



**HERITAGE STATEMENT FOR THE
ZANDBAKEN COAL MINE PROJECT,
ZANDBAKEN 585 IR, SANDBAKEN 363 IR
AND BOSMANS SPRUIT 364 IS,
STANDERTON, MPUMALANGA**

XTRATA COAL SOUTH AFRICA

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Zandbaken 585 IR, Sandbaken 363 IR and Bosmans
Spruit 364 IS, Standerton, Mpumalanga**

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EXECUTIVE SUMMARY

PURPOSE OF STUDY

Xstrata Coal South Africa (Xstrata Coal) was granted a Prospecting Right in terms of Section 17 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) for the farms Zandbaken 585 IR, Sandbaken 363 IS and Bosmans Spruit 364 IS in the Gert Sibande District Municipality of the Mpumalanga Province. A Mining Right Application (MRA) for the proposed Zandbaken Coal Mine (herewith referred to as the 'Zandbaken Project') will be submitted to the Regional Office of the Department of Mineral Resources (DMR), Mpumalanga in December 2012.

Xstrata Coal is currently evaluating the potential mining of the coal reserves on the Zandbaken Project site. It is currently planned to mine the No. 2 seam via underground mining methods at an average depth of 40 m below surface. No processing of coal will occur on site as it will be trucked to Sasol or Eskom plants. Stockpiles on site will be limited to small amounts of topsoil or hard overburden. The proposed Zandbaken Project site is a greenfields area and the extent of the property is approximately 2 890 hectares (ha).

Digby Wells Environmental (Digby Wells) has been appointed by Xstrata Coal to conduct an Environmental Impact Assessment (EIA) with associated specialist studies in support of the MRA in accordance with Section 39 (1) and Regulation 49 of the MPRDA to obtain environmental authorisation from the DMR.

Digby Wells developed a Heritage Resources Management (HRM) process to comply with this requirement. The South African Heritage Resources Agency (SAHRA) and/or the relevant Provincial Heritage Resources Authorities (PHRA) were notified of the development as required in terms of Regulation 54(2)(vi) and (vii) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA). This Notification of Intent to Develop (NID) was supported and informed by a Heritage Statement to give a detailed and comprehensive baseline study that characterised the cultural landscape.

SAHRA and/or the PHRA are required to provide statutory comment on whether a heritage impact assessment must be undertaken, and if requested which specialist studies should be included.

The Integrated Development Plan (IDP) for the Gert Sibande District Municipality (GS-IDP) was reviewed to gain a more detailed understanding of the development context within which the Zandbaken Project area is situated. The GS-IDP represented a five-year plan to guide the socio-economic developments within the district municipality. Four economic sectors (agriculture, mining, manufacturing and tourism) within the Gert Sibande District Municipality were identified to promote economic growth and create employment.

Although the GS-IDP does not make references to heritage resources, it aims to increase tourism-based business and theme parks. Furthermore, the identified sectors such as

agriculture, mining and tourism comprise specific types or categories of development that may impact on heritage resources in various manners. These may include increased farming, resettlement, land claims, and prospecting activities. Proposed development relative to the Zandbaken Project must therefore be taken into account.

SUMMARY OF FINDINGS

A screening site visit has not yet been undertaken therefore all information contained in this Heritage Statement is based on desktop research.

In the southern region of the Mpumalanga province, the Karoo rocks are thick and contain large seams of extensive coal fields. Extensive mining in the province has resulted in the destruction of these rocks.

It is not possible to predict the buried fossil content of an area other than in general terms. In particular, the important fossil bone material is generally sparsely scattered in most deposits and much depends on spotting this material as it is uncovered during digging. For this reason, the fossil potential of a particular study area is almost always inferred from a review of available scientific publications and geological maps. With regards to the Zandbaken Project, there are no published records of fossil site locations and there is a low potential of finding fossils in the rocks.

During a desktop cartographic survey of the Zandbaken Project area and historical layering process, a total of ten potential heritage sites comprising built structures such as residential settlements and homesteads were recorded.

RECOMMENDATIONS

Based on the results of the palaeontology desktop study, a Letter Recommendation for Exemption of a Palaeontological Impact Assessment will be requested from SAHRA, provided that a Fossil Chance Find Procedure is implemented.

