

**CULTURAL HERITAGE SCOPING REPORT FOR THE PROPOSED  
LEEUWPAN MINING DEVELOPMENT,  
DELMAS DISTRICT, MPUMALANGA**

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## EXECUTIVE SUMMARY

### **CULTURAL HERITAGE SCOPING REPORT FOR THE PROPOSED LEEUWPAN MINING DEVELOPMENT, DELMAS DISTRICT, MPUMALANGA**

The aim of the survey was to undertake a scoping review of cultural heritage resources that might occur and as a result be impacted upon in an area in which Leeuwpán Coal Mine is proposing to extend their mining activities. Two sites were identified, both being cemeteries dating to historic times. We therefore recommend, from a heritage point of view, that the proposed development can continue and request the following:

- If the mining development is to have an impact on any of the graves/cemeteries, they should be relocated, but only after consultation with the descendants and obtaining of the necessary permits.
- Archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the mining activities. If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to a museum, preferably one at which an archaeologist is available. The archaeologist should then investigate and evaluate the find.

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## CULTURAL HERITAGE SCOPING REPORT FOR THE PROPOSED LEEUWPAN MINING DEVELOPMENT, DELMAS DISTRICT, MPUMALANGA

### 1. INTRODUCTION

The National Cultural History Museum<sup>1</sup> was contracted by **Synergistics Environmental** to undertake a scoping review of cultural heritage resources that might occur and as a result be impacted upon in an area in which it is proposed to develop mining activities. This is to take place in two blocks of unequal size and shape, located on the farm Moabsvelden 248IR in the Delmas district of Mpumalanga.

**Cultural heritage resources** are broadly defined as all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.

### 2. BACKGROUND AND BRIEF

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area that is to be impacted by the developed.

The scope of work consisted of conducting a Phase 1 archaeological survey of the site in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999). This included:

- Conducting a desk-top investigation of the area;
- A visit to the proposed development site.

The objectives were to

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<sup>1</sup> The National Cultural History Museum is affiliated to the Northern Flagship Institution, which act as parent body for a number of museums, all of which resorts under the Department of Arts and Culture.

- 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.
- Develop procedures to be implemented if previously unidentified cultural resources are uncovered during the construction.

### 3. STUDY APPROACH

#### 3.1 Information base (sources)

Very little archaeological research has been done in this area and most sources deal with the area in a rather broad manner. A few survey reports done in terms of possible developments, are also available, but none has bearing on the study area. The Archaeological Data Recording Centre, housed at the National Cultural History Museum in Pretoria was also consulted.

#### 3.2 Assumptions and limitations

- The survey was only confined to those areas indicated by Synergistics Environmental as the Ore Resource Blocks. No investigation was done outside of this and no potential infrastructure development, e.g. access roads, construction camps, etc. were investigated.

#### 3.3 Glossary of terms

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

**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
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. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 1000
Late Iron Age	AD 1000 - AD 1830

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

### 3.4 List of abbreviations

<b>ADRC</b>	Archaeological Data Recording Centre
<b>EIA</b>	Early Iron Age
<b>ESA</b>	Early Stone Age
<b>GPS</b>	Global Positioning System
<b>LIA</b>	Late Iron Age
<b>LSA</b>	Late Stone Age
<b>MSA</b>	Middle Stone Age
<b>PHRA</b>	Provincial Heritage Resources Agency
<b>SAHRA</b>	South African Heritage Resources Agency

### 3.5 Methodology

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 and historical sources were consulted - see the list of references below.

The **Archaeological Data Recording Centre** (ADRC), housed at the National Cultural History Museum, Pretoria, was consulted. This information was used to draw up a preliminary map to indicate the existence of known sites of cultural significance, indicating potential problem areas.

This preliminary study was followed by a field trip, from which an overview of the area was gained and an idea of the potential problems and expected heritage sites could be formulated.

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The areas that had to be investigated was identified by Synergistics Environmental by means of maps. The areas was divided up in blocks by using natural and man-made features and investigated by driving and walking across it. Special attention was given to topographical occurrences such as trenches, holes, outcrops and clusters of trees were investigated.

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities are

determined by means of the **Global Positioning System (GPS)**<sup>2</sup> and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

Map datum used: Hartebeeshoek 94 (WGS84).

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<sup>2</sup> According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.



