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**PHASE 1 ARCHAEOLOGICAL AND CULTURAL HERITAGE IMPACT ASSESSMENT SCAN
FOR ADDITIONAL ACTIVITIES LOCATED WITHIN THE APPROVED MINING RIGHT
AREA AND AUTHORISED, TWO RIVERS PLATINUM (PTY) LTD ON PORTION 6 OF
DWARSRIVIER FARM 372KT, STEELPOORT, LIMPOPO PROVINCE.**

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Executive Summary

Item	Description
Propose Development and Location:	Two Rivers Platinum (PTY)Ltd aims to apply for specific additional activities(North Rock Dump, New road, Merensky Shaft, Merensky Stock Pile, Merensky Plant and New Tailings Storage Facility (TFS) pipe line realignment) located within the approved mining right area and authorized on portion 6 of Dwarsrivier farm 372KT, Steelpoort, Sekhukhune District of Limpopo Province.
Purpose of the Study	Updating of existing Heritage Impact Assessment
Map reference	1:250 000 Topographic Map
Coordinates	GPS S24°56'08.68" E30°06'16.42"
Local Authority	Fetakgomo Local Municipality
District Municipality	Sekhukhune District Municipality
Developer	Two Rivers Platinum Mine
Predominant land use of surrounding area	Mining
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Heritage Consultant	Vhufa Hashu Heritage Consultants
Status of the Report	Final Report
Date of field work	June 2021
Date of report	June 2021

This Phase 1 Heritage Impact Assessment (HIA) Report was prepared to address requirements of Section 38 of the National Heritage Resources Act, Act 25 of 1999, South African Heritage Resources Agency (SAHRA), and the Limpopo Heritage Resources Authority (LIHRA). Vhufa Hashu Heritage Consultants was appointed by Khumbi Projects to undertake phase 1 Archaeological and Heritage Impact Assessment for the proposed North Rock Dump, New road, Merensky Shaft, Merensky Stock Pile, Merensky Plant and New Tailings Storage Facility (TFS) pipe line realignment. The pipeline runs from the proposed New TSF on portion 2 of the farm De Grooteboom 373 KT via the Dwars River Mine to the Two Rivers Mine. The initial Heritage Impact Assessment (HIA) was conducted in 2002 by Anton Von Vollenhoven. A further Heritage Impact Assessment was conducted in 2012 (Shasa, 2012), looking specifically at the UG2 and Merensky expansion project area, and in October 2012 Archaeos Culture & Cultural Resource Consultants conducted the Heritage Impact Assessment for the New Tailings Storage Facility (TFS) pipe line.

Archaetnos failed to identify the graves (GY01) during their assessment which was then identified during the construction phase. Archaetnos Culture & Cultural Resource Consultants only recorded three Middle Stone Age flakes probably at the New Tailing Storage Facilities. During our survey at the Tailing Facility and the pipe line, the constructors were done with the earthwork at the Tailing Facility and the water pipe line which makes it difficult to trace where the flakes were located since the specialist did not provide the location where the finds were located.

A stepped approach combining desktop survey, systematic field survey and mapping was employed to identify and record any natural or cultural landmarks on and around the development footprint. This enabled the total coverage of areas that were not accessed by Archaetnos Culture & Cultural Resource Consultants along the Tailings Storage Facility (TFS) pipe line. Survey quadrants covering the area proposed North Rock Dump, New road, Merensky Shaft, Merensky Stock Pile, Merensky Plant and New Tailings Storage Facility (TFS) pipe line realignment were surveyed with a team of fieldworkers including members of the Two Rivers Platinum Mine.

A total of five sites were recorded, four grave sites and one rock art site, this includes sites which had already been identified by previous survey, the rock art was previously recorded by Sasha Heritage Consultants 2012. This includes rock paintings as well as burial grounds, burial grounds were predominant. The last category was made up of an isolated three Middle Stone Age flakes were found in different locations during the survey according to Archaetnos. All 04 grave sites are highly significant heritage which needs protection. This is the same view attached to the graves by the local communities who once lived in the area before they were relocated to make way for mining. If any human burials or significant heritage resources are discovered during the development, work must stop immediately, and the findings must be reported to LIHRA and SAHRA so that appropriate action can be taken.

South Africa's historical, archaeological and paleontological heritage resources are unique and non-renewable as defined in section 3 of the NHRA. Heritage Resources as defined in section 3 of the NHRA are given "formal" protection in terms of section 27-29 and 31-32 of the NHRA and "general" protection in terms of sections 33,34,35,36 and 37 of the NHRA. Therefore, no damage, destruction or alteration may occur to heritage resources without a permit issued by a relevant heritage authority.

An assessment of impacts on heritage resources of a development was required in terms of section 38(1 and 8) of the NHRA. Where possible, heritage resources should be preserved *in situ* and conserved for future generations. This can be achieved through a monitoring and management plan that may be stipulated in the conditions issued on a development by an authority as per section 38(4)c of the NHRA. Where it is not possible to retain the heritage resources *in situ*, and the heritage resources are not deemed significant, the loss of information can be reduced by recording and mitigation of the heritage resources through a process of excavation (or sampling) as a condition on the development in terms of section 38(4) .d and e, after obtaining a permit from the relevant Heritage Resources Authority (HRA), at the cost of the developer. This allows us to record a part of the history of the place as part of the national inventory. Assessment and mitigation in the early phase of the development may save the developer considerable delays and related costs.

Proposed activities

The proposed development will entail North Rock Dump, New road, Merensky Shaft, Merensky Stock Pile, Merensky Plant and New Tailings Storage Facility (TFS) pipe line realignment.

Archaeological Resources Descriptions and Significance

No archaeological resources was identified within the proposed projects.

Heritage Resources/Graves and Grave yards

One rock art site known as (Heritage Rock) was recorded next to Merensky Shaft, three grave yards and one isolated grave was identified with a total of ±75 graves. All graves are well marked and are not disturbed by the developments. GY01 is situated in Dwars River Mine property and it is not affected by the development since the line diverted away from the graves. GY02 is not affected by the proposed development and the community still burying their loved ones in this grave yard currently. GY03 is well fenced off and it is not affected by the development. The graves at GY03 were relocated from Merensky Shaft. The isolated grave is well fenced by palisade and it is not affected by the development.

Conclusion

The project may be approved since there are no historical and archaeological sites of significance to be impacted by the proposed development. From a Heritage perspective, the development should be allowed to continue.

Acknowledgements

The authors acknowledge Two Rivers Platinum Mine officials for their assistance with project information, and the associated project background information as well as responding to technical queries related to the project.

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A handwritten signature in black ink, appearing to read 'R. R. Munyai', with a stylized flourish at the end.

.....

Archaeologist and Heritage Consultant

EXPLANATION OF ABBREVIATIONS USED IN THIS DOCUMENT

AIA	Archaeological Impact Assessment
ASAPA	South African Archaeological Professional Association
BA	Basic Assessment
CMP	Conservation Management Plan
EIA	Early Iron Age
EMP	Environmental Management Plan
ESA	Early Stone Age
GP	General Protection
GPS	Geographical Positioning System
HIA	Heritage Impact Assessment
HMP	Heritage Management Plan
ICOMOS	International Council of Monuments and sites
LIA	Late Iron Age
LSA	Late Stone Age
MIA	Middle Iron Age
MSA	Middle Stone Age
NASA	National Archives of South Africa
NEMA	National Environmental Management Act (No.107 of 1998)
NHRA	National Heritage Resources Agency
PRHA	Provincial Heritage Resources Authority
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
TRP	Two Rivers Platinum
VHHC	Vhufa Hashu Heritage Consultants

DEFINITIONS

"Aesthetic value" Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

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

"Conservation" in relation to heritage resources, includes protection maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance

"Conservation Management Plan" A policy aimed at the management of a heritage resource and that is approved by the Heritage Resources Authority setting out the manner in which the conservation of a site, place or object will be achieved

"Cultural Significance" As defined in the NHRA means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

"Development" means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future wellbeing, including-

- (a) construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (b) carrying out any works on or over or under a place;
- (c) subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- (d) construction or putting up for display signs or hoardings;
- (e) any change to the natural or existing condition or topography of land; and
- (f) any removal or destruction of trees, or removal of vegetation or topsoil.

