



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON A HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED
SAMANCOR CHROME LTD (WESTERN CHROME MINES) ELANDSDRIFT
SECTION OPENCAST PROJECT, NORTHWEST PROVINCE**

For:

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REPORT: **AE01249V**

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SUMMARY

Archaetnos cc was appointed by Environmental Assurance (Pty) Ltd to conduct a cultural heritage study for the proposed Samancor Chrome Ltd (Western Chrome Mines) Elandsdrift Section Opencast Project. This is between Brits and Rustenburg in the Northwest Province.

The methodology for the survey included a survey of literature which was undertaken in order to obtain background information regarding the area. This was followed by a field survey.

During the survey ten sites of cultural heritage significance was located. Five of these are in the area to be developed and five in the buffer zone. This includes Iron Age and historical sites. The cultural significance of these vary between low and high. Suitable mitigation measures are proposed. The project may only continue after these have been implemented.

It should be noted that the subterranean presence of archaeological material is always a possibility. The grass cover in certain areas was also very high during the survey which may have resulted in sites not being identified. Should any additional sites therefore be identified an archaeologists should immediately be contacted to assess these.

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1. INTRODUCTION

Archaetnos cc was appointed by Environmental Assurance (Pty) Ltd to conduct a cultural heritage study for the proposed Samancor Chrome Ltd (Western Chrome Mines) Elandsdrift Section Opencast Project. This is between Brits and Rustenburg in the Northwest Province.

The project also includes some infrastructure which will be placed in an existing disturbed area. The client indicated the area where the proposed development is to take place. The field survey was confined to this area.

2. TERMS OF REFERENCE, SCOPE & PURPOSE

The heritage survey was done to:

1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
4. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.
5. Review applicable legislative requirements.

3. CONDITIONS, ASSUMPTIONS, UNCERTAINTIES & GAPS IN KNOWLEDGE

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

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential (Appendix B). The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.

3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).
4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.
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. In this particular case the vegetation cover in certain areas is extremely dense making archaeological visibility difficult.

4. DETAILS & EXPERTISE OF PERSON WHO PREPARED THE REPORT

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 Archaeos 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

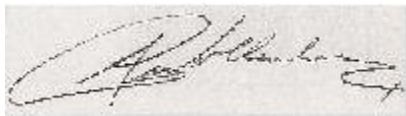
University of Pretoria.

Experience and professional affiliations

- Has published 71 articles in scientific and popular journals on archaeology and history.
- Has been the author and co-author of over 360 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.
- Member of the Gauteng PHRA's HIA adjudication committee.

5. DECLARATION OF INDEPENDENCE

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



Signed

Date: 3 September 2012

6. METHODOLOGY

6.1 Survey of literature

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

6.2 Field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. If required, the location/position of any site was determined by means of a Global Positioning System (GPS)¹, while photographs were also taken where needed.

The survey was undertaken by a physical survey via off-road vehicle and on foot.

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

6.3 Oral histories

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

6.4 Documentation

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

6.5 Evaluation of Heritage sites

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

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

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 of scientific or technological value.

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

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

The different phases during the HIA process are described in Appendix E. An HIA must be done under the following circumstances:

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

Structures

Section 34 (1) of the 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 or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

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

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

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

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 Elandsdrift Section of the Samancor Chrome Mine is situated between Brits (Madibeng) and Rustenburg in the Northwest Province. This is located on portions 63, 64, 65, 69, 111 and 140 of the farm Elandsdrift 467 JQ (Figure 1-3).

The environment of the area is mostly disturbed by earlier mining and possible even earlier farming activities (Figure 4-7). The exception is the higher ground (Mambakop) which seems to have natural vegetation mixed with pioneer species (due to disturbance). The grass and other vegetation cover is extremely dense making archaeological visibility difficult. Candelabra trees indicate earlier disturbance at Mambakop.

The natural topography in the area is flat in the south with a slight fall to the south. Mmbakop dominates the centre of the surveyed area. A small stream and marshland is found in the west.



Figure 1 Location of the surveyed site in Northwest.

