

Background Information Document



BLACK MOUNTAIN MINING

Environmental and Social Impact Assessment [ESIA] for Proposed Construction of the Gamsberg Zinc Mine and Associated Infrastructure Northern Cape Province

Introduction

Black Mountain Mining (Pty) Ltd (herein referred to as Black Mountain), is part of Vedanta Resources Plc, intends to establish the Gamsberg Zinc Mine, Concentrator Plant and associated infrastructure in the Namakwa District. The proposed site is located on properties Bloemhoek 61 Portion 1, Gams 60 Portion 1, Aroams 57 RE and Gams 60 Portion 4, approximately 14 km east of the town of Aggeneys, along the eastern border of the N14 (see *Figure 1*). The proposed site is commonly referred to as Gamsberg, and is characterised by an oval shaped inselberg 220 meters above the surrounding plains.

Prior to commencing with construction, approvals are required in terms of the *Mineral and Petroleum Resources Development Act* (No. 28 of 2002), the *National Environmental Management Act* (No. 107 of 1998), the *National Environmental Management: Waste Act* (No. 59 of 2008), *National Environmental Management: Air Quality Act* (No. 39 of 2004), *National Heritage Resources Act* (No. 25 of 1999) (NHRA) and the *National Water Act* (No. 36 of 1998). The competent authority for the Environmental and Social Impact Assessment (ESIA) process is the MEC of the Department of Environment and Nature Conservation (DENC) of the Northern Cape Province.

Environmental Resources Management Southern Africa (Pty) Ltd (ERM) has been appointed as the independent environmental assessment practitioner, to undertake the ESIA and associated public participation processes.

DENC Reference Number: NC/EIA/NAM/KHAI/AGG/2012-NCP/EIA/0000155/2012

DEA Reference Number: 12/9/11/L955/8

DMR Reference Number: NCS 30/5/1/2/2/1/518

DUE DATE FOR COMMENT AND REGISTRATION: 29 AUGUST 2012





Purpose of this document

This document serves to provide you with a brief introduction to the proposed project and the manner in which Interested and Affected Parties (I&APs) can become involved in the ESIA process.

Additional documents will be available at various stages during the environmental assessment process to provide I&APs with information and further opportunities to raise issues of concern and suggestions for enhanced benefits.

Project background

In 1972, zinc deposits were discovered at Gamsberg by O'Okiep Copper Company (Newmont). In 1998 Gold Fields bought Newmont's interest in Gamsberg, however the mine was not developed due to unfavourable market conditions.

In 1988, Anglo American Corporation acquired the site and completed prefeasibility and feasibility investigations in order to explore the viability of mining the zinc deposit.

The original Environmental Management Programme (EMPr) for open-pit mining at Gamsberg was approved in January 2001. An amendment to this EMPr was approved in 2002 to mine a small part of the deposit underground. An additional amendment was made to the EMPr in 2009 for surface exploration along the north eastern section of Gamsberg.



Since the completion of the original ESIA process, additional project components and associated infrastructure were introduced into the project description and the bulk of the approvals obtained previously have lapsed.

