



Archaetnos Culture & Cultural
Resource Consultants
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**BASELINE REPORT FOR THE HERITAGE IMPACT ASSESSMENT RELATED TO
THE PROPOSED TAWANE HOTAZEL MINE, NORTHERN CAPE PROVINCE**

For:

Prime Resources

REPORT: **AE02048V**

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1. Introduction

This report deals with the results of a baseline (desktop) study relating to the Heritage Impact Assessment for the proposed Tawana Hotazel Mine. This is located at Hotazel in the Northern Cape Province (Figure 1).



FIGURE 1: LOCATION OF THE PROPOSED MINING AREA IN RELATION TO HOTAZEL IN THE NORTHERN CAPE PROVINCE.

The project is situated on the farms Hotazel 280 and York 279, approximately 1 km south-east of the town of Hotazel. The Hotazel Project largely incorporates the historical Hotazel Manganese Mine (HMM), including the residual opencast void, surface dumps of low-grade material and the mothballed processing plant and rail loadout facility. HMM stopped production in 1989. The area was historically mined by both opencast and underground means and yielded high grade manganese ore.

Tawana Hotazel Mining (Pty) Ltd intends on submitting an application for a Mining Right (MR) to the Department of Mineral Resources and Energy (DMRE) for the proposed Tawana Hotazel Mine (THM). The Mining Right Application area is 145.1 Ha. The types of minerals applied for are: all (Code UN); Iron and Iron bearing minerals including hematite, goethite, specularite and limonite (Code (Fe) Type (B)) and Manganese and manganese bearing minerals (Code (Mn) Type (B)).

Surface infrastructure will include the opencast pit (incorporating the historical HMM void and further expansion of the opencast footprint), in-pit waste dumps (residue material), vehicle yard, workshop, access and haul roads, offices, stores, processing

plant, product stockpile area, run of mine pad, refuel bay and water management infrastructure (Figure 2).



FIGURE 2: MINE LAYOUT.

2. Methodology

- **Terms of reference**

- Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property.

- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value.
 - Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
 - Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources.
 - Recommend suitable mitigation measure should there be any sites of significance that might be impacted upon by the proposed development.
 - Review applicable legislative requirements.
- ***Plan of Study***
 - A survey of literature will be done in order to obtain background information regarding the area. Sources consulted in this regard will also be indicated in the bibliography.
 - A field survey will be conducted according to generally accepted HIA practices and will be aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. If required, the location/position of any site will be determined by means of a Global Positioning System (GPS), while photographs will also be taken where needed.
 - All sites, objects features and structures to be identified will be documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities will be determined by means of the Global Positioning System (GPS). The information will be added to the description in order to facilitate the identification of each locality.
 - Reporting, including -
 - Description of the area
 - Methodology (including International Finance Corporation guidelines)
 - A short history of human culture (including and defining the Stone Age, Iron Age and Historical era)
 - Discussion of each individual site found – attention will be given to the cultural significance of each
 - Mitigation and monitoring plan
 - Assumptions and knowledge gap analysis
 - Sensitivity rating
 - Impact assessment
 - Conclusions
 - Recommendations
 - References
 - Appendices

3. Discussion of baseline information

This geographical area is not well-known as one containing many prehistoric sites. One however has to realize that this most likely only indicates that not much

research has been done here before. On the existing SAHRA Database no such sites are indicated here, but there are a few heritage surveys that were done here.

- **Stone Age**

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

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

This geographical area is not well-known as one containing many prehistoric sites. One however has to realize that this most likely only indicates that not much research has been done here before.

Stone Age sites are known to occur in the larger geographical area, including the well-known Wonderwerk Cave in the Kuruman Hills to the east, Tsantsabane, an ancient specularite working on the eastern side of Postmasburg, Doornfontein, another specularite working north of Beeshoek and a cluster of important Stone Age sites near Kathu. Additional specularite workings with associated Ceramic Later Stone Age material and older Fauresmith sites (early Middle Stone Age) are known from Lylefeld, Demaneng, Mashwening, King, Rust & Vrede, Paling, Gloucester and Mount Huxley to the north (Morris 2005: 3).

The nearest substantial site is the Doornlaagte Early Stone Age archaeological site close to Kimberley, some buildings at Postmasburg and a specularite mine close to Postmasburg (SAHRA database).

The onset of the Middle Stone Age coincided with a widespread demand for coloured or glittering minerals that arose at the time for still unknown reasons. The intensive collection of such substances soon exhausted surface exposures and led to the quest being extended underground and thus to the birth of mining practice. As mentioned, specularite was commonly mined in the Postmasburg area. In 1968 AK Boshier, working in collaboration with P Beaumont, found a number of underground specularite mines on Paling (De Jong 2010: 35). Stone and Iron Age communities mined specularite associated with iron ores for cosmetic purposes at Blinkklipkop, Paling, Gloucester and other farms (De Jong 2010: 41; Snyman 2000: 3).

