

BASIC ASSESSMENT PROCESS FOR THE PROPOSED SWARTBERG HAUL ROAD AT BLACK MOUNTAIN MINE, AGGENEYS

November 2018

SRK Project No: 536396

1 INTRODUCTION AND BACKGROUND

Black Mountain Mining (Pty) Ltd (BMM) mines and processes copper, lead and zinc at the Black Mountain and Gamsberg Mines near the town of Aggeneys in the Northern Cape. The Black Mountain Mine ('the Mine'), west of Aggeneys, comprises a processing area (including waste management and ancillary facilities) and two underground shafts: Deeps shaft and Swartberg shaft.

Trucks transport ore and waste rock from the Swartberg shaft using an existing haul road to the processing area. The haul road intersects numerous ancillary roads in the processing area. Access to the Waste Rock Dump (WRD) at this intersection requires heavy vehicles to turn sharply which presents traffic issues and safety concerns.

To alleviate traffic and safety concerns, and to optimise haul distances at the Mine, BMM proposes to construct a new haul road from the top of the WRD to the weighbridge area located adjacent to the existing haul road ('the project').

Key aspects of the project include:

- **Construction of a new haul road:** The new haul road will be 8 m wide to allow for 2-way truck traffic and ~ 1.2 km long;
- **Establishment of laydown areas:** Construction laydown areas will be located within the existing disturbed footprint of the weighbridge area and WRD;
- **Installation of river crossings:** The new haul road will cross eleven ephemeral drainage lines, requiring the installation of eleven pre-cast cement culverts and/or the construction of low-level drift crossings; and
- **Alterations to existing powerline:** An existing 66 kV powerline is located in close proximity to and will traverse the new haul road. BMM will raise the powerline to ensure heavy vehicles can pass safely beneath.

SRK Consulting (South Africa) (Pty) Ltd (SRK) was appointed by the BMM to undertake the Basic Assessment (BA) process required in terms of the National Environmental Management Act 107 of 1998 (NEMA). The BA process was undertaken in accordance with Section 23 of the Environmental Impact Assessment (EIA) Regulations, 2014.

