Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

A REPORT ON THE HERITAGE RELATING TO THE CLOSURE EMP OF THE ASSMANG GLOSUM MINE CLOSE TO POSTMASBURG , NORTHERN CAPE

For:

GCS
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RIVONIA
2128

REPORT: **AE1053**

by:

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Accredited members of ASAPA

August 2010

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DISCLAIMER:

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

The South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report and clients are advised not to proceed with any action before receiving these.

SUMMARY

Archaetnos cc was requested by GCS to conduct a survey relating to heritage aspects for the planned Assmang Glosam Closure EMP. The Glosam Mine is located about 30 km to the north of the town of Postmasburg in the Northern Cape Province.

The client indicated the affected areas and the survey were confined to this. A survey of the available literature was undertaken in order to obtain background information regarding the area.

During the survey twelve sites of possible heritage significance was located. These are discussed and recommendations relating to the preservation or destruction thereof are made. The proposed closure may continue in lieu of the recommendations made in this report.

It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when destruction commences that if any of these are discovered, a qualified archaeologist be called in to investigate.

CONTENTS

page

1. INTRODUCTION, SCOPE AND PURPOSE

Archaetnos cc was requested by GCS to conduct a heritage assessment for the Assmang Glosam Closure EMP. The Glosam Mine is situated 30 km to the north of the town of Postmasburg in the Northern Cape Province on the farm Gloucester (Figure 1).

The client indicated the areas to be surveyed and the survey was confined to this area.

Figure 1 Google image indicating the location of the project area.

2. DETAILS AND EXPERTISE OF THE SPECIALISTS

Dr. Anton Carl van Vollenhoven:

Tertiary education

- BA 1986, University of Pretoria
- BA (HONS) Archaeology 1988 (cum laude), University of Pretoria
- MA Archaeology 1992, University of Pretoria
- Post-Graduate Diploma in Museology 1993 (cum laude), University of Pretoria
- Diploma Tertiary Education 1993, University of Pretoria
- DPhil Archaeology 2001, University of Pretoria.
- MA Cultural History 1998 (cum laude), University of Stellenbosch
- Management Diploma 2007 (cum laude), Tshwane University of Technology
- DPhil History 2010, University of Stellenbosch

Relevant positions held

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

Experience and professional affiliations

- Has published 67 articles in scientific and popular journals on archaeology and history.
- Has been the author and co-author of over 200 unpublished reports on cultural resources surveys and archaeological work.
- Has published a book on the Military Fortifications of Pretoria.
- Has delivered more than 40 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 – 2006.
- Member of the South African Academy for Science and Art.
- Member of Association for South African Professional Archaeologists.
- Member of the South African Society for Cultural History (Chairperson 2006-2008).
- Has been editor for the SA Journal of Cultural History 2002-2004.

Mr. A.J.Pelser:

Tertiary education

- BA (UNISA) 1995
- BA (HONS) Archaeology WITS 1997
- MA Archaeology WITS 2003

Relevant positions held

- *1991 – 30 September 2006* National Cultural History Museum. Between February 1991 and October 1994 worked as assistant in Collections Management Department. From 1994 to 1998 work as Assistant Museum Scientist in the Research Department (Archaeology). From 1998 to September worked as Museum Scientist (Researcher: Archaeology) in the same department. Was the Curator of the Archaeology Collection at the Museum during this time.

- Resigned to conduct Cultural Heritage Consultancy work and research on a full-time basis in September 2006.

Experience and professional affiliations

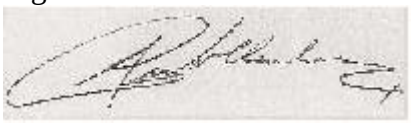
- Mr. Pelser has published more than 30 articles in scientific and popular journals on archaeology and history.
- He has been the author and co-author of nearly 300 unpublished reports on cultural resources surveys and archaeological work.
- He has contributed a chapter on Archaeology in a book on the geology and history of the Vredefort Dome, compiled by the Geology Department of WITS University.

3. DECLARATION OF INDEPENDENCE

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

I hereby also sign off this report.

Signed: Date: 30 August 2010



4. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify all objects, sites, occurrences and structures of cultural heritage importance located on the property (see Appendix A).

