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DRAFT SCOPING REPORT: TUMELA CENTRAL SHAFT PROJECT - TUMELA MINE - AMANDELBULT SECTION

Rustenburg Platinum Mines

2013/02/23

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Rustenburg Platinum Mines

2013/02/23

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Executive Summary

Background Information

Rustenburg Platinum Mines: Amandelbult Section (Amandelbult) comprises two mines; Tumela Mine (Tumela) and Dishaba Mine (Dishaba). In addition, Amandelbult includes a concentrator plant at which the ore extracted from Dishaba and Tumela is processed.

The mines (Tumela and Dishaba), which forms part of the Rustenburg Platinum Mine (Pty) Ltd. (RPM) – Amandelbult section are established and fully developed. RPM – Amandelbult section is located in the Limpopo Province within the Thabazimbi Local Municipality (NP 361) and the Waterberg District Municipality (DC 36), approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg

Figure **1** and **Figure 2**). The Tumela mine operates under a mining right covering a total area of 111 square kilometres

Mined ore from the shafts are conveyed to the surface and trammed separately to the two rail receiving bunkers, from where the ore is stored at the Concentrator. The refined ore is then transported by rail to the Waterval Smelter in Rustenburg for further processing.

Initially, all mining operations were conducted via a number of incline and sub-incline shafts at relatively shallow depths. With the commissioning of the No. 1 Vertical Shaft at Tumela in the Western Section of the mine during December 1993, the mine was able to achieve deep-level mining. This shaft eventually replaced incline shafts in the west. Tumela currently delivers approximately 380,000 tonnes per month (tpm) of ore to the concentrator; this ore is currently a mix of Merensky and UG2 reef.

Tumela is subdivided into two production areas, namely Tumela Lower Mine and Tumela Upper Mine. The Tumela Upper Mine comprises a series of small incline shafts and shallow raise bored shafts. The Tumela No. 1 Shaft which is the main infrastructure on Tumela has a capacity of 250 kilo tons per month (ktpm) or 3 Mega tons per annum (Mtpa). The other shallow infrastructure which comprises 10 W twin raise bored shaft, 28 W twin raise bored shaft and 15 E raise bored hole as well as 16 W conveyor decline, has a combined hoisting capacity of 300 ktpm or 3,6 Mtpa. The ore body on both Merensky and UG2 around this shallower infrastructure are being depleted and necessitates an additional shaft to provide hoisting capacity from depths exceeding 800 metres below surface.

Project Description

An additional Central Shaft is required in order to supplement the depleting production rate at Tumela. It is proposed that the Central Shaft Project could increase production to above 4 Mta for Tumela. The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area (refer to **Figure 3**), from 11 to 16 levels on both the Merensky and UG2 reef horizons, which will ensure production of ore by 2019. The 15 East Block needs to be expedited and will consequently be managed as a stand-alone project (this project). The infrastructure will be designed for a capacity of 250 ktpm, however, only 125 ktpm will be handled during the first eight years of operation.

The proposed project involves the sinking, installation and construction of an additional vertical shaft and associated infrastructure (e.g. ventilation shaft, services, mine related infrastructure, etc.). The surface infrastructure of the Central Shaft will consist of an individual vertical shaft infrastructure, comprising (but not limited to) the following:

- Waste rock dump;
- Ore stockpile;
- Central Shaft;
- Main shaft headgear;
- Downcast shaft;

- Ventilation shaft;
- Electrical components;
- Emergency power generation;
- The construction of the following mine stores:
  - Explosives shed;
  - Timber yard;
  - Winder house;
  - Lamp house;
  - Salvage yard; and
  - Relevant workshops.
- Runoff water;
  - Runoff water dams.
- Additional auxiliary infrastructure on shaft terrace:
  - Office requirements;
  - Change-house requirements;
  - Utilities infrastructure;
  - Waste management;
  - Servitudes;
  - Traffic; and
  - Security.

The 2013 Business Plan (BP) Life of Mine tonnage profile, without Central Shaft indicates the rapid depletion rate in production on the level 1 plan. The potential of Central Shaft production to supplement the production profile thus ensuring the that production above 4 Mta is sustained, is shown in **Figure 4** and **Figure 5** of **Section 1**.

Project Alternatives

During the Pre-feasibility Phase of the proposed project, options relating to various aspects of the proposed project were considered and assessed in terms of their feasibility (including financial, social and environmental aspects) and the most suitable options selected. The main alternatives considered as part of the study relate to the waste rock dump (WRD) location. The No-go alternative has been detailed in section 2 of the report.

The above-mentioned alternatives are described in order to provide an understanding of how the most feasible (preferred) alternatives were determined prior to initiating the Scoping and EIA process. Any additional alternatives identified as part of the Feasibility Phase with be included and assessed in the Environmental Impact Report (EIR).

Governance Framework

- **Minerals and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA)**

  Although Amandelbult has a mining right under the MPRDA and an approved Environmental Management Programme Report (EMPR), the activities of the proposed project, are not included therein. In accordance with Section 102 (amendment of rights, permits, programmes and plans) of the MPRDA, an EMPR amendment is required. The Limpopo DMR will be the competent authority responsible for authorisation the EMPR amendment process in accordance with the MPRDA.

- **National Environmental Management Act (No. 107 of 1998) (NEMA)**

  The NEMA activities, from Government Notice (GN) 544, potentially applicable to the proposed project are listed below:

  - Activity 9: The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in GNR.544 of 2010 or included in the list of waste management activities published in terms of Section 19 of the NEM:WA.
  - Activity 12: The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 m^3 or more.
  - Activity 13: The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 m^3.
  - Activity 23: The transformation of undeveloped, vacant or derelict land to commercial or industrial use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares.

  The activities listed in GN 545 potentially associated with the proposed project include:

  - Activity 5: The construction of facilities or infrastructure exceeding 1000 m in length for the bulk transportation of water, sewage or storm water –

    (i) with an internal diameter of 0,36 m or more, or

    (ii) with a peak throughput of 120 litres per second or more.

- **National Water Act (No. 36 of 1998) (NWA)**

The following activities are considered relevant to the proposed project:

- 21 (g): Disposing of waste in a manner which may detrimentally impact on a water resource.

An Integrated Water Use Licence (IWUL) in terms of the National Water Act (Act 36 of 1998) for the existing Amandelbult operation was submitted during 2011, which includes all existing water use activities at Amandelbult. Consultation with the Department of Water Affairs (DWA) will be conducted to determine if the existing IWUL application can accommodate the inclusion of the proposed water uses. The process for amending the IWUL application will be to update the existing Integrated Water and Waste Management Plan (IWWMP) for Amandelbult and the submission of this to the DWA for its consideration. If the DWA render the IWUL update impractical for any reason, WSP will submit a separate WULA (way forward to be determined).

Scoping Process

Environmental authorisation is required prior to the commencement of the proposed project in accordance with the NEMA, the NWA and MPRDA. A full Scoping and EIA process will be undertaken for the project and will be compiled in accordance with both the requirements of the NEMA EIA Regulations of 2010 and the MPRDA. In addition, a WULA process will be undertaken in accordance with the NWA. The purpose of the scoping report is to identify the baseline environmental and socio-economic conditions of the proposed project site, provide an opportunity for the public to comment on the proposed project, and assess the potential impacts / risks associated with the proposed Project.

The environmental scoping phase was undertaken in line with the requirements of the NEMA EIA Regulations as well as the MPRDA. The objectives of the scoping phase are to:

- Ensure that the process is open and involves the applicant, authorities and stakeholders;
- Provide details of the Environmental Assessment Practitioner (EAP) who compiled the report and the relevant experience to carry out scoping procedures;
- Describe the proposed project;
- Identify feasible alternatives that can be selected for further assessment;
- Identify and describe the environment that may be affected by the activity and the manner in which the physical, biological, socio-economic and cultural aspects of the environment may be affected;
- Description of the environmental issues and potential impacts, including cumulative impacts;
- Provide information on the methodology that will be adopted in assessing the potential impacts during the EIA process;
- Provide details of the stakeholder engagement process followed;
- Comply with the relevant environmental legislation; and
- Provide a plan of study for the EIA.

An important part of any scoping phase is the stakeholder engagement process. The stakeholder engagement was initiated from the onset of the project to ensure that all stakeholders were adequately and effectively consulted, in order to:

- Inform, raise awareness, educate and increase understanding of a broad range of stakeholders about the project, affected environment and the environmental process to be followed;
- Establish lines of communication between authorities, stakeholders and the project team;
- Provide ample opportunity for all parties to exchange information and express their views and concerns;
- Obtain contributions of stakeholders and ensure that all issues, concerns and queries raised were fully documented; and
- Identify all the significant issues pertaining to the project.

Public Participation Process

In meeting the above requirements, the following activities will be undertaken as part of the stakeholder engagement:

- Newspaper advertisements in the Rustenburg Herald and Platinum Weekly on 22 February 2013;
- Site notices in and around the project area on 23 February 2013;
- Written notification letters to surrounding landowners and municipal ward councillors 22-23 February 2013; and
- Distribution of the BID to stakeholders 22-23 February 2013.

A public meeting will be held in order to outline the details of the project to stakeholders and provide an opportunity for stakeholders to raise questions and indicate potential issues or risks associated with the project. Stakeholders are hereby invited to attend the public meeting at Amandelbult Recreation Club on 11 March 2013 from 16:00pm to 17:00pm;

- Copies of the Scoping Report will be made available for public review at the following venues from 23 February 2013 to 3 April 2013:
  - Tumela Platinum Mine Main Office;
  - Office of Montserre Traditional Authorities;
  - Amandelbult Recreation Club;
  - Northam Library; and
  - WSP Environment and Energy website (www.wspenvironmental.co.za).

Detailed information is provided in the main report (refer to **Section 5**). Should you require directions to the above venues or wish to submit any comments regarding the project to WSP, kindly send these to the contact details provided in the report. All concerns, comments, viewpoints and questions (collectively referred to as 'issues') will be documented and responded to adequately in the Issues Trail within the Environmental Impact Assessment (EIA)/ Environmental Management Programme amendment report.

Potential Environmental Impacts

The over-arching objective of the Scoping Phase is to identify record and describe the *potential* environmental impacts associated with the proposed project. This enables the specialist studies to clearly focus on aspects of significant concern. It also provides a framework for the assessment of the impacts that the proposed project will have on the environment, and of the impacts the environment will have on the proposed project. Based on inputs from the project team, stakeholders (I&APs) and specialists the environmental (biophysical and social) impacts the aspects in the table below have been identified as potentially relevant to the proposed development and will be investigated during the EIA phase of the process.

Potential Bio-physical Aspects Impacted

Environmental Aspect	Proposed phase of investigation
Soils, Land Use and Land Capability	Assessment of significance in the EIA phase
Biodiversity	Assessment of significance in the EIA phase
Surface and Groundwater	Assessment of significance in the EIA and the undertaking of a Hydrological Impact Assessment
Geology	Assessment of significance in the EIA phase
Air Quality	Assessment of significance in the EIA and the undertaking of an Air Quality Impact Assessment

Potential Social Aspects Impacted

Environmental Aspect	Proposed phase of investigation
Visual	Assessment of significance in the EIA and the undertaking of a Visual Impact Assessment
Noise	Assessment of significance in the EIA and the undertaking of a Noise Impact Assessment.
Safety	Assessment of significance in the EIA phase.
Traffic	Assessment of significance in the EIA and the undertaking of a Traffic Impact Assessment.
Culture and Heritage	Assessment of significance in the EIA and the undertaking of a Heritage Impact Assessment.
Socio-Economic	Assessment of significance in the EIA phase.

Cumulative impacts are regarded as the incremental and combined effects of human activity that pose a significant threat to the environment. Cumulative impacts accrue over time, from one or more sources at a given time. Potential cumulative impacts have been identified and are presented in **Section 6** of the report. The table below indicates the various aspects which will be investigated in the EIA phase.

Potential Cumulative Impacts

Aspect	Potentail Impacts	Likely Cause
■ **Climate**	■ Release of greenhouse gas emissions	■ Land based vehicle activity. ■ Increased electricity usage.
■ **Air quality**	■ Degradation of air quality	■ Dust generation from increased land activity. ■ Dust generation from increased volume of tailings.
■ **Hydrology**	■ Surface water pollution ■ Ground water pollution	■ Soil erosion on topsoil stockpile. ■ Soil erosion on spoil/waste rock stockpile. ■ Soil contamination by chemicals and hydrocarbons.
■ **Geology**	■ Loss of geological resources	■ Underground mining activities.
■ **Socio-Economic**	■ Health & Safety ■ Aesthetics ■ Regional economic benefit ■ Increase to the South African GDP	■ Increase in existing activities in the area (movement of vehicles, conveyors, etc.) ■ Additional infrastructure. ■ Additional supporting infrastructure. ■ Generation of new employment.
■ **Biodiversity**	■ Loss of Fauna and Flora diversity in the project area	■ The development of the land surface area.

Plan of Study for the EIA

The purpose of the Plan of Study for the EIA is to detail the approach that the EAP will take towards the EIA / EMPR process, which will be approved or authorised by the DMR (as an EMPR amendment document) and the Limpopo Economic Development, Environment and Tourism (LEDET) [as an (EIR)]. The following will be undertaken as part of the EIA and the EMPR Amendment Phases:

- **Project description** - A detailed project and location description will be developed
- **Specialist studies** - seven specialist studies have been identified, which include, but may not be limited to the following:
    - Blasting Impact Assessment;
    - Air quality impact assessment;
    - Visual Impact Assessment;
    - Traffic Impact Assessment;
    - Heritage Impact assessment;
    - Hydrological assessment; and
    - Noise Impact assessment.
- **Impact Assessment** – the potential environmental impacts associated with the proposed project will be evaluated according to their significance, which is determined as a result of the consequence and likelihood. The consequence is determined as a function of the severity, duration, and spatial scale, whereas the likelihood of the impact is determined as a function of the frequency of the activity and frequency of the risk / impact. The consequence multiplied by the likelihood presented the significance of the potential impact. All impacts will be assessed with and without management measures in place.
- **Preparation of EIR and EMPR** – an EIR/EMPR will be compiled in accordance with the NEMA EIA Regulations and the MPRDA. The EIR and draft EMPR reports have been combined into one report in order to prevent the duplication of information. The report will provide the actions for the management of identified environmental impacts emanating from the proposed project and a detailed outline of the implementation programme to minimise and / or eliminate the anticipated negative environmental impacts and promote the anticipated positive environmental impacts.
- **Public participation** – the report will be made available for public and state department review for a period of 40 days in order to meet the legislated timeframes. Stakeholders will have the opportunity to view the draft reports and submit their comments, issues and concerns to WSP. Comments from the public review period will be incorporated into a finalised report that is submitted to LEDET and Limpopo DMR for review and authorisation.
- **Public participation** – all registered stakeholders will be notified of the authority decision towards authorisation of the proposed project and notified of the appeal process in accordance with the NEMA EIA Regulations of 2010.

Conclusion

On conclusion of the public review of the draft Scoping Report, the report will be submitted to the LEDET and the DMR for acceptance, review and approval. The EIA Phase will then commence and will entail detailed investigations into the impacts identified and will serve also to guide the design processes for the project in order to present the most environmentally feasible options for the proposed project.

Throughout the process stakeholders and I&APs will be engaged to ensure that their comments and concerns are taken into consideration and that they form an integral part of the environmental authorisation process

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Abbreviations and Acronyms

Abbreviation / Acronym	Description
Amplats	Anglo American Platinum
AQIA	Air Quality Impact Assessment
AQMP	Air Quality Management Plan
BP	Business Plan
BIA	Blasting Impact Assessment
DMR	Department of Mineral Resources
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPR	Environmental Management Program
HIA	Heritage Impact Assessment
HIS	Hydrology Impact Assessment
I&AP	Interested and Affected Party
IWWMP	Integrated Water and Waste Management Plan
IWUL	Integrated Water Use Licence
KTPM	Kilo tonnes per month
KV	Kilo volt
LEDECT	Limpopo Economic Development, Environment and Tourism
m	Metre
MPRDA	Minerals and Petroleum Resources Development Act 28 of 2002
MTPA	Mega tonnes per annumn
MW	Mega Watt
NEMA	National Environmental Management Act 107 of 1998
NEMWA	National Environmental Management: Waste Act 59 of 2008
NWA	National Water Act 36 of 1998
NIA	Noise Quality Impact Assessment
PGE	Platinum Group Elements
PGM	Platinum Group Metals
RPM	Rustenburg Platinum Mines (Pty) Ltd
SWMP	Surface Water Management Plan
TLM	Thabazimbi Local Municipality
TPM	Tonnes per month
TSF	Tailings storage facility
UG2	Upper Group 2 Reef
WDM	Waterberg District Municipality
WUL	Water Use License
WRD	Waste Rock Dump

Glossary of Terms

Phrase	Definition
Community	A Coherent, social group of persons with interests or rights in a particular area of land which the members have or exercise communally in terms of an agreement, custom or law (MPRDA).
Effluent	Any liquid, whether or not containing matter in solution or suspension
Environment	The surroundings within which humans exist and that are made up of - (i) the land, water and atmosphere of the earth; (ii) micro-organisms, plant and animal life; (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing (NEMA).
Environmental Assessment Practitioner	The individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental instruments introduced through regulations (NEMA, Ch. 5).
Environmental Impact Assessment	Means a systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes basic assessment and S&EIR (NEMA).
General waste	Waste that does not pose an immediate hazard or threat to health or to the environment, and includes a. Domestic waste; b. Building and demolition waste; c. Business waste; and d. Inert waste.
Hazardous waste	Any waste that contains organic or inorganic elements of compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.
Interested and Affected Party	Any person, group of persons or organisation interested in or affected by such operation or activity; and any organ of state that may have jurisdiction over any aspect of the operation or activity (NEMA, Ch. 5).
Pollution	The direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it- a. less fit for any beneficial purpose for which it may reasonably be expected to be used; or b. harmful or potentially harmful- i. to the welfare, health or safety of human beings; ii. to any aquatic or non-aquatic organisms; iii. to the resource quality; or iv. to property
Stakeholder	Persons or groups who are affected by or can affect the outcome of a project (e.g. commercial / industrial enterprises, academics, religious groups, media, NGOs, etc.).
State Department	Means any department or administration in the national or provincial sphere of government exercising functions that involve the management of the environment (NEMA, Chapter 1).
Stormwater	Any liquid resulting from natural precipitation or accumulation and includes rainwater, spring-water and ground-water.
Waste	Any substance, whether or not that substance can be reduced, reused,

Phrase	Definition
	recycled and recovered – a. that is surplus, unwanted, rejected, discarded, abandoned or disposed of; b. which the generator has no further use of for the purposes of production; c. that must be treated or disposed of, or d. that is identified as waste by the Minister by notice in the Gazette, e. and includes waste generated by the reclamation / re-processing operation, medical or other sectors, but ▪ a by-product is not considered waste, and ▪ any portion of waste, once re-used, recycled and recovered, ceases to be waste any portion of waste, once re-used, recycled and recovered, ceases to be waste.
Water resource	Includes a watercourse (see definition), surface water, estuary, or aquifer.
Watercourse	a. A river or spring; b. A natural channel in which water flows regularly or intermittently; c. A wetland, lake or dam into which, or from which, water flows; and d. Any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, e. And a reference to a watercourse includes, where relevant, its bed and banks.

1 Introduction

1.1 Background and Project Location

1.1.1 Background and Location of Tumela and Dishaba Mine

Anglo American Platinum Limited (previously Amplats) originated out of the unbundling of Johannesburg Consolidated Investment Company Ltd in 1995. During July 1997, the Amplats Group was restructured, which resulted in the renaming of the Rustenburg Platinum Holdings to Anglo Platinum Limited. Anglo Platinum Limited was restructured in 2011 with Anglo American Platinum Limited becoming the sole listed entity of the Group. Rustenburg Platinum Mines (Pty) Ltd: Amandelbult Section (RPM – Amandelbult section) comprises two mines; Tumela Mine (Tumela) and Dishaba Mine (Dishaba). In addition, RPM – Amandelbult section includes a concentrator plant at which the ore extracted from Dishaba and Tumela is processed.

The mines (Tumela and Dishaba), which forms part of the RPM – Amandelbult section are established and fully developed situated on the north-western limb of the Bushveld Complex. The mine is located in the Limpopo Province within the Thabazimbi Local Municipality (NP 361) and the Waterberg District Municipality (DC 36), approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg (

Figure 1 and **Figure 2**).

Mined ore from the shafts at RPM – Amandelbult section are hoisted to the surface and trammed separately to the two rail receiving bunkers, from where the ore is stored at the Concentrator. The refined ore is then transported by rail to the Waterval Smelter in Rustenburg for processing and further refining.

Initially, all mining operations were conducted via a number of incline and sub-incline shafts at relatively shallow depths. With the commissioning of the No. 1 Vertical Shaft at Tumela in the Western Section of the mine during December 1993, the mine entered a new era of deep-level mining. This shaft eventually replaced incline shafts in the west. Tumela currently delivers approximately 380,000 tonnes per month (tpm) of ore to the concentrator; this ore is currently a mix of Merensky and UG2 reef.

Figure 1: Location of the Tumela Mine within the Limpopo province (Local Municipality IDP, 2012/3)

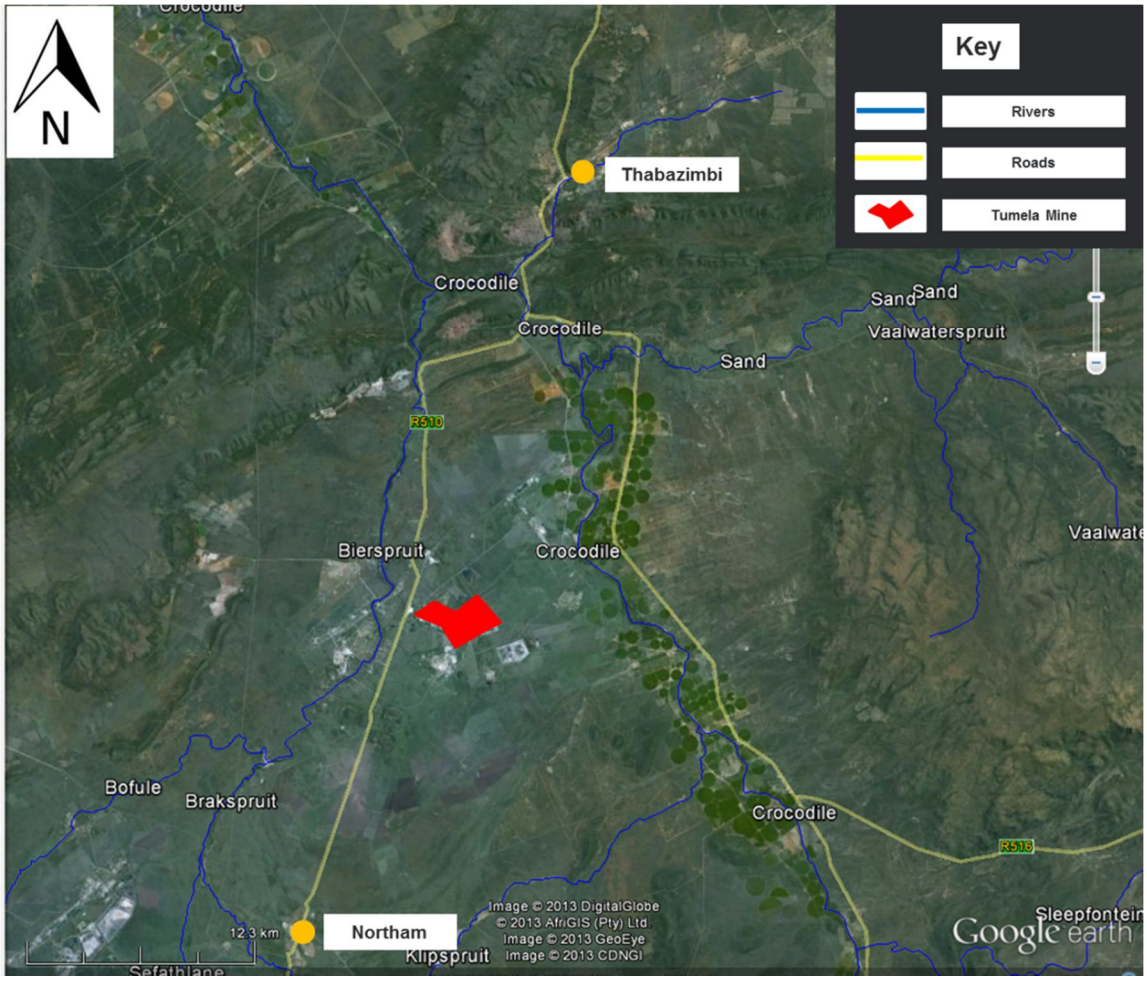


Figure 2: Tumela Mine in relation to surrounding towns (Google, 2012)

1.1.2 Background to the Proposed Project

The Tumela Upper Mine comprises a series of small inclined shafts and shallow raise bored shafts. The Merensky and UG2 Reefs on this shallower infrastructure will be depleted within the next five years. The Tumela No. 1 Shaft which is the main infrastructure on Tumela has a capacity of 250 ktpm or 3 Mtpa. The other shallow infrastructure which comprises 10 W twin raise bored shaft, 28 W twin raise bored shaft and 15 E raise bored hole as well as 16 W conveyor decline, has a combined hoisting capacity of 300 ktpm or 3,6 Mtpa. The ore body on both Merensky and UG2 around this shallower infrastructure are being depleted and necessitates additional hoisting capacity from depths exceeding 800 metres below surface. To achieve this, the following project is required for the Tumela (**Figure 3)**:

Table 1: Future Projects required to sustain the Tumela Mining Operations

Project	Study Phase	Construction Commence	First Ounces Mined
Central Shaft – New surface shaft infrastructure	**Pre – feasibility Study**	**2014**	**2019**
37W – underground 1# ore replacement	Concept Study	2016	2022
Middellaagte	Desktop Study	2025	2028
3 Shaft - New surface shaft infrastructure	Desktop Study	Unknown	2033

An additional Central Shaft is required to be developed in order to arrest production to the depleting production rate of Tumela. It is proposed that the Central Shaft Project will increase production to above 4 Mta for Tumela. The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area, from 11 to 16 levels on both the Merensky and UG2 reef horizons, which will ensure production of ore by 2019 (refer to (**Figure 3**). The 15 East Block needs to be expedited and will consequently be managed as a stand-alone project (this project). The infrastructure will be designed for a capacity of 250ktpm however, only 125ktpm will be handled during the first eight years of operation.

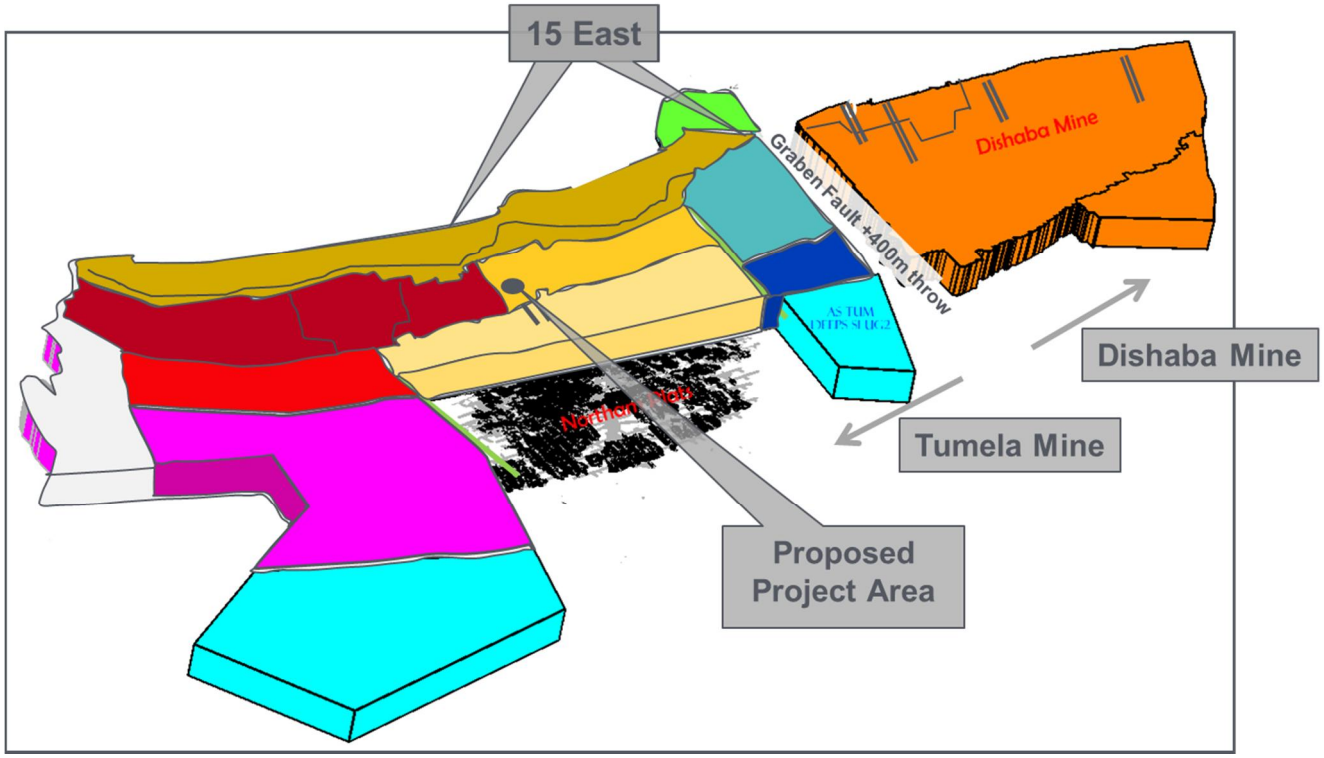


Figure 3: 15 East Area Map

1.2 Scope of Work for the Proposed Project

The proposed project involves the sinking, installation and construction of an additional vertical shaft and associated infrastructure (e.g. ventilation shaft, services, mine related infrastructure, etc.). The infrastructure will be designed for a capacity of 250ktpm; only 125ktpm will be handled during the first eight years of operation. The surface infrastructure of the Central Shaft will consist of an individual vertical shaft infrastructure, comprising the following:

- Main shaft headgear:
  - The shaft headgear will be constructed from steel and raise approximately 52m from the surface. The headgear will be developed according to the A-frame box type construction design.
- Downcast shaft:
  - A single downcast hoist shaft (diameter of Ø7.5m – Ø8.5m) will be blasted to house the following conveyances:
    - Double drum rock hoist (5.5m drum diameter winder, 5 megawatt (MW) alternating current winder) with 60mm rope and 20 ton skips;
    - Double drum personnel/ material and counterweight cage (4.88m drum diameter, 3MW winder);
    - Service/ Mary-Anne cage (3.66m diameter, 2MW AC winder);
    - Pumped pipeline columns for water (3 x 300NB) and compressed air (500NB);
    - Shaft cables (6 x 185mm HT cables); and
    - Backfill columns (30 x 60NB ranges).
  - Single-sided stations from 11 – 16 level, excluding 12 and 13 level;
  - Pump chamber at 15 level, loading area at 16 level and shaft bottom at 17 level (or at a suitable distance from the loading area – to be calculated and determined and included in the EIA report);
  - Adequate room for spillage at the shaft bottom (for both water and rock handling);
  - Water and mud handling facilities to suit the production; and
  - Three ore passes from 11 to 16 level required, each to handle Merensky and UG2 ore as well as waste generated underground (sufficient size to accommodate 70% of a levels expected daily production).
- Ventilation shaft:
  - A single upcast ventilation shaft (Ø5.0m 2MW capacity).
- Services, including:
  - Additional electrical reticulation and instrumentation;
  - Appropriate services to the project area (e.g. service water) sourced from existing mine water columns; and
  - Compressed air, which will be tied into the existing mine units.
- Electrical:
  - A formal request was requested from Eskom to prepare a feasibility study quote required for the construction of a new substation, feeding from the existing 132kV overhead power lines, in the fourth quarter of 2012. Investigations are being undertaken to identify if existing infrastructure can be utilised to supply the Central Shaft demand.
- Emergency power generation:
  - In the event of a failure of the main power distribution network, emergency power will be derived from two 4.6MW, 11kV diesel generators. The diesel generators will be linked to the main 11kV backbone at

the Main Consumer Substation through suitable mechanically and electrically interlocked circuit breakers (via the Tumela network);

- Initiation of the diesel generators during a power outage will permit the operation of the following items of electrical equipment:
  - 1 x Man Winder; and
  - 1 x Ventilation Fan.

- The construction of the following mine stores:
  - Explosives shed;
  - Timber yard;
  - Winder house;
  - Lamp house;
  - Salvage yard; and
  - Relevant workshops.
- Waste Rock Dump;
- Ore stockpile;
- Runoff water:
  - Runoff water dams (capacity to be determined) will be required; and
  - Excess water will overflow for use in the concentrator.
- Additional auxiliary infrastructure on shaft terrace, which includes:
  - Office requirements
    - Office accommodation for Central Shaft has been based on the estimated number of operational personnel required. The office layout is illustrated in **Appendix C**.
  - Change-house requirements
    - The change-house infrastructure for the new shaft system is based on **Appendix C**. An allowance has been made for up to 3 000 personnel, expanding to 5 000. Both male and female facilities will be available. Due to the modular design of the change-house facility, female personnel can easily be accommodated (should the ratio of male to female employees change significantly) without any structural modifications. Sewage effluent pipelines will link up to the existing sewage line (servitude).
  - Utilities infrastructure
    - No additional utilities would be required for the proposed Central Shaft system.
  - Waste management
    - The proposed waste management system will utilise the existing contracting company (WasteTech) to manage, transport and discard all solid and liquid waste products that are generated at the shaft area.
  - Servitudes
    - Servitudes for the rail, road, power, etc., have been indicated on the surface infrastructure general arrangement design. Excluding diversion roads into the shaft area, no new access roads are envisaged.
    - The location of the new shaft position allows existing servitudes to be utilised and integrated.