Based on the cartographic survey, a significant number of potential heritage resources may occur within and around the project area. These heritage resources include residential settlements, homesteads, stonewalling as well as burial grounds and graves.

Based on the above findings, a Phase 1 Heritage Impact Assessment (HIA) is recommended for the actual impact footprint and not the entire proposed project area as mining will be limited to underground impacts and will not impact on heritage resources located on the surface. Surface impacts will be limited to the construction of the offices and a workshop and other surface infrastructure.

STAKEHOLDER/S

To date, 91 stakeholders were identified through the Public Participation Process (PPP). These stakeholders are in the process of been notified. These include:

Level	Total number
National	23
Provincial	6
District	2
Local	3
Interested and Affected Parties	46
Directly Affected Parties	11

GLOSSARY OF ABBREVIATIONS AND TERMS

ASAPA	Association of Southern African Professional Archaeologists
BEE	Black Economic Empowerment
CE	Common Era (synonymous to AD)
CRM	Cultural Resources Management
Digby Wells	Digby Wells and Associates (South Africa)
EIA	Environmental Impact Assessment
ESA	Early Stone Age
Ha	Hectares
HIA	Heritage Impact Assessment
Historical	Alludes to European contact and subsequent settlement; includes colonial eras.
HRA	Heritage Resources Authority
HS	Heritage Statement
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
<i>In situ</i>	In its original place
Iron Age	Metals and metal working – including copper, gold, and iron – appears in archaeological record associated with more complex, stratified society, usually agropastoral economies; overlaps historical period in areas; ceases at various times during 19 th century with colonial expansion.
Ka	Thousand years ago
LSA	Late Stone Age
ML	Mining License
Monitoring	Periodic monitoring of sites during the Life of Mine, typically applied to significant sites that won't be impacted on directly, but with a risk of secondary impacts.
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
MSA	Middle Stone Age
Mya	Million years ago
NASA	National Archives of South Africa
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NID	Notice of Intent to Develop

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Palaeozoic	Used to refer to a time period within the Phanerozoic Era. The Palaeozoic dates between 250 million years ago and 545 million years ago.
PPP	Public Participation Process
PGM	Platinum Group Metals
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SAPS	South African Police Service
SDF	Spatial Development Framework
Site	Used to refer to locality where archaeological record is visible or present. Can include single occurrences or scatters of artefacts, stonewalls, daga, dung or midden deposit.
Study area	The wider archaeological and historical socio-cultural environment and landscape, including south-eastern Botswana, north-west Limpopo and the Waterberg.
Vaalian	Used to refer to a time period within Proterozoic Era. The Vaalian dates between 2 050 million years ago and 2 650 million years ago.
Watching Brief	The process where a qualified archaeologist is present on-site during any activity in, near or at a heritage resource site that may be impacted on, or where there is potential for exposing heritage resources during construction or other activities. Note that in context of this report it is distinct from monitoring
WITS	University of the Witwatersrand

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1 INTRODUCTION

Xstrata Coal South Africa (Xstrata Coal) was granted a Prospecting Right in terms of Section 17 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) for the farms Zandbaken 585 IR, Sandbaken 363 IS and Bosmans Spruit 364 IS in the Gert Sibande District Municipality (formerly the Standerton District Municipality) of the Mpumalanga Province. This Prospecting Right will expire on 2 December 2012. Xstrata Coal is therefore applying for a Mining Right Application (MRA) for the proposed Zandbaken Coal Mine ('Zandbaken Project') which will be submitted to the Regional Office of the Department of Mineral Resources (DMR), Mpumalanga in November 2012.

The proposed Zandbaken Project area is a greenfields area of approximately 2 890 ha. Xstrata Coal is currently evaluating the potential mining of the coal reserves in the Zandbaken Project area via underground mining methods.

Digby Wells Environmental (Digby Wells) has been appointed by Xstrata Coal to conduct an Environmental Impact Assessment (EIA) with associated specialist studies in support of the MRA in accordance to both the MPRDA and the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).