2. Documenting such sites in a report including photographs and indicating them on a map with GPS references.

3. Assess the significance of the cultural heritage resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).

4. Propose suitable mitigation measures relating to the identified cultural heritage resources.

5. Review applicable legislative requirements.

5. METHODOLOGY

5.1 Survey of literature

A survey of the available literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

5.2 Field survey

The survey was conducted according to generally accepted HIA practices endorsed by SAHRA and ASAPA. It was aimed at locating all possible objects, sites and features of archaeological significance in the area of proposed development. If required, the location/position of any site was determined by means of a Global Positioning System (GPS), while photographs were also taken where needed.

The survey was undertaken on foot and via an off-road vehicle.

5.3 Documentation

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

6. IDENTIFICATION OF GAPS AND ASSUMPTIONS

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

1. Cultural Resources (including archaeological resources) are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity. These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.

2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, architectural, technological, spiritual, linguistic and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects (see Appendix B).

3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).

4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.

5. All recommendations are made with full cognizance of the relevant legislation.

6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.

7. Although care was taken to give a comprehensive background on the history of the area, it has to be stated that it is impossible to give a complete indication on human activities of the past as sources are not always readily available. The information given in the report should however give a fair reflection of the past.

8. The survey was done in an area indicated by officials from the mine. This information was used to determine the extent of what needed to be surveyed and the survey was therefore limited accordingly.

7. LEGISLATIVE REQUIREMENTS

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

7.1 The National Heritage Resources Act

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

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

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

a. Places, buildings, structures and equipment of cultural significance
b. Places to which oral traditions are attached or which are associated with living heritage
c. Historical settlements and townscapes
d. Landscapes and features of cultural significance
e. Geological sites of scientific or cultural importance

f. Archaeological and palaeontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment only looks at archaeological resources. An HIA must be done under the following circumstances:

a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
b. The construction of a bridge or similar structure exceeding 50m in length
c. Any development or other activity that will change the character of a site and exceed 5 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

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

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

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

Archaeology, palaeontology and meteorites

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

a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals

or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

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

Human remains

Graves and burial grounds are divided into the following:

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

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

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

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

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place.

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

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

7.2 The National Environmental Management Act

This act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

8. DESCRIPTION OF THE AREA

The Glosam Mine is located more or less 30 km to the north of the town of Postmasburg in the Northern Cape Province. The topography of the surveyed area shows a hill in the north and west, which have been mined for manganese. Accordingly it is a very disturbed area. The southern and eastern portions of the farm are more flat (Figure 2).

Apart from the mentioned mining activities (Figure 3-6), other infrastructure are also found on site. This includes residential and official building which will be discussed below. Many dirt roads are found on the property and a railway track cuts through it, running from the north to the south-west.

The grass cover is mostly short with a few exceptions. Other vegetation has already taken over much of the areas where mining was done earlier. In all the vegetation cover is quite extensive. This is especially true of the southern portion of the farm, which seem not to have been disturbed as much and which is still used for grazing.

