

REPORT N° 1

# SIPHUMELELE 1 MINE ADDITIONAL VENTILATION SHAFT

ASSESSMENT REPORT FOR  
AMENDMENT OF EXISTING  
ENVIRONMENTAL  
AUTHORISATION

PUBLIC

OCTOBER 2016



# SIPHUMELELE 1 MINE ADDITIONAL VENTILATION SHAFT

## ASSESSMENT REPORT FOR AMENDMENT OF EXISTING ENVIRONMENTAL AUTHORISATION

**Sibanye Rustenburg Platinum Mines Limited**

**Type of document (Draft)  
Public**

Project no: 47522  
Date: October 2016

**WSP | Parsons Brinckerhoff**

Physical Address:  
199 Bryanston Drive, Bryanston, 2191, South Africa

Postal Address:  
PO Box 98867, Sloane Park, 2152, South Africa

Tel: +27 (011) 361 1396  
Fax: +27 (086) 505 1396  
**[www.wspgroup.com](http://www.wspgroup.com)**  
**[www.pbworld.com](http://www.pbworld.com)**

---

# QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	Draft			
Date	13 October 2016			
Prepared by	Anri Scheepers			
Signature				
Checked by	Jared O'Brien			
Signature				
Authorised by	Carla Elliott			
Signature				
Project number	47522			
Report number	1			
File reference	W:\000 NEW Projects\47522 - EA for Ventilation Shaft			

## **WAIVER**

### **Purpose and basis of preparation of this Report**

*This Draft Environmental Management Programme Report for Siphumelele 1 Mine Additional Ventilation Shaft has been prepared by WSP Environmental Proprietary Limited (**WSP**) on behalf and at the request of the **Client**.*

*Unless otherwise agreed by us in writing, we do not accept responsibility or legal liability to any person other than the Client for the contents of, or any omissions from, this Report.*

*To prepare this Report, we have reviewed only the documents and information provided to us by the Client or any third parties directed to provide information and documents to us by the Client. We have not reviewed any other documents in relation to this Report and except where otherwise indicated in the Report.*

# TABLE OF CONTENTS

1	INTRODUCTION.....	4
2	STAKEHOLDER ENGAGEMENT .....	9
3	PROJECT DESCRIPTION.....	11
4	IMPACTS ASSESSMENT .....	16
5	UPDATE OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME .....	22
6	CONCLUSION .....	27

## TABLES

TABLE 2-1:	PROPOSED STAKEHOLDER ENGAGEMENT PLAN.....	9
TABLE 4-1:	NATURE OF THE IMPACT .....	17
TABLE 4-2:	EXTENT OF THE IMPACT .....	17
TABLE 4-3:	DURATION OF THE IMPACT .....	18
TABLE 4-4:	MAGNITUDE OF IMPACT .....	18
TABLE 4-5:	PROBABILITY.....	19
TABLE 4-6:	SIGNIFICANCE WEIGHTINGS .....	20
TABLE 4-7:	SUMMARY OF DIRECT IMPACTS .....	20
TABLE 5-1:	SIPHUMELELE MINE ENVIRONMENTAL COMMITMENTS .....	23

## FIGURES

FIGURE 1-1:	LOCATION OF RUSTENBURG SECTION .....	6
FIGURE 1-2:	LOCATION OF THE PROPOSED ADDITIONAL VENTILATION SHAFT.....	7
FIGURE 3-1:	LIFE-OF-MINE AIR REQUIREMENTS (PROJECT CONDOR: BFS FOR VENTILATION, DATED 09/2015) .....	12
FIGURE 3-2:	KHOMANANI 2 SURFACE FAN STATION (PROJECT CONDOR: BFS FOR VENTILATION, DATED 09/2015) .....	13
FIGURE 3-3:	PROPOSED PROJECT LAYOUT DRAWING .....	14

FIGURE 3-4:	PHASE 1 OF THE RAISEBORE METHOD (PROJECT CONDOR: BFS FOR VENTILATION, DATED 09/2015) .....	15
FIGURE 3-5:	PHASE 2 OF THE RAISEBORE METHOD (PROJECT CONDOR: BFS FOR VENTILATION, DATED 09/2015) .....	15

---

## APPENDICES

### **APPENDIX A      STAKEHOLDER ENGAGEMENT**

APPENDIX A-1 NEWSPAPER TEARSHEETS

APPENDIX A-2 SITE NOTICE

APPENDIX A-3 STAKEHOLDER NOTIFICATION RECORDS

### **APPENDIX B      SUITE OF PROJECT DESIGN DRAWINGS**

### **APPENDIX C      SCREENING-LEVEL ENVIRONMENTAL ACOUSTIC IMPACT ASSESSMENT**

### **APPENDIX D      IMPACTS ASSESSMENT**

# 1 INTRODUCTION

## 1.1 PURPOSE OF THIS REPORT

This Amendment report documents the process and findings of the Environmental Authorisation amendment application process for the proposed establishment of the Ventilation Shaft at Siphumelele 1 Mine (hereafter referred to as 'proposed project'), located approximately 11km east of Rustenburg. The Mine is located within the Rustenburg Local Municipality under the jurisdiction of the Bojanala Platinum District Municipality District Municipality in the North West Province of South Africa (See **Figure 1-1**).

The Amendment report will be provided to potentially interested and affected parties for a 30-day review period. All comments received will be used to update this report to a final version which will be submitted to the competent authority [Department of Mineral Resources (DMR)] tasked with making a decision on the application. The ultimate goal of the report is to achieve approval of the amendment in terms of Regulation 31 of the 2014 Environmental Impact Regulations (EIA).

## 1.2 BACKGROUND AND PROJECT OVERVIEW

### RUSTENBURG SECTION

Rustenburg Platinum Mines Limited, a subsidiary of Anglo American Limited (Anglo American) mined and operated various mining and concentrator operations within Rustenburg Section until August 2016. In 2014, Anglo American announced the repositioning of its portfolio to focus on low cost production through shifting towards mechanised operations. In response to this, Anglo American entered into a Sale and Purchase Agreement on 8 September 2015 with Sibanye Gold Limited (Sibanye) to sell the mining and concentrating component of its Rustenburg Section operations. Anglo American has however retained the Rustenburg Section Smelter and Refineries which fall within the organisation's strategic goals.

To give effect to the sale and conditions of sale, the 82 Mining Right (82MR) has been ceded into Sibanye's name. Sibanye created a subsidiary entity referred to as Sibanye Rustenburg Platinum Mines Limited (SRPM) under which the Mining Right is now held. Sibanye going forward will effectively be the applicant with regards to all new or existing mining operations taking place within the 82MR boundary. Amongst other Rustenburg Section mining operations, the Siphumelele Mine is now effectively owned and operated by SRPM.

### SIPHUMELELE MINE

Siphumelele Mine is an established and fully developed Mine situated on the north-western limb of the Bushveld Complex. The Mine consists of three shafts - Siphumelele 1, 2 and 3. Only Siphumelele 1 remains operational as the other higher-costs shafts (2 and 3) had been placed under care and maintenance in 2010. Siphumelele 2 shaft is currently being used as an underground training facility, called Siphumelele School of Mines.

### SIPHUMELELE 1

Mining at Siphumelele 1 takes place on the Merensky horizon, with limited quantities of low-grade, surface-rock dump material being processed. The shaft mines the Merensky Reef and generally practices a conventional mining method. Some development uses diesel machinery on a trackless mining method, depending on underground conditions. The predominant mining layout at the

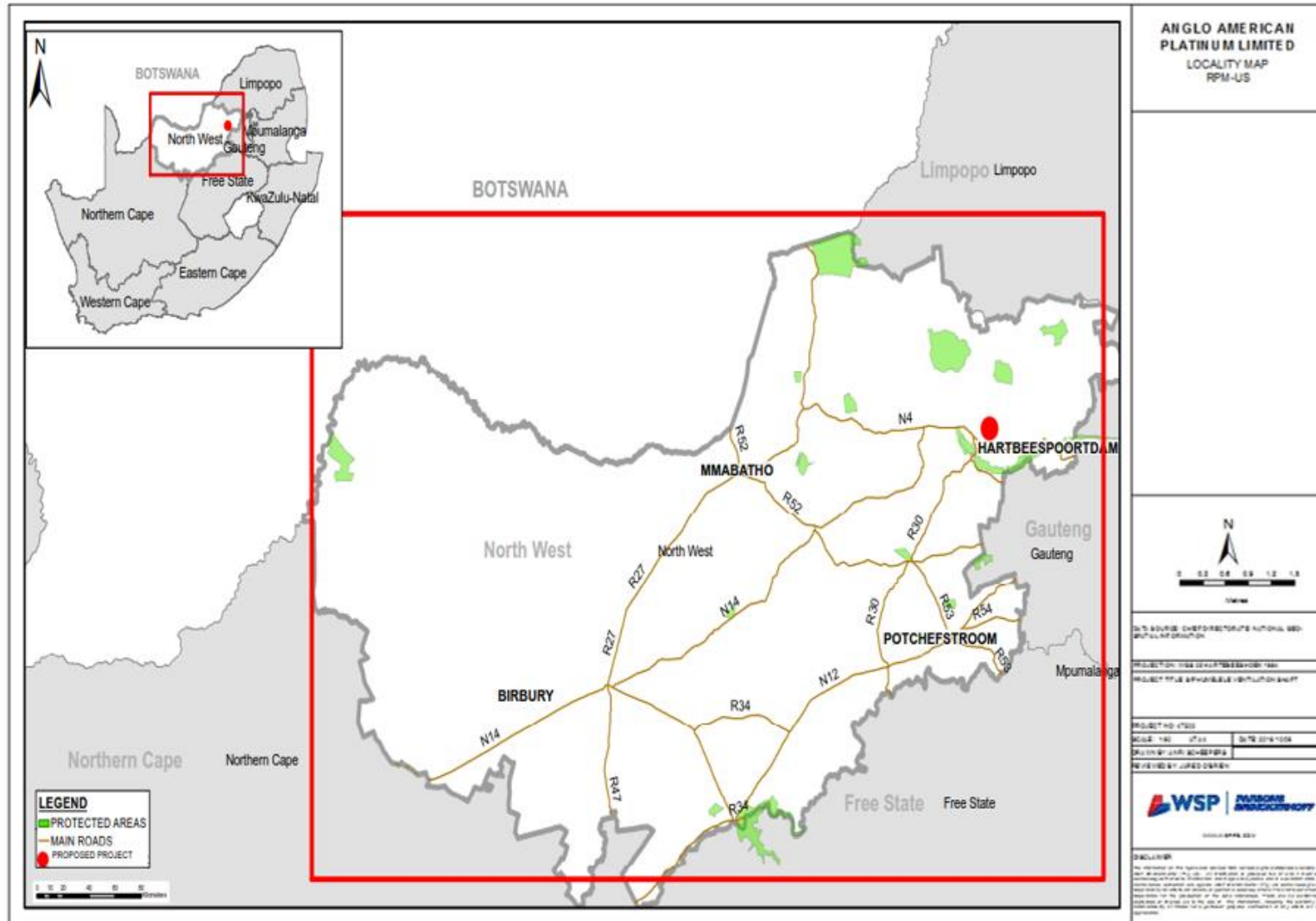
operating shaft is conventional breast stoping with strike pillars. The operating depth for the current workings is between 600 m and 1,350 m below surface.

### 1.3 PROPOSED PROJECT

Siphumelele 1 has revised its business plan to access the UG2 reef resources between 21 and 29 levels and will require additional ventilation infrastructure to ensure a safe working environment. The ventilation engineering design conducted for accessing the UG2 reef resources indicated that an additional exhaust shaft will be required, including a main fan system.

Initially the Khomanani 2 Fan Station will ventilate the West Merensky until the new UG2 shaft and fan station is operational in 2018 (proposed operational phase commencement date). The Mine ventilation design indicates that some 350 m<sup>3</sup>/s of ventilating air will be required to circulate and exhaust through this new shaft. Three surface main fans will be required to be installed on top of the exhaust shaft.

The proposed additional ventilation shaft will be located ~650 m south of the existing Siphumelele 1 Mine main entrance gate (see yellow point on **Figure 1-2**).



**Figure 1-1: Location of Rustenburg Section**

Siphumelele 1 Mine Additional Ventilation Shaft  
 Sibanye Rustenburg Platinum Mines Limited



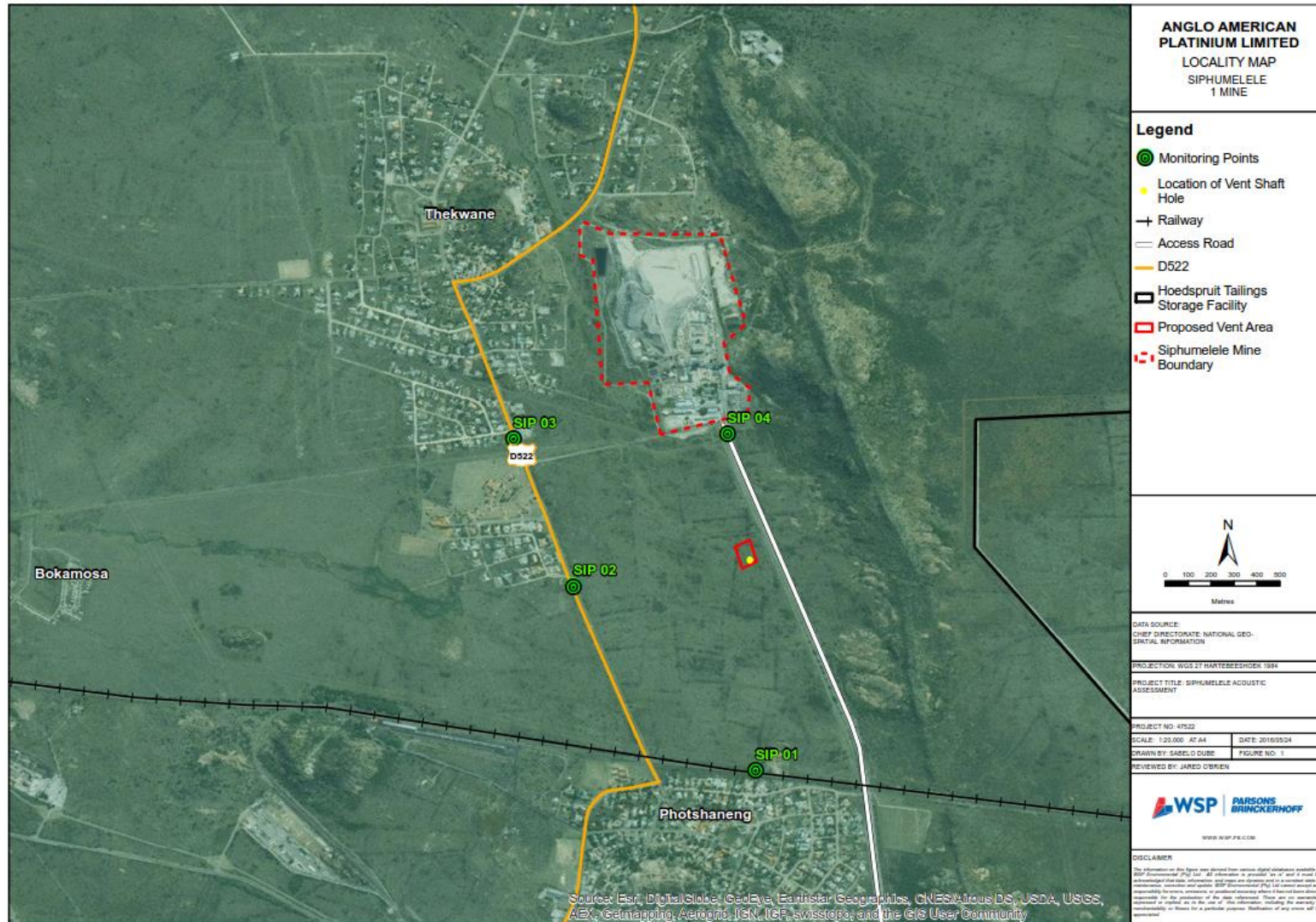


Figure 1-2: Location of the Proposed Additional Ventilation Shaft

## 1.4 LEGAL FRAMEWORK

On the 4<sup>th</sup> December 2014 the Minister of Environmental Affairs promulgated new EIA Regulations [Government Notice Regulation (GNR 982)] in terms of Chapter 5 of the National Environmental Management Act (No. 107 of 1998), as Amended (NEMA). Regulation 31 of the EIA Regulations details the process for a Part 2 (Substantive) amendment of an environmental authorisation where a change of scope occurs, but a listed activity is not triggered.

The proposed project does not trigger a listed activity, however it is anticipated that there will be an increased level of impact which was not assessed and considered in the existing EMPR associated with 82MR. One of the aims of this report is to outline the anticipated impacts.

## 1.5 TERMS OF REFERENCE

WSP | Parsons Brinckerhoff, Environment & Energy, Africa (WSP | Parsons Brinckerhoff) was appointed in the capacity as independent environmental assessment practitioner (EAP) to undertake the amendment process in terms of Regulation 31 and 32 of the 2014 EIA Regulations.

The amendment application process followed to date is summarised below:

- A pre-application meeting was held on 16 February 2016 attended by DMR, WSP | Parsons Brinckerhoff and the Applicant (at the time the applicant was Anglo American – ceding approved in August 2016).
- Payment of the prescribed R 2 000.00 fee for the application for the amendment of the EMPR was made on 3 June 2016.
- The application for amendment of the EMPR was submitted to the DMR on 24 June 2016.
- The DMR acknowledged receipt of the application for amendment on 17 August 2016 [DMR Ref: NW 30/5/1/1/3/2/2/ (80) EM].
- A timeframe extension was requested from the DMR on 23 August 2016 and DMR approval of the extension received on 31 August 2016.
- The application form has been amended to incorporate the transfer from Anglo American to SRPM, as the new project authorisation holder (i.e. holder of 82MR).

Section 32 of the 2014 EIA Regulations requires that the Draft Report (this report) be subject to a public participation process prior to submission to the North West DMR. WSP | Parsons Brinckerhoff is facilitating the following public participation process on behalf of SRPM:

- Provision of the Draft Amendment Report for a 30-day comment period as per the requirements of Section 32 (1) (b):
  - All registered stakeholders (as per the existing SRPM database) will be notified by WSP | Parsons Brinckerhoff of the availability of the Draft Report for comment. Copies will be made available at the Photshaneng Primary School (25° 40' 48.18" S 27° 22' 29.17") and the Tshukudu High School (25° 40' 08.97" S 27° 22' 14.94" E) as well as on WSP | Parsons Brinckerhoff's webpage (<http://www.wsp-pb.com/en/WSP-Africa/What-we-do/Services/All-Services-A-Z/Technical-Reports/>).

The Final Environmental Authorisation Amendment Report, for submission to DMR, will include copies of all comments received and responses addressing these comments.

## 2 STAKEHOLDER ENGAGEMENT

Regulation 32 (1) (a) refers to the need to obtain competent authority agreement on the stakeholder engagement process to be followed. The following plan was submitted to the DMR (Phumudzo Nethwadzi) on 08 April 2016 and approved by the DMR, via email with a suggestion to host a public meeting.

**Table 2-1: Proposed Stakeholder Engagement Plan**

NO.	ITEMS	CURRENT STATUS	DESCRIPTOR
1	One newspaper advert in a provincial/local newspaper introducing the project and requesting public input.	Completed	WSP   Parsons Brinckerhoff placed an advert in the Rustenburg Herald on 22 July 2016 introducing the project and requesting stakeholder registration.  Tear sheet contained in <b>Appendix A1</b> .
2	Five on-site notices placed at strategic locations. Locations include: <ul style="list-style-type: none"> <li>- The Siphumulele Mine entrance,</li> <li>- The Tshukudu High School,</li> <li>- The Photshaneng Primary School,</li> <li>- The Thekwane High School,</li> <li>- Along-side the road adjacent to the project site.</li> </ul> <p><i>Note: The Tshukudu High School is the Thekwane School therefore effectively the plan referred to four site notice locations.</i></p>	Completed	WSP   Parsons Brinckerhoff placed site notices at all four locations. See <b>Appendix A2</b> for proof of placement.
3	Notification letters placed at the locations described above (excluding the road site). These are deemed the closest most accessible stakeholder engagement points in the area.  <i>In addition, the notification letter will be distributed (emailed and faxed) to the existing area stakeholder database to extend the radius of stakeholder coverage.</i>	Completed	Approximately 30 letters were delivered to the Tshukudu High School and the Photshaneng Primary School.  Emails, faxes and SMSs were distributed on 12 <sup>th</sup> and the 15 <sup>th</sup> of August 2016. See proof of distribution contained in <b>Appendix A3</b> .
4	The Draft Report will be delivered to: <ul style="list-style-type: none"> <li>- Tshukudu High School reception, and</li> <li>- Photshaneng Primary School.</li> </ul> for stakeholder review.	Planned	To be delivered during the week of the 10 <sup>th</sup> of October 2016.
5	The notices described above will include the Draft Report availability date/venues. Furthermore, SMSs and faxes will be sent out to known stakeholders within the greater area, including ward councillors	Planned	Notices have been sent to all registered stakeholders to introduce the project however the locations of the Draft Report have not yet been distributed to the public. The notices will be distributed during the week of the 10 <sup>th</sup> of October 2016.

NO.	ITEMS	CURRENT STATUS	DESCRIPTOR
	and chiefs (traditional leaders). Only those traditional leaders and ward councillors deemed affected will be notified.		
6	The notices will be distributed at least two weeks before the Draft Report is made available for stakeholder review.	Not Practical	Two weeks-notice cannot be provided due to the need to remain within process legislated timeframes. It is noted that notices will be provided as the Draft Report is ready for distribution.
7	All stakeholder comments will be used to update the Draft Report before DMR submission.	Planned	To be completed following the 30 day public review period.

The EAP has considered the recommended public meeting and decided that the hosting of a local leadership meeting including the newly elected ward councillors will be better suited to informing the communities. The ward councillors will be tasked with informing the Thekwane and Photshaneng communities of the proposed project.

## 2.1 STAKEHOLDER IDENTIFICATION

Stakeholders were identified through several mechanisms. These include:

- Utilising existing databases from other projects in the area;
- Obtaining the latest municipal ward councillor details through the Rustenburg local municipality;
- Assistance from the Mine Community Engagement Department (CED);
- Pre-identified project key stakeholders such as the North West Department of Agriculture and Rural Development (NWREAD), the Rustenburg Local Municipality (RLM) and the South African Heritage Resources Agency (SAHRA);
- Advertising in the press; and
- Placement of community notices.

During the public review period local leadership in the area will be requested to provide details of any additional interested and affected parties. All stakeholders identified to date are included in the stakeholder database.

## 2.2 LOCAL LEADERSHIP MEETING

A local leadership meeting will be facilitated during the draft Environmental Authorisation Amendment Assessment Report public review period. The meeting will outline the details of the proposed project and provided opportunities for members of the local leadership to raise issues, concerns and queries. Invitations to the meeting will be sent out approximately 14 days before the meeting date. The minutes of the meetings will be included in the Final Environmental Authorisation Amendment Assessment Report. The planned meeting date is 03 November 2016 at the Rustenburg Section Recreation Club.

## 2.3 SUBMISSION AND DECISION-MAKING

The DMR is allocated 107 days to review the Final Environmental Authorisation Amendment Assessment Report. The DMR must within this timeframe issue a decision on the application for amendment.

# 3 PROJECT DESCRIPTION

The existing ventilation systems were reviewed to determine the predicted requirement from 2026 to 2042. During this assessment it was determined that an additional upcast shaft will be required which is the subject of this application. It is proposed that two of the existing fans from Khomanani 2 will be refurbished and moved to the new Siphumelele 1 upcast shaft.

## 3.1 VENTILATION STRATEGY

The UG2 mining area is divided into two ventilation districts, 29 Level to 26 Level and 24 Level to 21 Inter Level. The lower district (29 Level to 26 Level) return to an on-reef return airway located below 24 Level; the upper (24 to 21 Inter Level) returns to an on-reef return and on 21 Inter Haulage.

In terms of the general ventilation design the following points should be noted:

- Dividing the Mine into two discrete ventilation districts provides the opportunity to mine each district concurrently, thereby providing an accelerated production build-up.
- The existing conveyor decline will continue to be used as an intake and the current fire suppression systems will be maintained.
- Where practical UG2 mining will make use of existing Merensky infrastructure.
- No additional air is allowed for battery bays, substations and stores. These will be either located in through-ventilation or force-ventilated.
- The strategy will re-use air in series ventilated stopes refreshing air on the intermediate levels.

After allowing for leakage, sufficient fresh air will be introduced on the bottom and intermediate levels to ventilate up to three back lengths. The planning of the re-use strategy will depend on the sequence of mining. Air distribution within the series ventilated stopes will be controlled by utilising ventilation seals.

**Figure 3-1** shows the Merensky and UG2 primary air requirements over the life-of-mine.

To achieve the design conditions, the ultimate ventilation air quantity will be 1 030 kg/s, supplied via the existing Main Shaft and the dedicated downcast shaft 'cold hole'. Merensky mining will intake via 34 and 33 Level Haulages (West and East). Air ventilating Merensky on the West will return to Khomanani 2 Shaft. Merensky on the East side will return back to Siphumelele Main Shaft.

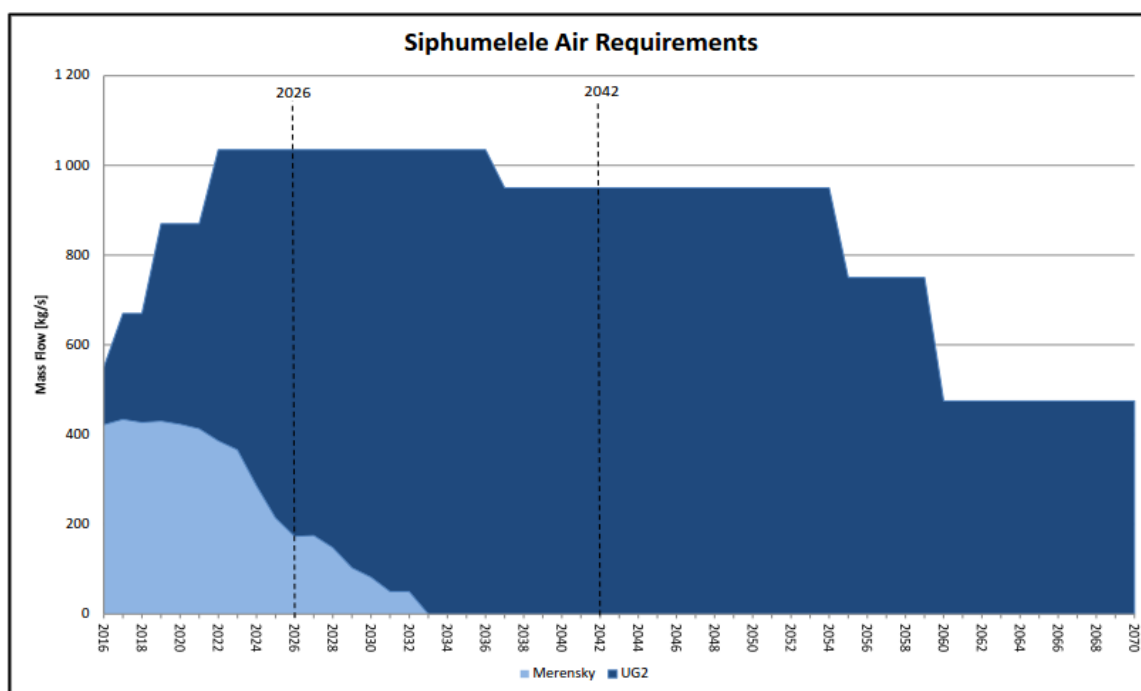


Figure 3-1: Life-of-Mine air requirements (Project Condor: BFS for ventilation, dated 09/2015)

## PROPOSED RETURN AIR SYSTEM

To achieve the required airflow the planned 5.1 m upcast shaft will be raise bored and a set of fans installed on the surface. The new shaft will be located on 21 Intermediate Level. At the new upcast shaft two fans will operate with one stand-by (total of three fans). Station airways connecting the new upcast shaft will require a minimum area of 32 m<sup>2</sup> to ensure air velocities remain within the design criteria.

An on reef return airway will be established above 21 Intermediate Level to return to the new upcast shaft from 22 and 24 Level East and West. The minimum required size for the airway is 15 m<sup>2</sup> to reduce fan pressure and electrical power cost. It is recommended that a strike seal be established above the strike gully of the top panel. In conjunction with the on reef return 21 Intermediate Level Haulage will also be used to return.

Additional Return Air Infrastructure:

- 'New' 5.1 m diameter upcast shaft from 21 Intermediate Level to surface (742 m long).
- Trifurcated surface fans at the new upcast shaft, two operating one standby. Two fans will be relocated from Khomanani 2 to the new Siphumelele UG2 upcast shaft; the third fan will continue to operate at Khomanani and a new fan will be purchased for Siphumelele. The general arrangement for the new surface fan station is shown in Drawing 15139-04-001-01 as attached in **Appendix B**. The existing Khomanani fan station is shown in **Figure 3-2**.
- On reef returns for UG2 Lower on 29 to 26 Level (20 m<sup>2</sup>), and 24 to 21 Inter Level (20 m<sup>2</sup>), must have competent support to ensure that they stay open over the life-of-mine.
- Ventilation hole of 3.5 m Ø required from 21 on-reef return to 21 Inter Level to link with New UG2 upcast shaft.
- Ventilation holing's are required to link 24 Level on reef return to RAW declines just below 26 Level, airway size 2 x 16 m<sup>2</sup>.



**Figure 3-2: Khomanani 2 surface fan station (Project Condor: BFS for ventilation, dated 09/2015)**

**Figure 3-3** contains a signed off proposed project layout diagram for ease of reference. Based on this figure the total area coverage of the A-B-C-D polygon is 0.6 hectares (ha). **Appendix B** contains a suite of project design drawings which further define the project description.

## 3.2 CONSTRUCTION METHODOLOGY

The construction of the proposed project will be conducted by using the 'raiseboring' method. The construction phase is expected to take place over a six-month period.

The raisebore method of ventilation shaft construction comprises of two phases; 'Phase 1' is the drilling phase and 'Phase 2' is the reaming phase. Prior to the commencement with Phase 1 an intersection point is identified. The intersection point is the point where the ventilation shaft will intersect with the underground workings.

In Phase 1 a pilot hole is drilled from the surface to the predetermined intersection point. During this phase the underground workings are extended to the intersection point. Once the pilot hole and the underground workings intersect a large excavation (cubby) is blasted. Refer to **Figure 3-4** for a diagram illustrating the activities undertaken in Phase 1.

In Phase 2 the reamer head is placed in the cubby and raised to the surface by the raisebore machine. The reamer head uses a turning action to cut the rock thereby widening the pilot hole. The broken rock falls down and collects in the cubby where it is loaded onto trams and transported to the orepass system and hoisted to the surface. The broken rock is disposed of to the nearest waste rock dump. Refer to **Figure 3-5** for a diagram illustrating the activities undertaken in Phase 2.