2 BACKGROUND INFORMATION OF PROJECT

2.1 Project Details

As part of the EIA, a heritage assessment is required for the project area. The heritage assessment will include a detailed and comprehensive baseline study, characterising the cultural landscape. With the intention of providing the relevant Heritage Resources Authority (HRA) with sufficient information to evaluate the heritage assessment, it is necessary to present a baseline account or scoping report in the form of a Heritage Statement. The relevant heritage authority will be notified in accordance with NEMA Regulation 54(2) via a Notice of Intent to Develop (NID) that will be informed and supported by this Heritage Statement.

2.2 Description of Property and/or Affected Environment

2.2.1 Location Data

The Zandbaken Project is situated near the town of Standerton in the Gert Sibande District Municipality (formerly the Standerton district) of the Mpumalanga Province.

A summary of the geographical location of the Zandbaken Project is presented in Table 2-1 below.

Table 2-1: Geographical Location of the Zandbaken Project

Province	Mpumalanga
Municipality	Gert Sibande District Municipality Lekwa Local Municipality
15: 50 000 topographical map	2628 DD Val 2629 CC Secunda
Nearest town	Standerton – approximately 40 km southeast of project area
Property / Farm name and number	Bosmans Spruit 364 IS Sandbaken 363 IS Zandbaken 585 IR
Approximate centre coordinates	LAT/Y/South: -26.7652 LON/X/East: 29.0041
Current land use	Agriculture

2.2.2 Location Maps

The regional and local settings of the Zandbaken Project are depicted in (Plan 1) and (Plan 2) respectively. Land tenure of the Zandbaken Project is depicted in (Plan 3).

2.2.3 Type of Development

Underground coal mining:

Xstrata is currently planning to mine the No. 2 seam via underground methods namely the bord and pillar method (Figure 2-1) starting in 2016 to 2030. The coal is approximately 55 m deep in the northern section sloping down to 155 m in the south.

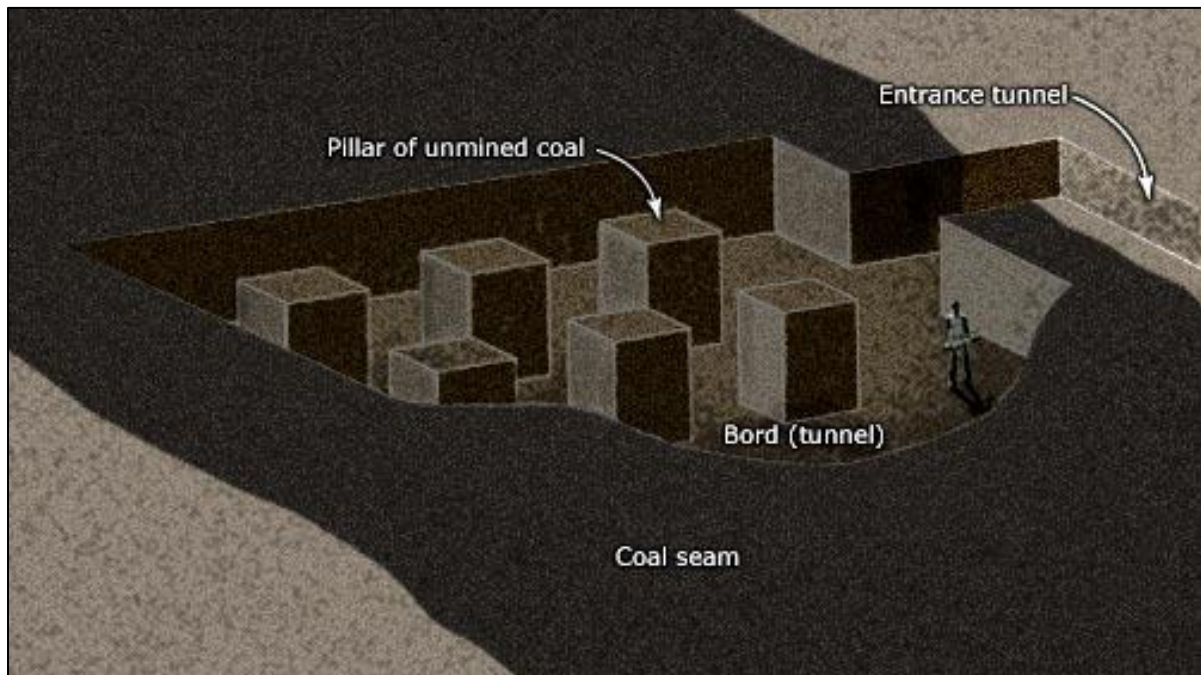


Figure 2-1: Schematic example of proposed underground bord and pillar mining method (www.teara.gov.nz/en/coal-and-coal-mining/6/2)