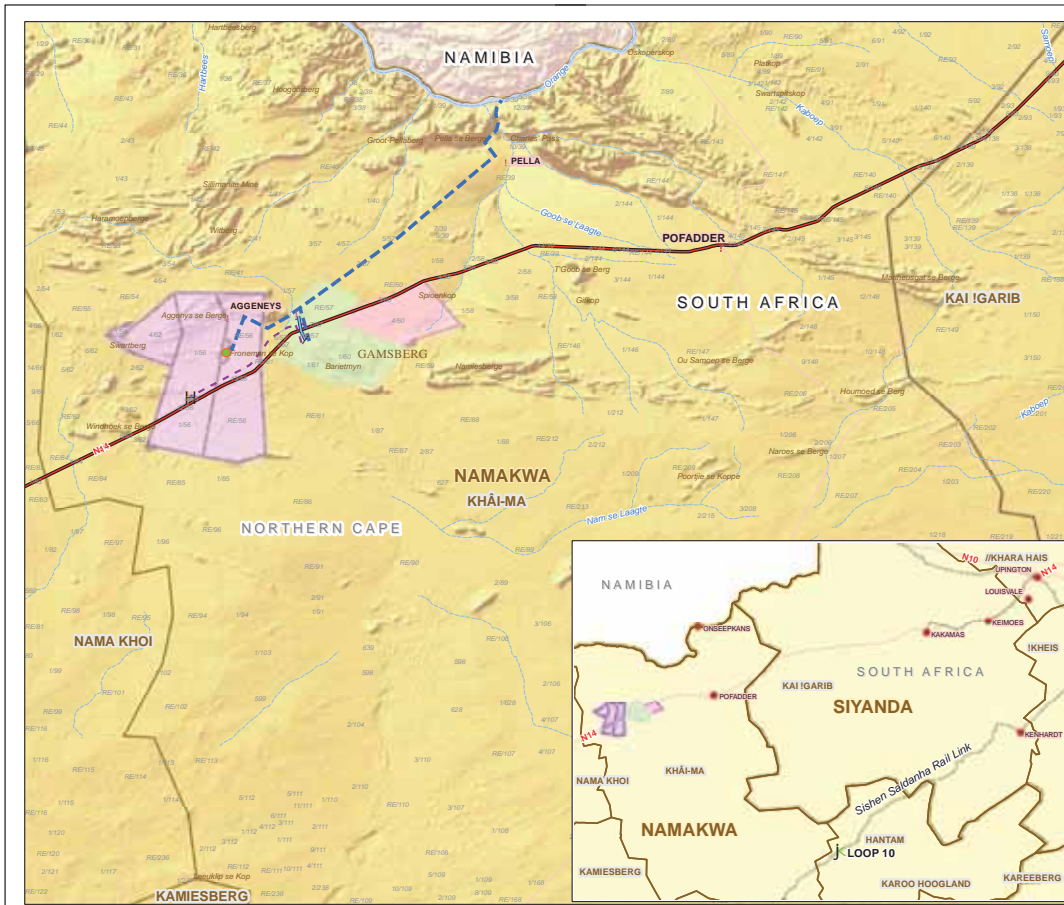
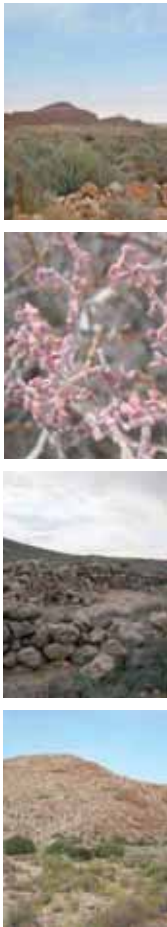
Further investigations were undertaken in 2009 to review the new legal requirements and the gaps in knowledge between the original ESIA of 2000 and the new project description. The investigation identified the additional legal and information requirements to undertake a comprehensive ESIA process.

In February 2011, Vedanta Resources Plc acquired Black Mountain Mining (Pty) Ltd., from Anglo American Corporation, who owned the Gamsberg site. Due to changes to the environmental legislation and original project description, a new ESIA process will need to be undertaken.

The ESIA process will address the gaps in knowledge identified and provide a detailed assessment of potential impacts. Refer to Locality Map (see *Figure 1* overleaf) for a representation of the location of the proposed project.

The proposal to establish a zinc mine at Gamsberg is based on the global zinc market improving since 2000.





Legend

- Main Town
- Towns
- Loop 10
- Existing Aggenys Sub-Station
- Dams
- Cadastral Boundaries
- Block Mountain Mine Area - Mining Licence
- Gamsberg Project Area - Mining Licence
- Gamsberg Project Area - Surface Rights
- Local Municipalities
- District Municipalities
- Proposed Water Pipeline
- Area of Proposed Additional Housing
- Main Rivers
- Rivers
- National Roads
- Main Roads

Power Supply Option 1

- New Concentrator Plant Sub-Station (66kV/11kV)
- New Gamsberg Sub-Station (220kV/66kV)
- 66kV Distribution Lines

