

**CULTURAL HERITAGE ASSESSMENT FOR THE UPDATED ELDERS COLLIERY
ABOVE GROUND PROJECT AREAS, MPUMALANGA PROVINCE**

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Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services, for which a fair numeration is charged.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
October 2015

EXECUTIVE SUMMARY

CULTURAL HERITAGE ASSESSMENT FOR THE UPDATED ELDERS COLLIERY ABOVE GROUND PROJECT AREAS, MPUMALANGA PROVINCE

SRK has been requested by Anglo American Thermal Coal (AATC) to submit a proposal for the development of an updated EIA/EMP and associated documentation for the Elders Underground Projects (including a WULA, Waste License and NEMA listed activities application in terms of NEMA).

At the specialist workshop in October 2013 for Elders Colliery, Anglo American Inyosi Coal (AAIC) presented a change in the mine plan of the mini pit, indicating an increase of the mini-pit footprint (and by implication, LOM). The new LOM for the mini-pit will be 2015 – 2027. In addition, there is a possibility that the coal will be trucked to Goedeheop for the entire LOM of the mini-pit. The conveyor belt will then be used exclusively for the transport of coal from underground. The underground mine will also be delayed by three years, first coal will be available from 2020. The overall LOM will now be 23 years.

As a result of this, it was decided to re-survey the areas where the mini pit and shaft complex and infrastructure will be developed. Subsequently, the mining plan was again changed, with the bulk of the infrastructure development being moved across the R35 from the western to the eastern side. The current report should therefore be read in conjunction with the previous reports completed for the same project (Van Schalkwyk 2006, 2012 & 2014).

The cultural landscape qualities of the study area essentially consist of a rural area in which the human occupation is made up of a largely of a colonial (farmer) and urban component.

Based on the previous surveys that were conducted in the mining area, we are confident of their results and are of the viewpoint that the area need not be subjected to another field survey at this point in time.

- In conclusion, as no site, features or objects of cultural significance are known to exist in the study area, there would be no impact as a result of the proposed development.

Therefore, from a heritage point of view we recommend that the proposed development can continue. We also recommend that if archaeological sites or graves are exposed during development activities, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.



J A van Schalkwyk
Heritage Consultant
October 2015

TECHNICAL SUMMARY

Property details	
Province	Mpumalanga
Magisterial district	Bethal
District municipality	Gert Sibande
Topo-cadastral map	2629AB, 2629AD, 2629BA, 2629BC
Closest town	Bethal
Farm name	Middelkraal 50IS, Vlakkuijen 76IS

Development criteria in terms of Section 38(1) of the NHR Act	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 sq m	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 sq m	Yes
Any other development category, public open space, squares, parks, recreation grounds	No

Development	
Description	Development of coal mining activities, as well as infrastructural development
Project name	Elders Project

Land use	
Previous land use	Farming
Current land use	Farming

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	II
TECHNICAL SUMMARY	III
TABLE OF CONTENTS	IV
LIST OF FIGURES.....	IV
GLOSSARY OF TERMS AND ABBREVIATIONS	V
1. INTRODUCTION.....	1
2. TERMS OF REFERENCE	1
3. HERITAGE RESOURCES	2
4. STUDY APPROACH AND METHODOLOGY	4
5. DESCRIPTION OF THE AFFECTED ENVIRONMENT	4
6. SITE SIGNIFICANCE AND ASSESSMENT	7
7. CONCLUSIONS.....	8
8. REFERENCES.....	10
APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES	12
APPENDIX 2. RELEVANT LEGISLATION	13
APPENDIX 3. SPECIALIST COMPETENCY.....	14

LIST OF FIGURES

	Page
Fig. 1. Location of the study area (outlined in green) in regional context.	5
Fig. 2. Layout of the proposed development: proposed shaft complex.	6
Fig. 3. Views over the study area.....	7

GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 & 2.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present (BP)
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country

ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
BP	Before Present
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

CULTURAL HERITAGE ASSESSMENT FOR THE UPDATED ELDERS COLLIERY ABOVE GROUND PROJECT AREAS, MPUMALANGA PROVINCE

1. INTRODUCTION

SRK has been requested by Anglo American Thermal Coal (AATC) to submit a proposal for the development of an updated EMPR and associated documentation for the Elders Underground Projects (including a WULA, Waste License and NEMA listed activities application in terms of MPRDA and NEMA).

