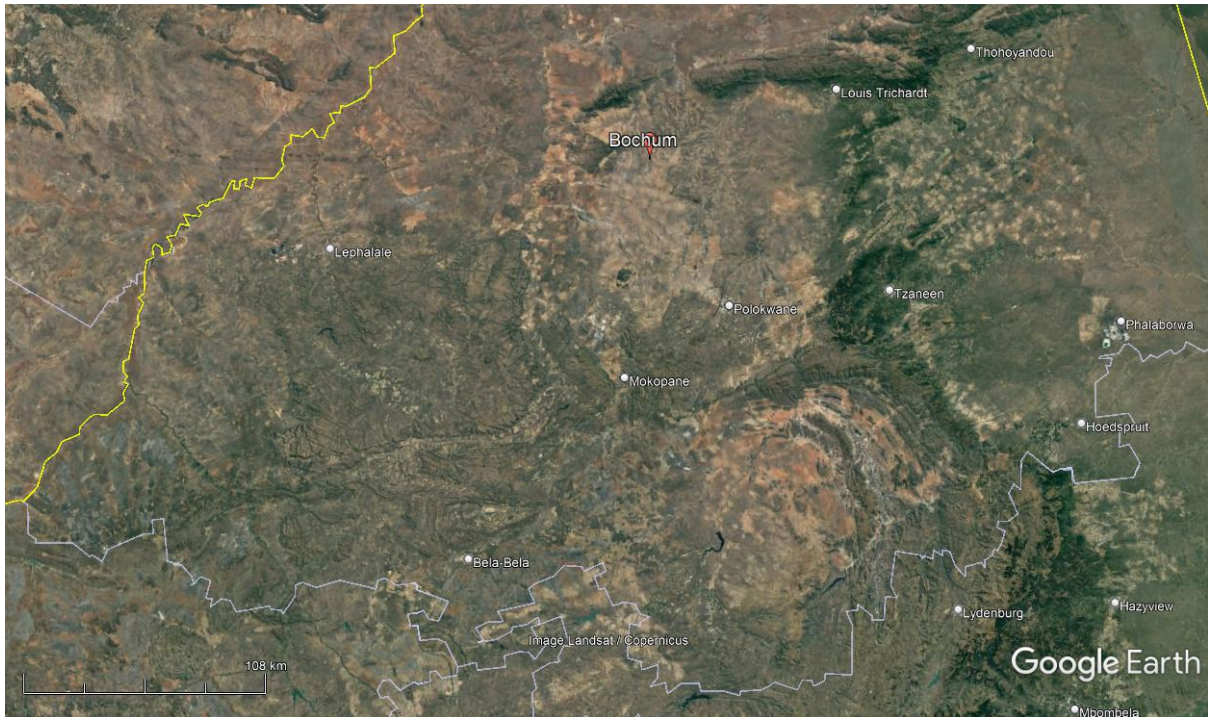


Figure 1: Location of the town of Bochum and in the Limpopo Province. North reference is to the top.



Figure 2: Location of the surveyed site in relation to Bochum. North reference is to the top.

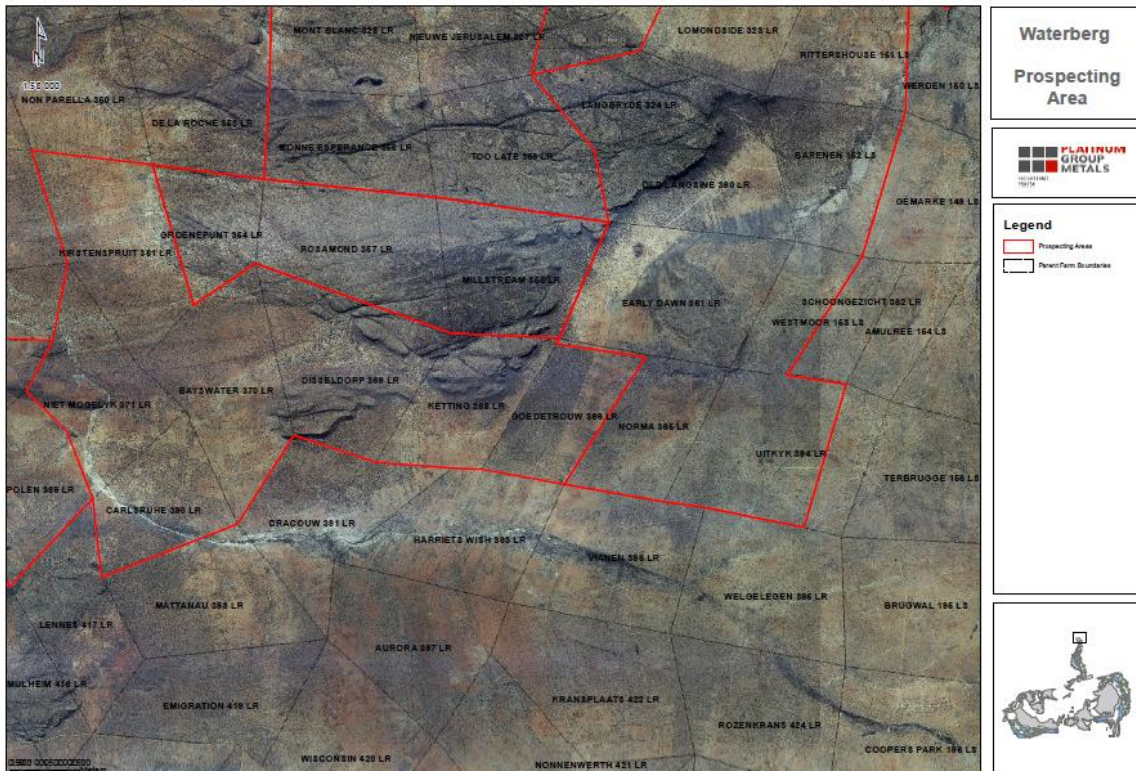


Figure 3: Map of the project area.