Power Supply option 2

- New Gamsberg Sub-Station (220kV/66kV)
- Proposed 66kV Distribution Line

Location of the Gamsberg Study Area

CLIENT:
Black Mountain Mining (Pty) Ltd

DATE: July 2012	CHECKED: NB	PROJECT: 0164903
DRAWN: LDT	APPROVED: SP	SCALE: 1:400 000
DRAWING: Location of Gamsberg Study Area_Rev3.mxd		REV: 3

ERM
Projector: Geographic, Datum: WGS84
Source: NGS - Chief Directorate National Geo-Spatial Information, SABS: 1:50 000
Issue: ESRI Data and Maps

SIZE: A3

Figure 1: Gamsberg Zinc Mine Locality Map

Project description

Black Mountain intends to establish a zinc mine and associated infrastructure at Gamsberg, close to the town of Aggeneys. However, due to the low grade zinc reserve present in the region, the zinc ore would need to be concentrated before exporting to global markets. In addition, a secure water and power supply would also be needed in order to meet the requirements of an operational mine. Based on the above requirements, the following is proposed:

Zinc Mining

The establishment of the Gamsberg Zinc Mine with an expected output capacity of approximately 10 million tons per year (beneficiation tonnage). The proposed mine is expected to have a life span of approximately 20 years. Black Mountain is exploring different mining techniques to determine the most suitable approach to balance the financial, technical and environmental considerations of the proposed project. This will be presented in further detail during the Scoping Phase.

Concentrator Plant

Construction of a Zinc Concentrator Plant with a total processing capacity of 10 million tons per year. The precise location of the Concentrator Plant will be determined during the course of the ESIA process.

Waste Management

In order to manage the waste streams generated from the mining process, Black Mountain intends to construct tailings dams and waste rock dump sites. The precise location of the tailings dams and waste rock dump sites will be determined during the course of the ESIA process. Non-mineral waste streams will also be generated and appropriate facilities constructed.

Water Supply

In order to fulfil the water requirements of the proposed zinc mine, Black Mountain intends to approach Pelladrift Water Board regarding upgrading of the existing water pipeline from the Pella abstraction point along the Orange River to the proposed mine.

Electricity Supply

In order to meet the energy requirements of the proposed project, Black Mountain intends to construct a new 220kV/ 66kV substation adjacent to an existing 220 kV transmission line,

Affected Environment:

The proposed zinc mine will be located within the Northern Cape Province, near the town of Aggeneys. The unemployment rate in the Northern Cape Province is 26.7 percent, which is above the national average of 23.9 percent (according to StatsSA). Previous investigations undertaken have confirmed that the proposed mine is located in a Region that is characterised with a high level of Succulent Karoo vegetation and is thus considered to be a global biodiversity hotspot (Conservation International, 2012).

along the northern end of the N14 (approximately 2 km west of the Gamsberg mine site). A second 66kV/11kV sub-station will be constructed at the Gamsberg mine site. Two (2) 66 kV distribution lines will be constructed across the N14 National Road to link the two proposed sub-stations in order to meet the energy requirements of the proposed mine and associated infrastructure. Alternatively BMM will construct a new 66 kV distribution line and associated infrastructure from the existing Aggeneys substation to the proposed mine site.

Transportation of Zinc Concentrate

To ensure project viability, Black Mountain needs to transport the zinc concentrate from the proposed mine to the Saldanha Bay Port for export. Two potential transport options will be investigated during the ESIA process, which are as follows:

- Transport Option 1: Zinc concentrate to be transported via an existing gravel road from the proposed mine to Loop 10 of the existing Sishen–Saldanha railway line. At Loop 10, the concentrate will be loaded and transported by rail to Saldanha Bay Port; or
- Transport Option 2: Load zinc concentrate onto trucks and transport the zinc concentrate via the existing N14 and N7 National Roads to the Saldanha Bay Port.

Housing

The proposed project is expected to result in the creation of employment opportunities during the construction and operational phases. In order to house the expected workforce, Black Mountain intends to construct additional housing units in the town of Aggeneys. Black Mountain intends to expand its home ownership scheme in compliance with the mining charter. The exact number of employment opportunities that is expected to be created will be confirmed during the course of the ESIA process.