Environmental and social baseline studies were completed for the project area between 2002 and 2006, and a draft Scoping Report and draft Environmental Impact Assessment Report were compiled in 2007. A public consultation process was undertaken, however, no formal submissions to government authorities were made at the time. The scope of the project during these studies assumed that both open cast and underground mining methods would be employed and the specialist studies were commissioned on this basis.

However, the scope was changed and AATC proposed to develop the Elders coal reserves using only underground mining methods (underground board and pillar operation). Mining activities will be conducted underneath the flood plains of the Viskuille, Vlakkuile and Olifants Rivers, owing to the sensitivity of the Viskuille wetland. The project will be located on portions of four farms, located about 30 km north of Bethal, Mpumalanga. It is planned for the coal to be taken to a tip adjacent to the underground mine shaft and transported via an overland conveyor to an existing washing plant at Goedehoop Mine.

At the specialist workshop in October 2013 for Elders Colliery, Anglo American Inyosi Coal (AAIC) presented a change in the mine plan of the mini pit, indicating an increase of the mini-pit footprint (and by implication, LOM). The new LOM for the mini-pit will be 2015 – 2027. In addition, there is a possibility that the coal will be trucked to Goedehoop for the entire LOM of the mini-pit. The conveyor belt will then be used exclusively for the transport of coal from underground. The underground mine will also be delayed by three years, first coal will be available from 2020. The overall LOM will now be 23 years.

As a result of this, it was decided to re-survey the areas where the mini pit and shaft complex and infrastructure will be developed. Subsequently, the mining plan was again changed, with the bulk of the infrastructure development being moved across the R35 from the western to the eastern side. The current report should therefore be read in conjunction with the previous reports completed for the same project (Van Schalkwyk 2006, 2012 & 2014).

This report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

2.1 Scope of work

The aim of this is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the Elders mining activities, inter alia the mini-pit, the shaft area and the associated infrastructure for this.

This report does not deal with development projects outside of or even adjacent to the study area as is presented in Section 5 of this report. The same holds true for heritage sites, except in a generalised sense where it is used to create an overview of the heritage potential in the larger region.

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which available literature, reports, databases and maps were studied.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

2.2 Limitations

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that it does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of archaeological remains occurring below the surface.
- This report does not consider the palaeontological potential of the project site, as this is to be addressed by an appropriately qualified specialist.

3. HERITAGE RESOURCES

3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
 - ancestral graves;
 - royal graves and graves of traditional leaders;
 - graves of victims of conflict;
 - graves of individuals designated by the Minister by notice in the Gazette;

- historical graves and cemeteries; and
 - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
 - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - objects to which oral traditions are attached or which are associated with living heritage;
 - ethnographic art and objects;
 - military objects;
 - objects of decorative or fine art;
 - objects of scientific or technological interest; and
 - books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

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

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar identified sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 1 and 2.

4.2 Methodology

4.2.1 Preliminary investigation

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological, historical sources and heritage impact assessment reports were consulted.

- Information on events, sites and features in the larger region were obtained from these sources.

4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General (CS-G)* and the *National Archives of South Africa (NASA)* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development.

4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature was obtained from these sources.

4.2.2 Field survey

The area that had to be investigated was identified by **SRK Consulting** by means of maps. As the area falls into the larger site that were surveyed in the past (Van Schalkwyk 2006, 2012 & 2014) and we have all confidence in the results of those surveys, it was decided that a field survey would not be required.

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5.1 Site location and description

The project areas are located about 30 km north of Bethal, Mpumalanga, west of the R35 running between Bethal and Middelburg to the north (Fig 2).

The area surveyed was determined by the proposed development as indicated in Fig. 2 and involve the following farms: Middelkraal 50IS, Vlakkuijen 76IS. For more information, please see the Technical Summary presented above (p. iii).