"Heritage agreement" means an agreement referred to in section 42,

"Heritage Impact Assessment" A report compiled in response to a proposed development that must meet the minimum requirements set out in the NHRA and should be submitted to a heritage resources authority for consideration.

"Heritage site" means a place declared to be a national heritage site by SAHRA or site declared to be a provincial Heritage site by a PHRA

"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.

"Improvement" in relation to heritage resources includes repair, restoration and rehabilitation of a place protected in terms of this Act.

"Interested and Affected Parties" Individuals, organizations or communities that will either be affected and/or have an interest in a development or the resulting impacts of a development.

"Management" in relation to heritage resources includes the conservation, presentation and improvement of a place protected in terms of this Act.

"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.

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1. INTRODUCTION

Two Rivers Platinum (PTY) Ltd commissioned studies for the proposed North Rock Dump, New road, Merensky Shaft, Merensky Stock Pile, Merensky Plant and New Tailings Storage Facility (TFS) pipe line realignment within Fetakgomo Tubatse Local Municipality, Sekhukhune District of Limpopo Province, South Africa. Khumbi Projects appointed Vhufahashu Heritage Consultants cc to conduct Phase 1 Heritage Impact Assessment to establish the presence of archaeological and heritage materials and to evaluate heritage resources in a given area.

The application for specific additional activities constitutes an activity, which may potentially be harmful to heritage resources that may occur in the demarcated area

The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (section 34), archaeological sites and material (section 35) graves and burial sites (section 36). In order to comply with the legislations, the Applicant required information on the heritage resources, and their significance that occur in the demarcated area. This enables the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources. The proposed development located within the approved mining right area entail:

- North Waste Rock Dump
- New road
- Merensky Shaft
- Merensky Stock Pile
- Merensky Plant
- and New Tailings Storage Facility (TFS) pipe line realignment

Heritage Impact Assessment (HIA) was the process to be followed in order to determine whether any heritage resources were 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 and heritage resources. HIA must be done under the following circumstances:

- The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- A construction of a bridge or similar structure exceeding 50m in length

- 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
- Re-zoning of a site exceeding 10 000 m²
- Any other category provided for in the regulations of SAHRA or a provincial heritage authority.