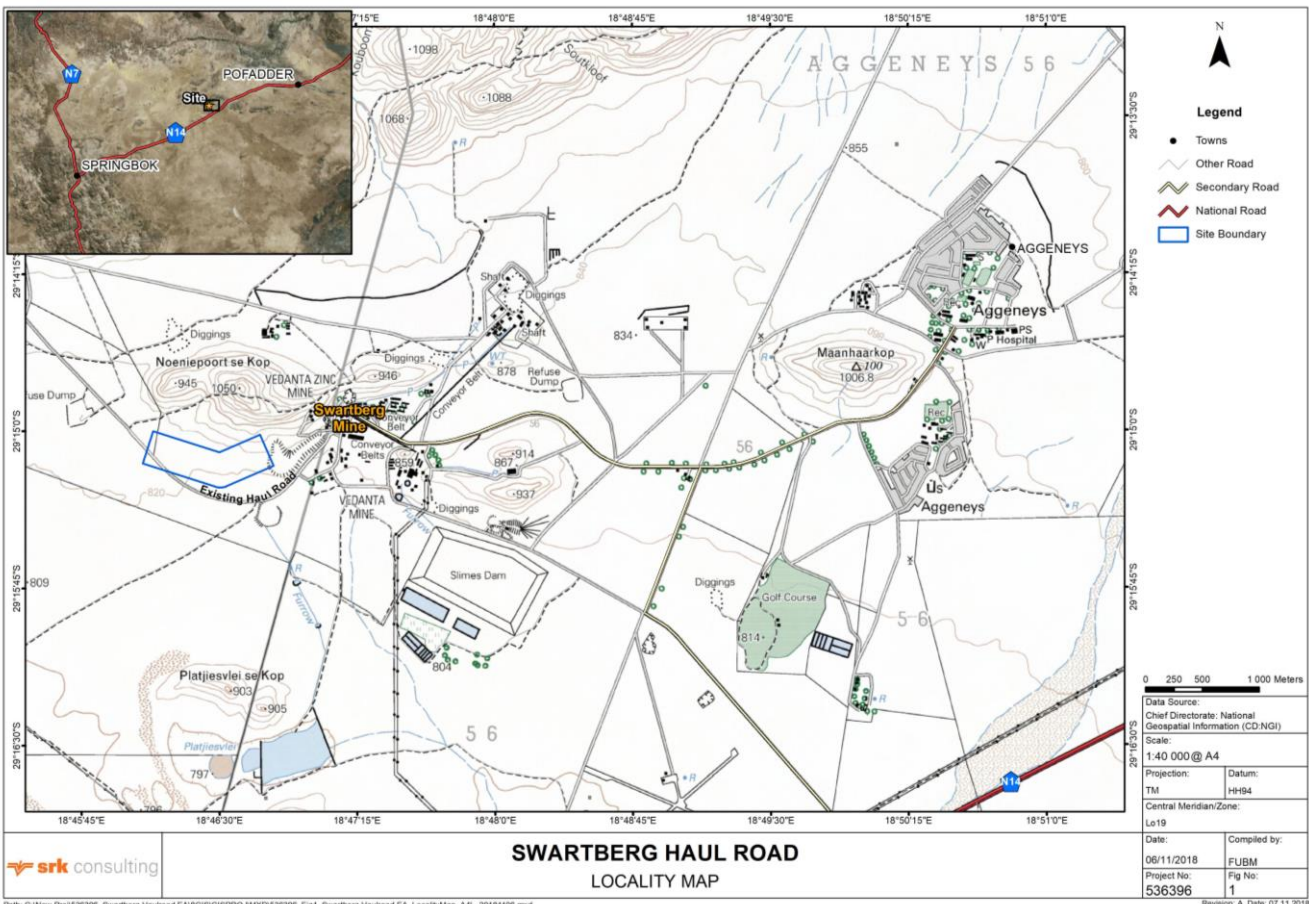


Figure 1: Locality Plan

2 GOVERNANCE FRAMEWORK

Sections 24 and 44 of NEMA make provision for the promulgation of regulations that identify activities which may not commence without an Environmental Authorisation (EA) issued by the competent authority, in this case, the Department of Mineral Resources (DMR).

SRK has determined that the proposed project triggers activities listed in terms of Listing Notices (LN) 1 and 3 of the EIA Regulations, 2014, requiring a BA process.

Table 1: Listed activities triggered by the project

No	Description
LN 1	
12	The development of structures with a physical footprint of more than 100 m ² within 32 metres of a watercourse.
19	The infilling or depositing of any material of more than 10 m ³ into, or the excavation of soil of more than 10 m ³ from a watercourse.
24	The development of a road, where no reserve exists, where the road is wider than 8 m.
LN 3	
4	The development of a road wider than 4 m with a reserve less than 13,5 m within a CBA.
12	The clearance of an area of 300 m ² or more of indigenous vegetation within a CBA.

Water Use Authorisation (WUA) in terms of the National Water Act 36 of 1998 (NWA) will be required from the Department of Water and Sanitation for water use activities listed in sections 21 (c) and (i).

In addition to EA and WUA, various other permits or licences are required before the project may proceed.

3 ENVIRONMENTAL PROCESS

Appendix 1 of the EIA Regulations, 2014, define the detailed approach to the BA process (see Figure 2).

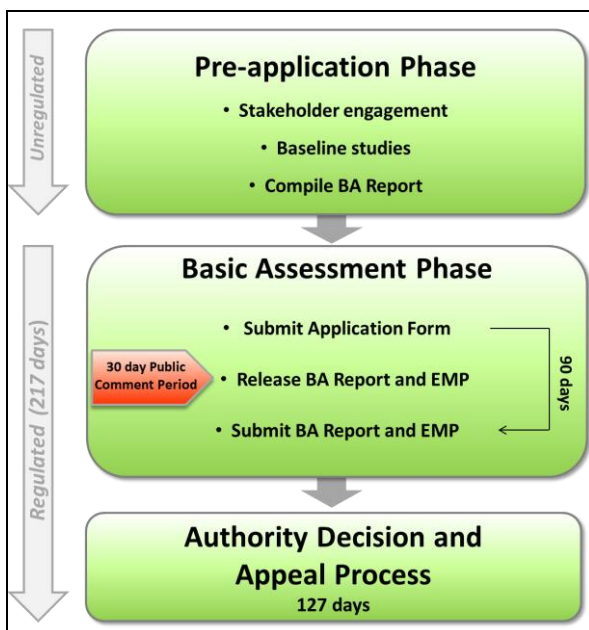


Figure 2: BA Process

The main objectives of the BA process are to identify and assess potential issues and environmental impacts and to provide feasible mitigation measures to address any significant impacts identified.