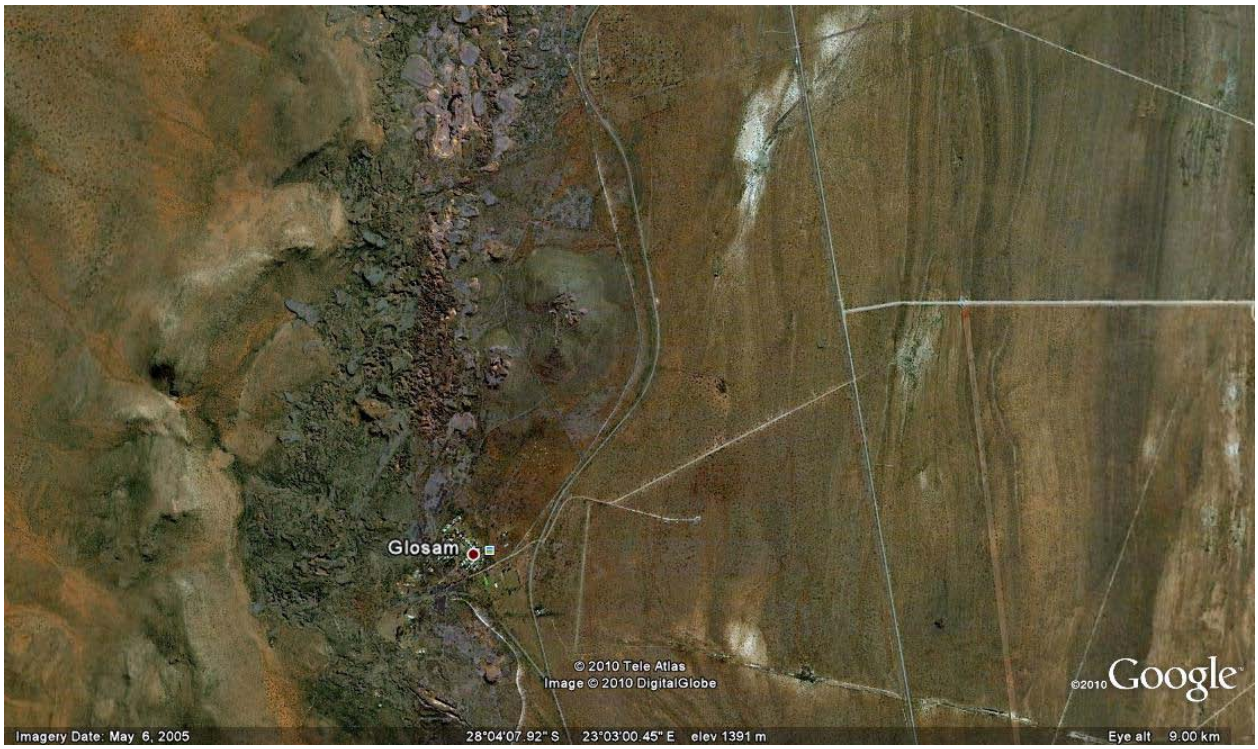


Figure 2 Google image of the project area showing the mining village of Glosam.

Figure 3 General view of the surveyed area showing the mining area.

Figure 4 Disturbance created by mining activities at Glosam.

Figure 5 Old waste rock dump at Glosam.

9. DISCUSSION

During the survey twelve sites of cultural heritage significance was located in the area to be developed. However in order to be able to get a better understanding of the past in this area, it is necessary to give a background regarding the different phases of human history.

9.1 Stone Age

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

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 Lylyfeld, Demaneng, Mashwening, King, Rust & Vrede, Paling, Gloucester and Mount Huxley to the north (Morris 2005: 3).

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. 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).

A number of Stone Age sites and scattered finds of Stone Age material were identified on the nearby farm Paling during an earlier survey (Pelser and Van Vollenhoven 2010: 12-17). Rock engraving (rock pecking) sites are known from Beeshoek (Figure 6-8) and Bruce (Morris 2005: 3; Snyman 2000: 3). The latter are associated with the Late Stone Age.

The environment at Gloucester (Glosam) is such that it does provide much natural shelter and therefore it is possible that Stone Age people did also settle here. They would also have been lured to the area due to an abundance of wild life. However no Stone Age sites were identified during the survey.

Figure 6 Engraving of a giraffe at Beeshoek.

Figure 7 Rock pecking of an Oryx and a sun.

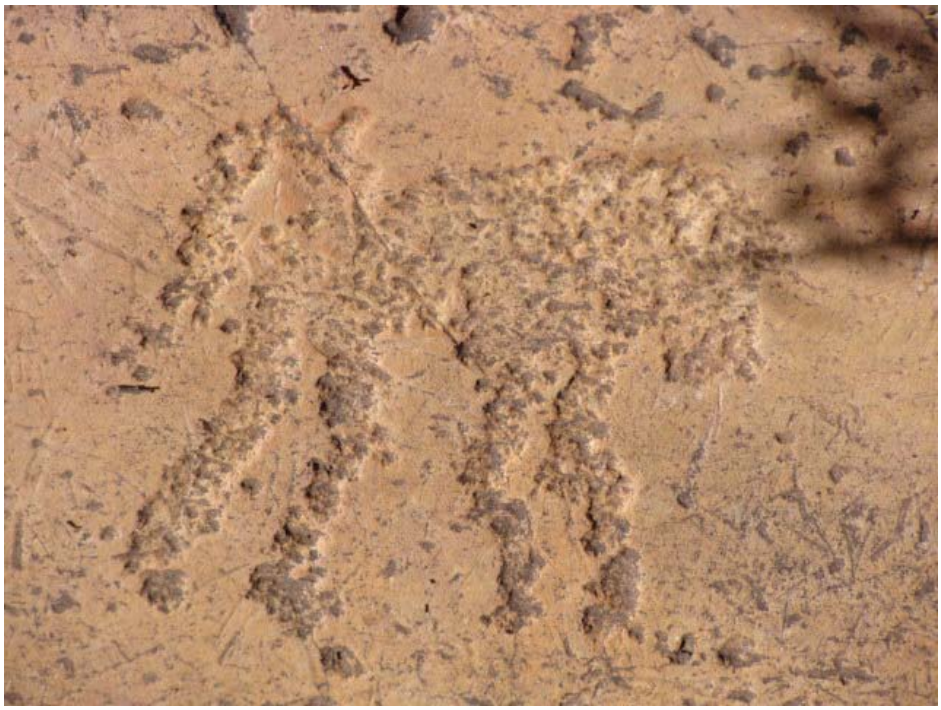


Figure 8 Rock pecking of a baboon.

