

Comprehensive and Professional Solutions for all Heritage Related Matters

CK 2006/014630/23 VAT NO.: 4360226270

REPORT ON A PHASE 1 HERITAGE IMPACT ASSESSMENT FOR THE BOKONI PLATINUM MINE RAPHOLO RIVE REHABILITATION PROJECT 80KM SOUTH-EAST OF POLOKWANE SEKHUKHUNE DISTRICT MUNICIPALITY OF LIMPOPO

For:

Red Kite Environmental Solutions (Pty) Ltd P.O.Box 32677 TOTIUSDAL 0134

REPORT: APAC021/90

by:

A.J. Pelser Accredited member of ASAPA

October 2021

P.O.BOX 73703

LYNNWOOD RIDGE

0040

Tel: 083 459 3091

Fax: 086 695 7247

Email: apac.heritage@gmail.com

Member: AJ Pelser BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) [WITS]

©Copyright APELSER ARCHAEOLOGICAL CONSULTING

The information contained in this report is the sole intellectual property of APELSER Archaeological Consulting. It may only be used for the purposes it was commissioned for by the client.

DISCLAIMER:

Although all efforts are made to identify all sites of cultural heritage (archaeological and historical) significance during an assessment of study areas, the nature of archaeological and historical sites are as such that it is always possible that hidden or subterranean sites, features or objects could be overlooked during the study. APELSER Archaeological Consulting can't be held liable for such oversights or for costs incurred as a result thereof.

Clients & Developers should not continue with any development actions until SAHRA or one of its subsidiary bodies has provided final comments on this report. Submitting the report to SAHRA is the responsibility of the Client unless required of the Heritage Specialist as part of their appointment and Terms of Reference

SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Red Kite Environmental Solutions (Pty) Ltd to undertake a Phase 1 HIA for the Bokoni Platinum Mine's Rapholo River Rehabilitation Project located in the Sekhukhune District Municipality of the Limpopo Province. The study area is located approximately 80km south-east of Polokwane.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. Previous work in the larger geographical area within which the study area falls recorded a number of cultural heritage (archaeological and historical) sites here. A few sites were identified in the study area focused on in the October 2021 assessment. The report will discuss the results of the desktop study and field assessment and provide recommendations on the way forward at the end of the document.

From a Cultural Heritage point of view the proposed Rapholo River Rehabilitation and related actions can continue, taking into consideration the mitigation measures proposed at the end of the report.

CONTENTS

	page
SUMMARY	3
CONTENTS	4
1. INTRODUCTION	5
2. TERMS OF REFERENCE	5
3. LEGLISLATIVE REQUIREMENTS	5
4. METHODOLOGY	8
5. DESCRIPTION OF THE AREA	9
6. DISCUSSION	12
7. CONCLUSIONS AND RECOMMENDATIONS	21
8. REFERENCES	22
APPENDIX A – DEFINITION OF TERMS	24
APPENDIX B – DEFINITION/ STATEMENT OF SIGNIFICANCE	25
APPENDIX C – SIGNIFICANCE AND FIELD RATING	26
APPENDIX D – PROTECTION OF HERITAGE RESOURCES	27
APPENDIX E – HERITAGE MANAGEMENT IMPACT ASSESSMENT PHASES	28

1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by Red Kite Environmental Solutions (Pty) Ltd to undertake a Phase 1 HIA for the Bokoni Platinum Mine's Rapholo River Rehabilitation Project located in the Sekhukhune District Municipality of the Limpopo Province. The study area is located approximately 80km south-east of Polokwane.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. Previous work in the larger geographical area within which the study area falls recorded a number of cultural heritage (archaeological and historical) sites here. A few sites were identified in the study area focused on in the October 2021 assessment.

The client indicated the location and boundaries of the study area, and the assessment focused on this.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

- 1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;
- 2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
- 3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
- 4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
- 5. Review applicable legislative requirements;

3. 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) and the National Environmental Management Act (Act 107 of 1998).

3.1 The National Heritage Resources Act

According to the 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 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. Sites of 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 (AIA) only looks at archaeological resources. 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 Act 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 the 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 of 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.

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 to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act** (**Act 65 of 1983 as amended**).