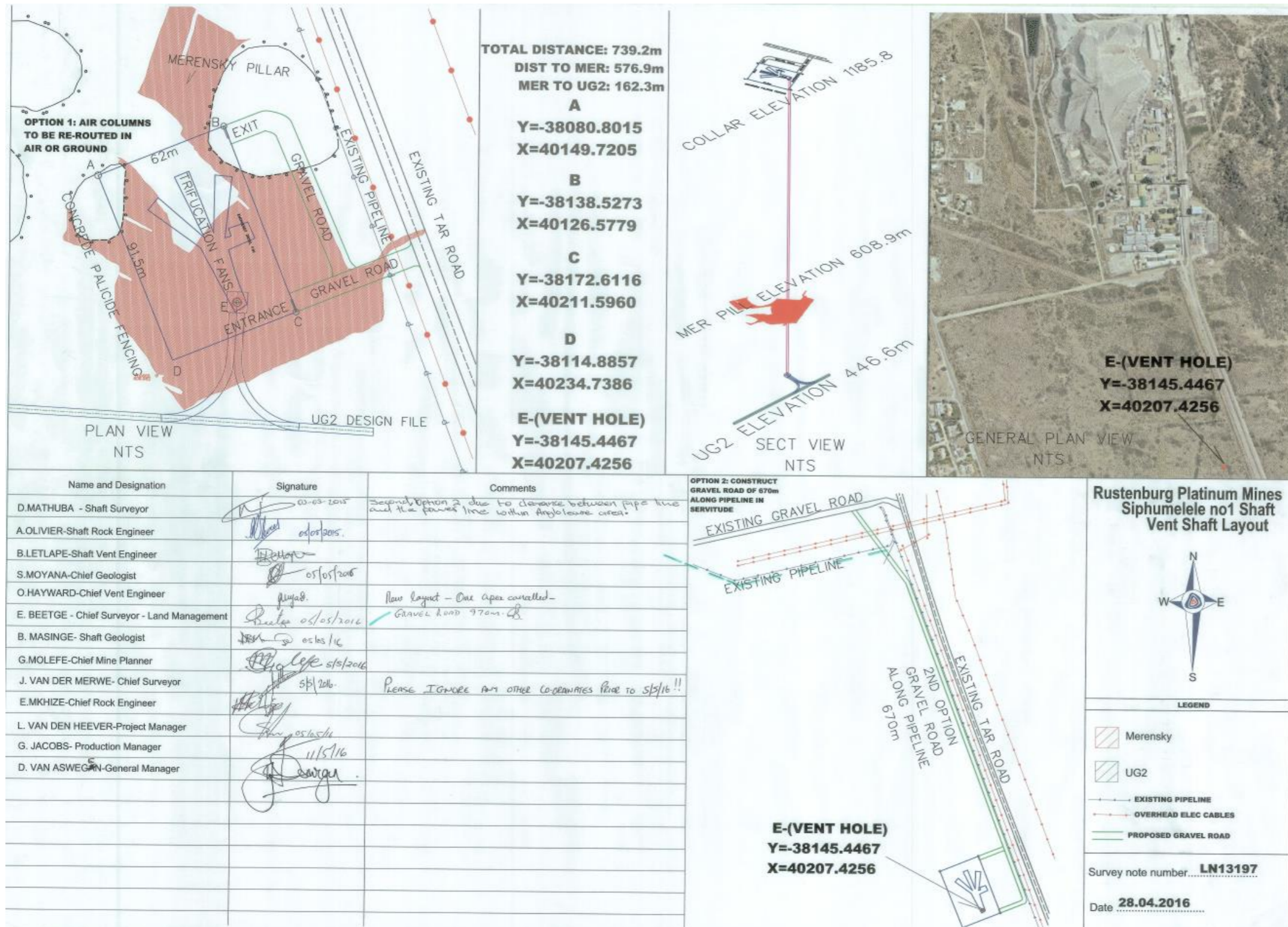


Figure 3-3: Proposed Project Layout Drawing



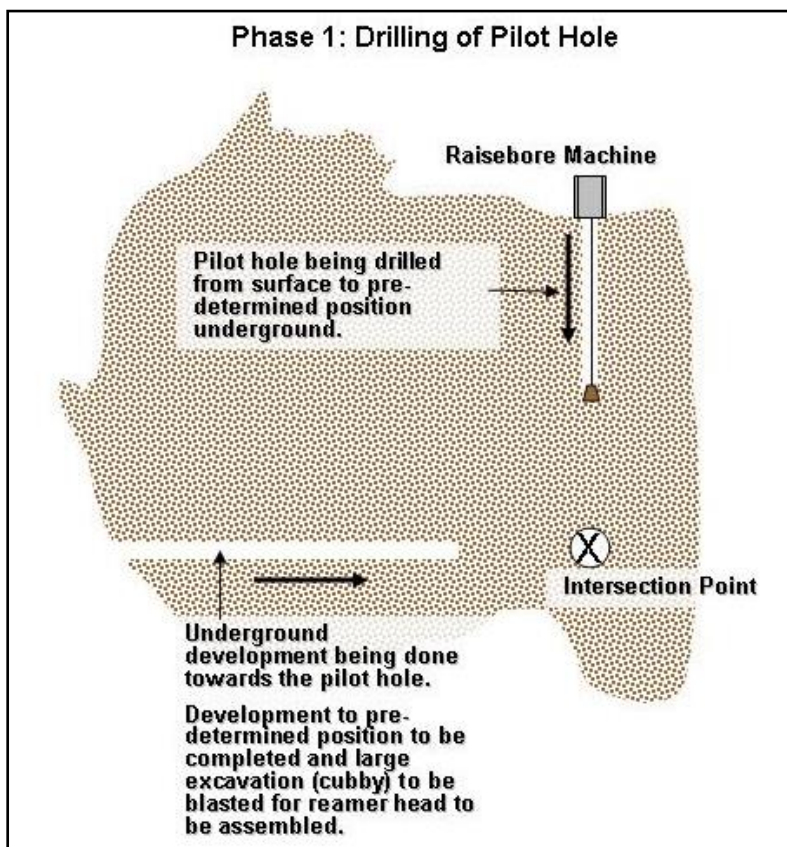


Figure 3-4: Phase 1 of the Raisebore Method (Project Condor: BFS for ventilation, dated 09/2015)

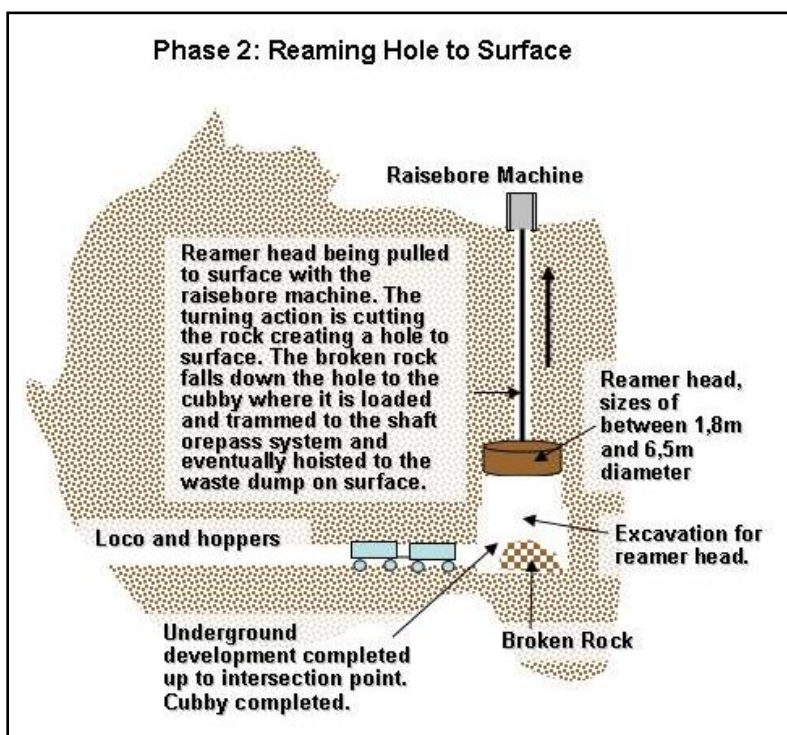


Figure 3-5: Phase 2 of the Raisebore Method (Project Condor: BFS for ventilation, dated 09/2015)

# 4 IMPACTS ASSESSMENT

## 4.1 ADVANTAGES AND DISADVANTAGES

The project advantages include:

- Supply of cool air to sustain underground operations moving south; and
- Installation of a back-up generator to ensure ventilation can continue during unplanned power cuts.

Project advantages are primarily related to mine worker health and safety requirements.

Project disadvantages are effectively limited to the noise aspect of the ventilation fan during the project's operational life. The fans generate an on-going consistent noise which, depending on the direction of the fans, can impact upon surrounding residential areas. A comprehensive acoustics impact assessment has taken place as part of this amendment application. The study indicates that operational noise levels at Photshaneng, Thekwane and Khomanani 1 Mine main gate will increase marginally as a result of the proposed project. See **Section 4.2** for further details.

## 4.2 NOISE ASSESSMENT

A Screening-Level Environmental Acoustic Impact Assessment was undertaken by WSP | Parsons Brinckerhoff (February 2016). Refer to **Appendix C** for the detailed report.

### SUMMARY OF FINDINGS

When the additional ventilation shaft is operational, noise levels are predicted to increase only marginally at three receptor locations (Photshaneng residential area, south of the proposed ventilation shaft; Thekwane residential area, northwest of the proposed ventilation shaft; and Khomanani 1 Mine main gate). Noise levels at these locations are anticipated to increase by between 0.1 and 4.1 Decibels [dB(A)] during the day and 0.1 and 2.7 dB(A) at night. According to the South African National Standards (SANS) categories of community/group responses, such increases are considered to have "little" impact resulting in sporadic complaints and are deemed to go unnoticed particularly during the noisier daytime hours. Based on the acoustic results, the specialist has advised that the project proceed.

### RECOMMENDATIONS

A second noise monitoring campaign be undertaken once the ventilation shaft is operational. Since perception to noise is highly subjective, such monitoring will aid in confirming off-site noise levels and whether any complaints that may arise will warrant the need for mitigatory interventions. **Table 5-1** contains the study recommendations as mitigation and management actions.

See **Appendix C** for further details.

## 4.3 IMPACT ASSESSMENT METHODOLOGY

The main issues and potential impacts associated with the proposed project were determined at both a desktop level based on existing information, as well as fieldwork and specialist input. The following methodology was used:

- Identify potential sensitive environments and receptors that may be impacted on by the proposed project;

- Identify the type of impacts that are most likely to occur; and
- Determine the nature and extent of the potential impacts during the various developmental phases, including, construction, operation and decommissioning.

Impacts are assessed in terms of the following criteria:

- The **nature**, a description of what causes the effect, what will be affected and how it will be affected (**Table 4-1**)

**Table 4-1: Nature of the Impact**

NATURE OR TYPE OF IMPACT	DEFINITION
<b>Beneficial / Positive</b>	An impact that is considered to represent an improvement on the baseline or introduces a positive change
<b>Adverse / Negative</b>	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor
<b>Direct</b>	Impacts that arise directly from activities that form an integral part of the proposed project (e.g. new infrastructure)
<b>Indirect</b>	Impacts that arise indirectly from activities not explicitly forming part of the proposed project (e.g. noise changes due to changes in road or rail traffic resulting from the operation of Project)
<b>Secondary</b>	Secondary or induced impacts caused by a change in the proposed project environment (e.g. employment opportunities created by the supply chain requirements)
<b>Cumulative</b>	Impacts are those impacts arising from the combination of multiple impacts from existing projects, the proposed project and/or future projects

- The physical **extent** (**Table 4-2**), wherein it is indicated whether:

**Table 4-2: Extent of the Impact**

SCORE	DESCRIPTION
<b>1</b>	the impact will be limited to the site
<b>2</b>	the impact will be limited to the local area
<b>3</b>	the impact will be limited to the region

SCORE	DESCRIPTION
4	the impact will be national
5	the impact will be international

→ The **duration (Table 4-3)**, wherein it is indicated whether the lifetime of the impact will be:

**Table 4-3: Duration of the Impact**

SCORE	DESCRIPTION
1	of a very short duration (0 to 1 years)
2	of a short duration (2 to 5 years)
3	medium term (5–15 years)
4	long term (> 15 years)
5	permanent

→ The **magnitude of impact on ecological processes (Table 4-4)**, quantified on a scale from 0-10, where a score is assigned:

**Table 4-4: Magnitude of Impact**

SCORE	DESCRIPTION
0	small and will have no effect on the environment
2	minor and will not result in an impact on processes
4	low and will cause a slight impact on processes
6	moderate and will result in processes continuing but in a modified way
8	high (processes are altered to the extent that they temporarily cease)

SCORE	DESCRIPTION
10	very high and results in complete destruction of patterns and permanent cessation of processes

→ The **probability of occurrence** (Table 4-5), which describes the likelihood of the impact actually occurring. Probability is estimated on a scale where:

**Table 4-5: Probability**

SCORE	DESCRIPTION
1	very improbable (probably will not happen)
2	improbable (some possibility, but low likelihood)
3	probable (distinct possibility)
4	highly probable (most likely)
5	definite (impact will occur regardless of any prevention measures)

- the **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- the **status**, which is described as either positive, negative or neutral;
- the degree to which the impact can be reversed;
- the degree to which the impact may cause irreplaceable loss of resources; and
- the degree to which the impact can be mitigated.

The **significance** is determined by combining the criteria in the following formula:

$$S = (E+D+M)*P$$

**S** = Significance weighting

**E** = Extent

**D** = Duration

**M** = Magnitude

**P** = Probability

The **significance weightings** for each potential impact are as follows:

**Table 4-6: Significance Weightings**

OVERALL SCORE	SIGNIFICANCE RATING	DESCRIPTION
< 30 points	Low	where this impact would not have a direct influence on the decision to develop in the area.
31-60 points	Medium	where the impact could influence the decision to develop in the area unless it is effectively mitigated.
> 60 points	High	where the impact must have an influence on the decision process to develop in the area.

The impact significance without mitigation measures will be assessed with the design controls in place. Impacts without mitigation measures in place are not representative of the proposed project's actual extent of impact, and are included to facilitate understanding of how and why mitigation measures were identified.

The residual impact is what remains following the application of mitigation and management measures, and is thus the final level of impact associated with the development of the proposed project. Residual impacts also serve as the focus of management and monitoring activities during project implementation to verify that actual impacts are the same as those predicted in this Report.

#### 4.4 ENVIRONMENTAL AND SOCIAL IMPACTS

Certain acceptable environmental impacts have been identified, based on the site visit, desktop review and specialist study, and relevant mitigation measures in respect of those impacts proposed.

A summary of the ratings is provided in **Table 4-7** and full ratings table for all identified potential impacts are included in **Appendix D**. Significant impacts and the factors contributing to the significance are discussed below.

A rating of Medium-High is set as the definition of significant, since such rating and above attracts an obligation for mitigation. Ratings of Medium and below are assumed not to require mitigation, that is, they have no material effect on the project's implementation, and are therefore not discussed further in this report, although mitigation measures for them may be included in the Environmental Management Plan (EMP) for auditing purposes. Mitigation measures are provided in **Section 5**.

**Table 4-7: Summary of Direct Impacts**

ASPECT	NATURE OF IMPACT	WITHOUT MITIGATION	WITH MITIGATION
<b>CONSTRUCTION PHASE</b>			
<b>Geology</b>	Disturbance of the surface geology as a result of the construction of foundations and sinking of the ventilation.	M-	L-
<b>Topography</b>	Temporary disturbance of the topography may occur from the stockpiling of soil, rubble, building material and other waste during the development and clean-up of the project area.	L-	L-

ASPECT	NATURE OF IMPACT	WITHOUT MITIGATION	WITH MITIGATION
<b>Soil, Land Use and Land Capability</b>	Degradation of soil due to the development of a contractor lay down area.	M-	L-
	Removal and compaction of topsoil.	M-	L-
	Contamination of soil resulting from hydrocarbon spillages or contaminated water runoff.	M-	L-
<b>Fauna and Flora</b>	Removal / Destruction / Disturbance of existing fauna and flora.	M-	L-
	Disturbance of surrounding fauna and flora from dust during construction activities.	L-	L-
	Disturbance/destruction of surrounding fauna and flora due to hydrocarbon spillages, contaminated runoff.	M-	L-
	Destruction of fauna and flora due to potential incidents such as fires or explosions.	L-	L-
	Removal and use of local flora for firewood.	L-	L-
	Disturbance of fauna due to noise generated during the construction phase.	L-	L-
<b>Surface Water</b>	Pollution of surface water due to contaminated runoff.	M-	L-
<b>Groundwater</b>	Dewatering of aquifers due to the creation of an underground void. Groundwater permeating through the walls of the shaft leading to dewatering activities.	M-	L-
<b>Air Quality</b>	Decrease in air quality due to dust generated during construction activities.	L-	L-
<b>Noise</b>	A noise nuisance will result from noise generated during the construction of the ventilation shafts.	M-	L-
<b>Visual</b>	A visual impact will occur as a result of construction activities, which include the presence of construction vehicles, equipment, construction camp and vegetation clearance.	M-	L-
<b>Archaeology</b>	Potential disturbance of archaeological sites during construction activities.	L-	L-
<b>Socio-Economic Conditions (Job Creation)</b>	Contractors, the influx of people and potential job creation will result in the proliferation of social ills and issues such as crime, prostitution, the spread of HIV/AIDS, informal settlements etc.	L-	L-
	Job creation during the construction phase will improve the socio-economic conditions in the area.	L+	L+
<b>OPERATIONAL PHASE</b>			
<b>Geology</b>	None	-	-
<b>Topography</b>	None	-	-
<b>Soil, Land Use and Land Capability</b>	Contamination of soil resulting from hydrocarbon spillages and incorrect handling of hazardous waste.	M-	L-
<b>Fauna and Flora</b>	Disturbance of surrounding fauna and flora due to dust generated by vehicle activity.	L-	L-
<b>Surface Water</b>	Contamination of surface water resulting from hydrocarbon spillages and incorrect handling of hazardous waste.	M-	L-
<b>Air Quality</b>	Decrease in air quality due to the generation of dust from the upcast shaft.	L-	L-
	Decrease in air quality due to the release of fumes (sulphur and oxides of nitrogen) from the upcast and down cast ventilation shafts.	L-	L-
<b>Noise</b>	Noise disturbance to neighbouring communities caused by continuous hum from vent fans.	L-	L-
<b>Visual</b>	The operation of the ventilation shaft will have an impact on the visual aspects of the area.	L-	L-
<b>Archaeology</b>	None		
<b>Socio-Economic Conditions (Job Creation)</b>	Construction and operation of the ventilation infrastructure will extend the Life of Mine (LoM) thereby improving the socio-economic conditions in the area for an expended period.	M+	M+

## CLOSURE

Closure will be undertaken as per the preliminary closure plan contained in the exiting approved 82MR consolidated EMPR.

# 5

## UPDATE OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

Provisions have been made in the existing EMPR for the construction and operation of Ventilation Shafts. These provisions are made to ensure minimal environmental impact and damage occurs. Mitigation and management measures associated with the proposed project (as extracted from the existing EMPR) are contained in **Table 5-1**. The mitigation measures must be adhered to. Newly identified mitigation measures specific to the proposed project are indicated in **red**. Monitoring of the application of mitigation measures should be undertaken on a continuous basis to ensure effective application of all recommendations.



Table 5-1: Siphumelele Mine Environmental Management Commitments

No.	MITIGATION AND MANAGEMENT MEASURES	ENVIRONMENT													PHASE			RESPONSIBILITY			
		Geology	Topography	Soil, Land Use and Capability	Fauna and Flora	Surface Water	Groundwater	Air Quality	Noise	Visual	Archaeology	Waste Generation	Spillages and Incidents	Health and Safety	Socio-Economic	Construction	Operational	Closure and Post Closure	Project Manager	Construction Manager	Environmental Coordinator
<b>Biodiversity Management Plan</b>																					
1.	Only indigenous species will be used during the rehabilitation and landscaping phase.				X												X	X	X	X	X
2.	Only in areas considered necessary for the installation of project infrastructure vegetation will be removed. Surrounding vegetation should be protected by erecting a form of temporary barrier (such as Red And White Striped Tape)				X										X	X	X	X	X	X	X
3.	Establish fencing around the vent shaft infrastructure to prevent fauna access.																				
<b>Land Management Plan</b>																					
4.	The vent shaft should be clearly marked on a drawing after closure and rehabilitation.			X													X				X
5.	If during construction any possible archaeological finds are made, the operations must be stopped immediately, the SAHRA is to be contacted and an archaeological consultant appointed.										X				X			X	X		
6.	Work may only resume once clearance is given in writing by the archaeological consultant.										X				X			X	X		
7.	If disturbances take place beyond the shaft footprint area, rehabilitation will be undertaken accordingly.			X											X	X	X	X	X	X	X
8.	Prior to any construction, soil will be stripped and stockpiled from all areas to be disturbed. A minimum of 300 mm of soil will be stripped.			X											X			X	X		
9.	When grubbing the site, only large trees will be removed prior to the removal of the soil, thus allowing for the remaining shrubs and bushes to contribute to the organic matter content of the soil.			X	X										X			X	X		
10.	All soil stripped will be stockpiled for use in rehabilitation. The chemical and physical properties of the topsoils and subsoils do not differ significantly and will therefore not need to be stored separately. As the stockpiles will be in place for several years, no special measures will be introduced to preserve the organic content of the soils.			X											X	X		X	X	X	
11.	All disused infrastructure will be demolished during Mine closure and waste material will be disposed of appropriately. All disturbed areas will be reinstated to the original land use, unless different end-land uses have been identified as part of overall closure planning. Closure planning to align with the 'overall Mine closure plan'.			X										X			X				X
12.	Soil replacement will be done in such a manner as to ensure that the soil is not significantly compacted or contaminated with building rubble or other extraneous material.			X													X				X
13.	Following closure re-vegetation, the site will be monitored and maintained until an acceptable, self-sustaining vegetation cover has been achieved.			X													X				X
14.	Areas disturbed temporarily during the construction phase, such as laydown areas, will be rehabilitated directly after the completion of construction. Following the removal of project infrastructure (i.e. decommissioning phase), affected areas will be revegetated directly following the cessation of operations.			X											X	X		X	X	X	
15.	Soil stockpile heights will be limited to approximately 2-4 m or alternatively will be benched to limit slope length in an effort to reduce erosion.			X											X	X	X	X	X	X	X
16.	Should stockpiles not self-vegetate within a 1-2 year timeframe, the stockpile(s) will be seeded with a mix of indigenous species.			X											X	X	X	X	X	X	X
17.	To prevent ingress of clean storm water onto site, up gradient berms can be established using spoil and topsoil material. Down gradient runoff sediment, settling ponds can be established if considered necessary.			X		X									X	X	X	X	X	X	X

No.	MITIGATION AND MANAGEMENT MEASURES	ENVIRONMENT													PHASE			RESPONSIBILITY				
		Geology	Topography	Soil, Land Use and Capability	Fauna and Flora	Surface Water	Groundwater	Air Quality	Noise	Visual	Archaeology	Waste Generation	Spillages and Incidents	Health and Safety	Socio-Economic	Construction	Operational	Closure and Post Closure	Project Manager	Construction Manager	Environmental Coordinator	SHE Manager
18.	Surface water management infrastructure constructed from soil will be inspected on a monthly basis, with more frequent inspections during periods of high rainfall and after major rain events. If any of the inspections identify eroded areas, these will be repaired before the next inspection.			X		X									X		X	X	X			X
19.	Spillages of oil, grease and hydraulic fluids will be remediated by considering the following options in the order specified: 1) Bioremediation (this will depend on the scale of the spillage and the feasibility of the option. A specialist may need to be consulted), or 2) Removing the contaminated soil and disposing it at a licensed hazardous waste facility. <i>Runoff will be diverted away from areas where significant spillages have occurred using berms or similar features.</i>			X							X	X			X	X	X	X	X	X	X	X
<b>Water Management Plan</b>																						
20.	Use water saving technologies, where practical.					X	X									X					X	
21.	Manage vegetation and storm water to minimise erosion.					X										X					X	
22.	Seal off seepage zones in the weathered zone aquifer to minimise inflows into the shaft, and therefore dewatering of the weathered zone aquifer.						X									X					X	
23.	Clean water will be diverted around the shaft areas.					X	X									X					X	
24.	Waste rock generated by the raise bore drilling activities will be temporarily stockpiled on the project site. Material will be removed from the temporary stockpile on a continuous basis.																					
25.	All waste rock contained within the temporary stockpile will be transferred to the operational Siphumelele 1 Mine waste rock dump (WRD).					X	X									X					X	
26.	Oil and diesel spills should be cleaned up within 24 hours.					X	X					X			X	X	X	X	X	X	X	X
27.	Should oil and diesel storage be required on the site during both construction or operational phases, the hazardous substances will be stored within a bunded area which has the capacity to store 110% the volume of the largest tank, where more than one tank is included in a bunded area.					X	X								X	X	X	X	X	X	X	X
28.	Sufficient chemical/temporary toilets will be provided for the construction staff (one toilet for 15 staff members as a minimum). No conservancy tank system is required.					X	X								X			X	X			
29.	No construction of any water management measures or the access road will be undertaken with contaminated material.					X	X								X			X	X			
<b>Visual/Aesthetics Management Plan</b>																						
30.	Areas used for temporary stockpiling of waste rock will be cleaned up and covered with topsoil to encourage natural vegetation growth, following the construction phase.			X						X						X	X				X	X
<b>Noise and Vibration Management Plan (specialist study report extract)</b>																						
31.	Erection of an acoustic barrier on the southern side of the raise bore machine in order to limit the noise propagation towards the receptors to the south of the site.														X			X	X			
32.	Selection of construction equipment with lower sound power level specifications.														X			X	X			
33.	Installation of mufflers on exhausts of construction vehicles.														X				X			X

No.	MITIGATION AND MANAGEMENT MEASURES	ENVIRONMENT													PHASE			RESPONSIBILITY				
		Geology	Topography	Soil, Land Use and Capability	Fauna and Flora	Surface Water	Groundwater	Air Quality	Noise	Visual	Archaeology	Waste Generation	Spillages and Incidents	Health and Safety	Socio-Economic	Construction	Operational	Closure and Post Closure	Project Manager	Construction Manager	Environmental Coordinator	SHE Manager
34.	The use of ear protection equipment for personnel working onsite in close proximity to noise sources.														X					X		X
35.	Enclosing of the fan mechanism (excluding the fan blades) within a sound absorbing enclosure.															X			X	X		
36.	Erection of an acoustic barrier along the southern boundary of the operations to limit the noise propagation towards the receptors to the south of the site.															X			X	X		
37.	A second noise monitoring campaign be undertaken once the ventilation shaft is operational. Since perception to noise is highly subjective, such monitoring will aid in confirming off-site noise levels and whether any complaints that may arise will warrant the need for mitigatory interventions.															X			X		X	
<b>Air Quality Management Plan</b>																						
38.	Diesel storage related to the emergency back-up fan should be stored within enclosed tanks.							X								X				X		
39.	Dust generated during the transport of waste rock to the operational Siphumelele Mine WRD should be controlled by ensuring the truck is not filled beyond the brim of the trailer. The WRD is approximately 1 km to the north, therefore dust is not expected to be a significant issue during transport.							X								X				X		
40.	Review dust fallout monitoring plan to incorporate the new infrastructure.			X				X								X	X			X	X	
41.	Should excessive dust occur as a result of construction activities, water carts will be used to wet the area.							X							X		X	X	X		X	
42.	Dust suppression of the unpaved gravel access road will be undertaken via wetting down, if when dust becomes an issue.							X							X		X	X	X		X	
43.	Speed limit of 20 km/h to be enforced on the access gravel road. the road will be used into the operational phase and therefore should gravelled at the onset of the construction phase as part of dust suppression.							X							X		X	X	X		X	
44.	A wetting system will be used to suppress dust where tipping of waste rock occurs.							X								X				X		
45.	Vehicle and machinery to be maintained regularly to ensure that gas and smoke emissions are minimised.							X							X	X	X	X	X	X	X	
<b>Waste Management Plan</b>																						
46.	Existing waste rock dump at the Siphumelele Mine will be used.													X		X				X		
47.	Domestic waste will be disposed of at the local Municipal landfill site.													X	X	X	X	X	X	X	X	
48.	Litter bins are to be provided at the construction site and should be emptied when full for disposal at a certified landfill.													X				X	X			
49.	Contaminated construction waste and clean construction waste must be dealt with separately; the former should be removed to a registered hazardous waste landfill disposal site.													X				X	X			
50.	Hazardous waste will need to be separated from the general waste and separate bins should be provided for this.													X	X	X	X	X	X	X	X	
51.	Hazardous waste safety disposal certificates should be obtained within 30 days of the disposal date.																					
52.	Recycling will be implemented as far as possible and practicable. Recycling will be considered prior to disposal of waste.													X	X	X	X	X	X	X	X	
53.	All building rubble must be removed to a registered waste disposal facility/rubble aggregate recovery facility or used as backfill in areas of rehabilitation. Proof of disposal should be retained.													X				X	X			

No.	MITIGATION AND MANAGEMENT MEASURES	ENVIRONMENT													PHASE			RESPONSIBILITY				
		Geology	Topography	Soil, Land Use and Capability	Fauna and Flora	Surface Water	Groundwater	Air Quality	Noise	Visual	Archaeology	Waste Generation	Spillages and Incidents	Health and Safety	Socio-Economic	Construction	Operational	Closure and Post Closure	Project Manager	Construction Manager	Environmental Coordinator	SHE Manager
54.	No wet wastes or solvents shall be permitted to be disposed of down sewers, drains or stormwater drains.					X						X			X	X	X	X	X	X	X	X
<b>Socio-economic Management Plan</b>																						
55.	The project is utilising a contractor for the construction of the facility. The contractor should apply the existing Mine socio-economic requirements with regards to BBEEE and local community employment. Mine wide training/internship programs should be considered by the project team.														X	X	X					
56.	The project area should be fenced off prior to construction commencement to prevent unauthorised access. Theft of the steel fence should be monitored.													X	X			X	X			
57.	No retrenchment issues are expected as a contractor is being used for the construction of the facility. Operational labour requirements are extremely limited.													X			X				X	
58.	Upon Mine closure (or vent shaft decommissioning) the shaft opening should be sealed off by 'capping' to reduce the residual safety risk.				X								X				X	X			X	

# 6 CONCLUSION

The proposed ventilation shaft is required to support the proposed mining of the UG2 reef resource at the Siphumelele 1 Mine. A Regulation 31 process, in terms of the 2014 EIA Regulations, is required in order to amend the existing EMPR related to 82 MR. The process is focused on identifying impacts related to the proposed project and allowing potentially interested and affected parties to comment on the adequacy of the proposed mitigation measures. The noise impact related to a ventilation shaft is generally viewed as a focus impact. As such a specialist was commissioned to understand the baseline acoustic environment (i.e. existing noise impacts caused by the existing mining operations) and the expected change to the baseline levels resulting from the proposed project. The noise impact post mitigation measure application is expected to be increased 'marginally'.

Other environmental impacts are rated as low (post mitigation application). The majority of proposed mitigation measures are aligned with those measures contained within the approved EMPR. Therefore, the management of the proposed project impacts is aligned with the current operations at Siphumelele 1 Mine. It is the EAP's professional opinion that the proposed project be approved for the following reasons:

- The strategic location of the proposed shaft, near to the Mine road and equidistant from surrounding communities.
- The proposed project fits into the sense of place of the area. Communities are accustomed to the sight of a ventilation shaft as well as the noise emanating during operations.
- The extension of the LoM will have a positive impact on the socio-economic environment.
- Allows for the continued safe mining of the ore body.



# Appendix A

## STAKEHOLDER ENGAGEMENT

## APPENDIX A-1

### **NEWSPAPER TEARSHEETS**

---

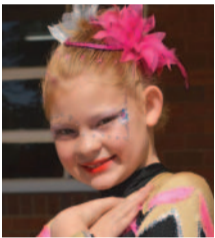


# Gimnaste presteer



## Leandri van der Merwe Akroklub

Baie geluk aan Janrie Snyman van Leandri van der Merwe Akroklub met haar fantastiese uitslae gedurende die "Dance International" in Pretoria-Noord, Akasia. Janrie het vir haar 3 solo's 3 x Goud ontvang en spesiale toekennings. Baie dankie ook aan haar ma, Marie Snyman vir die ongelooflike ondersteuning wat sy haar kind bied. Janrie is ook in 2015 gekies om in Amerika deel te gaan neem by die ADA-American Dance Awards. Sy het op 7 Julie na Amerika vertrek. Vir enige navrae kontak Leandri by 076 018 1683.



Vastrap gimnaste het die afgelope naweek aan die "Eldo Stars" gimnastiekkompetisie deelgeneem en baie goed presteer. Vastrap gimnaste het onderskeidelik 1 goue, 10 silwer en 20 brons medaljes verwerf. Van links voor is Leane Wagenaar, Caylin Stieger en Persa Marote saam met afrigters Jeanette Botha en Deidre Botha.

# Judo Akademie-klub OosEinde presteer



Hes-Marie van Loggerenberg van Judo Akademie-klub OosEinde het onlangs die Judo SA's gewen en 'n goue medalje verwerf. Baie geluk met hierdie pragtige prestasie. Saam met haar op die foto verskyn haar afrigter, Taan Esterhuizen.

Judo Akademie-klub OosEinde het vanaf 26 Junie tot 2 Julie aan die Judo SA's by Carnival City deelgeneem. Die kinders het baie goed gevaar. Op die foto van links agter verskyn Aryke Smit (brons), Michael van der Westhuizen (sesdeplek), Adriaan van der Merwe (vyfdeplek) en voor van links Jonathan Naude (vierdeplek) en Hes-Marie van Loggerenberg (goud). Baie geluk aan die kinders, almal is trots op julle.

## NW Dart player ranked 4th in SA



Concratulations to Dave Rudman from the North West Darts Association who was ranked 4th in SA at the 2016 SA National Dart Championships in Bloemfontein.

## Joe received prestigious award

Joe Viljoen received the award for Athlete of the Year at the North West North Masters Athletics' awards function on 2 July 2016. Joe's performances in the M45 age group at the recent SA Masters Athletics championships, held on 13 and 14 May 2016 at Pilditch Stadium were: 200m 24,94 with an age-grading of 83,88%; 400m 53,74

with age-grading of 89,04%; and 800m 2:06,59 with age-grading of 86,79%. The average of Joe's age-grading, 86,57% put him in the first position. In second position is Christa Olivier with an average age-grading of 81,17% and in third position Bennet de Klerk with 80,32%



PLATINUM

## PUBLIC NOTICE

### NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No.107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation, where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken

#### DESCRIPTION AND LOCATION

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 JQ under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 46.66"E. The shaft final operational area will cover less than 8,000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photshaneng, via a gravel road.

