

**Heritage Survey report of  
THE GRASPAN COLLIERY,  
MIDDELBURG MUNICIPAL DISTRICT,  
MPUMALANGA PROVINCE**

**THE PROJECT:**

Development of coal mining activities.

**THIS REPORT:**

Heritage Survey report of

**THE GRASPAN COLLIERY, MIDDELBURG MUNICIPAL DISTRICT,  
MPUMALANGA PROVINCE**

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## **EXECUTIVE SUMMARY**

### **HERITAGE SURVEY REPORT OF THE GRASPAN COLLIERY, MIDDELBURG MUNICIPAL DISTRICT, MPUMALANGA PROVINCE**

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which it is proposed to develop coal mining activities on portions of the farm Rietfontein 286JS.

Current activities in the study area consist of forestry, with the proposed mining activities already taking place in adjacent areas.

Based on what was found and its evaluation, it is recommended that any development can continue in the area. However, as the area under discussion is currently heavily vegetated, it is on condition of acceptance of the following recommendations:

- If archaeological sites are exposed, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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**GLOSSARY OF TERMS AND ABBREVIATIONS****STONE AGE**

|                  |                                    |
|------------------|------------------------------------|
| 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**

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

**HISTORIC PERIOD**

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

core - a piece of stone from which flakes were removed to be used or made into tools

|       |   |
|-------|---|
| ADRC  | Archaeological Data Recording Centre    |
| EIA   | Early Iron Age                          |
| ESA   | Early Stone Age                         |
| LIA   | Late Iron Age                           |
| LSA   | Late Stone Age                          |
| 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 |

## HERITAGE SURVEY REPORT OF THE GRASPAN COLLIERY, MIDDELBURG MUNICIPAL DISTRICT, MPUMALANGA PROVINCE

### 1. INTRODUCTION

An independent heritage consultant was appointed by Synergistics to conduct a survey to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of an area in which it is proposed to develop coal mining activities.

### 2. TERMS OF REFERENCE

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 include:

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

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development areas;
- 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.

### 3. DEFINITIONS AND ASSUMPTIONS

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

- *Cultural resources* are 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.
- The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their 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 have already been recorded in full and require no further mitigation. Sites with medium to high significance require further mitigation.

- The latitude and longitude of archaeological sites are to be treated as sensitive information by the developer and should not be disclosed to members of the public.