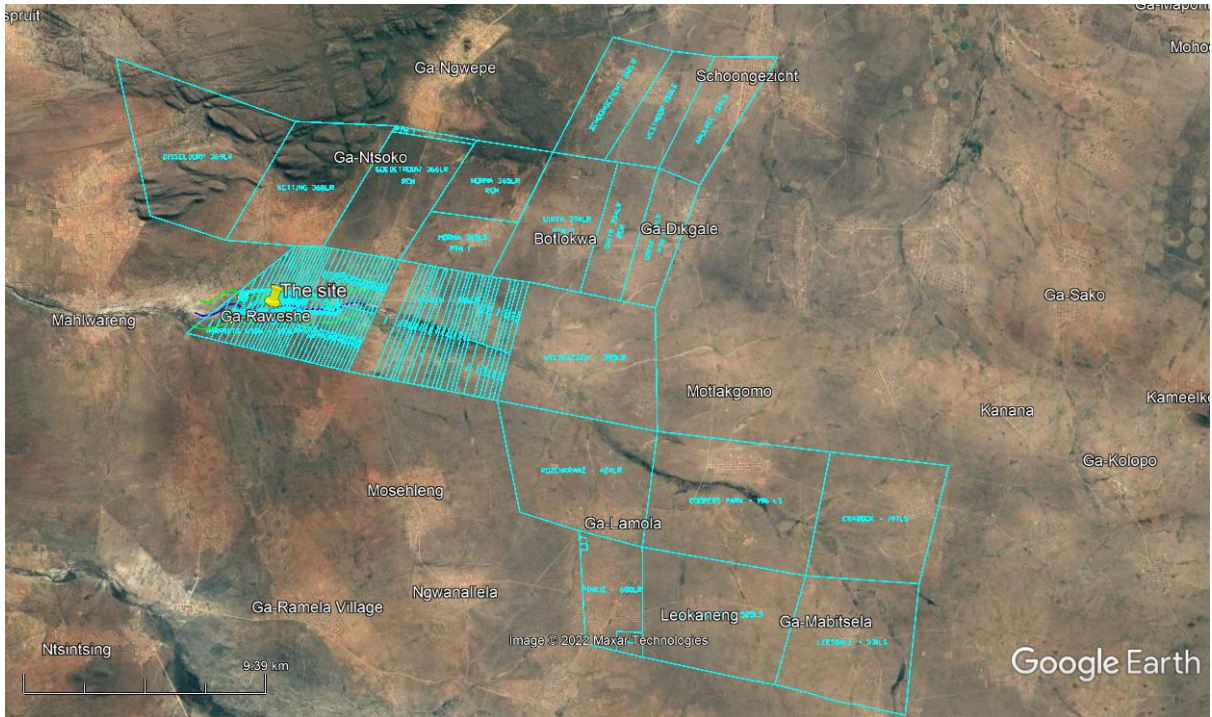


Figure 4: Location of the farm Harriet's Wish within the Waterberg Project.



Figure 5: Portion 3 of Harriet's Wish, indicating the 3 proposed quarry positions (A1-A3).

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Document the found cultural heritage sites according to best practice standards for heritage related studies.
3. Study background information on the area to be developed.
4. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
5. Describe the possible impact of the Project on these cultural remains, according to a standard set of conventions.
6. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.

3. CONDITIONS & ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).
4. The **latitude and longitude** of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public. This does not mean that other information about these sites may not be shared with the public.

5. All recommendations are made with full cognizance of the relevant legislation.
6. No social consultation process was undertaken as this is usually dealt with by the environmental practitioner. Information relevant to heritage, if any, is then provided to the heritage specialist. No such issues were brought to the fore.
7. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.
8. In this case there were certain areas where the vegetation cover was very dense, which had a negative effect on both the horizontal and the vertical archaeological visibility.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) (the “NHRA”) and the National Environmental Management Act (Act 107 of 1998) (the “NEMA”).

4.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The national estate (see Appendix D) includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery

- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment only looks at archaeological resources. The different phases during the HIA process are described in Appendix E.

An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the NHRA states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite; or

- d. Bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
- e. Alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant 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 or 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; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

All graves older than 60 years are called heritage graves and should be handled by an archaeologist. This includes archaeological graves, which are older than 100 years. Unidentified/unknown graves (which refers to date of death) are also handled as older than 60 until proven otherwise.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the **National Health Act (Act 61 of 2003)**.

4.2 The National Environmental Management Act

NEMA states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. In terms of section 23 of the NEMA the impact of the development on these resources should be determined and proposals for the mitigation thereof be made.

Environmental management should also take the cultural and social needs of people into account. Section 2(4)(a)(iii) of NEMA requires that any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

5. METHODOLOGY

5.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography. The SAHRA database, SAHRIS, was also utilised. Information obtained here is utilised further on and referenced as such.