- Traffic
  - The traffic flow to and from the shaft area will be controlled via the existing security/ boom gates which are installed at the entrance to the mine property.
  - Access control to the shaft bank area will be controlled via a single security gates. The first of these gates installed on the south-west side of the property will be equipped with boom gates and will handle the bulk of the inflow traffic into the shaft. The second gate will be installed on the south-east side of the property and will be opened and closed manually by security personnel if and when required.
- Security
  - Security fencing, 1.8m high, will be erected around the proposed shaft area. Access to this area will be through a single access situated near the offices. This will comprise of a double gate (for large vehicles entering the mine) and a security complex (for all personnel entering the shaft through turnstiles). The security building will include a private search room.

Apart from existing infrastructure as detailed above, the property required for the construction of the Central Shaft is currently undeveloped.

Prior to the commencement of any activity associated with the proposed Central Shaft project, environmental authorisation will need to be obtained in accordance with the National Environmental Management Act (No. 107 of 1998) (NEMA), as amended, the National Water Act (36 of 1998) and the Minerals and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA). WSP Environmental (Pty) Ltd (WSP) has been appointed by RPM as the independent environmental assessment practitioner (EAP) to undertake the necessary environmental authorisation processes.

1.3 Motivation

An additional Central Shaft is required to be developed in order to supplement the depleting production rate at Tumela. It is proposed that the Central Shaft Project will increase production to above 4 Mta for Tumela.

The 2013 Business Plan (BP '13) Life of Mine tonnage profile, without Central Shaft is shown in **Figure 4**. It indicates the rapid depletion rate in production on the level 1 plan. The potential of the Central Shaft project to supplement the production profile of RPM – Amandelbult section in order to sustain production at above 4Mta, is shown in **Figure 5**. The various colours on the graphs represent the various shafts at RPM – Amandelbult section including, but not limited to the following:

- Middellaagte Deeps;
- 3 Shaft;
- 37 West Sub-decline;
- 36 West Decline;
- 28 West Decline;
- 7 East Decline;
- 43 East Decline;
- 44 East Decline; and
- 50 East Decline.

The bright yellow peak in the graph represents the proposed Tumela Central Shaft project and the contribution the shaft will make to the overall production rate of the mine.

The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area (refer to **Figure 3**), from 11 to 16 levels, on both the Merensky and UG2 reef horizons, that will bring ounces online by no later than 2019.

The 15 East Block needs to be expedited in order bring ounces online by no later than 2019 and is consequently being managed as a stand-alone project.

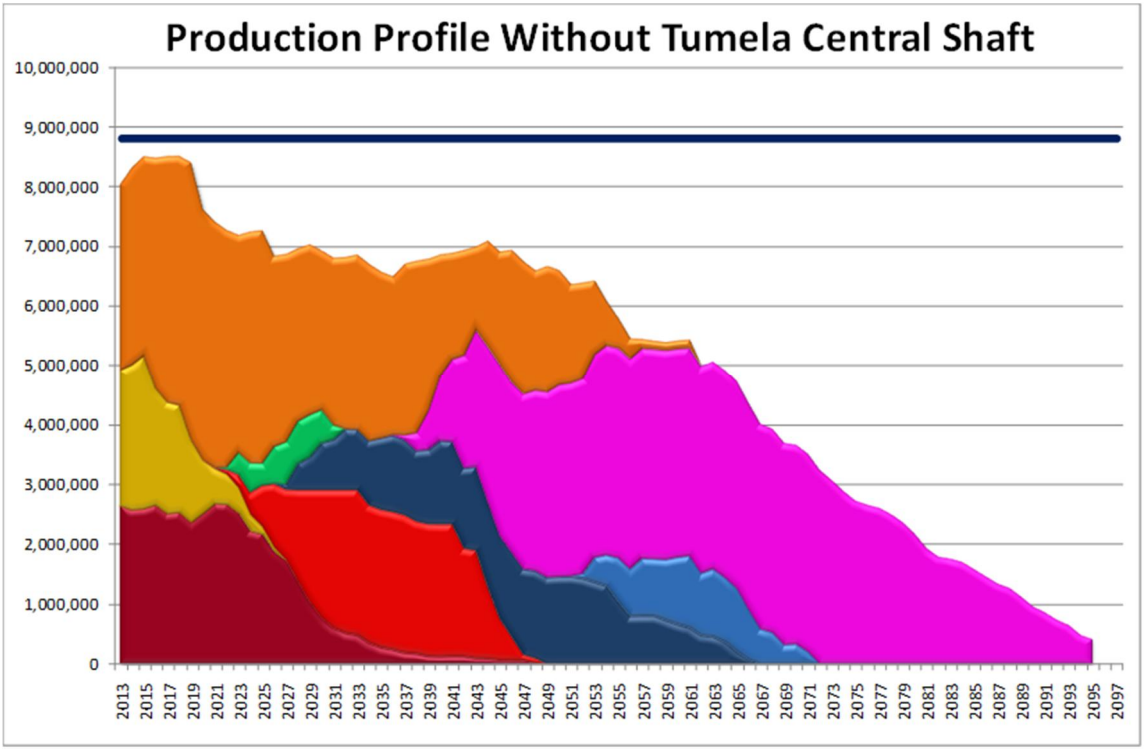


Figure 4: Tumela Mine excluding the proposed Central Shaft

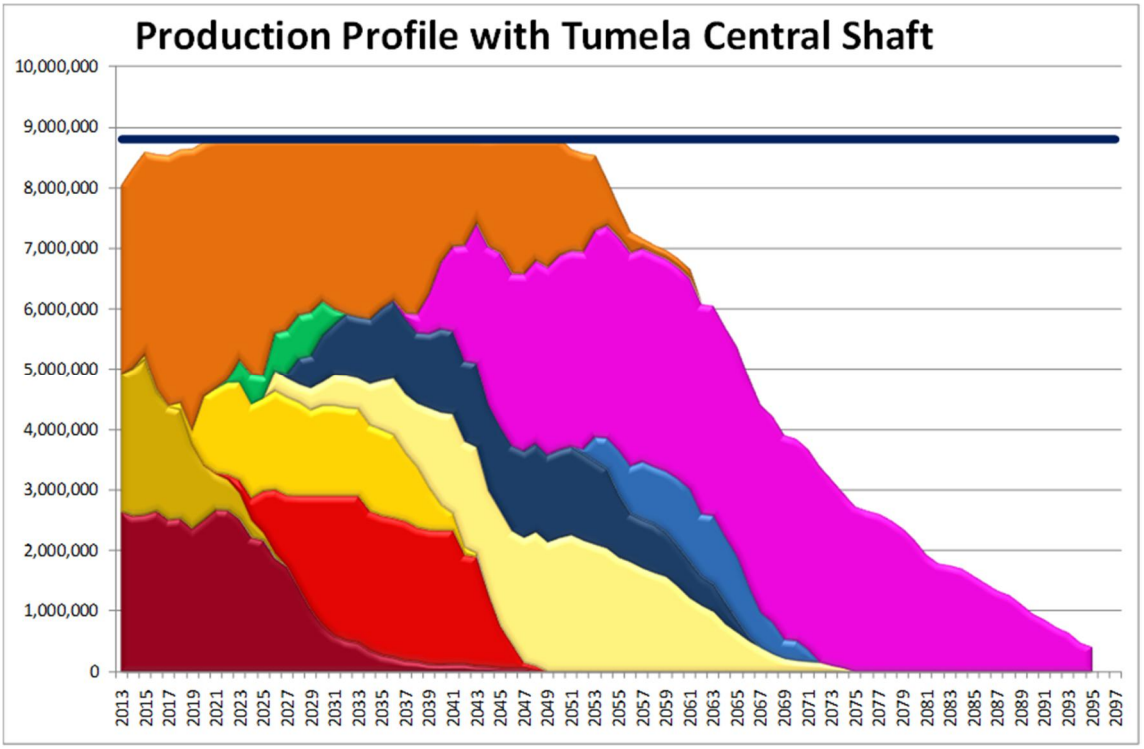


Figure 5: Tumela Mine including the proposed Central Shaft

1.4 Details of the Applicant

1.4.1 Details of Applicant

Anglo American Platinum Limited is the world's leading primary producer of PGMs and accounts for approximately 40% of the world's newly mined platinum. The Company is listed on the JSE Limited and has its headquarters in Johannesburg, South Africa (EMPR, 2002).

Relevant contact details of the applicant are included in the table below.

Table 2: Project Applicant Details

Detail	Rustenburg Platinum Mines Limited
DMR Reference Number	RNW(KL) 6/2/2/3164
Contact Person	Mr Tom van den Berg
Postal Address:	Amandelbult Mine, P O Box 2, Chromite, 0362, South Africa, 0362.
Telephone:	+27 (0) 14 784 7100
Fax:	+27 (0) 14 784 1720
E-mail:	Tom.VanDenBerg@angloamerican.com
Mine Owner	Anglo American Platinum Limited: Rustenburg Platinum Mines Limited
Project Manager	Mr Vinesh Dilsook

1.4.2 Responsible Person

The responsible person for the proposed project from RPM is detailed below:

Table 3: Responsible Person

Detail	Rustenburg Platinum Mines Limited
Responsible Person	Mr Vinesh Dilsook
Physical Address:	Group Environmental Offices, 5th Street, Waterval Village, Rustenburg, South Africa
Telephone:	+27 (0) 14 598 2295
Fax:	Unknown
E-mail:	vinesh.dilsook@angloamerican.com

1.5 Environmental Assessment Practitioner Details

WSP Environmental (Pty) Ltd is a leading South African environmental consultancy with a broad range of expertise and over 20 years' experience in the regional environmental market. While we form part of WSP Group Ltd, a global engineering and environmental multi-consultancy, we are also committed to transformation in our operational region, with 26% Broad Based Black Economic Empowerment (BBBEE) ownership and having achieved Level 3 BBBEE in South Africa. As part of a global business we provide the regional marketplace with a dynamic blend of local and global expertise.

We pride ourselves on our reputation for delivery and technical excellence and provide a broad range of environmental and technical related services across a range of economic areas including the industrial, mining, financial, tourism and public sectors. Refer to **Appendix B** for a copy of WSPs Capability Statement. **Table 4** details the contact details of the EAP.

Table 4: Responsible Person

Environmental Assessment Practitioner	WSP Environment and Energy
Contact person:	Danilla Breedt
Physical address:	199 Bryanston Drive, Bryanston, 2021
Postal address:	PO Box 5384, Rivonia, 2128
Telephone:	011 361 1392
Fax:	086 505 3939
E-mail:	Danilla.Breedt@WSPGroup.co.za

1.6 Terms of Reference

1.6.1 Requirement of this Document

Prior to the commencement of any activity associated with the proposed project, environmental authorisation will need to be obtained in accordance with the NEMA, MPRDA and the NWA. Authorisation will need to be granted by the Limpopo DMR, the LEDET and the DWA in accordance with the MPRDA, the NEMA and the NWA, respectively. This requires RPM- Amandelbult section to undergo an environmental management programme (EMPR) amendment process, a Scoping and EIA process as well as a WULA process. It must be noted that RPM – Amandelbult section submitted a Mining Right Conversion during 2004, to convert their old order mining rights to new order mining rights as required by the MPRDA, which was executed on the 23 July 2010 (LP30/5/1/2/2/48 MR).

A full Scoping and EIA process will need to be undertaken in order to assess the risks associated with the proposed project. The scoping phase of this project involves the investigation of the baseline environment, scope of the project and potential impacts that may occur as a result of the project activities.

The proposed will involve the use of additional water over and above the current volume of water used for mining activities. In addition, the project proposes the construction of run-off water dams which will be utilised for the storage of storm water from the facility. An Integrated Water Use Licence (IWUL) in terms of the National Water Act (36 of 1998) was attained by RPM-Amandelbult section for all its existing water uses in 2011 however the proposed project was not taken into account in the IWUL therefore the existing will either need to be updated for the proposed project or a separate WULA will be submitted to the DWA in order to gain authorisation from the DWA. The feasibility of the two separate approaches will be explored through correspondence with the DWA.

1.6.2 Approach and Methodology

As authorisation is required in accordance with the NEMA, the MPRDA and the NWA, WSP has compiled a scoping report (this report) in accordance with the NEMA EIA Regulations (Government Notice Regulation (GNR) 543 of 2010) and the MPRDA Regulations (GNR 527 of 2004).

The scoping report has been compiled in a diligent and independent manner, and includes the following:

- Detailed project description and motivation (**Section 1**);
- Assessment of project alternatives, including location, land use, technology and 'no-go' alternatives (**Section 2**);
- Description of the baseline biophysical and socio-economic conditions of the project area (**Section 3**);
- Description of the relevant government legislation applicable to the proposed project (**Section 4**);
- Methodology applied during the scoping phase (**Section 5**);
- Detailed stakeholder engagement process undertaken for the proposed project (**Section 5**);
- Potential environmental and socio-economic impacts, including cumulative impacts (**Section 6**);
- Plan of study for the EIA phase of the project, and way forward (**Section 7**); and
- Conclusion (**Section 8**).

Once the EIR/EMPR has been authorised (specifically the EMPR component), it can be used as a decision-making tool to manage impacts associated with the proposed project.

2 Project Alternatives

2.1 Introduction

During the Pre-feasibility Phase of the proposed project, options relating to various aspects of the proposed project were considered and assessed in terms of their feasibility (including financial, social and environmental aspects) and the most suitable options selected. The primary alternatives considered as part of the Pre-feasibility study relate to the WRD:

- WRD location

The detailed project surface infrastructure drawing contained within **Appendix C** outlines the three different locations which have been considered for the location of the stockpile (refer to **Figure 6**). Various factors such as servitude crossings, road crossings, construction costs, production costs, and powerlines were considered as well as the distance which the conveyor will need to convey the waste rock material in terms of the energy/electricity requirements. Further detail will be contained within the EIR.

Please refer to the summarised plan contained within **Figure 6**, which outlines the 4 waste rock dumps (WRD) proposed for project and the associated factors which led to selection of the preferred option which is the WRD location across the R510 – Option 1 (only three out of the four options have been indicated on the detailed design map contained within **Appendix C/Figure 6**).

Table 5: Waste Rock Dump Alternatives

Discipline	Option 1 – West of Shaft: Across R510	Option 2: East of Shaft	Option 3: Far North of Shaft	Option 4: Small dump, South of Shaft
TECHNICAL	Medium requirement	Medium requirement	No requirement for power cables re-routing.	Medium requirement
CAPITAL EXPENDITURE	Low input requirement	High due to the requirement for a tunnel under 132kV, road and rail)	High input	Low due to the area being used as temporary storage (3years).
OPERATIONAL EXPENDITURE	Low input requirement	Medium cost due to the long distance over which the material is to be conveyed.	Medium cost due to the long distance over which the material is to be conveyed.	High due to the requirement of the trucking of the waste rock material.
ENVIRONMENTAL ASPECTS	Medium impact due to the development of an undeveloped area, however previous flora and fauna studies have taken place in the past therefore the area is well documented.	Low due to the already disturbed nature of the area.	Low due to the already disturbed nature of the area.	Low due to the already disturbed nature of the area.
PREFERRED OPTION	✓	X	X	X

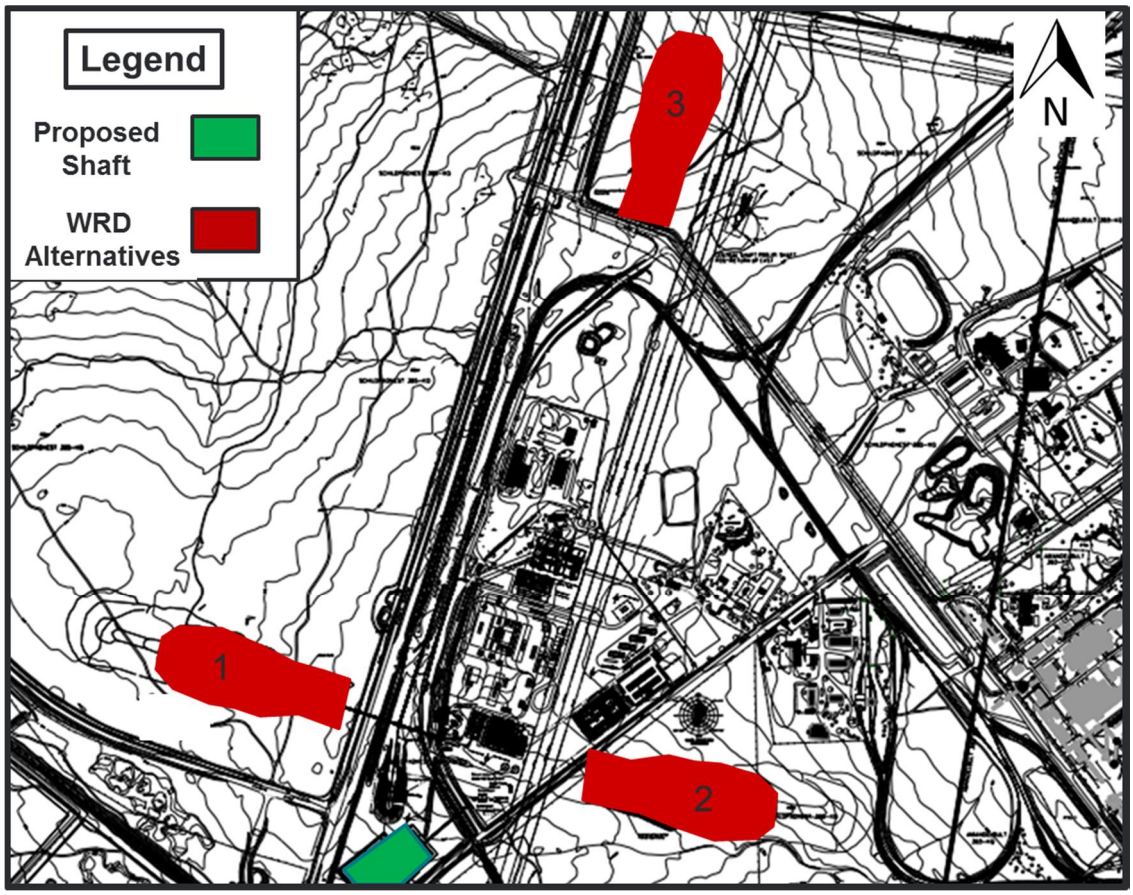


Figure 6: WRD Alternative locations (refer to Appendix C for the detailed project layout map)

The above-mentioned alternatives are described in order to provide an understanding of how the most feasible (preferred) alternatives were determined prior to initiating the Scoping and EIA process. Any additional alternatives identified as part of the Feasibility Phase with be included and assessed in the Environmental Impact Report (EIR).

2.2 No-Go Option

Tumela cannot access the 15 East mining area, from 11 to 16 levels on both the Merensky and UG2 reef horizons through the infrastructure which is currently in place on the mine. Should the project not go-ahead Tumela will not be able to supplement the declining production rate and therefore the mine will not remain profitable leading to a potential loss in employment and a decrease in the overall contribution to the South African economy. Furthermore, due to the recent unrest in the mining sector the loss off employment could result in further unrest.

3 Description of the Existing Environment

3.1 Geology

3.1.1 Regional

South Africa's PGE reserves are located in one of the largest layered mafic intrusions in the world, namely the Bushveld Igneous Complex (**Figure 7**). The Bushveld Complex is a world-class repository for a number of ore bodies yielding a range of mineral commodities that include chrome, vanadium, titaniferous magnetite and PGEs. The complex is extensive in size, stretching approximately 350 kilometres east to west and 250 kilometres north to south. It is roughly saucer-shaped with the edges dipping inwards towards the centre. At the rim of the 'saucer', pyroxenites, norites, gabbros and Chromitites are found inter-layered in a variety of combinations. Unique to the Bushveld Complex is the presence of two stratiform deposits, known as the Merensky reef and the UG2 reef, that can be traced for hundreds of kilometres along the rim that contain economically exploitable quantities of PGMs. The Bushveld Complex remains Anglo Platinum's primary source of reserves and resources.

PGE's are recovered from the tabular Merensky Reef that is present along the entire strike length of the eastern parts of the Bushveld Igneous Complex. The UG2 (present only along the northern limb) also contains economic quantities of PGE's (Bekker, 2007).

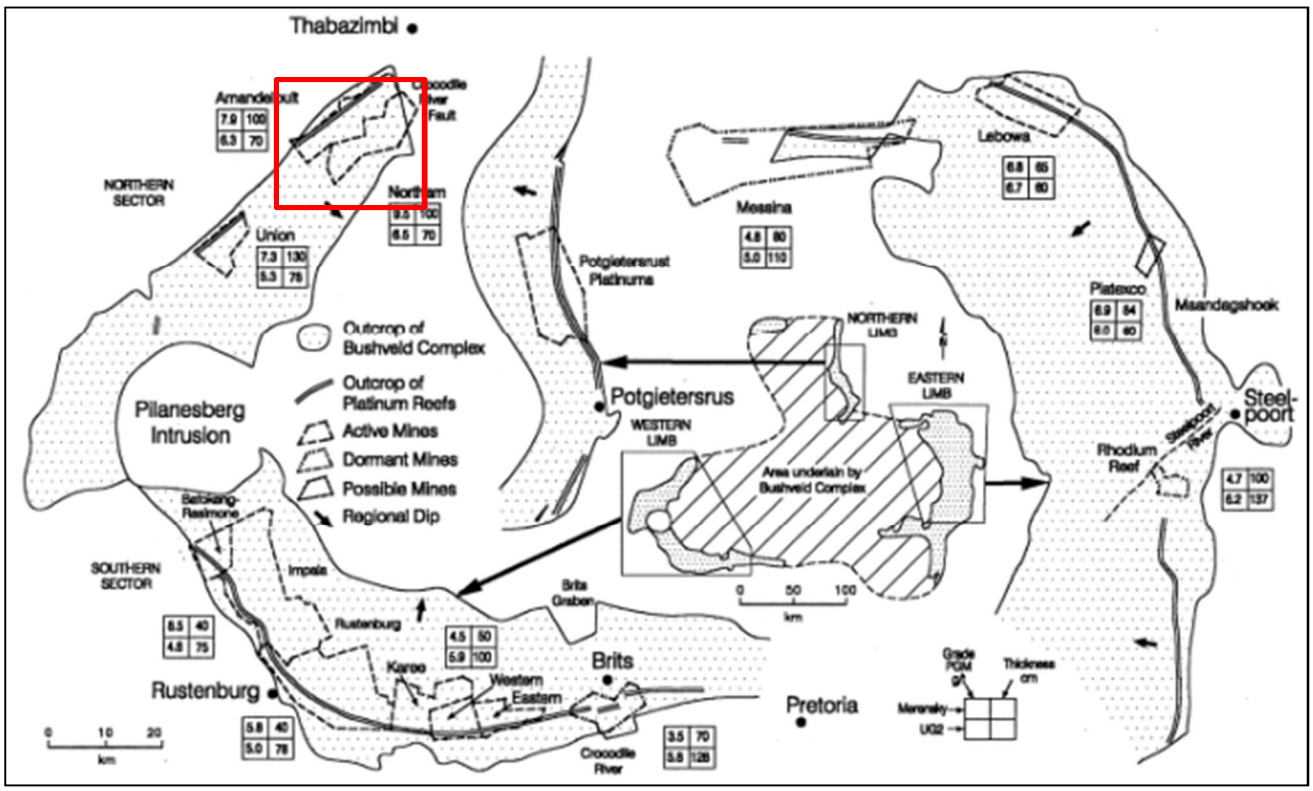


Figure 7: Tumela Shaft in relation to the general Bushveld Complex Centre

Tumela is situated in the north-western sector of the Bushveld Igneous Complex. The Merensky and UG2 deposit is located in the sector of Lower, Critical and Main Zone rocks, overlain by upper Zone rocks with magnetite layers, which transgress and appear to truncate the first three zones to the north and south. The geology of the area is mainly made up of gabbro, norite and pyroxenite rocks of the Bushveld Igneous Complex. The two platinum bearing ore bodies currently being exploited are the Merensky Reef and the UG2 Chromitite. The majority of the surface exposures are covered by either weathered norites or black turf. The ore bodies dip towards the south-east. The dip of the ore bodies varies between 18 º towards the south west of the property to 22 º towards the north-east (Bekker, 2007).

3.1.2 Site Specific

Tumela is situated in the north-western sector of the Bushveld Complex. At the south-western end of the 20km Merensky Reef sub-outcrop, there is an abrupt change in strike, with the reef swinging towards the footwall and almost doubling back on itself, on the farm Vlakpoort. The layering dips at 15º-24 º to the south-east, with approximately 20km of Merensky Reef strike length. Faults of various sizes occur throughout the lease area, and include major north-west trending faults with associated throws of up to 500m. The oldest faults are commonly low angle reverse faults with fault planes dipping at between 15º and 30º.

Generally the majority of faults are normal and steep with dips of between 70º and vertical. Strike set faults appear to be the youngest and have throws of up to 30m which hamper mining operations. Major and minor dykes are found throughout the lease area and are well delineated by airborne and ground magnetics and have been confirmed in underground excavations. They have a north-west to south-east orientation and their thickness varies from centimetres up to approximately 50m. The depth of weathering is approximately 30m with the majority of the area covered by a black turf soil (Bekker, 2007).

3.2 Topography

The overall mining area's elevation decreases in an easterly direction and is characterised with a gentle topography ranging from 980 m above mean sea level (masl) in the south-western boundary of the site to 920 masl in the north-east. The topography for the proposed Tumela shaft is also situated on a relatively flat area with elevation decreasing in a westerly direction with a gentle slope ranging from 962 masl and 953 masl (**Figure 8).**

The Bierspruit is located west of the proposed Tumela site and flows in a northerly direction where it discharges into the Crocodile River. The Crocodile River flows in a north-westerly direction east of the site.

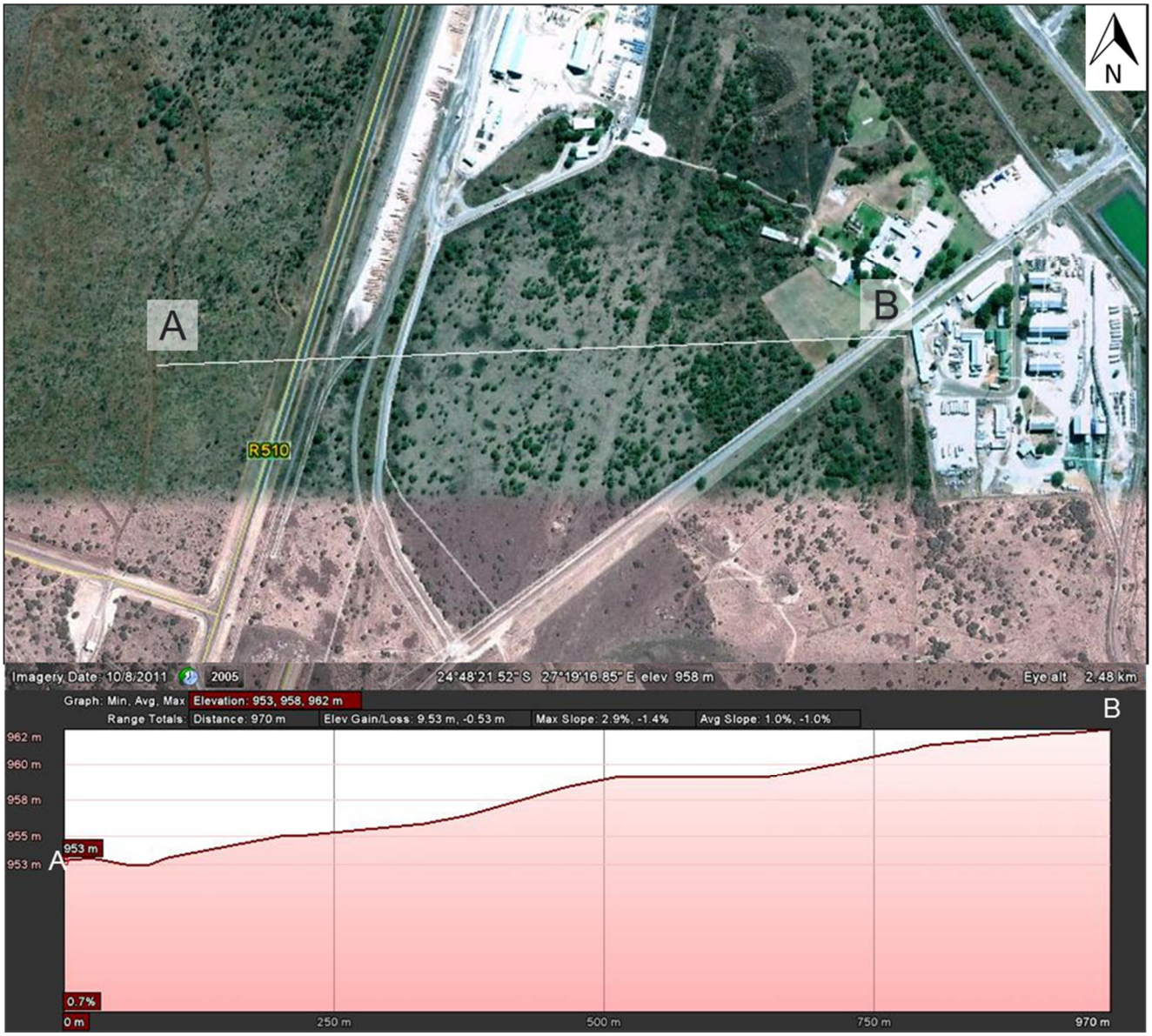


Figure 8: Elevation profile of the proposed site for the Tumela Shaft Project

3.3 Soils

The dominant soils associated with the mining area are:

- Arcadia: vertic A-horizon over parent material;
- Rensburg: vertic A-horizon over a G-horizon; and
- Valsrivier: orthic A-horizon over a pedocutanic B-horizon (Centre for Wildlife Management, 2006).

According to Nell (2002) vertisols, which are soils of the Arcadia form (black clays) are dominant in the area, but they are associated with red soils of the Shortlands and Glenrosa forms adjacent to which they generally show remarkably abrupt contacts. Structurally the reddish soils are more permeable and less expansive (Institute for Soil, Climate and Water, 2002). Most of the soils contain free calcium carbonate in the form of powdery deposits or nodular concentrations. Calcium is also the dominant cation in the soil saturation extract (Institute for Soil, Climate and Water, 2006).

The dominant soil characteristics of the soils in the mining area are the high clay content, ranging from 28 % to 62 % and the high cation exchange capacity (CEC) ranging from 15.32 cmol(+)/kg to 61.65 cmol(+)/kg (Institute for Soil, Climate and Water, 2002, Institute for Soil, Climate and Water, 2004) (Merensky scoping report, 2006).

3.4 Land Use and Land Capability

3.4.1 Regional Land Use

The Tumela Shaft Project is located in the Limpopo Province of South Africa. The total area of the province is 13.8 million ha of which (Shippon, *et al*. 2012):

- Arable land accounts for 10 percent (7.3 percent being suitable for dry-land production and percent for irrigation);
- Natural grazing (veld) for a further 67 percent;
- Forestry 0.9 percent; and
- 12.7 percent unclassified (including land not suitable for agriculture).

3.4.2 Local Land Use

The Thabazimbi Local Municipality covers an area of approximately 986 264. 85ha. Approximately 40% of the land situated within the municipal area is utilised for game farming, + 2% for irrigation, +3% for dry-land farming, Mining 0.4% and approximately 5 % for towns, roads and other infrastructure. 50% of the area is utilised for extensive cattle farming **(Figure 9**) (Thabazimbi Local Municipality,2012).

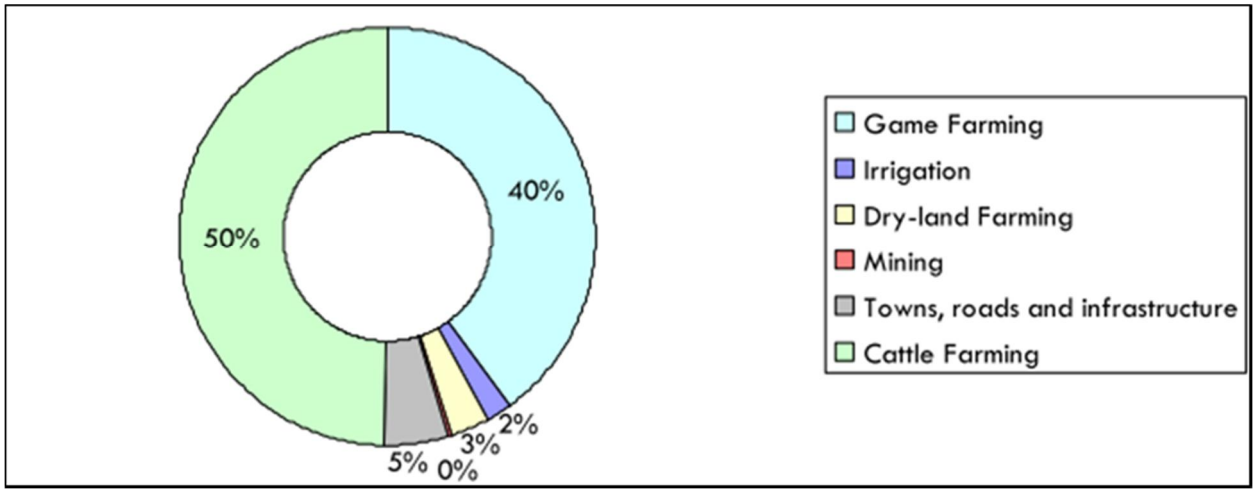


Figure 9: Division of land uses in the Thabazimbi Municipal area

In terms of the proposed site for the Tumela central shaft project, the immediate land use within the mine lese area is mining associated infrastructure and activities. The immediately surrounding area is comprised of general veld. Furthermore, there is also a game reserve adjacent to the proposed project area. The objective/purpose of the game reserve is further detailed below.

RPM – Amandelbult section's management recognised that mining activities impact on the natural environment. Having followed the mitigation hierarchy of first avoiding harm to the environment where possible and then minimising and mitigating the impacts their activities cause, RPM – Amandelbult section have offset their residual or unavoidable impacts to biodiversity through the establishment of a game reserve to protect biodiversity in the area (BAP, 2006).