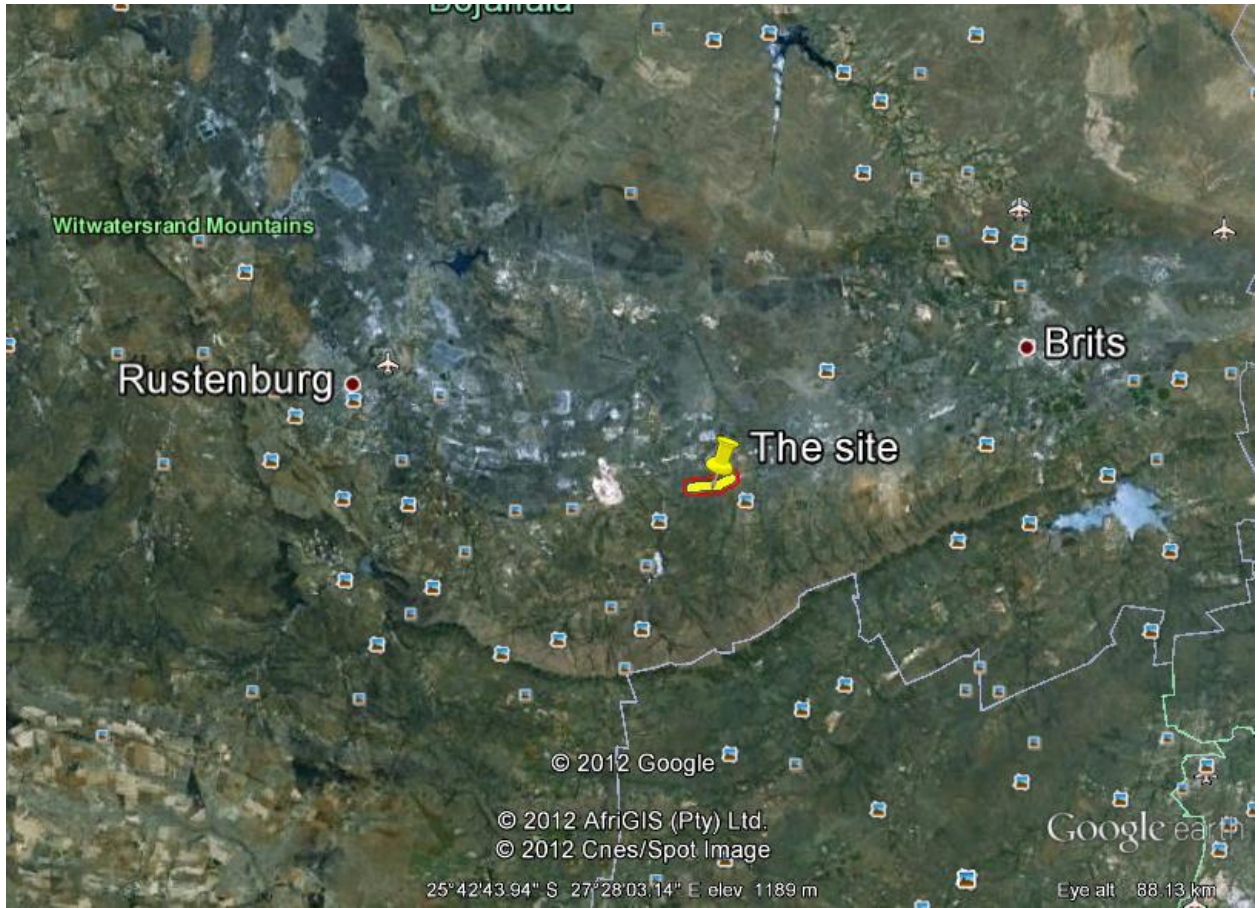


Figure 2 Location of the site in relation to Rustenburg and Brits (Madibeng).