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## 4. STUDY AREA

### 4.1. Description of the study area

The location and extent of the study area can be determined from the map in Figure 1. It is located to the east of the town of Delmas in the Delmas District of Mpumalanga (Fig. 1). The proposed development is to take place in two blocks of various sizes and shapes. The centre point of the area is: S 26°09'53"; E 28°45'35"

Topographically, the area presents flat, with shallow valleys and a few pans. The geology is made up of arenite. The original vegetation is classified as Moist Cool Highveld Grassland, but has been replaced due to farming activities.

### 4.2. Description of affected environment

Habitation of the region took place since at least the Late Stone Age, although large-scale settlement took place only during the last three hundred years. Sites dating to the more recent past are abundant in the region, ranging from cemeteries to monuments and buildings or industrial structures, i.e. mining related. Of a more recent period, sites that can be linked to the popular struggle for democracy are also located in the region.

Only two cemeteries were identified in the study area per sé – see Appendix 2.

### 4.3 Legislative requirements

Aspects concerning the conservation of cultural heritage are mainly dealt within the Heritage Resources Act (Act 25 of 1999) and, to a lesser extent, the Environmental Conservation Act (Act 73 of 1989).

#### ***National Heritage Resources Act***

This legislation aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations. Our heritage is unique and precious and it cannot be renewed. It helps us to define our cultural identity and therefore lies at the heart of our spiritual well-being and has the power to build our nation. It has the potential to affirm our diverse cultures, and in so doing shape our national character.

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In terms of Section 35(4) of this act, no person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or material or any meteorite; 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.

**5. IDENTIFICATION OF RISK SOURCES**

An Environmental Impact Assessment is focused on two phases of a proposed development: **the construction and operation phases**. However, from a cultural heritage perspective, this distinction does not apply. Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted, can be written into the management plan, whence they can be avoided or cared for in the future.

**Construction phase:**

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Construction work
Anticipated risks	
- looting of sites	Curios workers

**Operation phase:**

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Not keeping to management plans
Anticipated risks	
- damage to sites	Unscheduled construction/developments

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## 6. SITE SIGNIFICANCE AND ASSESSMENT

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

The **significance** of a heritage site and artefacts is determined by its historical, social, aesthetic, technological and scientific 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.

Sites regarded as having low significance are viewed as being recorded in full after identification and would require no further mitigation. Impact from the development would therefore be judged to be low. Sites with a medium to high significance would therefore require mitigation. Mitigation, in most cases the excavation of a site, is in essence destructive and therefore the impact can be viewed as high and as permanent.

- The various cemeteries are viewed to have a high significance on a local level. If open cast mining is to take place the impact would be high. In that case the graves should be relocated, but only after the correct procedure has been followed. This includes consultation with the descendants and acquiring of all the necessary permits.

## **7. CONCLUSION**

The aim of the survey was to undertake a scoping review of cultural heritage resources that might occur and as a result be impacted upon in an area in which it is proposed to develop mining activities. Two cemetery sites were identified, dating to historic times. We recommend, from a heritage point of view, that the proposed development can continue and request the following:

- If the mining development is to have an impact on any of the graves/cemeteries, they should be relocated, but only after consultation with the descendants and obtaining of the necessary permits.
- Archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the mining activities. If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to a museum, preferably one at which an archaeologist is available. The archaeologist should then investigate and evaluate the find.

## 8. REFERENCES

Archaeological Data Recording Centre, National Cultural History Museum, Pretoria.

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## APPENDIX 1: STANDARDIZED SET OF CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON CULTURAL RESOURCES

### Significance of impact:

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

### Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

### Recommended management action:

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs

### Legal requirements:

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

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## APPENDIX 2: SURVEY RESULTS

[Previous site numbers relate to other known sites on a particular ¼ degree sheet already documented in the ADRC, and does not necessarily refer to sites occurring on or close to the specific area of development.]

Map datum used: Hartebeeshoek 94 (WGS84).

1. Site number: 2628BB015

Location: Moabsvelden 248IR: S 26°09'43"; E 28°45'44"

Description: Informal cemetery with more than 30 graves. Very few have headstones. Some headstones depict folk art usually associated with white graves. Dates range between 1930s and 1970s. From a cultural historical viewpoint, these headstones are important. If the graves are relocated, care should be taken that they are either reused when reburial takes place, or that they are lodged at a museum for safekeeping.

Discussion: If opencast mining is to take place, these graves will be impacted on.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Preserve site if possible, or else relocate graves

Legal requirements: SAHRA and other permits, consultation, notification, etc.