3.5 Sensitive Landscapes

An important component of the Tumela Shaft project is the location of the Madeleine Robinson Game Reserve, which is owned by the mine. The Reserve is managed as a wildlife sanctuary and is situated to the south west of the Tumela Shaft. The Reserve covers approximately an area of 1 490 Ha. The Bierspruit River flows through the Reserve and is the main source of water for wildlife.

3.6 Flora

The Tumela Shaft Project is situated within the Savannah Biome which is characteristically comprised of a grassy ground layer and a distinct upper layer of woody plants. Where this upper layer is near the ground the vegetation may be referred to as Shrubveld, where it is dense as woodland and the intermediate stages are locally known as Bushveld. A major factor delimiting the biome is the lack of sufficient rainfall, which prevents the upper layer from dominating, coupled with fires and grazing, which keeps the grass layer dominant.

The Savanna Biome comprises a number of vegetation units. The most recent, national vegetation classification, describe the broad vegetation within the study areas as Dwaalboom Thornveld (Mucina & Rutherford, 2006). Dwaalboom Thornveld grows mainly on black clays (turf) and comprises low to medium high, deciduous microphyllous trees (e.g. Acacia's) and shrubs with a few broad leaved tree species, while the herbaceous layer is dominated by grasses. Important taxa in Dwaalboom Thornveld include two protected trees *Acacia erioloba* and *Combretum imberbe*, as well as other small trees and shrubs such as *Acacia nilotica*, *A.tortilis* subsp. *heterachantha, Searsia (Rhus) lancea* and *Ziziphus mucronat*. The shrub layer consists of species such as *Acacia hebeclada* subsp. *hebeclade*, *Combretum hereroense*, *Diospyros lycioides* subsp. *lycioides, Euclea undulata, Grewia flava* and *Tarchonanthus camphoratus* (Van der Walt, 2012).

A flora study was undertaken in 2012 by Strategic Environmental Focus who summarised the following vegetation recordings in the **Table 6** below:

Table 6: Vegetation recordings

Dominant species at the time of the field survey:	Trees *Acacia tortilis* subsp. *heteracantha, Acacia nilotica subsp. kraussiana, Acacia mellifera* subsp. *detinens*, Herbs *Asparagus cooperi* *Abutilon* sp. Grasses (Graminoids) *Fingerhuthia africana*, *Ischaemum afrum, Aristida bipartita.*
Plants of conservation concern confirmed to occur:	None
Plants of conservation concern for which suitable habitat was found:	*Brachystelma dimorphum* subsp. *gratum* *Brachystelma discoideum* *Brachystelma gracillimum* *Drimia altissima* *Drimia sanguinea* *Kniphofia typhoides* *Stenostelma umbelliferum*
Provincially protected plants confirmed to occur:	None
Provincially protected plants for which suitable habitat was found:	*Erythrophysa transvaalensis* *Brachyselma species* *Ceropegia species* *Cyranthus species* *Orchidaceae*
Nationally protected species confirmed to occur	*Combretum imberbe* (Protected in terms of National Forest Act of 1998)
Dominant alien species recorded at the time of the survey	Weedy species such as Zinnia peruviana, Conzya bonariensis and *Bidens* sp.

3.7 Fauna

3.7.1 Avifauna

The study area falls within QDGC (Quarter Degree Grid Cell) 2427 CD where approximately 396 bird species are thought to occur, 17 of which are of conservation concern. A total of 35 bird species including the invasive

Indian / Common Myna were identified during the field survey a list of which can be found in **Table 7** (although this total should not be considered as representative of the avifaunal diversity of the area) (Van der Walt, 2012).

Table 7: Bird species observed in the study area at the time of the survey

Common Name	Scientific Name	Conservation Status	
		National (Barnes 2000)	Global (IUCN)
African Grey Hornbill	Tockus nasutus	LC	LC
Black Crake	Amaurornis flavirostra	LC	LC
Black-crowned Tchagra	Tchagra senegalensis	LC	LC
Black-shouldered Kite	Elanus caeruleus	LC	LC
Blacksmith Lapwing	Vanellus armatus	LC	LC
Blue Waxbill	Uraeginthus angolensis	LC	LC
Cape Turtle-Dove	Streptopelia capicola	LC	LC
Chestnut-vented Tit-Babbler	Sylvia subcaerulea	LC	LC
Common Fiscal	Lanius collaris	LC	LC
Common Ostrich	Struthio camels	LC	LC
Crested Francolin	Dendroperdix sephaena	LC	LC
Crimson-breasted Shrike	Laniarius atrococcineus	LC; En	LC
Crowned Lapwing	Vanellus coronatus	LC	LC
Egyptian Goose	Alopochen aegyptiaca	LC	LC
Familiar Chat	Cercomela familiaris	LC	LC
Fork-tailed Drongo	Dicrurus adsimilis	LC	LC
Gabar Goshawk	Micronisus gabar	LC	LC
Grey Heron	Ardea melanocephala	LC	LC
Helmeted Guineafowl	Numida meleagris	LC	LC
Indian (Common) Myna	Acridotheres tristis	Exotic	N/A
Jameson's Firefinch	Lagonosticta rhodopareia	LC	LC
Laughing Dove	Spilopelia senegalensis	LC	LC
Lesser Honeyguide	Indicator minor	LC	LC
Lesser Striped Swallow	Cecropis abyssinica	LC	LC
Magpie Shrike	Urolestes melanoleucus	LC	LC
Namaqua Dove	Oena capensis	LC	LC
Rattling Cisticola	Cisticola chiniana	LC	LC
Red-billed Quelea	Quelea quelea	LC	LC
Ref-faced Mousebird	Urocolius indicus	LC	LC
Southern Yellow-billed Hornbill	Tockus leucomelas	LC; En	LC
Swainson's Spurfowl	Pternistis swainsonii	LC; En	LC
Tawny-flanked Prinia	Prinia subflava	LC	LC

Common Name	Scientific Name	Conservation Status	
		National (Barnes 2000)	Global (IUCN)
Violet-eared Waxbill	Uraeginthus granatinus	LC	LC
White-browed Scrub-Robin	Erythropygia leucophrys	LC	LC
White-fronted Bee-eater	Merops bullockoides	LC	LC

* National and global conservation status (VU = Vulnerable; LC = Least Concern; En = Endemic)

Nine species of conservation concern were given a high probability of occurring within the study area due to the presence of suitable habitat; however, none of these were recorded during the field survey, these include:

- Kori Bustard (*Ardeotis kori*)
- White-backed Vulture (*Gyps africanus*)
- Tawny Eagle (*Aquila rapax*)
- Martial Eagle (*Polemaetus bellicosus*)
- Secretarybird (*Sagittarius serpentarius*)
- Lanner Falcon (*Falco biarmicus*)
- Marabou Stork (*Leptoptilos crumeniferus*)
- Red-billed Oxpecker (*Buphagus erythrorhynchus*)
- Short-clawed Lark (*Certhilauda chuana*)

3.7.2 Mammals

An ecological study previously undertaken for the area confirmed that a number of invertebrate and vertebrate species occur naturally in the area. Direct observations confirmed the presence of large mammal species such as black-backed jackal (Canis mesomelas), porcupine (Hystix africaeaustralis), vervet monkeys (Cercopithecus aethiops), scrub hare (Lepus saxatilis), warthog (Phacochoerus africanus) and duiker (Sylvicapra grimmia). Other direct and indirect observations confirmed the presence of termites, centipedes, butterflies, tapping beetles, lizards, rodents and snakes. No suitable habitat for bats was observed on the study sites (Bekker, 2007) (Shippon, *et al*. 2012).

3.7.3 Spiders

Trapdoor spiders are usually sedentary and ground living, building intricate burrows that although generally well camouflaged is noticeable once familiar with the different construction methods employed. These spiders are generally burrow-bound during the day, some sitting at the mouth of the burrow, door ajar, waiting for prey to pass by. Once disturbed or in possession of prey, the spider retreats to the burrow, closing the door tightly behind it. In defence the spider is able to hold down the trapdoor with great force. Although burrows can be found in the study area, positive identification of these arachnids could not be achieved during the time of this survey. The habitat is considered potentially suitable for these, and a number of other arachnid species (Bekker, 2007) (Shippon, *et al.* 2012).

3.7.4 Scorpions

Scorpions have successfully adapted to virtually the full range of potentially compatible terrestrial habitats. No species is unselective in its choice of habitat, but scorpions can be found wandering from one habitat to another when searching for prey. Potentially suitable habitat does exist in both the savanna and rocky outcrops of the study area (Bekker, 2007) (Shippon, *et al*. 2012).

3.7.5 Amphibians

There are 109 species of frog that are currently listed as potentially occurring in the region, 22 of which are listed as threatened, two of which are endemic to the region. While habitats that are suitable do occur in the region, the habitat is considered marginal and not likely associated with the area disturbed by development of the Tumela Shaft Project (Bekker, 2007) (Shippon, *et al*. 2012).

3.7.6 Reptiles

Northern crag lizards (Pseudocordylus transvaalensis) are found only in the Limpopo province, in isolated populations. It is possible that crag lizards are to be found on the property, although no crag lizards were observed during the previous study (Bekker, 2007) (Shippon, *et al*. 2012).

3.8 Hydrology

Two water courses are situated near the project area, namely: the Bierspruit and the Crocodile River. The Bierspruit is found to the west of the mining area and flows in a northerly direction where it discharges into the Crocodile River approximately 20 km to the north. The Bierspruit is a non-perennial stream characterised by minimal flow between the months of May to October. There is a single tributary that feeds the Bierspruit River that flows from east to west to the south of the proposed site.

The Crocodile River is a perennial river situated to the east of the proposed Tumela Shaft where it flows in a north-westerly direction. This river is a source of water to the surrounding farm owners for irrigation purposes. The water is obtained via a number of boreholes in or close to the river.

The mining area is situated in the Crocodile-West Marico Water Management Area, and ultimately drains into the Limpopo River, designated by the DWA as Primary Drainage Region A; the responsible water authority being the DWA: North West Regional Office. The Tumela Shaft Project is located within the quaternary catchment area A24F **(Figure 10).**

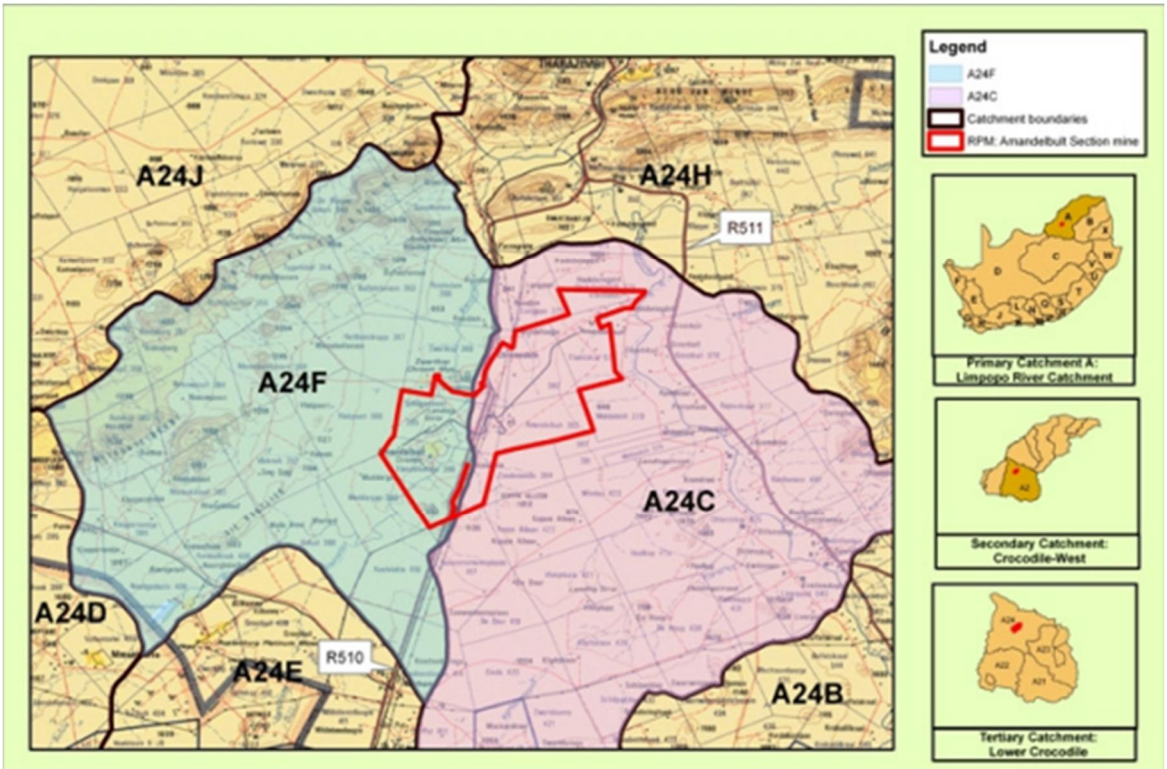


Figure 10: Water Management Area and Quaternary Catchment (IWWMP)

The climatic conditions of A24F quaternary catchment are presented in **Table 8,** and includes catchment area, Mean Annual Precipitation (MAP), Mean Annual Evaporation (MAE) and Mean Annual Runoff (MAR).

The monthly average rainfall for the catchment is presented in **Table 9.** The monthly averages show rainfall predominantly in the months of October to March, with peak monthly rainfall in January (108.1mm).

The average monthly evaporation for the catchment is presented in **Table 10**. The evaporation is highest from September to February, with peak monthly evaporation in December (204.3mm).

Table 8: Quaternary catchment information (Midgley *et al*., 1994)

	Area (km^2)	MAP (mm)	MAE (mm)	MAR (mm)	MAR (m^3)
A24F	461	602	1800	13	7 400 000

Table 9: Monthly averages of rainfall (Midgley *et al.*, 1994)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A24F	47.0	80.9	105.7	108.1	94.4	80.8	41.4	14.0	6.4	3.7	4.9	13.9

Table 10: Monthly Averages of A-Pan Evaporation (Midgley *et al*., 1994)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A24F	200.7	198.2	204.3	199.8	162.5	155.0	118.3	97.9	82.1	90.9	124.7	165.6

3.8.1 Surface Water Study (Hydrological Assessment)

The following studies / activities will be carried out by the hydrological specialist in the EIA Phase in order to determine the baseline conditions as well as identify potential impacts which may arise as a result of the project:

- Desktop Review and Gap Analysis;
- Hydrological Assessment;
- The compilation of a Stormwater Management Plan; and
- Water Monitoring Programme.

3.9 Geohydrology

Close to the Crocodile River the groundwater reservoir is to be found within the sandy formations of ill-defined lateral extent, which are bordered by weathered outcrops of bedrock. The alluvial aquifer is delineated in close proximity to the river and the aquifer only extends for approximately 300 m west of the river. The reason for this is that the area is underlain by very shallow bedrock (mainly gabbro and norite), generally less than nine (9) meters below surface. The majority of the aquifer is on the eastern side of the river where in fact, some high yielding boreholes are found.

The physical characteristics of the aquifer in all instances were an impermeable clay layer at depths varying from two (2) to eight (8) meters below the surface of the river bed. The clay is overlain by unconsolidated and structured quartzitic sands and gravels. There are indications that the clay layer is underlain by more sands and gravels. The clay layer occurs as an almost continuous horizon in and along the river bed, forming “tongues” laterally into the adjacent and older alluvial deposits, and pinching out with distances from the river. Based on this information the conclusion drawn is that the river could only be regarded as partly penetrating the aquifer, and serves as a semi-pervious boundary.

Further towards the western parts of the mine the water table levels are more erratic because of the nature of the aquifer. In the vicinity where the No. 4 Shaft is proposed it appears there is a perched water table at 12 m and the possible water table at 60 m. There is further evidence that the aquifers are compartmentalised due to the presence of faults.

There is a gentle gradient towards the Bierspruit. The groundwater contours tend to parallel the course of the river, manifesting a groundwater gradient from east to west (Shippon, *et al*. 2012).

3.10 Air Quality

3.10.1 Regional

The climate is semi-arid and hot in the Limpopo and Olifants River basins, but more humid and cooler on the Waterberg plateau and Soutpansberg.

Temperatures in the Thabazimbi region are generally high in the summer months, while winter months are characterised by lower temperatures. The highest recorded temperature at Thabazimbi between 1983 and 2003 was 37.6ºC in January and the lowest minimum recorded temperature was -0.1ºC in July 1993. Highest temperatures are experienced between October and March and the coolest months are experienced during June and July.

Rainfall varies from 217 mm to 570 mm per annum. The months of November to March are characterised by the highest rainfall. Between May and September, rainfall is generally low. Rain occurs mainly as thunderstorms and heavy showers. The mean annual evaporation at Thabazimbi is 2017 mm, which exceeds the mean annual rainfall. Winds are mainly light to moderate and are predominantly in a north-easterly direction (Bekker, 2007).

3.10.2 Local

The project area is characteristically dry and evaporation rates are very high; it is for this reason that environmental dust is an inherent property of the natural environment of the project area. Tumela Shaft project is proposed to operate as an underground mine and has no smelter processes, therefore no permanent activities currently exist resulting in significant emissions and/or fallout (Shippon, *et al*. 2012).

Previous air quality studies in the proposed project area have identified the following sources that could lead to dust dispersion:

- Existing waste rock dumps and the Tailings dam;
- Removal and transportation of reef; and
- Blasting activities during the construction phases.

3.11 Noise

Sources of noise in the mining area currently include:

- Surface compressors;
- Ventilation shafts;
- Mine vehicles;
- Spoornet and Mine trains; and
- Vehicles travelling on the R510.

Additional sources would include:

- Blasting activities as part of the construction phases; as well as
- All the sources as currently present.

3.12 Visual Aspects

The proposed site for Tumela Shaft Project is situated on a flat plane north of a group of low, but distinct hills. The land use to the north of the hills is characterised by industrial mining activities while the land use to the south is characterised by agricultural land and natural vegetation.

Extensive mining activities are taking place in the vicinity of the proposed site for the Tumela Shaft project, which has resulted in the presence of open cast pits, waste rock dumps and related infrastructure in the area.

A substation is located south west of the proposed No. 4 Shaft area along the R510, from where power lines emanate towards the north and south, along road R510.

The proposed site for the Tumela Shaft project lies in a relatively flat area characterised by semi industrial mining related activities. The natural environment on site and in the area has been disturbed by mining activities. The proposed site is surrounded by various mining activities. The proposed site for Tumela Shaft project is located within a mine lease area. The mining activity, and the infrastructure that supports these mines, dominates the agricultural type landscape characteristics to the east of the area. To the south, a series of small 'koppies' are evident and to the north, the Waterberg range protrudes prominently above the flat plain.

The R510 constitutes the major public road and tourist route in the vicinity of the project. The road runs in a north-south west direction of the Tumela Shaft Project connecting Northam to Thabazimbi. People using this road would definitely be able to view the structures as they travel along the road. The most sensitive viewing area would be that along the R510 towards Thabazimbi. The area features a combination of agricultural land, natural vegetation and hills. From the R510 the shaft will be stand out against the backdrop provided by the existing hill. The proposed central shaft will be located approximately 200 metres from the road at its nearest point. The are preferred alternative for the WRD is approximately 100 meters or less from the road in question.

The proposed project site does not have any inhabitants, but there are however mine villages within the vicinity of the site. A number of farmlands are also located in the vicinity of the mine, primarily along the R510. The larger town of Thabazimbi is located approximately 25 km from the site (Bekker, 2007). A visual impact assessment is being undertaken for the project which will identify and investigate the significance of the visual impacts associated with the central shaft, the WRD and other prominent project infrastructure.

3.13 Blasting and Vibrations

Tumela is an underground mine and the mine lease area is therefore extensively undermined. Underground blasting does occur during the daily operations of the mine. Blasting is used in order to loosen the rock contained in the walls of underground tunnels. Rock blasting does release a shockwave throughout the immediate geology. The level of vibration associated with blasting on the mine is well understood by on-site engineers and geologists.

Continual monitoring is conducted on the rock stability in the underground tunnels in order to avoid tunnel collapse or above ground subsidence. Blasting activities will be required during the construction and operational phase of the proposed project and therefore a blasting specialist has been appointed to undertaken such an assessment for the proposed project.

3.14 Archaeological, Cultural and Heritage Significance

Many Stone Age sites have been identified previously in the Limpopo Province. Sites dated to the Early Stone Age were identified at Blaauwbank close to Rooiberg and at Olieboompoort to the north of Thabazimbi. Middle Stone Age sites are known at Olieboompoort to the north of Thabazimbi, close to the Lephalale River and at Noord-Brabant and Goergap to the east of Lephalale.

Late Stone Age sites have been identified at Olieboompoort to the north of Thabazimbi and at Noord-Brabant close to Lephalale. Rock art is also associated with the Late Stone Age. Such sites were found in abundance in the Limpopo Province. Rock paintings are located along the Limpopo River, the Soutpansberg, Waterberg, Strydpoortberg, to the south and east of Lephalale and the areas in between. Rock engravings were found along the Mogalakwena and Limpopo Rivers, and between the Olifants and Steelpoort Rivers.

Early Iron Age sites have been identified in the Limpopo Province. The only one reasonably close to the study area is the Diamant site to the north of Thabazimbi. Middle Iron Age sites were only identified in the Limpopo Valley.

Late Iron Age sites are found in abundance throughout the Limpopo Province. These are usually identified by extensive stone walling. Close to the study area it includes more than 200 sites along the Lephalala River and 63 sites between Thabazimbi and Rooiberg. Specific sites relating to archaeo-metallurgy which were identified include some to the east of Thabazimbi.

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past. Due to factors such as population growth and a decrease in mortality rates, more people inhabited the area

during the recent historical past. Therefore much more cultural heritage resources have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance.

Early white travellers moved through this are during the 19th Century. The first of these was the expedition of Dr. Andrew Cowan and lt. Donovan in 1808. This was followed by Coenraad de Buys in 1821 and 1825. David Hume visited the area in 1825 and again in 1830. He was followed by William Cornwallis Harris in 1836. White settlers only moved to this area after 1850.

Previous research has indicated that a large number of sites of cultural significance occur in the mining area (Van Schalkwyk, 2012). Relatively few sites or occurrences were identified east of the tar road, due to the fact that people avoided the turf thornveld in prehistoric times. It is only at one or two isolate outcrops that features were found. Settlement occurred almost exclusively close to the Bierspruit, which also served as water source for the area.

No tools or flakes dating to the Early Stone Age were recovered during the past surveys. This is probably because the area is somewhat inhospitable, especially so towards people with limited technological capabilities.

During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. Open sites were preferred near watercourses. These people were adept at exploiting the huge herds of animals that passed through the area, on their seasonal migration. As a result, tools belonging to this period also mostly occur in the open or in erosion dongas. Similar to the ESA material, artefacts from these surface collections are viewed not to be in a primary context and have little or no significance (Van Schalkwyk, 2012).

Archaetnos has been appointed to survey the proposed footprint of the Tumela Shaft Project and will therefore be on the lookout for sites that may be linked to any of the ages indicated above. The Limpopo Province is known for many historical sites, but it also is known that large areas have not been surveyed yet.

Stone Age sites are usually found close to a water source at a place where natural shelter such as caves exists. Early Iron Age sites are usually found very near to water sources. Middle and Late Iron Age sites are mostly found close to water and at the foot or in the saddles of hills. Historical sites, such as old houses are also found close to water. Grave sites may typically be expected at any place, but especially close to homesteads.

A Heritage Impact Assessment is being conducted on the proposed site of the project infrastructure in order to assess the present status of the site in terms of archaeological significance. **Figure 11** is a representation of known heritage sites in the surrounding area which are dominant on the west side of the tar road, around the river course. The map was compiled using previous studies/surveys undertaken in the greater project area.

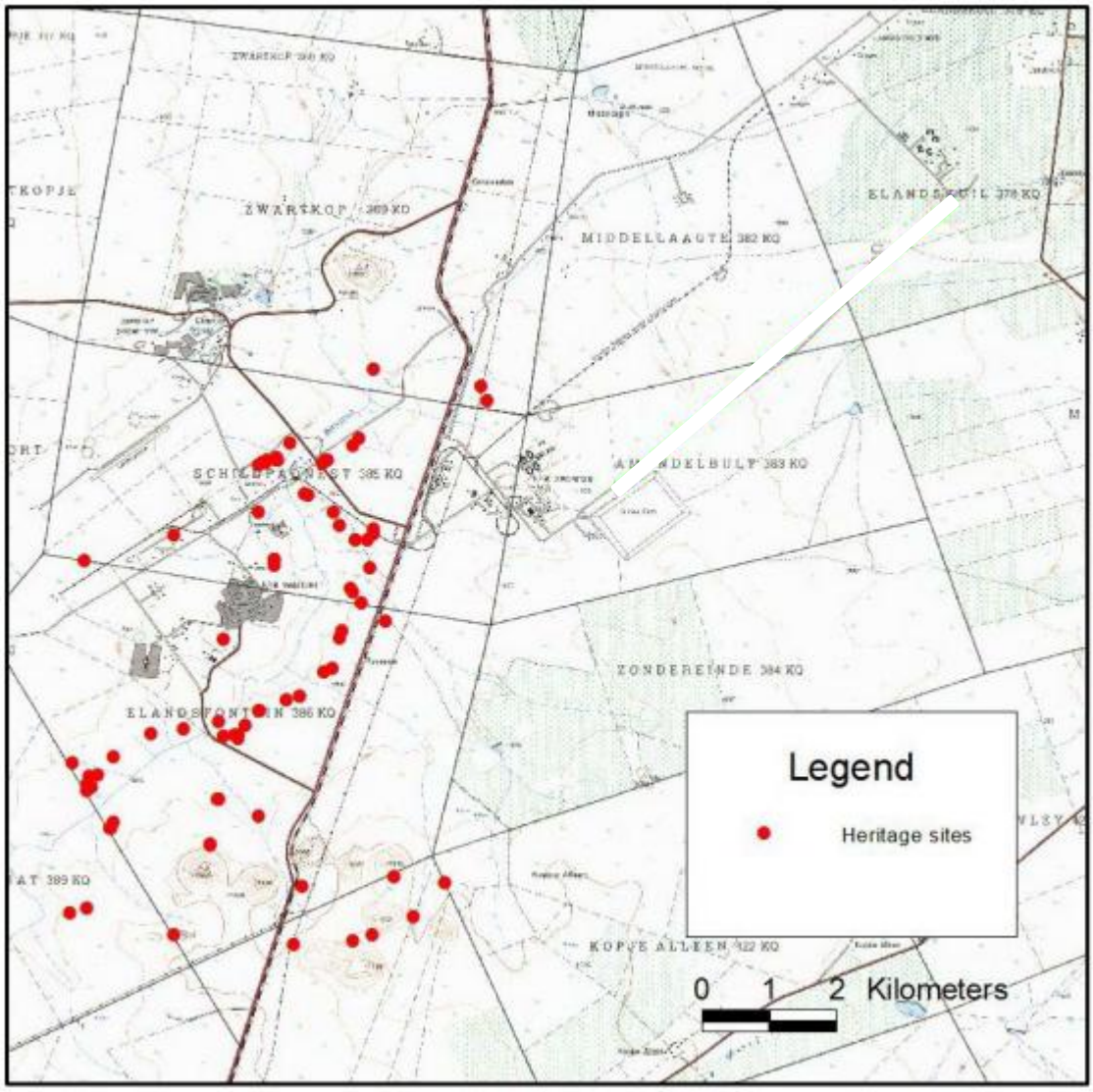


Figure 11: Known heritage sites in the larger region (Van Schalkwyk, 2012)

3.15 Socio-Economic Profile

3.15.1 Regional Context

The proposed Tumela Shaft project is located in the Thabazimbi Local Municipality (LM) within the Waterberg District Municipality of the Limpopo Province. Geographically, the province is bordered by Zimbabwe to the north, Botswana to the north-west and the North West, Gauteng and Mpumalanga Provinces to the south.

According to Statistics South Africa (Community Survey, 2007), the population of the Waterberg District was approximately 622,734 in 2007. The population is unevenly distributed among the six Local Municipalities, and it makes up to 11.6% of the Limpopo population of 5.2 million persons.

The majority of the Waterberg District population reside within the Mogalakwena LM (55.47%), followed by Lephalale LM (13.44%), Thabazimbi LM (10.07%), and Bela-Bela LM (9.37%). The two Local Municipalities with the smallest percentages of the Waterberg District population are Modimolle LM (8.82%) and Mookgophong LM (2.82%). Refer to **Table 11** for the statistics of population groups within the Waterberg district (Stats SA Community Survey, 2007).

Table 11 Statistics of population groups within the Waterberg district

Local Municipality	Black	Coloureds	Indian/Asian	White	Totals
Thabazimbi	45947	283	103	13703	60036
Lephalale	75352	9	0	4780	80141
Mookgophong	13123	21	98	3578	16820
Modimolle	43309	260	481	8552	52602
Bela-Bela	47365	1025	50	7404	55844
Mogalakwena	315355	119	3200	11970	330644
Waterberg DM	**540451 (90.7%)**	**1717 (0.3%)**	**3932 (0.67%)**	**49987 (8.4%)**	**596087 (100%)**

3.15.2 Local Context

3.15.2.1 Key Stakeholders

Thabazimbi/Regorogile and Northam are the two largest towns in the local municipal area. Thabazimbi is relatively centrally located within the municipal area and provides services to the municipality and is the business and industrial area for the local municipality. Thabazimbi is experiencing "*tremendous residential expansion*" (Thabazimbi SDF, 2007). Northam is the second largest town within the local municipal area also with an established business sector catering for surrounding farming areas (Thabazimbi SDF, 2007). Thabazimbi is approximately 25km north of the project and Northam is approximately 17km south of the project. **Figure 12** illustrates the surrounding communities in relation to the proposed Tumela Shaft project.

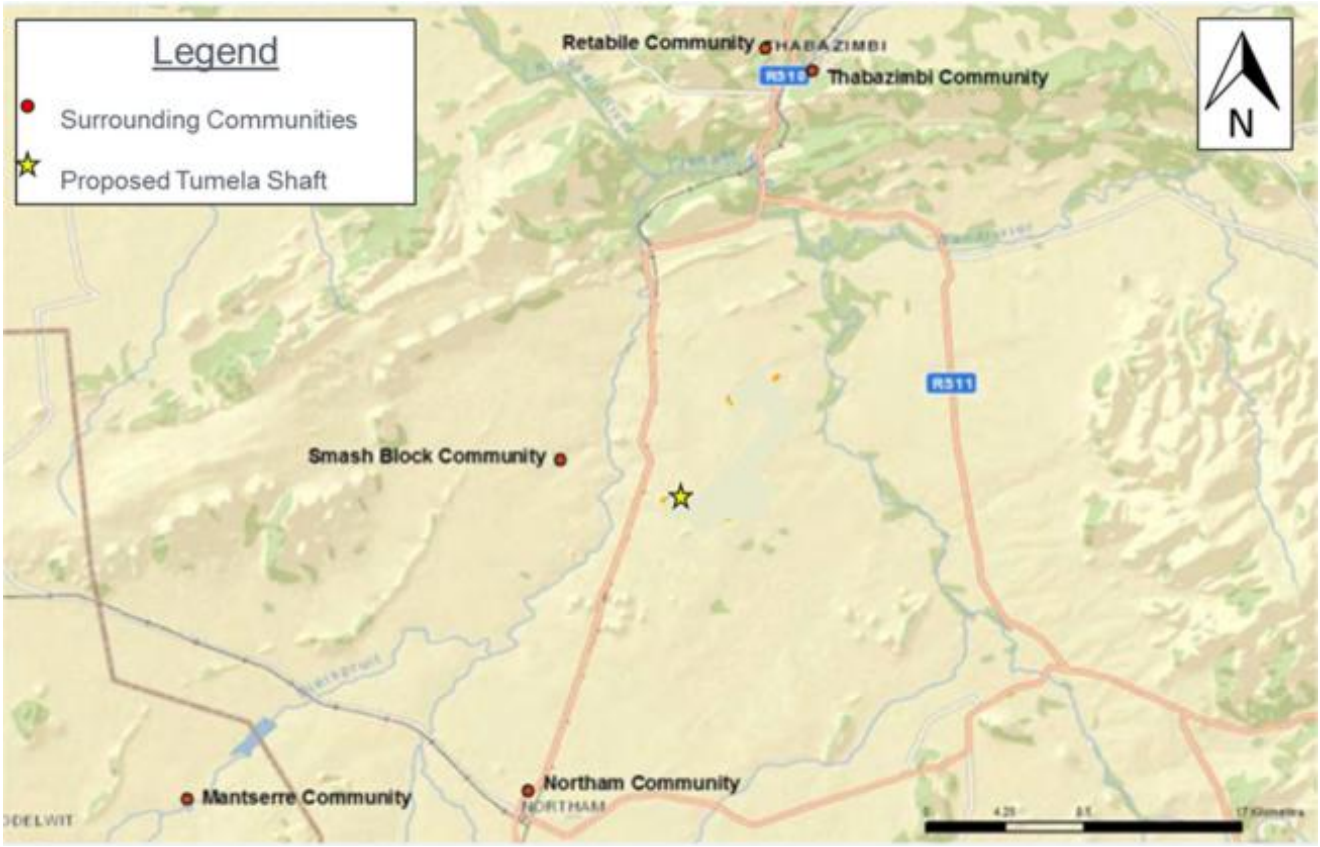


Figure 12:Surrounding communities in relation to the proposed Tumela Shaft project (Shippon, *et al.* 2012*)*

The closest community to the proposed project is Smash Block (also known as Schilpadnest) which is an informal settlement. **Table 12** lists the communities which are situated around the Tumela and Dishaba Mines. A portion of Amandelbult Section is situated on land leased from the Ba Phalane Ba Mantserre community who are located at Mantserre Village which is about 27 Km's from the project.