4 DESCRIPTION OF THE SITE AND ENVIRONMENT

The site is located within the BMM Mining Right Area to the west of the WRD and north of an existing haul road on the lower slopes of Noeniepoort.

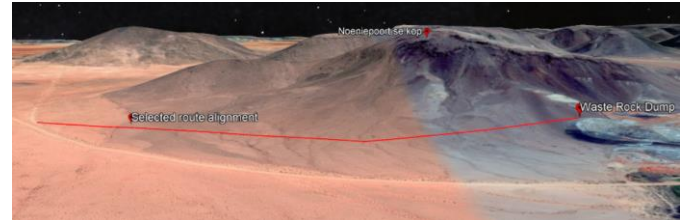


Figure 3: Topography surrounding the site

The site is drained by a number of poorly defined ephemeral drainage lines (see Figure 4). The drainage lines that occur on site are only likely to convey water during rare, heavy thunderstorms in the rainy season and may not flow at all the rest of the year. As such, the drainage lines are neither riparian habitats nor wetlands.



Figure 4: Rocky drainage line

Although the drainage lines are considered to be mostly unmodified, the drainage lines are not considered to be ecologically important or sensitive.

The site falls within the Nama-Karoo Biome and the Bushmanland Bioregion and is identified to fall within Bushmanland Sandy Grassland and Aggeney's Gravel Vygieveld vegetation types (Figure 4).



Figure 5: Vegetation at the site

The site does not fall within any formally protected areas, but a small portion of the haul road will occur within an area identified as a Critical Biodiversity Area. The vegetation on the site is not considered to be sensitive.

Two protected species were recorded on site, however, none of the plant species recorded on site are listed as ‘critically endangered’ or ‘endangered’ species.

5 ALTERNATIVES

BMM considered four haul road alignment alternatives.

The route alternative selected for assessment was determined based on ecological, safety and design (e.g. slopes, fill material requirements, etc.) considerations. The terrain along the selected route is less undulating and less rocky for most of the route, especially in the western section. Consequently, the drainage lines do not form such deep incisions.

BMM does not consider the other route alternatives to be feasible based on the financial and technical requirements to address the safety and design considerations.

Table 2: Summary of Impacts

Impact	Significance rating		Key mitigation/optimisation measures
	Without	With	
CONSTRUCTION PHASE IMPACTS			
Soil compaction caused by construction traffic	VL	VL	<ul style="list-style-type: none"> Restrict construction activities to the project footprint areas.
Loss of land capability	L	L	<ul style="list-style-type: none"> Rehabilitate disturbed areas as soon as possible
Impaired air quality from suspended particulates affecting receptors	VL	I	<ul style="list-style-type: none"> Implement dust suppression measures on access roads.
Loss of vegetation	L	VL	<ul style="list-style-type: none"> Limit vegetation clearance to what is absolutely essential.
Loss of threatened floral species	L	VL	<ul style="list-style-type: none"> Limit vegetation clearance to what is absolutely essential.
Disturbance to terrestrial fauna and loss of habitat during construction	L	VL	<ul style="list-style-type: none"> Limit vehicle speeds on internal and haul roads to 40 km/hr. Prohibit construction activities and driving at night.
Degradation of ephemeral drainage lines	VL	VL	<ul style="list-style-type: none"> Construct watercourse crossings / culverts during dry conditions only.
• OPERATIONAL PHASE IMPACTS			
Soil erosion caused by operational activities	L	VL	<ul style="list-style-type: none"> Implement drainage control measures and install culverts.
Soil compaction caused by hauling	L	L	<ul style="list-style-type: none"> Restrict hauling to designated haul roads.
Loss of land capability	L	L	<ul style="list-style-type: none"> Restrict activities to the project footprint areas.
Increased dustfall associated with hauling activities	VL	VL	<ul style="list-style-type: none"> Implement existing dust suppression measures at the Mine.
Degradation of ephemeral drainage lines	VL	VL	<ul style="list-style-type: none"> Inspect watercourses annually for evidence of erosion at crossings. Respond to erosion reports by closing gullies and revegetating river.
Loss of vegetation	VL	VL	<ul style="list-style-type: none"> Limit vegetation clearance to what is absolutely essential.
Increased faunal mortalities	VL	VL	<ul style="list-style-type: none"> Limit night driving as far as possible.
Loss of palaeontological resources during road construction	L	VL	<ul style="list-style-type: none"> Limit the footprint of construction activities to what is essential.