The topography of the area can be described as undulating hills, bisected by a number of smaller rivers. A few large pans occur in the study area.

The geology of the area consists of arenite, with some granite and rhyolite intrusions as outcrops.

The original vegetation of the area is classified as Highveld Grassland. Large sections are used for agricultural activities – ploughing and grazing – which changed the original vegetation drastically. Ploughing might also have had a detrimental effect on any heritage resources that might have occurred here in the past.

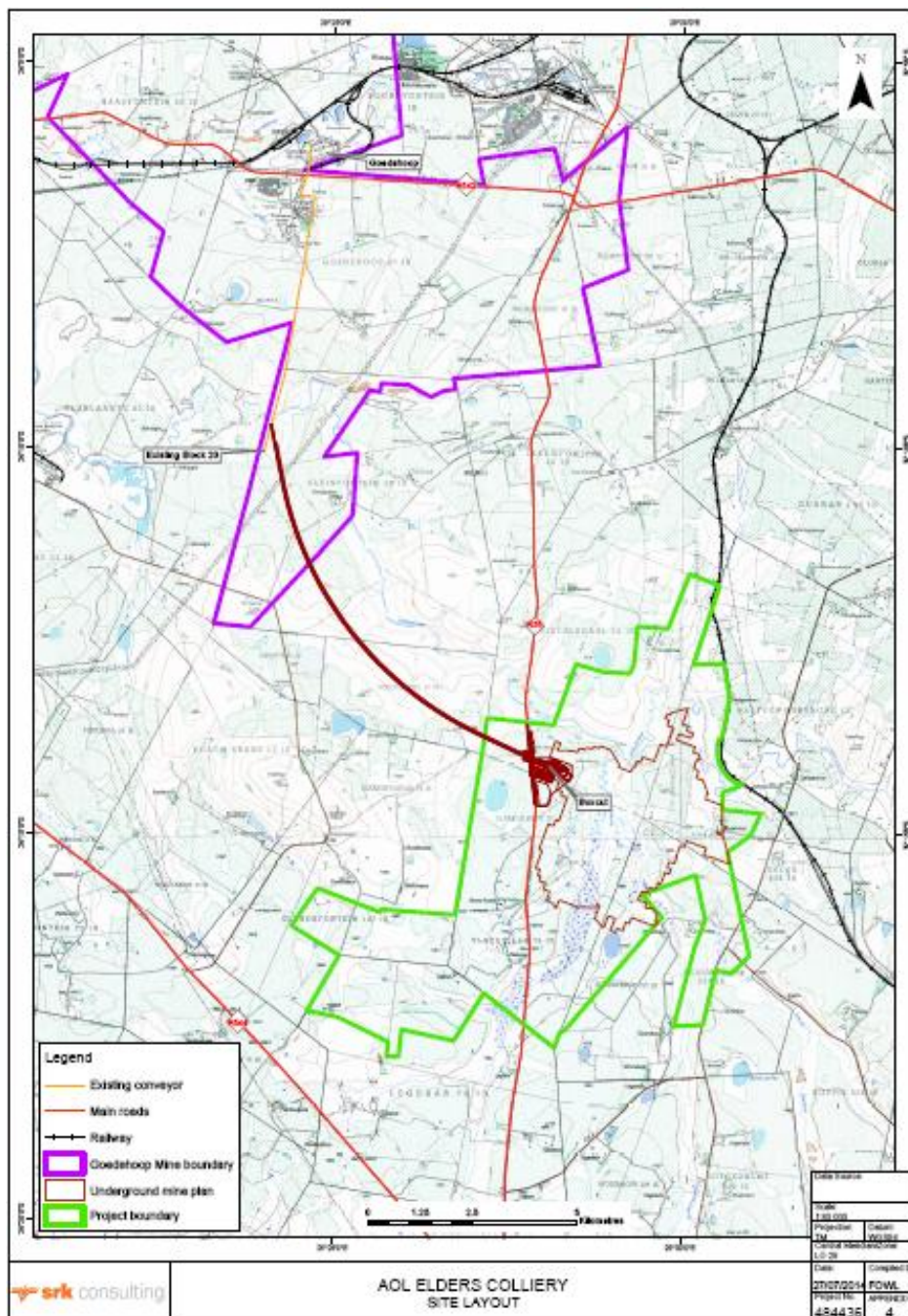


Fig. 1. Location of the study area (outlined in green) in regional context.