5.2 Field survey

A basic assessment of the Waterberg mining area was done in 2014 and the site was visited twice during this survey. These visits were respectively for 3 days in September and 1 day in December. This was followed by an HIA in 2016 when the site was visited for a third time. This visit was done in May and the duration thereof was two days. During 2018 it was visited again, as the infrastructure layout plan had changed. This visit was done in May and took 2 days. Later that year, the area was visited again. This survey, which included a basic assessment and HIA, 56 hours to complete. The current study on Harriet's Wish, took another 8 hours.

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. One regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration. These practices are described in SAHRA's minimum standards (2007) but is based on the basic methodology for doing archaeological surveys as described in various academic text

books, such as Joukowsky (1980), Renfrew & Bahn (1991) and Van Vollenhoven (2000).

If required, the location/position of any site was determined by means of a Global Positioning System (GPS)¹, while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 6).

Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage. The current survey area is approximately 15 Ha in size and the survey took 4 hours to complete.

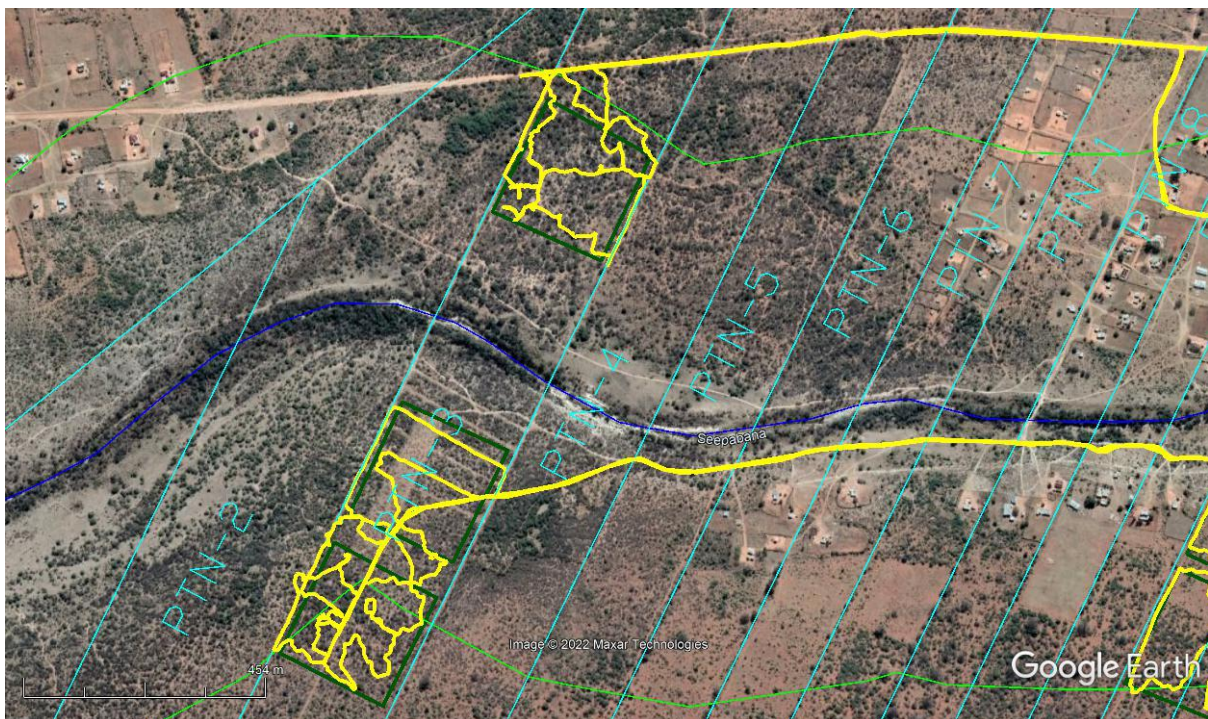


Figure 6: GPS track of the surveyed area. North reference is to the top.

5.3 Oral histories

People from local communities are interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

5.4 Documentation

All sites, objects, features and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by means of the GPS. The information was added to the description in order to facilitate the identification of each locality.

¹ A Garmin Oregon 550 with an accuracy factor of a few meters.

5.5 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and
- Potential to answer present research questions.

6. DESCRIPTION OF THE AREA

The entire surveyed area has been disturbed in the recent past by farming activities (grazing of livestock) and dirt roads and thus the general environmental characteristics of these are more or less the same (Figure 7-9). Most of the land is used for livestock and has been overgrazed. This results in areas with little plant growth, showing trees but little grass cover and areas with pioneer species such as acacias, sickle bush and candelabra trees (Figure 10). Although the under footing of the surveyed area therefore is mostly open, there are areas with dense vegetation with the accordingly negative effect on horizontal and vertical archaeological visibility (Figure 11).

The topography of the surveyed areas is reasonably even. A non-perennial river is located between two of the surveyed areas.



Figure 7: General view of vegetation growth in the surveyed areas.



Figure 8: View of dirt road and animal paths in surveyed areas.



Figure 9: General view of the homogenies plant growth in the surveyed areas.



Figure 10: Open area caused by overgrazing in the surveyed areas.



Figure 11: View of dense vegetation growth in the surveyed areas.

7. HISTORICAL CONTEXT

Thirty sites of cultural heritage significance were identified during previous surveys in the vicinity. None of the are on the farm Harriet's Wish. Two sites were now identified.