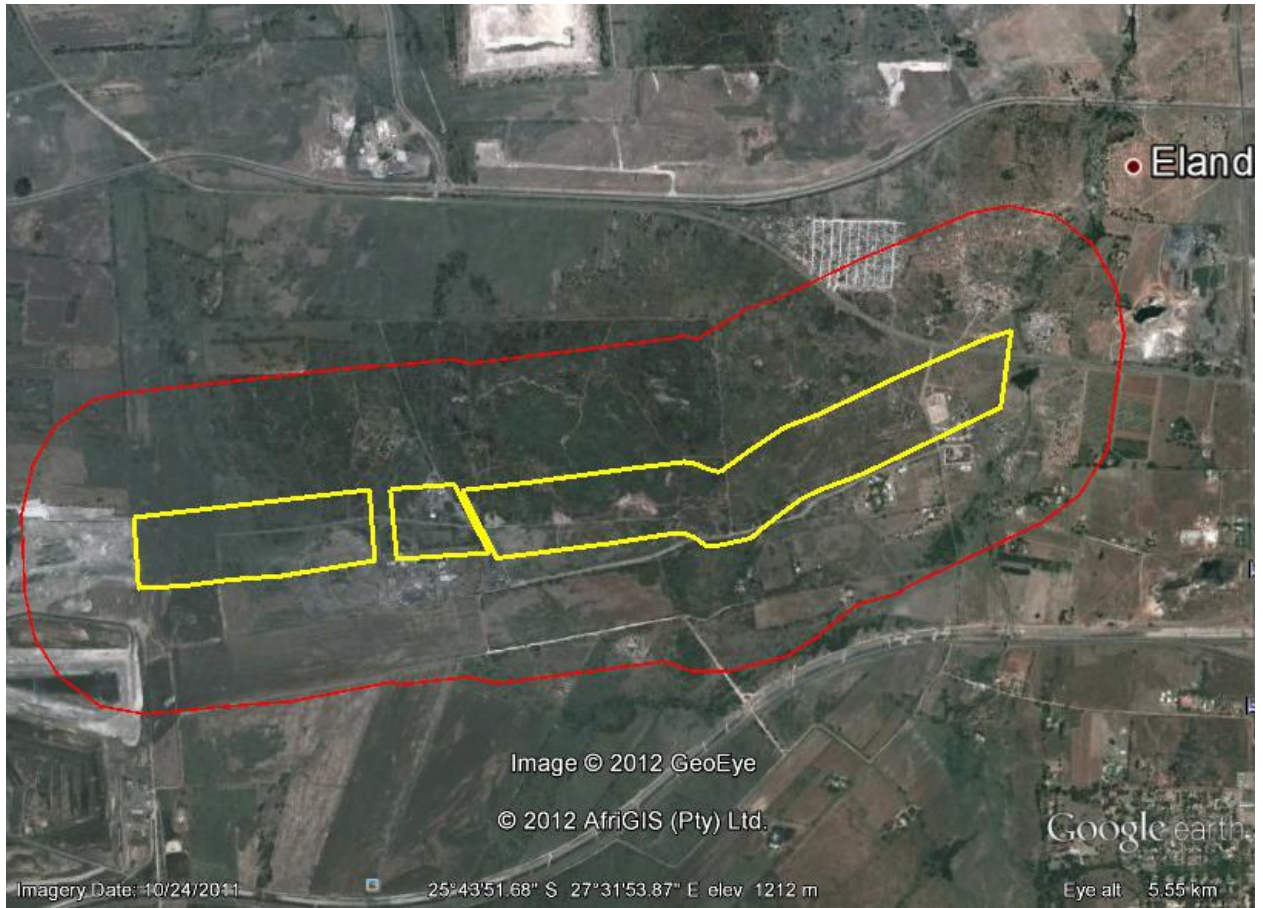


Figure 3 Plan indicating the proposed development. The yellow is the planned opencast area and the red a buffer zone.



Figure 4 General view of the surveyed area in the south showing old fields.



Figure 5 Another view of the surveyed area showing pioneer plant species and very high grass cover.



Figure 6 View of disturbance due to former mining activities at the site.



Figure 7 Another view of the surveyed area, showing former mining area and Mambakop in the background.

9. HISTORICAL CONTEXT

During the survey one site of cultural heritage significance was located in the area to be developed. It is a grave yard belonging to the Historical Age.

However, there is always a possibility that more sites may become known later and that those need to be dealt with in accordance with the legislation discussed above. In order to enable the reader to better understand archaeological and cultural features, 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.

The closest known Stone Age site in the vicinity of the surveyed area is a rock art site to the northeast. Rock engravings are found to the south and east of Rustenburg. These date back to the Late Stone Age (Bergh 1999: 5).