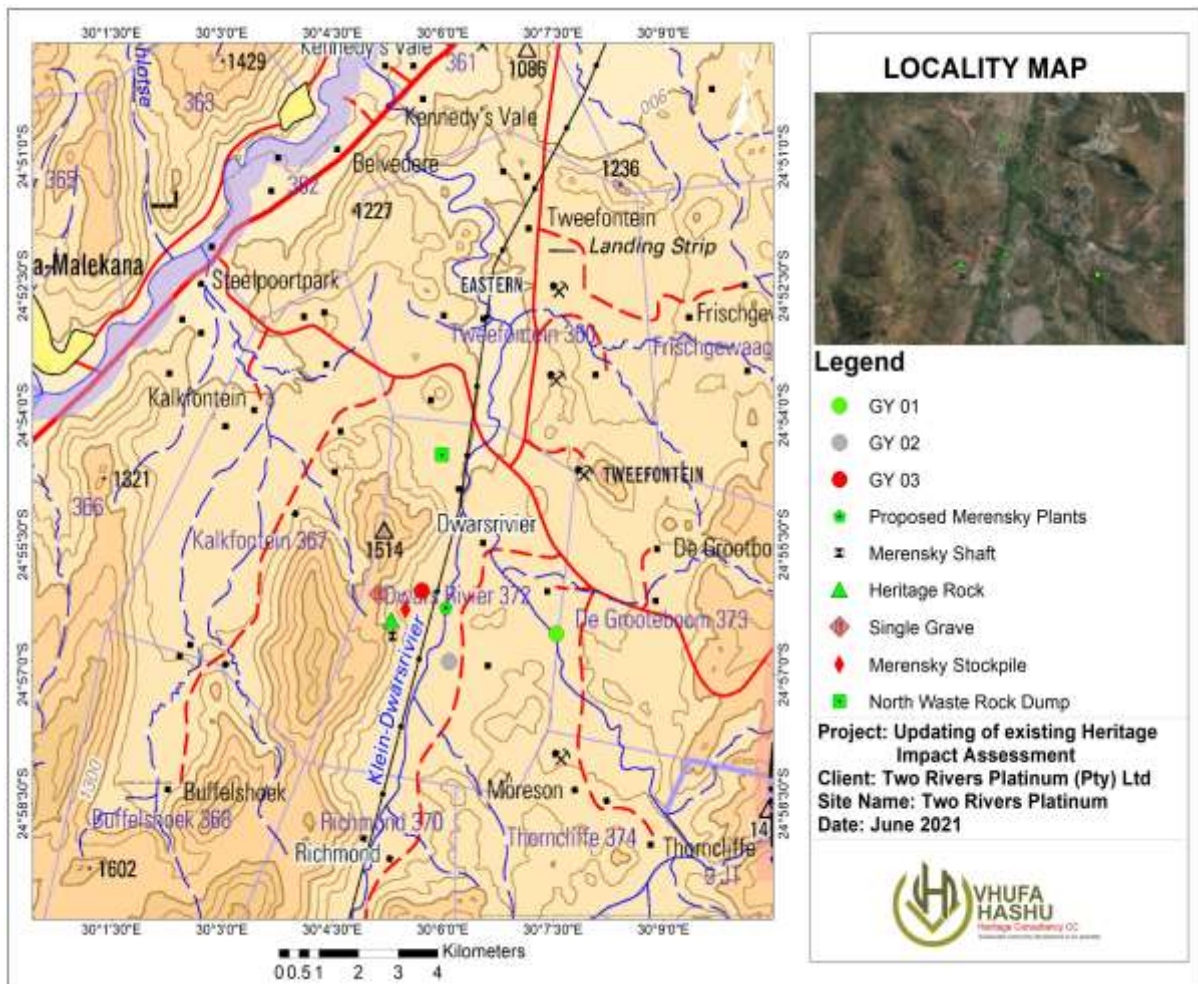


Figure 1: Locality Map

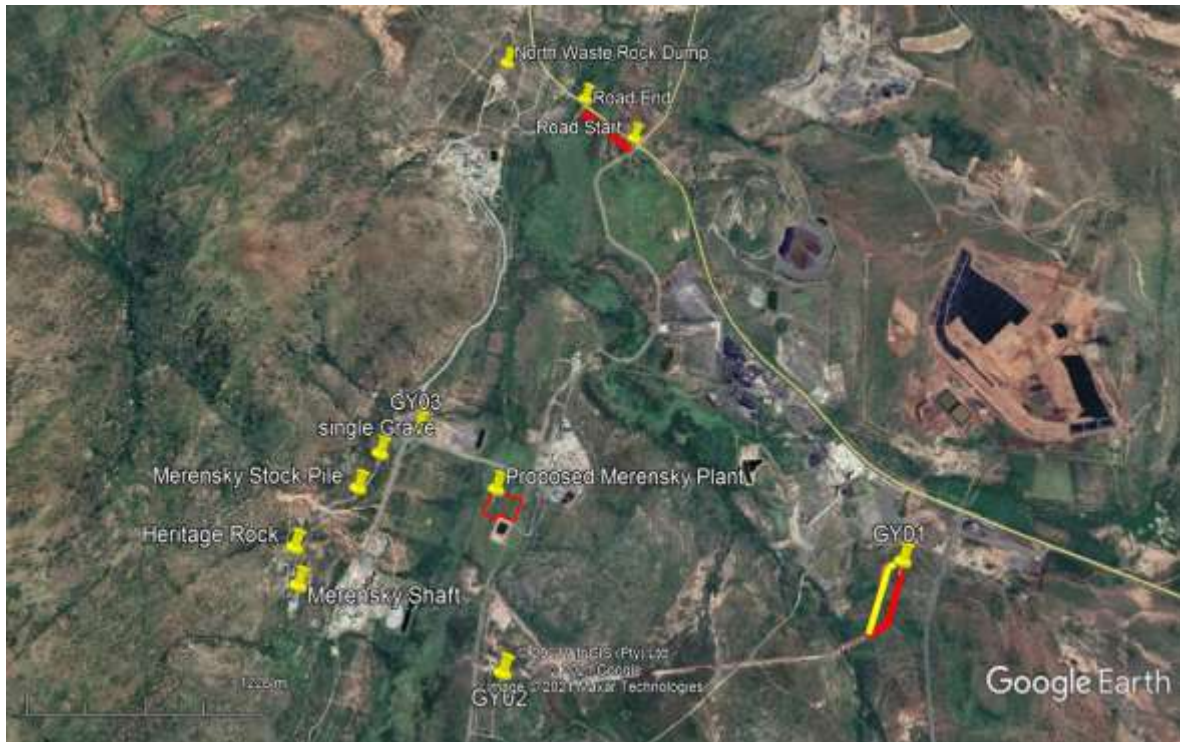


Figure 2: Aerial view of the proposed activities within the TRP

2. BRIEF SYNTHESIS ON THE ARCHAEOLOGICAL AND HERITAGE.

Existing knowledge indicates the presence of prominent heritage sites within the Sekhukhune Municipality (Huffman, 2007; Delius 2007).

2.1. Stone Age sequence (ESA, MSA and LSA)

The Early Stone Age of the area is fairly well understood and stretches from 250 000 years ago. The earliest stone tools are known as the Acheulian industry and are dominated by heavy butchering tools. Inferential evidence suggests that these simple tools were used to chop and butcher meat, de- skin animals and probably to smash bones to obtain marrow (Phillipson, 2005). The presence of cut marks from animal fossil bones dating to this period has led to the conclusion by researchers that human ancestors were scavengers and not hunters (Wadley, 2007; Esterhuysen, 2007). They may have preyed on drowned or crippled animals or shared a kill by other predators, which explains why some ESA sites contain high proportions of bone from large and dangerous game (Wadley, 2007). Some of these remarkable archaeological sites that yielded Early Stone Age tools (Acheulian hand axes) that were dated to nearly 100 000 years ago are scattered throughout Southern Africa (Walker, Chazan & Morris 2013).

The Acheulian industries are characterized by the presence of bifacial hand axes and cleavers. These bifacial tools emerged started around 1.5 million years ago (mya) at places such as Sterkfontein. The Acheulian techno-complex was characterized by a great deal of standardization of tools across widely separated areas from Africa to Eurasia (Sharon, 2009). Evidence presented from Sterkfontein cave in Gauteng, Kathu pan in the Kalahari, Makapansgat in Limpopo as the Swudwala caves in Mpumalanga shows that the first tool making hominids belong to either an early species of the Homo or an immediate ancestor which is yet to be discovered here in South Africa (Esterhuysen, 2007). The Acheulian industries are well represented in the archaeology of the Cradle of Humankind particularly at sites such as Sterkfontein and Kromdraai and Kathu pan (Walker, Chazan & Morris 2013). A large collection of these stone tools are on display at the main entrance of Swudwala caves in Mpumalanga Province.

The Middle Stone Age dating between roughly 250 000 years ago and 25 000 years before present succeeded the Early Stone Age. Comparatively, Middle Stone Age tools are smaller than those of the Early Stone Age period. They are characterized by smaller hand axes, cleavers, and flake and blade industries. The period is marked by the emergence of modern humans and is characterized by the appearance of fairly complex technology, modern human behavior, art, and symbolism (Thompson & Marean, 2008). A variety of MSA tools includes blades, flakes, scraper and pointed tools that may have been hafted onto shafts or handles and used as spear heads. Residue analyses on some of the stone tools indicate that these tools were certainly used as spear heads (Wadley, 2007). The presence of spear heads on some of the MSA assemblages is an indication that these group of people were hunters who targeted middle sized game such as hartebeest, wildebeest and zebra (Wadley, 2007), Some assemblages are show the presence of bone tools such as bone points.

The Late Stone Age (LSA) which stretches from 25 000 years ago to about 2000 years ago is the last phase in the Stone Age sequence. The LSA is characterized by the use of micro lithic tools some of which were found in most sites around the Mpumalanga region. Many of the sites have been seriously damaged by illegal attempts to discover the burial places of legendary gold that Paul Kruger is said to have buried during his flight at the end of the Anglo Boer War. It is not uncommon to find sites where the entire stratigraphy has been completely destroyed (Hampson, Challis, Blundell & De Rosner, 2001).

2.2. Rock art associated with the Late Stone Age and the Iron Age sequence

The province is known owing to the extremely presence of Khoisan people who were also the first permanent inhabitants of the region. San rock art represent unique example of the survival of human cultural endeavor that is part of remarkable religious tradition which is at least 27,500 years old. Rock art is distinctive prehistoric art that occur in various forms namely: Petroglyphy (engravings) and rock paintings (Pictographs). The art is fragile including the cultural landscape in which they are situated, once damaged, or destroyed; they can never be repaired or replaced. The art, sites and landscape provide links with important elements to our past which allows us to establish the sense of orientation about our place in time.

The rock art is one of the rare arts done in the San tradition, together with the ethnography, and the history of African communities (Swazi/ Ndebele and the Sotho) in the area provides a valuable commentary by which the indigenous people themselves relates their history and the processes attached to the rock art sites. Historical records relate that people of mixed San and indigenous Swazi descent were living in the wider area as they were engaged in rain making, a practice that was carried on by San people in many parts of southern Africa. The rock paintings tradition is characterized by the earliest tradition of finely detailed images that reflect belief and san cosmology, most of the paintings are in red ochre; survey shows animal figures are more common than any other categories, followed by items such as lines, dots and animal figures etc. This is usually in the South African context where painting of animal and human images pre dominates. As such rock art sites generally have tremendous cultural significance.

Furthermore, the sites were used for traditional and religious ceremonies for the creator of the art as well as the recent African group's descendants. For example The Sudwala cave is currently used by Somqubas descendants as the place where they worship and held traditional beer drinking ceremonies. There are several different traditions that can be correlated with the cosmology of the San hunter gathering, such as that of Iron Age farmers. Early farming community art is different from the San art. The art is characterized by few finger paintings and geometric design in thick red and sometimes white pigment which probably belongs to herder art tradition.