A few heritage reports of the surrounding area were found on the SAHRA database as well as the database of Archaetnos (see reference list – Nel, Pelsler and Van

Vollenhoven). Some of these were desktop studies, which did not provide specific information on the study area, but rather about the broader geographical environment. Many sites are also known from the surrounding environment of the surveyed area (Archaetnos database).

A few scholars (see reference list) also did archaeological research in the area. Unfortunately, some of these reports are not accessible, although indicated on the SAHRIS system of SAHRA (SAHRIS database). Much of the information was however captured by Nel and Van Vollenhoven.

In order to place this within context and to understand possible finds that could be unearthed during construction activities, it is necessary to give a background regarding the different phases of human history in the area. It also needs to be noted that the Makgabeng Plateau is seen as being a very sensitive heritage area. However, the mining impact is limited to the plains east of the plateau. Therefore, only mention will be made of sites on the plateau.

7.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

Many Stone Age sites have been identified previously in the Limpopo Province. Sites dated to the Early Stone Age were identified at Blaauwbank close to Rooiberg, at the Cave of hearths and Schoonheid close to Mokopane, at Olieboompoort to the north of Thabazimbi and at Kalkbank to the south of Schoemansdal (Bergh 1999: 4).

Middle Stone Age sites are known at Tuinplaats to the east of Bela-Bela, at Olieboompoort to the north of Thabazimbi, at the Cave of Hearths and Rufus Cave close to Mokopane, at Grace Dieu and Mwulu Cave close to Polokwane, at Kalkbank to the south of Schoemansdal and at Noord-Brabant and Goergap to the east of Lephalale (Bergh 1999: 4). One Middle Stone Age site is known from the farm Mont Blanc, close to the surveyed area (Sadr 2005).

Late Stone Age sites have been identified at Wellington Estates to the east of Settlers, at Modimolle, at Olieboompoort to the north of Thabazimbi, at the Cave of Hearths close to Mokopane, at Noord-Brabant close to Lephalale, at Kalkbank to the south of Schoemansdal and in the Greefswald area. Closer to the surveyed area only one Late Stone Age site is known. It is called the Makgabeng site close to Blouberg (Bergh 1999: 4).

Rock art is also associated with the Late Stone Age. Such sites were found in abundance in the Limpopo Province. Rock paintings are located along the Limpopo River, the Soutpansberg, Waterberg, Strydpoortberg and the areas in between these. Rock engravings were found along the Mogalakwena and Limpopo Rivers, and between the Olifants and Steelpoort Rivers (Bergh 1999: 4). This includes the study area.

It is clear that the mentioned sites were identified in rural areas and therefore there is a good chance of finding Stone Age sites in this environment, especially close to rivers and mountains. These natural features create an environment suitable for human habitation.

At least one Middle Stone Age site was identified in close proximity to the project area (Nel et.al 2013: 43-44). Nel et.al. (2013: 20-27) also indicates the Late Stone Age existence in the more immediate vicinity of the project area. They mention that more than 460 rock art sites have been documented in this region. However, Eastwood and Tlouamma (2006:9) indicates that they documented more than 670 sites in the region. This includes San rock art as well as finger paintings associated with the Khoi. Rock paintings were noted on the plateau by Van Essen (2018), one of the specialists who did a bio-diversity study on the plateau (Figure 12-13).



Figure 12: Rock painting found on the Makgabeng plateau. These are likely associated with San people (courtesy of LD van Essen).



Figure 13: Rock paintings in a rock shelter on the plateau. These are probably related to Iron Age people (courtesy of LD van Essen).

Late Stone Age sites on the Makgabeng Plateau was also researched and described by Bradfield et.al. (2009: 176-183). They indicate that research has been done in the past here by Roberts (1916), Mason (1962) and Sampson (1974). Bradfield excavated a specific shelter called Mphekwane.

Although no such sites were identified during the survey, it is clear from the above mentioned that Stone Age people did utilize and settled in the broader geographical area. There however are some hiatuses due to certain farms not having been researched before. One will therefore have to be careful during mining that sites are not disturbed. These are however to expected against and on top of the Makgabeng Plateau which is adjacent to the area of impact.

Things to be on the lookout for would be caves, rock shelters, rock outcrops and areas with scattered stone tools in the open, especially close to rivers. This environment is found on the western sections of the farms Early Dawn and Ketting.

Stone tools can be recognized by it showing definite sharp edges as well as cut and hammering marks, which would distinguish it from ordinary stones (Figure 14-16). Rock paintings may also be found in caves and rock shelters whereas large stones in the open may contain rock engravings (Figure 17-19).



Figure 14: Example of an Early Stone Age tool found in Gauteng (Archaetnos' database).



Figure 15: An example of Early Stone Age (top) and a Middle Stone Age tool (bottom) from Archaetnos' collection (Archaetnos' database).



Figure 16: Examples of Late Stone Age tools from Archaetnos' collection (Archaetnos' database).



Figure 17: Rock paintings from the Limpopo Province (Archaetnos' database).



Figure 18: Rock engraving (pecking) from Beeshoek in the Northern Cape (Archaetnos' database).



Figure 19: Rock engravings from Putsonderwater, Northern Cape (Archaetnos database).