#### ENVIRONMENTAL AUTHORISATION

Section 31 of GNR 982 states the following:

"An environmental authorisation may be amended by following the process prescribed in this Part if the amendment will result in a change to the scope of a valid environmental authorisation where such change will result in an increased level or nature of impact where such level or nature of impact was not -

- (a) assessed and included in the initial application for environmental authorisation; or
  - (b) taken into consideration in the initial environmental authorisation;
- and the change does not, on its own, constitute a listed or specified activity."

The proposed project does not trigger any listed activities in terms of the NEMA Regulations.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)].

#### STAKEHOLDER REGISTRATION

WSP Environmental (Pty) Ltd has been appointed as the independent Environmental Assessment Practitioner (EAP), to manage the Section 31 process. The Section 31 process includes the consultation with parties that may be affected by, or have an interest, in the project. The purpose of this notice is to notify potential interested and affected parties (I&AP) of the commencement of the Section 31 process. Parties wishing to formally register as an I&AP are requested to forward their full contact details to Jared O'Brien at the details provided below. Registered I&APs will be forwarded all future correspondence, and notified of additional opportunities to participate in the process. The contact details of the EAP are as follows:

Name: Jared O'Brien  
Tel: 011 361 1396  
Fax: 086 505 3939  
E-mail: Jared.O'Brien@wspgroup.co.za  
Address: PO Box 98867, Sloane Park, 2152



## Drowning in debt?



DebtRescue is one of the leaders in debt solutions in SA and will determine the best solution for your circumstances.

#### BENEFITS OF DEBT COUNSELLING:

- Pay only one affordable monthly instalment;
- Have sufficient funds left for living expenses;
- Credit Providers communicate with us, not you;
- Protects you from being blacklisted;
- Regain control over your finances.

#### BENEFITS OF SEQUESTRATION

- Debts written off - salary/income stay yours;
- Stay in your house for ± 6 months without paying bond;
- Don't have to pay creditors anymore;
- Creditors communicate with us, not you;
- All existing garnishee orders must be cancelled;
- Legal action is stayed and no attachment can take place;
- After 4 years - credit rating can be re-instated completely;
- Start over with a clean slate.



Processes are handled in a very confidential way.  
www.debtrescue.co.za • Phone: 082 783 4959  
charine@debtrescue.co.za

## WINSGEWENDE BESIGHEID TE KOOP

**Algemene Handelaar met Bakkery en Visvang Benodighede**

Geleë - Lindiquesdrift, Plot 261, Mainstraat.

32 Km vanaf Van der Bijlpark en 26km buite

Parys Vrystaat.

Jaarlikse Bruto inkomste ongeveer

**R5 Miljoen.**

Huis op perseel. Huur van persele i.e.

Winkel en huis onbb.

**Alet Cronje**  
**083 408 0899**

## APPENDIX A-2

### **SITE NOTICE**

---

# NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE

RUSTENBURG PLATINUM MINES (PTY) LTD, NEAR RUSTENBURG, NORTH WEST PROVINCE

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 JQ under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 46.66"E (Figure 1). The shaft final operational area will cover less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photshaneng, via a gravel road.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)].

The proposed project does not trigger any listed activities in terms of the NEMA Regulations.

WSP Environmental (Pty) Ltd has been appointed as the independent Environmental Assessment Practitioner (EAP), to manage the Section 31 process (or 'Environmental Authorisation Amendment' process). The Section 31 process includes the consultation with parties that may be affected by, or have an interest, in the project. The purpose of this notice is to notify potential interested and affected parties (I&AP) of the commencement of the Section 31 process. Parties wishing to formally register as an I&AP are requested to forward their full contact details to Jared O'Brien at the details provided below. Registered I&APs will be forwarded all future correspondence, and notified of additional opportunities to participate in the process. The contact details of the EAP are as follows:

**Name: Jared O'Brien**  
**Tel: 011 361 1396 Fax: 086 505 3939**  
**E-mail: Jared.O'Brien@wspgroup.co.za**  
**Address: PO Box 98867, Sloane Park, 2152**

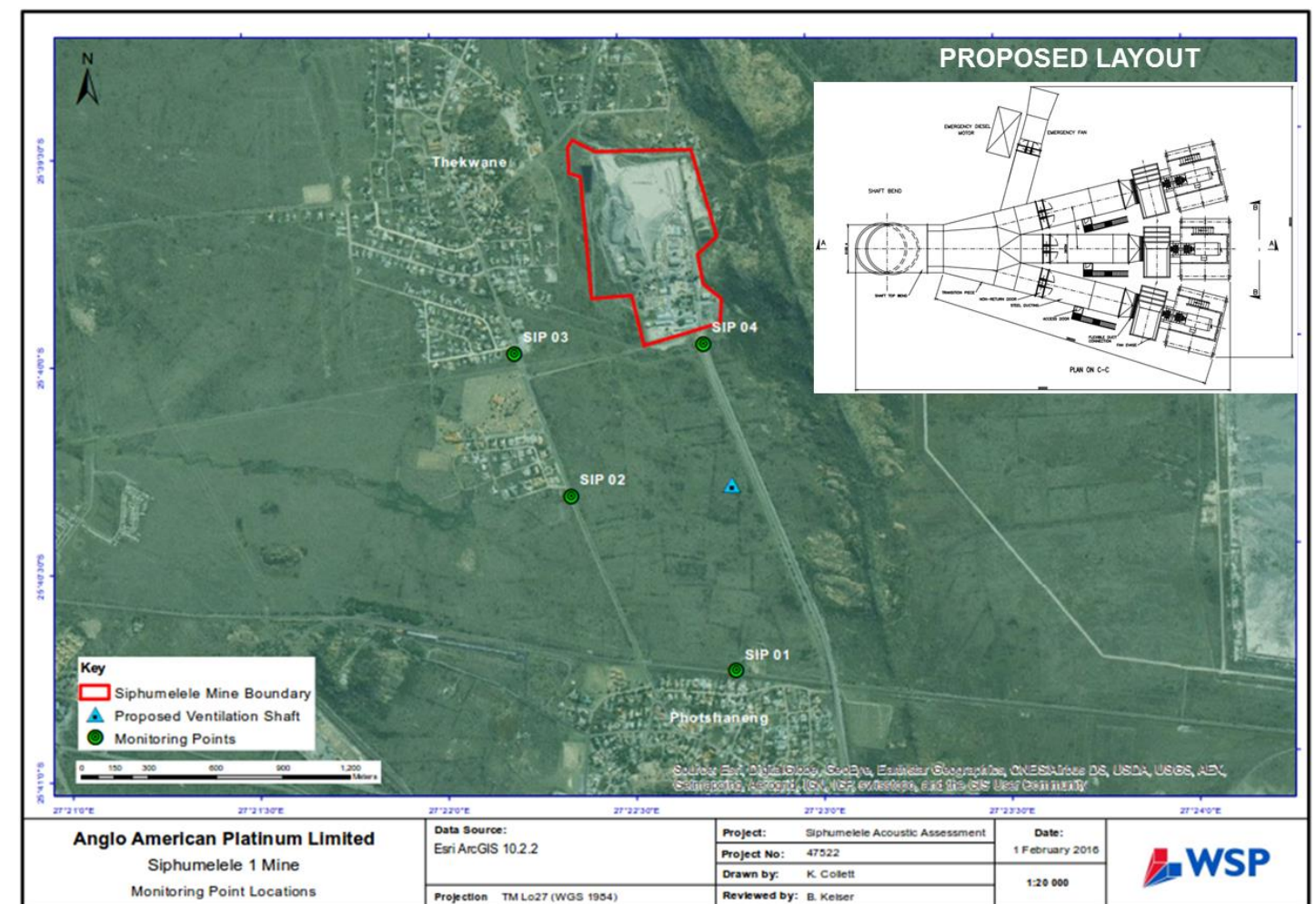
WSP | Parsons Brinckerhoff, Environment & Energy, Africa (WSP | Parsons Brinckerhoff) undertook a Screening-Level Environmental Acoustic Impact Assessment in anticipation of the expected noise emissions resulting from the proposed project's operational life. Measurements took place on 20 January 2016 during the day and at night to determine the base line conditions. Based on a sound power level of 105.1 Decibels [d(B)A] emanating from the fans at the proposed ventilation shaft site, **Tables 1 and 2** present the expected response from the surrounding communities, during both daytime and night-time, based on the expected increase in noise levels. **Figure 1** provides the noise monitoring locations.

**Table 1: Predicted daytime noise levels at the residential receptors [in dB(A)]**

Location	Noise level from proposed ventilation shaft	Baseline Noise Level	Cumulative Noise Level	Change in Noise Level	Estimated Community Response
SIP 01	38.7	36.7	40.8	+4.1	Little
SIP 02	40.2	64.0	64.0	0.0	Little
SIP 03	36.1	60.8	60.8	0.0	Little
SIP 04	41.0	59.3	59.4	+0.1	Little

**Table 2: Predicted night time noise levels at the residential receptors [in dB(A)]**

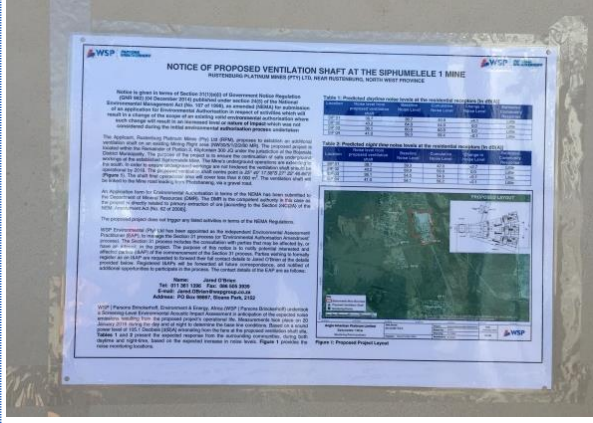
Location	Noise level from proposed ventilation shaft	Baseline Noise Level	Cumulative Noise Level	Change in Noise Level	Estimated Community Response
SIP 01	38.7	39.3	42.0	+2.7	Little
SIP 02	40.2	59.9	59.9	0.0	Little
SIP 03	36.1	54.5	54.6	+0.1	Little
SIP 04	41.0	58.1	58.2	+0.1	Little



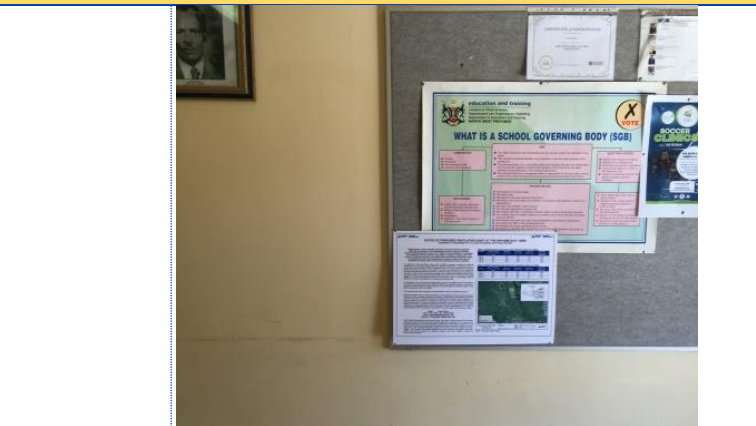
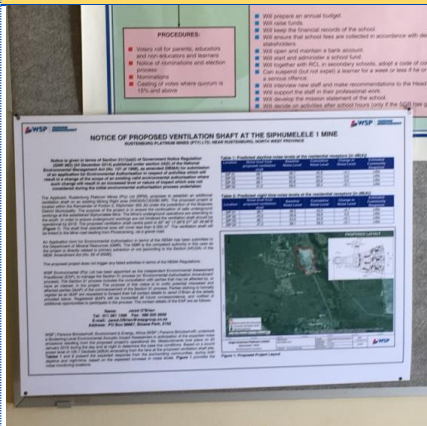
**Figure 1: Proposed Project Layout**

# SITE NOTICE PHOTOGRAPH PLATE

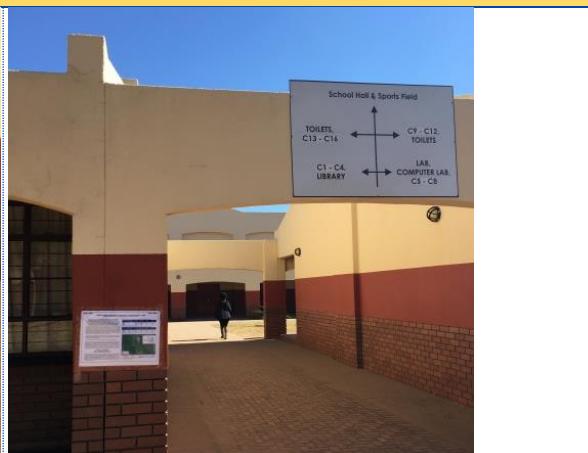
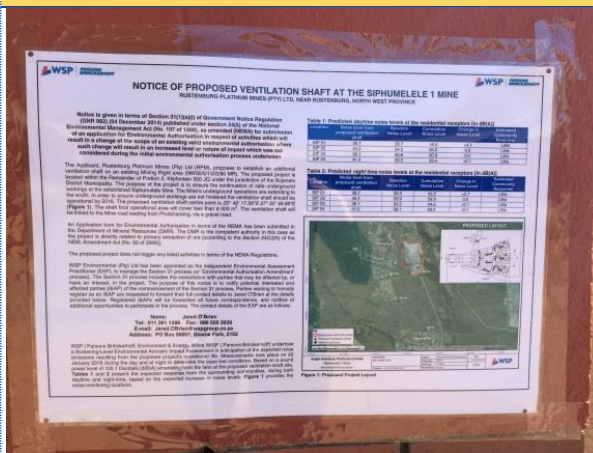
## PHOTOGRAPHS



**Siphumulele Mine entrance (25° 39' 58.54" S 27° 22' 41.60" E)**

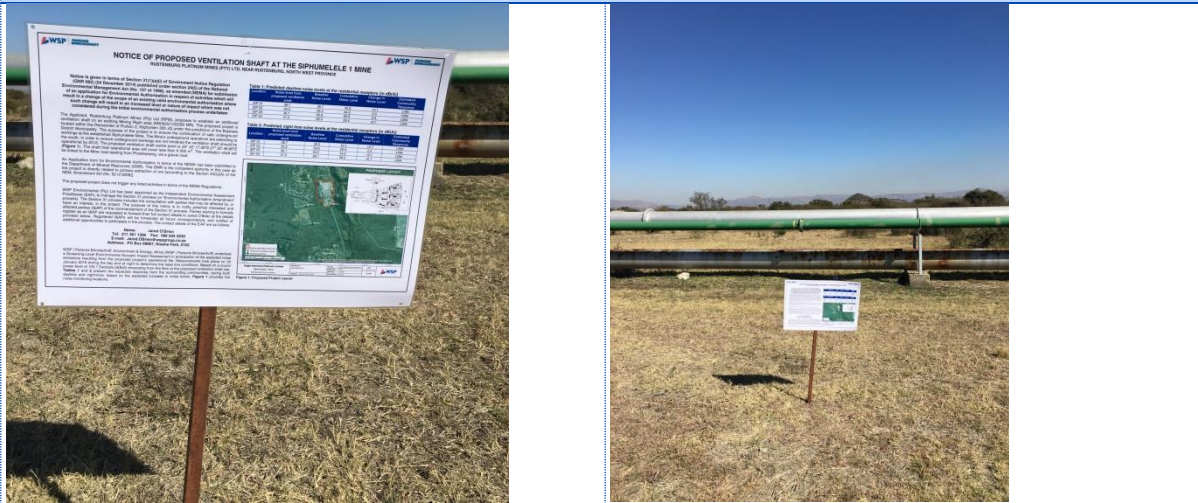


**Tshukudu High School (25° 40' 06.76" S 27° 22' 15.37 E")**



**Photshaneng Primary School 25° 40' 48.87" S 27° 22' 27.81" E**

PHOTOGRAPHS



Project site (25° 40' 15.95" S 27° 22' 48.96" E)

## APPENDIX A-3

# STAKEHOLDER NOTIFICATION RECORDS

WSP Reference no: 47522

**WSP Environmental (Pty) Ltd**

South View, Bryanston Place Office Park  
199 Bryanston Drive, Bryanston  
Republic of South Africa, 2191  
PO Box 98867, Sloane Park, 2152  
Tel: +27 (0)11 361 1380  
E-mail: wspe@wspgroup.co.za  
Web: http://www.wspgroup.co.za

12 August 2016

**Attention: Stakeholder**

WSP Environmental (Pty) Ltd  
Registered Number: 1995/08790/07

Dear Sir/ Madam,

**A member of the WSP Global Inc.  
Offices worldwide**

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 JQ under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 46.66"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)]. The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



**Jared O'Brien  
Senior Environmental Consultant**

Tel: +27 11 361 1396  
Mobile: +27 84 951 2164  
Fax: +27 86 505 3939  
Email: Jared.O'Brien@WSPGroup.co.za

**Directors:** SL Doel<sup>#</sup>(Managing), MC du Plooy<sup>\*\*</sup>, JH McStay<sup>B</sup>, ESBF Mtetwa\* (non-Executive)

From: Microsoft Outlook  
To: KgabilengN@dws.gov.za; MauriceV@daff.gov.za;  
irsebolai@ruraldevelopment.gov.za; rsello@mwpg.gov.za; mulaudzj2@dws.gov.za; KSMUTS@sahra.org.za; tlegari@mwpg.gov.za;  
Lorraine.Nobela@dmr.gov.za; Ntanganedzeni.Mushome@dmr.gov.za; ntanganedzoni.mushome@dmr.gov.za; disaster@rustenburg.gov.za; Desmond.Makamu@dmr.gov.za; Neo.Kgokong@dmr.gov.za; Mbavhalelo.Nephawe@dmr.gov.za; livhuwani.tshilate@dmr.gov.za; SiwelaneL@dws.gov.za; kmekgoe@rustenburg.gov.za; MosianeM@nwpg.gov.za; phine@sahra.org.za; stephen.bullock@angloamerican.com; shadrack@lantic.net; omongale@nwpg.gov.za; sgedu@nwpg.gov.za; oskosana@nwpg.gov.za; smukhola@nwpg.gov.za; ntshangases@dws.gov.za; tjaleK@dws.gov.za; klecoge@nwpg.gov.za; rnemanashi@nwpg.gov.za; mmohlalisi@nwpg.gov.za; pmatlapeng@nwpg.gov.za; phumudzo.nethwadzi@dmr.gov.za; pietj.botha@angloamerican.com; mfidikweprimary@gmail.com; omphemetsevictoria@rockmail.com; portia.selogilwe@gmail.com; p.m.huma@gmail.com; baloyifortune886@gmail.com; mtlhareseeng@rustenburg.gov.za; lesegomonare@yahoo.com; nishi.haripursad@angloamerican.com; mschoe03@amplats.co.za; tbaloyi@nwpg.gov.za; rabang4kb@yahoo.com; avasweol@angloamerican.com; kennedypholose@gmail.com; obdcontractors@hotmail.com; selvy.rathuloane@gmail.com; fred@mailbox.co.za; Portia.Nxuso@netcare.co.za; ilesejane669@gmail.com; adikolomela@nwpg.gov.za; tshisikhawe.tshikororo@dmr.gov.za; ddupreez@rtbcc.co.za; DMakhubele@environment.gov.za; nitrade@mweb.co.za; itumeleng.humaebafokeng@gmail.com; setshedi.tefo@yahoo.com; debrahlalele@yahoo.com; lady-segone@wemail.co.za; ramssello@gmail.com; palesam@teba.co.za; tsogomotswadi@gmail.com; cmatlanaga@rustenburg.gov.za; bmtotywa@gmail.com; josephngwato@gmail.com; mpac@rustenburg.gov.za; welcomedlg@gmail.com; johannes.mokgotlhoe@bafokeng.com; vmakhaula@rustenburg.gov.za; briankebaphiri@gmail.com; lesegomodi@gmail.com; hashleysetshedi@gmail.com; ntsholem@gmail.com; smakhubalo@gmail.com; michaelnape@gmail.com; pholosekennedy@gmail.com; lifesaliva@hotmail.com; motsoadi@yahoo.com; chrisminy1@gmail.com; abdulthepho@gmail.com; percytlhapi@yahoo.com; maria-@telkomsa.net; njputu@gmail.com; hanloo1@telkomsa.net; alamanan@telkomsa.net; speaker@rustenburg.gov.za; mputle.jerry1@gmail.com; tmorwane@rustenburg.gov.za; mammie.modisane@bafokeng.com; gaomputle@gmail.com; bseitebogeng@rustenburg.gov.za; glenmutle@vodamail.com; executive.mayor@rustenburg.gov.za; victor.khunou@bafokeng.com; AnnemiG@nw.agric.za; nemutendanit@dws.gov.za; lazarusn@teba.co.za; petet@nda.agric.za; zphohlo@environment.gov.za; mmabula@nwpg.gov.za; debram@nda.agric.za; kmokgophe@nw.shara.org.za; roelfl@magalieswater.co.za; wsmart1@twpmatomo.co.za; mw.notty@mweb.co.za; robinw@rsv.co.za; ttsagae@rtbcc.co.za; jdnkwanyana@yahoo.com; jnxumalo@rtbcc.co.za; vphukubye@environment.gov.za; princem@bojanala.gov.za; morareprince@gmail.com; tsholofelod@bojanala.gov.za; motlhamme@rustenburg.gov.za; lomolefe@gmail.com; levyletlape27@gmail.com; gabriel.khunou@bafokeng.com; innocents@bojanala.gov.za; sahra.nw1@iafrica.com; asibanyoni@ruraldevelopment.gov.za; amandab@bojanala.gov.za; cheymel@nwpg.gov.za; info@bojanala.gov.za;



To: thabom@bojanala.gov.za; agnesm@bojanala.gov.za;  
motaus@angloamerican.com; maos@gwisa.com; iti31424@mweb.co.za;  
fran.graham@angloamerican.com; mphakoe@rtbcc.co.za;  
gramsay@aquarius.co.za; michael.moalosi@angloamerican.com;  
bashimanes@telkomsa.com; engoepe@num.org.za; regomolefe@mweb.co.za;  
freidrichs@uwp.co.za; jmarais@deat.gov.za; hvdwalt@rustenburg.gov.za;  
alanf@kelgran.co.za; n.cornelius@xstrata.co.za; morris.nte@angloamerican.com;  
adriaan.stander@afrox.boc.com; pviviers@angloamerican.com;  
miguel.dossantos@tenovagroup.com; aventer@rtbcc.co.za;  
bernardm@angloamerican.com; tmolete@rustenburg.gov.za;  
psoaisa@amplats.co.za; emfolwe@rustenburg.gov.za; louise.smith@mweb.co.za;  
kgophs@yahoo.com; lerouxm@nwpg.gov.za; dhsetshedi@webmail.co.za;  
jgreyling@rustenburg.gov.za; reotshepile@bafokeng.com; ernie@bafokeng.com;  
patking@bafokeng.com; teb83moverscratex@webmail.co.za;  
orestnbeduwa@yahoo.com; jbpetlele@gmail.com; ssematu@rtbcc.co.za;  
jkboase@yahoo.com; fikeinvestm@telkomsa.net; glongomo@xstrata.co.za;  
mbokodo2003@yahoo.com; andre.britz@angloamerican.com;  
bdvillie@amplats.co.za; malanp@angloamerican.com;  
aerasmus@angloamerican.com; mnape@xstrata.co.za; fire@rtbcc.co.za;  
editor@lesedingmedia.co.za; patkhu@webmail.co.za;  
mitumeleng@rustenburg.gov.za; malakia@rustenburg.gov.za;  
Aaron.kharivhe@dmr.gov.za; shuma@rtbcc.co.za;  
hein.jantzen@angloamerican.com; herbertm@medialab.co.za;  
juliuscc@absamail.co.za; plouw@rustenburg.gov.za; james.baloyi@gmail.com;  
petlelejb@yahoo.com; dialehb@absamail.co.za; tsogobuilding@webmail.co.za;  
thehartleys@intekom.co.za; andia@mandirk.co.za; billyn30@hotmail.com;  
psebegoe@rtbcc.co.za; mmashile@rtbcc.co.za; mentor@nwpg.gov.za;  
radebeh@bdfm.co.za; strike.magolego@dmr.gov.za; sanbow@wesizwe.com;  
RalkoaW@dws.gov.za; marapoo@rustenburg.gov.za;  
dudu.ratshefola@angloamerican.com; dpistorius@xstrata.co.za;  
bstols@rtbcc.co.za; gking@xstrata.co.za; lizette@mandirk.co.za;  
lekutame@nwpg.gov.za; jcritch@randwater.co.za; khalid@eims.co.za;  
mitshilowa@angloamerican.com; iletsapa@angloamerican.co.za;  
fredramontsheng@yahoo.com; vinesh.dilsook@angloamerican.com;  
karaboemmanuel01@ovi.com; mlmolatlou@gmail.com;  
libby.redding@angloamerican.com; hashley@webmail.co.za;  
pompieman@gmail.com; setshedibogosi@gmail.com; ditiroon@gmail.com;  
gabriel.khunou@gmail.com; lioneln@fraseralexander.co.za;  
shaunp@fraseralexander.co.za; shawn.monyatsi@gmail.com;  
khavenga@rustenburg.gov.za; dowdeswell@angloamerican.com;  
bbierman@angloamerican.com; cbadenhorst@angloamerican.com;  
amiles@angloamerican.com; ishmaels@angloamerican.com;  
mmalebad@angloamerican.com; eheyman@angloamerican.com;  
kmogoera@angloamerican.com; jrobinson@angloamerican.com;  
markr@angloamerican.com; jpieters@rtbcc.co.za; mzitha@angloamerican.com;  
bmurphy@angloamerican.com; sdejager01@angloamerican.com;  
Jacobus@ecoserv.com; pkhunou@angloamerican.com;  
kagiso.senne@bafokeng.com; bruno@bafokeng.com; davidmahube@mweb.co.za;  
rab.rustenburg@mweb.co.za; bleketi@rtbcc.co.za;  
Robyn.Mellett@sibanyeplatinum.co.za; ttyira@amplats.co.za;  
thabomakgale@bafokeng.com; alalla@angloamerican.com;  
rgoris@angloamerican.com; george@bafokengsports.co.za; jselect@mweb.co.za;  
mw.maria@mweb.co.za; damariamatshaba@yahoo.com

Sent: 12 August 2016 03:56 PM

Subject: Relayed: NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1

Subject:

MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION  
LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE

**Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:**

[KgabilengN@dws.gov.za](mailto:KgabilengN@dws.gov.za)

[MauriceV@daff.gov.za](mailto:MauriceV@daff.gov.za)

[irsebolai@ruraldevelopment.gov.za](mailto:irsebolai@ruraldevelopment.gov.za)

[rsello@mwpg.gov.za](mailto:rsello@mwpg.gov.za)

[mulaudziz2@dws.gov.za](mailto:mulaudziz2@dws.gov.za)

[KSMUTS@sahra.org.za](mailto:KSMUTS@sahra.org.za)

[tlegari@mwpg.gov.za](mailto:tlegari@mwpg.gov.za)

[Lorraine.Nobela@dmr.gov.za](mailto:Lorraine.Nobela@dmr.gov.za)

[Ntanganedzeni.Mushome@dmr.gov.za](mailto:Ntanganedzeni.Mushome@dmr.gov.za)

[ntanganedzoni.mushome@dmr.gov.za](mailto:ntanganedzoni.mushome@dmr.gov.za)

[disaster@rustenburg.gov.za](mailto:disaster@rustenburg.gov.za)

[Desmond.Makamu@dmr.gov.za](mailto:Desmond.Makamu@dmr.gov.za)

[Neo.Kgokong@dmr.gov.za](mailto:Neo.Kgokong@dmr.gov.za)

[Mbavhalelo.Nephawe@dmr.gov.za](mailto:Mbavhalelo.Nephawe@dmr.gov.za)

[livhuwani.tshilate@dmr.gov.za](mailto:livhuwani.tshilate@dmr.gov.za)

[Siwelanel@dws.gov.za](mailto:Siwelanel@dws.gov.za)

[kmekgoe@rustenburg.gov.za](mailto:kmekgoe@rustenburg.gov.za)

[MosianeM@nwpg.gov.za](mailto:MosianeM@nwpg.gov.za)

[phine@sahra.org.za](mailto:phine@sahra.org.za)

[stephen.bullock@angloamerican.com](mailto:stephen.bullock@angloamerican.com)

[shadrack@lantic.net](mailto:shadrack@lantic.net)

[omongale@nwpg.gov.za](mailto:omongale@nwpg.gov.za)

[sgedu@nwpg.gov.za](mailto:sgedu@nwpg.gov.za)

[oskosana@nwpg.gov.za](mailto:oskosana@nwpg.gov.za)

[smukhola@nwpg.gov.za](mailto:smukhola@nwpg.gov.za)

[ntshangases@dws.gov.za](mailto:ntshangases@dws.gov.za)

[tjaleK@dws.gov.za](mailto:tjaleK@dws.gov.za)  
[klecoge@nwpg.gov.za](mailto:klecoge@nwpg.gov.za)  
[rnemanashi@nwpg.gov.za](mailto:rnemanashi@nwpg.gov.za)  
[mmohlalisi@nwpg.gov.za](mailto:mmohlalisi@nwpg.gov.za)  
[pmatlapeng@nwpg.gov.za](mailto:pmatlapeng@nwpg.gov.za)  
[phumudzo.nethwadzi@dmr.gov.za](mailto:phumudzo.nethwadzi@dmr.gov.za)  
[pietj.botha@angloamerican.com](mailto:pietj.botha@angloamerican.com)  
[mfidikweprimary@gmail.com](mailto:mfidikweprimary@gmail.com)  
[omphemetsevictoria@rockmail.com](mailto:omphemetsevictoria@rockmail.com)  
[portia.selogilwe@gmail.com](mailto:portia.selogilwe@gmail.com)  
[p.m.huma@gmail.com](mailto:p.m.huma@gmail.com)  
[baloyifortune886@gmail.com](mailto:baloyifortune886@gmail.com)  
[mtlhareseng@rustenburg.gov.za](mailto:mtlhareseng@rustenburg.gov.za)  
[lesegomonare@yahoo.com](mailto:lesegomonare@yahoo.com)  
[nishi.haripursad@angloamerican.com](mailto:nishi.haripursad@angloamerican.com)  
[mschoe03@amplats.co.za](mailto:mschoe03@amplats.co.za)  
[tbaloyi@nwpg.gov.za](mailto:tbaloyi@nwpg.gov.za)  
[rabang4kb@yahoo.com](mailto:rabang4kb@yahoo.com)  
[avasweol@angloamerican.com](mailto:avasweol@angloamerican.com)  
[kennedypholose@gmail.com](mailto:kennedypholose@gmail.com)  
[obdconstructors@hotmail.com](mailto:obdconstructors@hotmail.com)  
[selvy.rathuloane@gmail.com](mailto:selvy.rathuloane@gmail.com)  
[fred@mailbox.co.za](mailto:fred@mailbox.co.za)  
[Portia.Nxuso@netcare.co.za](mailto:Portia.Nxuso@netcare.co.za)  
[ilesejane669@gmail.com](mailto:ilesejane669@gmail.com)  
[adikolomela@nwpg.gov.za](mailto:adikolomela@nwpg.gov.za)  
[tshisikhawe.tshikororo@dmr.gov.za](mailto:tshisikhawe.tshikororo@dmr.gov.za)  
[ddupreez@rtbcc.co.za](mailto:ddupreez@rtbcc.co.za)  
[DMakhubele@environment.gov.za](mailto:DMakhubele@environment.gov.za)