3.2 The National Environmental Management Act

This Act 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. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. 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.

4. METHODOLOGY

4.1 Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2 Field survey

The field assessment section of the study was conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects was determined by means of a Global Positioning System (GPS), while detailed photographs were also taken where possible.

4.3 Oral histories

People from local communities are sometimes 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.

4.4 Documentation

All sites, objects, features and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities were determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. DESCRIPTION OF THE AREA

The study area (Bokoni Platinum Mine Rapholo River Rehabilitation Project) is located around 80km south-east of Polokwane in the Sekhukhune District Municipality of the Limpopo Province. Seven (7) areas in the Rapholo River earmarked for rehabilitation had to be assessed.

Bokoni Platinum Mine (BPM), which is currently under care and maintenance, is located close to the R37 in Limpopo, 70 km to the north-east of Burgersfort. BPM is situated in the Olifants River sub catchment, specifically the B52J quaternary catchment. The Rapholo River flows along the southern boundary of the mine. Critical locations have been identified, along the BPM perimeter, in the Rapholo River where excessive erosion has taken place. These locations are encroaching on critical infrastructure and need to be rehabilitated to ensure that no further erosion is caused that will endanger the structural integrity of existing Tailings Storage Facilities (TSFs), Pollution Control Dams (PCDs) and Return Water Dams (RWDs). The Rapholo River is non-perennial and only flows during heavy rainfall and storm seasons (December to March).

Bokoni has mined the Merensky reef since the 1960s and the UG2 reef since 1998 via underground and open pit mining operations. Bokoni was placed under Care and Maintenance (C&M) during October 2017. In compliance with Duty of Care and relevant legislation, BPM conducted an environmental risk assessment which was submitted to the Department. BPM identified the systematic migration of the river bank towards its operations as a significant risk. River bank erosion is a natural process where water flowing through a stream, slowly wears away the soil and rock that forms the stream bank. The river bank erosion of the Rapholo River has been accelerated by land altering activities such as overgrazing and the removal of riverside vegetation. The systematic erosion of the river bank threatens to undermine certain areas of the operations including the tailings dams, return water dams and pollution control dams. This may threaten the structural integrity of these facilities.

Following high rainfall and flows in the Rapholo River during 2018, evidence of severe erosion affecting the BPM Vertical Shaft Pollution Control Dam (PCD) was identified. This erosion poses a severe risk to the structural integrity of the PCD and other mine residue facilities. Due to the location of the erosion risk being within a flood line and the severity of

the risk, including tailings dam failure, PCD failure and return water dam failure with associated environmental, health and safety and legal implications, including the possibility of loss of life, the remediation of the erosion risks are of critical importance.

Following the identification of the erosion risks, BPM management compiled a Risk Assessment, the results of which indicated that civil works would need to be undertaken to protect and stabilize the areas where erosion has taken place. The rehabilitation works would also ensure that the river flow is not altered and that the river habitat is protected. A study was undertaken by Agreenco Environmental to identify the key erosion sections and their historical erosion-based migration. During this study, the areas with high risk to the facilities were identified, based on the perceived direction in which erosion is occurring, historical erosion and bank migration trends and the trends in measured distance between the riverbank and the high-risk facilities.

The topography of the study area is relatively flat and open and although vegetation cover on the banks of the Rapholo River was fairly dense in sections, visibility on the ground & access to the locations that had to be assessed was not limited. On some sections of the river rehabilitation work has already commenced. The area is also used for livestock grazing, while the larger area around the study area has been impacted by rural/urban residential settlement and associated activities. As a result of this and past mining actions in the area, if any cultural heritage sites, features or material were located here in the past, they would have been extensively disturbed or destroyed as a result.

A few sites with cultural heritage material (archaeological) were however identified in the area during the assessment. These finds and recommended mitigation measures will be discussed in the following sections.