2.2.1. Early Iron Age Sequence

2.2.1.1. Iron Age (EIA, LIA)

Documents suggest that the Iron Age communities moved into southern Africa by c. AD 200, entering the study area either by moving down via coastal plains route of Mozambique or through the Inland. Their movement followed various rivers inland such as the Crocodile, Sabie, Nsikazi, White River and Gutshwa. Being cultivators, they preferred the rich alluvial soils to settle on. These agro pastoralist brought with them variety of domestic grain including sorghum and millet (Maggs & Ward 1984). Maize did not form part of their dietary package since this type of grain was introduced into southern Africa much later, at roughly 1550 AD.

These landscapes, drainage systems and good climatic conditions could have influenced diverse societies including wildlife and farming communities to settle within the region. It is indisputable that the natural environment has played the dominant part; nevertheless it is not deterministic (Katsamudanga, 2007). The introduction of farming communities in southern Africa early in the first millennium AD is characterized by the appearance of distinctive pottery wares (Huffman, 2007), metal working (Friede, 1979), agriculture and sedentism (Maggs, 1980; Phillipson, 2005). Mining and metallurgy were largely limited to the reduction of iron and copper ore for the manufacturing of utilitarian and decorative implements.

Research coverage has been previously skewed towards the Lydenburg perhaps this is because of the location of major sites within the Lydenburg. The top most one is assemblages which bear very strong resemblances to the Kliengbeil, Lydenburg and Eiland sites. The Lydenburg Heads site dated to the late fifth Century AD (Inskeep, 1971). The full range of Plaston vessel shapes and decoration layout is present here. Many of these sites have been found in the Kruger National Park over the past 20 years (Meyer, 1986). Meyer identified seven different Early Iron age sites ceramic tradition on the eleven excavated sites.

It is generally believed that there are various phases within the Iron Age sequence. The earliest sites most likely range between AD 280 and 450 (Silver Leaves-250-395, Pta 2360, Pta 2459, Pta 914) and are represented by the site of Silver Leaves near Tzaneen (Klapwijk, 1974; Huffman, 2007). The site is generally assumed to be the precursor of Iron Age sites

within the Limpopo Province. This first phase was followed by Happy Rest, with sites dating between AD 450 and 750 (Eiland Salt Works-AD390-435, Pta 1524, Pta1608, Pta 1607, Wits 764, Happy Rest-AD430-555, Pta 2421-Klein Africa 415-535, Pta 1168). Happy Rest and Klein Africa are situated in close proximity to the Soutpansberg Mountains (Prinsloo, 1974; Huffman, 2007). The current thinking based on preliminary studies is that Garonga Phase (SK 172 bone 800Pta 3507) mostly ranges between AD 750 and 1000 (Huffman, 2007; Burret 2007). This phase is represented by sites near Mica and Kruger Park (Meyer, 1986; Burret 2007).

All Early Iron age sites were recorded situated in close proximity to water sources (Archeo-info, 2000; Huffman, 2007, Burret, 2007; Mathoho, 2012; unpublished Mphil, thesis). The position of this type of settlement are associated with environmental element that could be interpreted as what the environment offers as opportunities for early farming communities survival (Katsamudanga 2007).

Iron Age occupation of the region seems to have taken place on a significant scale and at least three different phases of occupation have been identified, however the last period of pre-colonial occupation consisted of Sotho and Swazi speaking people that settled on stone-walled sites and caves. At present it is not clear, but, judged on the pottery found; these sites might even date to early historic times. As this was a period of population movement, conflict and change. Considering the time period that they were occupied, they also feature in the early historic period.

2.2.1.2. Stone wall sites associated with the Late Iron Age and historical periods

The region lies within the asserted traditional territories where previous research works was conducted by Mason (1960,) Collet (1982), Maggs (1995), Evers (1975) Esterhysen & Smith (2007). Their research work shed more light in the understanding of the archaeology of the Mpumalanga escarpment. A high density of archaeological settlement sites are known to cover approximately 150 kilometer stretch of land as reflected by an aerial photographic survey .Sites distribution is relatively easy to establish, because they are not covered by *black wattle* or *Eucalyptus* plantations and they can be easily be plotted using air photographs (Mason1968; Evers 1975). With specifics to the earlier archaeological work, particularly those of Evers (1975) and Collett (1982), Maggs (1976) have shown that most of the stone walling sites within the region fit broadly into the well-known phenomenon of stone-built settlements of Black, agriculturist communities which flourished in grassland

areas of South Africa within the past 500 years. Other aspects of the material culture are typically Late Iron Age, as is the basic economy, with evidence of cattle and small livestock as well as the African cultigens *Sorghum* and *Vigna* ("cow peas") (Collett, 1982).

The chronology remains imprecise, partly because of the paucity of fieldwork and partly because radiocarbon dating itself becomes of limited value for samples younger than AD 1600. Few available dates do, however, suggest that Marateng flourished within the last four hundred years (Evers & Vogel 1980). The distribution of Marateng settlements is relatively easy to establish as they show up well on air photos, provided they are not blanketed by bush or timber plantations. Both Mason (1968) and Evers (1975) used air photos to plot sites, however their map seems to be the first attempt to show a complete distribution of this settlement type. The result suggests a virtually continuous belt of settlement running from Ohrigstad in the north, through Lydenburg and Machadosdorp, to Carolina in the south, a distance of 150 km. From this belt several lines of outliers lead off eastwards down the Komati valley and upper tributaries of the Crocodile, but nowhere reach the Lowveld.

Evers (1975) have identified three basic settlement layout namely: The first and simple consisted of two concentric circles, the inner circle was thought to be the cattle kraal and the space between the circles representing area in which huts were built, the second type was an elaboration of the first in that the inner circle had one or more smaller enclosures attached to it, again huts were built between this complex and the outer ring wall. The third type was an agglomeration of small circles that did not conform to the pattern of the other two. Esterhysen & Smith (2007) maintained that it is not clear whether these different kinds of settlement were occupied by different people at the same time or different periods, but however based on the general density of the stone wall settlement in the region; there must have been a substantial increase in population or movement of people in the area.

Collet (1982) classified these settlements and contended that they comprised of three basic units, namely: homesteads, terraces and livestock enclosure. Some of these stone walling are Koni identified with the extensive Badfontein type of walling found along the Mpumalanga escarpment, more or less contemporary with Melora. Badfontein walling emphasizes the centre/side axis of the Central Cattle Pattern expressed through concentric circles: the inner circle encompassed cattle, the next marked the men's court, and the outer ring the zone of houses.