A typical zinc concentrator plant



A typical tailings dam



A typical waste rock dump

Environmental and Social Impact Assessment

The objectives of the ESIA process are to provide:

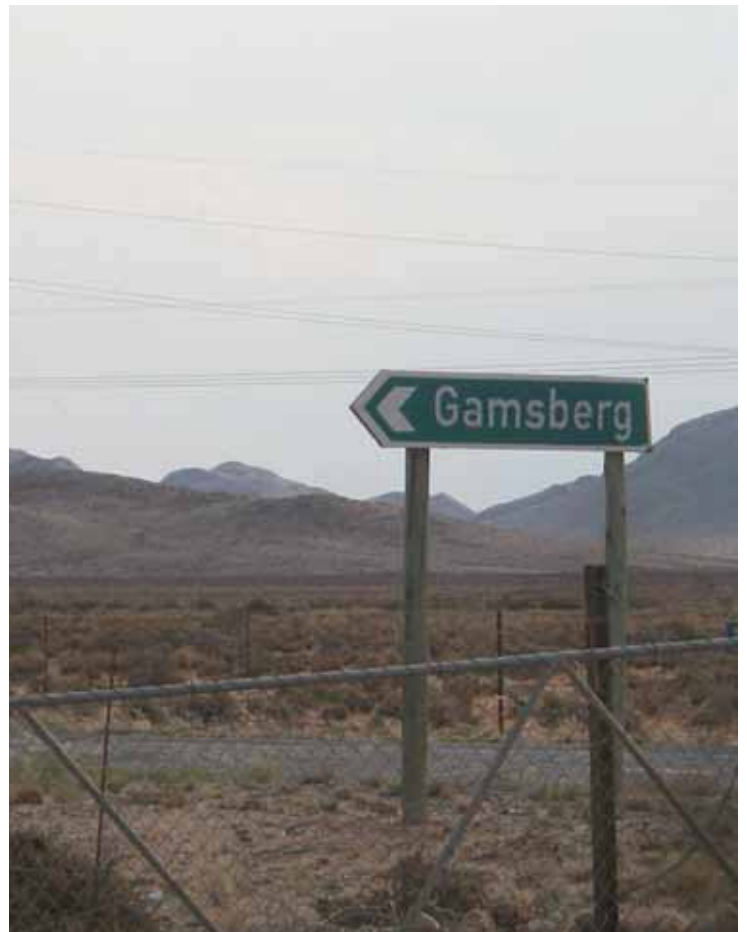
- I&APs with adequate information to understand the potential environmental and socio-economic impacts associated with the proposed project and opportunities for them to comment on the ESIA process;
- the engineering team with information that will assist them to incorporate effective measures into the design and execution of the project to minimise negative impacts and enhance benefits of the project; and
- the regulatory authorities with sufficient information to serve as a basis for sound decision making.

Legislative Requirements

The proposed ESIA process will be undertaken in terms of the *National Environmental Management Act* (No. 107 of 1998) (as amended) Environmental Impact Assessment (EIA) Regulations R543 of 2010. In addition, the following legislation will also be applicable to the proposed project and the related legislative requirements will need to be fulfilled as part of an integrated ESIA process:

- *National Environmental Management: Waste Act* (No. 59 of 2008);
- *National Environmental Management: Biodiversity Act* (No. 10 of 2004);
- *National Environmental Management: Air Quality Act* (No. 39 of 2004);
- *National Water Act* (No. 36 of 1998);
- *National Heritage Resources Act* (No. 25 of 1999); and
- *Minerals and Petroleum Resources Development Act* (No. 28 of 2002).

Detailed legal requirements will be presented during the Scoping Phase. However, it is the intention of ERM to undertake an integrated regulatory process with respect to the abovementioned legislation. Please note, however, that the legal requirements in terms of the *National Water Act* can only be fulfilled once an Environmental Authorisation has been issued.



Public Participation

As a stakeholder or potential I&AP you are invited to be part of the ESIA process. Public participation is a key component of environmental decision-making and will take place throughout the ESIA process. *Figure 2* below provides detail on the various ESIA phases, timelines and associated activities.