[nitrade@mweb.co.za](mailto:nitrade@mweb.co.za)  
[itumeleng.humaebafokeng@gmail.com](mailto:itumeleng.humaebafokeng@gmail.com)  
[setshedi.tefo@yahoo.com](mailto:setshedi.tefo@yahoo.com)  
[debrahlalele@yahoo.com](mailto:debrahlalele@yahoo.com)  
[lady-segone@wemail.co.za](mailto:lady-segone@wemail.co.za)  
[ramssello@gmail.com](mailto:ramssello@gmail.com)  
[palesam@teba.co.za](mailto:palesam@teba.co.za)  
[tsogomotswadi@gmail.com](mailto:tsogomotswadi@gmail.com)  
[cmatlanaga@rustenburg.gov.za](mailto:cmatlanaga@rustenburg.gov.za)  
[bntyotywa@gmail.com](mailto:bntyotywa@gmail.com)  
[josephngwato@gmail.com](mailto:josephngwato@gmail.com)  
[mpac@rustenburg.gov.za](mailto:mpac@rustenburg.gov.za)  
[welcomedlg@gmail.com](mailto:welcomedlg@gmail.com)  
[johannes.mokgotlhoe@bafokeng.com](mailto:johannes.mokgotlhoe@bafokeng.com)  
[vmakhula@rustenburg.gov.za](mailto:vmakhula@rustenburg.gov.za)  
[briankebaphiri@gmail.com](mailto:briankebaphiri@gmail.com)  
[lesegomodi@gmail.com](mailto:lesegomodi@gmail.com)  
[hashleysetshedi@gmail.com](mailto:hashleysetshedi@gmail.com)  
[ntsholem@gmail.com](mailto:ntsholem@gmail.com)  
[smakhubalo@gmail.com](mailto:smakhubalo@gmail.com)  
[michaelnape@gmail.com](mailto:michaelnape@gmail.com)  
[pholosekennedy@gmail.com](mailto:pholosekennedy@gmail.com)  
[lifesaliva@hotmail.com](mailto:lifesaliva@hotmail.com)  
[motsoadi@yahoo.com](mailto:motsoadi@yahoo.com)  
[chrisminy1@gmail.com](mailto:chrisminy1@gmail.com)  
[abdulthepho@gmail.com](mailto:abdulthepho@gmail.com)  
[percytlhapi@yahoo.com](mailto:percytlhapi@yahoo.com)  
[maria-@telkomsa.net](mailto:maria-@telkomsa.net)  
[njputu@gmail.com](mailto:njputu@gmail.com)

[hanloo1@telkomsa.net](mailto:hanloo1@telkomsa.net)  
[alamalan@telkomsa.net](mailto:alamalan@telkomsa.net)  
[speaker@rustenburg.gov.za](mailto:speaker@rustenburg.gov.za)  
[mputle.jerry1@gmail.com](mailto:mputle.jerry1@gmail.com)  
[tmorwane@rustenburg.gov.za](mailto:tmorwane@rustenburg.gov.za)  
[mammie.modisane@bafokeng.com](mailto:mammie.modisane@bafokeng.com)  
[gaomputle@gmail.com](mailto:gaomputle@gmail.com)  
[bseitebogeng@rustenburg.gov.za](mailto:bseitebogeng@rustenburg.gov.za)  
[glenmutle@vodamail.com](mailto:glenmutle@vodamail.com)  
[executive.mayor@rustenburg.gov.za](mailto:executive.mayor@rustenburg.gov.za)  
[victor.khunou@bafokeng.com](mailto:victor.khunou@bafokeng.com)  
[AnnemiG@nw.agric.za](mailto:AnnemiG@nw.agric.za)  
[nemutendanit@dws.gov.za](mailto:nemutendanit@dws.gov.za)  
[lazarusn@teba.co.za](mailto:lazarusn@teba.co.za)  
[petet@nda.agric.za](mailto:petet@nda.agric.za)  
[zphohlo@environment.gov.za](mailto:zphohlo@environment.gov.za)  
[mmabula@nwpg.gov.za](mailto:mmabula@nwpg.gov.za)  
[debram@nda.agric.za](mailto:debram@nda.agric.za)  
[kmokgophe@nw.shara.org.za](mailto:kmokgophe@nw.shara.org.za)  
[roelfl@magalieswater.co.za](mailto:roelfl@magalieswater.co.za)  
[wsmart1@twpmatomo.co.za](mailto:wsmart1@twpmatomo.co.za)  
[mw.notty@mweb.co.za](mailto:mw.notty@mweb.co.za)  
[robinw@rsv.co.za](mailto:robinw@rsv.co.za)  
[ttsagae@rtbcc.co.za](mailto:ttsagae@rtbcc.co.za)  
[jdnkwanyana@yahoo.com](mailto:jdnkwanyana@yahoo.com)  
[jnxumalo@rtbcc.co.za](mailto:jnxumalo@rtbcc.co.za)  
[vphukubye@environment.gov.za](mailto:vphukubye@environment.gov.za)  
[princem@bojanala.gov.za](mailto:princem@bojanala.gov.za)  
[morareprince@gmail.com](mailto:morareprince@gmail.com)

[tsholofelod@bojanala.gov.za](mailto:tsholofelod@bojanala.gov.za)  
[motlhamme@rusternburg.gov.za](mailto:motlhamme@rusternburg.gov.za)  
[lomolefe@gmail.com](mailto:lomolefe@gmail.com)  
[levyletlape27@gmail.com](mailto:levyletlape27@gmail.com)  
[gabriel.khunou@bafokeng.com](mailto:gabriel.khunou@bafokeng.com)  
[innocents@bojanala.gov.za](mailto:innocents@bojanala.gov.za)  
[sahra.nw1@iafrica.com](mailto:sahra.nw1@iafrica.com)  
[asibanyoni@ruraldevelopment.gov.za](mailto:asibanyoni@ruraldevelopment.gov.za)  
[amandab@bojanala.gov.za](mailto:amandab@bojanala.gov.za)  
[cheymel@nwpg.gov.za](mailto:cheymel@nwpg.gov.za)  
[info@bojanala.gov.za](mailto:info@bojanala.gov.za)  
[thabom@bojanala.gov.za](mailto:thabom@bojanala.gov.za)  
[agnesm@bojanala.gov.za](mailto:agnesm@bojanala.gov.za)  
[motaus@angloamerican.com](mailto:motaus@angloamerican.com)  
[maos@gwisa.com](mailto:maos@gwisa.com)  
[iti31424@mweb.co.za](mailto:iti31424@mweb.co.za)  
[fran.graham@angloamerican.com](mailto:fran.graham@angloamerican.com)  
[mphakoe@rtbcc.co.za](mailto:mphakoe@rtbcc.co.za)  
[gramsay@aquariusssa.co.za](mailto:gramsay@aquariusssa.co.za)  
[michael.moalosi@angloamerican.com](mailto:michael.moalosi@angloamerican.com)  
[bashimanes@telkomsa.com](mailto:bashimanes@telkomsa.com)  
[engoepe@num.org.za](mailto:engoepe@num.org.za)  
[regomolefe@mweb.co.za](mailto:regomolefe@mweb.co.za)  
[freidrichs@uwp.co.za](mailto:freidrichs@uwp.co.za)  
[jmarais@deat.gov.za](mailto:jmarais@deat.gov.za)  
[hvdwalt@rustenburg.gov.za](mailto:hvdwalt@rustenburg.gov.za)  
[alanf@kelgran.co.za](mailto:alanf@kelgran.co.za)  
[n.cornelius@xstrata.co.za](mailto:n.cornelius@xstrata.co.za)  
[morris.nte@angloamerican.com](mailto:morris.nte@angloamerican.com)

[adriaan.stander@afrox.boc.com](mailto:adriaan.stander@afrox.boc.com)  
[pviviers@angloamerican.com](mailto:pviviers@angloamerican.com)  
[miguel.dossantos@tenovagroup.com](mailto:miguel.dossantos@tenovagroup.com)  
[aventer@rtbcc.co.za](mailto:aventer@rtbcc.co.za)  
[bernardm@angloamerican.com](mailto:bernardm@angloamerican.com)  
[tmolete@rustenburg.gov.za](mailto:tmolete@rustenburg.gov.za)  
[psoaisa@amplats.co.za](mailto:psoaisa@amplats.co.za)  
[emfolwe@rustenburg.gov.za](mailto:emfolwe@rustenburg.gov.za)  
[louise.smith@mweb.co.za](mailto:louise.smith@mweb.co.za)  
[kgophs@yahoo.com](mailto:kgophs@yahoo.com)  
[lerouxm@nwpg.gov.za](mailto:lerouxm@nwpg.gov.za)  
[dhsetshedi@webmail.co.za](mailto:dhsetshedi@webmail.co.za)  
[jgreyling@rustenburg.gov.za](mailto:jgreyling@rustenburg.gov.za)  
[reotshepile@bafokeng.com](mailto:reotshepile@bafokeng.com)  
[ernie@bafokeng.com](mailto:ernie@bafokeng.com)  
[patking@bafokeng.com](mailto:patking@bafokeng.com)  
[teb83moverscratex@webmail.co.za](mailto:teb83moverscratex@webmail.co.za)  
[orestnbeduwa@yahoo.com](mailto:orestnbeduwa@yahoo.com)  
[jbpetlele@gmail.com](mailto:jbpetlele@gmail.com)  
[ssematu@rtbcc.co.za](mailto:ssematu@rtbcc.co.za)  
[jkboase@yahoo.com](mailto:jkboase@yahoo.com)  
[fikeinvestm@telkomsa.net](mailto:fikeinvestm@telkomsa.net)  
[glongomo@xstrata.co.za](mailto:glongomo@xstrata.co.za)  
[mbokodo2003@yahoo.com](mailto:mbokodo2003@yahoo.com)  
[andre.britz@angloamerican.com](mailto:andre.britz@angloamerican.com)  
[bdvillie@amplats.co.za](mailto:bdvillie@amplats.co.za)  
[malanp@angloamerican.com](mailto:malanp@angloamerican.com)  
[aerasmus@angloamerican.com](mailto:aerasmus@angloamerican.com)  
[mnape@xstrata.co.za](mailto:mnape@xstrata.co.za)

[fire@rtbcc.co.za](mailto:fire@rtbcc.co.za)

[editor@lesedingmedia.co.za](mailto:editor@lesedingmedia.co.za)

[patkhu@webmail.co.za](mailto:patkhu@webmail.co.za)

[mitumeleng@rustenburg.gov.za](mailto:mitumeleng@rustenburg.gov.za)

[malakia@rustenburg.gov.za](mailto:malakia@rustenburg.gov.za)

[Aaron.kharivhe@dmr.gov.za](mailto:Aaron.kharivhe@dmr.gov.za)

[shuma@rtbcc.co.za](mailto:shuma@rtbcc.co.za)

[hein.jantzen@angloamerican.com](mailto:hein.jantzen@angloamerican.com)

[herbertm@medialab.co.za](mailto:herbertm@medialab.co.za)

[juliuscc@absamail.co.za](mailto:juliuscc@absamail.co.za)

[plouw@rustenburg.gov.za](mailto:plouw@rustenburg.gov.za)

[james.baloyi@gmail.com](mailto:james.baloyi@gmail.com)

[petlelejb@yahoo.com](mailto:petlelejb@yahoo.com)

[dialehb@absamail.co.za](mailto:dialehb@absamail.co.za)

[tsogobuilding@webmail.co.za](mailto:tsogobuilding@webmail.co.za)

[thehartleys@intekom.co.za](mailto:thehartleys@intekom.co.za)

[andia@mandirk.co.za](mailto:andia@mandirk.co.za)

[billyn30@hotmail.com](mailto:billyn30@hotmail.com)

[psebegoe@rtbcc.co.za](mailto:psebegoe@rtbcc.co.za)

[mmashile@rtbcc.co.za](mailto:mmashile@rtbcc.co.za)

[mentor@nwpg.gov.za](mailto:mentor@nwpg.gov.za)

[radebeh@bdfm.co.za](mailto:radebeh@bdfm.co.za)

[strike.magolego@dmr.gov.za](mailto:strike.magolego@dmr.gov.za)

[sanbow@wesizwe.com](mailto:sanbow@wesizwe.com)

[RalkoaW@dws.gov.za](mailto:RalkoaW@dws.gov.za)

[marapoo@rustenburg.gov.za](mailto:marapoo@rustenburg.gov.za)

[dudu.ratshefola@angloamerican.com](mailto:dudu.ratshefola@angloamerican.com)

[dpistorius@xstrata.co.za](mailto:dpistorius@xstrata.co.za)

[bstols@rtbcc.co.za](mailto:bstols@rtbcc.co.za)



[gking@xstrata.co.za](mailto:gking@xstrata.co.za)  
[lizette@mandirk.co.za](mailto:lizette@mandirk.co.za)  
[lekutame@nwpg.gov.za](mailto:lekutame@nwpg.gov.za)  
[jcritch@randwater.co.za](mailto:jcritch@randwater.co.za)  
[khalid@eims.co.za](mailto:khalid@eims.co.za)  
[mitshilowa@angloamerican.com](mailto:mitshilowa@angloamerican.com)  
[iletsapa@angloamerican.co.za](mailto:iletsapa@angloamerican.co.za)  
[fredramontsheng@yahoo.com](mailto:fredramontsheng@yahoo.com)  
[vinesh.dilsook@angloamerican.com](mailto:vinesh.dilsook@angloamerican.com)  
[karaboemmanuel01@ovi.com](mailto:karaboemmanuel01@ovi.com)  
[mlmolatlou@gmail.com](mailto:mlmolatlou@gmail.com)  
[libby.redding@angloamerican.com](mailto:libby.redding@angloamerican.com)  
[hashley@webmail.co.za](mailto:hashley@webmail.co.za)  
[pompieman@gmail.com](mailto:pompieman@gmail.com)  
[setshedibogosi@gmail.com](mailto:setshedibogosi@gmail.com)  
[ditiroon@gmail.com](mailto:ditiroon@gmail.com)  
[gabriel.khunou@gmail.com](mailto:gabriel.khunou@gmail.com)  
[lioneln@fraseralexander.co.za](mailto:lioneln@fraseralexander.co.za)  
[shaunp@fraseralexander.co.za](mailto:shaunp@fraseralexander.co.za)  
[shawn.monyatsi@gmail.com](mailto:shawn.monyatsi@gmail.com)  
[khavenga@rustenburg.gov.za](mailto:khavenga@rustenburg.gov.za)  
[dowdeswell@angloamerican.com](mailto:dowdeswell@angloamerican.com)  
[bbierman@angloamerican.com](mailto:bbierman@angloamerican.com)  
[cbadenhorst@angloamerican.com](mailto:cbadenhorst@angloamerican.com)  
[amiles@angloamerican.com](mailto:amiles@angloamerican.com)  
[ishmaels@angloamerican.com](mailto:ishmaels@angloamerican.com)  
[mmalebad@angloamerican.com](mailto:mmalebad@angloamerican.com)  
[eheymann@angloamerican.com](mailto:eheymann@angloamerican.com)  
[kmogoera@angloamerican.com](mailto:kmogoera@angloamerican.com)

[jrobinson@angloamerican.com](mailto:jrobinson@angloamerican.com)

[markr@angloamerican.com](mailto:markr@angloamerican.com)

[jpieters@rtbcc.co.za](mailto:jpieters@rtbcc.co.za)

[mzitha@angloamerican.com](mailto:mzitha@angloamerican.com)

[bmurphy@angloamerican.com](mailto:bmurphy@angloamerican.com)

[sdejager01@angloamerican.com](mailto:sdejager01@angloamerican.com)

[Jacobus@ecoserv.com](mailto:Jacobus@ecoserv.com)

[pkhunou@angloamerican.com](mailto:pkhunou@angloamerican.com)

[kagiso.senne@bafokeng.com](mailto:kagiso.senne@bafokeng.com)

[bruno@bafokeng.com](mailto:bruno@bafokeng.com)

[davidmahube@mweb.co.za](mailto:davidmahube@mweb.co.za)

[rab.rustenburg@mweb.co.za](mailto:rab.rustenburg@mweb.co.za)

[bleketi@rtbcc.co.za](mailto:bleketi@rtbcc.co.za)

[Robyn.Mellett@sibanyeplatinum.co.za](mailto:Robyn.Mellett@sibanyeplatinum.co.za)

[tyira@amplats.co.za](mailto:tyira@amplats.co.za)

[thabomakgale@bafokeng.com](mailto:thabomakgale@bafokeng.com)

[alalla@angloamerican.com](mailto:alalla@angloamerican.com)

[rgoris@angloamerican.com](mailto:rgoris@angloamerican.com)

[george@bafokengsports.co.za](mailto:george@bafokengsports.co.za)

[jselect@mweb.co.za](mailto:jselect@mweb.co.za)

[mw.maria@mweb.co.za](mailto:mw.maria@mweb.co.za)

[damariamatshaba@yahoo.com](mailto:damariamatshaba@yahoo.com)

Subject: NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE









Addressee	Start Time	Time	Prints	Result	Note
0866115996	08-15 11:58	00:03:38	001/001	OK	

**Note** TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, PPS:Page Separation TX, MIX:Mix of Original TX, CALL:Manual TX, CSAC:CSAC, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, COD:IP-Codg, RTX:Re-TX, RV:Relay, MEX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, REFUSE: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOUR:Receiving length over, PRUR:Receiving Data (RUR), FT:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Kibfontein 300 J2 under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2016. The proposed ventilation shaft centre point is 25° 40' 17.58" S 27° 22' 46.66" E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Phoshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEMA: Amendment Act (No. 62 of 2008)]. The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1396  
Mobile: +27 84 961 2164  
Fax: +27 86 505 3939  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: SL Doerfl (Managing), MC du Plooy\*, JH McStey\*, EBB Matseu\* (non-Executive)

Ver: Nov 2015 (\* Pr Sci Nas) (\* Pr Eng) (\*\* Pr Tech Eng) († British)



**WSP Environmental (Pty) Ltd**

South View, Bryanston Place Office Park  
109 Bryanston Drive, Bryanston  
Republic of South Africa, 2101  
PO Box 98967, Sloane Park, 2152  
Tel: +27 (0)11 361 1396  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 199500790/07

A member of the WSP Global Inc.  
Offices worldwide

Addressee	Start Time	Time	Prints	Result	Note
0866047477	08-15 10:54	00:03:41	001/001	OK	
0866649511	08-15 10:58	00:03:43	001/001	OK	
0145906002	08-15 11:05	00:00:27	001/001	OK	
0145914810	08-15 11:56	00:00:57	000/001	No Ans	
0145914267	08-15 11:57	00:00:57	000/001	No Ans	
0145982230	08-15 12:02	00:00:57	000/001	No Ans	
0145380813	08-15 12:03	00:00:57	000/001	No Ans	
0145903015	08-15 12:08	00:00:57	000/001	No Ans	
0145913924	08-15 12:09	00:00:57	000/001	No Ans	
0145981850	08-15 12:10	00:00:57	000/001	No Ans	
0145903421	08-15 12:11	00:00:57	000/001	No Ans	
0145928861	08-15 12:13	00:00:57	000/001	No Ans	
0145971030	08-15 12:14	00:00:57	000/001	No Ans	
0145373960	08-15 12:15	00:00:57	000/001	No Ans	
0145914979	08-15 12:16	00:00:57	000/001	No Ans	
0145664418	08-15 12:17	00:00:57	000/001	No Ans	
0145653921	08-15 12:18	00:00:57	000/001	No Ans	
0145981552	08-15 12:19	00:00:57	000/001	No Ans	

Note TM:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPE:Page Separation TX, MIX:Mix Mixed Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PC:PC-FAX, BND:Double-sided Binding Direction, Sp:Special Original, FOD:IF-Codg, RTX:Re-TX, RY:Relay, MBX:Confidential, BOL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full: Memory Full, LOVR:Receiving length over, RWR:Receiving page over, FL:File Error, DC:Decode Error, MDN:MDN Response Error, DR:Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/3/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 JC under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.88"S 27° 22' 45.88"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Ptoaharing, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)]. The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,

Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1388  
Mobile: +27 84 951 2164  
Fax: +27 86 505 3939  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: SL Dool\* (Managing), MC du Plooy\*\*, JH McStay\*, EBBF Mafwa\* (non-Executive)

Ver. Nov 2015 ( \* Pr Sci Mem) ( \*\* Pr Eng) ( ~ Pr Tech Eng) ( ~ S.Mth)

**WSP Environmental (Pty) Ltd**  
South View, Bryanston Place Office Park  
199 Bryanston Drive, Bryanston  
Republic of South Africa, 2191  
PO Box 68867, Sloane Park, 2152  
Tel: +27 (0)11 361 1380  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 199508790/07

A member of the WSP Global Inc.  
Offices worldwide



Addressee	Start Time	Time	Prints	Result	Note
0145926298	08-15 12:33	00:00:44	000/001	NG	
0145927596	08-15 12:34	00:00:27	001/001	OK	
0145922910	08-15 13:16	00:00:57	000/001	No Ans	
0184629036	08-15 13:17	00:00:57	000/001	No Ans	
0145903003	08-15 13:18	00:00:57	000/001	No Ans	
0145903015	08-15 13:20	00:00:57	000/001	No Ans	
0145903421	08-15 13:21	00:00:57	000/001	No Ans	
0145928861	08-15 13:22	00:00:57	000/001	No Ans	
0123485668	08-15 13:23	00:00:57	000/001	No Ans	
0119691642	08-15 13:24	00:00:56	000/001	No Ans	
0113735530	08-15 13:25	00:00:57	000/001	No Ans	
0145661326	08-15 13:31	00:00:57	000/001	No Ans	

Note TMR:Timer TX, PDI:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPB:Page Separation TX, MIX:Mixed Original TX, CALL:Manual TX, CSAC:Caric, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:Re-TX, RLV:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, N-Full:Memory Full, LDR:Receiving length Over, PDR:Receiving page Over, FIL:File Error, DCIDecode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW/30/5/1/22/280 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 J2 under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.56" S 27° 22' 46.88" E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Phofsharweg, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEMA: Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1300  
Mobile: +27 84 961 2164  
Fax: +27 86 505 3039  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Ooef (Managing), MC du Plooy, JH McElroy, EBBF Meeuw (non-Executive)

Ver Nov 2015 (Pr Sd Nat) (Pr Eng) (Pr Tech Eng) (Pr Btand)



WSP Environmental (Pty) Ltd

South View, Bryerton Plaza Office Park  
188 Bryerton Drive, Bryerton  
Republic of South Africa, 2191  
PO Box 98997, Stone Park, 2162  
Tel: +27 (0)11 361 1300  
Email: wsep@wsgroup.co.za  
Web: http://www.wsgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1995/05790/07

A member of the WSP Global Inc.  
Offices worldwide

Addressee	Start Time	Time	Prints	Result	Note
0114636176	08-15 13:32	00:00:40	001/001	OK	
0866181455	08-15 13:34	00:03:42	001/001	OK	
0145661297	08-15 13:49	00:00:57	000/001	No Ans	

**Note** TM:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX,  
 DS:Page Separation TX, MIX:Mix of Original TX, CALL:Manual TX, CSAC:CSAC,  
 FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original,  
 FCODE:F-code, RTX:Re-TX, RLV:Relay, NEX:Confidential, BUL:Bulletin, SIP:SIP Fax,  
 IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF,  
 TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer,  
 REFUSE: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length over,  
 LOUR:Receiving page over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error,  
 DSN:DSN Response Error, PRINT:Compulsory Memory Document Print,  
 DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW/30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 JG under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 45.66"E. The shaft final operational area will cover an area less than 5 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Phofshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2006)]. The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
 Senior Environmental Consultant  
 Tel: +27 11 361 1388  
 Mobile: +27 84 951 2164  
 Fax: +27 88 505 3830  
 Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Doof (Managing), MC du Plooy\*, JM McStay\*, ESB Mathew\* (non-Executive)

Ver: Nov 2015 (P) Pr Sol Nat (P) Pr Eng (\*\* Pr Tech Eng) (P) British



**WSP Environmental (Pty) Ltd**

South View, Bryanston Place Office Park  
 109 Bryanston Drive, Bryanston  
 Republic of South Africa, 2101  
 PO Box 98887, Sioona Park, 2162  
 Tel: +27 (0)11 361 1388  
 E-mail: wsp@wspgroup.co.za  
 Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
 Registered Number: 1995/06790/07

A member of the WSP Global Inc.  
 Offices worldwide

Broadcast Report

Addressee	Start Time	Time	Prints	Result	Note
0145903047	08-15 13:51	00:00:30	001/001	OK	
0145903497	08-15 14:00	00:00:27	001/001	OK	

**Note** TMR:Timer TX, PDL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DSP:Page Separation TX, RIX:Fixed Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PC:PC-Fax, BND:Public-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:RTX-TX, RLY:Relay, MBR:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX FROM TEL, NS: No Answer, CON: Continue, No Ans: No Answer, REFUSE: Receipt Refused, BUSY: Busy, M-Full:Memory Full, LOUR:Receiving length Over, POVR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

**WSP Environmental (Pty) Ltd**

South View, Bryanston Place Office Park  
199 Bryanston Drive, Bryanston  
Republic of South Africa, 2101  
PO Box 26667, Sloane Park, 2162  
Tel: +27 (0)11 361 1360  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1995/06760/07

Dear Sir/ Madam,

A member of the WSP Global Inc.  
Offices worldwide

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIFHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/22/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 JG under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Sifhumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 28° 40' 17.58" S 27° 22' 40.00" E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Phobehaveng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEMA: Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,

Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1366  
Mobile: +27 84 951 2164  
Fax: +27 86 605 3636  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Dooft (Managing), MC du Plooy\*\*, JH McStey\*, EBBF Masetwa\* (non-Executive)

Ver: Nov 2016 (P) Pr Ed Nat (P) Pr Eng (P) Pr Tech Eng (P) British

Addressee	Start Time	Time	Prints	Result	Note
0145906002	08-15 14:03	00:00:29	001/001	OK	
0145903411	08-15 14:09	00:00:31	001/001	OK	
0145363124	08-15 14:32	00:00:57	000/001	No Ans	
0145965390	08-15 14:45	00:00:57	000/001	No Ans	
0145697033	08-15 14:46	00:00:57	000/001	No Ans	
0122523565	08-15 14:48	00:00:56	000/001	No Ans	
0145965061	08-15 14:49	00:00:57	000/001	No Ans	
0145967056	08-15 14:50	00:00:57	000/001	No Ans	
0145923400	08-15 14:51	00:00:57	000/001	No Ans	

Note TMR:Timer TX, POL:Polling, ORS:Original Size Setting, FME:Frame Erase TX, DPS:Page Separation TX, RIX:Mixed Original TX, CALL:Manual TX, CSAC:CSAC, FID:Forward, PC:PC-FAX, BND:double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:Re-TX, RLV:Relay, MBR:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, REAS: Receipt Refused, BUSY: Busy, H-FULL:Memory Full, LOUR:Receiving Length Over, RRUR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

**WSP Environmental (Pty) Ltd**

South View, Bryerton Place Office Park  
108 Bryerton Drive, Bryerton  
Republic of South Africa, 2191  
PO Box 98897, Storme Park, 2102  
Tel: +27 (0)11 391 1380  
E-mail: wsep@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1995/06790/07

Dear Sir/ Madam,

A member of the WSP Global Inc.  
Offices worldwide

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW/30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 J2 under the jurisdiction of the Bejersala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 49.88"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photosheng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEMA: Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,

Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 391 1380  
Mobile: +27 84 951 2164  
Fax: +27 86 505 3839  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: S.L. Doof (Managing), M.O. du Plooy\*, J.H. McStay\*, E.S.B.F. Mntswa\* (non-Executive)

Ver: Nov 2015 (\* Pr. Sed. Mem.) (\* Pr. Eng.) (\*\* Pr. Tech. Eng.) (C. British)

Addressee	Start Time	Time	Prints	Result	Note
0145699535	08-15 14:53	00:01:21	001/001	OK	
0145966190	08-15 14:56	00:00:41	001/001	OK	
0145923553	08-15 14:57	00:00:59	001/001	OK	
0866505236	08-15 14:59	00:02:33	001/001	OK	
0145661308	08-15 15:04	00:01:11	001/001	OK	
0145928861	08-15 15:33	00:00:57	000/001	No Ans	
0145364020	08-15 15:34	00:00:57	000/001	No Ans	
0145332014	08-15 15:35	00:00:57	000/001	No Ans	
0145664418	08-15 15:36	00:00:57	000/001	No Ans	
0145661320	08-15 15:37	00:00:57	000/001	No Ans	
0145973924	08-15 15:39	00:00:57	000/001	No Ans	
0145363701	08-15 15:40	00:00:57	000/001	No Ans	

Note TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPS:Page Separation TX, RTX:Fixed Original TX, CALL:Manual TX, CSRC:CSRC, FND:Forward, PCFC:FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:IF-code, RTX:Re-TX, RLV:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: Rx from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, Refuse: Refuse, Busy: Busy, H-Full:Memory Full, LOR:Receiving length Over, PWR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW3075/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 900 JG under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 26° 40' 17.58"S 27° 22' 48.08"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Pholohang, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 582) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEMA Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 351 1396  
Mobile: +27 84 951 2164  
Fax: +27 86 505 3939  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Dool (Managing), MC du Plooy\*, JH McStay\*, EBBF Mielwa\* (non-Executive)

Ver: Nov 2016 (P Pr Bid Nat) (P Pr Eng) (P Pr Tech Eng) (P Bid)



**WSP Environmental (Pty) Ltd**

South View, Bryerton Place Office Park  
168 Bryerton Drive, Bryerton  
Republic of South Africa, 2161  
PO Box 8897, Stone Park, 2162  
Tel: +27 (0)11 361 1350  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1889087007

A member of the WSP Global Inc.  
Offices worldwide

Addressee	Start Time	Time	Prints	Result	Note
0865124158	08-15 15:43	00:03:41	001/001	OK	
0145903411	08-15 15:48	00:00:27	001/001	OK	
0145903055	08-15 15:50	00:00:26	001/001	OK	
0117262848	08-15 16:25	00:00:57	000/001	No Ans	
0117263121	08-15 16:26	00:00:57	000/001	No Ans	
0113735249	08-15 16:28	00:00:57	000/001	No Ans	
0145679273	08-15 16:29	00:00:57	000/001	No Ans	
0113735756	08-15 16:30	00:00:57	000/001	No Ans	
0115903070	08-15 16:31	00:00:56	000/001	No Ans	
0145914455	08-15 16:32	00:00:57	000/001	No Ans	
0113735862	08-15 16:33	00:00:57	000/001	No Ans	
0145982191	08-15 16:34	00:00:57	000/001	No Ans	

Note TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPS:Page Separation TX, RTX:Mixed Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:RTX, RLV:Relay, MBR:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: Rx from TEL, NG: Other Error, CONT: Continue, No Ans: No Answer, Refuse: Receive refused, Busy: Busy, H-Full:Memory Full, LOUP:Receiving length Over, PWR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/50 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 303 JQ under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 48.88"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Phoshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 351 1395  
Mobile: +27 84 951 2164  
Fax: +27 85 506 3939  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Doerfl (Managing), MC du Plooy\*\*, JH McStay\*, ESBF Mntshw\* (non-Executive)

Ver: Nov 2015 (C Pr Sel Net) (C Pr Eng) (C Pr Tech Eng) (P British)



WSP Environmental (Pty) Ltd

South View, Bryerton Place Office Park  
169 Bryerton Drive, Bryerton  
Republic of South Africa, 2191  
PO Box 08867, Steens Park, 2162  
Tel: +27 (0)11 351 1395  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1999/0576007

A member of the WSP Global Inc.  
Offices worldwide

Addressee	Start Time	Time	Prints	Result	Note
0145972241	08-15 20:50	00:01:03	001/001	OK	
0145903388	08-15 20:51	00:00:26	001/001	OK	
0867602441	08-15 20:52	00:04:43	001/001	OK	
0865556593	08-15 20:57	00:02:34	001/001	OK	
0112686885	08-15 21:13	00:00:57	000/001	No Ans	
0184629036	08-15 21:15	00:00:57	000/001	No Ans	

**Note** TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, PGS:Page Separation TX, MIX:Mix of Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PCIP:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:IF-code, RTX:Re-TX, RLV:Relay, MEX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOUR:Receiving length Over, PWR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSM:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW3075/1/2/2/90 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 J3 under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 49.99"E. The shaft final operational area will cover an area less than 5 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photoshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
 Senior Environmental Consultant  
 Tel: +27 11 361 1395  
 Mobile: +27 64 951 2164  
 Fax: +27 66 605 3839  
 Email: Jared.O'Brien@WSPGroup.co.za

Directors: SL Doerfl (Managing), MC du Plooy\*, JH Mosty\*, ESBF Mntshwa\* (non-Executive)

Ver: New 8016 (\* Pr Sal Nat) (\* Pr Eng) (\*\* Pr Tech Eng) (\* Britsh)



WSP Environmental (Pty) Ltd

South View, Bryerton Place Office Park  
 169 Bryerton Drive, Bryerton  
 Republic of South Africa, 2191  
 PO Box 28867, Stearns Park, 2152  
 Tel: +27 (0)11 361 1390  
 E-mail: wsp@wspgroup.co.za  
 Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
 Registered Number: 1993/06790/07

A member of the WSP Global Inc.  
 Offices worldwide

Addressee	Start Time	Time	Prints	Result	Note
0145911161	08-15 21:20	00:01:04	001/001	OK	
0145911793	08-15 21:21	00:00:56	001/001	OK	
0862974971	08-15 21:23	00:02:33	001/001	OK	
0865676069	08-15 21:27	00:03:40	001/001	OK	
0866187847	08-15 21:31	00:01:59	001/001	OK	
0145914567	08-15 21:44	00:00:57	000/001	No Ans	

**Note** TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, PGS:Page Separation TX, MIX:Mix Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RIX:Re-TX, RVI:Relay, NEX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: Rx from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, REFUSE: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving Length Over, PWR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIFHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW3076/1/2/2/90 MR). The proposed project is located within the Remainder of Portion 2, Erfportefin 900 JQ under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Sifhumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 28° 40' 17.56"S 27° 22' 46.66"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Phofshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)]. The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,

Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1398  
Mobile: +27 84 951 2164  
Fax: +27 86 506 3839  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: SL Dowd (Managing), MC du Plooy, JH Moolay, ESSF Mntshini (non-Executive)

Ver: Nov 2016 ( Pr Sol Net) ( Pr Eng) ( Pr Tech Eng) ( Pr Ethics)

WSP Environmental (Pty) Ltd

South View, Bryanston Place Office Park  
199 Bryanston Drive, Bryanston  
Republic of South Africa, 2191  
PO Box 95867, Stearns Park, 2152  
Tel: +27 (0)11 361 1380  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1995/05760/07

A member of the WSP Global Inc.  
Offices worldwide



## RX

No.	Addressee	Start Time	Time	Prints	Result	Note
259	0392551747	08-04 10:08	00:00:59	001/001	OK	
260	0392551747	08-04 10:44	00:00:48	001/001	OK	
261	0392551747	08-10 10:09	00:03:42	002/002	OK	
262	DEFAULTCSID	08-11 12:12	00:01:01	001/001	OK	
263		08-11 13:19	00:00:49	000/000	TEL	

**Note** TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX,  
 DPS:Page Separation TX, MIX:MixeD Original Tx, CALL:Manual TX, CSAC:CSAC,  
 FWD:FORWARD, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original,  
 FCODE:F-Code, RTX:Re-Tx, RLY:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax,  
 IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF,  
 TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer,  
 Refusa: Receipt Refused, BUSY: Busy, N-FULL:Memory Full, LOUR:Receiving length Over,  
 POVR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error,  
 DSN:DSN Response Error, PRINT:Compulsory Memory Document Print,  
 DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

Addressee	Start Time	Time	Prints	Result	Note
0145679190	08-15 16:49	00:01:06	000/001	NG	
0145911161	08-15 17:06	00:01:00	000/001	NG	
0145903003	08-15 17:34	00:00:57	000/001	No Ans	
0145914684	08-15 18:11	00:00:57	000/001	No Ans	
0113735759	08-15 18:12	00:00:57	000/001	No Ans	
0113735145	08-15 18:14	00:00:57	000/001	No Ans	
0113735219	08-15 18:15	00:00:57	000/001	No Ans	
0145915008	08-15 18:16	00:00:57	000/001	No Ans	
0145731606	08-15 18:17	00:00:57	000/001	No Ans	
0113735436	08-15 18:18	00:00:57	000/001	No Ans	
0145904150	08-15 18:19	00:00:57	000/001	No Ans	
0113735894	08-15 18:20	00:00:57	000/001	No Ans	
0145920244	08-15 18:21	00:00:57	000/001	No Ans	
0145664368	08-15 18:23	00:00:57	000/001	No Ans	
0145661296	08-15 18:24	00:00:57	000/001	No Ans	

Note TNR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, PGS:Page Separation TX, MIX:Mix of Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:RTX-TX, RLV:Relay, MBR:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PU-OFF: Power Switch OFF, TEL: Rx from TEL, NB: Other Error, CONT: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length Over, POUVR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

WSP Environmental (Pty) Ltd

South View, Bryanston Place Office Park  
199 Bryanston Drive, Bryanston  
Rivonia 2129, South Africa, 2191  
PO Box 98867, Stone Park, 2152  
Tel: +27 (0)11 261 1360  
E-mail: wsep@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1995/06780/07

Dear Sir/ Madam,

A member of the WSP Global Inc.  
Offices worldwide

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/S/1/22/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 J2 under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 48.88"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Phoshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 21(1)(a)(i) of Government Notice Regulation (GNR 952) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,

Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1360  
Mobile: +27 84 851 2164  
Fax: +27 86 505 3639  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Dool (Managing), MC du Plooy\*, JH McBoty\*, ESBP Mntshu\* (non-Executive)

Ver: Nov 2016 ( Pr Sel Net) ( Pr Eng) ( Pr Tech Eng) ( Pr Sel)

Addressee	Start Time	Time	Prints	Result	Note
0145363652	08-15 18:43	00:00:56	000/001	No Ans	
0145982039	08-15 18:45	00:00:54	001/001	OK	
0145654709	08-15 19:02	00:00:57	000/001	No Ans	
0145972384	08-15 19:03	00:00:57	000/001	No Ans	
0145661311	08-15 19:05	00:00:57	000/001	No Ans	

**Note** TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPG:Page Separation TX, MIX:Mixed Original TX, CALL:Manual TX, CSNC:CSNC, FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:Re-TX, RLV:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: Rx from TEL, NS: Other Error, CONT: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length over, PWR:Receiving page over, FTL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Klipfontein 300 JG under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.68" S 27° 22' 46.06" E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photshaneng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 952) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2006)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1305  
Mobile: +27 84 951 2164  
Fax: +27 86 505 3939  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Dool (Managing), MC du Plooy, JH Mobley, EBB Mabwa (non-Executive)

Ver: Nov 2016 ( Pr Sol Nat) ( Pr Eng) ( Pr Tech Eng) ( Pr Ethic)



**WSP Environmental (Pty) Ltd**

South View, Bryerton Place Office Park  
109 Bryerton Drive, Bryerton  
Republic of South Africa, 2151  
PO Box 9807, Gloms Park, 2152  
Tel: +27 (0)11 361 1300  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 19508790/07

A member of the WSP Global Inc.  
Offices worldwide

Addressee	Start Time	Time	Prints	Result	Note
0866346044	08-15 19:06	00:02:33	001/001	OK	
0145903411	08-15 19:27	00:00:28	001/001	OK	
0145903015	08-15 19:43	00:00:57	000/001	No Ans	
0145548593	08-15 19:44	00:00:57	000/001	No Ans	
0145561296	08-15 19:45	00:00:57	000/001	No Ans	
0145652843	08-15 19:46	00:00:57	000/001	No Ans	
0145903111	08-15 19:47	00:00:57	000/001	No Ans	
0145970907	08-15 19:48	00:00:57	000/001	No Ans	
0145928816	08-15 19:50	00:00:57	000/001	No Ans	

**Note** TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPG:Page Separation TX, MIX:Mix of Original TX, CALL:Manual TX, CSAC:CSAC, FID:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:FC-Code, RTX:RTX-TX, BLV:BLV, MBI:Confidential, BUL:bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

**Result** OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, CONT: Continue, No Ans: No Answer, REFUS: Receipt Refused, BUSY: Busy, H-FULL:Memory Full, LOVR:Receiving length over, PWR:Receiving page over, FTL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:MDN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/80 MR). The proposed project is located within the Remainder of Portion 2, Kipfontein 500 JCA under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.68" S 27° 22' 48.68" E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photosharang, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(a)(i) of Government Notice Regulation (GNR 952) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore (according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)). The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,

Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 11 361 1398  
Mobile: +27 84 851 2164  
Fax: +27 86 505 3939  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: BL Doel (Managing), MC du Plooy\*, JH Molloy\*, EBBF Mkhosi\* (non-Executive)

Ver: Nov 2015 ( P Pr Sol Nat) ( P Pr Eng) ( P Pr Tech Eng) ( P Btch)

**WSP Environmental (Pty) Ltd**

South View, Bryanston Plaza Office Park  
188 Bryanston Drive, Bryanston  
Republic of South Africa, 2191  
PO Box 95867, Glendale Park, 2162  
Tel: +27 (0)11 361 1398  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 199208790/07

A member of the WSP Global Inc.  
Offices worldwide

Addressee	Start Time	Time	Prints	Result	Note
0145903006	08-15 19:52	00:00:46	001/001	OK	
0145903430	08-15 19:53	00:01:29	001/001	OK	
0145906002	08-15 20:08	00:01:06	000/001	NG	
0116820634	08-15 20:09	00:00:53	001/001	OK	
0145970296	08-15 20:16	00:01:16	001/001	OK	
0145903388	08-15 20:18	00:00:40	001/001	OK	
0145331795	08-15 20:42	00:00:57	000/001	No Ans	
0145979261	08-15 20:43	00:00:57	000/001	No Ans	
0183873144	08-15 20:44	00:00:57	000/001	No Ans	
0145903003	08-15 20:45	00:00:57	000/001	No Ans	
0112805505	08-15 20:47	00:00:57	000/001	No Ans	

Note TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, DPG:Page Separation TX, MIX:Mix of Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, DC:DC-FAX, BND:Double-Sided Binding Direction, SP:Special Original, FCODE:F-code, RTX:Re-TX, RLV:Relay, MEX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length Over, DMN:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSM:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

WSP Reference no: 47522

12 August 2016

Attention: Stakeholder

Dear Sir/ Madam,

**NOTICE OF PROPOSED VENTILATION SHAFT AT THE SIPHUMELELE 1 MINE AT RUSTENBURG PLATINUM MINES (PTY) LTD - RUSTENBURG SECTION LOCATED NEAR RUSTENBURG WITHIN THE NORTH WEST PROVINCE**

**1. PROJECT DESCRIPTION AND LOCATION**

The Applicant, Rustenburg Platinum Mines (Pty) Ltd (RPM), proposes to establish an additional ventilation shaft on an existing Mining Right area (NW30/5/1/2/2/90 MR). The proposed project is located within the Remainder of Portion 2, Kipfontein 300 JG under the jurisdiction of the Bojanala District Municipality. The purpose of the project is to ensure the continuation of safe underground workings at the established Siphumelele Mine. The Mine's underground operations are extending to the south. In order to ensure underground workings are not hindered the ventilation shaft should be operational by 2018. The proposed ventilation shaft centre point is 25° 40' 17.58"S 27° 22' 46.98"E. The shaft final operational area will cover an area less than 8 000 m<sup>2</sup>. The ventilation shaft will be linked to the Mine road leading from Photosheng, via a gravel road.

**2. LEGAL CONTEXT**

Notice is given in terms of Section 31(1)(e)(i) of Government Notice Regulation (GNR 982) (04 December 2014) published under section 24(5) of the National Environmental Management Act (No. 107 of 1998), as amended (NEMA) for submission of an application for Environmental Authorisation in respect of activities which will result in a change of the scope of an existing valid environmental authorisation where such change will result in an increased level or nature of impact which was not considered during the initial environmental authorisation process undertaken.

An Application form for Environmental Authorisation in terms of the NEMA has been submitted to the Department of Mineral Resources (DMR). The DMR is the competent authority in this case as the project is directly related to primary extraction of ore [according to the Section 24C(2A) of the NEM: Amendment Act (No. 62 of 2008)]. The proposed project does not trigger any listed activities in terms of the 2014 NEMA Regulations.

**3. STAKEHOLDER REGISTRATION**

WSP Environmental (Pty) Ltd (WSP) has appointed as the environmental assessment practitioner (EAP) to manage the Environmental Authorisation process, on behalf of RPM. This process includes consultation with parties who may be affected by, or have an interest in, the Proposed Project. All registered stakeholders will be notified of the availability of the draft Environmental Management Programme (EMPR) once the report has been compiled and released for public review. Registered stakeholders will have a period of 30 days in which to review and comment on the draft report. The draft report will be updated to include any comments before final submission to the DMR. Please ensure that you respond to this notification to ensure you are notified of the draft report distribution date. Comments are welcomed throughout the environmental authorisation process.

Yours faithfully,



Jared O'Brien  
Senior Environmental Consultant  
Tel: +27 41 341 1328  
Mobile: +27 84 951 2164  
Fax: +27 86 505 3839  
Email: Jared.O'Brien@WSPGroup.co.za

Directors: SL Doof (Managing), MD du Plooy, JH McStay, ESSF Mntswa (non-Executive)

Ver: Nov 2016 ( Pr Std Nat) ( Pr Eng) (\*\* Pr Tech Eng) ( British)



WSP Environmental (Pty) Ltd

South View, Bryerton Place Office Park  
180 Bryerton Drive, Bryerton  
Republic of South Africa, 2191  
PO Box 98887, Sloane Park, 2162  
Tel: +27 (0)11 281 4380  
E-mail: wsp@wspgroup.co.za  
Web: http://www.wspgroup.co.za

WSP Environmental (Pty) Ltd  
Registered Number: 1985/06780/07

A member of the WSP Global Inc.  
Offices worldwide

Send

No.	Addressee	Start Time	Time	Prints	Result	Note
324	0145923553	08-15 14:57	00:00:59	001/001	OK	
324	0866505236	08-15 14:59	00:02:33	001/001	OK	
324	0145661308	08-15 15:04	00:01:11	001/001	OK	
324	0145928861	08-15 15:33	00:00:57	000/001	No Ans	
324	0145364020	08-15 15:34	00:00:57	000/001	No Ans	
324	0145332014	08-15 15:35	00:00:57	000/001	No Ans	
324	0145664418	08-15 15:36	00:00:57	000/001	No Ans	
324	0145661320	08-15 15:37	00:00:57	000/001	No Ans	
324	0145973924	08-15 15:39	00:00:57	000/001	No Ans	
324	0145363701	08-15 15:40	00:00:57	000/001	No Ans	
325	0865124158	08-15 15:43	00:03:41	001/001	OK	
325	0145903411	08-15 15:48	00:00:27	001/001	OK	
325	0145903055	08-15 15:50	00:00:26	001/001	OK	
325	0117262848	08-15 16:25	00:00:57	000/001	No Ans	
325	0117263121	08-15 16:26	00:00:57	000/001	No Ans	
325	0113735249	08-15 16:28	00:00:57	000/001	No Ans	
325	0145679273	08-15 16:29	00:00:57	000/001	No Ans	
325	0113735756	08-15 16:30	00:00:57	000/001	No Ans	
325	0115903070	08-15 16:31	00:00:56	000/001	No Ans	
325	0145914455	08-15 16:32	00:00:57	000/001	No Ans	
325	0113735862	08-15 16:33	00:00:57	000/001	No Ans	
325	0145982191	08-15 16:34	00:00:57	000/001	No Ans	
326	0145679190	08-15 16:36	00:01:01	000/001	Cont	
326	0145679190	08-15 16:40	00:01:06	000/001	Cont	
326	0145679190	08-15 16:44	00:01:06	000/001	Cont	
326	0145679190	08-15 16:49	00:01:06	000/001	NG	
326	0145911161	08-15 16:52	00:01:00	000/001	Cont	
326	0145911161	08-15 16:57	00:01:05	000/001	Cont	
326	0145911161	08-15 17:01	00:01:20	000/001	Cont	
326	0145911161	08-15 17:06	00:01:00	000/001	NG	
326	0145903003	08-15 17:18	00:01:15	000/001	Cont	
326	0145903003	08-15 17:34	00:00:57	000/001	No Ans	
326	0145914684	08-15 18:11	00:00:57	000/001	No Ans	
326	0113735759	08-15 18:12	00:00:57	000/001	No Ans	
326	0113735145	08-15 18:14	00:00:57	000/001	No Ans	

Note

TNR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX,  
 OPS:Page Separation TX, MIX:Mix Original TX, CALL:Manual TX, CSRC:CSRC,  
 FWD:Forward, PC:PC-Fax, BND:Double-Sided Binding Direction, SP:Special Original,  
 FCODE:F-code, RTX:Re-TX, RLV:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax,  
 IPADR:IP Address Fax, I-FAX:Internet Fax

Result

OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF,  
 TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer,  
 Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length Over,  
 PDVR:Receiving page Over, FIC:File Error, DC:Decode Error, MDN:MDN Response Error,  
 DSN:DSN Response Error, PRINT:Compulsory Memory Document Print,  
 DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

Send

No.	Addressee	Start Time	Time	Prints	Result	Note
316	0118870844	08-01 17:11	00:00:57	000/003	No Ans	
316	0145653124	08-01 17:12	00:00:57	000/003	No Ans	
316	0184879852	08-01 17:13	00:00:57	000/003	No Ans	
317	0115161442	08-02 13:19	00:00:57	000/003	No Ans	
317	0118870844	08-02 13:20	00:00:57	000/003	No Ans	
317	0145653124	08-02 13:22	00:00:57	000/003	No Ans	
317	0184879852	08-02 13:23	00:00:57	000/003	No Ans	
318	0866047477	08-15 10:54	00:03:41	001/001	OK	
318	0866649511	08-15 10:58	00:03:43	001/001	OK	
318	0145906002	08-15 11:05	00:00:27	001/001	OK	
318	0145914810	08-15 11:56	00:00:57	000/001	No Ans	
318	0145914267	08-15 11:57	00:00:57	000/001	No Ans	
320	0866115996	08-15 11:58	00:03:38	001/001	OK	
318	0145982230	08-15 12:02	00:00:57	000/001	No Ans	
318	0145380813	08-15 12:03	00:00:57	000/001	No Ans	
318	0145903015	08-15 12:04	00:00:51	000/001	Cont	
318	0145903015	08-15 12:08	00:00:57	000/001	No Ans	
318	0145913924	08-15 12:09	00:00:57	000/001	No Ans	
318	0145981850	08-15 12:10	00:00:57	000/001	No Ans	
318	0145903421	08-15 12:11	00:00:57	000/001	No Ans	
318	0145928861	08-15 12:13	00:00:57	000/001	No Ans	
318	0145971030	08-15 12:14	00:00:57	000/001	No Ans	
318	0145373960	08-15 12:15	00:00:57	000/001	No Ans	
318	0145914979	08-15 12:16	00:00:57	000/001	No Ans	
318	0145664418	08-15 12:17	00:00:57	000/001	No Ans	
318	0145653921	08-15 12:18	00:00:57	000/001	No Ans	
318	0145981552	08-15 12:19	00:00:57	000/001	No Ans	
319	0145926298	08-15 12:21	00:00:43	000/001	Cont	
319	0145926298	08-15 12:25	00:00:38	000/001	Cont	
319	0145926298	08-15 12:29	00:00:39	000/001	Cont	
319	0145926298	08-15 12:33	00:00:44	000/001	NG	
319	0145927596	08-15 12:34	00:00:27	001/001	OK	
319	0145922910	08-15 13:16	00:00:57	000/001	No Ans	
319	0184629036	08-15 13:17	00:00:57	000/001	No Ans	
319	0145903003	08-15 13:18	00:00:57	000/001	No Ans	
319	0145903015	08-15 13:20	00:00:57	000/001	No Ans	
319	0145903421	08-15 13:21	00:00:57	000/001	No Ans	
319	0145928861	08-15 13:22	00:00:57	000/001	No Ans	
319	0123485668	08-15 13:23	00:00:57	000/001	No Ans	
319	0119691642	08-15 13:24	00:00:56	000/001	No Ans	
319	0113735530	08-15 13:25	00:00:57	000/001	No Ans	
319	0145661326	08-15 13:26	00:01:14	000/001	Cont	
319	0145661326	08-15 13:31	00:00:57	000/001	No Ans	
321	0114636176	08-15 13:32	00:00:40	001/001	OK	
321	0866181455	08-15 13:34	00:03:42	001/001	OK	
321	0145661297	08-15 13:49	00:00:57	000/001	No Ans	
322	0145903047	08-15 13:51	00:00:30	001/001	OK	
322	0145903497	08-15 14:00	00:00:27	001/001	OK	
323	0145906002	08-15 14:03	00:00:29	001/001	OK	
323	0145903411	08-15 14:09	00:00:31	001/001	OK	
323	0145363124	08-15 14:19	00:00:54	000/001	Cont	
323	0145363124	08-15 14:32	00:00:57	000/001	No Ans	
323	0145965390	08-15 14:45	00:00:57	000/001	No Ans	
323	0145697033	08-15 14:46	00:00:57	000/001	No Ans	
323	0122523565	08-15 14:48	00:00:56	000/001	No Ans	
323	0145965061	08-15 14:49	00:00:57	000/001	No Ans	
323	0145967056	08-15 14:50	00:00:57	000/001	No Ans	
323	0145923400	08-15 14:51	00:00:57	000/001	No Ans	
324	0145699535	08-15 14:53	00:01:21	001/001	OK	
324	0145966130	08-15 14:56	00:00:41	001/001	OK	

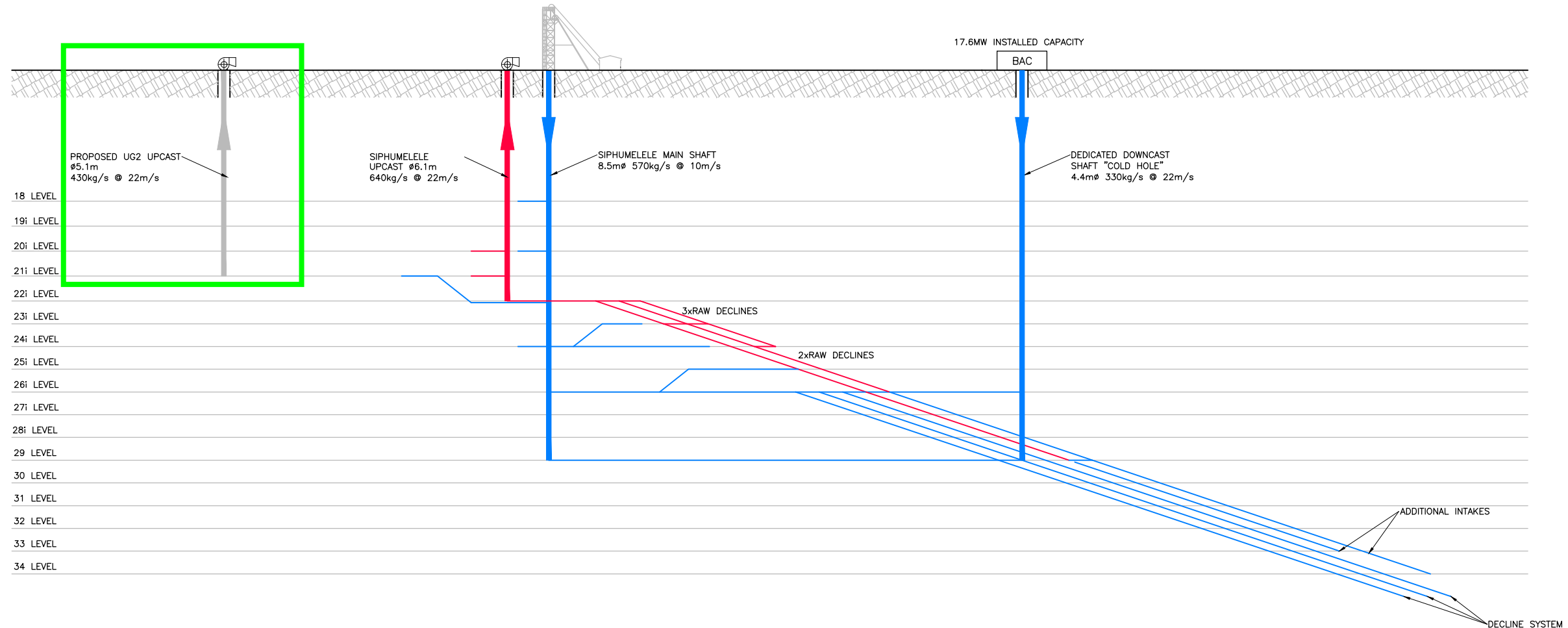
Note TMR:Timer TX, PDL:Polling, ORG:Original Size Setting, FME:Frame Erase TX, PPS:Page Separation TX, M: Mixed Original TX, CALL:Manual TX, CSRC:CSRC, FWD:Forward, PCIPC-FAX, BND:Double-sided Binding Direction, Sp:Special Original, FCODE:IF-code, RTX:re-TX, RLV:Relay, MEX:Confidential, BUL:Bulletin, SIP:SIP Fax, IPADR:IP Address Fax, I-FAX:Internet Fax

Result OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF, TEL: RV from TEL, NB: Other Error, CONT: Continue, No Ans: No Answer, Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length over, PDUR:Receiving page over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error, DSN:DSN Response Error, PRINT:Compulsory Memory Document Print, DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.

# Appendix B

## SUITE OF PROJECT DESIGN DRAWINGS





18 LEVEL  
19i LEVEL  
20i LEVEL  
21i LEVEL  
22i LEVEL  
23i LEVEL  
24i LEVEL  
25i LEVEL  
26i LEVEL  
27i LEVEL  
28i LEVEL  
29 LEVEL  
30 LEVEL  
31 LEVEL  
32 LEVEL  
33 LEVEL  
34 LEVEL

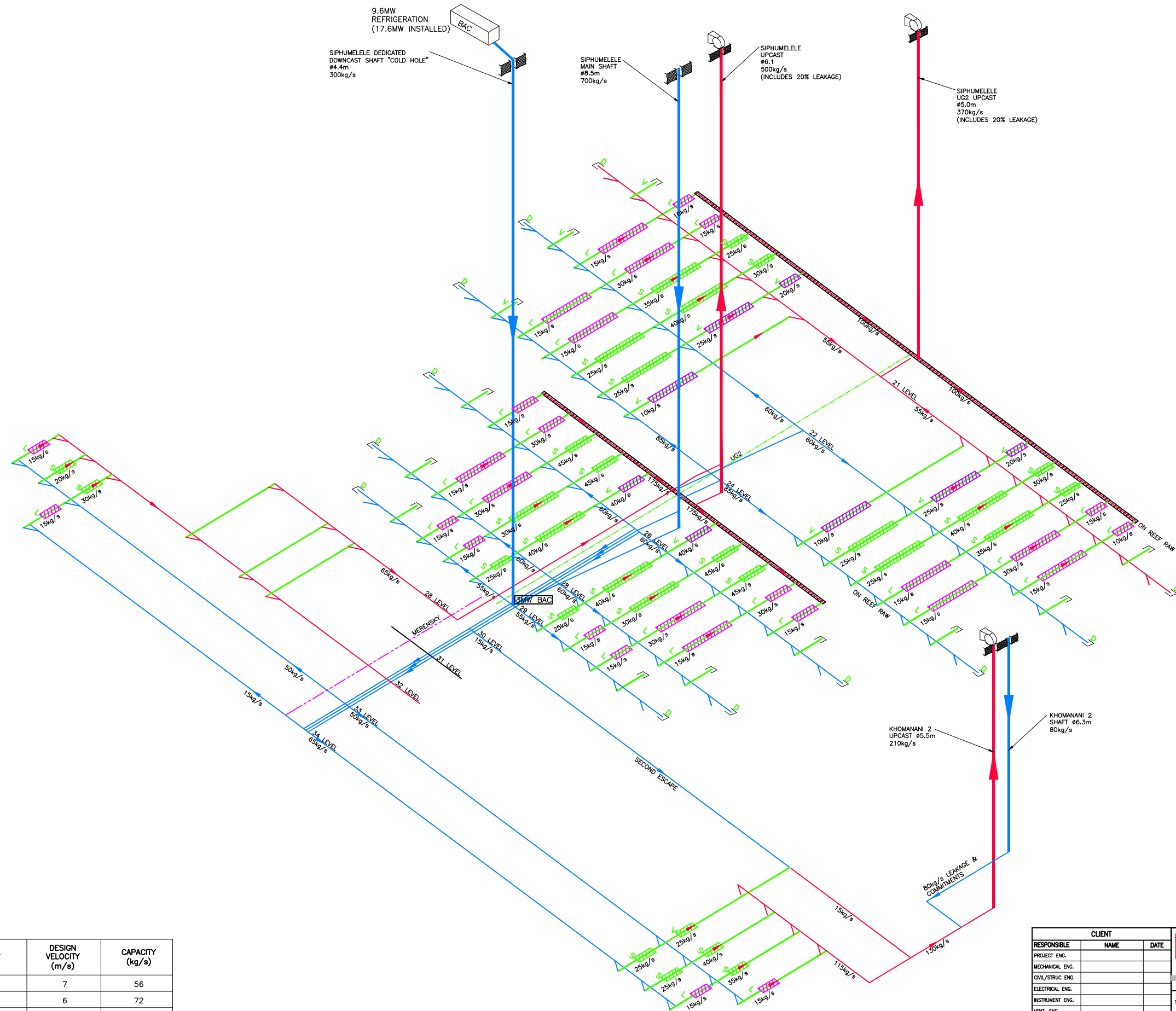
ISSUED FOR  
FEASIBILITY STUDY

LEVEL	DEPTH (m)	VRT (°C)	STRIKE LENGTHS	
			EAST (m)	WEST (m)
18 LEVEL	.	.	.	.
19 LEVEL	.	.	.	.
20 LEVEL	.	.	.	.
21 LEVEL	.	.	.	.
22 LEVEL	.	.	.	.
23 LEVEL	.	.	.	.
24 LEVEL	.	.	.	.
25 LEVEL	.	.	.	.
26 LEVEL	.	.	.	.
27 LEVEL	.	.	.	.
28 LEVEL	1075m	46.4 °C	2500	1900
29 LEVEL	1111m	47.1 °C	2500	1900
30 LEVEL	1147m	47.8 °C	2250	1700
31 LEVEL	1190m	48.7 °C	2400	1700
32 LEVEL	1238m	49.7 °C	2400	1700
33 LEVEL	1291m	50.7 °C	2400	1700
34 LEVEL	1350m	51.9 °C	2400	1650

INTAKE AIRWAYS	AREA (m <sup>2</sup> )	DESIGN VELOCITY (m/s)	CAPACITY (kg/s)
MATERIAL DECLINE	8	7	56
CHAIRLIFT DECLINE	12	6	72
CONVEYOR DECLINE	10	5	50
TOTAL			173

DRG. No.	REFERENCE DRAWINGS	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK
.	.	.	.	.	.	.	A	06-08-2015	PRELIMINARY ISSUED FOR DISCUSSION	R.O.	.

<b>CLIENT</b> RESPONSIBLE NAME DATE PROJECT ENG. MECHANICAL ENG. CIVIL/STRUC ENG. ELECTRICAL ENG. INSTRUMENT ENG. VENT. ENG. LOSS CONTROL			<b>BBE CONSULTING</b> RESPONSIBLE NAME DATE PROCESS ENG. MECHANICAL ENG. CIVIL/STRUC ENG. ELECTRICAL ENG. INSTRUMENT ENG. LEAD ENG. PR. ENG. PR. ENG. No.			<b>CLIENT</b> NAME DATE SNR. MINING ENG. F.M.G. EGERTON BBE LEAD ENGINEER R. McINTYRE SCALE :- NTS			<b>CLIENT</b> NAME DATE SNR. MINING ENG. F.M.G. EGERTON BBE LEAD ENGINEER R. McINTYRE SCALE :- NTS		
<b>BBE CONSULTING</b> Mine Ventilation and Refrigeration Specialists www.bbe.co.za e-mail: bbe@bbe.co.za						THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION BELONGING TO BBE CONSULTING AND ITS USE IS SPECIFICALLY RESTRICTED TO THE CURRENT PROJECT ONLY. THE DESIGN MAY NOT BE USED FOR ANY OTHER PURPOSE, OR TRANSMITTED TO ANY OTHER PARTY IN ANY FORM, WITHOUT THE WRITTEN PERMISSION OF BBE. COPYRIGHT BILHAM BURTON ENGINEERING (PTY) LTD.					
<b>ANGLO PLATINUM PROJECT CONDOR</b>						<b>SCHEMATIC OF SIPHUMELELE PRIMARY VENTILATION INFRASTRUCTURE</b>					
SIZE		PROJECT CODE		DISCIPLINE		DRG. No.		SHT. No.		REVISION	
A1		15139-06		-011-01						A	



**LEGEND:**

- V VAMPING
- S STOPPING
- L LEDGING
- D DEVELOPING

ISSUED FOR  
FEASIBILITY STUDY

INTAKE AIRWAYS	AREA (m <sup>2</sup> )	DESIGN VELOCITY (m/s)	CAPACITY (kg/s)
MATERIAL DECLINE	8	7	56
CHAIRLIFT DECLINE	12	6	72
CONVEYOR DECLINE	10	5	50
		TOTAL	173

DRG. No.	REFERENCE DRAWINGS	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK
							A	06-08-2015	PRELIMINARY ISSUED FOR DISCUSSION	R.O.	