9.2 Iron Age

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

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

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

This later phase, termed the Late Iron Age (LIA), was accompanied by 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).

No Iron Age sites, features or objects were found during the survey. The type of environment however is suitable for human habitation. One would therefore expect that Iron Age people may have utilized the area. This is the same reason why white settlers later on moved into this environment.

11.3 Historical Age

The Historical Age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write.

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, Hlakwana 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. Captain Thomas Shone, who arrived in Postmasburg in 1919 to join the diggers following the discovery of diamonds at the town, discovered the manganese ores in the Western Belt during 1922-1924 (De Jong 2010: 38).

In 1925 Shone and partners founded the Union Manganese Mines and Minerals Limited in order to secure mineral rights and exploit the ores. Prior to the discoveries by Brown and Shone, manganese was only mined in South Africa on a very small scale west of the present town of Magaliesburg and in the Western Cape. In 1926, Guido the farm and formed The Gloucester Manganese Mines (Postmasburg) Limited. The land was held for future development, as reasonable transportation facilities were not available at that time (De Jong 2010: 38; Snyman 2000: 22).

Following the founding of their manganese mining company, Shone and his partners attempted to entice overseas investments but met with little success, because too little was known about the economic viability of the deposits. The government then sent Dr. AL Hall of the Geological Survey to conduct a detailed geological survey of the Postmasburg manganese deposits. He was the first person to map them along the entire length of the Gamagara Hills and to classify them scientifically as ferruginous manganese ores that were suited for the production of low-grade ferromanganese. His report (1926) was optimistic about the viability of the deposits but stated that lack of proper transport facilities would be a concern (De Jong 2010:39).

Shone's company established small prospect workings all along the Gamagara Hills on farms such as Beeshoek, Paling, Doornfontein and Magoloring. In 1926 a Postmasburg attorney, AJ Bester, started taking up options on the farms in the Klipfontein Hills and established a second mining company, South African Manganese Limited, the forerunner of SAMANCOR. Two years later Guido Sacco formed a third company, Gloucester Manganese Mines

(Postmasburg) Limited. The land was held for future development, as reasonable transportation facilities were not available at that time (De Jong 2010: 39).

The presence of manganese deposits in the Klipfontein Hills and observations made from prospecting trenches showed that the manganese ore bodies in the Western Belt were perhaps more irregular in shape than predicted by Hall. This resulted in the Geological Survey commissioning Dr. Louis Nel to undertake a second survey in 1927-1929 to map the entire manganese field in detail. His results, published in 1929, laid the foundation for much of the present-day knowledge of the geology of the Postmasburg manganese field (De Jong 2010: 39).

Mining by Union Manganese and South African Manganese started in earnest in 1927 in the Postmasburg field. Lack of proper transport facilities and the application of obsolete mining methods (everything was done by hand on a small scale) hampered progress. Manganese ores were collected from the open pits through a system of coco-pans and loaded on wagons (later trucks) that went to the Koopmansfontein railway station, about 100 km away (De Jong 2010:40).

The situation showed promises of being improves when the British Swiss International Corporation Limited provided capital for the construction of a railway line from Koopmansfontein to Postmasburg and Beeshoek in return for certain manganese mineral rights. A new joint company, The Manganese Corporation Limited, was formed and an agreement reached with the Minister of Railways and Harbours. The extended line to Beeshoek was opened in June 1930 and development of the ore bodies at Beeshoek, Doornfontein and Paling could take place. For this purpose a narrow-gauge railway line was laid (De Jong 2010: 40).

However, the September 1929 crash on the New York Stock Exchange, followed by the Great Depression, brought all manganese mining operations to a halt, rendering the newly constructed Koopmansfontein / Beeshoek railway line dormant (De Jong 2010: 41).

May 1930 saw the launch of Ore & Metal Company Limited to import and export mineral concentrates, including manganese. The African Mining and Trust Company Limited were formed in December 1931 to acquire mineral rights and explore mineral deposits. In exchange for shares in African Mining and Trust, the founders transferred their entire Ore & Metal shareholding to the new company, while Guido Sacco transferred his Gloucester Manganese Mines shares. Thus, Ore & Metal and Gloucester Manganese Mines became subsidiaries of African Mining and Trust, now a wholly owned subsidiary of Assore Limited (previously The Associated Ore & Metal Corporation Limited), which was formed in 1950 (De Jong 2010: 41).