7.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996:346). In South Africa it can

be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which are now widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

Very few Early Iron Age sites have been identified. In Limpopo Province these include sites at Kommando Kop, Pont Drift, Mapungubwe and Schroda in the Limpopo Valley. Other sites are Happy Rest/ Matakoma close to Schoemansdal, Klein Afrika to the north of Louis Trichardt, the Eiland site along the upper Letaba River, Silver Leaves close to Tzaneen, at Harmonie to the south of Leydsdorp and at Diamant to the north of Thabazimbi (Bergh 1999: 6). Sites were also identified close to Burgersfort and Hoedspruit (Archaetnos database). No Early Iron Age sites are indicated in a historical atlas (Bergh 1999) close to the surveyed area.

Middle Iron Age sites include the World Heritage site at Mapungubwe as well as K2, Kommandokop and Schroda in the Limpopo Valley (Bergh 1999: 7). No Middle Iron Age sites are indicated in a historical atlas (Bergh 1999) close to the surveyed area.

Late Iron Age sites are found in abundance throughout the Limpopo Province. Pelsner (2011: 11) indicate that many such sites exist close to Alldays but does not provide any details. Known sites include those along the Sand and Levuvhu Rivers, various sites in the Kruger National Park (including Thulamela, Makahane and others), at least 58 sites near the town of Phalaborwa, 200 sites along the Lephhalala River, 35 sites to the south of Polokwane, 42 sites to the east of Mokopane, 13 smelting sites in the Strydpoort Mountains and 63 sites between Thabazimbi and Rooiberg (Bergh 1999: 7). None of these are in the surveyed area.

Specific sites relating to archaeo-metallurgy were also identified. Sites where copper smelting were identified include some to the west and south of Musina, to the north and west of Phalaborwa (including Lolwe), sites to the south of Leydsdorp, between Tzaneen and Polokwane, along the Hout River and close to Modimolle. Sites where iron were worked include those at Tshimbupfe to the east of Louis Trichardt, sites around Phalaborwa, sites between Polokwane and Tzaneen, to the north and east of Modimolle and to the east of Thabazimbi. Signs of gold working were only found at four sites namely Mapungubwe, Machedema, Makahane and Thulamela. Tin workings were identified at Blaauwbank and Rooiberg in the south-west of the province (Bergh 1999: 8). More sites known are sites on the farm Icon, Matoks, Manavela, Tavhatshena and the farm Stayt (Archaetnos database). Van Schalkwyk also indicated that iron was worked at a site on the farm Millbank (Bradfield et.al. 2009: 180).

The lack of known sites in the Study Area is merely an indication that these have not been surveyed in the recent past. Therefore, chances are good that Iron Age material and sites will be identified on some of these farms. Early Iron Age sites are usually found close to rivers. During a very recent survey such sites were indeed identified on the southern side of Blouberg and the northern side of the Makgabeng Plateau. Mention is made of a number of Early Iron Age sites on farms in and close to the project area (Nel et.al. 2013: 20-23).

During the mentioned recent survey, in close proximity to the project area, Nel et.al. (2013: 20-29, 35-40, 44-46) did identify Late Iron Age sites. They also mention rock art sites, known as finger paintings, associated with Northern Sotho speaking farming communities of the Late Iron Age. These were studied by Smith & Van Schalkwyk 2002: 235-254) who indicated that a specific painting of a camel can be dated to the early 20th century.

Van Schalkwyk indicated that Iron Age farmers moved into the area during the 13th century. He also did some excavations on the farm Millbank on a 16th and 17th century LIA village (Bradfield et.al. 2009: 176).

Late Iron Age sites are normally found on the foot or against slopes of hills. These sites can be identified by extensive stone walled complexes that served as homesteads and cattle kraals (Figure 20). Sometimes these sites can be identified by only a few potsherds (Figure 21). The lack of known sites closer to the project area may only indicate that no research has been done in this area. During the mentioned recent survey in close proximity to the project area, Nel et.al. (2013: 20-29, 35-40, 44-46) did identify Late Iron Age sites. They also mention rock art sites, known as finger paintings, associated with Sotho speaking farming communities of the Late Iron Age.



Figure 20: Typical Late Iron Age stone walling (Archaetnos' database).



Figure 21: Typical Iron Age pottery (Archaetnos' database).

One such site was identified during a previous survey in the larger area, but since the environment is definitely suitable therefore one should be cautious. Caution should especially be taken when working in the areas close to mountains (against slopes, in saddles or on top) and rivers. On Goedetrouw some Iron Age remains were also noted (Van Vollenhoven 2015b).

On the farm Ketting a few sites have been identified by one of the project geologists. It includes seven Late Iron Age sites and one cave with pottery and other remains (Figure 22-25). The biodiversity specialist made mention of similar sites (Figure 26-27). These sites are important, and one will have to conduct further studies, especially on the cave site. These sites are however far away from the proposed infrastructure development on site.

The strategic position of some of these sites indicates that the sites were utilized during times of turmoil, e.g. the Difaquane or the wars against the former Boer republic of the ZAR. This would place it within the historical era (see below), but the characteristics of the sites are similar to that of Late Iron Age sites.



Figure 22: Late Iron Age walling on the farm Ketting (courtesy of Geoactive Dynamic Geological Services).



Figure 23: Late Iron Age terraces on Ketting (courtesy of Geoactive Dynamic Geological Services).



Figure 24: Low stone wall in front of a cave with Iron Age remains inside (courtesy of Geoactive Dynamic Geological Services).