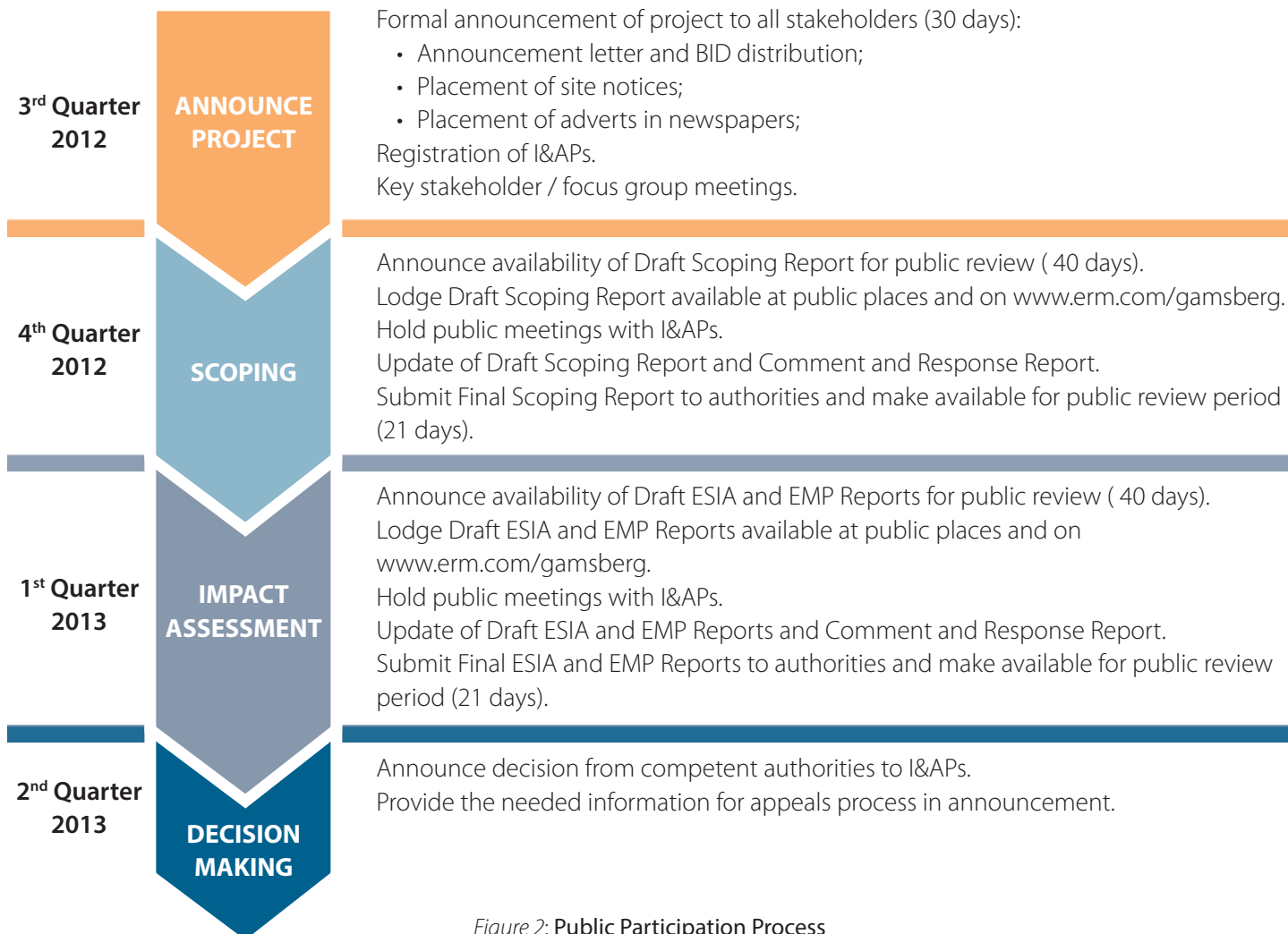


Figure 2: Public Participation Process

Your registration as an I&AP and comments are important to this process.

You are invited to raise issues of concern, identify opportunities and provide suggestions associated with the proposed project, pertaining to potential positive or negative environmental and social impacts which should be investigated during the ESIA process. You are invited to register as an IAP for PPP for this project. If you wish to be registered, please complete attached registration form and return to ERM (details below).

We thank you for your participation.



public participation and return address for comments

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