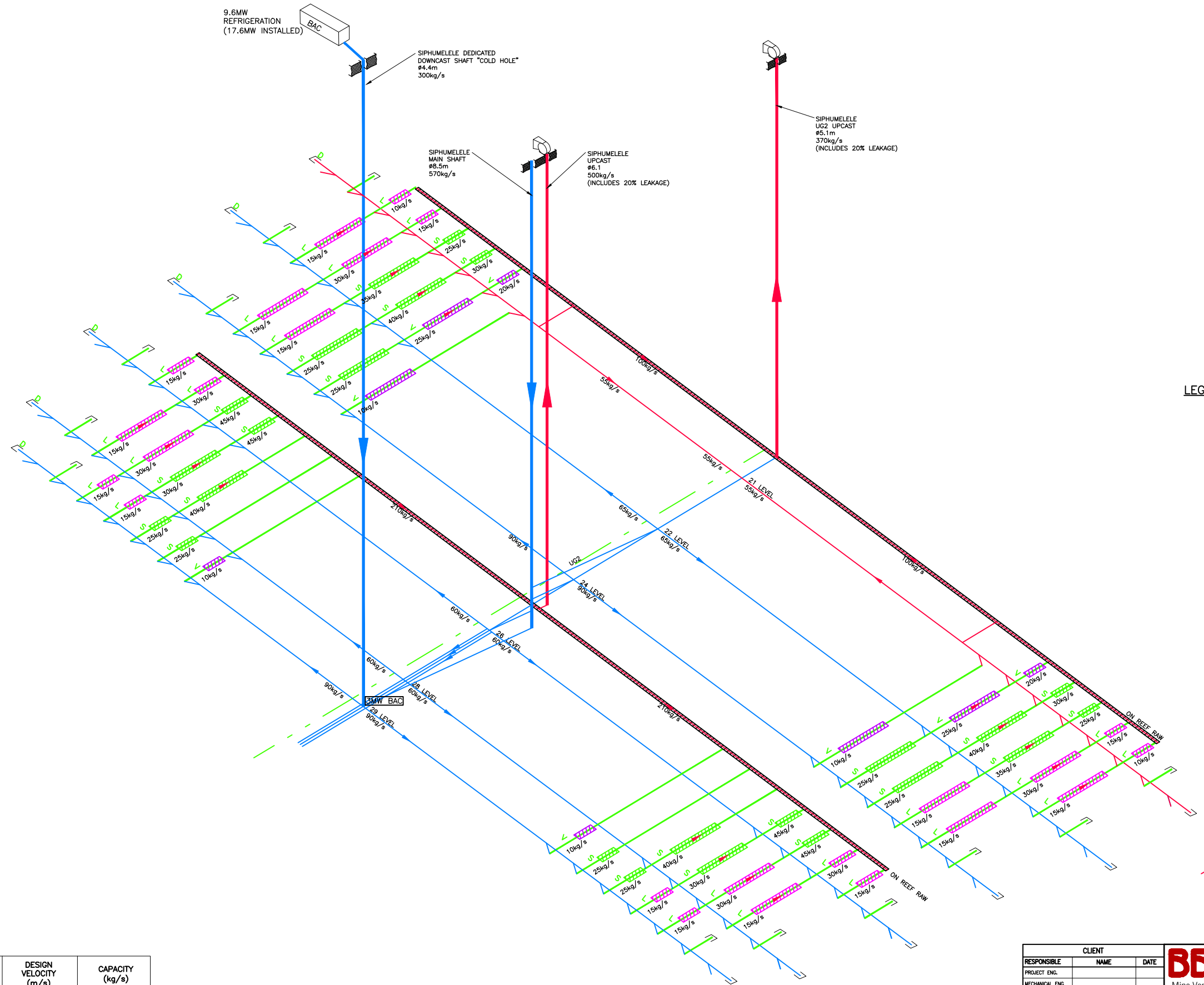
CLIENT		
RESPONSIBLE	NAME	DATE
PROJECT ENG.		
MECHANICAL ENG.		
CIVIL/STRUC ENG.		
ELECTRICAL ENG.		
INSTRUMENT ENG.		
VENT. ENG.		
LOSS CONTROL		

**BBE CONSULTING**  
Mine Ventilation and Refrigeration Specialists  
www.bbe.co.za e-mail: bbe@bbe.co.za

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION BELONGING TO BBE CONSULTING AND ITS USE IS SPECIFICALLY RESTRICTED TO THE CURRENT PROJECT ONLY. THE DESIGN MAY NOT BE USED FOR ANY OTHER PURPOSE, OR TRANSMITTED TO ANY OTHER PARTY IN ANY FORM, WITHOUT THE WRITTEN PERMISSION OF BBE. COPYRIGHT BLUHM BURTON ENGINEERING (PTY) LTD.

PO BOX 786012  
SANDTON 2146  
SOUTH AFRICA  
TEL: +27(0)11 706-9800  
FAX: +27(0)11 706-6931

CLIENT		ANGLO PLATINUM PROJECT CONDOR		CLIENT	SNR. MINING ENG. F.M.G. EGERTON
CLIENT		BBE CONSULTING		CLIENT	LEAD ENGINEER R. McINTYRE
TITLE		SIPHUMELELE 2026 VENTILATION LAYOUT		SCALE :- NTS	
SIZE	PROJECT CODE	DISCIPLINE	DRG. No.	SHT. No.	REVISION
A1	15139-06-012-01				A



**LEGEND:**

- V VAMPING
- S STOPING
- L LEDGING
- D DEVELOPING

ISSUED FOR FEASIBILITY STUDY

INTAKE AIRWAYS	AREA (m <sup>2</sup> )	DESIGN VELOCITY (m/s)	CAPACITY (kg/s)
MATERIAL DECLINE	8	7	56
CHAIRLIFT DECLINE	12	6	72
CONVEYOR DECLINE	10	5	50
		TOTAL	173

DRG. No.	REFERENCE DRAWINGS	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK
							A	06-08-2015	PRELIMINARY ISSUED FOR DISCUSSION	R.O.	

CLIENT		
RESPONSIBLE	NAME	DATE
PROJECT ENG.		
MECHANICAL ENG.		
CIVIL/STRUC ENG.		
ELECTRICAL ENG.		
INSTRUMENT ENG.		
VENT. ENG.		
LOSS CONTROL		

BBE CONSULTING		
RESPONSIBLE	NAME	DATE
PROCESS ENG.		
MECHANICAL ENG.		
CIVIL/STRUC ENG.		
ELECTRICAL ENG.		
INSTRUMENT ENG.		
LEAD ENG.		
PR. ENG.		
PR. ENG. No.		

**BBE CONSULTING**  
Mine Ventilation and Refrigeration Specialists

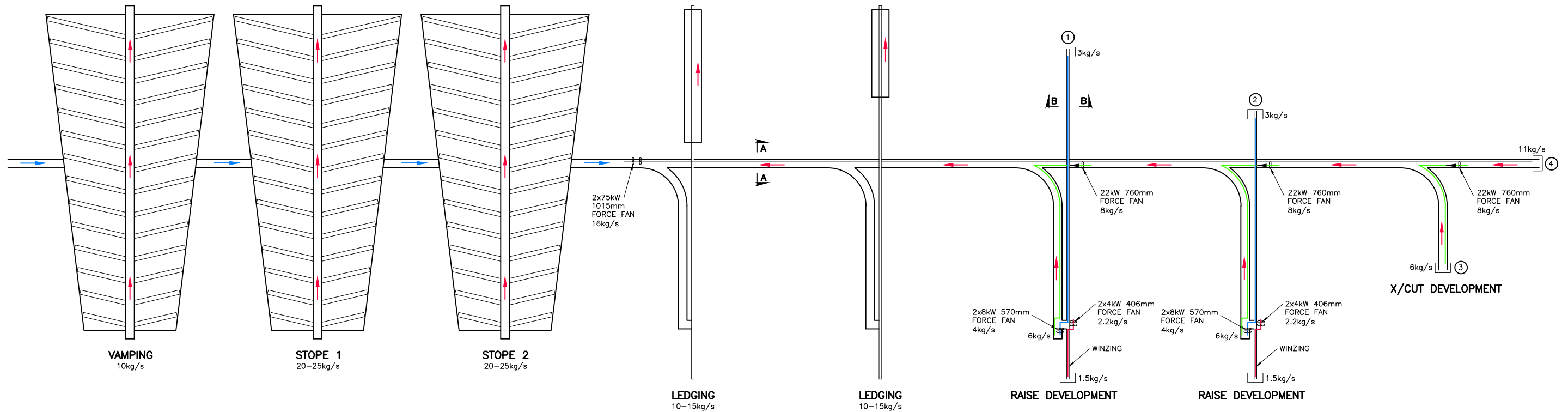
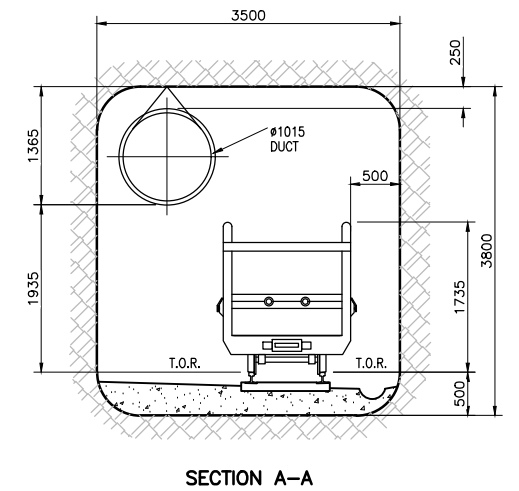
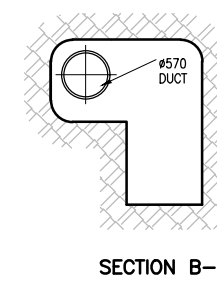
www.bbe.co.za e-mail: bbe@bbe.co.za

THIS DRAWING CONTAINS CONFIDENTIAL INFORMATION BELONGING TO BBE CONSULTING AND ITS USE IS SPECIFICALLY RESTRICTED TO THE CURRENT PROJECT ONLY. THE DESIGN MAY NOT BE USED FOR ANY OTHER PURPOSE, OR TRANSMITTED TO ANY OTHER PARTY IN ANY FORM, WITHOUT THE WRITTEN PERMISSION OF BBE. COPYRIGHT BLUHM BURTON ENGINEERING (PTY) LTD.

PO BOX 786012  
SANDTON 2146  
SOUTH AFRICA  
TEL: +27(0)11 706-9800  
FAX: +27(0)11 706-6931

CLIENT		ANGLO PLATINUM PROJECT CONDOR		CLIENT	SNR. MINING ENG. F.M.G. EGERTON
TITLE		SIPHUMELELE UG2 2042 VENTILATION LAYOUT		BBE	LEAD ENGINEER R. McINTYRE
SCALE	:- NTS			REVISION	
SIZE	PROJECT CODE	DISCIPLINE	DRG. No.	SHT. No.	REVISION
A1	15139-06-013-01				A

SIPHUMELELE PROPOSED HALF LEVEL VENTILATION LAYOUT



ISSUED FOR  
FEASIBILITY STUDY

**NOTE:**

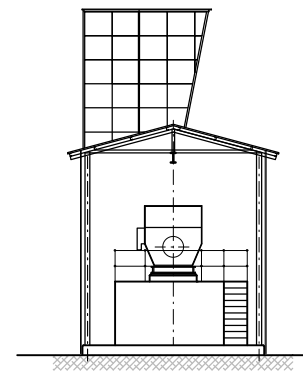
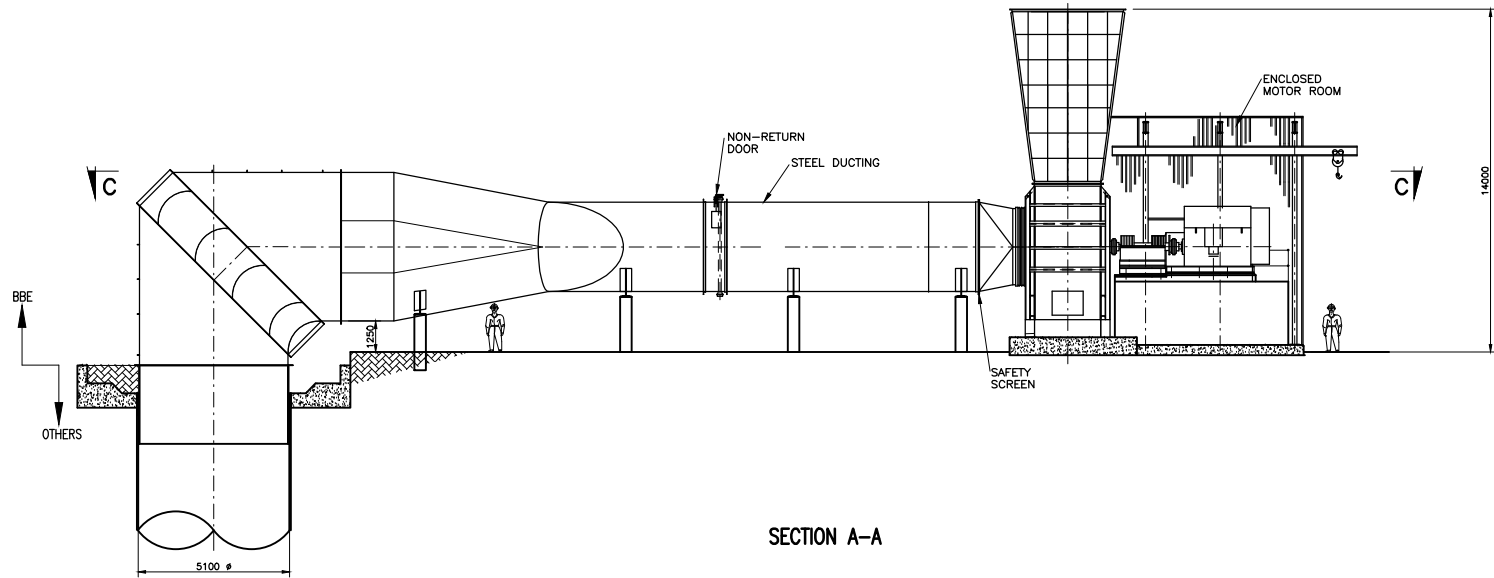
QUANTITIES INDICATED ONLY CATERS FOR BOTTOM LEVEL OF VENT DISTRICT. RE-USE ON UPPER LEVELS.

DEVELOPMENT TYPE	LEAKAGE (%)
HAULAGE	30
CROSS CUT	25
RAISE/WINZE	20

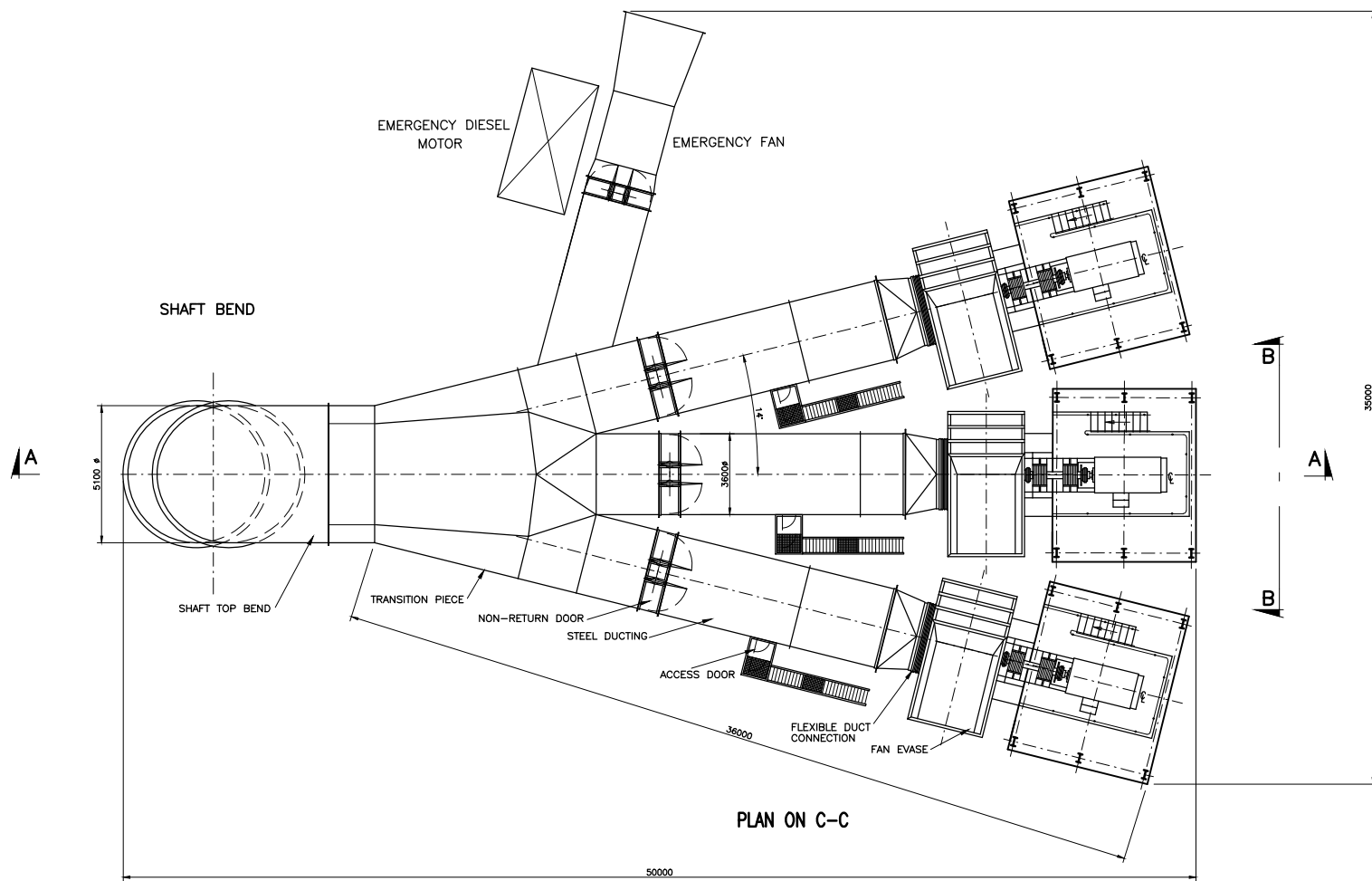
MINE	TOTAL STOPPING STRIKE LENGTH	CROSS CUT LENGTH	STOPE BACK LENGTH	WINZING
SIPHUMELELE	200m	250-300m	400-450m	150m

DRG. No.	REFERENCE DRAWINGS	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK
							A	06-08-2015	PRELIMINARY ISSUED FOR DISCUSSION	R.O.	

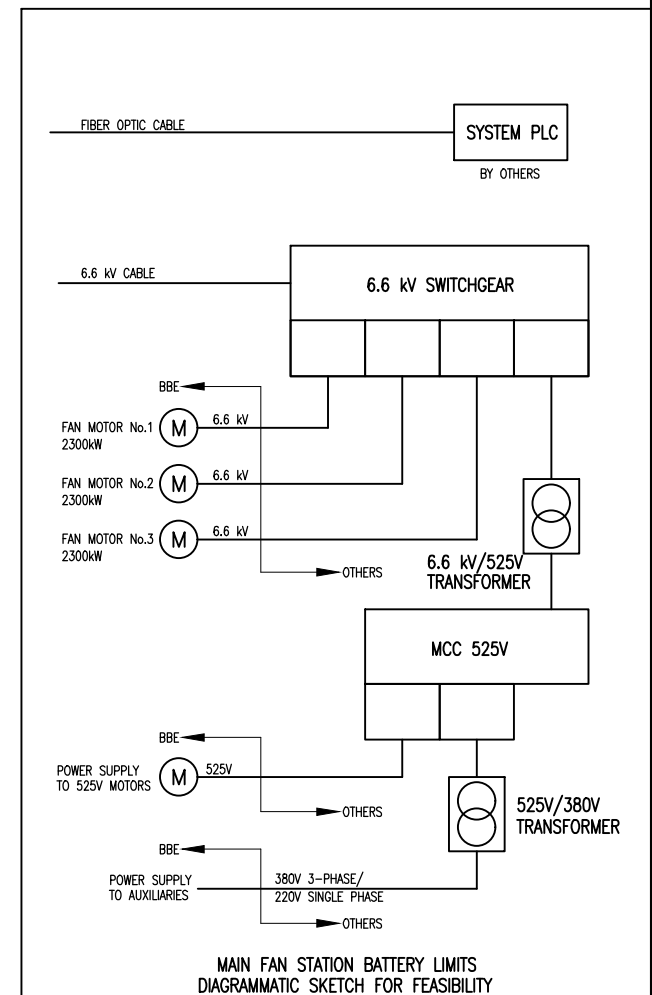
<b>CLIENT</b> RESPONSIBLE NAME DATE PROJECT ENG. MECHANICAL ENG. CIVIL/STRUC ENG. ELECTRICAL ENG. INSTRUMENT ENG. VENT. ENG. LOSS CONTROL		<b>BBE CONSULTING</b> Mine Ventilation and Refrigeration Specialists www.bbe.co.za e-mail: bbe@bbe.co.za	PO BOX 786012 SANDTON 2146 SOUTH AFRICA TEL: +27(0)11 706-9800 FAX: +27(0)11 706-6931
CLIENT <b>ANGLO PLATINUM PROJECT CONDOR</b> SNR. MINING ENG. F.M.G. EGERTON BBE LEAD ENGINEER R. McINTYRE		TITLE <b>SIPHUMELELE PROPOSED HALF LEVEL VENTILATION LAYOUT</b> SCALE :- NTS	
RESPONSIBLE NAME DATE PROCESS ENG. MECHANICAL ENG. CIVIL/STRUC ENG. ELECTRICAL ENG. INSTRUMENT ENG. LEAD ENG. PR. ENG. PR. ENG. No.		SIZE PROJECT CODE DISCIPLINE DRG. No. SHT. No. REVISION A1 15139 - 06 - 009 - 02 A	



ELEVATION B-B



PLAN ON C-C



ISSUED FOR  
FEASIBILITY STUDY  
NOT FOR CONSTRUCTION

DRG. No.	REFERENCE DRAWINGS	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK
							A	17-07-2015	PRELIMINARY ISSUED FOR DISCUSSION	PV	

CLIENT		
RESPONSIBLE	NAME	DATE
PROJECT ENG.		
MECHANICAL ENG.		
CIVIL/STRUC. ENG.		
ELECTRICAL ENG.		
INSTRUMENT ENG.		
VENT. ENG.		
LOSS CONTROL		

**BBE CONSULTING**  
Mine Ventilation and Refrigeration Specialists  
www.bbe.co.za e-mail: bbe@bbe.co.za

PO BOX 786012  
SANDTON 2146  
SOUTH AFRICA  
TEL: +27(0)11 706-9800  
FAX: +27(0)11 706-6931

CLIENT: **ANGLO PLATINUM PROJECT CONDOR SIPHUMELELE**

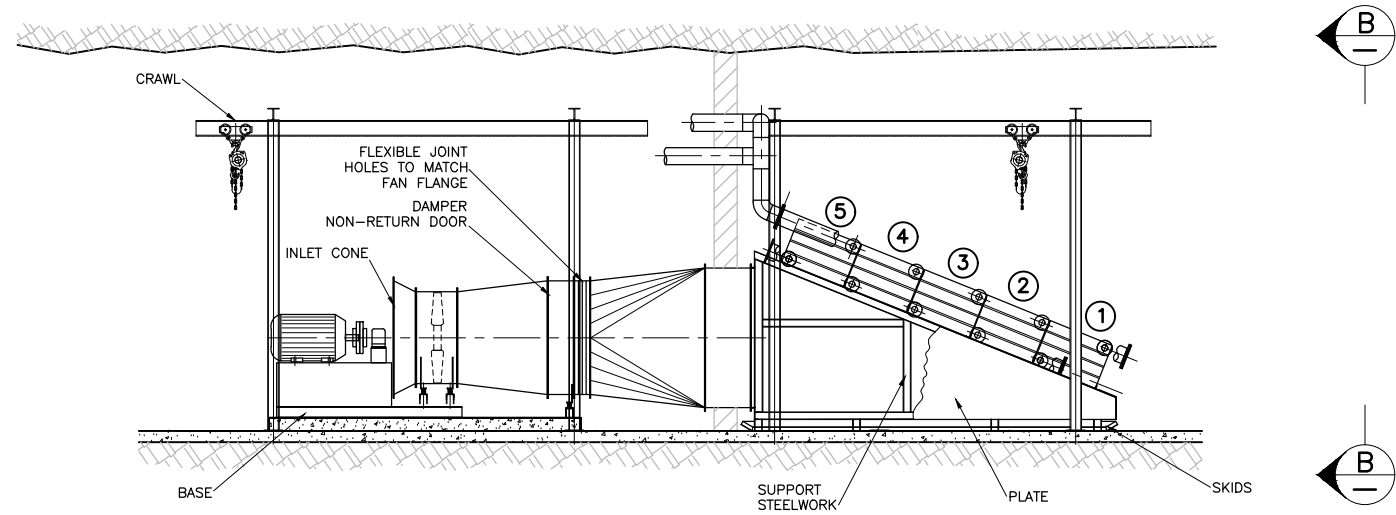
CLIENT PROJECT MANAGER: **U. BESTER**

BBE LEAD ENGINEER: **R. McINTYRE**

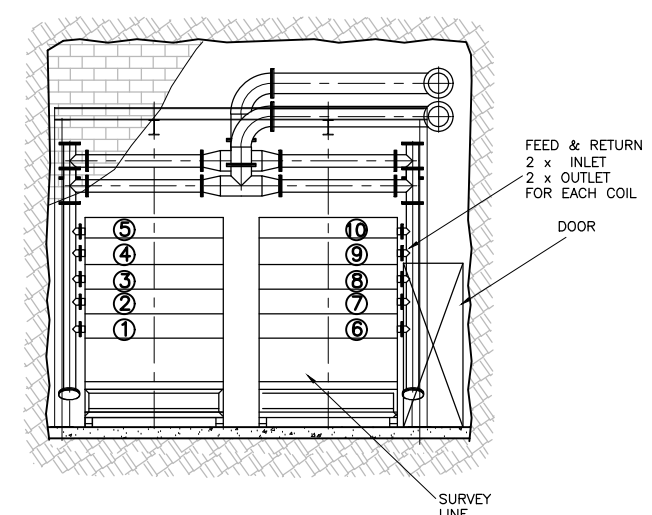
TITLE: **GENERAL ARRANGEMENT OF NEW SURFACE MAIN FAN STATION**

SCALE: **1:150**

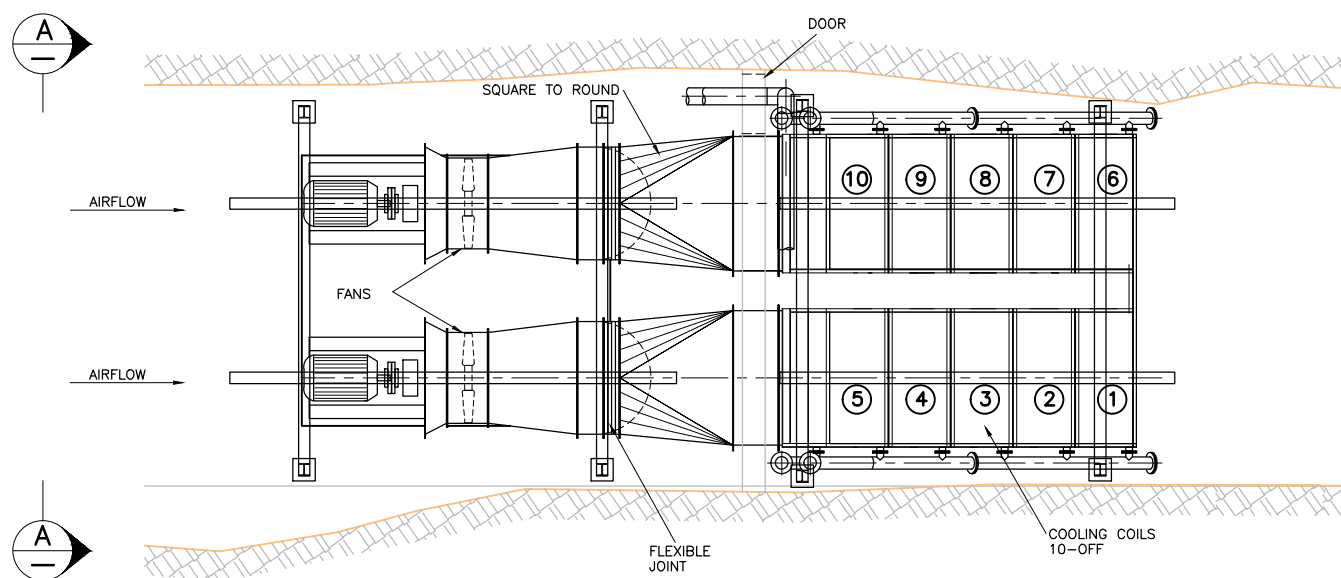
SIZE	PROJECT CODE	DISCIPLINE	DRG. No.	SHT. No.	REVISION
A1	15139-04-001-01				A



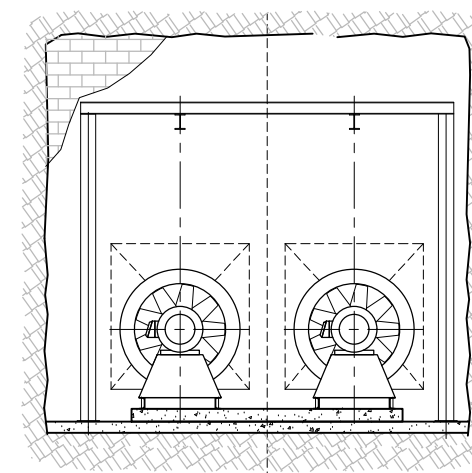
ELEVATION



VIEW "B"- "B"



PLAN VIEW



VIEW "A"- "A"

ISSUED FOR  
FEASIBILITY STUDY  
NOT FOR CONSTRUCTION

DRG. No.	REFERENCE DRAWINGS	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK	REV. No.	DATE	REVISION DESCRIPTION	BY	CHK
							A	17-07-2015	PRELIMINARY ISSUED FOR DISCUSSION	PV	

<b>CLIENT</b> RESPONSIBLE NAME DATE PROJECT ENG. MECHANICAL ENG. CIVIL/STRUC ENG. ELECTRICAL ENG. INSTRUMENT ENG. VENT. ENG. LOSS CONTROL		<b>BBE CONSULTING</b> Mine Ventilation and Refrigeration Specialists www.bbe.co.za e-mail: bbe@bbe.co.za		PO BOX 786012 SANDTON 2146 SOUTH AFRICA TEL: +27(0)11 706-9800 FAX: +27(0)11 706-8931	
<b>CLIENT</b> RESPONSIBLE NAME DATE PROCESS ENG. MECHANICAL ENG. CIVIL/STRUC ENG. ELECTRICAL ENG. INSTRUMENT ENG. LEAD ENG. PR. ENG.			<b>CLIENT</b> PROJECT MANAGER U. BESTER BBE LEAD ENGINEER R. McINTYRE		TITLE GENERAL ARRANGEMENT OF NEW SPOT COOLER
SIZE A1		PROJECT CODE 15139-04-002-01		DISCIPLINE DRG. No. SHT. No. REVISION A	



# Appendix C

## **SCREENING-LEVEL ENVIRONMENTAL ACOUSTIC IMPACT ASSESSMENT**



# SCREENING-LEVEL ENVIRONMENTAL ACOUSTIC IMPACT ASSESSMENT

SIPHUMELELE 1 MINE

ADDITIONAL VENTILATION SHAFT



OCTOBER 2016

# SCREENING-LEVEL ENVIRONMENTAL ACOUSTIC IMPACT ASSESSMENT

SIPHUMELELE 1 MINE

ADDITIONAL VENTILATION SHAFT

**Anglo American Platinum Limited**

## **Report (version 1)**

Project no: 47522

Date: October 2016

### **WSP | Parsons Brinckerhoff**

South View Block  
Bryanston Place Office Park  
199 Bryanston Drive  
Bryanston 2191







Tel: +27 11 361 1380

Fax: +27 11 361 1381

**[www.wspgroup.com](http://www.wspgroup.com)**

**[www.pbworld.com](http://www.pbworld.com)**

# QUALITY MANAGEMENT

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
<b>Remarks</b>	Report	Report		
<b>Date</b>	February 2016	October 2016		
<b>Prepared by</b>	K. Collett	K. Collett		
<b>Signature</b>				
<b>Checked by</b>	B. Keiser	B. Keiser		
<b>Signature</b>				
<b>Authorised by</b>	B. Keiser	B. Keiser		
<b>Signature</b>				
<b>Project number</b>	47522			
<b>Report number</b>	1 of 1			
<b>File reference</b>	47522 Siphumelele Vent Shaft Noise Assessment 2016 10 05.docx			

# TABLE OF CONTENTS

	<b>GLOSSARY OF TERMS</b> .....	<b>4</b>
	<b>ACRONYMS AND ABBREVIATIONS</b> .....	<b>6</b>
	<b>EXECUTIVE SUMMARY</b> .....	<b>7</b>
<b>1</b>	<b>INTRODUCTION</b> .....	<b>8</b>
<b>2</b>	<b>PROJECT DESCRIPTION</b> .....	<b>8</b>
<b>3</b>	<b>ACOUSTIC FUNDAMENTALS</b> .....	<b>10</b>
3.1	<b>PRINCIPLES</b> .....	<b>10</b>
3.2	<b>NOISE PROPAGATION</b> .....	<b>11</b>
3.3	<b>CHARACTERISTICS OF NOISE</b> .....	<b>12</b>
<b>4</b>	<b>ENVIRONMENTAL NOISE STANDARDS AND GUIDELINES</b> .....	<b>13</b>
4.1	<b>SOUTH AFRICAN NOISE CONTROL REGULATIONS</b> .....	<b>13</b>
4.2	<b>SOUTH AFRICAN NATIONAL STANDARDS (SANS)</b> .....	<b>13</b>
4.3	<b>WORLD HEALTH ORGANISATION GUIDELINES FOR COMMUNITY NOISE</b> .....	<b>14</b>
<b>5</b>	<b>STUDY METHODOLOGY</b> .....	<b>15</b>
5.1	<b>ENVIRONMENTAL ACOUSTIC MONITORING</b> .....	<b>15</b>
5.2	<b>ACOUSTIC CALCULATIONS</b> .....	<b>17</b>
5.3	<b>SENSITIVE RECEPTORS</b> .....	<b>18</b>
<b>6</b>	<b>RESULTS</b> .....	<b>19</b>
6.1	<b>CURRENT NOISE CLIMATE</b> .....	<b>19</b>
6.2	<b>PREDICTED NOISE CLIMATE</b> .....	<b>21</b>