Rock engravings in the same area depict this settlement layout pattern. The slopes were terraced with lines of stones that ran along the contours, and livestock tracks to the outside of the settlement edged in stones. Oral traditions place Koni (Ndebele) in this escarpment area before the Pedi, and some walled settlements must first date before AD 1650, perhaps as early as AD 1600 which was characterised by the second dispersal. The centre/side layout pattern indicates that they were of Langa origin from northern KwaZulu-Natal. Later, as the associated ceramics show, they became allied to the Pedi. These Badfontein probably chose the escarpment because it is part of a mist belt that would have offered some relief to dry conditions during the Little Ice Age (Huffman, 2000). Based on such datable phenomena as initiation cycles, other northern and southern groups are thought to have left KwaZulu-Natal between about AD 1630 and 1670. These dates, of course, are tentative. At about the same time, around AD 1700, cool and very dry conditions prevailed throughout the subcontinent. Analysis of climatic data shows that this was the worst time in the Little Ice Age. Dated with remarkable precision, this event is so close to the historical dating that the severe conditions were the most likely reason for the third set of movements. Although the reason may have been the same, there were so many small groups at different times that a co-ordinated movement was unlikely. Ceramic descriptions of these sites clearly reflect Moloko falling within the range of Sotho-Tswana wares (Collet, 1982; Huffman, 2007). Classification and analysis indicated that this ceramics belongs to Marateng pottery, which is the reminiscent of the Pedi pottery. Ethnography and the Pedi oral history of the region show that these groups of people were called the Koni (Ndebele). As part of this uncoordinated movement, several small groups entered the Pretoria area. These include the well-known Manala and Ndzundza Ndebele who claim Musi as a legendary leader. Significantly, Ndzundza capitals in the Steelpoort area to the northeast, such as KwaMaza have a Moor Park variant of stonewalling: kraals and middens lay down slope of the most important residential zone. Pedi pottery (*Marateng*) in Ndzundza settlements demonstrates interaction with northern neighbours.

Fortunately, the history of many Nguni-derived groups on the plateau today is accessible to oral traditions. Generally, those who live north of the Springbok Flats are known collectively as Northern (Transvaal) Ndebele and those below as Southern (Transvaal) Ndebele. Generally again, many northern groups claim Langa as a legendary leader and many of those to the south claim Musi (Van Warmelo, 1935). If they retained the Nguni

language, they are called Ndebele, while those who adopted Sotho-Tswana are Koni (Sotho-Tswana for *Nguni*).

The third set of movements also included various groups that claim Langa as a legendary leader. Most of these Langa people were supposed to have followed the escarpment north through Swaziland before turning west to climb onto the plateau. Thus, there was a different Langa route out of KwaZulu-Natal. The main route most Langa Ndebele took north, through the Swaziland and Mpumalanga low-veld, suggests that the original Langa homeland was in northern KwaZulu-Natal. It is significant that most Nguni groups today who claim Langa ancestry live in that area. The combination of oral history, routes and settlement patterns shows that the division between Langa and Musi is ancient, extending back to at least the middle of the Moor Park phase, and that this division has a geographical expression (Huffman, 2007).

In 1800 communities around the region were living harmoniously, trading and farming it was up to the year 1826 when Mzilikazi Khumalo fled from King Shaka's rule and reaches the region devastating the communities.

2.2.1.3. Early African settlement

Documents suggest that the Lowveld was habituated by Sotho/Tswana speaker. Their villages were associated with stone walls and terraces, land clearings and agriculture. They were cultivators and miners of copper, gold and iron. Towards the end of the 19th Century the Swazis began raiding their livestock and then move northwards into places such as Mbombela either by pushing the early inhabitants or assimilating them into their ranks. By the late 1870s the Swazi settlement extended north of Swaziland border and westwards along the Crocodile River. The lower part of the region remained largely uninhabited due to the presence of tsetse flies. The Swazi movement was possibly necessitated by land shortages resulting from both increases in Swazi human and livestock population. Some historians argued that their movement was mainly based on land restrictions imposed by the king.

Most of the major villages were located along the river valley in close proximity to major stream such as De kaap, Queens, Crocodile, Komati and Lomati Rivers. Their economy was based on subsistence agriculture and livestock herding. The agricultural crops include Maize, beans, cow peas, groundnuts and variety of squash (Packard, 2001). The less privileged African communities were scattered over the flats, in 1877 rinderpest epidemic wipe out both cattle and game in the region. The disease crippled their economy, both production of food stuffs which was supplemented by spoils acquired through periodic

raiding activities collapsed. The epidemic greatly reduced the availability of milk which in a soured form known as *emasí* which was a major component of Swazi diet (Packard, 1984, 2001). The absence of cattle with which to trade for grain forced many Swazi men to seek wage employment; they were forced to work at gold mines at Barberton and then later on the Rand or white owned farms.

2.2.1.4. European settlement

Historical documents suggest that the Mpumalanga region was previously known due to the first hunters and explorers who ventured in to the region from the Cape Colony. At that time, several black tribes occupied the area Mpumalanga region these African cultural groups included Sotho, Swazi and Ndebele.

The great trek was initiated by group of people who wanted to be free, since the British recognized independence of the area north of the Vaal River. The first movement northwards was initiated under the leadership of Louis Trichardt and Hans van Rensburg in 1835. This group left the Cape Colony to cross Orange and Vaal River on their way to the north. They arrived in the region at around April 1836 and set up settlements in various locations. However relation between the two groups (Trichardt and van Rensburg) became tense. They splited and move off in different directions. One of the earliest settlements, in 1836 was in the Soutpansberg, north of Pietersburg. The second Voortrekker movement was acknowledge to have been led by Andries Hendrik Potgieter who arrived in 1848, however other historical sources suggest that Andries Hendrik Potgieter established Ohringstad in 1845. Later in 1848 he led a group that settled on the site Trichardt's group had abandoned, just outside present day Louis Trichardt and established a town Zoutpansbergdorp.

Whites began settling in the region in the middle of the 19th century. This could be associated with the tragic trek of a party of Afrikaner led by Louis Trichardt to Mozambique in 1837. This movement ended in a fewer death of most of the settlers and they had to withdrew to higher lying areas of Mpumalanga. They had tried to settle in Ohringstad valley in 1843 and in 1848 the valley was abandoned and Lydenburg was established. Both areas were fever ridden with malaria and Nagana epidemic. President Burgers sought to end the isolation of the Transvaal by developing relations with non-English colonial powers, and in 1875 began a round of negotiations with Portugal to secure access to the sea via a rail link to Delagoa Bay.

None the less in 1884 alluvial gold was discovered near the present town of Barberton and Whites begin settling in the eastern Lowveld. The subsequent gold rush in 1886 attracted 10000 diggers. Gold mining led to land speculation and expansion of white claim to land in the Lowveld area. Mining created a market for agriculture. The Boers dispensed plots of land to white new comers and most of the land were acquired from the Mswati who gave land to the Boers outside his jurisdiction because he wanted the Boers protection against the Zulus. It was during this time where the Boers began to resort to child labour, using African children captured in raids on villages. Soon a trade in children developed, especially with the Swazi, who wanted to develop a relationship with the Boers.

By 1890s most miner's foodstuffs market had shifted to Witwatersrand but the construction of railway line connecting South Africa and Mozambique created a second wave of agricultural development. The agricultural system of the region was extremely labour intensive. Not all white settlers shared the economic opportunities created by agriculture some were hunters for game and trading in ivory and animal hides with Portuguese. These goods were much in demands in Europe and they could be transported to Mozambique and exported from there.

After the unsuccessful Bloemfontein conference the Transvaal government had realized that War with the British was inevitable. They began to prepare themselves, so did the British. On 8 September the British cabinet decided to send 10 000 men to Natal to strengthen the defense of this British outpost. In retaliation on 27 September President Paul Kruger called up all Boers between the age of 16 and 60 of the Transvaal and persuaded President Steyn of Free State Province to follow the suit. The Boer realized the advantage of striking first, the commandos were therefore ordered to the borders. The commandos of Lydenburg and Carolina were deployed to strengthen to defend the Swaziland borders. Both Boer republics mobilized their artillery units and rallied (Changuion, 2001).