Table 12: Communities situated around Tumela and Dishaba Mines

Community Name	Approximate distance from the Tumela Shaft Project (km)
Montserre	27
Northam	17
Retabile	27
Thabazimbi	25
Smash Block	5

The following stakeholders form part of the Community Engagement Forum at the Tumela and Dishaba Mines as well as the Amandelbult Concentrator and Services are as follows (Amandelbult Community Engagement Plan, 2011):

Table 13: Community Engagement Forum

Stakeholder Category	Stakeholder
Waterberg District Municipality	Executive Mayor
	Municipal Officials
Thabazimbi Local Municipality	Executive Mayor

Stakeholder Category	Stakeholder
	Municipal Officials
	Ward councillors
Moses Kotane Municipality	Mayor
	Municipal officials
	IDP Representative Forum
	Ramokoka Stad
Neighbouring communities	Residents of Thabazimbi
	Residents of Mogwase township
	Residents of Moruleng township
	Residents of Montserre Village
	Residents of Manamakgoteng Village
	Residents of Northam
	Residents of Smash block
Farmers	Neighbouring farmers
National Government Regional Offices	Department of Labour
	Department of Mineral Resources
	Department of Rural Development and Land Reform
Provincial Government Departments	Department of Health and Social Development
	Department of Education
	Department of Economic Development, Environment and Tourism
	Department of Agriculture
Organised business and business alliances	Tourism agency LIBSA
Local media	Thaba FM
Community development partners	Sivukile
	Thuso ya Batho Anti-Crime
Key strategic suppliers	ESKOM: Thabazimbi Regional Office

3.15.2.2 Population Demographics

The mid-year population estimates, in 2011, for the Limpopo Province was 5,439,600 people. In 2007 approximately 60,038 people were living in the Thabazimbi Municipal area. Between a census done in 2001 and a community survey done in 2007, the Thabazimbi Municipality area experienced a population growth rate of 4.9%. In 2007 the Limpopo Province had an average population density of 60 people per km^2.

The most common languages spoken in the Limpopo Province are Sepedi, Xitsonga and Tshivenda. The province is characterised by a high dependency ration due to the fact that 41.3% of the population is between the ages of 5 and 14. In terms of education, approximately 6.5% of the population of the Thabazimbi Municipality reported as having no schooling, 9.8% of the population attained grade 12 and 2.8% of the population had received some form of tertiary education (Shippon, *et al*. 2012).

3.15.2.3 Major economic activities and employment statistics

Only 51% of the economically active population were employed in 2007. An estimated 10.3% of people in the Municipal area who were economically active are unemployed, which can be attributed to a lack of employment opportunities and / or lack of relevant skills.

The most significant employer in the Thabazimbi Municipal Area is the mining sector (68.7% with a 7.8% increase average per annum) which has made substantial contributions to in-migration. Other sectors that are responsible for employment in the municipal area include: agriculture (8.3%), households (4.9%), and community services (3.6%). The Municipal area experienced an average decrease in unemployment of 1.5%.

In terms of employment, a great challenge that the municipality faces is the fact that most of the mines in the area are mature and are nearing the end of life, which will have implications for future employment rates (Shippon, *et al*. 2012).

3.15.2.4 Social infrastructure provided by the municipality

- **Education facilities**: According to the 2012/2013 Integrated Development Plan (IDP) for the Thabazimbi Municipality, there are: 30 pre-schools, 25 Primary schools, 4 combined schools, 4 high schools and 4 private schools located within the Thabazimbi Municipal Area.

- **Health care facilities**: Within the Thabazimbi Municipality there are: 5 hospitals, 10 clinics, 3 mobile clinics and 3 satellite clinic offices.

- **Water supply**: In the 2012/2013 IDP for the Thabazimbi Municipality, some areas were identified as facing challenges that need to be addressed regarding sanitation and water. A shortage of potable water and groundwater, especially during summer, are major challenges that are being faced at present. Bulk water is imported from the Magalies Water Scheme; however, this source is not adequate during summer months. Infrastructure is needed to increase the water supply to meet the current water demand. To address the water shortages the Thabazimbi Municipality has commenced with the construction of a bulk water supply pipeline between Zand Riverspruit and Rooiberg, this pipeline is currently 97% complete. Due to a lack of service coverage by the municipality approximately 3,660 households are experiencing water backlogs.

- **Sanitation**: In a study undertaken with regards to sanitation facilities in the Thabazimbi Municipality in 2007, it was determined that 95.4% of the population had access to some sort of sanitation facility, with majority of people having access to flush toilets (connected to a sewerage system). According to the Thabazimbi Municipality IDP 2012/2013, 6 946 households had no access to sanitation facilities in 2009.

- **Electricity Infrastructure**: According to the Thabazimbi Municipality IDP 2012/2013, the number of households with no electricity connections decreased from 245 in 2007 to 94 in 2008.

3.15.2.5 Social infrastructure provided by mines in the area

In addition to the social infrastructure provided by the Thabazimbi Municipality, the mines within the area provide social infrastructure, such as:

- Mine housing facilities and hostels;
- Sport and recreational facilities, and most of the mining communities have community halls at their disposal for in-house sports and recreational activities;
- Mine hospitals and sickbay facilities. The Rustenburg Platinum Mines have hospitals which contain 48 to 154 registered beds;

Commodities and services are also available on the mine properties, such as: shopping centre, post office, supermarket, clothing store, bank, library, chemist and fuel station (Shippon, *et al*. 2012).

3.15.3 EIA Phase

WSP will undertake a baseline social assessment investigation during the EIA phase of the project in order to better understand the baseline social environment around the proposed project area. A brief overview of the study methodology is provided below.

- Past social and environmental impact assessments for RPM – Amandelbult section,

- The District Municipality - Integrated Development Plan; and
- The Local Municipality - Local Integrated Development Plan.

In addition, the following data and information will be reviewed to provide background information:

- Statistics South Africa Census data;
- Statistics South Africa Community Survey; and
- Topographical Maps (1:50 000) and aerial photography.

The information obtained from the study will then be incorporated into the EIR in order to inform the commenting and authorising authorities with more information about the status of the surrounding communities (social environment). Please note that the additional investigation will supplement the baseline information contained within the Scoping report.

4 Governance Framework

4.1 The Constitution of South African (No. 108 of 1996)

The Constitution of South Africa provides for an environmental right (contained in the Bill of Rights, Chapter 2) and includes implications for environmental management. In terms of Section 7, a positive obligation is placed on the State to give effect to the environmental right. The environmental right states that:

"Everyone has the right –

- To an environment that is not harmful to their health or well-being; and
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
  - Prevent pollution and ecological degradation;
  - Promote conservation; and
  - Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

4.2 Minerals and Petroleum Resources Development Act (No. 28 of 2002)

The main objective of the MPRDA is to recognise the sovereignty of the State over all the mineral and petroleum resources in South Africa and to promote equitable access to the country's resources. The MPRDA also allows for previously disadvantaged persons to enter the minerals and petroleum industry and benefit from the exploitation of the country's minerals.

The Act ensures that holders of existing and new mining and production rights contribute towards the social-economic development of the areas in which they operate, promoting economic growth, employment and advance the social and economic welfare of all South Africans.

Although RPM- Amandelbult section has a mining right under the MPRDA and an approved Environmental Management Programme Report (EMPR), the activities of the proposed project, are not included therein. In accordance with section 102 (amendment of rights, permits, programmes and plans) of the MPRDA, an EMPR amendment is required. This process includes assessing the baseline project area, identifying anticipated environmental and socio-economic impacts and developing mitigation measures to alleviate any potential negative impacts associated with the project, and report submission to the competent authority. Part 3, Sections 49 – 52 of the MPRDA further define the reporting requirements when undertaking and EMPR amendment process. To ensure a diligent environmental authorisation process is completed, the said statutory requirements will be included and incorporated into the process and all resulting reports.

The Limpopo DMR will be the competent authority responsible for authorisation the EMPR amendment process in accordance with the MPRDA.

4.3 National Environmental Management Act (No. 107 of 1998)

The NEMA is South Africa's overarching environmental legislation and has, as its primary objective, to provide for co-operative governance by establishing principles for decision making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state and to provide for matters connected therewith (Government Gazette, 1998).

The Act provides for the right to an environment that is not harmful to the health and well-being of South African citizens; the equitable distribution of natural resources, sustainable development, environmental protection and the formulation of environmental management frameworks (Government Gazette, 1998).

The NEMA ensures that specific activities are designed and implemented in a sustainable and environmentally friendly manner, thereby assisting in achieving South Africa's constitutional goal for a better quality of life for all now and in the future. Therefore, it is essential that industries (including mines) improve the efficiency and use of resources, and improve on the level of integration of social, economic and governance systems.

The amended NEMA environmental impact assessment (EIA) regulations were published on 18 December 2010 in Government Gazette No. 33306, Government Notice Regulation (GNR) 543, 544, 545 and 546.

The EIA Regulations provide three categories of listed activities which require environmental authorisation prior to construction:

- GNR.544 identifies activities that would require environmental authorisation in the form of a Basic Assessment (BA) process prior to the commencement of that activity. A BA activity is perceived to pose less potential impact than an EIA activity.
- GNR.545 identifies activities that would require environmental authorisation in the form of a Scoping and EIA process prior to the commencement of that activity.
- GNR.546 relates to identified activities that would require environmental authorisation prior to the commencement of that activity in specific identified geographical areas only.

The NEMA activities, potentially applicable to the proposed are listed below:

Table 14: NEMA Listed Activities

Listed Activity	Activity description	Relevance to the Project
GNR. 544 Activity 9	The construction of facilities or infrastructure exceeding 1000 m in length for the bulk transportation of water, sewage or storm water – (i) with an internal diameter of 0,36 m or more, or (ii) with a peak throughput of 120 litres per second or more.	Possible infrastructure which could possibly trigger this listed activity includes, but are not limited to: ■ Pipeline from fridge plant, ■ Sewage effluent pipelines linking up to the sewage line (servitude), ■ Water pipeline from the WRD to the Plant. *Please note: these activities will be further clarified during the EIR/EMPR phase of this project.*
GNR. 544 Activity 12	The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 m^3 or more.	The combined capacities of all water storage facilities could possibly trigger this listed activity. *Please note: these activities will be further clarified during the EIR/EMPR phase of this project.*
GNR. 544 Activity 13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 m3.	A Gas / paint / oil store is envisaged, and the capacity of the storage facility could possibly trigger this listed activity. *Please note: these activities will be further clarified during the EIR/EMPR phase of this project.*

Listed Activity	Activity description	Relevance to the Project
GNR. 544 Activity 23	The transformation of undeveloped, vacant or derelict land to commercial or industrial use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares.	The total area of the WRD will be approximately 10 ha, subsequent to confirmation of land being undeveloped, this could possibly trigger this listed activity. *Please note: these activities will be further clarified during the EIR/EMPR phase of this project.*
GNR. 545 Activity 5	The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in GNR.544 of 2010 or included in the list of waste management activities published in terms of Section 19 of the NEM:WA.	The following activities / facilities, depending on the capacity details (still to be confirmed) could possibly trigger this listed activity: ■ Salvage yard; ■ Timber yard; ■ Possibly hazardous waste storage facility; and ■ Storage of old oil. *Please note: these activities will be further clarified during the EIR/EMPR phase of this project.*

Therefore, a scoping and EIA process is required in order to obtain environmental authorisation for the proposed project. The provincial department responsible for the authorisation will be the LEDET and application for authorisation was submitted to this department on 11 February 2013 (**Appendix A**).

4.4 National Water Act (No. 36 of 1998)

The National Water Act (NWA) provides for fundamental reformation of legislation relating to water resources and use. The preamble to the Act recognizes that the ultimate aim of water resource management is to achieve sustainable use of water for the benefit of all users and that the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all water users. The purpose of the Act is stated, in **Section 5** as, *inter alia*:

- Promoting the efficient, sustainable and beneficial use of water in the public interest;
- Facilitating social and economic development;
- Protecting aquatic and associated ecosystems and their biological diversity;
- Reducing and preventing pollution and degradation of water resources; and
- Meeting international obligations.

The Act presents strategies to facilitate sound management of water resources, provides for the protection of water resources, and regulates use of water by means of Catchment Management Agencies, Water User Associations, Advisory Committees and International Water Management.

As this Act is founded on the principle the government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, an industry (including mines) can only be entitled to use water if the use is permissible under the NWA.

Specified water uses must be licensed unless it is listed in Schedule 1 (of the NWA), is an existing lawful use, is permissible under a general authorisation, or if a responsible authority waives the need for a license.

The following activities are considered relevant to the proposed project however, additional activities may be deemed applicable following further investigation during the EIA phase (refer to **Table 15**):

Table 15: NWA Listed Activities (NWA, 1998)

Legislation and Notice Number	Activity description	Relevance to the Project
NWA, Chapter 4: 21 (g)	Disposing of waste in a manner which may detrimentally impact on a water resource.	The construction of runoff water dam(s), retention dam(s), and additional water and waste management infrastructure.

An Integrated Water Use Licence (IWUL) Application in terms of the National Water Act (36 of 1998) was submitted by RPM- Amandelbult section to the DWA for all its existing water uses in 2011 however the proposed project was not taken into account in the IWUL therefore the water uses associated with the proposed project will either need to be updated for the proposed project or a separate WULA will be submitted to the DWA in order to gain authorisation from the Department. The feasibility of the two approaches will be explored through correspondence with the DWA.

4.5 Mine Health and Safety Act (No. 29 of 1996)

The Mine Health and Safety Act (No. 29 of 1996) as amended in 2008 aims to provide for protection of the health and safety of employees and other persons at mines.

The proposed infrastructure will be located within the RPM- Amandelbult section mine lease area and, as such, RPM- Amandelbult section need to ensure that this Act and subsequent amendment regulations are adhered to on site by employees, contractors, sub-contractors and visiting personnel.

4.6 National Environmental Management Biodiversity Act (No. 10 of 2004)

In line with the Convention on Biological Diversity (CBD), the Act aims to legally provide for biodiversity conservation, sustainable use and equitable access and benefit sharing. The Act establishes the South African National Biodiversity Institute (SANBI). NEM: BA creates a basic legal framework for the formation of a national biodiversity strategy and action plan and the identification of biodiversity hotspots and bio-regions which will then be given legal recognition. It imposes obligations on landowners (state or private) governing alien invasive species as well as regulates the introduction of genetically modified organisms. Furthermore, the Act serves to regulate bio-prospecting, making provision for communities to share the profits of any exploitation of natural materials involving indigenous knowledge.

During the Scoping and EIA process biodiversity hotspots and bio-regions will be identified to determine the potential effect which the project may have on the receiving environment. The establishment of alien invasive species on the project site will be governed by the Act. The Act ensures that provision is made by the site developer to remove any aliens which have been introduced to the site or are present on the site.

4.7 National Environmental Management Air Quality Act (No. 39 of 2004)

The new National Environmental Management: Air Quality Act 39 of 2004 (NEM:AQA), which repeals the Atmospheric Pollution Prevention Act of 1965, came into effect on 11 September 2005, with the promulgation of regulations in terms of certain sections resulting in the APPA being repealed entirely on 1 April 2010. Key features of the current legislation include:

- A decentralisation of air quality management responsibilities;
- The identification and quantification of significant emission sources that then need to be addressed;
- The development of ambient air quality targets as goals for driving emission reductions;

- The use of source-based (command-and-control) measures in addition to alternative measures, including market incentives and disincentives, voluntary programmes, and education and awareness;
- The promotion of cost-optimized mitigation and management measures;
- Air quality management planning by authorities, and emission reduction and management planning by sources; and
- Access to information and public consultation.

The NEM:AQA introduced a management system based on ambient air quality standards and corresponding emission limits to achieve them. Two significant regulations stemming from NEM:AQA have been promulgated recently, which are:

- **GNR 1210** on 24 December 2009 (Government Gazette 32816) National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) National Ambient Air Quality Standards.
- **GNR 248** on 31 June 2010 (Government Gazette 33064) National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) List of Activities which result in Atmospheric Emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage.

An air quality specialist study is being conducted as a component of the proposed project in order to investigate the cumulative impacts to the regional air quality with respect to the above statute, however no NEM: AQA listed activities have been identified at this point.

4.8 National Environmental Management Waste Act (No. 59 of 2008)

The National Environmental Management: Waste Act (No. 59 of 2009) (NEMWA) serves to reform the law regulating waste management in order to protect human health and the environment. This is managed by providing reasonable measures for the prevention of pollution and ecological degradation. The NEMWA aims to secure ecologically sustainable development while promoting justifiable economic and social development. The NEMWA provides national norms and standards for regulating the management of waste by all spheres of government, for specific waste management measures and for matters incidental thereto.

Furthermore, the Act protects the health, well-being and the environment by:

- Providing reasonable measures for minimisation of consumption of a natural resource;
- Minimising general waste;
- Reducing, re-using, recycling and recovering waste;
- Safely treating or disposing waste;
- Preventing pollution and ecological degradation; and
- Securing ecological sustainable development.

The Act also promotes:

- Economic and sustainable development;
- Effective delivery of waste services;
- Remediation of contaminated land; and
- Integrated waste management.

No activities under Category A & B of the NEM: WA GNR 718 have been identified. RPM- Amandelbult section should however comply with the NEM: WA in terms of the NEM: WA objectives, the waste hierarchy and the general measures which are promoted by the Act.

4.9 National Heritage Resources Act (No. 25 of 1999)

The National Heritage Resources Act (No. 25 of 1999) provides for an integrated and interactive system for the management of the national heritage resources and empowers civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations. Furthermore, the Act established the South African Heritage Resources Agency (SAHRA) in 1999. SAHRA is tasked with protecting heritage resources of national significance. Heritage sites include any subject of historical and / or cultural value.

4.10 Conservation of Agricultural Resources Act (No. 43 of 1983)

The Conservation of Agricultural Resources Act (No. 43 of 1983) (CARA) includes the use and protection of land, soil, wetlands and vegetation and the control of weeds and invader plants. This is the only legislation that is directly aimed at conservation of wetlands in agriculture.

In 1984, regulations were passed in terms of the CARA regulations declaring about 50 species “weeds” or “invader plants”. On 30 March 2001 the Minister of Agriculture promulgated an amendment to these regulations. This amendment now contains a comprehensive list of species that are declared weeds and invader plants dividing them into three categories. These categories are as follows:

- Category 1: Declared weeds that are prohibited on any land or water surface in South Africa. These species must be controlled, or eradicated where possible.
- Category 2: Declared invader species that are only allowed in demarcated areas under controlled conditions and prohibited within 30 m of the 1:50 year floodline of any watercourse or wetland.
- Category 3: Declared invader species that may remain, but must be prevented from spreading. No further planting of these species are allowed.

In terms of the amendments to the regulations under the CARA, landowners are legally responsible for the control of alien species on their properties. Various Acts administered by the DEA and DWA, as well as other laws (including local by-laws), spell out the fines, terms of imprisonment and other penalties for contravening the law. Although no fines have yet been placed against landowners who do not remove invasive species, the authorities may clear their land of invasive alien plants and other alien species entirely at the landowners cost and risk.

Specific management measures for the conservation of agricultural resources will be included in the EMPR although the project area will be rehabilitated upon closure, to a predefined state as per the mine closure plan which is required to be updated on an annual basis.

4.11 Hazardous Substances Act (No. 15 of 1979)

The object of the Act is *inter alia* to ‘provide for the control of substances which may cause injury or ill health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature or the generation of pressure thereby in certain circumstances; for the control of electronic products; for the division of such substances or products into groups in relation to the degree of danger; for the prohibition and control of such substances.’

In terms of the Act, substances are divided into schedules, based on their relative degree of toxicity, and the Act provides for the control of importation, manufacture, sale, use, operation, application, modification, disposal and dumping of substances in each schedule.

Dangerous substances contained on-site during the construction phase of the proposed project will need to be managed in accordance with the Act and material safety data sheets (MSDS) will need to accompany all dangerous goods (hydrocarbon fuels, cleaning chemicals, paints, etc.).

4.12 Noise Regulations

4.12.1 South African Bureau of Standards

With regards to the South African Bureau of Standards (SABS) there are South African National Standards (SANS) that may be relevant to the proposed project. These are:

- SANS 1929:2009 – Ambient air quality (limits for common pollutants);
- SANS 10103:2008 –The measurement and rating of environmental noise with respect to annoyance and to speech communication; and

SANS10328: 2008 – Methods for environmental noise impact assessments.

The activities associated with the proposed project will be assessed in terms of their compliance with relevant standards in order to determine if any significant noise impacts may be anticipated. Mitigation measures to ensure compliance will be required in instances of exceedance of the relevant standards.

4.13 Promotion of Access to Information Act (No. 2 of 2000)

The Promotion of Access to Information Act (No. 2 of 2000) (PAIA) recognises that everyone has a right of access to any information held by the state and by another person when that information is required to exercise or protect any right. The purpose of the Act is to promote transparency and accountability in public and private bodies and to promote a society in which people have access to information that enables them to exercise and protect their right.

The EIA process to be undertaken, and particularly the stakeholder consultation component, is aligned with the PAIA in the sense that all registered stakeholders will be provided a fair opportunity to review and comment on any reports submitted to the authorising authority for decision making.

4.14 Municipal By-laws

In addition to national legislation, some of South Africa's nine provinces have their own provincial legislation, as nature conservation is a concurrent function of national and provincial government in terms of the Constitution of South Africa. The following by-laws have been identified as being potentially relevant to the proposed project and will be investigated further in the EIA phase of the project.

- Thabazimbi Local Municipality: Water supply By-Law;
- Draft By-Law relating to Solid Waste- Waste Management;
- DWAF Model Water Services By- Laws;
- Model electricity supply By- Laws;
- Noise Abatement and Prevention of Nuisance By-Law;
- By-Law for preventing conditions likely to cause or further the spread of fires;
- Public Participation By-Law;
- Public Roads By-Law;
- Traffic By-Law;
- Model Waste Management By-Law; and
- Water And Sanitation By-law.

5 Scoping Process

5.1 Introduction

Environmental authorisation is required prior to the commencement of the proposed project in accordance with the NEMA, the NWA and the MPRDA. A full scoping and EIA will be undertaken for the project and will be compiled in accordance with both the requirements of the NEMA EIA Regulations of 2010 and the MPRDA.

In accordance with the requirements of the MPRDA and the NEMA, a scoping report must be submitted to the provincial office of the DMR and the LEDET, in which the proposed project is situated. The purpose of the scoping report is to identify the baseline environmental and socio-economic conditions of the proposed project site, provide an opportunity for the public to comment on the proposed project, and assess the potential impacts / risks associated with the proposed Central Shaft Project.

The environmental scoping phase was undertaken in line with the requirements of the NEMA EIA Regulations as well as the MPRDA. The objectives of the scoping phase are to:

- Ensure that the process is open and involves the applicant, authorities and stakeholders;
- Provide details of the EAP who compiled the report and the relevant experience to carry out scoping procedures;
- Describe the proposed activity;
- Identify feasible alternatives that can be selected for further assessment;
- Identify and describe the environment that may be affected by the activity and the manner in which the physical, biological, socio-economic and cultural aspects of the environment may be affected;
- Description of the environmental issues and potential impacts, including cumulative impacts;
- Provide information on the methodology that will be adopted in assessing the potential impacts during the EIA process;
- Provide details of the stakeholder engagement process;
- Comply with the relevant environmental legislation; and
- Provide a plan of study for the EIA phase.

An important part of any scoping phase is the stakeholder engagement process. The stakeholder engagement was initiated from the onset of the project to ensure that all stakeholders were adequately and effectively consulted, in order to:

- Inform, raise awareness, educate and increase understanding of a broad range of stakeholders about the project, affected environment and the environmental process to be followed;
- Establish lines of communication between authorities, stakeholders and the project team;
- Provide ample opportunity for all parties to exchange information and express their views and concerns;
- Obtain contributions of stakeholders and ensure that all issues, concerns and queries raised were fully documented; and
- Identify all the significant issues pertaining to the project.

The following sections outline the tasks that have been undertaken as part of the scoping phase.

5.2 Methodology Applied to the Scoping Phase

The following activities are undertaken as part of the scoping phase and subsequent stakeholder engagement:

- Submission of an application form to LEDET on 11 February 2013;
- Letter of notification to the DMR (submitted on 12 February 2013);
- Notification of authorities and stakeholders of the proposed project through a transparent and comprehensive stakeholder consultation process (11 February 2013 - 22 February 2013 – on-going). This included the following (more detail provided in Sections 5.2.2.1 to 5.2.2.3):
  - Newspaper advertisements in the Platinum Weekly and the Rustenburg Herald;
  - Site notices in and around the project area;
  - Email, fax and sms notifications to stakeholders contained within the existing mine database (please note the database will be extended during the process); and
  - Public review of the draft Scoping Report.
- A public meeting will be held in order to present the proposed project to the public and for them to raise concerns or queries relating to the proposed Central Shaft Project. Details of the public meeting are as follows. Members of the public wishing to attend can contact WSP for directions to the venues:
  - Amandelbult Recreation Club, 11 March 2013, 16:00- 17:00.

  Invitations to this meeting will be sent to already registered stakeholders; however should any unregistered stakeholders wish to attend a public meeting, or be registered as an I&AP, they can contact Jared O'Brien from WSP on the contact details below:

  Tel: 011 361 1396

  Fax: 086 505 3939

  Email: Jared.OBrien@wspgroup.co.za
- Focus group meetings with commenting authorities and local leaders (such as the local and district Municipalities, the DWA, etc.) will be conducted in order to present the proposed project to these stakeholders and for them to raise concerns or queries relating to the proposed project. A notification meeting with the Bophalane Ba Montserre Community may be undertaken during the EIA phase, of which the comments received and the responses issued will be tabulated in the Comments and Response Report (will be contained within the Environmental Impact Assessment report).
- Recording of issues and compilation of a Comments and Response Report and identification of potential environmental impacts;
- Compilation of a Draft Scoping Report, including the stakeholder engagement process and plan of study for the EIA phase;
- Placement of the Draft Scoping Report for public and state department review for a period of 40 days (23 February 2013 to 4 April 2013); and
- Finalisation and submission of Final Scoping Report to DMR and LEDET.

5.2.1 Stakeholder Identification

In order to identify stakeholders the following groupings were identified based on requirements of NEMA and the MPRDA:

- National and provincial government (organs of state with jurisdiction over any proposed activity);
- Local government;
- Landowners;
- Local leadership (including ward councillors) and traditional authorities;
- Potentially affected communities;

- Non-government Organisations; and
- Organised business.

Existing WSP and RPM – Amandelbult section databases have been used to develop a project specific database (**Appendix D**) representative of the above groupings for initial stakeholder notification. The project stakeholder database is however a dynamic tool and will be updated throughout the process to include additional stakeholders that may indicate their interest in the proposed project.

5.2.2 Stakeholder Notification

5.2.2.1 Site Notices

The NEMA EIA Regulations require that a site notice be fixed at a place conspicuous to the public at the boundary or on the fence of the site where the activity to which the application relates is to be undertaken and on any alternative sites. Site notices will be placed at the following locations in and around the project area:

- Existing entrance / access road to Tumela Mine;
- Smash Block;
- Montserre Traditional Authorities office;
- Tumela Mine reception;
- Amandelbult Recreation Club;
- Dishaba Mine reception;
- Proposed entrance to the project site;
- Intersection of R510 & road to Zwartkop;
- Northam Public Library;
- Thabazimbi Public Library;
- Additional intersections identified that will be visible to the public; and
- Public community locations, etc.

The purpose of site notices is to notify the public of the project and to invite the public to register as stakeholders and inform the public of the public meeting. Refer to **Appendix D** for a copy of the site notice.

5.2.2.2 Background Information Document

The purpose of the background information document (BID) is to provide background information on the proposed project, outlining the environmental process, notifying stakeholders of the date and venue of the public meeting and providing an opportunity for registration of other stakeholders. A copy of the BID is contained in **Appendix D**.

A letter of invitation and accompanying BIDs were emailed, faxed and posted to existing stakeholders on the database where these contact numbers where available. This mechanism of notification is suitable for all groupings, except for the local communities, many of whom do not have access to these forms of communication. In order to ensure an encompassing notification, sms notifications were sent to stakeholders in local communities for which cell phone numbers were available and copies of the BID are being distributed as hand-outs to the local communities by WSP and the local ward councillors and traditional leaders as well as left at the following locations:

- Tumela Mine reception;
- Dishaba Mine reception;
- Thabazimbi Public Library;
- Smash Block;

- Amandelbult Recreation Club;
- Northam Public Library; and
- Montserre Traditional Authorities office.

5.2.2.3 Newspaper Advertisement

The NEMA EIA Regulations require that a newspaper advertisement be placed in either a local newspaper or a Government Gazette. Should the project have a potential impact that extends beyond the boundaries of the metropolitan or local municipality, the project should be advertised within at least one provincial or national newspaper. For the proposed project WSP is required to place an advertisement in a local newspaper or a Government Gazette. To ensure that the stakeholder consultation process is comprehensive, an advertisement was placed in a provincial newspaper and a local newspaper. The proposed project was therefore advertised through the press in the following newspapers:

- A regional newspaper, namely the Platinum Weekly on 22 February 2013; and
- A local newspaper, namely the Rustenburg Herald on 22 February 2013.

Refer to **Appendix D** for a copy of the newspaper advertisements and proof of publication.

5.2.3 Stakeholder Meeting (Public Meeting)

A public meeting will be held to outline the details of the project and provide an opportunity for stakeholders to raise issues, concerns and queries related to the proposed project. The stakeholder meetings will also establish the lines of communication between the stakeholders and the project team.

The following stakeholder meetings will be conducted:

- Authorities meetings – local and provincial government;
- Public meeting – potentially affected communities and receptors (open to all stakeholders).

All meetings will be facilitated by WSPs EIA team and will be attended by the AAP project representatives. The engineers responsible for project management and design will contribute technical detail and present the specific activities that will be undertaken. Invitations to these meetings will be sent to the relevant groupings (**Appendix D**).

5.2.4 Public Review

The Draft Scoping Report will be placed on public review for a period of 40 days from 23 February 2013 to 4 April 2013, at the following venues:

- Tumela Platinum Mine Main Office reception;
- Montserre Traditional Authorities office;
- Amandelbult Recreation Club;
- Northam Library; and
- WSP Environment and Energy website (www.wspenvironmental.co.za).

All registered stakeholders and commenting state departments will be notified of the public review period as well as the locations of the Draft Scoping Reports via fax and email, post, sms and hand-outs.

The abovementioned plan, for notification and provision of reports, will also be utilised for the review of the EIR and EMPR once the EIA phase has been concluded in the future.

5.2.5 Issues Trail

All concerns, comments, viewpoints and questions (collectively referred to as 'issues') will be documented and responded to adequately in the Issues Trail. The Issues Trail records the following, as listed below, and is provided in **Appendix D**:

- List of all issues raised;
- Record of who raised the issues;
- Record of where the issues were raised; and
- Response to the issues (provided by the Anglo American Platinum project team).

5.2.6 Summary of Issues

No Issues have been received from stakeholders however as and when comments are received from the public, the issues and responses report will be drafted and subsequently included in the EIR. A summary of the issues raised highlighting the most common issues will be included in the draft EIR which will be provided for public and authority review for a period of 40 days.

6 Potential Environmental Impacts

6.1 Introduction

The over-arching objective of the Scoping Phase is to identify record and describe the *potential* environmental impacts associated with the proposed project. This enables the specialist studies to be clearly focused on aspects of significant concern. It also provides a framework for the assessment of the impacts that the proposed project will have on the environment, and of the impacts the environment will have on the proposed project. Based on inputs from the project team, stakeholders, I&APs and specialists the environmental (biophysical and social) impacts in **Table 16** and **Table 17** have been identified as potentially associated with the proposed development and will be investigated during the EIA phase of the process.

6.2 Potential Biophysical Environmental Impacts

Table 16: Potential environmental impacts potentially associated with the proposed project

Environmental Aspect	Potential Impact	Proposed method of investigation
Soils, Land Use and Land Capability	Loss of grazing capacity on the area proposed for development.	Assessment of significance in the EIA
	Loss in agricultural potential of the soil on which the project is proposed.	
	Obstacles to movement of people and livestock.	
	Potential for spills of fuels and other chemicals during construction and operation.	
	Development of previously vacant land.	
Biodiversity	Loss of grassland type habitat.	Assessment of significance in the EIA
	Disturbance and displacement of fauna / avifaunal species.	
	Faunal interaction with structures, servitudes and personnel.	
	Impact on surrounding habitat and species in terms of noise and dust.	
	Increase in overall environmental degradation associated with the mine.	
	Potential introduction / spread of alien species.	
	Minor loss of species diversity.	
Surface and Groundwater	Soil erosion as a result of land clearing may drain into surface water resources.	Assessment of significance in the EIA and the undertaking of a Hydrological Impact Assessment
	Surface water pollution due to spills of fuels or chemicals during construction and operation	
	Groundwater depletion due to the groundwater pumping activity associated	

Environmental Aspect	Potential Impact	Proposed method of investigation
	with a mining shaft.	
	Groundwater contamination due to underground mining activity.	
Air Quality	Particulate matter (dust) impacts due to land clearing.	Assessment of significance in the EIA and the undertaking of an Air Quality Impact Assessment
	Dust entrainment from construction/operations vehicles.	
	Dust from the Tailings Storage Facility where the tailings from the Central shaft will be deposited.	
	Dust generation associated with blasting activity.	
Traffic	Construction vehicles using the existing road networks to access the proposed project site will increase congestion.	Assessment of significance in the EIA and the undertaking of a Traffic Impact Assessment
	Damaging of roads due to the weight of the mining vehicles.	
	Construction vehicles using the existing public roads may cause damage to the roads due to the increase in volume of vehicles utilising the roads.	
	Increase in the number of vehicles on the existing networks during the operational phase.	
Geology	Loss of geological resources	Assessment of significance in the EIA and the undertaking of a Blasting Impact Assessment
	Potential sinkhole formation	
	Potential formation of fractures within the bedrock due to blasting	
Noise	Construction activities such as drilling, blasting, road construction, excavations, heavy machinery and earth moving equipment and vehicles can result in a noise nuisance to the fauna in the area.	Assessment of significance in the EIA and the undertaking of a Noise Impact Assessment
Waste	Waste will be generated during both construction and operation. It will consist of non-hazardous waste, building rubble, industrial waste and potentially hazardous waste. Indiscriminate disposal will have an impact on both the biophysical and socio-economic environments. Soil, land use and land capability, surface water, groundwater and air quality may be polluted. Odours and fumes may lead to a faunal health risk.	Assessment of significance in the EIA
Incidents	Incidents such as a spillage, flood, fire or explosion may occur during the construction and operational phases which could lead to environmental pollution and a health/safety risk to fauna.	Assessment of significance in the EIA

6.3 Potential Socio-economic Impacts

Table 17: Socio-Economic and Cultural / Heritage Impacts potentially associated with the proposed project

Environmental Aspect	Potential Impact	Proposed method of investigation
Visual	Visual impact associated with construction vehicles and activities on site	Assessment of significance in the EIA and the undertaking of a Visual Impact Assessment
	Dust from construction activities may contribute to the visual impact of the proposed project.	
Noise	Construction activities such as drilling, blasting, road construction, excavations, heavy machinery and earth moving equipment and vehicles can result in a noise nuisance to residents in the nearby community of Smash Block and surrounding land owners.	Assessment of significance in the EIA and the undertaking of a Noise Impact Assessment
	Noise associated with the up and down movement of the shaft infrastructure during mining operations.	
Safety	Safety of employees during construction.	Assessment of significance in the EIA
	Safety of employees during operational activities underground.	
	The influx of contractors and job seekers could result in an increase in safety hazards.	
	Road Safety: Increase in construction trucks / heavy vehicles on public roads.	
Culture and Heritage	Impacts on previously unknown heritage / cultural / archaeological resources that may be un-earthed during construction	Assessment of significance in the EIA and the undertaking of a Heritage Impact Assessment
Socio-Economic	Potential Job creation	Assessment of significance in the EIA
	Expansion of local skills through experience and on-the-job training.	
	Local procurement opportunities	
	Economic development	
	Noise intrusion	
	Dust intrusion	
	Light intrusion	
	Influx of people resulting in increase in informal settlements and additional pressure on existing facilities and resources.	
	Cracking of houses due to vibrations caused by blasting.	