The environment is such that it does not provide much natural shelter such as caves and therefore it is possible that Stone Age people did not settle here for long periods of time. They would have however been lured to the area due to an abundance of wild life as the natural vegetation would have provided ample grazing and there are plenty natural water sources. One may therefore find small sites or occasional stone tools.

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.

Many Late Iron Age sites have been identified in the area around the towns of Rustenburg, Koster and Groot Marico as well as in the Waterberg Mountains. This includes the surveyed area (Bergh 1999: 7-8). During earlier times the area was inhabited by Tswana groups, namely the Fokeng and Hurutshe. In the 19th century and even today, the area is inhabited by other Tswana groups, namely the Kwena, Tlokwa, Phiring, Taung and the Fokeng (Bergh 1999: 9-10). During the Difaquane these people moved further to the north and south, but they returned later on (Bergh 1999: 11).

Iron Age sites were indeed found during the survey. It therefore is clear from the above mentioned that these people utilized and inhabited this area.

9.3 Historical Age

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

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the 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.

Early travelers have moved through this part of the Northwest Province. This included Coenraad de Buys in 1821 and 1825, David Hume in 1825, Robert Scoon and William

McLuckie in 1827 and 1829 and Dr. Robert Moffat and Reverend James Archbell in 1829 (Bergh 1999: 12, 117-119).

Hume again moved through this area in 1830 followed by the expedition of Dr. Andrew Smith in 1835 (Bergh 1999: 13, 120-121). Hume also moved through the area with Scoon in 1835. In 1836 William Cornwallis Harris visited the area. The well-known explorer Dr. David Livingston passed through this area in 1847 (Bergh 1999: 13, 119-122).

In 1837 the Voortrekkers also moved through the Swartruggens area (Bergh 1999: 11). During this year a Voortrekker commando moved out against Mzilikazi and was engaged in a battle with his impi to the north of Swartruggens. The area surveyed was inhabited by white settlers as early as 1839 (Bergh 1999: 14-15).

The greater Magaliesberg area saw much action during the Anglo-Boer War (1899-1902). British troops reached Rustenburg on 14 June 1900. Three battles were fought here during the War, being the one at Buffelspoort on 3 December 1900, the one at Nooitgedacht on 13 December 1900 and the one at Vlakfontein on 29 May 1901 (Bergh 1999: 51-52). The British also erected blockhouses in the area.

Chances therefore are good to find sites associated with part of the human history. This might also include graves.

10. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY

10.1 Site 1



Figure 8 Industrial plant marked as site no. 1.

This is a large industrial site linked to the mining history of the area (Figure 8). It used to be the beneficiation plant. There are no building left, only ruins and even these are most likely not older than 60 years.

GPS: 25°44.1415'S
27°31.333'E

Due to the age of the site it is regarded as having a **low** cultural significance. The site is of a general significance and is therefore given a rating of Grade CIVC. This report is seen as sufficient recording and it may therefore be demolished.

10.2 Site 2

This site again consists of old mine buildings and a ground dam (Figure 9). These buildings are also not older than 60 years.

GPS: 25°44.020'S
27°32.007'E



Figure 9 Buildings at site no. 2.

The site therefore has a **low** cultural significance. It receives a field rating of general significance, grade CIVC. It may therefore be demolished and this report is seen as ample mitigation.

10.3 Site 3

This is a large Late Iron Age site consisting of extensive stone walling (Figure 10-11). Due to the dense vegetation it was not possible to determine the extent of the site, but it seems to be reasonably large.



Figure 10 Part of the stone walling at site no. 3.



Figure 11 Stone walling at site no. 3 also showing the dense vegetation.

GPS: 25°43.934'S
27°31.203'E

It seems as if the development will have a direct impact on the site. Since the Iron Age forms an integral and important part of the past of southern Africa, the site is important. However it is not very unique and is therefore given a **medium** importance. The field rating is local significance and the grading IIIB. It is therefore recommended that the site be mitigated by documenting it. This would include drawing of maps of the site in order to place it into a wider historical context and to thus preserve the information for scientific purposes. It may be demolished after mitigation.

10.4 Site 4

This is another large Late Iron Age site consisting of extensive stone walling (Figure 12). Due to the dense vegetation it was not possible to determine the extent of the site, but it seems to be even larger than the previous one.