7	<b>ASSUMPTIONS</b> .....	25
8	<b>CONCLUSIONS</b> .....	26
9	<b>REFERENCES</b> .....	27

## TABLES

TABLE 1:	TYPICAL NOISE LEVELS.....	11
TABLE 2:	FREQUENCY WEIGHTING TABLE FOR THE DIFFERENT WEIGHTING CURVES.....	12
TABLE 3:	TYPICAL RATING LEVELS FOR NOISE IN DISTRICTS (ADAPTED FROM SANS 10103:2008).....	13
TABLE 4:	CATEGORIES OF COMMUNITY/GROUP RESPONSE (ADAPTED FROM SANS 10103:2008).....	14
TABLE 5:	NOISE MONITORING LOCATIONS.....	15
TABLE 6:	SOUND LEVEL METER AND CALIBRATOR SPECIFICATIONS.....	17
TABLE 7:	CONSTRUCTION PHASE EQUIPMENT AND SOUND POWER LEVEL RATINGS.....	17
TABLE 8:	DAY-TIME NOISE MONITORING RESULTS.....	19
TABLE 9:	NIGHT-TIME NOISE MONITORING RESULTS .....	20
TABLE 10:	NOISE LEVELS ASSOCIATED WITH THE CONSTRUCTION OF THE PROPOSED VENTILATION SHAFT .....	21
TABLE 11:	PREDICTED DAY-TIME NOISE LEVELS AT THE RESIDENTIAL RECEPTORS DURING THE CONSTRUCTION PHASE .....	22
TABLE 12:	PREDICTED NIGHT-TIME NOISE LEVELS AT THE RESIDENTIAL RECEPTORS DURING THE CONSTRUCTION PHASE .....	22
TABLE 13:	NOISE LEVELS ASSOCIATED WITH THE OPERATION OF THE PROPOSED VENTILATION SHAFT .....	23
TABLE 14:	PREDICTED DAY-TIME NOISE LEVELS AT THE RESIDENTIAL RECEPTORS DURING THE OPERATIONAL PHASE.....	23
TABLE 15:	PREDICTED NIGHT-TIME NOISE LEVELS AT THE RESIDENTIAL RECEPTORS DURING THE OPERATIONAL PHASE.....	24

---

## FIGURES

FIGURE 1:	LOCATION OF THE SIPHUMELELE 1 MINE AND THE PROPOSED ADDITIONAL VENTILATION SHAFT .....	9
FIGURE 2:	WEIGHTING CURVES .....	12
FIGURE 3:	LOCATION OF NOISE MONITORING POINTS .....	16
FIGURE 4:	DAY-TIME MONITORED NOISE LEVELS. LAEQ (YELLOW DIAMOND) IS COMPARED WITH THE SANS GUIDELINE. ....	20
FIGURE 5:	NIGHT-TIME MONITORED NOISE LEVELS. LAEQ (YELLOW DIAMOND) IS COMPARED WITH THE SANS GUIDELINE. ....	21

---

## APPENDICES

### A P P E N D I X A    F I E L D   L O G   S H E E T S

## GLOSSARY OF TERMS

<b>Sound</b>	Sound is small fluctuations in air pressure, measured in Newtons per square meter (N/m <sup>2</sup> ) or Pascals (Pa) that are transmitted as vibrational energy via a medium (air) from the source to the receiver. The human ear is a pressure transducer, which converts these small fluctuations in air pressure into electrical signals, which the brain then interprets as sound.
<b>Noise</b>	Noise is generally defined as unwanted sound.
<b>Sound or noise level</b>	A sound or noise level is a sound measurement that is expressed in Decibels (dB or dB(A)).
<b>dB or dB(A)</b>	The human ear is a sensitive instrument that can detect fluctuations in air pressure over a wide range of amplitudes. This limits the usefulness of sound quantities in absolute terms. For this reason a sound measurement is expressed as ten times the logarithm of the ratio of the sound measurement to a reference value, 20 micro (millionth) Pa. This process converts a scale of constant increases to a scale of constant ratios and considerably simplifies the handling of sound measurement quantities. The attached 'A' indicates that the sound measurement has been A-weighted.
<b>dB(Z)</b>	Historically sound levels were read off a hand held meter and the noise levels were noted in dB, after the development of different weighting curves sound levels were noted as Z-weighting or dB(Z) to reduce the confusion with different type of weighting applied noise levels. dB(Z) refers to linear noise levels.
<b>A-weighting</b>	The human ear is not equally sensitive to sound of all frequencies, i.e. it is less sensitive to low pitched (or 'bass') than high pitched (or 'treble') sounds. In order to compensate when making sound measurements, the measured value is passed through a filter that simulates the human hearing characteristic. Internationally this is an accepted procedure when working with measurements that relate to human responses to sound/noise.
<b>Ambient sound level</b>	Ambient noise will be defined as the totally encompassing sound in a given situation at a given time, and is usually composed of sound from many sources, both near and far.
<b>Annoyance</b>	General negative reaction of the community or person to a condition creating displeasure or interference with specific activities.
<b>Sound pressure</b>	Sound pressure is the force of sound exerted on a surface area perpendicular to the direction of the sound and is measured in N/m <sup>2</sup> or Pa. The human ear perceives sound pressure as loudness and can also be expressed as the number of air pressure fluctuations that a noise source creates.
<b>Sound pressure level</b>	The sound pressure level is a relative quantity as it is a ratio between the actual sound pressure and a fixed reference pressure. The reference pressure is usually the threshold of hearing, namely 20 microPascals (μPa).
<b>Sound power</b>	Sound power is the rate of sound energy transferred from a noise source per unit of time in Joules per second (J/s) or Watts (W).

<b>Sound power level</b>	The sound power level is a relative quantity as it relates the sound power of a source to the threshold of human hearing ( $10^{-12}$ W). Sound power levels are expressed in dB (A), as they are referenced to sound detected by the human ear (A-weighted).
<b>Noise nuisance</b>	Noise nuisance means any sound which disturbs or impairs or may disturb or impair the convenience or peace of any person.
<b>Octave bands</b>	The octave bands refer to the frequency groups that make a sound. The sound is generally divided in to nine groups (octave bands) ranging from 32 Hertz (Hz) to 8,000 Hz. The lower frequency ranges of a sound have a vibrating character where the higher frequency of sound has the character of high pitched sound. In viewing the total octave bands scale from 32 Hz to 8000 Hz the character of the sound can be described.



## ACRONYMS AND ABBREVIATIONS

dB	Decibel
dB(A)	A-weighted sound measurement
dB(Z)	Z-weighted sound measurement
ECA	Environmental Conservation Act 73 of 1989
Hz	Hertz
L <sub>Aeq</sub>	Equivalent continuous sound pressure level
L <sub>R,dn</sub>	Equivalent continuous day/night rating level
L <sub>Req,d</sub>	Equivalent continuous rating level for day-time
L <sub>Req,n</sub>	Equivalent continuous rating level for night-time
L <sub>Req,T</sub>	Typical noise rating levels
NEMA	National Environmental Management Act
NEMAQA	National Environmental Management: Air Quality Act 39 of 2004
SABS	South African Bureau of Standards
SANS	South African National Standards
WHO	World Health Organisation

## EXECUTIVE SUMMARY

This study investigated the acoustic impacts associated with the construction and operation of an additional ventilation shaft at the Siphumelele 1 Mine near Rustenburg in the North West Province. In order to assess the existing noise climate in the area surrounding the Siphumelele 1 Mine, ambient noise monitoring was conducted at four receptor locations during January 2016. Source monitoring of a fan at a similar ventilation shaft at the Khomanani mine was also conducted in order to obtain sound power level data for the proposed ventilation shaft fans. Noise propagation calculations were then applied in order to assess the noise climate at the receptor locations when the additional ventilation shaft is being constructed as well as when it is operational. The changes in noise levels at each receptor were calculated and the resultant impact on the communities determined.

Baseline monitoring indicated that current noise levels at two of the four locations are compliant with the relevant SANS day and night-time guidelines. During construction of the additional ventilation shaft, noise levels are predicted to only marginally increase (between 0.1 to 0.5 dB(A)) at three of the four receptor locations during both the day and night time. According to the SANS categories of community/group responses, such increases are considered to have “little” impact and are anticipated to be negligible, resulting in sporadic complaints and are deemed to go unnoticed during the noisier day-time hours. At the fourth receptor (Photshaneng residential area, south of the proposed ventilation shaft), noise levels as a result of construction activities are predicted to increase by 10.4 dB(A) during the day and 8.1 dB(A) at night. Such increases may result in community complaints. As such, it is recommended that an acoustic barrier is erected on the southern side of the construction activities in order to limit the noise propagation towards the receptors to the south of the site.

When the additional ventilation shaft is operational, noise levels are predicted to increase only marginally at three receptor locations (Photshaneng residential area, south of the proposed ventilation shaft; Thekwane residential area, northwest of the proposed ventilation shaft; and Khomanani 1 Mine main gate). Noise levels at these locations are anticipated to increase by between 0.1 and 4.1 dB(A) during the day and 0.1 and 2.7 dB(A) at night. According to the SANS categories of community/group responses, such increases are considered to have “little” impact resulting in sporadic complaints and are deemed to go unnoticed particularly during the noisier daytime hours.

Based on the acoustic results, it is advised that the project may proceed. It is, however, recommended that a second noise monitoring campaign be undertaken once the ventilation shaft is operational. Since perception to noise is highly subjective, such monitoring will aid in confirming off-site noise levels and whether any complaints that may arise will warrant the need for mitigatory interventions.

# 1 INTRODUCTION

Anglo American Platinum Limited (Anglo) currently operates the Siphumelele 1 Mine which forms part of the Rustenburg Section Mines in the North West Province. Anglo plans to install an additional ventilation shaft at the Siphumelele 1 Mine and as such require environmental authorisation to do so. As part of the environmental authorisation process, an environmental acoustic impact assessment is required in order to determine the impacts of the proposed ventilation shaft on the existing noise climate specifically at the surrounding sensitive receptors (communities).

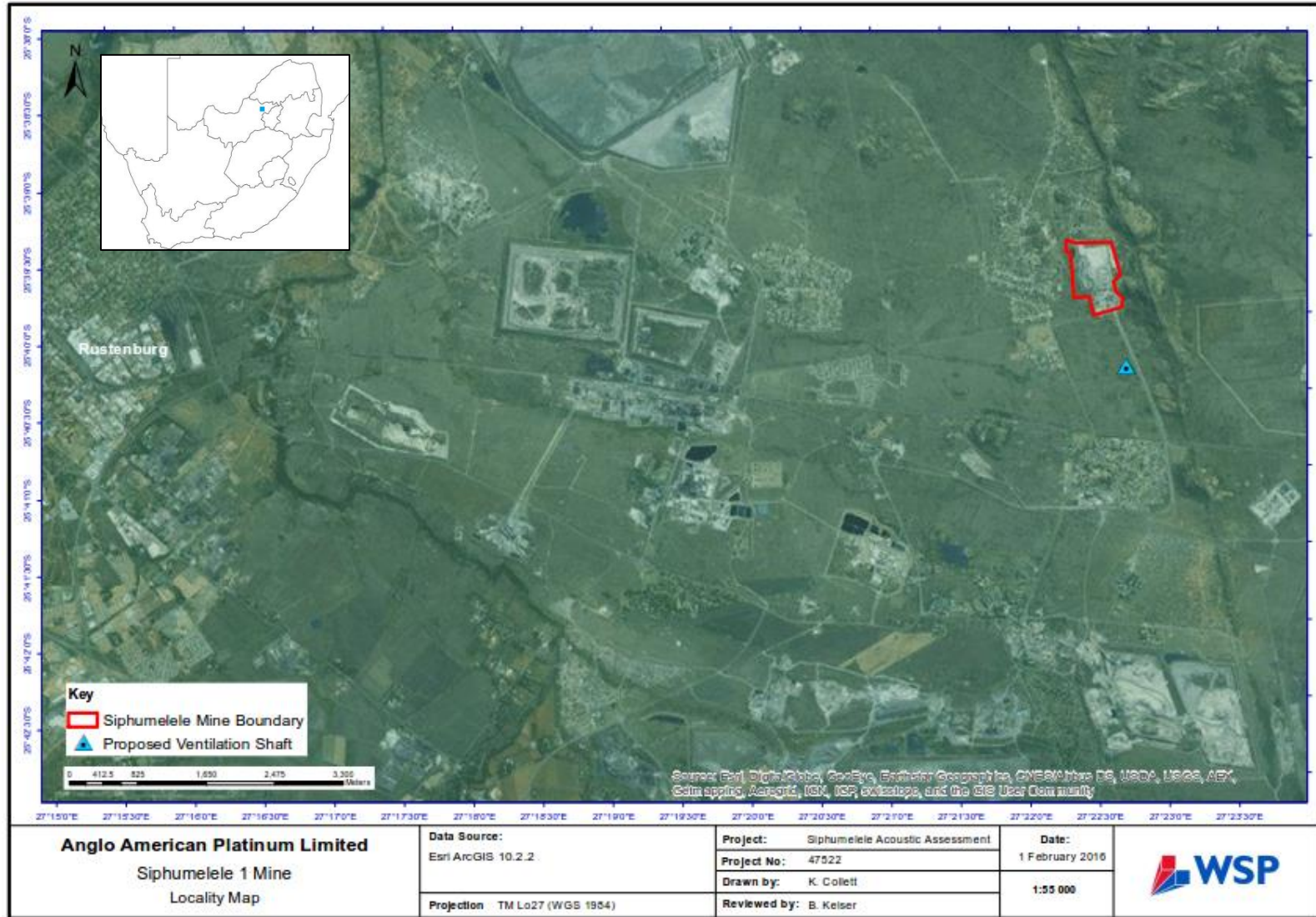
This report details the findings of the environmental acoustic specialist study undertaken to investigate noise associated with the proposed ventilation shaft. Below is a description of the project; followed by a discussion on the fundamentals of noise; a description of the methodology utilised in the study; the results of the study; as well as the assessment of related impacts.

# 2 PROJECT DESCRIPTION

The Siphumelele 1 Mine is located in the North West Province, approximately 11 km east of Rustenburg. The proposed additional ventilation shaft will be located ~650 m south of the existing Siphumelele 1 Mine main entrance gate (**Figure 1**).

The Siphumelele 1 Mine has revised its business plan to access the UG2 reef resources between 21 and 29 levels and will require additional ventilation infrastructure to ensure a safe working environment. The ventilation engineering design conducted for this mining project indicated that an additional exhaust shaft will be required, including a main fan system.

Initially the Khomanani 2 Fan Station will ventilate the West Merensky until the new UG2 shaft and fan station is operational in 2018. The ventilation design indicates that some 350 m<sup>3</sup>/s of ventilating air will be required to circulate and exhaust through this new shaft. Three surface main fans will be required to be installed on top of the exhaust shaft.



**Figure 1: Location of the Siphumelele 1 Mine and the proposed additional ventilation shaft**

# 3 ACOUSTIC FUNDAMENTALS

## 3.1 PRINCIPLES

Sound is defined as any pressure variation (in air, water or other medium) that the human ear can detect. Noise is defined as “unwanted sound”. Noise can lead to health impacts and can negatively affect people’s quality of life. Hearing impairment is typically defined as a decrease in the threshold of hearing. Severe hearing deficits may be accompanied by tinnitus (ringing in the ears). Noise-induced hearing impairment occurs predominantly in the higher frequency range of 3,000 to 6,000 Hertz (Hz), with the largest effect at 4,000 Hz. With increasing  $L_{Aeq,8h}$  and increasing exposure time, noise-induced hearing impairment occurs even at frequencies as low as 2,000 Hz. However, hearing impairment is not expected to occur at  $L_{Aeq,8h}$  levels of 75 dB(A) or below, even for prolonged occupational noise exposure.

Speech intelligibility is adversely affected by noise. Most of the acoustical energy of speech is in the frequency range of 100 to 6,000 Hz, with the most important cue-bearing energy being between 300 and 3,000 Hz. Speech interference is basically a masking process in which simultaneous interfering noise renders speech incapable of being understood. Environmental noise may also mask other acoustical signals that are important for daily life such as doorbells, telephone signals, alarm clocks, music, fire alarms and other warning signals.

Sleep disturbance is a major effect of environmental noise. It may cause primary effects during sleep and secondary effects that can be assessed the day after night-time noise exposure. Uninterrupted sleep is a prerequisite for good physiological and mental functioning and the primary effects of sleep disturbance are: (a) difficulty in falling asleep; and (b) awakenings and alterations of sleep stages or depth. The difference between the sound levels of a noise event and background sound levels, rather than the absolute noise level, may determine the reaction probability.

The annoyance due to a given noise source is subjective from person to person, and is also dependent upon many non-acoustic factors such as the prominence of the source, its importance to the listener’s economy (wellbeing), and his or her personal opinion of the source. The result of increased exposure to noise on individuals can have negative effects, both physiological (influence on communication, productivity and even impaired hearing) and psychological effects (stress, frustration and disturbed sleep). As such, noise impacts need to be understood to mean one or a combination of negative physical, physiological or psychological responses experienced by individuals, whether consciously or unconsciously, caused by exposure to noise.

More technically, noise impacts are defined as the capacity of noise to induce annoyance depending upon its physical characteristics including the sound pressure level, spectral characteristics and variations of these properties with time. During day-time, individuals may be annoyed at  $L_{Aeq}$  levels below 55 dB(A), while very few individuals are moderately annoyed at  $L_{Aeq}$  levels below 50 dB(A). Sound levels during the evening and night should be 5 to 10 dB(A) lower than during the day (World Health Organisation, 1999).

Table 1: Typical noise levels

Sound Pressure Level (dB(A))	Typical Source	Subjective Evaluation
130	threshold of pain	intolerable
120	heavy rock concert	extremely noisy
110	grinding on steel	
100	loud car horn at 3m	very noisy
90	construction site with pneumatic hammering	
80	kerbside of busy street	loud
70	loud radio or television	
60	department store	moderate to quiet
50	general office	
40	inside private office	quiet to very quiet
30	inside bedroom	
20	unoccupied recording studio	almost silent

## 3.2 NOISE PROPAGATION

Sound is a pressure wave that diminishes with distance from source. Depending on the nature of the noise source, sound propagates at different rates. The three most common categories of noise are point sources (specified single point of noise generation) line sources (multiple linear noise generating points, such as a road) and area sources (specified single area of noise generation). The most important factors affecting noise propagation are:

- The type of source (point, line or area);
- Obstacles such as barriers and buildings;
- Distance from source;
- Atmospheric absorption;
- Ground absorption; and
- Reflections.

Research has shown that doubling the distance from a noise source results in a proportional decline in noise level. Sound propagation in air can be compared to ripples on a pond. The ripples spread out uniformly in all directions, decreasing in amplitude as they move further from the source. An acoustically hard site exists where sound travels away from the source over a generally flat, hard surface such as water, concrete, or hard-packed soil. These are examples of reflective ground, where the ground cover provides little or no attenuation. The standard attenuation rate for hard site conditions is 6 dB(A) per doubling of distance for point sources. Thus, if you are at a position one meter from the source and move one meter further away from the source, the sound pressure level will drop by 6 dB(A), moving to 4 meters, the drop will be a further 6 dB(A), and so on. When ground cover or normal unpacked earth (i.e. a soft site) exists between the source and receptor, the ground becomes absorptive to sound energy. Absorptive ground results in an additional noise reduction of approximately 1.5 dB(A) per doubling of distance.

This methodology is only applicable when there are no reflecting or screening objects in the sound path. When an obstacle is in the sound path, part of the sound may be reflected and part absorbed and the remainder may be transmitted through the object. How much sound is reflected, absorbed and/or transmitted depends on many factors, including the properties of the object. When receptor locations are not in the line of sight of the noise source, there may be up to 20 dB(A) attenuation for broadband noise, with a further 10 to 15 dB(A) attenuation when inside the average residence and the windows are open.

### 3.3 CHARACTERISTICS OF NOISE

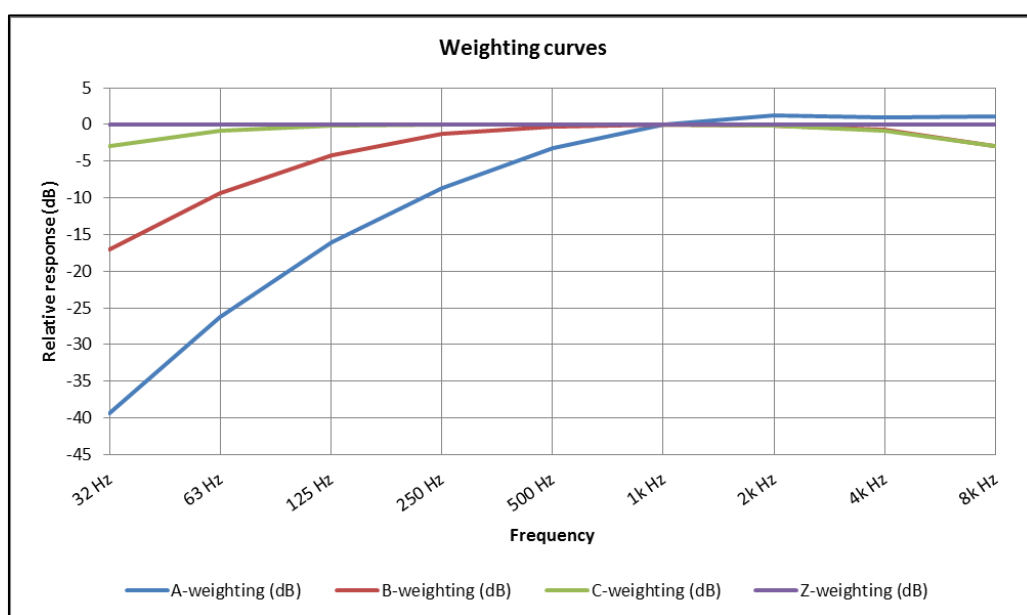
The human ear simultaneously receives sound (normal un-weighted sound or Z-weighting dB(Z)) at many frequencies (octave bands) at different amplitudes. The ear then adjusts its sensitivity based on the amplitude of the sound observed. This focuses the sound and makes it audible by adjusting the amplitude of the low, middle and high frequencies. To measure how a person experiences sound, an electronic weighting adjusted to the Z-weighted sound was developed, including three different weighting curves, namely:

- **A-weighting** - This measurement is often noted as dB(A) and this weighting curve attempts to make the noise level meter respond closely to the characteristics of a human ear. It adjusts the frequencies at low and high frequencies. Various national and international standards relate to measurements recorded in the A-weighting of sound pressure levels;
- **B-weighting** - is similar to A-weighting but with less attenuation. The B-weighting is very seldom, if ever, used. The B-weighting follows the C-weighted trend;
- **C-weighting** - is intended to represent how the ear perceives sound at high decibel levels. C-weighted measurements are reported as dB(C); and
- **Z-weighting** - this refers to linear, unweighted noise levels.

The weighting is employed by arithmetically adding a table of values (**Table 2**), listed by octave bands, to the measured linear sound pressure levels for each specific octave band. The resulting octave band measurements are logarithmically added to provide a single weighted value describing the sound, based on the applied weighting curve (**Figure 2**). Thus, if the A-weighted curve was applied to the sound, the noise level is noted as dB(A).

**Table 2: Frequency weighting table for the different weighting curves.**

Frequency (Hz)	32 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
<b>A-weighting</b>	-39.4	-26.2	-16.1	-8.6	-3.2	0	1.2	1	1.1
<b>B-weighting</b>	-17.1	-9.3	-4.2	-1.3	-0.3	0	-0.1	-0.7	-2.9
<b>C-weighting</b>	-3	-0.8	-0.2	0	0	0	-0.2	-0.8	-3
<b>Z-weighting</b>	0	0	0	0	0	0	0	0	0



**Figure 2: Weighting curves**

# 4 ENVIRONMENTAL NOISE STANDARDS AND GUIDELINES

## 4.1 SOUTH AFRICAN NOISE CONTROL REGULATIONS

In South Africa, environmental noise control has been in place for three decades, beginning in the 1980s with codes of practice issued by the South African National Standards (then the South African Bureau of Standards, SABS) to address noise pollution in various sectors of the country. Under the previous generation of environmental legislation, specifically the Environmental Conservation Act 73 of 1989 (ECA), provisions were made to control noise in different districts from a national level. In later years, the ECA was replaced by the National Environmental Management Act 107 of 1998 (NEMA) as amended. The National Environmental Management: Air Quality Act 39 of 2004 (NEMAQA) was published in line with NEMA and contains noise control provisions under Section 34:

*“(1) The minister may prescribe essential national standards –*  
*(a) for the control of noise, either in general or by specific machinery or activities or in specified places or areas; or*  
*(b) for determining –*  
*(i) a definition of noise; and*  
*(ii) the maximum levels of noise.*  
*(2) When controlling noise the provincial and local spheres of government are bound by any prescribed national standards.”*

Under NEMAQA, the noise control regulations were updated and are to be applied to all provinces in South Africa. The noise control regulations give all the responsibilities of enforcement to the local provincial authority, where location specific by-laws can be created and applied to the locations with approval of provincial government. Furthermore, NEMAQA prescribes that the Minister must publish maximum allowable noise levels for different districts and national noise standards. These have not yet been accomplished and as a result all monitoring and assessments are done in accordance with the SANS 10103:2008 and 10328:2008 as described below.

## 4.2 SOUTH AFRICAN NATIONAL STANDARDS (SANS)

The SANS 10328:2008 *Methods for environmental noise impact assessments* presently inform environmental acoustic impact assessment in South Africa. The SANS 10103:2008 - Typical Rating Levels ( $L_{Req,T}$ ) for noise are presented in **Table 3**.

**Table 3: Typical Rating Levels for Noise in Districts (adapted from SANS 10103:2008)**

Type of District	Classification	Equivalent Continuous Rating level for Noise ( $L_{Req,T}$ ) (dB(A))	
		Outdoors	
		Day-time ( $L_{Req,d}$ )	Night-time ( $L_{Req,n}$ )
a) Rural	A	45	35
b) Suburban (with little road traffic)	B	50	40
c) Urban	C	55	45
d) Urban (with one or more of the following: workshops, business premises and main roads)	D	60	50
e) Central Business Districts	E	65	55
f) Industrial District	F	70	60
Guidelines in red are applicable to this noise impact assessment			



As stipulated by the SANS 10103:2008, noise can pose as an annoyance to a community if the increase in average noise levels exceeds the rating level of the residual noise. These noise rating levels together with estimated group responses are presented in **Table 4**.

**Table 4: Categories of Community/Group Response (Adapted from SANS 10103:2008)**

Excess ( $\Delta L_{Req,T}$ ) <sup>a</sup> dB(A)	Estimated Community or Group Response	
0 – 10	Little	Sporadic Complaints
5 – 15	Medium	Widespread Complaints
10 – 20	Strong	Threats of community/group action
>15	Very Strong	Vigorous community/group action

Overlapping ranges for the excess values are given because a spread in the community reaction might be anticipated.

<sup>a</sup>  $\Delta L_{Req,T}$  should be calculated from the appropriate of the following:

- 1)  $L_{Req,T} = L_{Req,T}$  of ambient noise under investigation MINUS  $L_{Req,T}$  of the residual noise (determined in the absence of the specific noise under investigation);
- 2)  $L_{Req,T} = L_{Req,T}$  of ambient noise under investigation MINUS the maximum rating level of the ambient noise given in Table 1 of the code;
- 3)  $L_{Req,T} = L_{Req,T}$  of ambient noise under investigation MINUS the typical rating level for the applicable district as determined from Table 2 of the code; or
- 4)  $L_{Req,T} =$  Expected increase in  $L_{Req,T}$  of ambient noise in the area because of the proposed development under investigation.

### 4.3 WORLD HEALTH ORGANISATION GUIDELINES FOR COMMUNITY NOISE

The World Health Organisation (WHO) together with the Organisation for Economic Co-operation and Development (OECD) are the main international bodies that have collected data and developed assessments on the effects of exposure to environmental noise. This has provided the following summary of thresholds for noise nuisance in terms of outdoor daytime  $L_{Aeq}$  in residential districts:

- At 55 - 60 dB(A) noise creates annoyance.
- At 60 - 65 dB(A) annoyance increases considerably.
- Above 65 dB(A) constrained behaviour patterns, symptomatic of serious damage caused by noise

The World Health Organisation recommends a maximum outdoor daytime  $L_{Aeq}$  of 55 dB(A) in residential areas and schools in order to prevent significant interference with normal activities. It further recommends a maximum night-time  $L_{Aeq}$  of 45 dB(A) outside dwellings. No distinction is made as to whether the noise originates from road traffic, from industry, or any other noise source.

The WHO also lists that the guideline for industrial noise is set to 70 dB(A) over a period of 24 hours. This would cause hearing impairment, where the peak noise level of 110 dB(A) is allowable on a fast response measurement.

# 5 STUDY METHODOLOGY

In order to assess the environmental acoustic impacts of the proposed ventilation shaft both baseline (monitored) and proposed (calculated) noise levels were assessed. Comparisons of the existing and proposed noise levels at various specified sensitive receptors (noise receivers) enabled an assessment of changes in noise levels at these locations as a result of the proposed ventilation shaft. Such changes can then be measured against the SANS community or group responses (**Table 4**) in order to assess the anticipated impacts/responses as a result of such increases.

## 5.1 ENVIRONMENTAL ACOUSTIC MONITORING

Ambient sound level measurements were undertaken on 20 January at four receptor locations (**Table 5** and **Figure 3**). Source monitoring of the fan at the existing ventilation shaft at the Khomanani Mine, located 4.5 km west of the Siphumelele 1 Mine, was also conducted. It is understood that the fans at the additional Siphumelele 1 Mine ventilation shaft will be identical to the one installed at the Khomanani Mine ventilation shaft. Such monitoring therefore provides the sound level data required in the acoustic calculations.

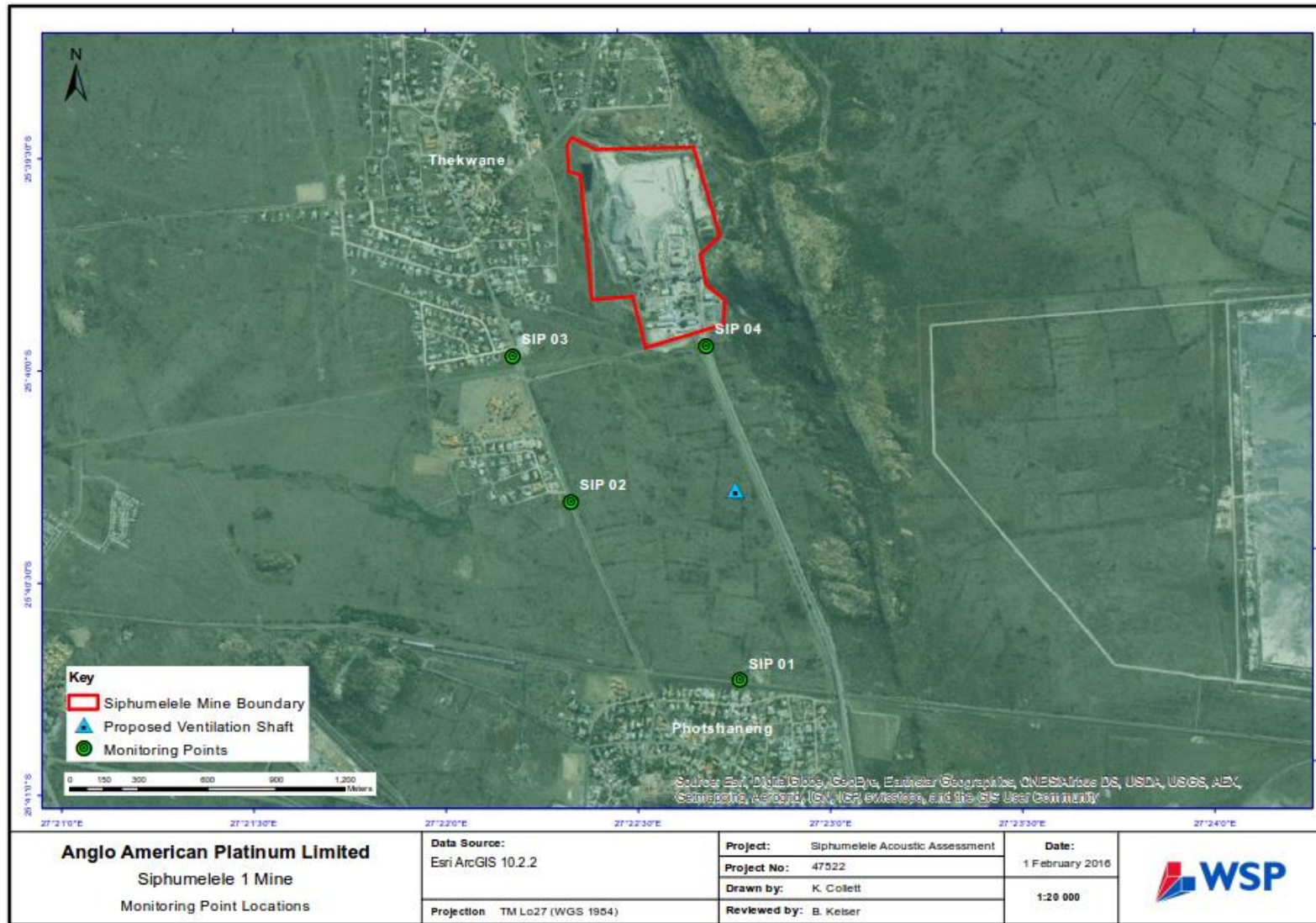
All receptor sound level measurements were free-field measurements (i.e. at least 3.5 m away from any vertical reflecting surfaces). Measurement procedures were undertaken according to the relevant South African Code of Practice SANS 10103:2008. This guides the selection of monitoring locations, microphone positioning and equipment specifications. Sound level measurements were taken with a SABS-calibrated Type 1 Integrating Sound Level Meter. The make and model as well as serial number and calibration validity of the sound level meter and calibrator are presented in **Table 6**. The daytime and night-time measurements were taken for ten minutes, allowing monitoring to be adequately representative. The monitoring was conducted during the relevant timeframes for day (06:00 to 22:00) and night (22:00 to 06:00) in accordance with the SANS methodology. The sound level meter was calibrated before and after measurements were conducted and no significant drifts (differences greater than 0.5 dB(A)) were found to occur.