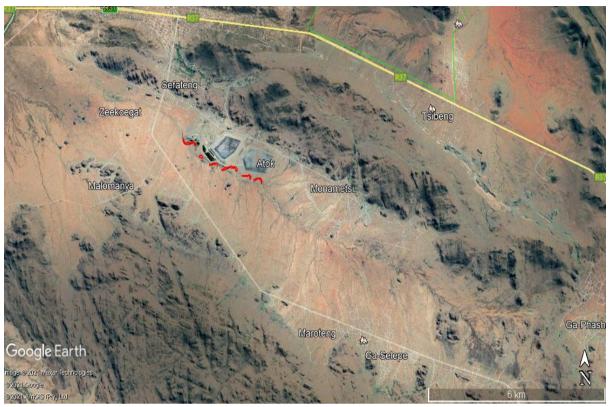


Figure 1: General location of the study area showing the 7 rehabilitation sections that had to be assessed (Google Earth 2021).



Figure 2: Closer view of the study area and locations of the sections that had to be assessed (Google Earth 2021).

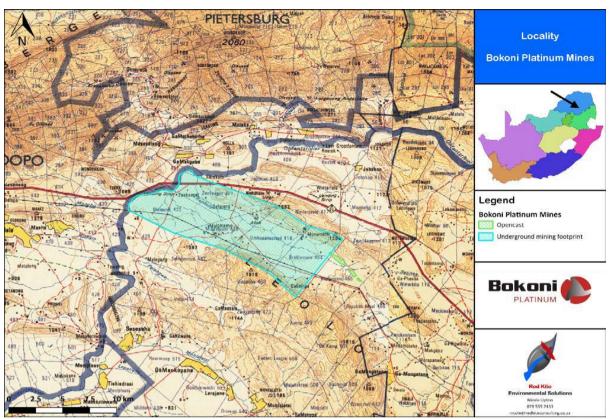


Figure 3: Topographical location of Bokoni Platinum Mines and the study area (courtesy Red Kite Environmental Solutions).

6. DISCUSSION

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago Middle Stone Age (MSA) less than 300 000 – 20 000 years ago Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

No known Stone Age sites or artifacts are present in the specific study area, while some sites are known from the larger geographical area (Pistorius 2008; Coetzee 2017; Pelser et.al 2010; Pelser 2017 & 2019). Most of these sites are however open-air surface sites located in and around erosion dongas. These tools date to between the Early and Middle Stone Ages mainly

Some Stone Age material was identified in the area during the October 2021 assessment.

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts. In South Africa it can be divided in two separate phases (Bergh 1999: 96-98), namely:

```
Early Iron Age (EIA) 200 – 1000 A.D.
Late Iron Age (LIA) 1000 – 1850 A.D.
```