## 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 Figure 1.

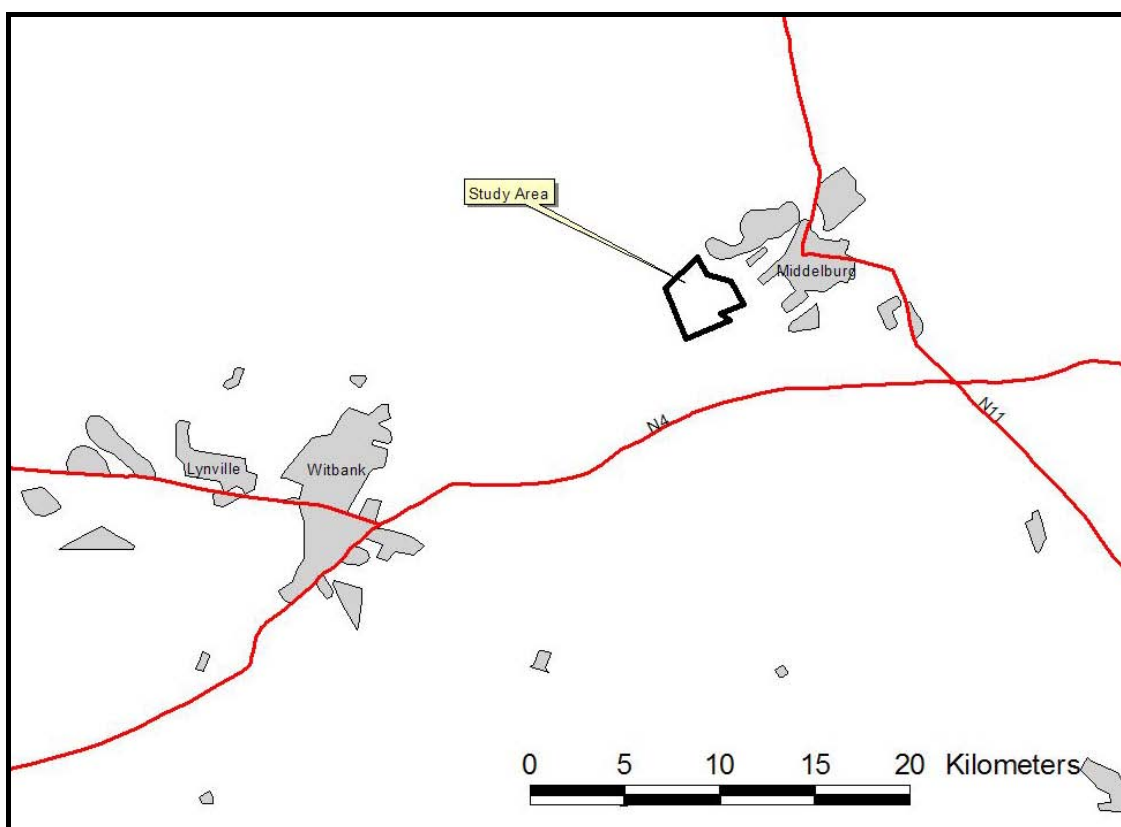


Fig. 1. The study area in regional context.

### 4.2 Methodology

#### 4.1 Preliminary investigation

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

#### 4.1.2 Data bases

The *Heritage Sites Database* and the *Environmental Potential Atlas* was consulted. The relevant records at NASA were also consulted.

#### 4.1.3 Other sources

Topocadastral and other maps were also studied - see the list of references below.

### 4.2 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by Synergistics by means of maps. As this is an active mining area, it was investigated by driving across it in a number of transects and stopping to inspect site that needed closer inspection. During this, an official of the mine accompanied the archaeologist.

### 4.3 Documentation

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>1</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).

### 4.4 Limitations

The whole study area is covered by a plantation consisting of exotic trees (black wattle and blue-gum). Prior to that, it was used as agricultural field for the production of maize.

## 5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

### 5.1 Site location

The study area is portions of the farm Riefontein 286JS in the Middelburg municipal district of Mpumalanga. The site is located southwest of the town of Middelburg (Fig. 1). It centres around the following coordinates: S 25.79201; E 29.40427.

### 5.2 Site description

The geology is made up of arenite. The original vegetation is classified as Moist Sandy Highveld Grassland. Most of the area has been subjected to agricultural and forestry

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<sup>1</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.



activities. No outcrops, hills, caves or streams that usually drew people to settle in its vicinity occur in the study area.

### 5.3 Identified sites

#### 5.3.1 Stone Age

No sites, features or objects dating to the Stone Age were identified.

#### 5.3.2 Iron Age

Similarly, no sites, objects or features dating to the Iron Age were identified.

#### 5.3.3 Historic period

No sites, objects or features dating to the historic period were identified. The only historic fact that could be ascertained was that in 1906 there was an outbreak of contagious disease on the farm. This was probably runderpest.

## 6. SITE SIGNIFICANCE AND ASSESSMENT

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

No sites, objects or features of cultural significance were identified.

## 7. IDENTIFICATION OF RISK SOURCES

A Heritage 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.

The following project actions may impact negatively on archaeological sites and other features of cultural importance. The actions are most likely to occur during the construction phase of a project.

**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<br>- looting of sites | Unscheduled construction/developments<br>Visitors removing objects as keepsakes |

## 8. RECOMMENDATIONS

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which it is proposed to develop coal mining activities on portions of the farm Rietfontein 286JS.

Current activities in the study area consist of forestry, with the proposed mining activities already taking place in adjacent areas.

Based on what was found and its evaluation, it is recommended that any development can continue in the area. However, as the area under discussion is currently heavily vegetated, it is on condition of acceptance of the following recommendations:

- If archaeological sites are exposed, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

## 9. REFERENCES

### 9.1 Data bases

Heritage Sites Database, Pretoria.

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

National Archives of South Africa: SAB (1 document), TAB (2 documents: A1756/06)

### 9.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Bergh, J.S. (red.). 1998. *Geskiedenisatlas van Suid-Afrika: die vier noordelike provinsies*. Pretoria: J.L van Schaik.

Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik.

### 9.3 Maps

1: 50 000 Topocadastral maps – 2529CD

### 9.4 Interview

Mr G Scherman, since 1995 manager of the mine.

## APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

### Significance

The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their 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

|   |        |  |      |        |     |
|---|--------|--|------|--------|-----|
| <b>1. Historic value</b>  |        |  |      |        |     |
| 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  |        |  |      |        |     |
| <b>2. Aesthetic value</b>   |        |  |      |        |     |
| It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group  |        |  |      |        |     |
| <b>3. Scientific value</b>  |        |  |      |        |     |
| 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  |        |  |      |        |     |
| <b>4. Social value</b>  |        |  |      |        |     |
| Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons  |        |  |      |        |     |
| <b>5. Rarity</b>  |        |  |      |        |     |
| Does it possess uncommon, rare or endangered aspects of natural or cultural heritage  |        |  |      |        |     |
| <b>6. Representivity</b>  |        |  |      |        |     |
| 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. |        |  |      |        |     |
| <b>7. Sphere of Significance</b>  |        |  | High | Medium | Low |
| International   |        |  |      |        |     |
| National  |        |  |      |        |     |
| Provincial  |        |  |      |        |     |
| Regional  |        |  |      |        |     |
| Local   |        |  |      |        |     |
| Specific community  |        |  |      |        |     |
| <b>8. Significance rating of feature</b>  |        |  |      |        |     |
| 1.  | Low    |  |      |        |     |
| 2.  | Medium |  |      |        |     |
| 3.  | High   |  |      |        |     |

**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.

## 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.

The National Heritage Resources Act (Act no 25 of 1999) 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, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.

### APPENDIX 3: SURVEY RESULTS

See Appendix 1 for an explanation of the conventions used in assessing the cultural remains.

Map datum used: Hartebeeshoek 94 (WGS84).

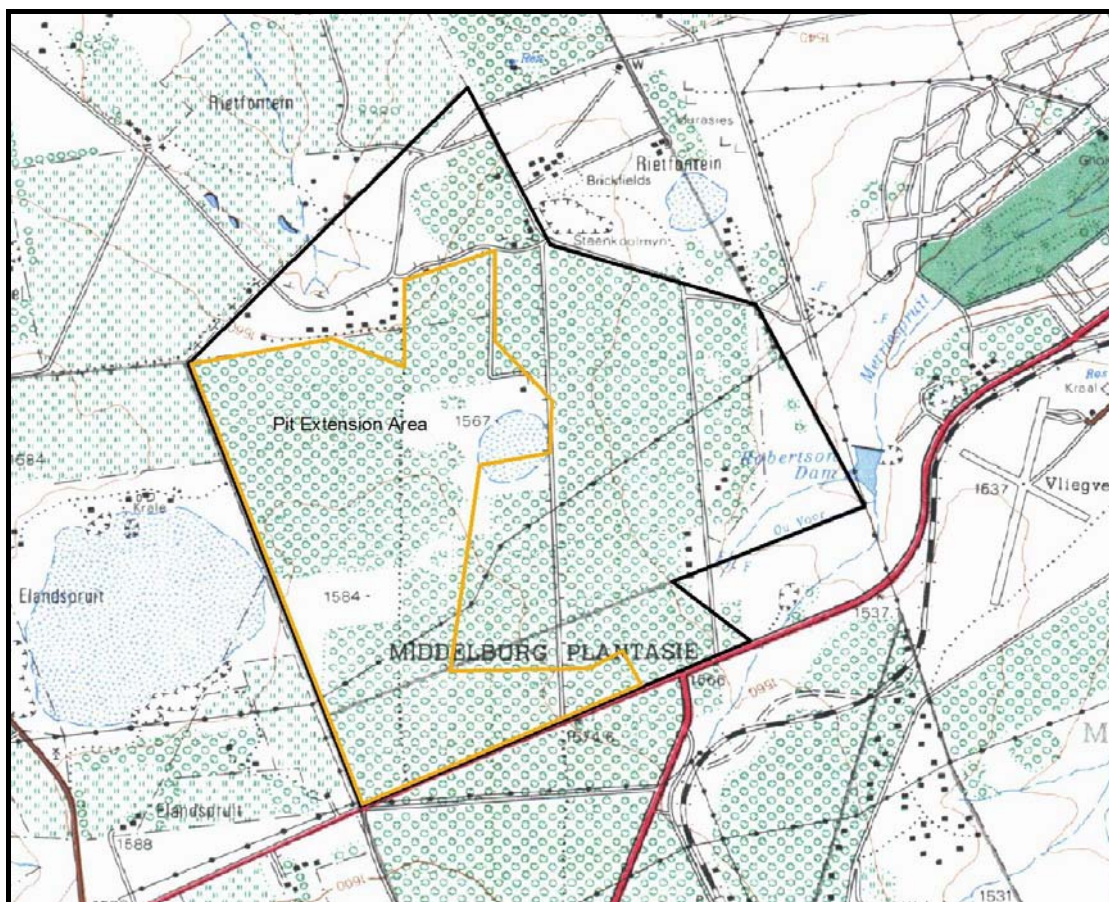


Fig. 1. Location of the study area: the colliery area is indicated in black, with the pit extension area in orange (Map 2529CD: Government Printer, Pretoria).

Sites identified:

Nil