During 1934 the South African Railways re-opened the railway line and extended it to Gloucester. In 1935 The Associated Manganese Mines of South Africa Limited ("Assmang") was formed. Anglovaal acquired all the mineral leases of the Manganese Corporation and these were ceded to Assmang, as were the shares of the Gloucester Manganese Mines Limited held by African Mining and Trust in exchange for shares in Assmang. The first shipment of manganese ore left Durban harbour in March 1936 and other shipments continued uninterruptedly (De Jong 2010: 41).

The post office at Glosam was started in 1937 and in 1954 a mining village was established here. Originally it consisted of twelve houses (Snyman 2000: 54, 98). The Associated Manganese Mines of South Africa Limited changed its name to Assmang on 30 May 2001, and was reorganised into three divisions: Manganese, Chrome and Iron Ore (De Jong 2010: 41).

All the sites identified during the survey date to this period in time. According to Mr. Coetzee (Personal communication), a grave yard is situated on the extreme south-eastern corner of the site, but that falls outside of the project area and will therefore not be discussed.

11.4 Sites identified during the survey

Site no 1:

This is the remains of a building made from loose stones (Figure 9-10). It is called a 'Miners Box' (Personal communication: D. Coetzee). These were used by miners to keep their tools and as a shelter when they blasted on the mine. Sometimes it was even used to sleep in. It dates to the earliest mining activities on site, probably between 1920 and 1940.

GPS: 28˚03'54.2"S
23˚02'43.7"E

A second one was found a few meters to the west of the first one.

Figure 9 Remains of a Miners box.

Figure 10 Historic photo of similar structure, 1920s (Cairncross 1997).

Extent of impact: Medium
Duration: High
Intensity/Magnitude: Negative Qualitative M/L
Intensity/Magnitude: Negative Quantative M/L
Probability: High
Status/Significance: see Appendix E

The two structures should therefore be preserved and conserved at all cost. For this it will need to be fenced in and a management plan needs to be written. Archaeological investigation, in order to obtain more information, may also be considered. Such information could be used in a display on the mine premises.

Site no 2:

This is the remains of the old hostel area on the mine (Figure 11). It dates to between the 1950's and 1960's and therefore is not older than 60 years. It has been demolished and only a few bricks and other rubble remain as indication of its existence.

Next to this the old recreation hall which currently is used as a store room (Figure 12). It also is not older than 60 years.

GPS: 28˚05'04.3"S
23˚02'01.1"E

Figure 11 Area where mine hostels used to stand. It also seems as if it was used as a stock pile area.

Figure 12 Old recreation hall close to the hostel area.

Extent of impact: Low
Duration: Low
Intensity/Magnitude: Negative Qualitative M

Intensity/Magnitude: Negative Quantative M/L
Probability: Low
Status/Significance: see Appendix E

The hostel area has no significance and may be demolished further. The hall can be utilized if needed, but it may be demolished if that is needed. As both structures are younger than 60 years, no permit from SAHRA is needed.

Site no 3:

This is the Glosam mining village which was started in 1954. It consists of 34 houses, a social area (sports field and braai area) as well as other structures including a recreation hall (Figure 13-61).

Some of the houses are prefabricated, but the prefab walls were later on made more permanent as it was concreted by other additions. Some structures to the southeast of the village are not described in detail, but form part thereof.

GPS: 28˚04'47.3"S
23˚02'20.0"E

Although the village is younger than 60 years it is regarded as being very unique and typical of such a mining village. Therefore at least the first sixteen houses, social area, hall and other structure within the inner circle of the village should be preserved. It may however be utilized for another purpose, being a youth camp, holiday resort or guest house. It would be good to also preserve the outer circle as it is part of the original lay-out plan, although most of the buildings are much younger.

Figure 13 Sign at the entrance of the Glosam village.

Figure 14 Braai area.

Figure 15 Tennis court.

Figure 16 Pavilion and other structures at sports field.

Figure 17 Telephone booth from before the 1970's.

Figure 18 Swimming pool.

Figure 19 Stone structure, probable a water reservoir for the village.

Figure 20 House number 1.

Figure 21 House number 2.

Figure 22 Cocopan in front of house number 2.