Huffman (2007: xiii) indicates that a Middle Iron Age should be included. His dates, which are 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.
```

There are a number of known Iron Age sites in the larger area geographical area, identified and recorded during previous surveys (Roodt 2002 & 2003; Pistorius 2008; Karodia 2013; Coetzee 2017). These sites were located mostly around the foothills of the mountain range and hills in the area.

Some Iron Age material (undecorated pottery fragments) was found during the October 2021 assessment of the area.

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. The first European group to pass close by the area was that of Schoon in 1836, followed by the Voortrekkers from the 1840's onwards (Bergh 1999: 13-14).

A large number of archaeological/historical sites are located in the Tjate Valley (a few km's south of the study area). The Tjate Valley was declared a Provincial Heritage Site in 2007. A Phase 1 Heritage Impact Assessment was undertaken by Küsel 2008) on the Provincial Heritage site, followed by an assessment of an prospecting area on the farms Djate 249 KT, Fernkloof 539 KS and Quartzhill 542 KS. The area hosts two Royal Capitals of the Ba-Pedi people – the Sekhukhune and the Sekwati capitals. There are also Iron Age sites dating from approximately AD 700, as well as potentially an ancient copper mine. The first Berlin Mission Station and school in Sekhukhune were built in the Tjate Valley. In 1879 the valley was the scene of the Sekhukhune War between the Ba-Pedi and the British. Numerous sites associated with the battle are still visible and the battle is well documented. Rock art exists on the northern border of the declared site. There are a number of sacred sites and 26 cemeteries.

Pistorius (2008) and Coetzee (2017) recorded a number of recent historical sites (including the remains of recent dwellings and cemeteries) in the larger area during previous surveys.

No historical sites or features were identified in the study area during the October 2021 assessment.

Results of the October 2021 Fieldwork

Seven (7) points earmarked for rehabilitation work along the Rapholo River were assessed during the October 2021 field work. The work was done mainly on foot and the main aims were to see if any possible cultural heritage (archaeological and/or historical) sites, features or material exists in and around these areas & should there be any if the proposed rehabilitation work will negatively impact on these remains.

Some work related to the rehabilitation had already commenced when the field assessment was conducted, but as most of this work was in the river bed and on the edges of the river bank the impacts were limited away from it. However, it should be noted that with existing erosion being the focus of the rehabilitation there is a possibility of archaeological sites and material being present in and around these erosion dongas and gullies as has been found during previous assessments in the larger area.

Three sites with archaeological remains were identified in the area during the assessment. Site 1 contains a small scatter of Stone Age tools & undecorated Iron Age pottery, while on Site 2 a small scatter of Iron Age pottery and on Site 3 a number of Stone Age tools were found. All three these sites fall outside of the locations were rehabilitation will take place, but is in close proximity. The density of artifacts on these sites is not large and this makes them also of less cultural heritage (archaeological) significance. It is believed that the documentation and recording of these sites during the Phase 1 assessment is sufficient enough and no other mitigation measures on them is required.

GPS Coordinates of Sites: (1) S24 17 42.60 E29 51 45.30 (2) S24 18 14.10 E29 53 06.20 (3) S24 18 14.30 E29 53 03.70

Significance Rating and Mitigation Measurements

Cultural Significance: Low **Heritage Significance**: Low

Field Ratings: General protection C (IV C): Phase 1 is seen as sufficient recording and it

may be demolished (Low significance)

Mitigation: See above.



Figure 3: The location of the sites found and recorded in the area (Google Earth 2021).



Figure 4: A view of Point 1.



Figure 5: Another section of the Point 1 rehabilitation area.



Figure 6: Another view of the work being done at Point 1.



Figure 7: The work being conducted at Point 2.



Figure 8: A general view of the area between Points 3 & 4.



Figure 9: Another general view between Points 4 & 5. Note the erosion dongas characterizing the area.



Figure 10: View of the Rapholo River close to Point 5.



Figure 11: A view of the area between Point 5 & 6.



Figure 12: A view of the area close to Point 7.



Figure 13: The Iron Age pottery and Stone Age tools from Site 1.



Figure 14: Undecorated Iron Age pottery at Site 2.



Figure 15: Stone Age tools at Site 3.

Although only 3 sites were identified during the assessment, there could be more sites present in the area, especially in and around the erosion dongas that characterizes the area. Most of these – if any are present – will however be located away from the river bed and river bank areas where the rehabilitation is taking place. From a Cultural Heritage point of view the proposed Rapholo River Rehabilitation Project can therefore continue.

It should also be noted that although all efforts are made to cover a total area during any assessment and therefore to identify all possible sites or features of cultural (archaeological and/or historical) heritage origin and significance, that there is always the possibility of something being missed. This will include low stone-packed or unmarked graves. This aspect should be kept in mind when development work commences and if any sites (including graves) are identified then an expert should be called in to investigate and recommend on the best way forward.