GPS: 25°43.826'S
27°32.107'E

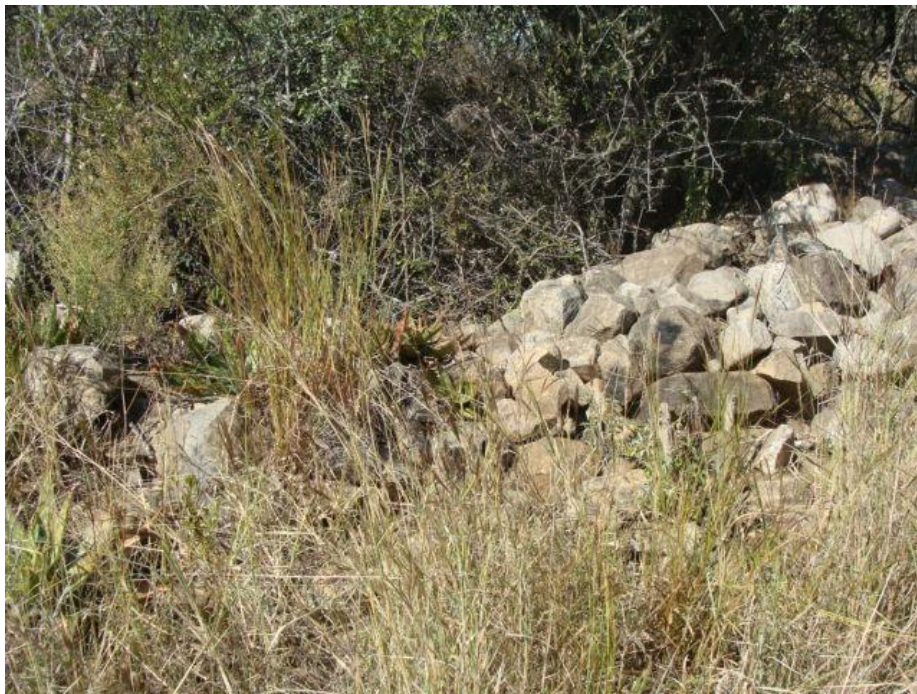


Figure 12 Part of the stone walling at site no. 4.

It seems as if there will not be a direct impact on the site since it falls within the buffer zone. Since the Iron Age forms an integral and important part of the past of southern Africa, the site is important. However it is not very unique and is therefore given a **medium** importance.

The field rating is local significance and the grading IIIB. It is therefore recommended that the site be mitigated by documenting it. This would include drawing of maps of the site in order to place it into a wider historical context and to thus preserve the information for scientific purposes. The site should then be fenced in and a cultural heritage management plan be written in order to preserve it.

10.5 Site 5

This site consists of the ruin of an old building that most likely is linked to the farming history of the area (Figure 13). The site is most likely older than 60 years.

GPS: 25°44.053'S
27°32.200'E



Figure 13 Ruin of the building at site no. 5.

The site therefore has a **medium** cultural significance. It receives a field rating of general significance, grade BIVB. It may therefore be demolished, but should be mitigated first by recording it. This would include drawing a site map.

The site however is inside of the buffer zone which means that direct impact is unlikely. This should be confirmed by the mine and if that is the case it may be left as it is, but be prevented from further deterioration.

10.6 Site 6

This site consists of two old storage buildings, which are probably related to the farming history of the area (Figure 14). These buildings are more than likely older than 60 years.

GPS: 25°43.914'S
27°32.418'E



Figure 14 Buildings at site no. 6.

They still seem to be in use and are not very unique. Many changes were also made to it recently. The site therefore has a **low** cultural significance. It receives a field rating of general significance, grade CIVC. It may therefore be demolished as there probably will be a direct impact on it. It may however be re-used. This report is seen as ample mitigation.

10.7 Site 7

This site consists of the remains of buildings, which seem to have been a compound for the previous mining activities on site (Figure 15). These buildings are more than likely younger than 60 years.

GPS: 25°43.847'S
27°32.638'E

The site is not very unique and therefore has a **low** cultural significance. It receives a field rating of general significance, grade CIVC. It may therefore be demolished, although it lies

within the buffer zone and therefore there will most likely only be a secondary impact thereon. This report is seen as ample mitigation.