6.4 Potential Cumulative Impacts

Cumulative impacts are regarded as the incremental and combined effects of human activity that pose a significant threat to the environment. Cumulative impacts accrue over time, from one or more sources, and can result in the degradation of valuable resources. Potential cumulative impacts have been identified and are presented in **Table 18**.

Table 18: Cumulative Impacts potentially associated with the proposed project

Aspect	Impacts	Cause
Climate	■ Increased greenhouse gas emissions	■ Increased electricity use. ■ Increased vehicle usage. ■ Increased use of the concentrator plant.
Air quality	■ Degradation of air quality	■ The operation of existing and future infrastructure at Dishaba, Tumela and the concentrator. ■ The operation of existing and future infrastructure at mines throughout South Africa.
Noise	■ Increased noise production	■ The operation of existing and future infrastructure at Dishaba, Tumela and the concentrator. ■ The operation of existing and future infrastructure at mines throughout South Africa.
Hydrology	■ Surface water pollution ■ Aquatic systems (ecosystem functioning)	■ Soil erosion ■ Soil contamination by chemicals and hydrocarbons
Geohydrology	■ Groundwater pollution and depletion	■ Groundwater contamination from existing tailings storage facility. ■ Groundwater contamination due to the underground mining activities ■ Groundwater depletion due to shaft dewatering pumping.
Socio-Economic	■ Safety ■ Aesthetics ■ Regional economic benefit ■ Traffic	■ Increase to existing activities in the area. ■ Cumulative impact of the proposed shaft infrastructure and existing infrastructure on the visual aesthetics of the area. ■ Generation of possible employment opportunities. ■ The increase in traffic could have an impact on the surrounding public roads in the area.

7 Plan of Study for the Environmental Impact Assessment

7.1 Introduction

The Plan of Study for the EIA is a requirement of the EIA / EMP process. The purpose of the Plan of Study for the EIA is to detail the approach that the EAP will take towards the EIA / EMP process, which will be approved or authorised by the DMR (as an EMPR amendment document) and the LEDET (as an (EIR)).

This process will be undertaken in accordance with the requirements of the MPRDA, the NWA and the NEMA. This process is detailed in the sections below, as the following components:

- Tasks to be undertaken as part of the EIA / EMPR process;
- Specialist studies;
- Authority consultation;
- Proposed methodology to assess the environmental impacts and alternatives; and
- On-going stakeholder engagement.

7.2 Tasks to be undertaken as part of the EIA / EMPR Process

7.2.1 Purpose of the Draft EIR and EMPR

The purpose of the EIR and draft EMPR is to provide / determine:

- An assessment of the environments likely to be affected by the proposed project;
- An assessment of the nature, extent, duration, probability and significance of the identified potential environmental, social and cultural impacts of the proposed project;
- A comparative assessment of the identified land use and development alternatives and their potential environmental, social and cultural impacts;
- The appropriate mitigation measures for each significant impact of the proposed project;
- Details of the engagement process of stakeholders followed during the course of the assessment and an indication of how the issues raised have been addressed;
- Identification of knowledge gaps and reporting on the adequacy of predictive methods, underlying assumptions and uncertainties encountered in compiling the required information;
- A description of the arrangements for monitoring and management of environmental impacts; and
- Inclusion of technical and supporting information as appendices, if available.

The following will be undertaken as part of the EIA and EMPR process.

7.2.2 Project Description

A detailed project and location description will be developed and completed for inclusion in the EIR. The project description will go on to include a description of the motivation and desirability of the project.

7.2.3 Specialist Studies

The undertaking of further investigations will be required during the EIA phase in order to address the potentially significant issues identified during the scoping phase. Cognisance will be taken regarding findings of the specialist studies and recommendations will be included into the EIR and EMPR documents. Seven specialist studies have been identified to date, which include, but is not limited to:

7.2.3.1 Air Quality Impact Assessment

Air Quality impacts have been identified as one of the potentially significant environmental aspects of activities which will be undertaken during the construction and operational phase of the proposed project. In order to assess these impacts, an Air Quality Impact Assessment is required. The aim of this study is to assess the change in Air Quality related impacts as a result of proposed project. This will be done by baseline environmental characterisation, establishing an emissions inventory, applying atmospheric dispersion modelling and assessing the impacts, as detailed below (to be undertaken during the EIA phase):

- Baseline Assessment
  - A site visit, as orientation of the proposed site and surrounding environment is important for the AQIA process;
  - A comprehensive review of the proposed project activities will be conducted to ensure that all the possible points of emission releases will be assessed in the AQIA, considering construction phase and operational phase emissions;
  - A review of available ambient air quality data (if available) for the area will be conducted, with the aim of including background ambient concentrations into the dispersion model to calculate the cumulative impact of emissions from the proposed facility.

- Emissions Inventory
  - Compilation of an emissions database in an easily-referenced system with emission rates for all significant releases to atmosphere (point, line and area sources);
  - Calculation of the emission mass, by source, time period, and pollutant. These variables are calculated by using individual emission source information with their associated emission factors, and the respective operational parameters over a determined period of time. These parameters are then used to calculate the total source-related emissions at the Central Shaft Project. The total source emissions can then be expressed in various forms such as an individual source or group of sources, by pollutant or by period of time (e.g. hour, day, week, month or year);
  - The primary pollutants of concern are Particulate Matter (PM10) and dust fallout, although during the project, should additional criteria pollutants be identified, these will be included in the AQIA;
  - The final emission inventory will be submitted to the client to approve and sign off before dispersion modelling commences.

- Dispersion Modelling
  - In order to conduct atmospheric dispersion modelling of the quantified emissions of pollutants at the Central Shaft Project, ADMS v4.2 will be utilized. ADMS is a new generation air dispersion model designed for short-range dispersion of airborne pollutants in steady state plumes. ADMS incorporates

air dispersion based on boundary layer turbulence structure and scaling, including treatment of both surface and elevated sources, and both simple and complex terrain. The ADMS system uses hourly sequential meteorological files with pre-processors to generate flow and stability regimes for each hour that cumulatively offer long-term ambient concentrations whilst also capturing short-term peaks. Maps of plume spread with key isopleths will be generated, used for visual interpretation, whilst statistical output can be compared directly with the latest national and international ambient air quality standards for compliance testing against regulated benchmarks. Other site specific data such as geographic co-ordinates and a full set of hourly-sequential meteorological data will be integrated into the model.

- The model will be programmed to compute ambient ground-level (1,5 m) concentrations of the pollutants mentioned above, based on both long-term (annual / chronic) and short-term (worst-case / acute) scenarios. Model scenarios will be for cumulative impacts (i.e. including background concentrations obtained from existing monitoring data where available), such that statistical output can be compared with applicable ambient air quality standards for compliance assessment.
- Source inventory data (pertaining to pollutant concentrations, discharge velocities and volumetric flow rates, gas temperatures etc.) from the emission inventory detailed above will be used as input for the creation of the dispersion model.
- Other site specific data such as source release dimensions and geographic coordinates, as well as a full set of hourly-sequential meteorological data will be integrated into the model base. WSP will use the most relevant meteorological dataset from the South African Weather Service should there be no on-site data available. Allowance has been made to purchase modelled meteorological data should actual SAWS data not be available.
- Should it be identified that complex terrain will potentially impact on emissions from the facility; a digital terrain file will be created and incorporated into the model.

- Air Quality Impact Assessment (AQIA)
  - An AQIA will be required as part of the EIA process to demonstrate the impacts of the proposed activities on the existing air quality situation of the area, with considerations of construction and operational phases. The report will include all methodological and technical information required to support the findings, as well as focusing on the potential impacts on sensitive receptors.

7.2.3.2 Noise Impact Assessment

The Noise impact has been identified as another potentially significant environmental aspect of the activities which will be undertaken during the construction and operational phase of the proposed project. In order to assess these impacts, a Noise Impact Assessment is required. The aim of this study is to assess the overall noise impact created as a result of the proposed activity on both fauna and humans. This will be done by undertaking environmental noise propagation modelling and then assessing the noise impacts, as detailed below (to be undertaken during the EIA phase):

- Environmental Noise Propagation Modelling

An integrated sound propagation model (according to SANS methodology) will be used to generate noise contours for the study area for each scenario. WSP will make use of the internationally accredited acoustic modelling software, CadnaA (Computer Aided Noise Abatement).

CadnaA environmental noise modelling software developed by Datakustik, Sweden, will calculate future noise levels at discrete noise receptors and/or the noise level over a grid, producing noise isopleths. The software provides an integrated environment for noise predictions under varying scenarios and calculates the cumulative effects of various sources, specified by the user. The model uses ground elevations, meteorological information and source sound power levels to calculate the noise propagation over a region. CadnaA has been utilised in many countries internationally for the modelling of environmental noise and town planning. It is comprehensive software for 3-dimensional calculations, presentation, assessment and prediction of environmental noise, covering noise emissions of industrial plants, parking lots, roads, railway schemes or entire towns and urbanized areas. Noise levels emanating from a source can be calculated at specified receptor points to

determine the impact of the noise source. CadnaA is also able to incorporate the complex terrain of a region (if necessary) as well as the effect of the buildings in and around the area of activity at the Central Shaft Project.

CadnaA is regularly used as a calculation tool for ArcMap where the data and source input data are prepared in a Geographic Information System (GIS) and then exported to CadnaA for calculations. The results are then exported to GIS for final analysis/investigation and map creation.

The different modelled noise levels from the different scenarios (construction and operational) will be compared against the criteria in SANS 10117:2003 and SANS 10103. SANS 10103:2008 (the Measurement and Rating of Environmental Noise with Respect to Land Use, Health, Annoyance and Speech Communication), which gives an indication of the criteria for an assessment of annoyance. SANS 10103:2008 recommends maximum noise levels for residential and non-residential areas.

The following will be conducted:

- Calculation of a noise inventory, including the proposed construction activities and operational phase;
- Input of the noise inventory into a CadnaA model;
- Determine the impact of noises on surrounding sensitive receptors due to the proposed activities, providing outputs in both tabular and graphical (isopleths) format.

- Environmental Noise Impact Assessment

The Environmental Noise Impact Assessment report will be compiled summarising the data sources, information obtained, interpretation at a strategic level, limitations and recommendations for further study as well as identifying potential mitigation measures that could be implemented for the proposed project.

7.2.3.3 Hydrological Assessment

In order to ascertain the level of impact of the proposed central shaft project and associated developments on the hydrological environment, and to determine the required mitigatory measures, a hydrological specialist study is required. The outputs of the assessment will be integrated into the updated EMPR for the proposed development.

The hydrological assessment will focus on a number of core factors related to surface water management, including:

- Desktop Review and Gap Analysis;
- Site Walkover;
- Hydrological Assessment;
- Stormwater Management Plan; and,
- Water Monitoring Programme.

These investigations will be used to determine the expected environmental impacts, and to guide the required management and mitigation measures.

- Desktop Review and Gap Analysis

A desktop review and gap analysis will be conducted at the outset of the assessment. Relevant available hydrological data (water quality and quantity) will be sourced and reviewed. Data reviewed will include amongst others, relevant reporting generated for the site, pertinent published data and interrogation of available databases. The desktop review will serve to provide a preliminary description of the receiving environment and current infrastructure, and to identify gaps in information.

Where gaps are identified, the relevant mine representative will be notified and recommendations put forward in terms of addressing the shortfalls.

- Site Walkover

An initiation interview will be conducted with relevant RPM representatives to ascertain the level of understanding of the proposed mine hydrology prior to conducting the site walkover. The initial site walkover will take the following factors into consideration:

- General catchment characteristics (e.g. soils, vegetation, land uses etc.);
- Current state of the drainage channels, streams and rivers (e.g. riparian zone, channel characteristics, channel vegetation etc.) in the vicinity of the development;
- Current and proposed water and land use practices within each sub-catchment; and,
- Existing surface water monitoring programme (if available).

Hydrological nodes will be identified during the site walkover and these nodes will be used as points of reference in the hydrological assessment. From Google Earth imagery and other available topographical data, it is envisaged that no more than five nodes will be required in order to establish the hydrological characteristics and potential impacts of the mine on the receiving hydrological environment.

- Hydrological Assessment

The flow volumes and peak discharges occurring within the area will be altered during the lifespan of the mine (operational, decommissioning and post closure phases). The changes in peak discharges and flow volumes for the hydrological nodes identified during the site walkover will be modelled and quantified for various milestones in the mines lifespan (i.e. impacts to Mean Annual Runoff (MAR)). Proposed surface water management practices that are to be implemented by the mine will be factored into the hydrological modelling.

A comparative exercise will be conducted on the modelling results in order to quantify the impacts on flow volumes as a result of the changes in land use associated with the mine. Based on these results, mitigatory measures will be recommended.

- Stormwater Management Plan

The information gathered during the desktop review and site walkover will be consolidated to develop a conceptual surface water management plan (SWMP) for the mine. The conceptual SWMP model will incorporate specifications as set out in the following documents:

- Requirements of the DWAF Government Notice No. 704 (GN704) Guideline Document for the Implementation of Regulations on Water Use of Mining and Related Activities Aimed at the Protection of Water Resources; and
- DWAF Best Practice Guidelines (DWAF, 2006).

A SWMP must address the impacts of mine operations on water flow and quality in the hydrological cycle as well as the impacts of the hydrological cycle on mine operations. The main objectives of the SWMP are as follows:

- Protection of adjacent water resources from pollution;
- Prevention of erosion of the catchment and water courses;
- Maintain downstream water quality and quantity requirements;
- Minimise the current and long terms impacts of mine operations on downstream water users; and,
- Preservation of the natural environment.

This is achieved by the following measures:

- Confine/divert any unpolluted water to a clean water system, and polluted water to a dirty water system;

- Both clean and dirty water systems should be designed and constructed in such a way so as to prevent cross contamination between the clean and dirty water systems;
- The clean and dirty water systems should be designed to contain the 50 year storm event, and should not lie within the 1:100 year flood line or within a horizontal distance of 100m from any watercourse; and
- Maintenance of the stormwater management infrastructure.

The objective of the conceptual SWMP will therefore be to ensure environmentally sound, safe, continual and cost effective mining practices in terms of water resources protection. The conceptual SWMP will incorporate the proposed mine development plan to determine the management requirements for the various mining phases (i.e. operational, decommissioning and post closure).

- Water Monitoring Programme

It has been assumed that there is currently no water quality monitoring programme on the watercourses in the vicinity of the proposed mine development. A monitoring programme will therefore be developed to support various management actions. The Best Practice Guideline - G3: Water Monitoring Systems will be consulted when developing the program for the site. The water monitoring programme will define the sampling methodology, location, frequency and analytical programme.

Water samples will be obtained from the hydrological nodes identified. Samples will be submitted for full screening purposes. It is assumed that no more than five samples will be required. These will be utilised as an indication of baseline water quality data. Due to the non-perennial nature of the watercourses in the vicinity of the site, it is expected that sampling will only be possible directly after rainfall events.

7.2.3.4 Heritage Impact Assessment

Due to the lack of heritage surveys undertaken on the project area in the past the project team identified a heritage impact assessment (HIA) as an essential undertaking in order to ensure the positive authorisation of the proposed project and to ensure that all heritage resources in the area are identified and correctly documented. The aim of the HIA study is to assess the presence of archaeological remnants in the project area which may be negatively impacts upon. This will be done by undertaking the following activities (to be undertaken during the EIA phase):

- Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property;
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
- Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
- Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
- Recommend suitable mitigation measure should there be any sites of significance that might be impacted upon by the proposed development; and
- Review applicable legislative requirements.

7.2.3.5 Blasting Impact Assessment

Due to the nature of the proposed project the undertaking of a blast impact assessment is deemed necessary. The aim of the study is to assess the possible negative impact which the blasting activities associated with the sinking of a new mining shaft. This will be completed by undertaking the following activities (to be undertaken during the EIA phase):

- A site visit will be undertaken for the following reasons:
  - To understand the location of the site and its surroundings.

- To identify structures found within a 3500m radius of possible influence area.
- The structure profile is required for determining the quality and type of structures found in this area.
- The structure information is used to determine allowed ground vibration and air blast limits and possible human perception that may be applicable where people are possibly present (The current structures or POI's are used in the evaluations).

- A site evaluation is undertaken which entails the following:
  - The evaluation of the mining operations and the possible influences from blasting operations.
  - The methodology consists of modelling the expected impact based on expected drilling and blasting information for the project. Various accepted mathematical equations are applied to determine the attenuation of ground vibration, air blast and fly rock. These values are then calculated over distance investigated from site and shown as amplitude level contours. Overlay of these contours with the location of the various receptors then give indication of the possible impact and expected result of potential impact.
  - Evaluation of each receptor according to the predicted levels will then give an indication of possible mitigation measures to be done or not. The possible environmental or social impacts will then addressed in the detailed EIA phase investigation.

All the information will then be contained within a report and submitted as supporting documentation with the EIR.

7.2.3.6 Visual Impact Assessment

Due to the nature of the proposed project the undertaking of a visual impact assessment is deemed necessary. The aim of the study is to assess the possible negative impact which the proposed infrastructure associated with the sinking of a new mining shaft. This will be completed by undertaking the following activities (to be undertaken during the EIA phase):

- The Scoping Study

The scoping study is a desktop assessment which identifies the core visual elements within the project brief, and how these proposed landscape modifications relate spatially to the surrounding land use and communities. This section makes use of GIS mapping and a viewshed analysis of possible project heights to graphically depict the possible visibility of the project to inform the field survey.

- Field survey and Baseline Study

The baseline requires a field study from which the nature of the landscape character of the site and surrounds and the receptor significance are defined. The landscape character is evaluated in terms of land cover, topography and prominence. The receptor section comprises a survey of specific locations to verify the visibility, the scenic quality of the location (sense of place) and the sensitivity of the receptors. A preliminary understanding of the nature of the impacts is obtained in terms of the visual absorption capacity of the landscape and potential visual intrusion. This study concludes with a statement on the significance of the landscape character, whether further visual impact assessment is required and which significant receptor locations (Key Observation Points) the proposed landscape modification should be assessed for visual impacts.

- 3D Visualisation and Photo Montages

Photo Montages are a photographic representation of a proposed landscape modification as viewed from a specific location. Making use of GIS 3D modelling software, the 3D model of the project can be represented from a specific view angle and then by means of Photoshop computer software, inserted onto a photograph taken from a similar angle at an earth based location. To ensure that this representation is ethical, VRM Africa subscribes to the Proposed Interim Code of Ethics for Landscape Visualisation. This code states that professional presenters of realistic landscape visualisations are responsible for promoting full understanding of proposed landscape changes; providing an honest and neutral visual representation of the expected landscape, by seeking to avoid bias in responses and demonstrating the legitimacy of the visualisation process.

Presenters of landscape visualisations should adhere to the principles of:

- Access to Information;
- Representativeness; and
- Accuracy.

The purpose of the 3D modelling and photo montage section is two-fold. The first aspect focuses on the design of the landscape modifications, where real time visualisations can be utilised as a component of the design process to ensure that the final product is such that visual impacts from Key Observations Points are adequately reduced, ensuring a greater predictability to the outcome. The second aspect relates to the public participation component of the EIA, where the final outcomes of the landscape modifications including mitigation and a strong model proof, can be effectively portrayed and disseminated to I&AP'S and to decision makers.

- Visual Impact Assessment and mitigation criteria

The criteria for the assessment of visual impacts for the proposed projects are based on the DEA&DP Guideline for involving visual and aesthetic specialists in EIA processes. Impacts will be defined for all the proposed landscape modifications and the defined alternatives based on the following criteria:

The following criteria are specified in the DEA&DP visual guidelines.

- Distribution of Impacts: Advantages and disadvantages;
- Extent: The spatial or geographic area of influence of the visual impact;
- Duration: The predicted life-span of the visual impact;
- Intensity: The magnitude of the impact on views, scenic or cultural resources;
- Probability: The degree of possibility of the landscape modification occurring; and
- Significance: A synthesis of the above.

In order to retain the visual quality and landscape character, management actions must become an essential part of the guidelines throughout construction, and operation. This ensures that the lowest possible impact is created by the project. Management not only depends on mitigation but also a continual effort to educate, and to regulate land use and future modification. Although they are recommendations, lack of management actions has the potential to result in greater and more consequential visual impact. Specific management actions will be defined to avoid or reduce the levels visual impacts based on the following DEA&DP Guideline for involving visual and aesthetic specialists in EIA processes definitions:

- Avoidance: "Consideration should be given to avoiding potential impacts altogether…"
- Mitigation: "These may include adjustments to the siting and design of the project, the careful selection of finishes and colours, the use of earthworks (such as berms) and planting to provide visual screening, as well as dust control where required.."
- Compensation and offsets: "Where avoidance and mitigation cannot achieve the desired effect, various forms of compensation could be considered
- Rehabilitation and restoration: "Both on-site and off-site landscape rehabilitation of areas affected by the project should be considered…This may include re-instating landforms and natural vegetation, provision of landscaped open space, or other agreed upon facilities." and
- Enhancement: "Where the proposed project is located in run-down areas, or degraded landscapes, the improvement of these areas could form part of the visual management actions for the project."

7.2.3.7 Traffic Impact Assessment

The numbers of vehicles which will be utilising the municipal roads as well as RPM- Amandelbult section roads during the construction phase of the proposed project will be determined in the EIA Phase. The exact values expected will be portrayed within the EIR following the undertaking of the TIA. The TIA will be carried out in two phases: scoping investigation and the detailed traffic impact assessment. The methodology to be undertaken for the TIA includes, but is not limited to the following.

The scoping investigation will entail:

- Definition of Study area (this includes identification of affected public roads);
- Site visit and traffic survey (traffic counts at affected intersections);
- Status quo investigation of internal and external roads;
- Identification of the transport requirements during the construction period;
- Confirmation of the potential trip generators during the construction period;
- Confirmation of the project methodology; and
- Identification of the assessment variables.

The detailed traffic impact assessment will entail:

- Identification of the potential traffic impact:
  - Calculation of the expected trip generation during the construction of the proposed shaft and associated infrastructures,
  - Identification of potential road safety risks.
- Capacity analysis:
  - Quantification of the traffic impact due to the mining activities;
  - Capacity analysis of existing network (congestion levels); and
  - Assessment of the impacts that may accrue (road safety).
- Worker Transport (public transport provision and adequacy of existing public transport facilities, if existent).
- Impact significance of the identified impacts.
- Impact rating.
- Mitigation measures (proposed road upgrades and road safety management).

In addition, the following tasks will be carried out as part of the TIA:

- Liaison with the professional team members to extract relevant information (2 meetings).
- Preparation of a study report with findings, conclusions and recommendations.
- Liaison with the relevant roads authorities.

7.2.4 Impact and Risk Assessments and Ratings Methodology

This chapter documents the EIA that will be undertaken to determine the environmental impacts that could result from the proposed project. The first stage of impact assessment is the identification of environmental activities, aspects and impacts. This is supported by the identification of receptors and resources, which allows for an understanding of the impact pathway and an assessment of the sensitivity to change. The significance of

the impact is then assessed by rating each variable numerically according to defined criteria as outlined in **Table 19** to **Table 23**. The purpose of the rating is to develop a clear understanding of influences and processes associated with each impact. The severity, spatial scope and duration of the impact together comprise the consequence of the impact and when summed can obtain a maximum value of 15. The frequency of the activity and the frequency of the impact together comprise the likelihood of the impact occurring and can obtain a maximum value of 10. The values for likelihood and consequence of the impact are then read off a significance rating matrix as shown in **Table 24**.

Table 19: Severity of Impact

SEVERITY OF IMPACT	RATING
Insignificant / non-harmful	1
Small / potentially harmful	2
Significant / slightly harmful	3
Great / harmful	4
Disastrous / extremely harmful	5

Table 20: Spatial Scope of Impact

SPATIAL SCOPE OF IMPACT (Extent)	RATING
Activity specific	1
Area specific	2
Whole project site / local area	3
Regional	4
National	5

Table 21: Duration of Impact

DURATION OF IMPACT	RATING
One day to one month	1
One month to one year	2
One year to ten years	3
Life of operation	4
Post closure / permanent	5

CONSEQUENCE

Table 22: Frequency of Activity / Duration of Aspect

FREQUENCY OF ACTIVITY / DURATION OF ASPECT	RATING
Annually or less / low	1
6 monthly / temporary	2
Monthly / infrequent	3
Weekly / life of operation / regularly / likely	4
Daily / permanent / high	5

Table 23: Frequency of Impact

FREQUENCY OF IMPACT	RATING
Almost never / almost impossible	1

LIKELIHOOD

Very seldom / highly unlikely	2
Infrequent / unlikely / seldom	3
Often / regularly / likely / possible	4
Daily / highly likely / definitely	5

- **Activity:** a distinct process or task undertaken by an organisation for which a responsibility can be assigned.
- **Environmental aspect:** an element of an organisation's activities, products or services which can interact with the environment.
- **Environmental impacts:** consequences of these aspects on environmental resources or receptors.
- **Receptors:** comprise, but are not limited to people or man-made structures.
- **Resources:** include components of the biophysical environment.
- **Frequency of activity:** refers to how often the proposed activity will take place.
- **Frequency of impact:** refers to the frequency with which a stressor will impact on the receptor.
- **Severity:** refers to the degree of change to the receptor status in terms of the reversibility of the impact; sensitivity of receptor to stressor; duration of impact (increasing or decreasing with time); controversy potential and precedent setting; threat to environmental and health standards.
- **Spatial scope:** refers to the geographical scale of the impact.
- **Duration:** refers to the length of time over which the stressor will cause a change in the resource or receptor.

The model outcome of the impacts is then assessed in terms of impact certainty and consideration of available information. The Precautionary Principle is applied in line with the NEMA in instances of uncertainty or lack of information by increasing assigned ratings or adjusting final model outcomes. In certain instances where a variable or outcome requires rational adjustment due to model limitations the model outcomes are adjusted. Arguments and descriptions for such adjustments, as well as arguments for each specific impact assessments are presented in the text and encapsulated in the assessment summary table linked to each impact discussion.

Table 24: Consequence / Likelihood

	CONSEQUENCE (Severity + Spatial Scope + Duration)														
LIKELIHOOD (Frequency of Activity + Frequency of Impact)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

Colour Code	Significance Rating	Value	Negative Impact Management Recommendation	Positive Impact Management Recommendation
	VERY HIGH	126-150	Improve current management	Maintain current management
	HIGH	101-125	Eliminate, avoid, implement specific action plans/procures / improve current management	Maintain current management
	MEDIUM-HIGH	76-100	Proactively manage/ improve current management	Maintain current management
	LOW-MEDIUM	51-75	Actively manage, maintain current management	Improve current management
	LOW	26-50	Monitor and manage as appropriate / maintain current management	Improve current management
	VERY LOW	1-25	Maintain current management	Improve current management

7.2.5 Environmental Impact Assessment

The contents of the EIR will include the following:

- Details of the EAP who compiled the report and their expertise to carry out an EIA;
- Detailed description of the proposed activity;
- Description of the property on which the activity is to be undertaken and the location of the activity on the property;
- A description of the environment that may be affected by the activity and the manner in which the physical, biological, socio-economic and cultural aspects of the environment may be affected by the proposed activity (pre-development description of the environment);
- Details of the stakeholder engagement conducted during the scoping phase and the on-going consultation during the EIA phase;
- Description of the need and desirability of the proposed activity and identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and the community that may be affected by the activity;
- An indication of the methodology used in determining the significance of potential environmental impacts;
- A description and comparative assessment of all alternatives identified during the EIA process;
- A summary of the findings and recommendations of the specialist reports;
- A description of all environmental issues that were identified during the EIA process, and assessment of the significance of each issue and an indication of the extent to which the issue could be addressed by the adoption of mitigation measures;
- An assessment of each identified potentially significant impact including cumulative impacts, the nature of the impact, the extent and duration of the impact, the probability of the impact occurring, 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;
- A description of assumptions, uncertainties and gaps in knowledge;
- An opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;

- An environmental impact statement which contains a summary of the key findings of the environmental impact assessment and a comparative assessment of the positive and negative implications of the proposed activity and identified alternatives;
- A draft EMPR;
- Compilation of a specialist volume; and
- Any specific information that may be required by the competent authority.

7.2.6 Environmental Management Programme Report

During the compilation of the EIR, a draft EMPR will be compiled in accordance with the NEMA EIA Regulations and the MPRDA. The draft EMPR will provide the actions for the management of identified environmental impacts emanating from the proposed project and a detailed outline of the implementation programme to minimise and / or eliminate the anticipated negative environmental impacts.

The draft EMPR will provide strategies to be used to address the roles and responsibilities of environmental management personnel onsite, and a framework for environmental compliance and monitoring. The draft EMPR will be complied as part of the EIR and consolidated into an EMPR amendment document. The EIR component will be authorised by the LEDET and the EMPR amendment will be authorised by the DMR.

The draft EMPR will include the following:

- Details (including expertise) of the person who prepared the draft EMPR;
- Information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in the EIR, including environmental impacts or objectives in respect of planning and design, pre-construction and construction activities, operation or undertaking of the activities, rehabilitation of the environment and closure where relevant;
- A detailed description of the aspects of the activity that are covered by the draft EMPR;
- An identification of the people who will be responsible for the implementation of the measures;
- Where appropriate, time periods within which the measures contemplated in the draft EMPR must be implemented;
- Proposed mechanisms for monitoring compliance with the draft EMPR and reporting thereon (i.e. procedures);
- Mitigation measures to rehabilitate the environment affected by the undertaking of any listed activities or specific activities back to its natural or predetermined state or to a land use which conforms to the generally acceptable principles of sustainable development;
- Time periods for which management measures must be implemented;
- The process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of undertaking a listed activity;
- An environmental awareness plan;
- Where appropriate, closure plans including closure objectives; and

An updated financial provision in relation to the execution of the EMPR.

7.2.7 EIR / EMPR Review and Submission

The draft EIR and draft EMPR report will be made available for public and state department review for a period of 40 days. Stakeholders will have the opportunity to view the draft reports and submit their comments, issues and concerns to WSP.

The comments from the public review period will be incorporated into a finalised report that is submitted to LEDET and DMR for review and authorisation. The relevant departments have a legislated period of 120 days

in which to provide a decision on the proposed project after acknowledgement of receipt (14 days after final submission).

Once authorisation has been received, WSP will notify all registered stakeholders of the decision and manage an appeal process in accordance with the NEMA EIA Regulations of 2010.

7.3 Authority Consultation

Relevant Competent Authorities (DMR, DWA and LEDET) as well as commenting authorities (local municipality, district municipality, SAHRA, etc.) will be consulted formally and informally throughout the environmental authorisation process. Formal consultations will be through authority meetings and an authority feedback meeting during the EIA phase. Informal consultation shall be through *ad hoc* discussions and telephonic and email communication. All authorities, including the Competent Authorities and commenting authorities will be notified of the availability of the draft documentation for public and state department review.

7.4 Proposed Methodology to Assess Anticipated Impacts and Alternatives

The potential environmental impacts of the proposed project will be evaluated according to their severity, duration, extent and significance of the impact. The Anglo Platinum 5x5 Risk Assessment Matrix will be used for the ranking of the impacts.

7.5 On-going Stakeholder Engagement

Consultation with stakeholders and authorities will continue into the EIR / EMPR phase. Consultation will continue in the form of:

- An open channel of communication that has been established during the scoping phase and will be maintained during the EIR / EMPR phase. The EAP has provided WSPs contact details to the stakeholders and authorities;
- Distribution of all project information and findings to registered stakeholders;
- Review of all reports to be submitted;
- Information in the media and press; and
- Scoping report feedback and EIR / EMPR public meeting.

8 Conclusion

The scoping phase was undertaken in line with the requirements of the MPRDA, the NEMA and additional legislation and guidelines listed in **Section 4**. The information contained in this scoping report provides a comprehensive description of the purpose of the proposed project. Furthermore, as the proposed project infrastructure and activities have not been included in the approved EMPR, the EMPR Amendment process will incorporate all the project proposed infrastructure and activities.

The plan of study for the EIA and EMP, contained in this report, describes the proposed approach in which issues raised in the scoping phase will be addressed in detail. During the EIA phase, the issues identified during the scoping phase will be studied in detail and assessed to identify significant impacts and to design appropriate mitigation measures.