The noise parameters recorded included:

- $L_{Aeq}$  - The equivalent continuous sound pressure level, normally measured (A-weighted);
- $L_{Amax}$  - The maximum sound pressure level of a noise event measured (A-weighted);
- $L_{Zpeak}$  - The peak noise level experienced during the measurement (Z-weighted); and
- $L_{A90}$  - The average noise level the receptor is exposed to for 90% of the monitoring period.

**Table 5: Noise monitoring locations**

Location ID	Description	Distance from Proposed Ventilation Shaft (m)
<b>SIP 01</b>	Residential settlement to the south of the proposed ventilation shaft	830
<b>SIP 02</b>	Residential settlement to the west of the proposed ventilation shaft	700
<b>SIP 03</b>	Residential settlement to the northwest of the proposed ventilation shaft	1130
<b>SIP 04</b>	Siphumelele 1 Main Gate	640
<b>Khomanani</b>	At the existing ventilation shaft at the Khomanani Mine	N/A



**Figure 3: Location of noise monitoring points**

Screening-Level Environmental Acoustic Impact Assessment  
 Anglo American Platinum Limited

Table 6: Sound level meter and calibrator specifications

Sound level meter	Calibrator
<b>Make &amp; model:</b> CEL 63X	<b>Make &amp; model:</b> CEL-120/1
<b>Serial number:</b> 3134723	<b>Serial number:</b> 3939145
<b>Date calibrated:</b> October 2015	<b>Date calibrated:</b> October 2015
<b>Calibration due date:</b> October 2016	<b>Calibration due date:</b> October 2016

## 5.2 ACOUSTIC CALCULATIONS

### CONSTRUCTION PHASE

**Table 7** presents a list of potential construction equipment that will be utilised during the construction of the additional ventilation shaft at the Siphumelele 1 Mine as well as the sound power level (PWL) specifications of the equipment (BSI, 2009; Murray and Roberts, 2016). It is noted that not all listed equipment will be operational simultaneously. As such, in order to evaluate a worst-case construction phase noise scenario, the highest PWL (raise bore machine) will be utilised to calculate resultant noise levels at specified distances (receptors) from the facility. Such resultant receptor noise levels were calculated using attenuation-over-distance acoustic calculations. The raise bore machine is envisaged to be operational continuously for up to six months. It therefore will represent a worst-case scenario.

Table 7: Construction phase equipment and sound power level ratings

Equipment	Sound Power Level (dB(A))
Dump Truck	109.0
Loader	103.0
Dozer	107.0
Grader	105.0
Vibratory Roller	102.0
Backhoe	99.0
Chain Trencher	105.0
Spreader	110.0
Paver	105.0
Water Truck	109.0
Pickup Truck	95.0
Backhoe/Skiploader	99.0
Forklift	106.0
Compactor	108.0
Pile Driver	106.0
Concrete Truck	109.0
Concrete Pump	106.0
Delivery Truck	95.0
Crane	103.0
Raise Bore Machine	113.0

## OPERATIONAL PHASE

As monitored, the sound pressure level (SPL) of the ventilation fan at the Khomanani ventilation shaft is 86.3 dB(A) at 2 m from the source. This SPL is then converted to a PWL, using **Equation 1** in order to determine the noise generating potential of the ventilation shaft fan. **Equation 1** calculates PWLs based on the hemispherical propagation of sound under free field conditions (i.e. it is assumed that the noise source is located in the vicinity of hard, reflecting surfaces and is considered environmentally conservative). The 'r' value represents the distance from the source that the SPL was recorded (i.e. 2 m). The cumulative (logarithmic) PWL for the proposed ventilation shaft fans was then calculated based on the fact that there will be three ventilation fans installed at the proposed ventilation shaft.

$$PWL = SPL - 10 \log \frac{2}{4\pi r^2} \quad (1)$$

This PWL was applied to the proposed additional ventilation shaft location and resultant noise levels at specified distances (receptors) from the facility were calculated using attenuation-over-distance acoustic calculations. Based on field observations, it is noted that the fan is the only source of noise at the ventilation shaft and as such noise only from this source was used in the calculations.

### 5.3 SENSITIVE RECEPTORS

Sensitive receptors are identified as areas that may be impacted negatively due to noise associated with the proposed ventilation shaft. Examples of receptors include, but are not limited to, schools, shopping centres, hospitals, office blocks and residential areas. The Siphumelele 1 Mine is surrounded by natural and agricultural land uses to the east with residential settlements to the north, west and south. The specific sensitive receptors considered in this study are the same as those locations selected in the monitoring campaign as presented in **Table 5** and **Figure 3**.

# 6

## RESULTS

### 6.1

#### CURRENT NOISE CLIMATE

##### DAY-TIME NOISE MONITORING

The results from the day-time noise monitoring conducted at the surrounding receptor locations on 20 January 2016 are presented in **Table 8** and **Figure 4**. Noise levels at all residential locations were compared to the typical day-time rating level for noise in urban areas (55 dB(A)) while noise levels at the Siphumelele 1 Main Gate (SIP 04) were assessed against the industrial guideline level of 70 dB(A).

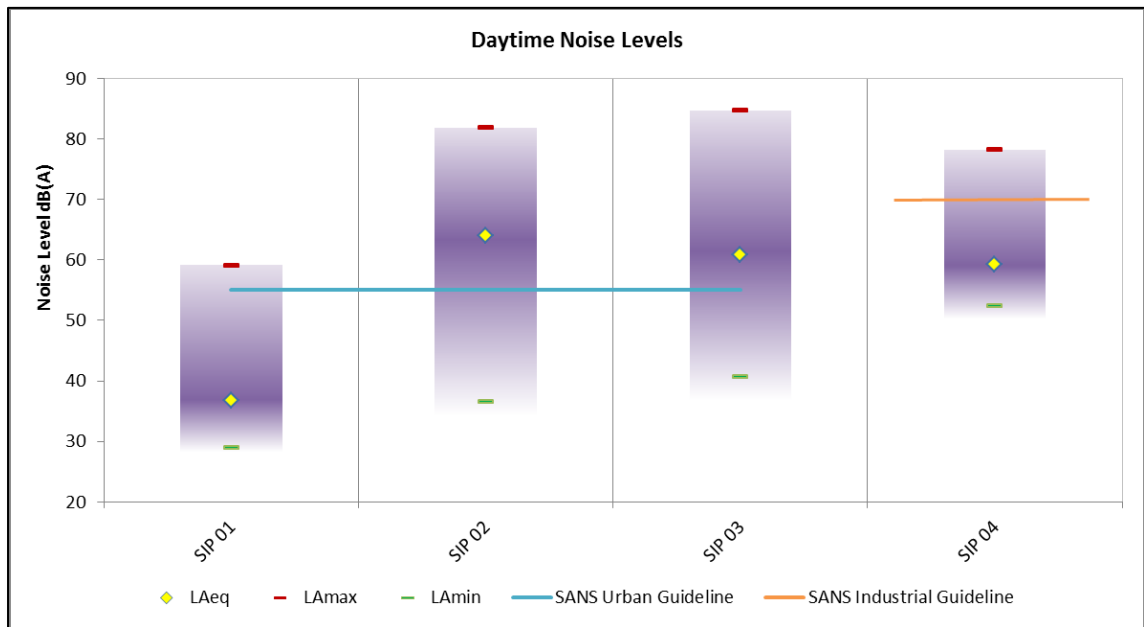
Noise levels at two of the four monitoring locations (SIP 01 and SIP 04) are currently compliant with the SANS guideline. Noise levels at all other locations exceed the relevant guideline level, noting the following:

- SIP 02 – Located at the nearest residential area, west of the proposed ventilation shaft. Dominant noise sources at this location included activity of people, road traffic as well as an overhead aircraft. The Siphumelele 1 Mine was audible at this location.
- SIP 03 – Located within the Thekwane residential area, northwest of the proposed ventilation shaft. Dominant noise sources at this location included activity of people, road traffic and activities at the Siphumelele 1 Mine.

**Table 8: Day-time noise monitoring results**

Location	Monitoring Date	Time	L <sub>Aeq</sub> (dB(A))	L <sub>Amax</sub> (dB(A))	L <sub>Amin</sub> (dB(A))	SANS Guideline (dB(A))	Compliant
SIP 01	20 January 2016	15:48	<b>36.7</b>	59.1	29.0	55	Yes
SIP 02	20 January 2016	15:32	<b>64.0</b>	81.9	36.6	55	No
SIP 03	20 January 2016	15:18	<b>60.8</b>	84.7	40.8	55	No
SIP 04	20 January 2016	14:58	<b>59.3</b>	78.2	52.5	70	Yes

**Note: L<sub>Aeq</sub> (BOLD) value to be compared with SANS guideline**



**Figure 4:** Day-time monitored noise levels.  $L_{Aeq}$  (yellow diamond) is compared with the SANS guideline.

## NIGHT-TIME NOISE MONITORING

The results from the night-time noise monitoring conducted at the surrounding receptor locations on 20 January 2016 are presented in **Table 9** and **Figure 5**. Noise levels at all residential locations were compared to the typical night-time rating level for noise in urban areas (45 dB(A)) while noise levels at the Siphumelele 1 Main Gate (SIP 04) were assessed against the industrial guideline level of 60 dB(A).

Noise levels at two of the four monitoring locations (SIP 01 and SIP 04) are currently compliant with the SANS guideline. Noise levels at all other locations exceed the relevant guideline level, noting the following:

- SIP 02 – Located at the nearest residential area, west of the proposed ventilation shaft. Dominant noise sources at this location included activity of people, dogs barking and limited road traffic.
- SIP 03 – Located within the Thekwane residential area, northwest of the proposed ventilation shaft. Dominant noise sources at this location included road traffic and the Siphumelele 1 Mine.

**Table 9:** Night-time noise monitoring results

Location	Monitoring Date	Time	$L_{Aeq}$ (dB(A))	$L_{Amax}$ (dB(A))	$L_{Amin}$ (dB(A))	SANS Guideline (dB(A))	Compliant
SIP 01	20 January 2016	22:38	<b>39.3</b>	67.7	34.6	45	Yes
SIP 02	20 January 2016	22:24	<b>59.9</b>	83.3	38.7	45	No
SIP 03	20 January 2016	22:10	<b>54.5</b>	76.5	41.5	45	No
SIP 04	20 January 2016	21:52	<b>58.1</b>	68.0	55.5	60	Yes

**Note:**  $L_{Aeq}$  (BOLD) value to be compared with SANS guideline

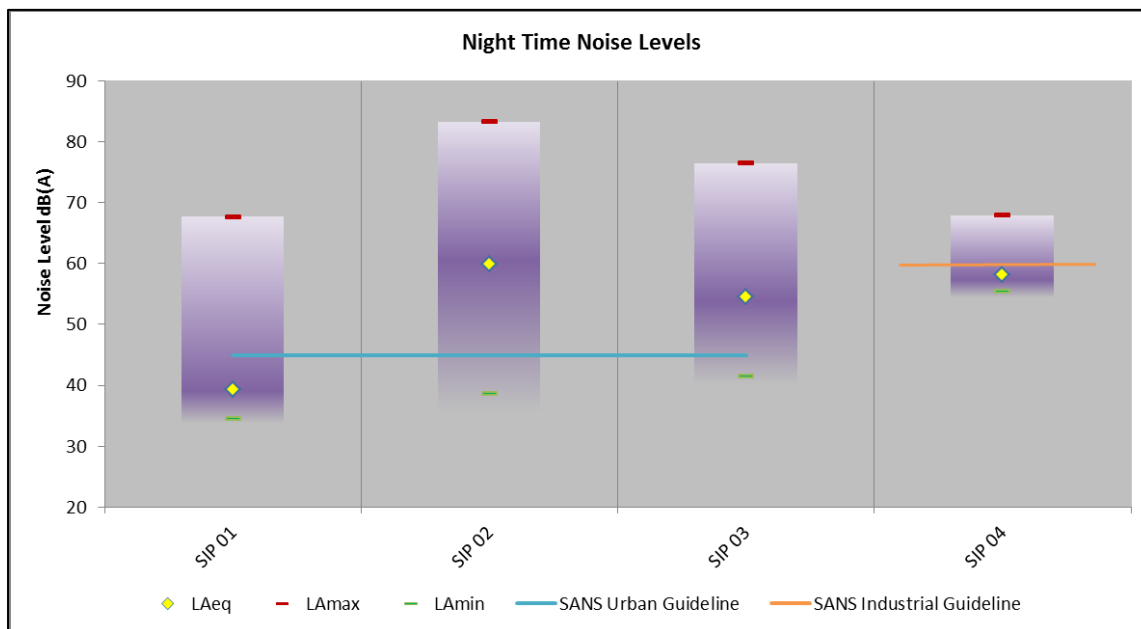


Figure 5: Night-time monitored noise levels. LAeq (yellow diamond) is compared with the SANS guideline.

## 6.2 PREDICTED NOISE CLIMATE

### CONSTRUCTION PHASE

Based on a PWL of 113 dB(A) stemming from the raise bore machine at the proposed ventilation shaft site, the resultant noise levels at specified distances from the source are presented in **Table 10**. Noise levels in the immediate vicinity of the construction activities are predicted to be high, in excess of the SANS industrial rating level of 70 dB(A), as would be expected. From 100 m from the source, noise levels will reduce considerably, remaining below the industrial rating level. It must be noted that these noise levels are purely associated with noise related to the construction of the proposed ventilation shaft and do not include baseline (existing) noise levels.

Table 10: Noise levels associated with the construction of the proposed ventilation shaft

Distance from Ventilation Shaft (m)	Calculated Noise Level dB(A)
10	85
50	71
100	65
200	59
500	51
1,000	45

Resultant noise levels and predicted impacts at the receptor locations are presented in **Table 11** and **Table 12**. This includes baseline (monitored) noise levels in order to assess changes in noise levels at each location. These changes are assessed using the classifications presented in **Table 4**.



During the day, the change in noise levels associated with the operation of the proposed ventilation shaft will result in “little” estimated community response at all receptor locations except SIP 01 (Photshaneng, south of ventilation shaft). Noise levels are anticipated to increase at SIP 01 by 10.4 dB(A). Such an increase may result in community complaints, however, the cumulative noise level will still remain below the SANS day-time urban guideline level of 55 dB(A). At SIP 02, SIP 03 and SIP 04, increases in noise levels are anticipated to be negligible, resulting in sporadic complaints and are deemed to go unnoticed during the noisier day-time hours.

**Table 11: Predicted day-time noise levels at the residential receptors during the construction phase**

Location	Noise level from construction activities dB(A)	Baseline Noise Level dB(A)	Cumulative Noise Level dB(A)	Change in Noise Level dB(A)	Estimated Community Response
SIP 01	46.6	36.7	47.1	+10.4	Medium
SIP 02	48.1	64.0	64.1	+0.1	Little
SIP 03	44.0	60.8	60.9	+0.1	Little
SIP 04	48.9	59.3	59.7	+0.4	Little

The raise bore machine is expected to operate 24 hours a day and as such, night-time noise levels at the receptor locations will be affected. At night, the change in noise levels associated with the construction of the proposed ventilation shaft will result in “little” estimated community response at all receptor locations except SIP 01 (Photshaneng, south of ventilation shaft). Noise levels are anticipated to increase at SIP 01 by 8.1 dB(A), which may result in community complaints. Cumulative noise levels at this location will marginally exceed the night-time rating level of 45 dB(A). At SIP 02, SIP 03 and SIP 04, increases in noise levels are anticipated to be negligible, resulting in sporadic complaints if any.

**Table 12: Predicted night-time noise levels at the residential receptors during the construction phase**

Location	Noise level from construction activities dB(A)	Baseline Noise Level dB(A)	Cumulative Noise Level dB(A)	Change in Noise Level dB(A)	Estimated Community Response
SIP 01	46.6	39.3	47.4	+8.1	Little to Medium
SIP 02	48.1	59.9	60.2	+0.3	Little
SIP 03	44.0	54.5	54.9	+0.4	Little
SIP 04	48.9	58.1	58.6	+0.5	Little

Since noise levels at the Photshaneng receptor (SIP 01) are predicted to increase as a result of the construction activities, it is recommended that noise mitigation techniques be employed on site. These include:

- Erection of an acoustic barrier on the southern side of the raise bore machine in order to limit the noise propagation towards the receptors to the south of the site;
- Selection of construction equipment with lower sound power level specifications;
- Installation of mufflers on exhausts of construction vehicles; and
- The use of ear protection equipment for personnel working onsite in close proximity to noise sources.

## OPERATIONAL PHASE

Based on a PWL of 105.1 dB(A) emanating from the fans at the proposed ventilation shaft, the resultant noise levels at specified distances from the source are presented in **Table 13**. Noise levels in the immediate vicinity of the ventilation shaft are predicted to be high, in excess of the SANS industrial rating level of 70 dB(A), as would be expected. From 50 m from the source, noise levels will reduce considerably, remaining below the industrial rating level. It must be noted that these noise levels are purely associated with noise related to the proposed ventilation shaft and do not include baseline (existing) noise levels.

**Table 13: Noise levels associated with the operation of the proposed ventilation shaft**

Distance from Ventilation Shaft (m)	Calculated Noise Level dB(A)
10	77
50	63
100	57
200	51
500	43
1,000	37

Resultant noise levels and predicted impacts at the receptor locations are presented in **Table 14** and **Table 15**. This includes baseline (monitored) noise levels in order to assess changes in noise levels at each location. These changes are assessed using the classifications presented in **Table 4**.

During the day, the change in noise levels associated with the operation of the proposed ventilation shaft will result in “little” estimated community response at all receptor locations. Noise levels are only anticipated to increase at SIP 01, located south of the proposed ventilation shaft and SIP 04, at the Siphumelele 1 Mine main gate. Such increases (+4.1 dB(A) and +0.1 dB(A)) are anticipated to be negligible, resulting in sporadic complaints and are deemed to go unnoticed during the noisier day-time hours.

**Table 14: Predicted day-time noise levels at the residential receptors during the operational phase**

Location	Noise level from proposed ventilation shaft dB(A)	Baseline Noise Level dB(A)	Cumulative Noise Level dB(A)	Change in Noise Level dB(A)	Estimated Community Response
SIP 01	38.7	36.7	40.8	+4.1	Little
SIP 02	40.2	64.0	64.0	0.0	Little
SIP 03	36.1	60.8	60.8	0.0	Little
SIP 04	41.0	59.3	59.4	+0.1	Little

At night, the change in noise levels associated with the operation of the proposed ventilation shaft will result in “little” estimated community response at all receptor locations. Noise levels are anticipated to increase marginally at SIP 01, located south of the proposed ventilation shaft; SIP 03, located northwest of the proposed shaft; and at SIP 04, located at the Siphumelele 1 Mine main gate. Such increases (+2.7 dB(A) and +0.1 dB(A)) are anticipated to be negligible, resulting in sporadic complaints if any.

**Table 15: Predicted night-time noise levels at the residential receptors during the operational phase**

Location	Noise level from proposed ventilation shaft dB(A)	Baseline Noise Level dB(A)	Cumulative Noise Level dB(A)	Change in Noise Level dB(A)	Estimated Community Response
SIP 01	38.7	39.3	42.0	+2.7	Little
SIP 02	40.2	59.9	59.9	0.0	Little
SIP 03	36.1	54.5	54.6	+0.1	Little
SIP 04	41.0	58.1	58.2	+0.1	Little

Once operational, should numerous complaints arise, noise mitigation techniques can be employed on site. These include:

- Enclosing of the fan mechanism (excluding the fan blades) within a sound absorbing enclosure; and
- Erection of an acoustic barrier along the southern boundary of the operations to limit the noise propagation towards the receptors to the south of the site.

# 7 ASSUMPTIONS

In this environmental acoustic impact assessment, various assumptions were made that may impact on the results obtained. These assumptions include:

- All the construction equipment will not operate simultaneously at the site;
- All construction equipment specifications provided by the Client are an accurate representation of what will occur on site during the construction phase;
- The fans installed at the proposed ventilation shaft will be identical to the one installed at the Khomanani Mine; and
- The ventilation fan will be the only source of noise during the operational phase at the proposed ventilation shaft.

# 8

## CONCLUSIONS

This study investigated the acoustic impacts associated with the construction and operation of an additional ventilation shaft at the Siphumelele 1 Mine near Rustenburg in the North West Province. In order to assess the existing noise climate in the area surrounding the Siphumelele 1 Mine, ambient noise monitoring was conducted at four receptor locations during January 2016. Source monitoring of a fan at a similar ventilation shaft at the Khomanani mine was also conducted in order to obtain sound power level data for the proposed ventilation shaft fans. Noise propagation calculations were then applied in order to assess the noise climate at the receptor locations when the additional ventilation shaft is being constructed as well as when it is operational. The changes in noise levels at each receptor were calculated and the resultant impact on the communities determined.

Baseline monitoring indicated that current noise levels at two of the four locations are compliant with the relevant SANS day and night-time guidelines. During construction of the additional ventilation shaft, noise levels are predicted to only marginally increase (between 0.1 to 0.5 dB(A)) at three of the four receptor locations during both the day and night time. According to the SANS categories of community/group responses, such increases are considered to have “little” impact and are anticipated to be negligible, resulting in sporadic complaints and are deemed to go unnoticed during the noisier day-time hours. At the fourth receptor (Photshaneng residential area, south of the proposed ventilation shaft), noise levels as a result of construction activities are predicted to increase by 10.4 dB(A) during the day and 8.1 dB(A) at night. Such increases may result in community complaints. As such, it is recommended that an acoustic barrier is erected on the southern side of the construction activities in order to limit the noise propagation towards the receptors to the south of the site.

When the additional ventilation shaft is operational, noise levels are predicted to increase only marginally at three receptor locations (Photshaneng residential area, south of the proposed ventilation shaft; Thekwane residential area, northwest of the proposed ventilation shaft; and Khomanani 1 Mine main gate). Noise levels at these locations are anticipated to increase by between 0.1 and 4.1 dB(A) during the day and 0.1 and 2.7 dB(A) at night. According to the SANS categories of community/group responses, such increases are considered to have “little” impact resulting in sporadic complaints and are deemed to go unnoticed particularly during the noisier daytime hours.

Based on the acoustic results, it is advised that the project may proceed. It is, however, recommended that a second noise monitoring campaign be undertaken once the ventilation shaft is operational. Since perception to noise is highly subjective, such monitoring will aid in confirming off-site noise levels and whether any complaints that may arise will warrant the need for mitigatory interventions.

## 9

## REFERENCES

BSI British Standards (2009): Code of practice for noise and vibration control on construction and open sites – Part1: Noise. British Standard: BS 5228-1:2009.

Murray and Roberts (2016): Raise Bore Machine HG 330 specifications and resultant noise levels.

South African National Standards (2008): SANS – Code of Practice 10103:2008, The measurement and rating of environmental noise with respect to annoyance and to speech communication, Standards South Africa, 6th Edition (ISBN 978-0-626-20832-5).

World Health Organisation (WHO) (1999): Guidelines for Community Noise. Available online at: <http://www.who.int/docstore/peh/noise/guidelines2.html>.

# Appendix A

**FIELD LOG SHEETS**

Project Number: 47522

Project Name: Siphumele N/A

Location: Rustenburg

Consultant: T. Molapisi and Y. Kowias

Date: 2016-01-20



**Daytime Monitoring Sheet**

ID	Name / Description	Calibration (Y/N) - Level	Date (dd/mm)	Start Time	Type of noise														End Time	Calibration (Y/N) - Level	Comments			
					People Talking	People Working	VEHICLE TRAFFIC: ON SITE	Vehicle idling	VEHICLE TRAFFIC: OFF SITE	Nr. of Vehicles	Ind. noise from Client	Ind. Noise external	Dogs	Insects or birds	Wind noise	Water noise	Aircraft overhead	Quiet				Client audible?	Personnel Baseline	
SIP 01	S of proposed vent shaft	Y	114	20/1	15:48	✓	✓													15:58	Y	114	25.67957 S	27.37966 E
SIP 02	W of proposed vent shaft	Y	114	"	15:52	✓	✓			✓	33.									15:42	Y	114	25.67304 S	27.37272 E
SIP 03	NW of proposed vent shaft	Y	114	"	15:18	✓	✓			✓	26									15:28	Y	114	25.66658 S	27.37019 E
SIP 04	Siphumele 1 main gate	Y	114	"	15:58					✓	8	✓								15:08	Y	114	25.66639 S	27.37857 E

**Meteorological Summary:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_







# Appendix D

## IMPACTS ASSESSMENT

Ventilation Shaft

Significance Rating Table

Construction Phase								
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)	Status (+ve or -ve)	Confidence
Geology	Nature of impact:	Disturbance of the surface geology as a result of the construction of foundations and sinking of the Ventilation.						
	Without Mitigation	1	2	4	5	35	Medium	-
	Mitigation Measures	See EMP Table						
Topography	With Mitigation	1	2	2	5	25	Low	-
	Nature of impact:	Temporary disturbance of the topography may occur from the stockpiling of soil, rubble, building material and other waste during the						
	Without Mitigation	2	2	2	4	24	Low	-
Soil, Land Use and Land Capability	Mitigation Measures	See EMP Table						
	With Mitigation	1	2	2	4	20	Low	-
	Nature of impact:	Degradation of soil due to the development of a contractor lay down area.						
	Without Mitigation	2	2	6	4	40	Medium	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	2	2	4	20	Low	-
	Nature of impact:	Removal and compaction of topsoil.						
	Without Mitigation	2	2	6	4	40	Medium	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	2	4	4	28	Low	-
Fauna and Flora	Nature of impact:	Contamination of soil resulting from hydrocarbon spillages or contaminated water runoff.						
	Without Mitigation	2	2	6	4	40	Medium	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	4	16	Low	-
	Nature of impact:	Removal / Destruction / Disturbance of existing fauna and flora.						
	Without Mitigation	2	2	6	4	40	Medium	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	4	16	Low	-
	Nature of impact:	Disturbance of surrounding fauna and flora from dust during construction activities.						
	Without Mitigation	2	2	4	3	24	Low	-
Surface Water	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	3	12	Low	-
	Nature of impact:	Disturbance/destruction of surrounding fauna and flora due to hydrocarbon spillages, contaminated runoff.						
	Without Mitigation	2	2	4	4	32	Medium	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	3	12	Low	-
	Nature of impact:	Destruction of fauna and flora due to potential incidents such as fires or explosions.						
	Without Mitigation	1	1	2	4	16	Low	-
	degree to which impact can be reversed:	See EMP Table						
	With Mitigation	1	1	0	3	6	Low	-
Groundwater	Nature of impact:	Removal and use of local flora for firewood.						
	Without Mitigation	2	1	2	3	15	Low	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	0	2	4	Low	-
	Nature of impact:	Disturbance of fauna due to noise generated during the construction phase.						
	Without Mitigation	1	1	2	3	12	Low	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	2	8	Low	-
	Nature of impact:	Pollution of surface water due to contaminated runoff.						
	Without Mitigation	2	2	6	4	40	Medium	-
Air Quality	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	2	8	Low	-
	Nature of impact:	Dewatering of aquifers due to the creation of a deep void.						
Air Quality	Without Mitigation	2	3	6	4	44	Medium	-
	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	3	12	Low	-
Air Quality	Nature of impact:	Decrease in air quality due to dust generated during construction activities.						
	Without Mitigation	2	1	4	4	28	Low	-
	Mitigation Measures	See EMP Table						
With Mitigation	1	1	2	3	12	Low	-	

Noise	Nature of impact:	A noise nuisance will result from noise generated during the construction of the ventilation shafts							
	Without Mitigation	2	1	6	4	36	Medium		
	Mitigation Measures	See EMP Table							
	With Mitigation	1	1	4	3	18	Low		
Visual	Nature of impact:	A visual impact will occur as a result of construction activities, which include the presence of construction vehicles, equipment, construction camp and vegetation clearance.							
	Without Mitigation	2	2	4	4	32	Medium		
	Mitigation Measures	See EMP Table							
	With Mitigation	1	1	2	3	12	Low		
Archeology	Nature of impact:	Potential disturbance of archaeological sites during construction activities.							
	Without Mitigation	1	1	6	2	16	Low		
	Mitigation Measures	See EMP Table							
	With Mitigation	1	1	2	2	8	Low		
Socio-Economic Conditions (Job Creation)	Nature of impact:	Contractors, the influx of people and potential job creation will result in the proliferation of social ills and issues such as crime, prostitution, the spread of HIV/AIDS, informal settlements etc.							
	Without Mitigation	2	2	6	3	30	Low		
	Mitigation Measures	See EMP Table							
	With Mitigation	1	2	2	2	10	Low		
	Nature of impact:	Job creation during the construction phase will improve the socio-economic conditions in the area.							
	Without Mitigation	2	2	4	2	16	Low		
	Mitigation Measures	See EMP Table							
With Mitigation	1	2	4	3	21	Low			

Ventilation Shaft

Significance Rating Table

Operational Phase								
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)	Status (+ve or -ve)	Confidence
Geology	Nature of impact:	None						
Topography	Nature of impact:	None						
Soil, Land Use and Land Capability	Nature of impact:	Contamination of soil resulting from hydrocarbon spillages and incorrect handling of hazardous waste.						
	Without Mitigation	1	1	6	4	32	Medium	
	Mitigation Measures	See EMP Table						
Fauna and Flora	Nature of impact:	Disturbance of surrounding fauna and flora due to dust generated by vehicle activity.						
	Without Mitigation	1	1	4	4	24	Low	
	Mitigation Measures	See EMP Table						
Surface Water	Nature of impact:	Contamination of surface water resulting from hydrocarbon spillages and incorrect handling of hazardous waste.						
	Without Mitigation	1	2	6	4	36	Medium	
	Mitigation Measures	See EMP Table						
Air Quality	Nature of impact:	Decrease in air quality due to the generation of dust.						
	Without Mitigation	1	1	2	3	12	Low	
	Mitigation Measures	See EMP Table						
	With Mitigation	1	1	2	2	8	Low	
	Nature of impact:	Decrease in air quality due to the release of fumes (sulphur and oxides of nitrogen) from the upcast and down cast ventilation shafts.						
	Without Mitigation	2	1	4	4	28	Low	
Noise	Nature of impact:	Noise disturbance to neighbouring communities						
	Without Mitigation	2	4	4	3	30	Low	
	Mitigation Measures	See EMP Table						
Visual	Nature of impact:	The operation of the ventilation shaft will have an impact on the visual aspects of the area.						
	Without Mitigation	2	5	2	3	27	Low	
	Mitigation Measures	See EMP Table						
Socio-Economic Conditions (Job Creation)	Nature of impact:	Construction and operation of the ventilation infrastructure will extend the life of mine thereby improving the socio-economic conditions in the						
	Without Mitigation	2	4	2	4	32	Medium	
	Mitigation Measures	See EMP Table						
Archaeology	Nature of impact:	None						
	With Mitigation							