7. CONCLUSIONS AND RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by Red Kite Environmental Solutions (Pty) Ltd to undertake a Phase 1 HIA for the Bokoni Platinum Mine's Rapholo River Rehabilitation Project located in the Sekhukhune District Municipality of the Limpopo Province. The study area is located approximately 80km south-east of Polokwane.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. Previous work in the larger

geographical area within which the study area falls recorded a number of cultural heritage (archaeological and historical) sites here.

Seven (7) points earmarked for rehabilitation work along the Rapholo River were assessed during the October 2021 field work. Some work related to the rehabilitation had already commenced when the field assessment was conducted, but as most of this work was in the river bed and on the edges of the river bank the impacts were limited away from it. Three sites with archaeological remains were identified in the area during the assessment. Site 1 contains a small scatter of Stone Age tools & undecorated Iron Age pottery, while on Site 2 a small scatter of Iron Age pottery and on Site 3 a number of Stone Age tools were found. All three these sites fall outside of the locations were rehabilitation will take place, but is in close proximity. The density of artifacts on these sites is not large and this makes them also of less cultural heritage (archaeological) significance.

Although only 3 sites were identified during the assessment, there could be more sites present in the area, especially in and around the erosion dongas that characterizes the area. Most of these – if any are present – will however be located away from the river bed and river bank areas where the rehabilitation is taking place. From a Cultural Heritage point of view the proposed Rapholo River Rehabilitation Project can therefore continue.

Finally, it should be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

From Cultural Heritage point of view the development should therefore be allowed to continue, taking cognizance of the above recommendations.

8. REFERENCES

General and Closer view of Study Area location & Sites found: Google Earth 2021.

Bokoni Platinum Mine Topographical Location Map: Provided by Red Kite Environmental Solutions.

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.

Coetzee, T. 2017. Phase 1 Heritage Impact Assessment for the proposed expansion of the Moeijelyk Chrome Mine on the remaining extent of the farm Moeijelyk 412KS, Sekhukhune, Limpopo. Unpublished Report Moeijelyk 17-328-HIA-PRP. For: Eco Elementum (Pty) Ltd. November 2017.

Huffman, T.N. 2007. Handbook to the Iron Age: **The Archaeology of Pre-Colonial Farming Societies in Southern Africa**. Scotsville: University of KwaZulu-Natal Press.

Knudson, S.J. 1978. **Culture in retrospect**. Chicago: Rand McNally College Publishing Company.

Kusel, U.S. 2008. Assessment of the Cultural Heritage Resources on the Provincial Heritage Site of Tjate on the farm Djate 249KT in Sekhukhune Limpopo Province. Unpublished Report African Heritage Consultants cc. July 2008.

Lombard, M., L. Wadley, J. Deacon, S. Wurz, I. Parsons, M. Mohapi, J. Swart & P. Mitchell. 2012. **South African and Lesotho Stone Age Sequence Updated (I).** South African Archaeological Bulletin 67 (195): 120–144, 2012.

Pelser, A.J. & Van Vollenhoven, A.C. A Report on a Heritage Impact Assessment for the Sylvania Lannex Tailings Dam on the farm Grootboom Annex 335KT, near Steelpoort, Mpumalanga Province. Unpublished Report Archaetnos cc AE1013. For: Prescali Environmental Consultants (Pty) Ltd. February 2010.

Pelser, A.J. 2017. Report on a Phase 1 HIA for the Smokey Hills-Black Chrome Mine Pipeline Servitudes located on Portions of Portion 1 & 2 of the farm Mooihoek 255KT, Sekhukhune Magisterial District Limpopo. Unpublished Report APelser Archaeological Consulting cc APAC017/55. For: Prescali Environmental Consultants (Pty) Ltd. August 2017.

Pelser, A.J. 2019. A 1ST Report on a Phase 1 Heritage Impact Assessment for the Eskom Jagdlust Project between Burgersfort & Polokwane in the Limpopo Province. Unpublished Report APelser Archaeological Consulting cc APAC019/23. For: Eco Partners. December 2019.

Pistorius, J.C.C. 2008. A Phase 1 Heritage Impact Assessment (HIA) Study for the Proposed New Zwartkoppies/Waterkop Chrome Mine on the farms Moeijelik 412, Zwartkoppies 413 and Waterkop 112 in the Steelpoort Valley in the Limpopo Province of South Africa. Unpublished Report. For: Clean Stream Environmental Services. April 2008.

Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: the Government Printer.

Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.

Roodt, F., 2002. Statement in Respect of Heritage Resources at the UG2 TSF, s.l.: A Statement of Respect prepared for the Lebowa Platinum Mines.

Roodt, F., 2003. Lebowa Platinum Mines: Atok Brakfontein Shaft and Association Infrastructure, Limpopo Province, s.l.: A Heritage Impact Assessment prepared for the Lebowa Platinum Mines.

Shahzaadee, Karodia. 2013. **Heritage Impact Assessment for the Proposed Bokoni Klipfontein Opencats Mine Project, Klipfontein 465 KS, Sekhukhune, Limpopo Province**. Unpublished Report BOK 1630. Digby Wells Environmental. For: Bokoni

Platinum (Pty) Ltd. June 2013.

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.

Aestetic 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, landuse, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- 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.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

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:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

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.