5.2 Project Description

Anglo American Thermal Coal (AATC) is proposing to develop the Elders coal reserves using underground mining methods (underground board and pillar operation). Mining activities will be conducted underneath the flood plains of the Viskuille, Vlakkuiile and Olifants Rivers, owing to the sensitivity of the Viskuille wetland. The project will be located on portions of four farms, located about 30 km north of Bethal, Mpumalanga (Fig. 1).

At the specialist workshop in October 2013 for Elders Colliery, Anglo American Inyosi Coal (AAIC) presented a change in the mine plan of the mini pit, indicating an increase of the mini-pit footprint (and by implication, LOM). The new LOM for the mini-pit will be 2015 – 2027. In addition, there is a possibility that the coal will be trucked to Goedehoop for the entire LOM of the mini-pit. The conveyor belt will then be used exclusively for the transport of coal from underground. The underground mine will also be delayed by three years, first coal will be available from 2020. The overall LOM will now be 23 years.

The adit will be located on a section of land on the southern border of the farm Vlakkuiilen (Fig. 2). The infrastructure for the adit is located just to the south of that (Fig. 2), with the overburden stockpile south of that, on the northern border of the farm Vlakkuiilen 76IS (Fig. 2). The proposed shaft complex and substation site will be located to the west, across from the R35, on the northern border of the farm Middelkraal 50IS (Fig. 2).

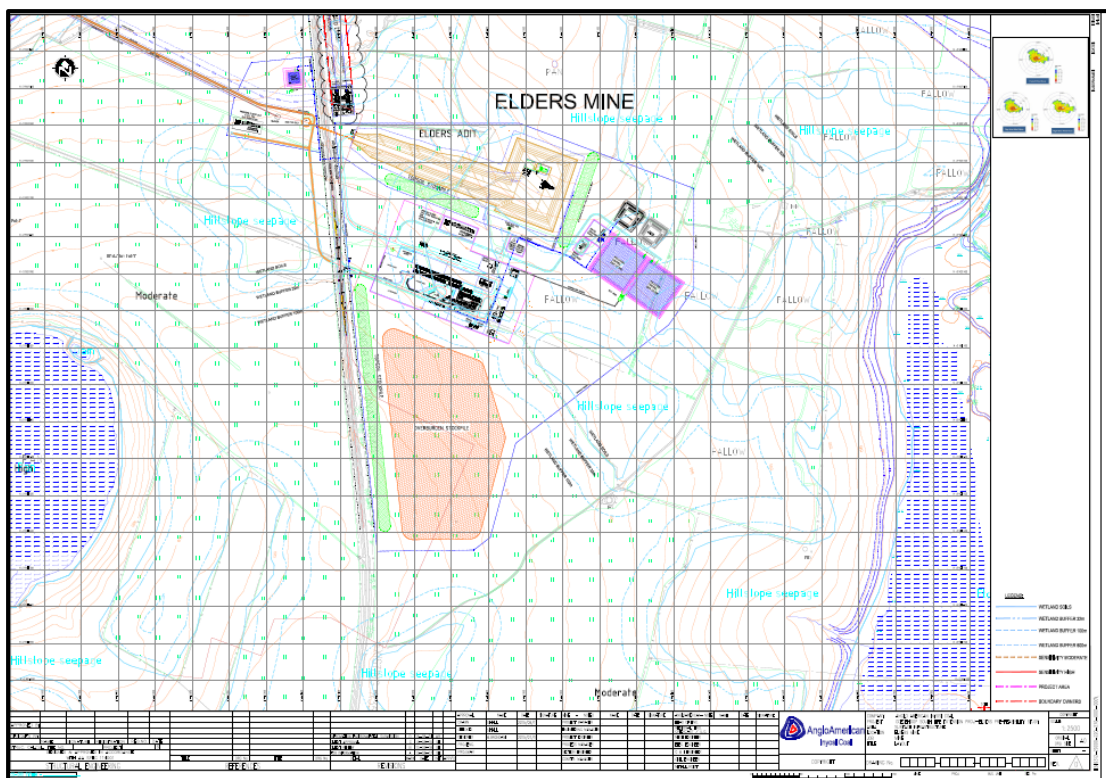


Fig. 2. Layout of the proposed development: proposed shaft complex.