The first Anglo-Boer War broke out from 1880 to 1881. The Anglo Boer war delayed further advancement, Industrial, mining and agricultural until the twentieth century. By 1910 pockets of agriculture had emerged along the River Valley around Nelspruit and Barberton (Packard, 2001). The introduction of DDT and its success in getting rid of Malaria carrying mosquitoes encourage poor white farmers to settle in large numbers, many of

them moved to settle in the Lowveld towns and engaged in various forms of commerce or served as skilled laborer. Statistical records show that white population of the Nelspruit town nearly doubled growing from 2,186 to 4.247. From 1951 to 1960 Nelspruit had 11.839 white populations (Packard, 2001).

Most of the historical sensitivity areas is represented by a period associated with the development of farm homestead as well as infrastructure (e.g. roads) many of these farms have been in the ownership of families for generations. As a result they possess a large corpus of information with regarding to the area and its history. A significant numbers of battles and skirmishes took places in the region. There are remains of blockhouses that should be anticipated on the ridges and at river crossings.

3. LEGISLATIVE REQUIREMENTS

Two sets of legislation are relevant for the study with regards to the protection of heritage resources and graves presented here. Under the National Heritage Resources Act (Act 25 of 1999) (NHRA), the Human Tissue Act (65 of 1983) (HTA) an HIA is required as a specialist sub-section of the HIA.

3.1. The National Heritage Resource Act (25 of 1999)

Archaeological heritage in South Africa is governed by the National Heritage Resource Act (25 of 1999) (NHRA) and falls under the overall jurisdiction of the South African Heritage Resource Agency (SAHRA). There are different sections of the NHRA that are relevant to this study. NHRA established the SAHRA as the prime custodians of the heritage resources and makes provision for the undertaking of heritage resources impact assessment for various categories of development as determined by Section 38. It also provides for the grading of heritage resources (Section 7) and the implementation of a three-tier level of responsibly and functions from heritage resources to be undertaken by the State, Provincial and Local authorities, depending on the grade of heritage resources (Section 8). In terms of the NHRA the following is of relevance:

Historical remains

Section 34 (1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant Provincial Heritage Resources Authority.

Archaeological remains

Section 35(3) Any person who discover archaeological or Paleontological object or material or a meteorite during development or agricultural activity must immediately report the find to the responsible heritage resource authority or the nearest local authority or museum, which must immediately notify such heritage resources authority.

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority-

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.
- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite.
- trade in, sell for private gain, export, or attempt to export from republic any category of archaeological or paleontological material or object or any meteorite; or
- bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment which assist with the detection or recovery of metal or archaeological material or object or such equipment for the recovery of meteorites.

Section 35(5) When the responsible heritage resource authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or paleontological site is underway, and where no application for a permit has been submitted and no heritage resource management procedures in terms of section 38 has been followed, it may

- serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order
- carry out an investigation for the purpose of obtaining information on whether or not an archaeological or paleontological site exists and whether mitigation is necessary;
- if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- recover the cost of such investigation from the owner or occupier of the land on which it is believed an archaeological or paleontological site is located or from the

person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) the responsible heritage resource authority may, after consultation with the owner of the land on which an archaeological or paleontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

Burial grounds and graves

Section 36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- (i) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (ii) bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36 (6) Subject to the provision of any person who in the course of development or any other activity discover the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resource authority which must, in co-operation with the South African Police service and in accordance with regulation of the responsible heritage resource authority-

- (l) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this act or is of significance to any community; and
if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

Cultural Resource Management

Section 38(1) Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development*...

- must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

development means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including:

- (i) Construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (ii) Any change to the natural or existing condition or topography of land, and
- (iii) Any removal or destruction of trees, or removal of vegetation or topsoil;

place means a site, area or region, a building or other structure

structure means any building, works, device or other facility made by people and which is fixed to the ground.

3.2. The Human Tissue Act (65 of 1983)

This act protects graves younger than 60 years; these falls under the jurisdiction of the National Department of Health and the Provincial Health Department. Approval for the exhumation and reburial must be obtained from the relevant provincial MEC as well as relevant Local Authorities.

4. TERMS OF REFERENCE

The terms of reference for the study were to conduct heritage impact assessment for the specific additional activities located within the approved mining right area in compliance with Section 38 of the National Heritage Resources Act, 1999 (NHRA Act No. 25 of 1999) and the Limpopo Heritage Resources Authority (LIHRA).

- ❖ an assessment of the significance of such resources in terms of heritage assessment criteria set out in regulations;
- ❖ an assessment of the impact of the development on heritage resources;
- ❖ an evaluation of the impact of the development on heritage resources relative to the interested parties regarding the impact of the development on heritage resources;
- ❖ if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and

- ❖ plans for mitigation of any adverse effects during and after completion of the proposed development.

5. SCOPE OF WORK

The scope of the proposed development was conducted as part of the specialist input which addresses the following:

- Provide an account of the identified heritage resources with standard documentation.
- Evaluate the significance of the identified heritage resources.
- Outline the potential impacts to the identified heritage resources in light of the sustainable socio-economic benefits.
- Suggest recommendations that offer practical measures for the management and/or mitigation of the identified heritage resources to benefit from the heritage resources and at the same time making sure that they are preserved.
- To submit a HIA report to LIHRA, and SAHRA for evaluation as required by Section 38(8) of the NHRA.

5.1. METHODOLOGY

The study was undertaken using a stepped methodology which combined desktop study, systematic field surveys (fieldwalking and drive-through) and mapping. These field techniques were used to document the physiographic settings and history of the area as well as determining the presence/absence of any natural and cultural heritage landmarks on the footprint of the area proposed North Rock Dump, New road, Merensky Shaft, Merensky Stock Pile, Merensky Plant and New Tailings Storage Facility (TFS) pipe line realignment. Desktop study was focused on both published and unpublished natural, archaeological, historical, and anthropological documentary works. These included maps, photographs, site registers, journals, monographs and autobiographies, and fieldwork reports - particularly AIAs and HIAs hosted by heritage databases such as SAHRA. The latter formed a key component of this research; they provided background information, which aided towards understanding the archaeology of the landscape (i.e. Pistorius 2010; Roodt, 2012; Van der Walt & Hutten 2018; Vollenhoven 2012; Vollenhoven 2013).

Upon gathering background information from the desktop research, a field study of the area earmarked the proposed additional activities was undertaken from the 7th to the 8th

of June 2021. This was carried out with the help from the Two Platinum Mine officials. Physiography and land use of the area was documented using detailed photographs. Systematic surface surveys were conducted on a marked transect which had been divided into 200m x 200m quadrants (Figure 8) using principles of stratified random sampling (Renfrew & Bahn 2004). The quadrants were investigated by a team of two field workers using field walks and drive through. Ultimately, the recorded findings were then analyzed in view of the proposed project to suggest further action. The result of this investigation is a report indicating the presence/absence of natural and cultural heritage resources and how they will be impacted and conserved from the proposed activities within Two Rivers Platinum Mine.