An important part of any scoping phase is stakeholder engagement. The stakeholder engagement was initiated from the onset of the project to ensure that all stakeholders were adequately and effectively consulted.

The following environmental aspects were screened during the Scoping Phase and will be further investigated during the EIA phase:

- Soils, Land Use and Land Capability;
- Biodiversity;
- Surface and Groundwater;
- Air Quality;
- Traffic;
- Geology;
- Noise;
- Waste;
- Incidents;
- Visual;
- Noise;
- Safety;
- Culture and Heritage; and
- Socio-Economic.

WSP will undertake the following activities after submission of the draft scoping report to the authorities:

- WSP will ensure that all comments received from stakeholders and authorities are incorporated into the Issues Trail;
- WSP will update the draft scoping report and submit the final scoping report to Authorities and stakeholders for review;
- WSP will update the final scoping report and submit the final report to the project case officer;
- WSP will furnish the Case officer with additional information should a request be received;
- WSP will compile and submit the draft EIR/EMPR for state and stakeholder review, on acceptance of the draft scoping report by the relevant Departments;
- WSP will update the EIR/EMPR and submit the final report to the project case officer;
- WSP will furnish the Case officer with additional information should a request be received; and
- WSP will notify the registered stakeholders on receipt of the decision from the Department.

Throughout the process stakeholders and I&APs will be engaged to ensure that their comments and concerns are taken into consideration and that they form an integral part of the environmental authorisation process.

9 Limitations and Assumptions

- This scoping report has been prepared for the purposes outlined in the initial proposal prepared by WSP for the scope and the period of work described in WSP's proposal.
- All information regarding the proposed project infrastructure and the mining operations at the Tumela mine was provided by the proponent. This includes the project description, conceptual drawing of surface infrastructure, motivation and alternatives considered and current operations associated with the mine.

- Where data supplied by RPM or other specialists consultants, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by WSP for incomplete or inaccurate data supplied by others.
- It is WSP's professional opinion that the adopted predictive methods are sufficient and adequate for rating the significance of the impacts during the EIA phase.
- The information and data included in the Scoping Report are based upon information that existed at the time of the compilation of the report.

10 References

Allan, K. (2008): Environmental Impact Assessment for additional Ventilation Infrastructure, WSP Environmental Pty (Ltd), South Africa.

Allan, K. (2008): Scoping Report for Rustenburg Platinum Mines Rustenburg Section for Additional Ventilation Shafts. WSP Environmental Pty (Ltd), South Africa.

Anglo Platinum Limited: Dishaba and Tumela Mines SEAT report, 2011: Socio-Economic Assessment Toolbox. Anglo American Platinum Limited internal documentation

Bekker, T. (2007): Anglo Platinum Limited - Amandelbult Section: Merensky Project. WSP Environmental Pty (Ltd), South Africa.

Fourie, J. (2012): Geochemical assessment of underground concrete backfill material, Amandelbult Section, Dishaba Mine. Geostratum, South Africa.

Postma, B. (2011) Amandelbult Integrated Waste Water Management Plan. Clean Stream Environmental Services, South Africa.

Postma, B. and du Toit, P. (2011): Regulation GN 704 Surface Water / Stormwater Management Audit. Cleanstream Environmental Consultants, South Africa.

Shippon, J., Gebhardt, Z., and Geyer, S. (2012): Dishaba Mine Backfill Project: Final Scoping Report. Prime Resources, South Africa.

Shippon, J., Gebhardt, Z., and Geyer, S. (2012): Dishaba Mine Backfill Project: Draft Environmental Impact Assessment and Environmental Management Programme. Prime Resources, South Africa.

Van der Walt, K. (2012): Dishaba Backfill Project: Ecological Scan. Strategic Environmental Focus (Pty) Ltd, South Africa.

Van Schalkwyk, J. (2012): Heritage Impact Assessment for the proposed Dishaba Mine Backfill project, Amandelbult region. Prime Resources, South Africa.

Wildy, E. (2011): Biodiversity assessment of three sites proposed for organic farming within Union and Dishaba Mines. WSP Environmental Pty (Ltd), Limpopo Province, South Africa.

Anonymous, (2011): Community Development Commitments included in Anglo American Platinum Limited's Social and Labour Plans report. Anglo American Platinum Limited. South Africa.

Anonymous, (2011): Thabazimbi Local Municipality (2012/3): Integrated Development Plan. Available online at: www.thabazimbi.gov.za.

Anonymous, (2011): Waterberg District Municipality (2011/2): Integrated Development Plan. Available online at: www.waterberg.gov.za.

Anonymous, (2012): Tumela Central Shaft Project: Project Charter Anglo American Platinum Limited. South Africa.

Anonymous, (2012): Tumela Mine – Central Shaft Surface Infrastructure Pre-Feasibility Study. Anglo American Platinum Limited. South Africa.

Anonymous, (2013): Amandelbult: Final Mine Extraction Strategy. Anglo American Platinum Limited. South Africa.

Anonymous, (2013): Final Amandelbult MES presentation. Anglo American Platinum Limited. South Africa.

Anonymous, (2013): Tumela Central Shaft EMP/ EIA presentation. Anglo American Platinum Limited. South Africa.

Anonymous, (2006): Rustenburg Platinum Mines Amandelbult Section: Biodiversity Action Plan (BAP). Anglo American Platinum Limited. South Africa.

Appendices

Appendix A - Authority Correspondence

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM

EIA APPLICATION FORM - EIA REGULATIONS, 2010

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment (EIA) Regulations, 2010

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	

PROJECT TITLE

The proposed Anglo American Platinum Limited: Rustenburg Platinum Mines – Amandelbult Section, Tumela Central Shaft

Kindly note that:

1. This application form is current as of 2 August 2010. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the Department.

2. In this form Regulations refer to Environmental Impact Assessment Regulations, 2010; and the Act refers to the National Environmental Management Act, 1998 (Act 107 of 1998) as amended.

3. The application must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.

4. Where applicable **black out** the boxes that are not applicable in the form.

5. Incomplete applications may be returned to the applicant for revision.

6. The use of the phrase "not applicable" in the form must be done with circumspection. Should it be done in respect of material information required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the Regulations.

7. No faxed or e-mailed applications will be accepted.

8. Unless protected by law, all information filled in on this application will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this application on request, during any stage of the application process.

9. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

Postal Address:	**Physical Address:**
Central Administration Office	Central Administration Office
Environmental Impact Management	Environmental Affairs Building
P. O. Box 55464	Cnr Suid and Dorp Streets
POLOKWANE	**POLOKWANE**
0700	0699

Queries should be directed to the Central Administration Office: Environmental Impact Management:-

For attention: Mr E. V. Maluleke
Tel: (015) 291 1315 / 291 5640
Fax: (015) 295 5015
Email: malulekeev@ledet.gov.za

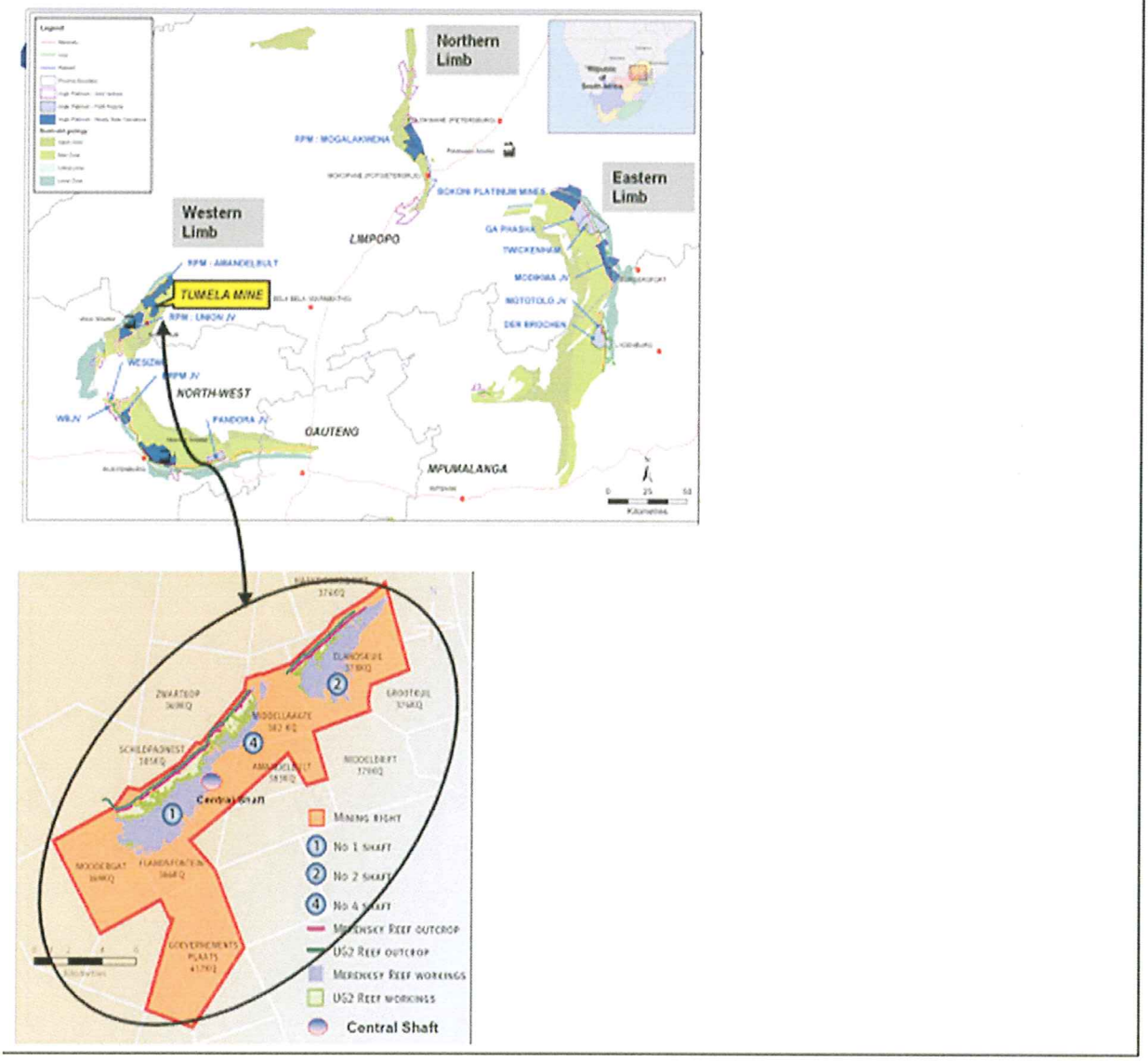
View the Department's website at http://www.ledet.gov.za/ for the latest version of the documents.

A. PROJECT DESCRIPTION

The entire project will entail the following (full detail of the project can also be appended):

Background information

Rustenburg Platinum Mines Ltd. (RPM), a wholly owned subsidiary of Anglo American Platinum is the holder of an existing new order mining right (LP30/5/1/2/2/48 MR), in respect of Platinum Group Element (PGE) deposits, which is contained in the Merensky- and UG2 reefs within the mining area. The Amandelbult Section, located in the Limpopo Province, is an established and fully developed mine situated on the north-western limb of the Bushveld Complex (Refer to **Figure 1** – Locality Map). The mine comprises of the Tumela Mine, Dishaba Mine and Concentrator Plant. The mine is located within the Thabazimbi Local Municipality (NP 361) and the Waterberg District Municipality (DC 36), approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg.



The main activity at the Amandelbult Section is the mining of the Platinum Group Metals (PGMs) by means of underground mining. Ore mined from the reserves is processed at the Concentrator Plant before being transported to off-site smelters for further refining. Opencast mining was undertaken in the past in certain areas. However, this ceased in 2005 and the land has been rehabilitated in accordance with the approved EMPR, dated 1995 and subsequent approved addendums.

Figure 1: Locality Map

Motivation for the proposed project

The Tumela Mine (forming part of the Amandelbult Section) has revised its Business Plan to access the resources of the 15 E Business Centre, located on the farm Schildpadnest 385KQ (**Figure 1**), via a new shaft, the Tumela Central Shaft (**Figure 2** and **Figure 3**).

Tumela Mine would not be able to maintain its production profile unless capital projects are brought online. Tumela Mine has a major platinum resource and the business objectives for Tumela Mine would thus be to exploit this resource and target a sustained production profile above the required threshold. This would curtail production at its required level and hence sustain its workforce.

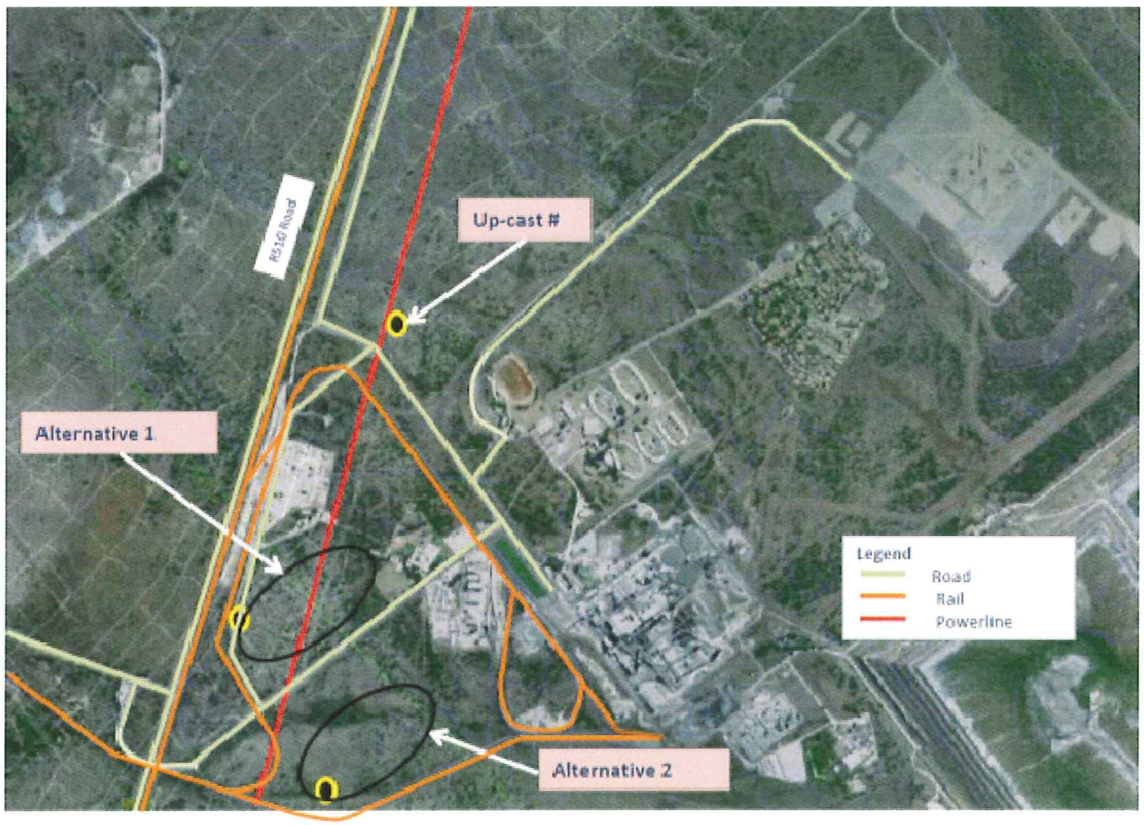


Figure 2: Location alternatives for the proposed Tumela Central Shaft

Objectives of the proposed project

The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area, from 11 to 16 levels, on both the Merensky- and UG2 reef horizons, that will bring production online by no later than 2019.

Project Description

The envisaged activities associated with the proposed project may feature the following (which may be amended in future):

- A single Ø 8.1 m down-cast shaft equipped with a steel headgear, ± 45 m height,
- An additional Ø 6.5 m down-cast shaft equipped with a steel headgear, ± 30m m height, with the fridge plant and BAC as noted below – required 5 years after the main shaft commissioning
- A single Ø 6.55 m up-cast vent shaft, equipped with 2 x 3MW Fans;
- The shafts will have the following associated infrastructure:

- Ore silo with ore conveyor;
- Access roads;
- Railway links;
- Office blocks;
- Change house;
- Salvage yard;
- Explosives shed;
- Timber yard;
- Winder house;
- Lamp house;
- Parking area;
- Fridge plant with cooling water dams;
- Bulk air coolers; and
- Service / process water storage dams.

- Waste Rock Dump (WRD);
- Waste Rock Conveyor – (± 130 m from headgear to the WRD);
- Sub-station with feed from existing 132kV Eskom power lines, running adjacent to the proposed sites.
- Mine process water runoff dams and
- Compressor system.

Please refer to the proposed surface infrastructure layout plan in **Appendix A**.

Authorisation process to be followed

The proponent has appointed WSP Environmental as the independent consultant to undertake the following in terms of the legislative requirements for the activities associated with the proposed Tumela Central Shaft Project:

- EMPR amendment in terms of the MPRDA;
- Scoping Report and EIA in terms of NEMA, as amended, and
- Water Use Licence Application in terms of the NWA.

B. SITE IDENTIFICATION AND LINKAGE

Please indicate all the Surveyor-general 21 digit site (erf/farm/portion) reference numbers for all sites (including portions of sites) that are part of the application.

T	0	K	Q	0	0	0	0	0	0	0	0	0	3	8	5	0	0	0	0	0

(These numbers will be used to link various different applications, authorisations, permits etc. that may be connected to a specific site) If there are more than 6, please attach a list with the rest of the numbers.

C. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

Alternative:	**Latitude (S):**			**Longitude (E):**		
Alternative S1[1] (preferred or only site alternative)	24°	48'	22.10"	27°	19'	19.32"
Alternative S2 (if any)	24°	48'	39.25"	27°	19'	23.16"
Alternative S3 (if any)						

In the case of linear activities:

Alternative:	Latitude (S)			Longitude (E)		
Alternative S1 (preferred or only route alternative)						
• Starting point of the activity						
• Middle/Additional point of the activity						
• End point of the activity						
Alternative S2 (if any)						
• Starting point of the activity						
• Middle/Additional point of the activity						
• End point of the activity						
Alternative S3 (if any)						

[1] "Alternative S.." refer to site alternatives.

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

D. PROJECT VALUE

Please indicate the estimated value of your project in Rand Value. This information is only required for reporting purposes by the Department.

Project Value ('R')	R 5.3 billion

PROJECT TITLE

The proposed Anglo American Platinum Limited: Rustenburg Platinum Mines – Amandelbult Section, Tumela Central Shaft.

1. BACKGROUND INFORMATION

Project Applicant:	Anglo American Platinum		
Trading Name (if any):	Rustenburg Platinum Mines		
Representative:	Tom van den Berg		
Physical Address:	Tumela Mine, Main Offices, Thabazimbi Road, Northam, Limpopo, 0360		
Postal Address:	Amandelbult Mine, P O Box 2, Chromite, 0362, South Africa		
Postal Code:	0362	Cell:	+27 82 8834571
Telephone:	+27 (0) 14 784 7100	Fax:	+27 (0) 14 784 1720
E-mail:	Tom.VanDenBerg@angloamerican.om		

Landowner:	The Baphalane Ba Mantserre Community Development Trust		
Contact Person:	MD Ramothwala		
Postal Address:	3rd Floor West Wing, Centenary Building, Bureau Lane, Pretoria.		
Postal Code:	0001	Cell:	N/A
Telephone:	012 323 4824	Fax:	012 323 8157
E-mail:	lenyaimd@mweb.co.za		

In instances where there is more than one landowner, please attach a list of landowners with their contact details to this application.

District Municipality in whose jurisdiction the proposed activity will fall	Waterberg District Municipality		
Local Municipality (LM) in whose jurisdiction the proposed activity will fall:	Thabazimbi Local Municipality		
Nearest town/city:	15 km north of Northam		
LM Contact Person:	Riaan Lategan		
Postal Address:	Thabazimbi Local Municipality; Private Bag X530; Thabazimbi.		
Postal Code:	0380	Cell:	083 236 8902
Telephone:	014 777 1525	Fax:	014 777 1531
E-mail:	riaanlat@webmail.co.za		

In instances where there is more than one local municipality and city/town involved, please attach a list with their contact details to this application

Property Description/Physical Address:	Farm detials: Schildpadnest 385KQ The mine is located approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg.

(Farm name, Portion, Erf/stand, etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

Current land-use zoning:	Mining and Industry

In instances where there is more than one current land use zoning, please attach a list of current land use zoning that also indicate which portions each land use pertains to to the applicable

Is a change of land-use or a consent use application required?	YES	NO
Must a building plan be submitted to the local municipality?	YES	NO

Locality map: **An A3 locality map** must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000). For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.)

The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow; and
- a legend;

Refer to Figure 1 and Appendix A

2. TYPE OF APPLICATION

2.1 Application for Basic Assessment

Is this an application for conducting a Basic Assessment	YES	NO

Please indicate when the basic assessment report will be submitted:

2.2 Application for Scoping and EIA

Is this an application for Scoping and EIA	**YES**	NO

Please indicate when the Scoping Report (including the Plan of Study for EIA) will be submitted:

April/ May 2013 (Final Scoping Report)

3. ACTIVITIES APPLIED FOR TO BE AUTHORISED

For an application for authorisation that involves more than one listed or specified activity that, together, make up one development proposal, all the listed activities pertaining to this application must be indicated.

3.1 For Notice 1 (R.544, 18 June 2010) and Notice 2 (R.545, 18 June 2010)

Indicate the number and date of the relevant notice:	**Activity No (s) (in terms of the relevant notice) :**	**Describe each listed activity as per project description[2]:**
R. 544, 18 June 2010	9	The construction of facilities or infrastructure exceeding 1000 m in length for the bulk transportation of water, sewage or storm water – (i) with an internal diameter of 0,36 m or more, or (ii) with a peak throughput of 120 litres per second or more.

[2] Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description

R. 544, 18 June 2010	12	The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 m^3 or more.
R. 544, 18 June 2010	13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 m^3.
R. 544, 18 June 2010	23	The transformation of undeveloped, vacant or derelict land to commercial or industrial use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares.
R. 545, 18 June 2010	3	The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 m^3.
R. 545, 18 June 2010	5	The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in GNR.544 of 2010 or included in the list of waste management activities published in terms of Section 19 of the NEM:WA.

Please note that any authorisation that may result from this application will only cover activities specifically applied for.

3.2 For Notice 3 (R.546, 18 June 2010)

Activity No (s) (in the notice) :	No. of Geographical Area and Description as per project	Describe each listed activity as per project description[3]:
N/A	N/A	N/A

Please note that any authorisation that may result from this application will only cover activities specifically applied for.

4. OTHER AUTHORISATIONS REQUIRED

4.1 DO YOU NEED ANY AUTHORISATIONS IN TERMS OF ANY OF THE FOLLOWING LAWS?

	Yes or No		Submitted		Date submitted to relevant Authority
4.1.1 National Environmental Management: Waste Act	[illegible]	No	[illegible]	No	N/A
4.1.2 National Environmental Management: Air Quality Act	[illegible]	No	[illegible]	No	N/A
4.1.3 National Environmental Management: Protected Areas Act	[illegible]	No	[illegible]	No	N/A
4.1.4 National Environmental Management: Biodiversity Act	[illegible]	No	[illegible]	No	N/A
4.1.5 Mineral Petroleum Development Resources Act	Yes	[illegible]	[illegible]	No	Consultation on 24 January 2013
4.1.6 National Water Act	Yes	[illegible]	[illegible]	No	Consultation yet to be held
4.1.7 National Heritage Resources Act	[illegible]	No	[illegible]	No	N/A
4.1.8 Other (please specify)	[illegible]	No	[illegible]	No	N/A

[3] Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description

5. DECLARATIONS

PROJECT TITLE

The proposed Anglo American Platinum Limited: Rustenburg Platinum Mines – Amandelbult Section, Tumela Central Shaft.

5.1 The Applicant

I, Thomas van den Berg ,declare that I -

- am, or represent[4], the applicant in this application;
- have appointed / will appoint (delete that which is not applicable) an environmental assessment practitioner to act as the independent environmental assessment practitioner for this application / will obtain exemption from the requirement to obtain an environmental assessment practitioner[5];
- will provide the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the Environmental Impact Assessment Regulations, 2010, including but not limited to –
  - costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
  - costs incurred in respect of the undertaking of any process required in terms of the Regulations;
  - costs in respect of any fee prescribed by the MEC in respect of the Regulations;
  - costs in respect of specialist reviews, if the competent authority decides to recover costs; and
  - the provision of security to ensure compliance with conditions attached to an environmental authorisation, should it be required by the competent authority;
- will ensure that the environmental assessment practitioner is competent to comply with the requirements of these Regulations and will take reasonable steps to verify whether the EAP complies with the Regulations;
- will inform all registered interested and affected parties of any suspension of the application as well as of any decisions taken by the competent authority in this regard;
- am responsible for complying with the conditions of any environmental authorisation issued by the competent authority;

[4] If this is signed on behalf of the applicant, proof of such authority from the applicant must be attached.

[5] If exemption is obtained from appointing an EAP, the responsibilities of an EAP will automatically apply to the person conducting the environmental impact assessment in terms of the Regulations.

- hereby indemnify the Government of the Republic, the Department and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action which the applicant or environmental assessment practitioner is responsible for in terms of these Regulations;
- will not hold the Department responsible for any costs that may be incurred by the applicant in proceeding with an activity prior to obtaining an environmental authorisation or prior to an appeal being decided in terms of these Regulations;
- will perform all other obligations as expected from an applicant in terms of the Regulations;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Signature of the applicant[6]/ Signature on behalf of the applicant:

Anglo American Platinum - Tumela Mine

Name of company (if applicable):

05/2/13

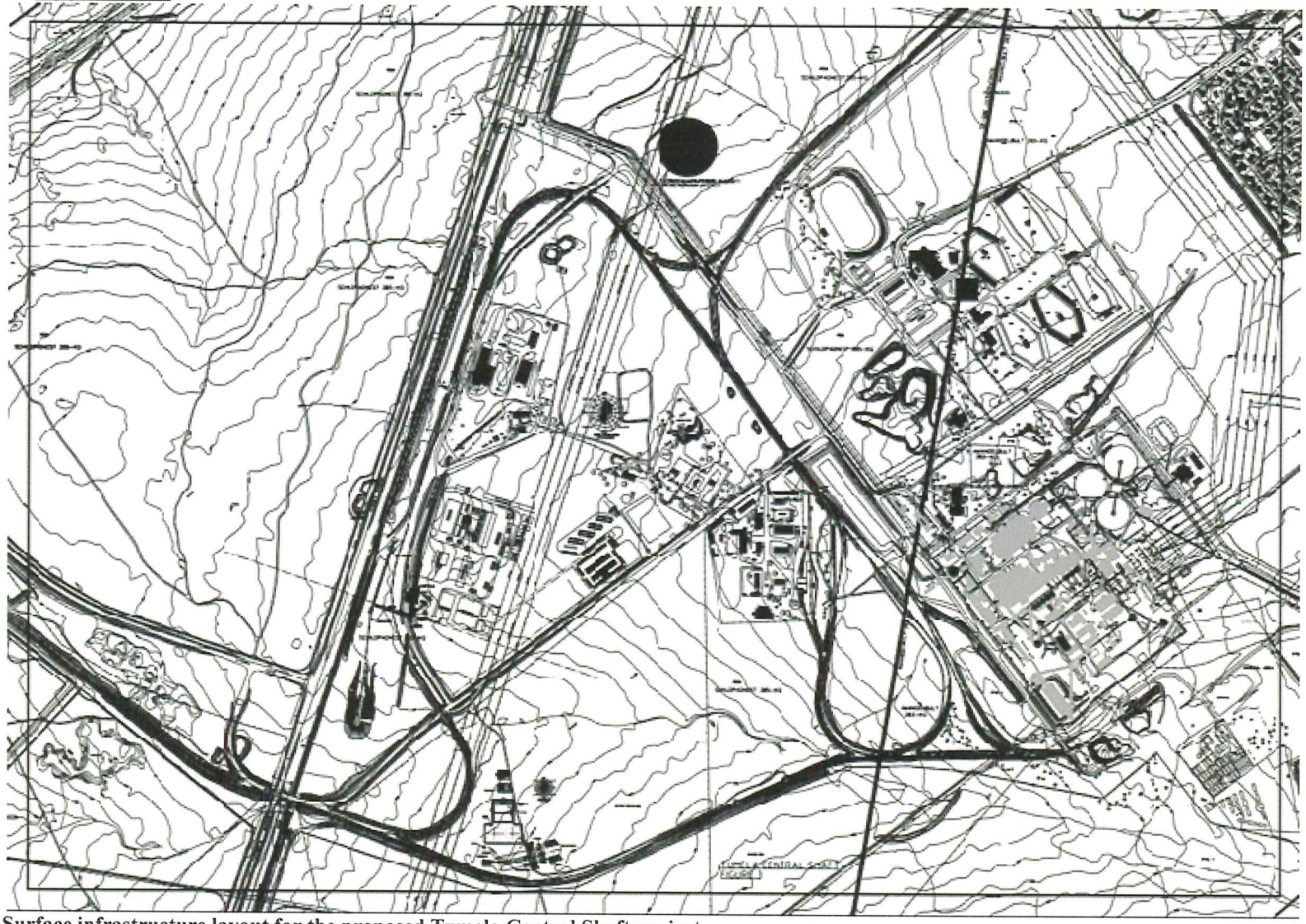
Date

8/2/2013

COMMISSIONER OF OATHS
Johan Janse van Rensburg CA (SA)
Commissioner of Oaths (RSA)
8 Orchard Avenue, Bordeaux
Randburg 2194, South Africa

[6] If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority. An EAP may not sign on behalf of an applicant.

Appendix A



Surface infrastructure layout for the proposed Tumela Central Shaft project

PLATINUM

Rustenburg Platinum Mines Limited

AMANDELBULT MINE
R510 Thabazimbi Road
Thabazimbi
0380
South Africa

Deputy Director- Limpopo Province
Department of Mineral Resources
Broll Building
101 Dorp Street
POLOKWANE
0699

25 January 2013

Dear Mr Azwihangwisi Mulaudzi

RE: LETTER OF NOTIFICATION: ENVIRONMENTAL MANAGEMENT PROGRAMME AMENDMENT FOR THE PROPOSED ANGLO AMERICAN PLATINUM LIMITED: RUSTENBURG PLATINUM MINES – AMANDELBULT SECTION, TUMELA CENTRAL SHAFT

This letter serves to notify the Department of Mineral Resources (DMR) of the intention to amend the Anglo American Platinum – Rustenburg Platinum Mines: Amandelbult Section Environmental Management Programme (EMPR) for the proposed Tumela Central Shaft. The Department has requested information regarding the proposed project to be provided by means of a written submission, rather than a formal meeting between the proponent and the Department. However, should a meeting be requested subsequent to the provision of this correspondence, such meeting will be scheduled.

The following information forms part of this memorandum:

1. Background information;
2. Motivation for the proposed project;
3. Objectives of the proposed project;
4. Project description; and
5. Authorisation process to be followed.

1. Background information

Rustenburg Platinum Mines Ltd. (RPM), a wholly owned subsidiary of Anglo American Platinum is the holder of an existing new order mining right (LP30/5/1/2/2/48 MR), in respect of Platinum Group Element (PGE) deposits, which is contained in the Merensky- and UG2 reefs within the mining area. The Amandelbult Section, located in the Limpopo Province, is an established and fully developed mine situated on the north-western limb of the Bushveld Complex (Refer to **Figure 1** – Locality Map). The mine comprises of the Tumela Mine, Dishaba Mine and Concentrator Plant. The mine is located within the Thabazimbi Local Municipality (NP 361) and

the Waterberg District Municipality (DC 36), approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg.

The main activity at the Amandelbult Section is the mining of the Platinum Group Metals (PGMs) by means of underground mining. Ore mined from the reserves is processed at the Concentrator Plant before being transported to off-site smelters for further refining. Opencast mining was undertaken in the past in certain areas. However, this ceased in 2005 and the land has been rehabilitated in accordance with the approved EMPR, dated 1995 and subsequent approved addendums.

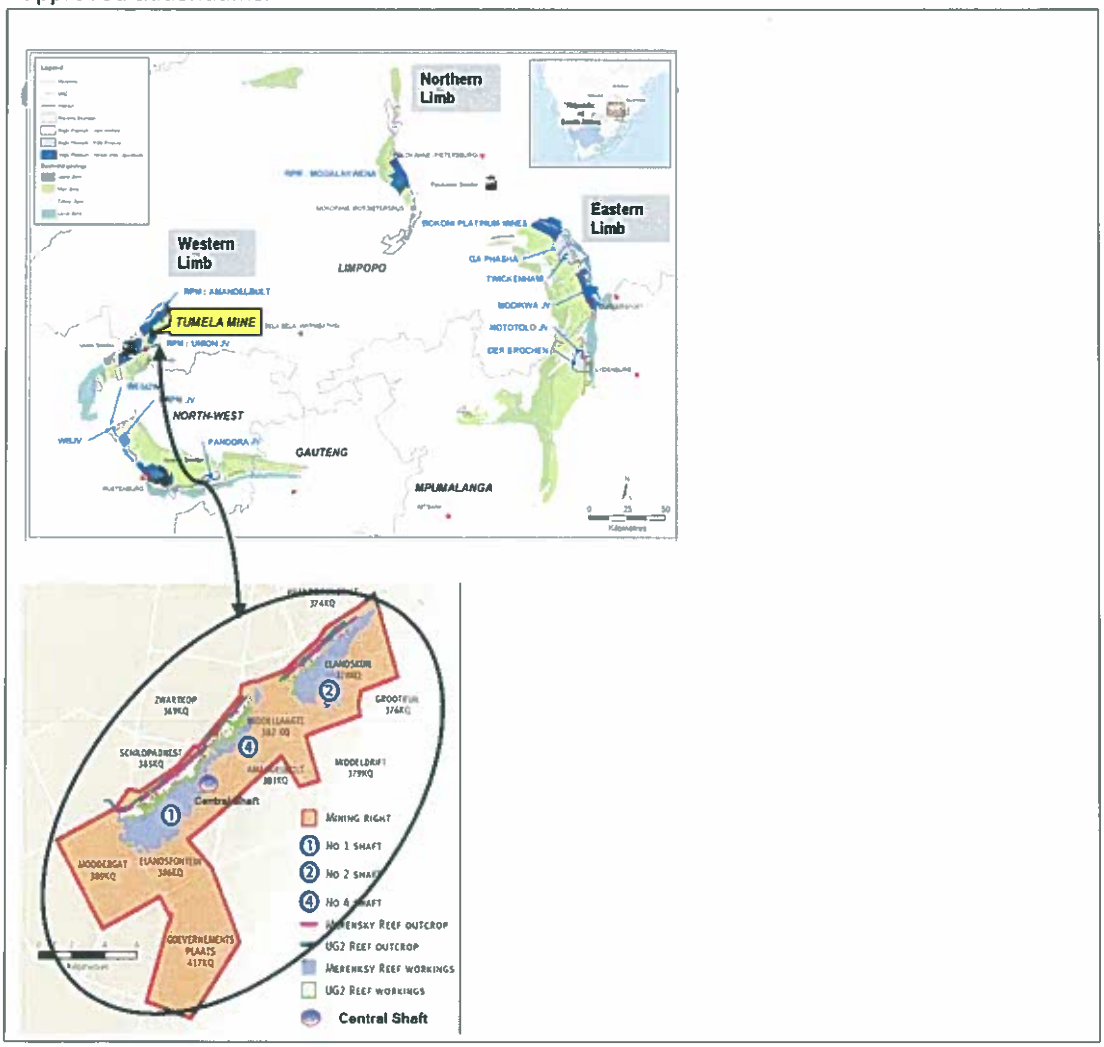


Figure 1: Locality Map

2. Motivation for the proposed project

The Tumela Mine (forming part of the Amandelbult Section) has revised its Business Plan to access the resources of the 15 E Business Centre, located on the farm Schildpadnest 385KQ (**Figure 1**), via a new shaft, the Tumela Central Shaft (**Figure 2** and **Figure 3**).