Figure 25: Ceramic pots found inside of the cave (courtesy of Geoactive Dynamic Geological Services).



Figure 26: Iron Age feature at cave entrance (courtesy of LD van Essen).



Figure 27: Iron Age pottery at a rock shelter on the Makgabeng Plateau.

8.3 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past. Due to factors such as population growth and a decrease in mortality rates, more people inhabited the area during the recent historical past. Therefore, much more cultural heritage resources have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance.

It is known that some of the early trade routes went past the Study Area, to the east thereof (Bergh 1999: 9). At the beginning of the 19th century different indigenous groups resided here. To the north it was the Hananwa who entered circa 1820/30 and to the south the Koni of Matlala, the Moletse/Kwena and the Langa Ndebele (Bergh 1999: 10). The Hananwa are the present occupiers of the area (Bradfield et.al.2009: 179).

The only early white traveller who visited this area was Coenraad de Buys in 1821 and 1825. In fact, he settled here (Bergh 1999: 12-13). The Voortrekkers under leadership of Louis Tregard also moved through this area in 1836 (Bergh 199: 14).

White farmers settled in the Soutpansberg area during the 1840's and established the town of Schoemansdal (Bergh 1999: 14). They never settled further to the west in the project area. The white farmers were followed by the Berlin Missionaries and later other missionaries (Nel et.al. 2013: 21; Bergh 1999: 57).

In 1894 a war broke out between the Boers and the Hananwa in the Blouberg area. This was known as the Maleboch War. During the War several fortifications were erected of which some are still to be seen today (Van Schalkwyk & Moifatswane 1991: 1-17; Smith & Van Schalkwyk 2002: 237; Nel et.al. 2013: 21-22; Bergh 1999: 36). This lies just to the north of the surveyed area. Late Iron Age/ Historical stone walled sites, linked to this period, have also been identified close to the project area (Nel et.al. 2013:31-34, 41-43). The Historical/ Late Iron Age sites identified on Ketting (see above) may also date from this period in time.

It seems as if many of the farms surveyed were only used for grazing by white farmers. By 1904 the area was however allocated to different indigenous groups (Bergh 1999: 41). It later on became part of the so-called Lebowa State (Bergh 1999: 43).

It therefore is clear that one would rather expect recent historical structures in the area than older or even prehistoric features. According to legislation everything older than 60 years can potentially be deemed as of heritage value, although one has to also consider other factors, such as uniqueness and state of the site. It would be impossible to list every heritage site older than 60 years. Sites, features and structures that are known from nearby the surveyed area are nevertheless listed below:

- Schoemansdal Voortrekker town and graveyard (Stoffberg 1988);
- ZAR fortifications at Blouberg;
- Mission stations, including Phatametsane, Khalatlolu, Bethesda, Malokong, Blaumberg, Medingen, Mp'hôme, Kranspoort, Georgholtz, Ha Schewasse, Tshakoma and Valdezia;
- Battlefields from the Anglo-Boer War (1899-1902) including Fort Edward close to Louis Trichardt, Fort Klipdam and Pietersburg to the north of Polokwane and Houtboschberg to the east of Polokwane;
- The place where Louis Tregardt met Portuguese Askari's and site of the State Artillery in Louis Trichardt (Oberholster 1972; Bergh 1999).

Declared national heritage sites include the following:

- Fort Hendrina in Louis Trichardt;
- The first ore stamper for gold on the farm Eersteling close to Polokwane;
- The Louis Tregardt monument north of Polokwane;
- Schoemansdal, mentioned earlier;
- Stonehenge, a residential farm house on the farm Bergvliet close to the Soutpansberg;
- The trek route of Louis Tregardt (Oberholster 1972; Bergh 1999);
- Fort Klipdam north of Polokwane, mentioned above (Oberholster 1972; SAHRA database; Bergh 1999).

One may therefore expect to find buildings and structures of a similar age (i.e. mid-19th century) on the farms within the Study Area. This is likely to coincide with the missionaries or structures built by farmers. It however seems as if these farms were scarcely inhabited by white farmers and rather used as grazing land.

Sites found will undoubtedly include graves. In fact, grave sites have been identified on adjacent farms during previous survey (Nel et.al. 2013: 26, 29-30, 34-35, 41; Van

Vollenhoven & Collins 2014; Van Vollenhoven 2015a; Van Vollenhoven 2016). Other historical sites were also identified during the latter surveys (Van Vollenhoven 2015a; Van Vollenhoven 2016).

8. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY

As indicated, thirty sites of cultural importance were identified in the surrounding area in the past (Figure 28). None of these are close to the development area. Two new sites have now been identified, both on the southern of the three areas investigated.