Many Middle and Late Stone Age tools have been found by Archaetnos during surveys in the Northern Cape. These sites are located close to Griekwastad, Hotazel, Postmasburg and Kenhardt (www.archaetnos.co.za). On the farm Konkooksies 91 in the Pofadder district, five sites with Middle and Late Stone Age tools were identified (Pelser 2011). The environment here seems very similar to that at the study area, indicating that sites are most likely to be found within the proposed mining area.

Rock engraving (rock pecking) sites are known from Beeshoek and Bruce (Morris 2005: 3; Snyman 2000: 3). The latter are associated with the Late Stone Age.

A number of Stone Age sites and scattered finds of Stone Age material were identified by Küsel et.al. (2009) and Archaetnos close to the town of Hotazel and adjacent to the Gamagara River during 2011 (Archaetnos database). Further away sites were identified close to Postmasburg on the farm Paling during an earlier survey (Pelser & Van Vollenhoven 2010: 12-17). On neighbouring farms some stone tools were identified (Fourie & Van der Walt 2006: 26-27).

The mentioned Late Stone Age sites are associated with the San people. Mitchell (2002: 126) indicates that the language group who occupied the Northern Cape is the /Auni-//Khomani and Eastern /Hoa. These people were hunters and gatherers which means that they would have moved around, leaving little trace of their existence.

From the above mentioned it is clear that Stone Age people did utilize and settled in the area. A few such sites are known toward the Gamagara River. These have been plotted on a Google Earth image in order to contextualize it with the study area (Figure 3). These lies on the opposite side of the town of Hotazel and will therefore not be affected by the proposed project (Van Vollenhoven 2019:18).



FIGURE 3: KNOWN STONE AGE OCCURRENCES IN THE SURROUNDING AREA OF THE SURVEYED SITE.

- **Iron Age**

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

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

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be 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.

No Early or Middle Iron Age sites have been identified in the area of study. Iron Age people occupied the central and eastern parts of southern Africa from about 200 A.D., but the San and Khoi remained in the western and southern parts (Inskeep 1978: 126; see also Huffman 2007).

During the Late Iron Age (LIA), people stayed in extensive stonewalled settlements, such as the Thlaping capital Dithakong, 40 km north of Kuruman. Sotho-Tswana and Nguni societies, the descendants of the LIA mixed farming communities, found the region already sparsely inhabited by the Late Stone Age (LSA) Khoisan groups, the so-called 'first people'.

Most of them were eventually assimilated by LIA communities and only a few managed to survive, such as the Korana and Griqua. This period of contact is sometimes known as the Ceramic Late Stone Age and is represented by the Blinkklipkop specularite mine near Postmasburg and finds at the Kathu Pan (De Jong 2010: 36).

It is however known that Late Iron Age people did utilize the area further to the west, albeit briefly, as they did mine copper in the Northern Cape. This was much further to the west of the study area, closer to the Orange River (Inskeep 1978: 135).

Iron Age people therefore probably did not settle in the study area. The chances of finding any Iron Age remains in the study area are thus extremely slim, if not impossible.

- **Historical Age**

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

Factors such as population expansion, increasing pressure on natural resources, the emergence of power blocs, attempts to control trade and penetration by Griquas, Korana and white communities from the south-west resulted in a period of instability in Southern Africa that began in the late 18th century and effectively ended with the settlement of white farmers in the interior. This period, known as the *difaqane* or *Mfecane*, also affected the Northern Cape Province, although at a relatively late stage compared to the rest of Southern Africa. Here, the period of instability, beginning in the mid-1820s, was triggered by the incursion of displaced refugees associated with the Tlokwa, Fokeng, Hlakwa and Phuting tribal groups (De Jong 2010: 36).

The *Difaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first traders in the Northern Cape were PJ Truter's and William Somerville's journey of 1801, which reached Dithakong at Kuruman. They were again followed by Cowan, Donovan, Burchell and Campbell and resulted in the establishment of a London Mission Society station near Kuruman in 1817 by James Read (De Jong 2010: 36). During the 1870's William Sanderson, John Ryan and John Ludwig passed through the area close to Postmasburg (Snyman 2000: 3).

The Great Trek of the Boers from the Cape in 1836 brought large numbers of Voortrekkers up to the borders of large regions known as Bechuanaland and Griqualand West, thereby coming into conflict with many Tswana groups and also the missionaries of the London Mission Society. The conflict between Boer and Tswana communities escalated in the 1860s and 1870s when the Korana and Griqua communities became involved and later also the British government. The conflict mainly centered on land claims by various communities. For decades the western border of the Transvaal Boer republic was not fixed. Only through arbitration (the Keate Arbitration), triggered by the discovery of gold at Tati (1866) and diamonds at Hopetown (1867) was part of the western border finally determined in 1871. Ten years later, the Pretoria Convention fixed the entire western border, thereby finally excluding Bechuanaland and Griqualand West from Boer domination (De Jong 2010: 36).