No processing of coal will occur on site, but will be trucked to Sasol or Eskom (Xstrata Coal is to decide on where the raw coal will be transported to). The coal is Eskom quality in that it is suitable for power generation and will not be exported. The proposed infrastructure on site will include a vent shaft and a vertical incline on the northern edge of the property. A Run of Mine (RoM) pad will be required to stockpile raw material before being transported for processing. Stockpiles on site will be in the form of topsoil on overburden. Offices and a workshop will also form part of the infrastructure. No accommodation will be constructed on site.

The proposed construction and operation activities for the Zandbaken Project include:

- Site clearing;
- Construction of surface infrastructure;
- Temporary storage of hazardous products;
- Blasting and development of an initial boxcut for mining;
- Temporary storage of hazardous products;
- Removal of overburden;
- Use of haul roads;
- Removal and stockpiling of raw coal;
- Water use and storage on site; and

- Storage, handling and treatment of hazardous products.

2.2.4 Rezoning and/or Land Subdivision

The proposed Zandbaken coal mine will be located on the farms Zandbaken 585 IR, Sandbaken 363 IS and Bosmans Spruit 364 IS. The area is currently a greenfields area and currently zoned as an agricultural zone and rezoning may be required for mining activities.

2.2.5 Development Context of Study Area: Gert Sibande District Municipality Integrated Development Plan

The Gert Sibande District Municipality Integrated Development Plan (GS-IDP) was reviewed to gain a more detailed understanding of the development context within which the Zandbaken Project area is situated (Gert Sibande District Municipality, 2012). The GS-IDP represented a five-year plan to guide socio-economic development within the district municipality. With regards to heritage, an understanding of the development context of the study area is important in order to assess and/or predict the magnitude of possible impacts on heritage resources that are identified in the study area. Cumulative impacts on heritage resources and the cultural landscape can also be more accurately addressed.

The GS-IDP included a Mpumalanga Growth and Development Path (MGDP) aimed at promoting local economic growth (Gert Sibande District Municipality, 2012). The MGPD identified the following economic sectors within the Gert Sibande District Municipality to promote economic growth and create employment:

- Agriculture and forestry;
- Mining and energy;
- Manufacturing and beneficiation; and
- Tourism and cultural interests.

Each identified sector above comprises specific types or categories of development that may impact on heritage resources in various manners. Proposed development relative to the Zandbaken Project must therefore be taken into account. The identified sectors are briefly discussed below.

Overall, the IDP identified job creation as a key factor for economic growth. In order to promote job creation key areas in the major socio-economic sectors, the agriculture and mining sectors in particular, were identified to facilitate economic growth and promote job creation. These key areas primarily involve infrastructure development, social development, municipal financial viability, economic development and institutional development.

2.2.5.1 Agriculture and forestry

According to the GS-IDP, growth within the agriculture sector will include a massive drive on infrastructure development that may include, among other things:

- Dams,

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- Irrigation,
- Farm roads,
- Silos,
- Pack houses,
- Mechanisation,
- Electricity; and
- Infrastructure for agro-processing.

2.2.5.2 Mining and energy

The key areas that were identified within the mining sector to facilitate economic growth included:

- The upgrading and maintenance of the coal haulage network;
- The expansion of the water network and increase reliance on water transfer schemes;
- The increase of South Africa's energy load and the improvement of alternative energy supply;
- The establishment a mining supplier park to enhance enterprise development in the province;
- The resolution of land claims to release land for development; and
- The provision of comprehensive support to small-scale mining enterprises.

2.2.5.3 Tourism and Culture

The GS-IDP also identified key areas to facilitate growth in the tourism and cultural industries. These included broadening and diversifying primarily nature-based tourism product offerings in Mpumalanga into more mainstream market segments such as:

- Sports events;
- Business/conference meetings; and
- Theme or amusement parks.