Tumela Mine would not be able to maintain its production profile unless capital projects are brought online. Tumela Mine has a major platinum resource and the business objectives for Tumela Mine would thus be to exploit this resource and target a sustained production profile above the required threshold. This would curtail production at its required level and hence sustain its workforce.

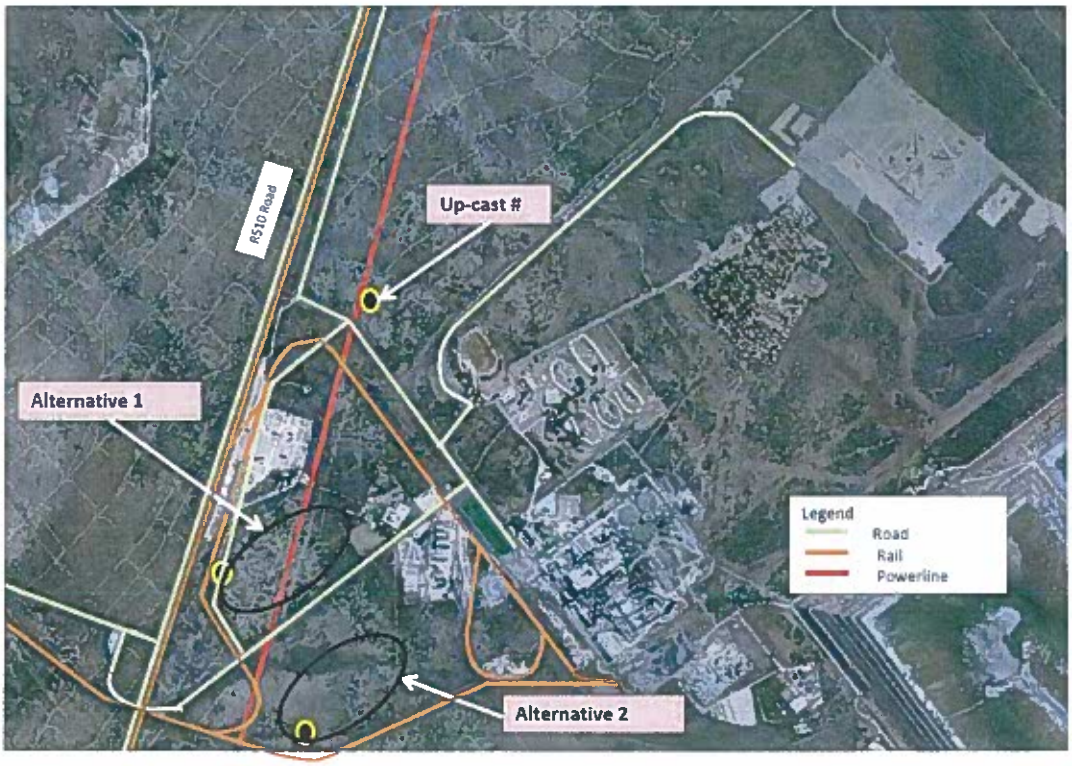


Figure 2: Location alternatives for the proposed Tumela Central Shaft

3. Objectives of the proposed project

The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area, from 11 to 16 levels, on both the Merensky- and UG2 reef horizons, that will bring production online by no later than 2019. The 15 East Block will be managed as a stand-alone project.

AngloAmerican

4. Project Description

The envisaged activities associated with the proposed project may feature the following (which may be amended in future):

- A single Ø 8.1 m down-cast shaft equipped with a steel headgear, ± 45 m height,
- An additional Ø 6.5 m down-cast shaft equipped with a steel headgear, ± 30m m height, with the fridge plant and BAC as noted below – required 5 years after the main shaft commissioning
- A single Ø 6.55 m up-cast vent shaft, equipped with 2 x 3MW Fans
- The shafts will have the following associated infrastructure:
  - Ore silo with ore conveyor;
  - Access roads;
  - Railway links;
  - Office blocks;
  - Change house;
  - Salvage yard;
  - Explosives shed;
  - Timber yard;
  - Winder house;
  - Lamp house;
  - Parking area;
  - Fridge plant with cooling water dams;
  - Bulk air coolers; and
  - Service / process water storage dams.
- Waste Rock Dump (WRD);
- Waste Rock Conveyor – (± 130 m from headgear to the WRD);
- Sub-station with feed from existing 132kV Eskom power lines, running adjacent to the proposed sites.
- Mine process water runoff dams and
- Compressor system.

Please refer to the proposed infrastructure layout plan in **Figure 3**.

5. Authorisation process to be followed

The base case EMPR of 1995 has been supplemented with 10 addendums to date. In terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) a Section 102 amendment is required. The proponent has appointed WSP Environmental as the independent consultant to undertake the following in terms of the legislative requirements for the activities associated with the proposed Tumela Central Shaft Project:

- EMPR amendment in terms of the MPRDA;
- Scoping Report and EIA in terms of NEMA, as amended, and
- Water Use Licence Application in terms of the NWA.

It is thus the intention of the proponent to notify the Limpopo DMR of the commencement of the EMPR amendment process for the proposed project. Furthermore, this letter does not include an application to obtain environmental authorisation in terms of the NEMA, since a NEMA application will be submitted to the relevant Department as a separate application.

Should you have any issues or queries, please do not hesitate to contact Danilla Breedt (WSP) at Tel: +27 11 361 1396 / Email: danilla.breedt@wspgroup.co.za or Vinesh Dilsook (Anglo American Platinum) at Tel: +27 (0) 14 598 2295 / M +27 (0) 73 109 6126 / Email: vinesh.dilsook@angloamerican.com.

Yours sincerely

Tom van den Berg
General Manager: Tumela Mine Amandelbult
T: +27 (0)14 784 1001
E: tom.vandenberg@angloamerican.com
www.angloamericanplatinum.com

PLATINUM

Rustenburg Platinum Mines Limited

AMANDELBULT MINE
R510 Thabazimbi Road
Thabazimbi
0380
South Africa

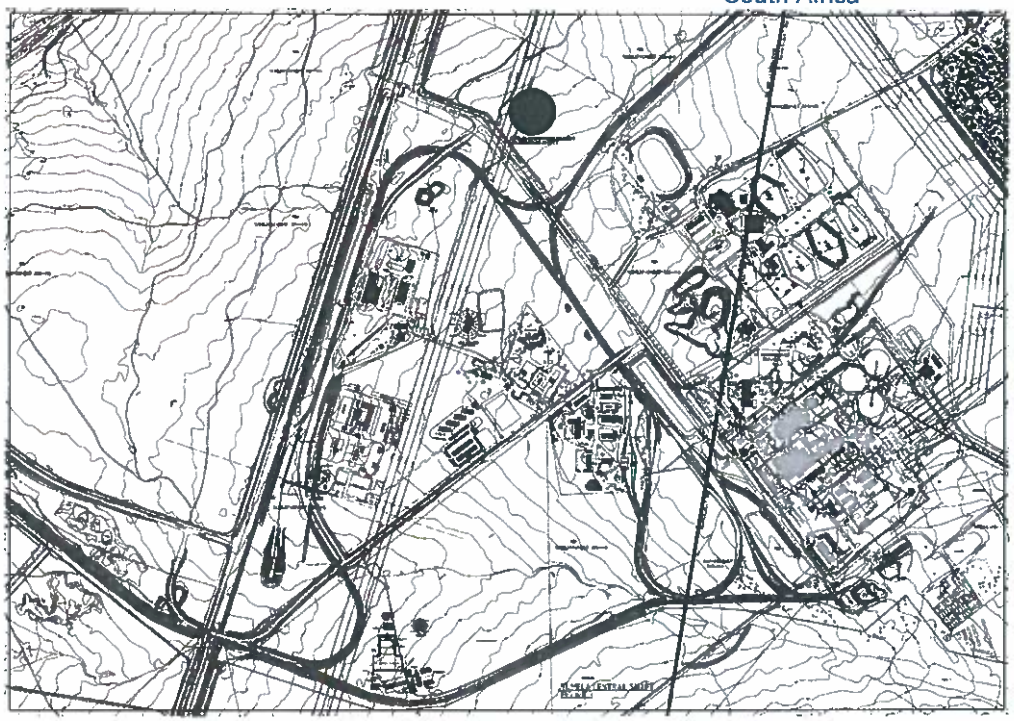


Figure 3: Tumela Central Shaft Infrastructure Layout Plan

Appendix B - WSP Capability Statement

WSP Environment & Energy
Capability Statement

UNITED
BY OUR
DIFFERENCE

WSP
ENVIRONMENT
& ENERGY

CORPORATE PHILOSOPHY, STRUCTURE AND SERVICES

Our Vision

Our vision is to provide an independent, innovative and professional service whereby we strive to achieve a balance between environmental protection, social desirability and economic development.

WSP Environment & Energy (WSP) is a leading South African environmental consultancy with a broad range of expertise and over 20 years experience in the regional environmental market. Whilst we are operated by WSP Environmental Ltd, a global environment and energy consultancy listed on the London Stock Exchange (WSP Group plc), we are also committed to transformation in our operational region having achieved Level 4 BEE compliance in South Africa. As part of a global business we provide the regional marketplace with a dynamic blend of local and global expertise.

WSP's Environment and Energy has offices in Durban, Cape Town, Johannesburg and Pietermaritzburg. WSP is owned by WSP Group Africa Ltd, a 900-member strong subsidiary of WSP Group plc, an international FTSE 250 management, engineering and built environment consultancy, with 10,000 employees worldwide, which is listed on the London Stock Exchange. As part of WSP Group, we have access not only to a broad range of environmental and sustainability specialists, but to leading international engineers across the full range of disciplines: energy, electrical, civil, and structural, among others.

WSP has received a number of international awards for our contribution to sustainable development including the Acquisitions Monthly Environmental Advisor of the Year Award for 2010, and the Winner of the 2009 and 2010 Big Tick Award for Climate Change, awarded by the Prince of Wale's Business in the Community charity, based upon our global climate change consulting services to clients.

Business in the Community AWARDS 2010 Big Tick re-accreditation

BARCLAYS COMMERCIAL GREEN LEADERS BUSINESS NATIONAL FINALIST 2008

ACQUISITIONS MONTHLY AWARDS 2010

We've signed The Copenhagen Communiqué www.copenhagencommunique.com

Our Values

Trust

Sharing and Supporting

Pride and Passion

Sustainability

Innovation

By incorporating our principles of Trust, Sharing and Support, Pride and Passion, Sustainability and Innovation into our day to day operations, we are able to deliver an independent, insightful and professional service to our clients to achieve a balance between environmental protection, social desirability and economic development.

Stronger regulatory control, market pressures, stakeholder awareness and global concerns, have caused businesses to adopt an innovative, proactive approach to the evaluation of environmental issues. The provision of sound environmental advice is therefore becoming an essential ingredient for progressive business management and success. By fully understanding our clients business, associated operations and requirements, and combining this knowledge with our strong legal and technical competence we are able to provide our clients with sound strategic advice and improved environmental performance.

We pride ourselves on our reputation for delivery and technical excellence and provide a broad range of environmental and energy related services across a range of economic arenas including the industrial, mining, financial, tourism and public sectors.

STAFF WELFARE

Creating the optimum social and environmental framework for staff is essential if we are to attract and retain the intellectual capital that sets our business apart from our competitors. We actively promote capacity building through staff and knowledge transfers between our international offices.

WSP

OUR SERVICES

WSP brings to the South African marketplace a dynamic blend of local expertise and global cutting-edge technology. Being part of a large global company, we are also able to draw on considerable international resources and expertise accumulated over many years.

We have a well established team of environmental scientists and our team can provide a range of environmental solutions to businesses in the following fields:

- Air Quality Management
- Asbestos Surveys
- Climate Change Adaptation and Mitigation Strategies
- Contaminated Land and Remediation
- Corporate Social Responsibility
- Due Diligence, Compliance and Liability Audits
- Energy Efficiency and Management
- Energy Project Development and Investment
- Environmental Engineering
- Environmental Management Systems
- Environmental Project Management
- Human Health and Ecological Risk Assessment
- Environmental Toxicology
- Environmental Training
- Geotechnical Investigations
- Groundwater Monitoring and Modelling
- Integrated Environmental Management
- Public Participation Programs
- Renewable Energy
- Surface Water Hydrology
- Sustainability Management Systems
- Sustainability Reporting
- Sustainable Solutions
- Waste Engineering
- Waste Management, Waste Characterisation and Delisting

WSP

There is a growing awareness that if an organisation or project is to succeed in the 21st century it will need to meet new challenges by working in partnership with key stakeholders and integrating social and environmental factors into business decisions alongside the more traditional economic issues. We deliver proactive sustainability solutions, offering real business benefits, which include reducing operating costs, protecting corporate reputations and meeting stakeholder aspirations in society.

CORPORATE SUSTAINABILITY

Our key capabilities and services include the following:

- Corporate Sustainability Strategy, Reporting and Verification
- Benchmarking Tools (e.g. Sustainability Assessment Technique)
- Sustainability and Value Management Systems
- Corporate Governance and Communicating with Stakeholders (King and Turnbull Reports)
- Community Enhancement and Corporate Citizenship
- Teambuilding and Employee Volunteering Programmes
- Green Procurement
- Energy Efficiency, Renewable Energy and Climate Change Strategies
- Waste Management and Eco-labelling
- Local, Regional and National Strategy Planning (e.g. Local Agenda 21 policy and plans)

Our Sustainability Assessment Technique (SAT) is designed to visually represent the assessment, and superimposed onto it are the impacts associated with a development. Used throughout the project life cycle, it will identify the threats and opportunities associated with the development.

WSP

A changing climate threatens those businesses that cannot adapt in an efficient manner. How businesses adapt can influence the longevity and profitability of your business. WSP assesses the climate change risk to business using holistic outlook taking into account economic, social and environmental factors. Incorporating business resilience, resistance and continuity plans will ensure your business can react positively to a business interruption and will be in a far better position to prevent, survive, prosper and gain an advantage over less prepared competitors.

CLIMATE CHANGE ADAPTATION AND MITIGATION STRATEGIES

WSP offers an integrated approach to business climate risk management, utilising global expertise across all spheres. Our offering can be adapted to meet the needs of your business.

Our basic capabilities include the following:

- Climate Risk and Opportunity Assessments
- Detailed Carbon Inventory Analyses
- Business Adaptation Strategy
- Assisting with Carbon Disclosure Project (CDP) responses
- Renewable Energy and Energy Efficiency
- Carbon finance services:
  - Assisting with access to specialised finance for sustainable energy investments.
  - Carbon Credit projects (Kyoto CDM, voluntary market etc.)
  - Supporting client transactions via carbon offset market.

FOOTPRINTING SERVICES

Responding to climate change can be best perceived as a journey, starting with Greenhouse Gas (GHG) inventory and acquiring an understanding your organisation's climate change risks. Further development of this response includes exploring the broader environmental impacts of products and embedding sustainability of one's of climate change specialists, but experts across various environmental disciplines, including sustainability, toxicology, ecology and waste management. WSP are specialists in the field of footprinting – from life cycle assessments for Apple's Macbook laptops, water footprinting for GlaxoSmithKline, ecological footprinting for the City of London or carbon emissions modelling for the South African recycled oil industry, we have a proven track record in developing solutions to our clients' sustainability needs.

WSP's footprinting services include:

- Comprehensive Product Life Cycle Assessment (LCA)
- End-to-End Carbon Footprinting and Carbon Labelling (PAS2050 methodology)
- Water Footprinting
- Ecological Footprinting

WSP

Understanding energy usage and potential efficiency gains within a business or industry sector is becoming increasingly important in a world of tightening legislative requirements and increased pressure from governments and business shareholders to lower carbon emissions resulting from production processes. We are able to operate in close co-operation with the WSP Energy Africa group and Green Buildings Business of WSP, and in house engineering teams to provide energy advice on efficiency options in line with the needs of individual business requirements.

ENERGY MANAGEMENT AND EFFICIENCY

Our integrated services include:

- Energy risk analysis
- Process alternatives assessment
- Business, industry or country specific assessments of energy efficiency potential
- Development of solution implementation plans

Specialist services offered by WSP Green Building Services include:

- Sustainability in the built environment consultants
- Consulting to professional team to assist in designing sustainable buildings
- Facilitate and administer Green Star accreditation process
- Architectural, urban and engineering background

WSP

Integrated Environmental Management (IEM) covers all aspects of environmental management in the project life cycle, from planning and design, to construction, operations, decommissioning and closure.

INTEGRATED ENVIRONMENTAL MANAGEMENT

We offer environmental services appropriate to all project phases such as:

- Risk assessments and fatal flaw analyses
- Scoping studies
- Route/site/process alternatives assessment
- Public participation programmes
- Environmental impact assessments
- Environmental management plans
- Environmental management programmes
- Environmental monitoring of construction and operational activities
- Closure plans

Our studies are all conducted according to the regulatory frameworks of the countries in which we operate, so that we can obtain regulatory approval for our clients. Internationally funded projects are carried out in the manner specified by the lending agency and to world standards of best environmental practice.

In particular, we have experience in the following business sectors:

- Mining
- Infrastructure development (power lines, pipelines, roads, telecommunications)
- Building construction
- Manufacturing
- Industry
- Eco-tourism
- Water development projects
- Waste disposal
- Community development

WSP

Public participation involves a process resulting in improved decision-making. The process should lead to a joint effort by stakeholders, technical specialists, the authorities and the proponent who work together to produce more informed decisions.

Strong and independent facilitation, coupled with the necessary empathy for people's concerns, is required during meetings with stakeholders. At times, it is necessary to direct stakeholder concerns to the authorities rather than to the proponent.

STAKEHOLDER ENGAGEMENT

WSP offers comprehensive stakeholder engagement services, which include the following:

- Design of public participation processes
- Identification of stakeholders
- Compilation and maintenance of stakeholder databases
- Co-ordination and facilitation of public meetings, stakeholder workshops, multi-sectoral meetings and Open Houses/Days
- Compilation of proceedings of meetings and verification of issues
- Compilation of issues trails
- Liaison with authorities, clients and stakeholders to facilitate negotiations
- Report compilation detailing public participation process on projects

WSP

WSP provides strategic advice and operational support to a range of clients across five continents. We strongly believe that our team is at the forefront of Environmental Systems (EMS) in a way, which integrates environmental issues into existing business systems and operations.

ENVIRONMENTAL MANAGEMENT SYSTEMS AND TRAINING

In particular we can offer the following services:

- Raising awareness and providing information on the full range of EMS approaches and recognised standards (e.g. EMAS, ISO 14001:2004 series, OHSAS 18000 etc)
- Advanced training for EMS implementation and auditing
- System design, gap analysis and implementation on specific projects including the development of procedures
- Auditing throughout the development of an EMS and identification of the potential for system improvement and pre-preparation audits
- Development and review of legal registers
- Software based implementation tools and training
- Supply chain management protocols and coaching programmes
- Certified EMS Implementation Training Course
- Certified EMS Internal Auditors Training Course

Our EMS Team can draw on experience of EMS work across a broad range of economic sectors including: construction, manufacturing (e.g. BMW), mining, financial services, government agencies and departments and office based organisations.

The Air Quality Unit (AQU) offers in-depth experience in all phases of air quality management, from calculation of emissions inventories, developing and implementing monitoring programs, air quality modelling in support of Environmental Impact Assessments or permit applications to designing pollution abatement strategies and emission control systems.

AIR QUALITY MONITORING AND DISPERSION MODELLING

State of the art equipment, coupled with strategic modelling and risk assessment techniques enable WSP to evaluate problems accurately and engineer workable solutions to complex and potentially costly environmental issues.

Our core air quality management services include:

- Source, fence line and ambient air quality monitoring
- Air emissions inventories
- Atmospheric source-dispersion modelling
- Meteorological monitoring and data analysis
- Best practical available technology assessment
- Pollution controls system and cost-benefit analysis
- Quantitative health risk assessments for hazardous air pollutants
- Occupational health and safety monitoring
- Greenhouse emissions and carbon footprinting

WSP

The Contaminated Land Unit (CLU) in WSP offers consulting services, ranging from site assessment and investigation through to risk assessment, and contracting services ranging from environmental remediation and on-going monitoring to regulatory compliance and sign-off. At present, clean-up contracts can be planned as procured services via a tender process with WSP CLU acting as consultants or on the basis of a turnkey design and supply project.

LAND RESTORATION AND GROUND ENGINEERING

CONSULTING SERVICES:

- Contaminated land and geohydrological assessments
  - Desk top and feasibility studies
  - Full ground investigations
  - Design, implementation and management of groundwater monitoring systems
  - Soil and groundwater sampling and monitoring for organic and inorganic contaminants
  - Geohydrological and contaminant plume modelling
- Human health and risk assessment
  - Quantitative and qualitative risk assessment
  - Source, release mechanism, pathway receptor relationships
  - Determination of the need for remediation
  - Determination of site-specific remediation, goals and targets
  - Waste management
- Waste management strategy development
  - Waste classification, hazard rating and delisting
  - Landfill site assessment and investigation
  - Waste treatment option assessments
- Surface water hydrology
  - Surface water management plans
  - Runoff modelling
  - Water balances
  - Floodline assessments
  - Water licensing and water use registrations
  - Reserve determination
- Geotechnical investigations
  - Infrastructure and development
  - Foundation design engineering

CONTRACTING SERVICES:

WSP offers a full service remediation business, local and international, with a solution driven approach to remediation projects of all sizes and types.

We have a track record in negotiated settlements of environmental contamination issues and provide an integrated technical, financial, legal and environmental service to ensure the right solution.

Services include:

- Site investigations
- Land option appraisals
- Commercial risk evaluation
- Material classification and treatment studies
- Technical and financial feasibility studies
- Laboratory and field trials
- Risk-based remediation design
- Regulatory authority consultation
- Remediation contracting

WSP

LIABILITY TRANSFER

The outsourcing of environmental liabilities using Active Transfer™ allows a business to eliminate environmental liabilities without losing control of its assets. WSP is partnered with Willis and is capable of providing risk management, environmental engineering and financial modelling to provide a cost effective and permanent solution.

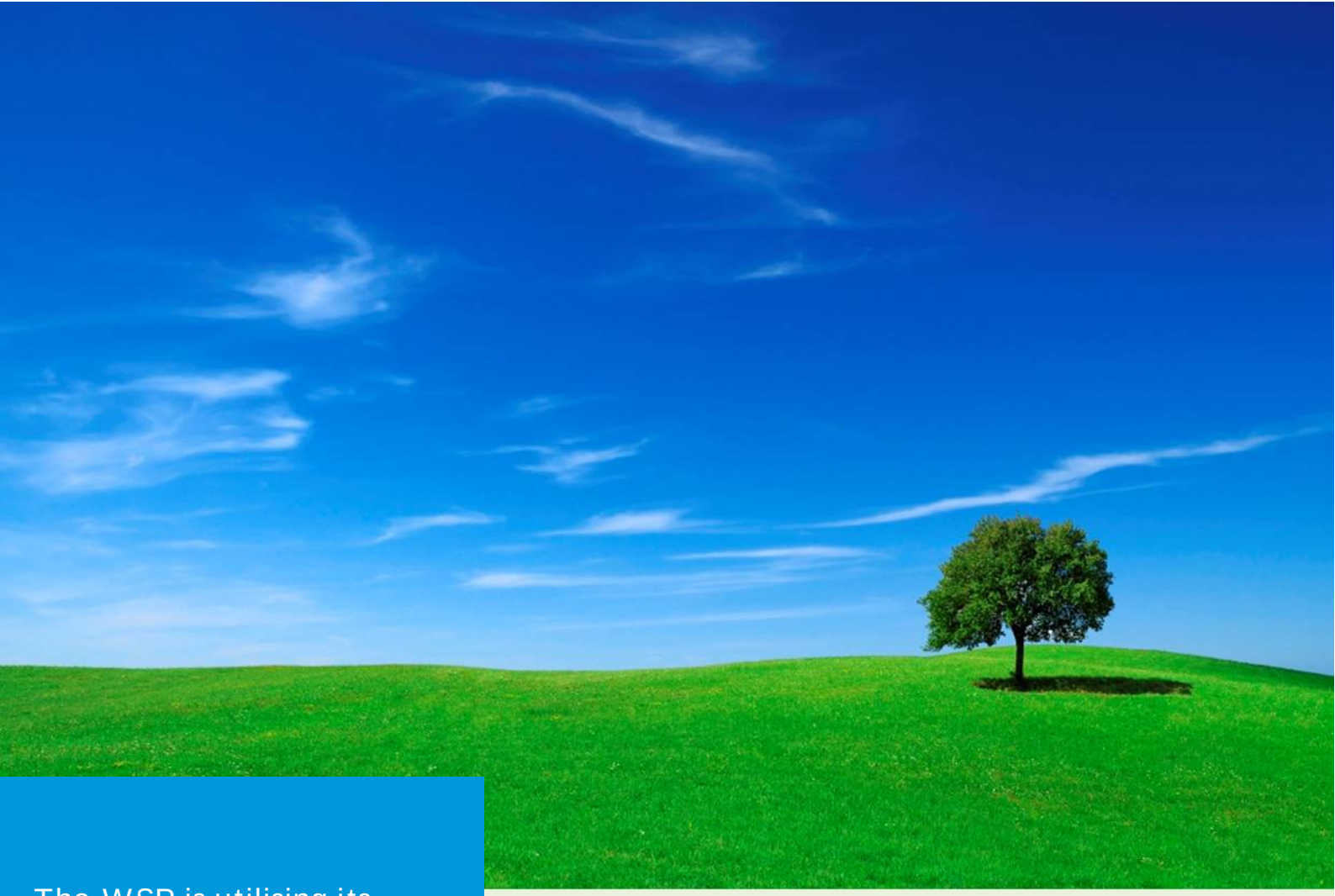
DUE DILIGENCE, COMPLIANCE AND PRE-ACQUISITION AUDITING

As southern Africa becomes more and more part of the 'Global Village', increased awareness of environmental liabilities facing business and the risks associated with sub-standard environmental performance, will intensify. Our auditing services are designed to assess all the environmental risks and liabilities associated with commercial and industrial businesses and their assets, including identifying any latent environmental damage, regulatory non-compliance and third party liabilities.

ENVIRONMENTAL FINANCE

WSP advises on business and project risks presented by environmental and operational issues. Using quantitative techniques favoured by financial analysts, models and forecasts are generated to assess, for example, the cost of environmental liabilities, asset impairment issues, or the impacts of future regulation and policy on the project or business enterprise.

We can therefore quantify risk, whether adverse or positive, in monetary terms and develop financial tools that when integrated with technical solutions from other parts of the business, lead to the development of a total risk management solution. This manifests itself in the implementation of strategies ranging from basic control measures through to elaborate financing tools, such as captive insurance and alternative risk transfer (ART).

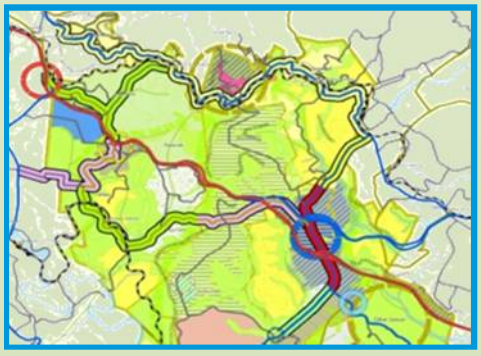


The WSP is utilising its expertise in environmental sustainability and the built environment to provide consulting advice to clients on optimal planning / urban design for sustainable outcomes. WSP, along with traffic engineers, housing specialists and economists, have been involved with the development of Local Area Plan (LAP) projects for various municipalities within South Africa.

SUSTAINABLE MASTERPLANNING

Our client offerings within this field include:

- Environmental guidance from conceptual planning to detailed design.
- Development Risk Assessment, Including 'No-go' Options.
- Strategic Environmental Impact Assessment & Identification of opportunities.
- Development Parameters Assessment.
- Integrated Assessment GIS and Mapping.
- Land-use management (LUMs) advice.
- Project implementation plans.



WSP

CONTACT US:

WSP has offices located in Johannesburg, Durban, Pietermaritzburg and Cape Town.

JOHANNESBURG OFFICE:

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Cascades 3202
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Hilton 3245, RSA
Tel: +27(0)33 347 5391
Fax: +27(0)33 347 5391

E-mail:wsped@wspgroup.co.za

UNITED BY OUR DIFFERENCE

WSP

Appendix C - Detailed project drawing

SCHILDPADNEST 385-KQ
REM
Waste Dump
Retention Dam
Settling Dam
CONTRACTOR LAYDOWN AREA
Emergency Dump
CONVEYORS
Salvage Yard
REEF RAIL BINS
HEADGEAR
MEN & MATERIAL WINDERHOUSE
Return Water Dams
Sewer Pump Station
Compressor Station
Cooling Towers
Filter House
Compressor House Sub-Station
Access Road
Consumer Sub-Station
Generator Emergency
33kV Yard
132kV Eskom Yard
Cable Store
Bus & Taxi Dropoff
Turnstiles
Security
Security Booms
Main Entrance
Weigh bridge
Alternative Position For Trucked Waste Dump
WIND DIRECTION
Alternative Waste Dump Position For
CENTRAL SHAFT PRELIM SHAFT POS: RETURN UP CAST
Fans
88 KV POWER LINE
TO THABAZIMBI
TO RUSTENBURG
AMANDELBULT 383-KQ
PTN 1
ZWARTKOP 369-KQ
PTN 24

Appendix D - Public Participation – Scoping Phase

Stakeholder Database

Site Notice

Background Information Document

Newspaper Advert

Letters of Notification

Issues Trail

10.4.1 Stakeholder Database

INTERESTED AND AFFECTED PARTIES DATABASE

Name	Company
S. Dialo	Mantserre Traditional Council
S.R. Moatshe	Mantserre Traditional Council
P.I. Siko	Mokgalwana
P.I. Kgalegi	Traditional Authority
S.W. Mogale	Thabang Children's Home
B.L. Mogale	Baphalane Mantserre Traditional Council
B.M. Mokoka	Baphalane
Z.O. Ziba Thabang	HBC
Risenga Mahlebu	SIM
Muzi Molazi	Anglo American Platinum
Jan Greyling	Anglo American Platinum
Segale Pilane	Anglo American Platinum
Phenyo Sephoti Baphalane	Traditional Council
Lucas Selemale	Baphalane Traditional Council
Selaelo Sekgabela	Disability Council
Julia Mathebula	SYC
Kgosana Saltiel Ramokoka (sub-Chief)	Mantserre Community Development Trust
Mr. Stephen Molefe(Chairperson)	Sebilong Communal Property Association
MD Ramothwala	Ramothwala Lenyai Incorporated
Segale Pilane	Anglo American Platinum
A Potgieter	Parastatal-Uninversity of Limpopo
S. Matsietsa (Principal)	Chromine School
Station Commissioner	SAPS Thabazimbi
Vinesh Dilsook	Anglo American Platinum
Libby Redding	Anglo American Platinum
Saligh Cader	Anglo American Platinum
Lebang Gaobepe	Anglo American Platinum
Lesego Manzini	Anglo American Platinum
Paul Muller	HATCH
Elsabie Bushby	HATCH
Danie Van Aswegen	Anglo American Platinum
Nishi Haripursad	Anglo American Platinum
Ralton Maree	Anglo American Platinum
Hermanus Prinsloo	Anglo American Platinum

Please note that the contact details have been removed from the table due to confidentiality reasons.

AUTHORITY DATABASE

Name	Department
D Magadzi	Dept of Public safety & Liaison
M Rapola	Dept of Social Development
Azwihangwisi Mulaudzi	DMR
B Tladi	DoE - Limpopo Educ Dev Trust
Jane Mulaud	DWA
Refilwe Mothiba	DWA
Foster Baloyi	LEDET
Tinyiko Malungani	LEDET
Maluleke Vusumuzi	LEDET
Robert Mashe	LEDET
S Lekganyane	Local Gov. & Housing
Bafedile Moselane	Moses Kotane Local Municipality
Bafedile Moselane	Moses Kotane Local Municipality
Clr. Maria Fetsang Mokati Thebe	Moses Kotane Local Municipality
Ms. Nono Dince (Municipla Manager)	Moses Kotane Local Municipality
N D Masemola	Prov. Dept of Education
Phillip Hine	SAHRA
Katie Smuts	SAHRA
Andrew Salomon	SAHRA
Dumisani Sibayi	SAHRA (HEAD office)
M.E. Semadi	Thabazimbi Local Municipality
P.A. Moatshe	Thabazimbi Local Municipality
C.S. Sikhane Thabazimbi Local Municipality	Thabazimbi Local Municipality
Stephen Lerumo	Thabazimbi Local Municipality
Mayor P. Mosito (Mayor)	Thabazimbi Local Municipality
Mr. Motaung	Thabazimbi Local Municipality

Please note that the contact details have been removed from the table due to confidentiality reasons. Furthermore, note that the database will be expanded following during the Public Participation Process. The updated database will be submitted to the authorities with the Final Scoping Report.