2. Site number: 2628BB016

Location: Moabsvelden 248IR: S 26°09'53"; E 28°45'35"

Description: Three graves marked with stone cairns. No names or dates.

Discussion: If opencast mining is to take place, these graves will be impacted on.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Preserve site if possible, or else relocate graves.

Legal requirements: SAHRA and other permits, consultation, notification, etc.



## ILLUSTRATIONS

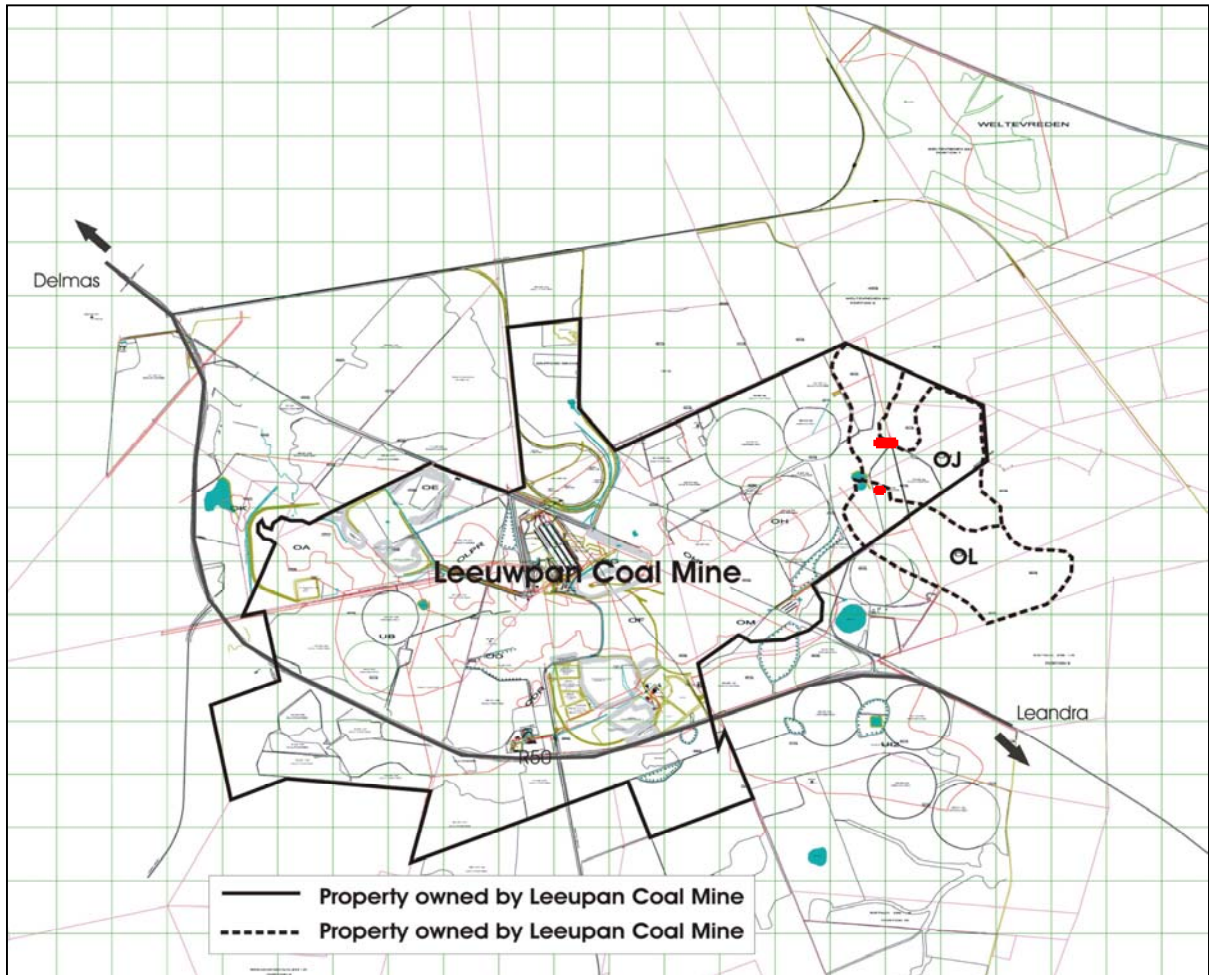


Fig. 1. Layout of the mining plan (Block OJ and OL) and the position of the identified cemeteries (red dots).