Figure 23 House number 3.

Figure 24 House number 4.

Figure 25 House number 5.

Figure 26 House number 6.

Figure 27 House number 7.

Figure 28 House number 8.

Figure 29 House number 9.

Figure 30 House number 10.

Figure 31 Front of AMMOSAL hall.

Figure 32 Back side of hall.

Figure 33 House number 11.

Figure 34 House number 12.

Figure 35 House without a number on western side of the inner circle.

Figure 36 House number 13.

Figure 37 House number 14.

Figure 38 House number 15.

Figure 39 House number 16, the last one on the inner circle.

Figure 40 House number 17.

Figure 41 House number 18, which clearly is fairly recent.

Figure 42 House number 19.

Figure 43 House number 20.

Figure 44 House number 21.

Figure 45 House number 22.

Figure 46 House number 23.

Figure 47 House number 24.

Figure 48 House number 25.

Figure 49 House number 26.

Figure 50 House number 27.

Figure 51 House number 28.

Figure 52 House number 29.

Figure 53 Foundation of another building (house?) on the outer circle.

Figure 54 House number 30.

Figure 55 House number 31.

Figure 56 **Garages also dating from a more recent period and currently being used for waste disposal.**

Figure 57 **House number 32.**

Figure 58 House number 33.

Figure 59 House number 34.

Figure 60 Pump house close to the village also from a more recent period.

Figure 61 Telephone booth from the 1970's – 1980's.

Figure 62 Google image of Glosam.

Extent of impact: Medium
Duration: High
Intensity/Magnitude: Positive Qualitative M/H
Intensity/Magnitude: Positive Quantative L
Probability: High
Status/Significance: see Appendix E

Site no 4:

This is three mine houses at the top of a hill to the south-west of the village (Figure 63-66). These also are not older than 60 years (probably younger than those in the centre of the village) and therefore do not need to be preserved. It however is in a good condition and may be utilized with those in the village.

Other buildings used for residential and business purposes are also found nearby (Figure 67-70). These are even more recent.

GPS: 28˚05'10.1"S
23˚02'06.7"E

Figure 63 **Google image showing the three houses (centre left), other houses and buildings and its relation to the village (top right).**

Figure 64 **House number 1 at site number 4.**

Figure 65 House number 2 at site number 4.

Figure 66 House number 3 at site number 4.

Figure 67 Other buildings in the area.

Figure 68 Another house in the area.

Figure 69 This house in the same area is much more recent.

Figure 70 Another house in the area.

Extent of impact: Low/Medium
Duration: High
Intensity/Magnitude: Positive Qualitative L

Intensity/Magnitude: Positive Quantative L
Probability: Medium/Low
Status/Significance: see Appendix E

Site no 5:

This is the foundation of a house or office building (Figure 71). Nothing of the walls or roof remained and it probably is also not older than 60 years. It may therefore be demolished without a permit from SAHRA.

GPS: 28˚04'49.7"S
23˚02'08.8"E

Figure 71 Foundation of a building less than 60 years old.

Extent of impact: Low
Duration: Low/Medium
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L
Probability: Low
Status/Significance: see Appendix E

Site no 6:

This is the remains of an industrial building within the mining area. It was built in 1964, as indicated in an inscription in the cement (Figure 72-73). The structure is therefore younger

than 60 years and in a very poor condition. It may be demolished without a permit from SAHRA.

GPS: 28˚04’34.4”S
23˚01’51.5”E

Figure 72 Remains of an industrial building in the mining area.

Figure 73 Date (11-4-1964) indicated on the building.

Extent of impact: Low
Duration: Low/ Medium
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L
Probability: Low
Status/Significance: see Appendix E

Site no 7:

This is the remains of an ore loading bay constructed from concrete and steel (Figure74). It dates to the time after the meganisation of the mine (1960's) and therefore is younger than 60 years. It may be re-used or destructed, without a SAHRA permit.

GPS: 28˚04'19.1"S
23˚02'00.6"E

Figure 74 Remains of an ore loading bay.

Extent of impact: Low
Duration: Low/Medium
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L
Probability: Low
Status/Significance: see Appendix E

Site no 8:

This is a loading platform, built from stone and cement from where ore was loaded onto trucks or carriages. The date, 1950, is scratched into the cement (Figure 75-76). The structure therefore is exactly 60 years old. As it is typical of a certain era in the mining industry, it should be preserved, perhaps as part of an interpretive route. It may be utilized in further mining activities, but a management plan is needed.