Figure 3: View of Two Rivers Platinum



Figure 4: View of the Site earmarked for Merensky Plant

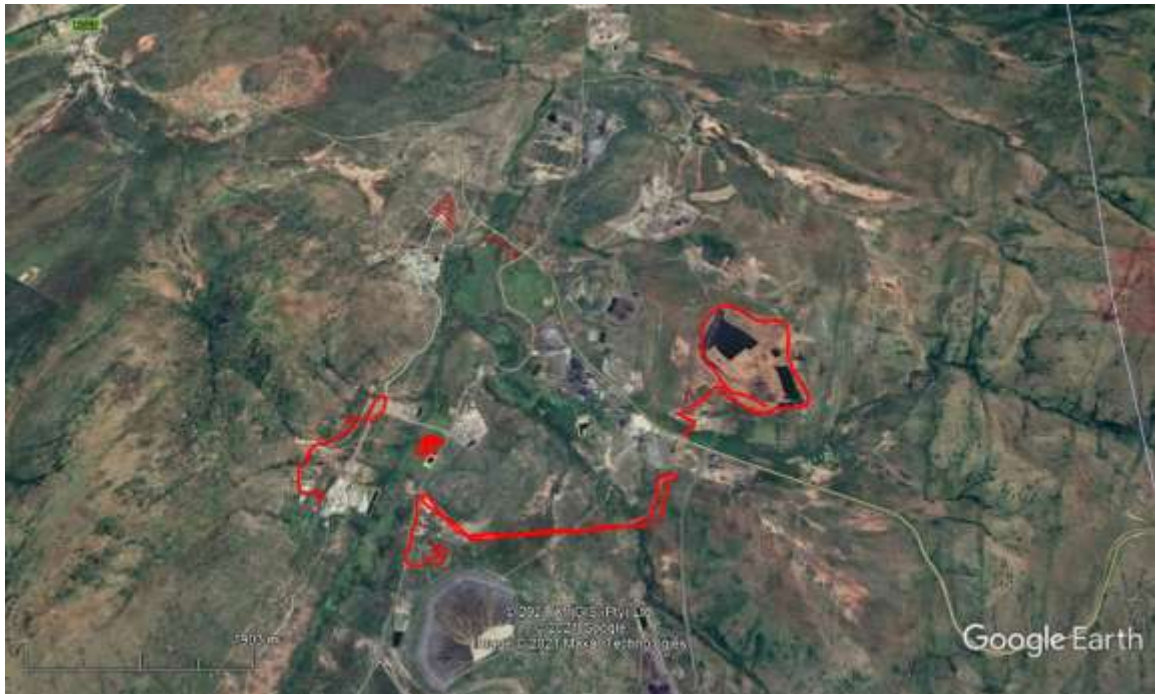


Figure 5: The extent of the Surveyed area in relation to the proposed development.

6. ASSUMPTION AND LIMITATIONS

The investigation has been influenced by the unpredictability of buried natural and cultural heritage remains (absence of evidence does not mean evidence of absence) and the difficulty in establishing intangible heritage values. It should be remembered that heritage deposits (including graves and traces of mining heritage) usually occur below the ground level. Should artefacts or skeletal material be revealed at the site during construction, such activities should be halted immediately, and SAHRA or LHRA must be notified for an investigation and evaluation of the find(s) to take place (cf. tissues act (Act No. 25 of 1999), Section 36 (6)). Recommendations contained in this document do not exempt the developer from complying with any national, provincial, and municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA. Vhufa Hashu Heritage Consultants assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.

7. ASSESSMENTS CRITERIA

This section describes the evaluation criteria used for determining the significance of the identified natural and cultural heritage resources. The significance of these heritage sites was based on the following criteria:

- The uniqueness of a site.
- The amount/depth of the natural and cultural deposit and the range of features (i.e., stone walls, activity areas etc.)
- The wider historic, cultural, and geographic context of the site.
- The preservation condition and integrity of the site.
- The potential to answer present research questions.

7.1. *Site Significance*

The site significance classification standards as prescribed in the guideline and endorsed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used as guidelines in determining the site significance for the purpose of this report. The classification index is represented in the table below.

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	Grade 4B	Low Significance	Destruction

Grading and rating systems of heritage resources

7.2. Impact Rating

VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or cultural) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

HIGH

These impacts will usually result in long term effects on the social and /or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long-term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (e.g., farmers) would be HIGH.

MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by the public or the specialist as constituting a fairly unimportant and usually short-term change to the (natural and/or social) environment. These impacts are real, but not substantial.

Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by society as constituting a fairly important and usually medium-term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.

Example: The increased earning potential of people employed because of a development would only result in benefits of LOW significance to people living some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.

Example: A change to the geology of a certain formation may be regarded as severe from a geological perspective but is of NO SIGNIFICANCE in the overall context.

7.3. Certainty

DEFINITE: More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

PROBABLE: Over 70% sure of a particular fact, or of the likelihood of an impact occurring.

POSSIBLE: Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.

UNSURE: Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.

7.4. Duration

SHORT TERM: 0 – 5 years

MEDIUM: 6 – 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

7.5. Mitigation

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be classified as follows:

- ✓ **A** – No further action necessary
- ✓ **B** – Mapping of the site and controlled sampling required
- ✓ **C** – Preserve site, or extensive data collection and mapping required; and
- ✓ **D** – Preserve site

8. RESULTS

A total of 05 sites were recorded during the survey and these include the sites which had already been identified by Sasha. Typology of these sites ranges from Stone Age to as well as burial grounds. Burial grounds were predominant (04), and these comprised of ±75 graves. The last category was made up of three Middle Stone Age flake found in different locations during the survey. It should be noted that no location had been indicated or excavations were conducted, hence mapping of the site boundaries was based on approximations (Figure 22). Currently the earthwork for the proposed New Tailings Storage Facility (TFS) and the water pipe line project is complete which is unlikely for the three Middle Stone Age flake sites to survive.

8.1. Re alignment of the TFS Pipeline

The proposed New TSF pipeline runs from the proposed TSF on portion 2 of the farm De Grooteboom 373 KT via the Dwars River Mine to Two Rivers Mine. The proposed realignment was done after the contractors find the graves along the proposed pipe line on the north eastern of Groot Dwarsrevier.



Figure 6: Aerial view of the realignment of New TSF pipeline in yellow, the old proposed line in red and identified graves marked GY01.

8.1.1. Graveyard 01

GY01 comprises of five graves located along the pipe line on the south eastern side and north east of Groot Dwarsrevier (GPS S24°56'29.74" E30°07'36.00"). Inscriptions on the granite headstone read as follows:

- Pudi-Yamotse Case, Rankge, Born 1903-07-20,Died 1990-08-05
- Matata Aletta Mankge, Born 1918-02-12, Died 1979-11-09, Robala ka Khutso Mmago Rena.
- Mankge, in loving memory memory of Mankeke Kwekwenyane Died 1961, Robala ka khutso Tubatse ya Mohlogopela, Rest in peace Mohlogopela.
- Lethoka Oupana, Born 1994-01-20, Died 1999-07-29, Rest in peace Tubatse wa Mohlogopela, Mankge.

The first proposed pipe line was planned few meters on the eastern side of the grave yard.



Figure 7: GY01 holds the remains of five individuals marked with Granite Tomb Stones

8.1.2. Graveyard 02

GY02 is still working, the community is still burying their loved ones in this grave yard in the premises of the Two Rivers Platinum Mine. The grave yard is situated on the southern side of the New TSF pipeline (GPS S24°56'51.18" E30°06'05.16"). This grave yard holds ± 40 graves which are well marked by granite stones while few of the graves are marked by mound of soil and stones. The graves on this grave yard belongs to the different families, Mmakomane, Thapedi, Mokabane, Phetla, Mmadi and Leshabane, most of the graves on this grave yard belongs to Mmadi and Leshabane families.



Figure 8: View of GY02 which hold ± 40 graves most of them marked by granite Tomb Stones and few graves marked with mound of soil and stones.