7 FINDINGS AND RECOMMENDATIONS

The project will result in unavoidable, minor adverse environmental impacts. None of these impacts are considered unacceptably significant and can all be managed to tolerable levels through the effective implementation of recommended mitigation measures.

6 ASSESSMENT OF POTENTIAL IMPACTS

Potential impacts associated with the projects were assessed according to SRK’s standard Impact Assessment methodology. For all potentially significant impacts, the significance of the anticipated impact was rated without and with recommended mitigation measures. These impacts are presented in Table 2.

The key mitigation measures on which the significance rating is based (where applicable) are described below.

Impact Significance Ratings Legend:

Rating	+ve	-ve
Insignificant	I	I
Very Low	VL	VL
Low	L	L
Medium	M	M
High	H	H
Very High	VH	VH

Key recommendations, considered essential, include:

- Implement the Environmental Management Programme (EMPr) to guide construction, operation and maintenance and to provide a framework for ongoing assessment of environmental performance;
- Designate the Environmental Manager / Officer at BMM to oversee the implementation of the EMPr and

supervise any construction activities (particularly within the drainage lines);

- Minimise the physical footprint of the development and areas disturbed by construction activities to the smallest extent possible;
- Rehabilitate all areas disturbed by construction activities (outside of the project footprint); and
- Obtain other permits and authorisations as may be required.

8 STAKEHOLDER ENGAGEMENT

Stakeholder engagement is a key component of the BA process and is being undertaken in accordance with the requirements of the EIA Regulations, 2014.

The public comment period is currently underway and will be completed on **18 January 2019**, following which the BA

report (BAR) will be submitted to DMR, including stakeholder comments, for their consideration.

If substantial changes are made to the BAR in response to stakeholder comments, the BAR will be released for a second public comment period prior to submission to DMR. The stakeholder engagement activities are summarised in Table 3.

Table 3: Stakeholder engagement during the BA process

Activity	Date
Submission of Application form to DMR	26 November 2018
Release BAR to the Public	26 November 2018
Advertise the BAR (local newspaper)	23 November 2018
Comment period	27 November 2018 – 18 January 2019

HOW YOU CAN YOU PARTICIPATE IN THE BA PROCESS

This BAR is not a final report and can be amended based on comments received from stakeholders. Stakeholders are therefore urged to participate.

Interested and Affected Parties (IAPs) are invited to comment, and/or to register on the project database. IAPs should refer to the SRK project number, and must provide their comments together with their name, contact details (preferred method of notification, e.g. email), and an indication of any direct business, financial, personal or other interest which they have in the application, to the contact person below, by **18 January 2019**.

Relevant Organs of State have been automatically registered as stakeholders. According to the EIA Regulations, 2014 all other **persons must request in writing to be placed on the register, submit written comments or attend meetings in order to be registered as stakeholders** and be included in future communication for the project.

REGISTER OR PROVIDE YOUR OPINION

Register or send written comment to:

Amy Hill

SRK Consulting

Email: ahill@srk.co.za

Postnet Suite #206, Private Bag X18,
Rondebosch, 7701

Tel: + 27 21 659 3060

Fax: +27 86 530 7003

REVIEW THE REPORT

Copies of the BAR are available for public review at the following locations:

- Aggeney's Public Library;
- BMM's security offices at the Mine;
- SRK's Cape Town office; and
- SRK's website: www.srk.co.za – click on the 'Library' and then 'Public Documents' links.