Figure 15 Remains of buildings at site no. 7.

10.8 Site 8



Figure 16 Foundations of the building at site no. 8.

This site consists of the foundations of an old stone building. It most likely is linked to the early mining history of the area as it is quite close to site no. 7 (Figure 16). The site is therefore probably younger than 60 years.

GPS: 25°43.685'S
27°32.657'E

The site falls within the area of direct impact, but has a **low** cultural significance. It receives a field rating of general significance, grade CIVC. It may therefore be demolished and no further action is necessary. This report is seen as ample mitigation.

10.9 Site 9

This is an old magazine that probably contained explosives during an earlier mining era (Figure 17). The site is most likely younger than 60 years.

GPS: 25°43.890'S
27°31.691'E



Figure 13 The old magazine, marked as site no. 9.

The site therefore has a **medium** cultural significance. It receives a field rating of general significance, grade BIVB. It however falls outside of the area of direct impact. It should therefore just be left as it is.

10.10 Site 10

This again is a large Late Iron Age site on Mamabakop (Figure 14). The density of the vegetation again made it impossible to determine the extent of the site.

GPS: 25°43.883'S

27°31.716'E



Figure 14 Part of the Iron Age stone walling at site no. 10.

It seems as if there will not be a direct impact on the site since it falls within the buffer zone. Since the Iron Age forms an integral and important part of the past of southern Africa, the site is important. However it is not very unique and is therefore given a **medium** importance. The field rating is local significance and the grading IIIB. It is therefore recommended that the site be mitigated by documenting it. This would include drawing of maps of the site in order to place it into a wider historical context and to thus preserve the information for scientific purposes. The site should then be fenced in and a cultural heritage management plan be written in order to preserve it.

11. CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the assessment of the area was conducted successfully. In the surveyed area ten sites (Figure 15) of cultural significance has been found.



Figure 15 Google map indicating the site located during the survey.

The final recommendations are as follows:

- Sites no. 1, 2, 3, 6 and 8 are within the area of direct impact and sites 4, 5, 7, 9 and 10 in the buffer zone (Figure 16).
- Site 1 and 2 may be demolished as it only has low heritage significance. Since the buildings are younger than 60 years, no further action is needed.
- Site 3 should be mitigated by drawing site maps thereof. After mitigation it may be demolished. For this a destruction permit should be obtained from SAHRA.
- Site 4 and 10 should be preserved as it does not need to be demolished since it falls within the buffer zone. It should be fenced in and a cultural heritage management plan should be drafted. The plan should be approved by SAHRA.
- Site 5 may be demolished, but only after it had been mitigated. This would include documentation thereof and acquiring a permit from SAHRA. However, since the site falls in the buffer zone it may be left as it is. The mine however needs to confirm the possibility of impact.

- Site 6 may be demolished, but a permit will be required from SAHRA before doing so.
- Site 7 and 8 should be left as it is, but should the need arise to demolish it, this may be done without a permit.
- Site 9 should also be left as it is. It may not be demolished.
- It should be remembered that due to the natural factors indicated in the report, it is possible that all cultural sites may not have been identified. Also the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. Care should therefore be taken when development work commences that, if any more artifacts are uncovered, a qualified archaeologist be called in to investigate.



Figure 16 Google image indicating that sites no. 1, 2, 3, 6 and 8 are inside of the area of direct impact and the others in the buffer zone.

12. REFERENCES

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APPENDIX A

DEFINITION OF TERMS:

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

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

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

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

APPENDIX C

SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- High Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

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

Field ratings:

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

APPENDIX D

PROTECTION OF HERITAGE RESOURCES:

Formal protection:

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

Protected areas - an area surrounding a heritage site

Provisional protection – for a maximum period of two years

Heritage registers – listing grades II and III

Heritage areas – areas with more than one heritage site included

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

General protection:

Objects protected by the laws of foreign states

Structures – older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or scoping phase – establishment of the scope of the project and terms of reference.
2. Baseline assessment – establishment of a broad framework of the potential heritage of an area.
3. Phase I impact assessment – identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – if there is no likelihood that any sites will be impacted.
5. Phase II mitigation or rescue – planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.

Phase III management plan – for rare cases where sites are so important that development cannot be allowed.