Fig. 3. Views over the study area.

5.3 Identified sites

Based on the above sources, the following heritage sites, features and objects were identified in the proposed development area:

5.3.1 Stone Age

- No sites, features or objects dating to the Stone Age were identified in the study area.

5.3.2 Iron Age

- No sites, features or objects dating to the Iron Age were identified in the study area.

5.3.3 Historic period

- No sites, features or objects dating to the historic period were identified in the study area.

6. SITE SIGNIFICANCE AND ASSESSMENT

6.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II

and Grade III sites, the applicability of mitigation measures would allow the development activities to continue.

6.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

Table 1. Summary of identified heritage resources in the study area.

Identified heritage resources	
<i>Category, according to NHRA</i>	<i>Identification/Description</i>
Formal protections (NHRA)	
National heritage site (Section 27)	None
Provincial heritage site (Section 27)	None
Provisional protection (Section 29)	None
Place listed in heritage register (Section 30)	None
General protections (NHRA)	
structures older than 60 years (Section 34)	None
archaeological site or material (Section 35)	None
palaeontological site or material (Section 35)	None
graves or burial grounds (Section 36)	None
public monuments or memorials (Section 37)	None
Other	
Any other heritage resources (describe)	None

6.3 Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

- As no sites, features or objects of cultural heritage significance were identified in the study area, there would be no impact from the proposed development.

7. CONCLUSIONS

The aim of this survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area of the proposed development, to assess the significance thereof and to consider alternatives and plan for the mitigation of any adverse impacts.

Based on the previous surveys that were conducted in the mining area, we are confident of their results and are of the viewpoint that the area need not be subjected to another field survey at this point in time.

In conclusion, as no site, features or objects of cultural significance are known to exist in the study area, there would be no impact as a result of the proposed development.

Therefore, from a heritage point of view we recommend that the proposed development can continue. We also recommend that if archaeological sites or graves are exposed during development activities, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

8. REFERENCES

8.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa
SAHRA Archaeology and Palaeontology Report Mapping Project (2009)

8.2 Literature

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Cloete, P.G. 2000. *The Anglo-Boer War: a Chronology*. Pretoria: JP van der Walt

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Van Vollenhoven, A. & Van den Bos, J. 1997. *'n Kultuurhulpbronstudie van die Britse Blokhuisstelsel van die Tweede Anglo-Boere-oorlog (1899-1902) in die voormalige Transvaal (ZAR)*. Ongepubliseerd verslag. Pretoria: RGN.

8.3 Maps and aerial photographs

1: 50 000 Topocadastral maps
Google Earth

APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

1. Historic value			
Is it important in the community, or pattern of history			
Does it have strong or special association with the life or work of a person, group or organisation of importance in history			
Does it have significance relating to the history of slavery			
2. Aesthetic value			
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group			
3. Scientific value			
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage			
Is it important in demonstrating a high degree of creative or technical achievement at a particular period			
4. Social value			
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons			
5. Rarity			
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage			
6. Representivity			
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects			
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class			
Importance in demonstrating the principal characteristics 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.			
7. Sphere of Significance		High	Medium
International			
National			
Provincial			
Regional			
Local			
Specific community			
8. Significance rating of feature			
1.	Low		
2.	Medium		
3.	High		

APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

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

- (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 which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial 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, 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 equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

APPENDIX 3. SPECIALIST COMPETENCYJohan (Johnny) van Schalkwyk

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 30 years. Based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 60 papers, many in scientifically accredited journals. During this period he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, road-, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.