Geographically, the study area is part of a region known as Griqualand West. At the end of the 18th century and the beginning of the 19th century Griqua tribes coming from the south settled in the region in order to escape encroachment of Afrikaner Trekboere who was active along the Orange River. They established the town of Klaarwater, renamed Griquatown in 1813. After the discovery of diamonds in 1867 a serious dispute over the ownership of the diamond fields ensued, involving the

Transvaal and Orange Free State Boer republics, Griqua, Korana and Thlaping communities and the Cape colonial government. In October 1871 the diamond fields were proclaimed British territory under the name Griqualand West. In 1879 it was annexed to the Cape Colony (De Jong 2010: 36).

The incorporation of Griqualand West into the Cape Colony promoted colonial settlement in the area from the 1880s. Government-owned land was surveyed and divided into farms, which were transferred to farmers. Surveyors were given the task of surveying and naming some of the many farms in this region. These farms were allocated to prospective farmers, but permanent settlement only started in the late 1920s and the first farmsteads were possibly built during this period (De Jong 2010: 36).

The Griqua town of Blinkklip (established in 1882), originally a mission station, was renamed Postmasburg in 1892 and became the centre of a magisterial district (Snyman 2000: 6). Another town, Olifantshoek, was established in the 1880s. The region remained sparsely populated until the advent of the 20th century, when cattle farming became popular (De Jong 2010: 36).

Prospecting started in the Postmasburg area during 1882 and manganese was discovered here during 1886 (Snyman 2000: 6, 13). Henry George Brown, who was commissioned in 1888 by the government of British Bechuanaland to erect the first government buildings in Kuruman, became interested in the iron ores that were known from the Klipfontein Hills. While prospecting there in the late 19th century, he became the first person to identify manganese in what is today known as the Eastern Belt of the Postmasburg Manganese Field.

The first Geologist to have surveyed the Northern Cape was Dr A. W. Rogers of the Geological Commission of the Cape Colony in 1906. One of the features he noted was a small hill called Black Rock and reported on the presence of manganese ore at the base of the hill. In 1940 Associated Manganese Mines of South Africa acquired the manganese outcrop known as Black Rock and shortly afterwards started mining the deposit.

The ore is extracted by both underground and open cast operations. Mines in the area include Wessels, N'Chwaning I, N'Chwaning II, Black Rock, Hotazel, Langdon, Devon, Perth, Smart, Adams, Mamatwan (largest opencast mine in the area), Middleplaats and Gloria. Gloria Mine was opened in 1978 (Küsel et.al. 2009: 3).

The strata bound ore deposits of the Kalahari Manganese field represent the largest land bound sedimentary manganese deposits in the world and originated from a single episode of manganese deposition about 2200 million years ago. A widespread hypothermal event occurred in the north western portion of the Kalahari Manganese field 1300 million years ago with temperatures reaching a maximum of 450 degrees centigrade in the Wessels, N'Chwaning and Black Rock areas. This event resulted in the upgrading of the Manganese-content of the ore and produced a wide range of rare minerals as well as mineral assemblages. Of the approximately 150 minerals, 10 have to date only been found in the Kalahari manganese field and a further 26 are found at four or fewer mineral localities worldwide (Küsel et.al. 2009: 3).

One may therefore expect sites associated with the first white farmers, early missionaries and mining companies. This may include graves. In fact, buildings, including farm houses and outbuildings typical of the earliest white farmers of the area were identified during a previous survey on some of the farms mentioned as being part of the wider mining area. A few graves were also identified, but these are on adjacent farms (Van Vollenhoven 2012; Van Vollenhoven & Collins 2015; Fourie & Van der Walt 2006).

5. Preliminary impacts expected

From the desktop data the following potential impacts can be indicated:

- It can be concluded that the chances of finding Stone Age sites is reasonably high. Due to the lack of research in the area it will then most likely have a high cultural significance. However, the proposed mining area is almost entirely disturbed and thus it is expected that only finds out-of-context are likely to be identified.
- Chances to find Iron Age sites and occurrences are very slim. However, finding some evidence such as pottery lying around is always possible.
- During the HIA survey one might find historical structures dating to the first white farmers in the area, the missionaries and early mining activities. These will include ruins and foundations of houses and other outbuildings on a farm as well as possible cattle kraals. Significance can only be determined on identification of such features. Again, the disturbance of the proposed mining area, make any such finds unlikely.
- Graves always is a distinct possibility and two sites are already known. Graves always are of a high cultural significance due to the religious and social context thereof. If such sites are identified it will undoubtedly have to be dealt with in accordance with ethical guidelines and legislation in this regard. The disturbed nature of the proposed mining area, however, makes the existence of any graves very unlikely.

6. Proposed management measures for potential impacts

- Loose stone tools found are usually of minor significance and should just be left as it is.
- Areas where a substantial number of stone tools are found together should be geo-referenced and left alone until such time as an archaeologist can visit the site to determine its significance.
- Although chances of finding Iron Age remains are slim, it should be treated similar to the above. Potshards found out of context should be left alone, but areas with stone walling or substantial pottery and other cultural remains should be geo-referenced and left alone until investigated by an archaeologist.

- All buildings and remains of buildings and other structures believed to be older than 60 years should be geo-referenced and left alone until and a heritage expert can be called in to determine the cultural significance thereof.
- Graves should be left in situ, geo-referenced and left alone until investigated by an archaeologist.

7. Sources

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