8.2. Merensky Shaft

Merensky Shaft is situated on the foot of the Mountain on the western side of the Two Rivers Platinum Mine (GPS S24°56'33.63" E30°05'19.08"). The shaft is not working in the moment and there is a Heritage site few meters north of the shaft. The rock art site next to the shaft is well known by the (Heritage Rock), the site is well fenced off by the palisade fence.



Figure 9: General view of Merensky Shaft.

8.2.1. Heritage Rock (Rock art Site)

A large boulder next to the entrance of Merensky has a Rock art, however it is fenced off with the palisade fence.

Site Condition: The rock art is affected by rain water that drips over the painted panels.



Figure 10: View of Heritage rock at Merensky Shaft.



Figure 11: View of the palisade fence for the rock art site (Heritage rock).



Figure 12: Example of the painted panel illustrating an animal painted in white.



Figure 13: View of the animals painted in red ochre.

8.2.2. Single Grave

The isolated single grave is situated on the western side of the gravel road to Merensky Shaft and Heritage Rock. The grave is marked with a concrete slab and concrete head rest and it is well fenced with palisade. The grave is safe from the development activities (GPS S24°56'04.38" E30°05'07.69").



Figure 14: View of the single grave well fenced off by the palisade.



Figure 15: View of the dense vegetation at the proposed Merensky Stockpile

8.2.3. Graveyard 03

The GY03 is not affected by the development and it is situated next to the main Shaft to the south. The grave yard is well fenced and well maintained. According to the mine officials the graves were relocated from Merensky Shaft few meters to the new site (GPS S24°56'02.58" E30°05'42.15").



Figure 16: View of GY03 situated next to the main shaft.



Figure 17: View of the area proposed for Merensky Plant.



Figure 18: North Waste Rock Dump.



Figure 19: Areal view of the proposed road within Two Rivers Platinum Mine.



Figure 20: View of the area where the road will connect to the existing road.



Figure 21: Middle Stone Age tool.



Figure 22: Location of the sites recorded on the footprint of the proposed activities in TRP.

9. CONCLUSION AND RECOMMENDATIONS

Grounding on the statutes of the National Heritage Resources Act (NHRA Act 25 of 1999) and the Human Tissue Act (HTA Act 65 of 1983), the footprint of the proposed additional activities within Two Rivers Platinum Mine lies very close to a range of significant heritage resources. Firstly, as noted earlier, the predominant heritage resources recorded were burial grounds. These are of high significance and are respectively protected by the NHRA (Act 25 of 1999), the HTA Act 65 of 1983, and the Ordinance on exhumation (Ordinance no 12 of 1980) which respectively distinguishes various categories of graves, burial grounds, and exhumation procedures. The NHRA (Act 25 of 1999) applies whenever graves are older than sixty years. Therefore, all the recorded burial grounds which comprised of ± 75 graves are highly significant and warrant protection. Secondly we have the rock art site which is well fenced off by the palisade fence. We recommend the redirection of rain water which drips across the paintings. Artificial drip line redirecting the rain water off from the painting should be constructed. We also recommend to the Environmental officers to lock the gate for the Heritage rock to control the access to the site. The visitor's platform should be constructed outside the fence to control people from touching the rock art.

Rock art are vulnerable to touching as oil and moisture from hands adheres to the surface and cannot be removed.

Archaeological sites are buried under the soil surface where they are relatively safe until natural forces such as erosion and human development actions expose them. Those sites are usually identified by exposed bone materials, pottery remains, burnt daga, house remains, ash middens etc. The most sensitive of these are human burials, should any chance archaeological or any other physical cultural resources be discovered subsurface, heritage authorities should be informed. From an archaeological and cultural heritage resources perspective, there are no objections to the proposed North Rock Dump, New road, Merensky Shaft, Merensky Stock Pile, Merensky Plant and New Tailings Storage Facility (TFS) pipe line realignment. We recommend to the Provincial Heritage Resource Agency, South African Heritage Resource Agency to approve the project as planned.

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APPENDIX A: PROCESS OF GRAVE EXHUMATION

Application of a permit from SAHRA's BGG Unit or PHRA in terms of Section 36 of the National Heritage Resources Act for **graves older than 60 years**.

- **Graves of known identity:** Proof of thorough consultative process:
 - Locate next of kin and obtain letter of consent from next of kin.
 - Obtain a letter of consent or statement of no objection from the local traditional authority.
 - Determine a place for the re-burial of each grave in consultation with next of kin. In addition, also determine the arrangement of reburial, i.e., by the next of kin/community or a funeral undertaker.
 - Submit documentation of the above with the permit application to SAHRA.
 - Inform SAPS of intent to relocate the grave/s and submit a copy of the permit to SAPS.

- **Graves of unknown identity:** Proof of thorough consultative process:
 - Place advertisement in a local and national newspaper with description and location of graves and full contact detail of consultant and developer. A waiting period of 60 days applies.
 - If no reaction to advertisement follows, then apply for permit from SAHRA after the waiting period of 60 days with proof of advertisement and any other consultative process.
 - If in rural area obtain a letter of consent or statement of no objection from local traditional authority must be submitted with permit application.
 - If advertisement leads to a claim from next of kin or from a community who by tradition has an interest, then written consent from relevant party must be obtained.
 - Determine a place for the re-burial of each grave
 - Submit documentation of the above with the permit application to SAHRA.
 - Inform SAPS of intent and process of re-burial and submit a copy of the permit to SAPS.

Graves less than 60 years old in terms of the Human Tissues Act (Act no. 65 of 1983) and the Removal of Graves and Dead Bodies Ordinance No. 7 of 1925

- Locate the next of kin of the buried persons and obtain consent from the next of kin for the relocation of the graves.
- Determine a place for the re-burial of each grave.
- Obtain a letter of consent or statement of no objection from the local traditional authority.
- Submit above documentation to the Department of Health and obtain permission for the relocation of the graves – which process would most probably be regulated by the District Municipality.
- Inform the Local South African Police Service and provide documentation from relevant heritage authority.
- The graves are to be exhumed under the supervision of an archaeologist.

APPENDIX B: TYPES AND RANGES AS OUTLINED BY THE NATIONAL HERITAGE RESOURCE ACT (ACT 25 OF 1999)

The National Heritage Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of the heritage resources that qualify as part of the national estate, namely:

- (a) Places, buildings structures and equipment of cultural significance;
- (b) Places to which oral tradition are attached or which are associated with living heritage;
- (c) Historical settlement and townscapes
- (d) Landscape and natural features of cultural significance;
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial ground including-
 - (I) Ancestral graves
 - (II) Royal graves and graves of traditional leaders
 - (III) Graves of victim of conflict
 - (IV) Graves of individuals designated by the minister by notice in the gazette;
 - (V) Historical graves and cemeteries; and
 - (VI) Other human remains which are not covered by in terms of the Human Tissue Act,1983(Act No 65 of 1983)
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including-
 - (I) object recovered from soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (II) objects to which oral traditions are attached or which are associated with living heritage
 - (III) ethnographic art and objects;
 - (IV) military objects;
 - (V) objects of decorative or fine art;
 - (VI) object of scientific or technological interest; and
 - (VII) books, records, documents, photographs, positive and negatives, graphic, film or video material or sound recording, excluding those that are public records as defined in section1(xiv) of the National Archives of South Africa Act,1996(Act No 43 of 1996).

The National Heritage Resource Act (Act No 25 of 1999, Art 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value... these criteria are the following:

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- (h) Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa
- (i) Sites of significance relating to the history of slavery in South Africa.