GPS: 28˚04'07.0"S
23˚01'58.2"E

Figure 75 Date (1950) scratched into the cement of the loading platform.

Figure 76 The loading platform.

Extent of impact: Low/Medium
Duration: High
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L
Probability: Medium
Status/Significance: see Appendix E

Site no 9:

This is the base for a water reservoir and most probably is not older than 60 years (Figure 77). It does not need to be preserved. A second, complete reservoir (Figure 78) was identified closer to the village. This one also does not need to be preserved, but if it still is functional it may be utilized.

GPS: 28˚04’22.3”S
23˚02’05.4”E

Figure 77 Remains of a water reservoir.

Figure 78 Reservoir close to the village.

Extent of impact: Low
Duration: Medium
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L

Probability: Low
Status/Significance: see Appendix E

Site no 10:

This is the remains of different buildings made from bricks and concrete. These probably had the function of offices or an industrial use. One could be identified as a set of toilets which was probably used by workers (Figure 79-80). One of the porcelain toilets has the manufacturing date 16/1/1968 with a makers mark on it. The function of other structures (Figure 81-83) could not be identified.

These buildings are in a bad state of repair and are younger than 60 years. It may be re-used or demolished without a SAHRA permit.

GPS: 28˚04’25.3”S
23˚02’17.3”E

Figure 79 Remains of the toilet building.

Figure 80 Part of the row of toilets inside of the building.

Figure 81 Remains of one of the other buildings in the area.

Figure 82 Stone wall in the area.

Figure 83 Foundation of another building in the area.

Extent of impact: Low
Duration: Medium
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L

Probability: Low
Status/Significance: see Appendix E

Site no 11:

These are a number of brick and cement structures and other rubble on the opposite side of the road from site number 10 (Figure 84-85). It probably also was part of the industrial or office setup at the mine and is younger than 60 years. The buildings are in a bad state of repair and may be demolished without a SAHRA permit. It may also be re-used if possible.

GPS: 28˚04’23.5”S
23˚02’33.6”E

Figure 84 Remains of one of the buildings at site number 12.

Figure 85 Remains of another building in the area.

Extent of impact: Low
Duration: Medium
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L
Probability: Low
Status/Significance: see Appendix E

Site no 12:

This is the only site identified on the eastern side of the property. It is a camp, probably for cattle, with a few old and one new building inside (Figure 86). It seems to be used as stores or residence for workers. Some small dams are also found in the vicinity as well as a cattle dip and feeding area somewhat to the east. The structures are less than 60 years old and may be re-used or destructed without a SAHRA permit.

GPS: 28˚04'40.5"S
23˚03'12.6"E

Figure 86 One of the buildings inside of a fenced of cattle camp.

Extent of impact: Low
Duration: Medium/High
Intensity/Magnitude: Positive Qualitative L
Intensity/Magnitude: Positive Quantative L
Probability: Low
Status/Significance: see Appendix E

10. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the HIA in the area has been conducted successfully. Twelve cultural sites (Figure 87) were found during the survey.