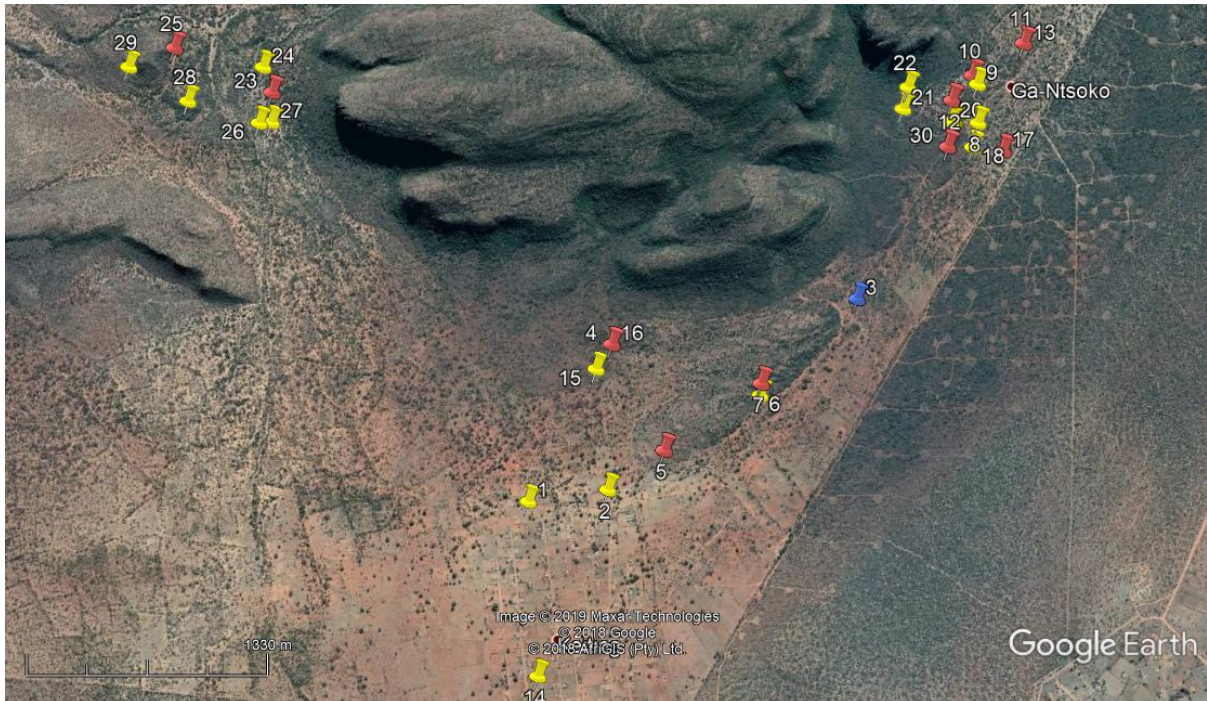


Figure 28: Sites identified close to (north) of the current study area.

- a. Yellow – graves
- b. Red – historical
- c. Blue – Iron Age

8.1 Site 1 – Grave

This site contains at least one grave (Figure 29). The grave has a packed stone border and no headstone. Grave goods are found on the grave and include a metal jug, bully beef cans and painted ceramics. This site is located close to the western border inside of surveyed area A3.

GPS: 23°25'24.08"S; 28°50'48.11"E



Figure 29: View of the grave at site no. 1.

Cultural significance Table: Site 1

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	High
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	N	
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	High
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	N	
Its importance in exhibiting particular aesthetic characteristics	N	

valued by a community or cultural group		
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	High
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	
Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		6-High

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 6(High) x 2
= 12

The site therefore receives a field rating of Local Grade IIIB. It means that these should be included in the heritage register and may be mitigated (high/ medium significance), if needed. Mitigation is subject to a permit application lodged with the relevant heritage authority.

Two possibilities exist. The first option would be to fence the graves in and have a management plan drafted for the sustainable preservation thereof. This should be written by a heritage expert in order to comply with heritage protocols. This usually is done when the graves are in no danger of being damaged, but where there will be a secondary impact due to the activities of the mine.

The second option is to exhume the mortal remains and then to have it relocated. This usually is done when the graves are in the area to be directly affected by the mining activities. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

If it is possible to exclude the graves from the area to be quarried, Option 1 is recommended. However, the quarry will need to be at least 20 m from the site. If not, Option 2 is recommended, as the proposed quarry (A3) will impact directly on this site.

8.2 Site 2 – Historical structure

This site consists of a single structure, constructed from stone and handmade bricks (Figure 30). It is about 8 x 9 m in size and has a total of five rooms. The windows and doors have wooden frames. The site is located about 13 m west of (outside) the surveyed area A3.

GPS: 23°25'22.41"S; 28°50'46.89"E



Figure 30: Stone structure found at site no. 2.

Cultural significance Table: Site 2

<p>A place is considered to be part of the national estate if it has cultural significance because of -</p>	<p>Applicable or not</p>	<p>Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High</p>
<p>Its importance in the community or pattern of South Africa's history</p>	<p>Y</p>	<p>Low</p>
<p>Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history</p>	<p>N</p>	
<p>Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage</p>	<p>Y</p>	<p>Low</p>
<p>Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects</p>	<p>Y</p>	<p>Low</p>
<p>Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group</p>	<p>N</p>	
<p>Its importance in demonstrating a high degree of creative or technical achievement at a particular period</p>	<p>N</p>	
<p>Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons</p>	<p>N</p>	
<p>Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa</p>	<p>N</p>	

Sites of significance relating to the history of slavery in South Africa	N	
Reasoned assessment of significance using appropriate indicators outlined above:		2-Low

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 2(Low) x 2

= 4

The site therefore receives a field rating of Local Grade IIIC. It means the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

9. CONCLUSION AND RECOMMENDATIONS

The survey of the study area was completed successfully. Two sites of cultural heritage significance were identified (Figure 31).

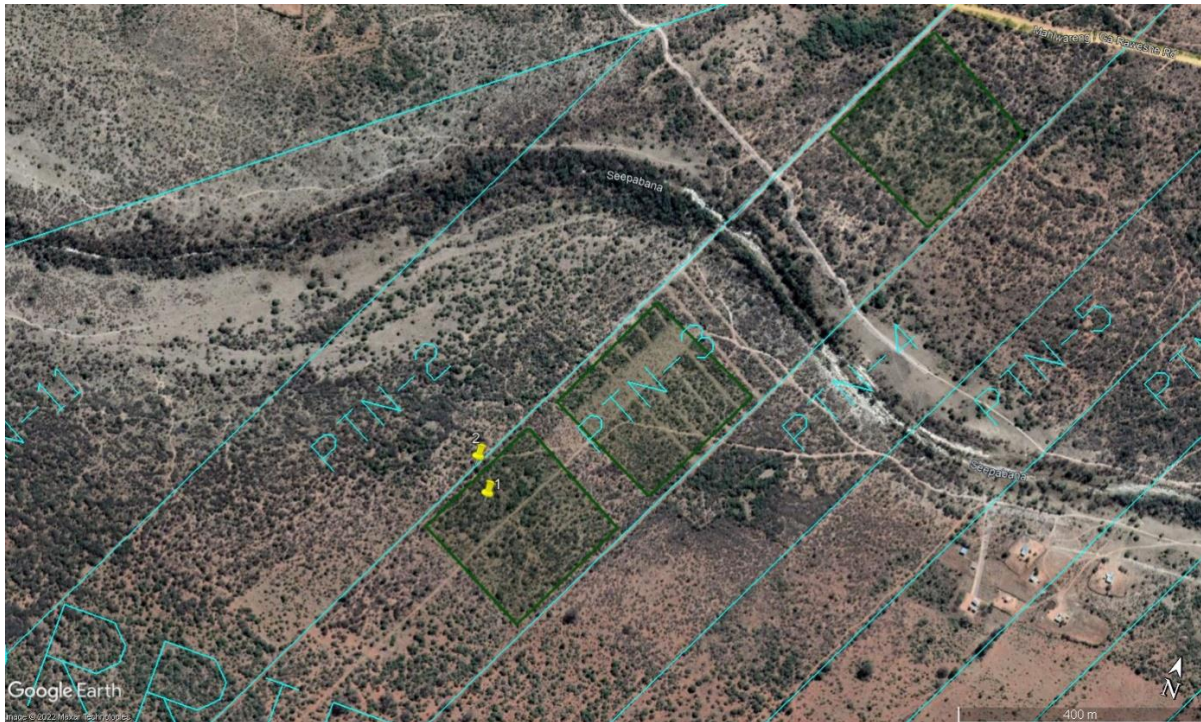


Figure 31: Google Earth image indicating the location of the sites identified in relation to the proposed quarries.

The following is recommended:

- Site no. 1 is a grave, located within the proposed quarry area A3. It will be directly impacted on by the development. If it is possible to move the quarry in such a way that the grave is outside thereof, Option 1 is recommended. The site needs to be at least 20 m from the quarry.
- If the above is not possible, Option 2 is recommended for site 1. This is to exhume the mortal remains and then to have it relocated. For this a specific procedure should be followed which includes social consultation. For graves younger than 60 years only, an undertaker is needed. For those older than 60 years and unknown graves an undertaker and archaeologist is needed. Permits should be obtained from the Burial Grounds and Graves unit of SAHRA.
- For site 2, which in any event falls outside of the project area, the description in this phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.
- The project may continue only after receiving the necessary comments from SAHRA as well as the implementation of the mitigation measures indicated above.
- It should always be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Care

should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

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APPENDIX A

DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

- Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.
- Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
- Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
- Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
- Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.
- Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C

SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Negligible – The site has no heritage significance, although it may be older than 60 years.
- Low - A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings. A site with minimal importance which is decreased by its bad state of decay.
- Low-Medium - A site of lesser importance, which is increased by a good state of preservation and contextual importance (e.g. a specific community).
- Medium - Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also, any important object found out of context.
- Medium-High - A site that has high importance due to its age or uniqueness, but which decreases due to its bad state of decay.
- High - Any site, structure or feature regarded as important because of its age or uniqueness. Also, any important object found within a specific context.
- Very High - A site of exceptional importance due to its age, uniqueness and good state of preservation.

Heritage significance:

- Grade I Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

National Grade I significance: The site should be managed as part of the national estate, should be nominated as Grad I site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score above 50.

Provincial Grade II significance: The site should be managed as part of the provincial estate, should be nominated as Grade II site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 41 and 50.

Local Grade IIIA: The site should be included in the heritage register and not be mitigated (high significance), should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 31 and 40.

Local Grade IIIB: The site should be included in the heritage register and may be mitigated (high/ medium significance). Mitigation is subject to a permit application lodged with the relevant heritage authority. Score between 6 and 30.

Local Grade IIIC: The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation. Score below 5.

APPENDIX D

PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – grade I and II

Protected areas - an area surrounding a heritage site

Provisional protection – for a maximum period of two years

Heritage registers – listing grades II and III

Heritage areas – areas with more than one heritage site included

Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or scoping phase – establishment of the scope of the project and terms of reference.
2. Baseline assessment – establishment of a broad framework of the potential heritage of an area.
3. Phase I impact assessment – identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – if there is no likelihood that any sites will be impacted.
5. Phase II mitigation or rescue – planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III management plan – for rare cases where sites are so important that development cannot be allowed.