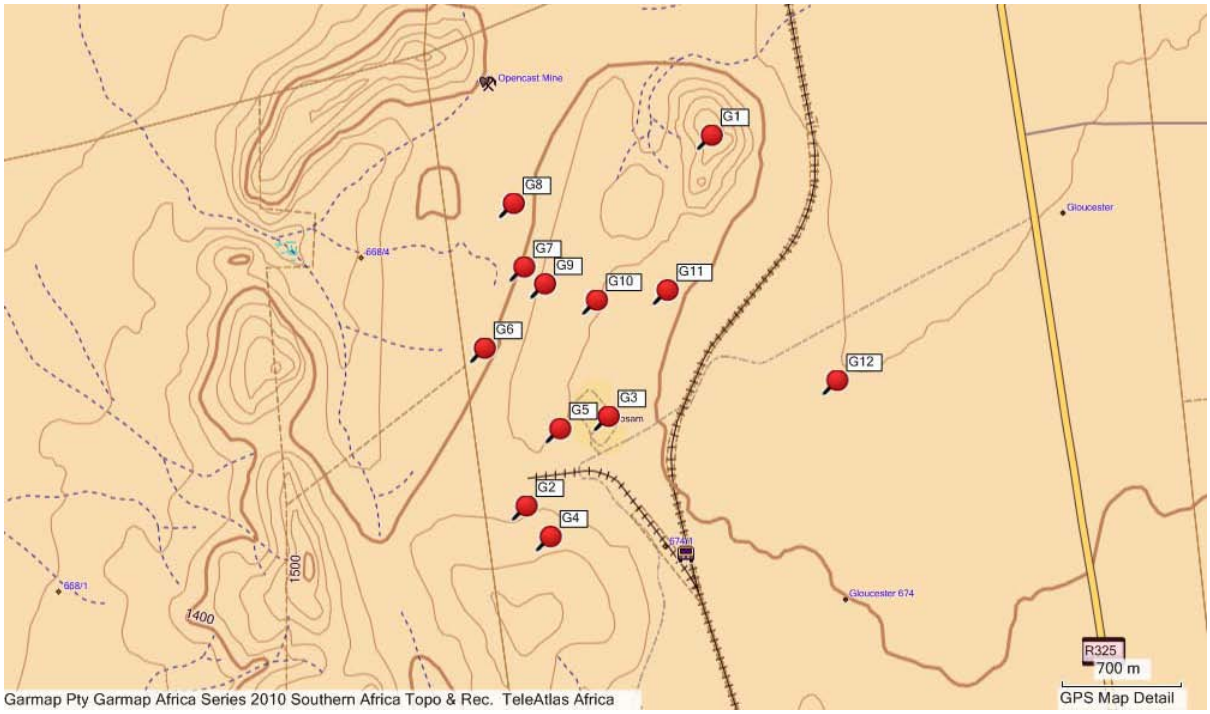


Figure 87 Map showing the location of the sites found at Glosam.

The following is recommended:

- Site number 1 and site number 8 are the only ones with cultural heritage significance and which are older than 60 years. As indicated above, these should be preserved and one would need a management plan for this purpose. Phase 2 archaeological excavations can be utilized in order to learn more about number 1 and this can then be used in a display somewhere at the mine.

- The Miners Boxes should be fenced in.

- The loading platform may be re-used or fenced in.

- Although site number 3 is not older than 60 years, it is typical of a small mining village. As it will be 60 years of age within the next four years it is recommended that it also be preserved and re-used.

- Site number 4 may be incorporated in the re-use of site number 3.

- All other sites may be re-used or demolished and no permit from SAHRA is needed as these are younger than 60 years.

- The grave yard should be fenced in so that it can also be preserved. Graves may also be exhumed and relocated, but as this falls outside of the project area, keeping it in tact should suffice.

- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when any development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

- It also is possible that some existing buildings and infrastructure may have been missed due to plant growth. It is however expected that these would all fall within either the category of site number 1 and 8 or the rest. Should something else be identified the age should therefore be determined and it should then be handled in accordance with other recommendations in this report.

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APPENDIX A

Definition of terms:

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

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

Feature: A coincidal find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

Definition of significance:

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

APPENDIX C

Cultural significance:

- Low — A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.

- Medium — Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

- High — Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I — Heritage resources with exceptional qualities to the extent that they are of national significance

- Grade II — Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate

- Grade III — Other heritage resources of local importance and therefore worthy of conservation

APPENDIX D

Protection of heritage resources:

- Formal protection

National heritage sites and Provincial heritage sites – grade I and II
Protected areas - an area surrounding a heritage site
Provisional protection – for a maximum period of two years
Heritage registers – listing grades II and III
Heritage areas – areas with more than one heritage site included
Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

- General protection

Objects protected by the laws of foreign states
Structures – older than 60 years
Archaeology, palaeontology and meteorites
Burial grounds and graves
Public monuments and memorials

APPENDIX E

Assessment of impacts identified — Mitigati

Potential Environmental Impact	Activity	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION						
		M	D	S	P	TOTAL	SP	
Heritage								
site 1	Miners box	3	5	4	5	60	H	Research an
Site 2:	**old hostel and rec hall**	**1**	**1**	**6**	**1**	**8**	**L**	**Demolish**
site 3	Glosam village	3	5	8	5	80	H	Preserve
site 4:	**Three houses**	**2**	**5**	**2**	**1**	**9**	**L**	**Re-use**
site 5	Foundation	1	2	2	1	5	L	Demolish
site 6	Industrial ruin	1	2	2	1	5	L	Demolish
site 7	Ore loading bay	1	2	2	1	5	L	Demolish
site 8	Loading platform	2	5	2	3	27	L	Preserve
site 9	Base of reservoir	1	3	2	1	6	L	Demolish
site 10	Office buildings	1	3	2	1	6	L	Demolish
site 11	Office buildings	1	3	2	1	6	L	Demolish
site 12	Farm yard	1	4	2	1	7	L	Demolish or