10.4.2 Site Notice

AngloAmerican

PLATINUM

ENVIRONMENTAL AUTHORISATION

Notice of environmental authorisation process, environmental management programme amendment and a water use license application in accordance with the National Environmental Management Act (No. 107 of 1998) as amended (NEMA), the Minerals and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA), and the National Water Act (No. 36 of 1998) (NWA), respectively.

Proponent:
Rustenburg Platinum Mines – Amandelbult Section

Project Location:
±15 km's north of Northam

Project Co-ordinates:
24°48'24.12"S, 27°19'17.07"E

Independent Environmental Assessment Practitioner:
WSP Environment and Energy
PO Box 5384
Rivonia, 2128

Environmental authorisation processes for the proposed Tumela Central Shaft Project, Tumela Mine, Amandelbult Section in the Limpopo Province.

Tumela Mine is an operational mine located north of Northam in the Limpopo Province. Rustenburg Platinum Mines – Amandelbult Section proposes to develop a new shaft including associated infrastructure. The Tumela Mine has revised its Business Plan to access resources on both the Merensky and the UG2 reef horizons, located on the farm Schildpadnest 385 KQ via a new shaft (the Tumela Central Shaft). The envisaged activities include a Main shaft with headgear and surface infrastructure, 2 ventilation shafts (downcast and upcast), a waste rock dump, refrigeration plant(s), water management infrastructure and a main Eskom substation.

The project involves activities listed in terms of the NEMA, as amended, Government Notice Regulation (GN. R) 544 and 545 including (but not limited to): activities 9, 12, 13, and 23 of GN. R 544 and activity 5 of GN. R 545, therefore a Scoping and Environmental Impact Assessment process will be undertaken in accordance with GN. R 543. Water uses listed in the NWA are considered relevant and will require a water use license in terms of Section 21 of the NWA. In addition, the MPRDA requires an amendment to the existing Environmental Management Programme Report due to the expansion of activities/infrastructure within the mine lease area.

An application for authorisation was submitted to the Limpopo Economic Development, Environment and Tourism on 11/02/2013. A notification letter was submitted to the Department of Mineral Resources on 12/02/2013. The project is in communication with the DWA regarding the WUL application process.

WSP Environmental (Pty) Ltd has been appointed as the Environmental Assessment Practitioner to undertake the authorisation process on behalf of Rustenburg Platinum Mines – Amandelbult Section.

In order to ensure that you are registered as a Stakeholder or would like to participate and find out more about the project, please submit your name, contact information and interest in the matter to Jared O'Brien.

WHAT IS STAKEHOLDER ENGAGEMENT?

A process in which potential stakeholders are informed about the project and given an opportunity to comment on, or raise issues relevant to the proposed activities.

WHO ARE STAKEHOLDERS?

Any person, group of persons or organisation interested in and / or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

SCOPING REPORT

The Scoping Report will be made available from 22/02/2013 to 03/04/2013 for public review at the following locations:

- Tumela Mine Main Office;
- Office of traditional authorities (Montserre);
- Amandelbult Recreation Club;
- Northam Library; and
- WSP's website: www.wspenvironmental.com

PUBLIC MEETING

A Public Meeting will be held to inform the public of the proposed project. The details of this meeting are as follows:

Amandelbult Recreation Club (11/03/2013, 16:00- 17:00).

Should you wish to attend the Public Meeting, please respond to Jared O'Brien by 8 March 2013.

FOR MORE INFORMATION, OR TO REGISTER AS AN INTERESTED OR AFFECTED PARTY, CONTACT:

Jared O'Brien
WSP Environment and Energy

T 011 361 1396
F 086 505 3939
E Jared.OBrien@WSPgroup.co.za

PO Box 5384, Rivonia, 2128

WSP

10.4.3 Background Information Document

NOTICE OF THE ENVIRONMENTAL AUTHORISATION PROCESSES FOR THE PROPOSED TUMELA CENTRAL SHAFT PROJECT, TUMELA MINE LOCATED AT AMANDELBULT SECTION NORTH OF NORTHAM, LIMPOPO PROVINCE.

Detailed Project Description

Rustenburg Platinum Mines - Amandelbult Section (Amandelbult Section) comprises two mines; Tumela Mine and Dishaba Mine. In addition, Amandelbult Section also includes a concentrator plant at which the ore extracted from the Dishaba and Tumela Mines is processed. Amandelbult Section is an operational mine located north of Northam in the Limpopo Province. The Tumela Mine has revised its Business Plan to access resources on both the Merensky and the UG2 reef horizons, located on the farm Schildpadnest 385 KQ via a new shaft (the Tumela Central Shaft). The new shaft will be located in the Limpopo Province within the Thabazimbi Local Municipality (NP 361) and the Waterberg District Municipality (DC 36), approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg (see **Appendix A** for a locality map).

The Tumela Upper Mine comprises a series of small incline shafts and shallow raise bored shafts. The Merensky and UG2 Reefs on this shallower infrastructure will be depleted within the next five years. The ore body on both Merensky and UG2 around this shallower infrastructure are being depleted and necessitates additional hoisting capacity from depths exceeding 800 metres below surface. An additional Central Shaft is required in order to arrest the depleting production rate of the Tumela Mine. It is proposed that the Central Shaft Project will increase production to above 4 Mega tons per annum for the Tumela Mine. The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area (refer to **Appendix B**), to greater depths on both the Merensky and UG2 reef horizons (rock layers containing mineral deposits), which will ensure production of ore from the 15 East mining area by 2019. The infrastructure will be designed for a capacity of 250 kilo tons per month (ktpm) however, only 125 ktpm will be handled during the first eight years of operation.

The envisaged activities/ infrastructure include: a Main shaft headgear and surface infrastructure, 2 ventilation shafts (downcast and upcast), a waste rock dump, refrigeration plant(s), additional electrical reticulation and instrumentation (including a main Eskom substation); compressed air infrastructure, emergency power generation infrastructure, mine stores (including: explosives shed, timber yard, winder house, lamp house, salvage yard, and workshops), water management infrastructure, offices (including change-houses), waste management systems, and security systems (including access control).

In order for the proposed activities to commence the Amandelbult Section requires authorisation from various government Departments in line with relevant environmental legislation. The Limpopo Economic Development, Environment and Tourism (LEDET), the Department of Mineral Resources (DMR), and the Department of Water Affairs (DWA) will be responsible for authorising the Scoping and EIA process in accordance with the National Environmental Management Act (No. 107 of 1998) (NEMA), the Environmental Management Programme Report amendment (EMPR) process in accordance with the Minerals and Petroleum Resource Development Act (No 28 of 2002) (MPRDA) and the Water use License Application (WULA) process in accordance with the National Water Act (No. 36 of 1998) (NWA), respectively.

WSP Environment and Energy (WSP) has been appointed as the independent environmental assessment practitioner to undertake the environmental authorisation process for the project and to facilitate stakeholder engagement.

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Purpose of this Document

This background information document (BID) introduces all stakeholders to the proposed project. This document forms part of the stakeholder consultation process, undertaken as a component of the environmental authorisation process and is intended to provide stakeholders with adequate information to comment on the project.

The BID details the project, the environmental authorisation process, the role of stakeholders in the process as well as to encourage stakeholders to comment on the project, ask questions and raise issues that should be included in the project documents. Aside from this document, at various stages of the environmental authorisation process, information and reports will be made available for stakeholders to comment on.

Legal framework

In accordance with NEMA, Government Notice Regulation (GN. R) 544 and 545, the undertaking of certain listed activities requires environmental authorisation.

The activities listed in GN. R 544 associated with the proposed project include (but are not limited to):

- Activity 9: The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewerage or storm water-
  - I. With an internal diameter of 0.36 metres or more; or
  - II. With a peak throughput of 120 litres per second or more,
- Activity 12: The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50000 cubic metres or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010;
- Activity 13: The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres; and
- Activity 23: The transformation of undeveloped, vacant or derelict land to-
  - I. Residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares, or
  - II. Residential, retail, commercial, recreational, industrial or institutional use, outside an urban area, and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares.

The activities listed in GN. R 545 associated with the proposed project includes (but are not limited to):

- Activity 5: The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.

Application for environmental authorisation (in the form of a Scoping and EIA process) for activities listed in GN. R 544 and 545 was submitted to the LEDET on the 11th of February 2013.

The following water use activities listed under Chapter 4, Section 21 of NWA are considered relevant and will require authorisation in the form of an amendment to the existing Integrated Water Use Licence Application (WULA) or alternatively the submission of a separate WULA:

- 21 (g): disposal (storage) of water containing waste.

A meeting with the DWA has been scheduled to detail the way forward.

Furthermore, Amandelbult Section is required to undertake an EMPR amendment process, in line with the MPRDA due to the alteration/ expansion of activities within the mine lease area. A notification letter has been submitted to the DMR to indicate the commencement of the environmental authorisation process.

Stakeholder Consultation Process

The purpose of stakeholder engagement is to consult with interested and affected parties in the public and private sectors in the decision-making process on projects which may affect them. The process aims to develop and maintain open channels of communication between the project team and stakeholders. This process provides stakeholders with the opportunity to express their views and concerns regarding the proposed project through project correspondence. The environmental assessment practitioner documents the views and concerns of stakeholders, and makes the project team and relevant authority(s) aware of issues that need to be considered during the compilation and evaluation of the potential risks and impacts associated with the project.

Who is a Stakeholder?

Any person, group of persons or organisation interested and/ or affected by the proposed development.

To become a registered stakeholder and to receive further correspondence about the EIA/ EMPR amendment process, or to provide comment on the proposed project, kindly send your contact details and comments to Jared O'Brien:

Tel: 011 361 1396
Fax: 086 505 3939
Address: P.O. Box 5384, Rivonia, 2128
Email: Jared.OBrien@wspgroup.co.za

A comment sheet has is attached to this document for your convenience.

Stakeholder Engagement

The first steps are to notify the public and identified stakeholders of the proposed project and invite all stakeholders to a public meeting through the following mediums:

- Newspaper advertisements in the Rustenburg Herald and the Platinum Weekly on 22/02/2013;
- Site notices in and around the project area on 22/02/2013;
- Written notification letters to surrounding landowners and municipal ward councillors on 22/02/2013; and
- Distribution of the BID to stakeholders on 22/02/2013.

PUBLIC MEETING

A public meeting will be held in order to outline the details of the project to stakeholders and provide an opportunity for stakeholders to raise questions and indicate potential issues or risks associated with the project. The details of the meeting are as follows:

- Venue: Amandelbult Recreation Club
- Date: 11 March 2013
- Time: 16:00pm - 17:00pm

Should you wish to attend the Public Meeting, please respond to Jared O'Brien by 8 March 2013.

Scoping Report and EIAR/EMPR amendment Report for Public Review

A Scoping Report has been compiled in accordance with the NEMA and the MPRDA, and outlines the process that will be followed for stakeholder engagement and for EIA Phase of the project. The report describes the receiving environment and lists the potential impacts of the project as identified in the Scoping Phase. The report indicates the specialist studies (including methodologies) that will be undertaken to investigate identified impacts. The draft Scoping Report is available for public and state department review for a period of 40 days prior to submission to the LEDET and the DMR.

PUBLIC REVIEW OF SCOPING REPORT

The Scoping report will be made available from 22/02/2013 to 03/04/2013 for public review at the following locations:

- Tumela Mine Main Office;
- Office of traditional authorities (Montserre);
- Amandelbult Recreation Club;
- Northam Library; and
- WSP's website (www.wspenvironmental.com/publicreview).

Subsequent to the Scoping Report, an EIAR/ EMPR amendment report will be compiled. This report will outline the stakeholder consultation process and include all comments or issues raised during the process. Additionally, the report will rate the anticipated impacts against a ratings table in order to assess the severity, duration, extent and significance of the impact, and include any cumulative impacts on the receiving environment. Mitigation measures will be developed in order to minimise negative impacts associated with the project. The draft EIAR/ EMPR amendment will also be placed on public and state department review for a period of 40 days prior to submission to the LEDET and the DMR.

Kindly register with Jared O'Brien in order to receive information about the location of the draft reports and review period via email, facsimile, telephone, registered mail and/ or SMS. Any comments received will be addressed and included in the report prior to the final drafts being submitted to the responsible departments for review and authorisation.

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Registration and Comments Sheet

To be a registered stakeholder and ensure all comments and queries regarding this project are accurately documented and addressed please forward your comments and contact details with the attached response sheet to Jared O'Brien by 16 June 2013:

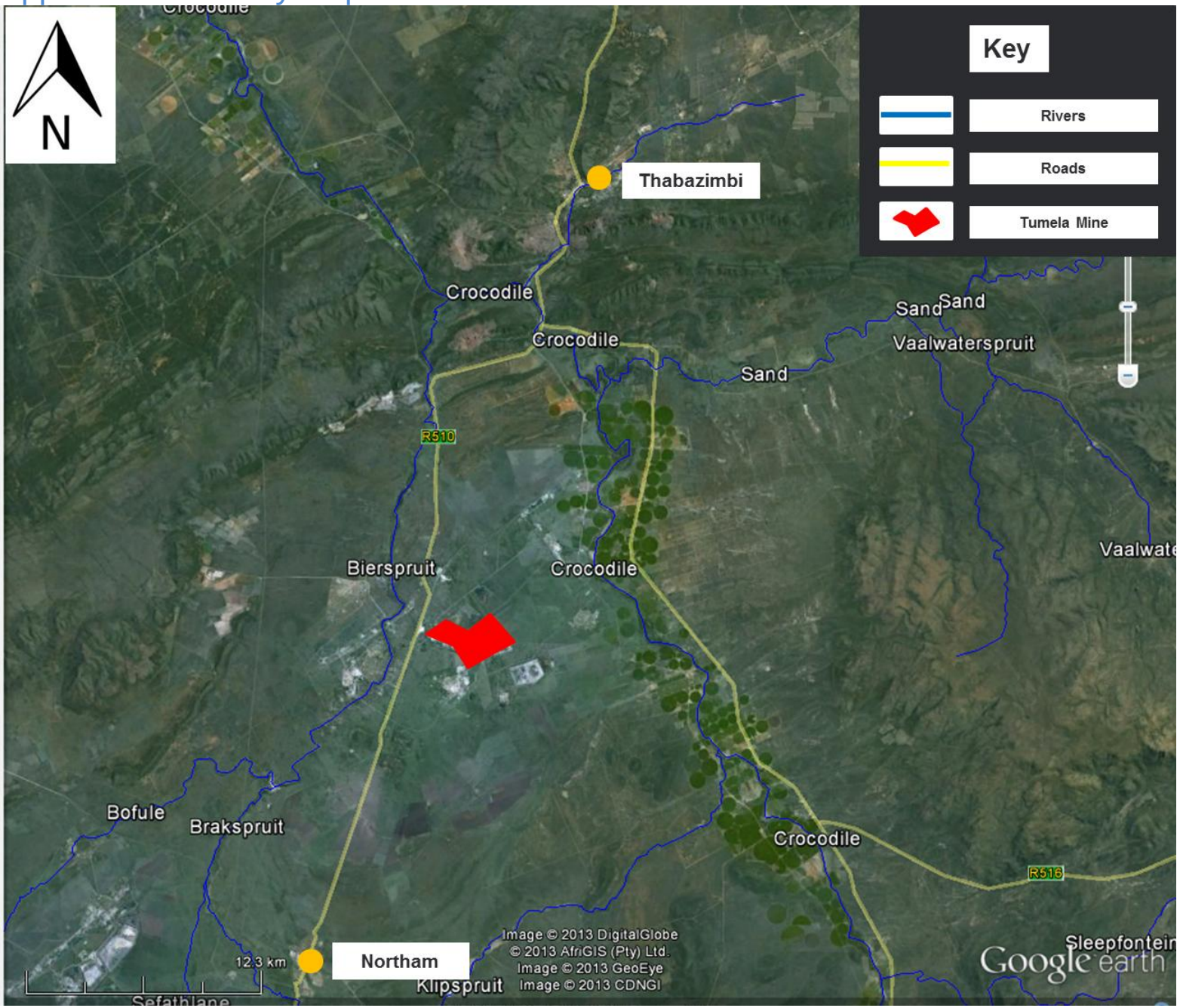
Jared O'Brien
WSP Environmental (Pty) Ltd
Address: P.O. Box 5384, Rivonia, 2128
Tel: 011 361 1396
Fax: 086 505 3939
Email: Jared.OBrien@wspgroup.co.za

Please insert your personal details below:

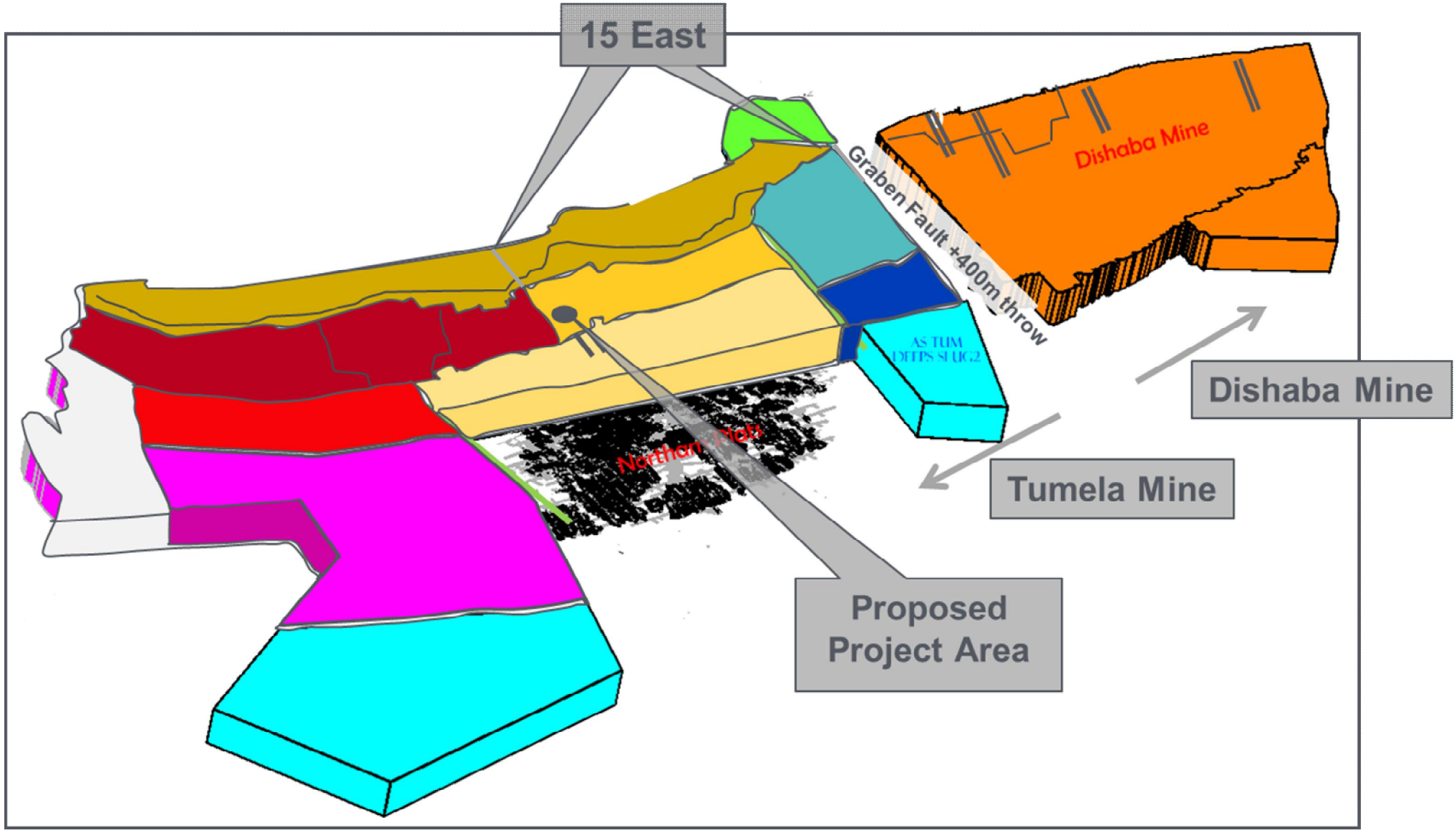
Name:	
Organisation and Designation:	
Address:	
Tel:	
Fax:	
E-mail:	

Please list your interest in the project and comments below:

Appendix A: Locality Map



Appendix B: 15 East Area Map



10.4.4 Newspaper Advert

AngloAmerican PLATINUM

ANGLO AMERICAN PLATINUM NOTICE OF ENVIRONMENTAL AUTHORISATION

Notice of the environmental authorisation processes for the proposed Tumela Central Shaft Project located at Amandelbult Section north of Northam, Limpopo Province.

Notice is hereby given in accordance with the National Environmental Management Act (No. 107 of 1998) as amended (NEMA), Environmental Impact Assessment (EIA) Regulations 2010, Government Notice Regulation (GN. R) 543, Section 21 of the National Water Act (No. 36 of 1998) (NWA), and the Mineral and Petroleum Resources Development Act (No 28 of 2002) (MPRDA) for the proposed Tumela Central Shaft Project at the Rustenburg Platinum Mines Limited – Amandelbult Section.

DESCRIPTION AND LOCATION

Tumela Mine is an operational mine located north of Northam in the Limpopo Province. Rustenburg Platinum Mines Limited – Amandelbult Section proposes to develop a new shaft and associated infrastructure. The Tumela Mine has revised its Business Plan to access resources on both the Merensky and the UG2 reef horizons, located on the farm Schildpadnest 385 KQ via a new shaft (the Tumela Central Shaft). The envisaged activities include a Main shaft with headgear and surface infrastructure, 2 ventilation shafts (downcast & upcast), a waste rock dump, refrigeration plant(s), water management infrastructure and a main Eskom substation. WSP Environmental (Pty) Ltd has been appointed as the Environmental Assessment Practitioner (EAP) whom will undertake the authorisation process on behalf of Rustenburg Platinum Mines Limited – Amandelbult Section.

ENVIRONMENTAL APPLICATION

In accordance with the NEMA GN. R 543, the undertaking of certain listed activities requires an environmental authorisation. The activities associated with the proposed project listed in GN. R 544 could include, but are not limited to: activity 9, 12, 13, and 23. Additionally, activity 5 of GN. R 545 was identified as being potentially applicable which require a Scoping and EIA Process to be undertaken. An application for authorisation was submitted to the Limpopo Economic Development, Environment and Tourism on 11/02/2013. The Rustenburg Platinum Mines Limited – Amandelbult Section is furthermore required to undertake an Environmental Management Programme Report Amendment process, in line with the MPRDA and its associated Regulations of 2004. Relevant water use licenses in terms of Section 21 of the National Water Act (No. 36 of 1998) will be applied for.

AVAILABILITY OF SCOPING REPORT

The Scoping report will be made available from 22/02/2013 to 03/04/2013 for public review at the following locations:

- Tumela Mine Main Office;
- Office of traditional authorities (Mantserre);
- Amandelbult Recreation Club;
- Northam Library; and
- WSP's website (www.wspenvironmental.com/publicreview).

PUBLIC MEETING

A Public Meeting will be held at Amandelbult Recreation Club (11/03/2013, 16:00 – 17:00) to inform the public of the proposed project. Should you wish to attend the Public Meeting, please respond to Jared O'Brien by 8 March 2013.

NAME OF PROPONENT

Rustenburg Platinum Mines Limited – Amandelbult Section

NAME OF CONSULTANT

WSP Environment and Energy

Contact Person: Jared O'Brien
T 011 361 1396
F 086 505 3939
E Jared.OBrien@WSPgroup.co.za

PO Box 5384, Rivonia, 2128

REGISTER AS A STAKEHOLDER

To register as a stakeholder, please submit your name, contact information and interest in the matter to the Consultant.

10.4.5 Letters of Notification

WSP Reference No: 36015
LEDET ref no.: To be determined

22/02/2013

Dear Stakeholder

NOTICE OF THE ENVIRONMENTAL AUTHORISATION PROCESSES FOR THE PROPOSED TUMELA CENTRAL SHAFT PROJECT, TUMELA MINE LOCATED AT AMANDELBULT SECTION NORTH OF NORTHAM, LIMPOPO PROVINCE

Rustenburg Platinum Mines - Amandelbult Section (Amandelbult Section) comprises two mines; Tumela Mine and Dishaba Mine. In addition, Amandelbult Section also includes a concentrator plant at which the ore extracted from the Dishaba and Tumela Mines is processed. Amandelbult Section is an operational mine located north of Northam in the Limpopo Province. The Tumela Mine has revised its Business Plan to access resources on both the Merensky and the UG2 reef horizons, located on the farm Schildpadnest 385 KQ via a new shaft (the Tumela Central Shaft). The new shaft will be located in the Limpopo Province within the Thabazimbi Local Municipality (NP 361) and the Waterberg District Municipality (DC 36), approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg (see **Appendix A** for a locality map).

The Tumela Upper Mine comprises a series of small incline shafts and shallow raise bored shafts. The Merensky and UG2 Reefs on this shallower infrastructure will be depleted within the next five years. The ore body on both Merensky and UG2 around this shallower infrastructure are being depleted and necessitates additional hoisting capacity from depths exceeding 800 metres below surface. An additional Central Shaft is required in order to supplement the depleting production rate at the Tumela Mine. It is proposed that the Central Shaft Project will increase production to above 4 Mega tons per annum for the Tumela Mine. The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area (refer to **Appendix B**), to greater depths on both the Merensky and UG2 reef horizons (rock layers containing mineral deposits), which will ensure production of ore from the 15 East mining area by 2019. The infrastructure will be designed for a capacity of 250 kilo tons per month (ktpm) however, only 125 ktpm will be handled during the first eight years of operation.

The envisaged activities/ infrastructure include: a Main shaft headgear and surface infrastructure, two ventilation shafts (downcast and upcast), a waste rock dump, refrigeration plant(s), additional electrical reticulation and instrumentation (including a main Eskom substation); compressed air infrastructure, emergency power generation infrastructure, mine stores (including: explosives shed, timber yard, winder house, lamp house, salvage yard, and workshops), water management infrastructure, offices (including change-houses), waste management systems, and security systems (including access control).

In order for the proposed activities to commence the Amandelbult Section requires authorisation in line with the relevant environmental legislation. The Limpopo Economic Development, Environment and Tourism (LEDET), the Department of Mineral Resources (DMR), and the Department of Water Affairs (DWA) will be responsible for authorising the Scoping and Environmental Impact Assessment (EIA) process in accordance with the National Environmental Management Act (No. 107 of 1998) (NEMA), the Environmental Management Programme Report amendment (EMPR) process in accordance with the Minerals and Petroleum Resource Development Act (No 28 of 2002) (MPRDA) and the Water use License Application (WULA) process in accordance with the National Water Act (No. 36 of 1998) (NWA), respectively.

WSP Environment and Energy (WSP) has been appointed as the independent environmental assessment practitioner to undertake the environmental authorisation process for the project and to facilitate stakeholder engagement.

In accordance with NEMA, Government Notice Regulation (GN. R) 544 and 545, the undertaking of certain listed activities requires environmental authorisation.

The activities listed in GN. R 544 associated with the proposed project include (but not limited to):

- Activity 9: The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewerage or storm water-
  - With an internal diameter of 0.36 metres or more; or
  - With a peak throughput of 120 litres per second or more,
- Activity 12: The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50000 cubic metres or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010;
- Activity 13: The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres; and

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WSP House
Bryanston Place
199 Bryanston Drive
Bryanston, 2021
Tel: +27 (0)11 361 1380
Fax: +27 (0)11 361 1381
http://www.wspenvironmental.co.za
Reg. No: 1995/08790/07

WSP Group plc
Offices worldwide

- Activity 23: The transformation of undeveloped, vacant or derelict land to-
  - Residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares, or
  - Residential, retail, commercial, recreational, industrial or institutional use, outside an urban area, and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares.

The activities listed in GN. R 545 associated with the proposed project include (but not limited to):

- Activity 5: The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.

Application for environmental authorisation (in the form of a Scoping and EIA process) for activities listed in GN. R 544 and 545 was submitted to the LEDET on the 11th of February 2013.

The following water use activities listed under Chapter 4, Section 21 of NWA are considered relevant and will require authorisation in the form of an amendment to the existing Integrated Water Use License Application (WULA) or alternatively the submission of a separate WULA:

- 21 (g): Disposal (storage) of water containing waste.

A meeting with the DWA has been scheduled to detail the way forward and to confirm the relevant legislated activities.

Furthermore, Amandelbult Section is required to undertake an EMPR amendment process, in line with the MPRDA due to the alteration/ expansion of activities within the mine lease area. A notification letter has been submitted to the DMR to indicate the commencement of the environmental authorisation process.

A Public meeting will be held in order to outline the details of the project to stakeholders and provide an opportunity for stakeholders to raise questions and indicate potential issues or risks associated with the project.
The Public Meeting will be held at the Amandelbult Recreation Club on Monday the 11 March 2013 from 16:00pm to 17:00pm.

Should you wish to attend the Public Meeting, please respond to Jared O'Brien by 8 March 2013. Furthermore, if you require directions to the public meeting venue please do not hesitate to contact the undersigned.

In addition, please note that the draft scoping report will be on public and department review between the 23rd of February and the 4th of April 2013, at the following locations:

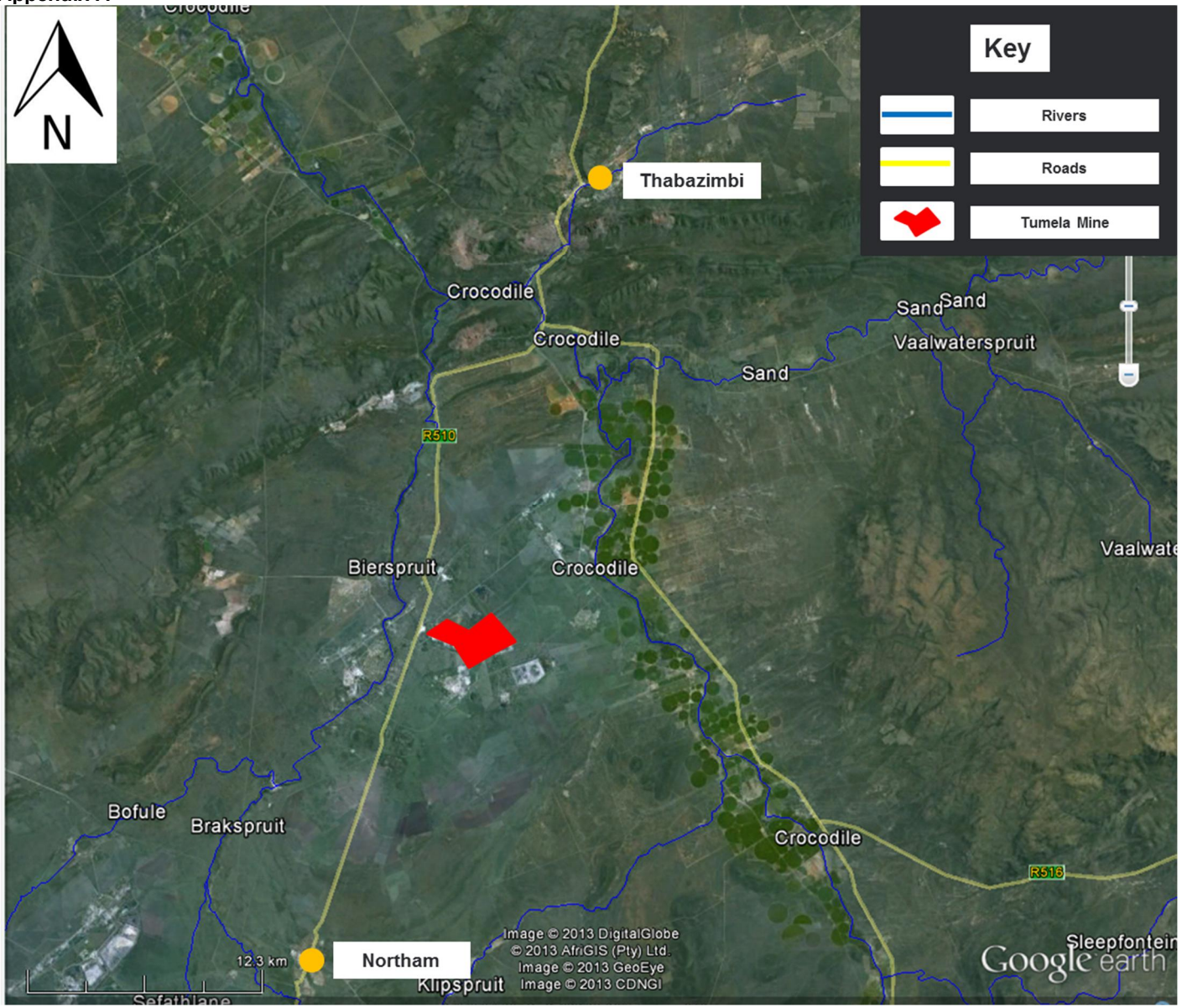
- Tumela Platinum Mine Main Office reception;
- Montserre Traditional Authorities office;
- Amandelbult Recreation Club;
- Northam Library; and
- WSP Environment and Energy website (www.wspenvironmental.co.za).

Should you wish to register as a stakeholder, please submit your details to Jared O'Brien.

Regards,

Jared O'Brien
Consultant
Tel: 011 361 1396
Fax: 086 505 3939
Email: Jared.OBrien@wspgroup.co.za

Appendix A


N
Key
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Roads
Tumela Mine
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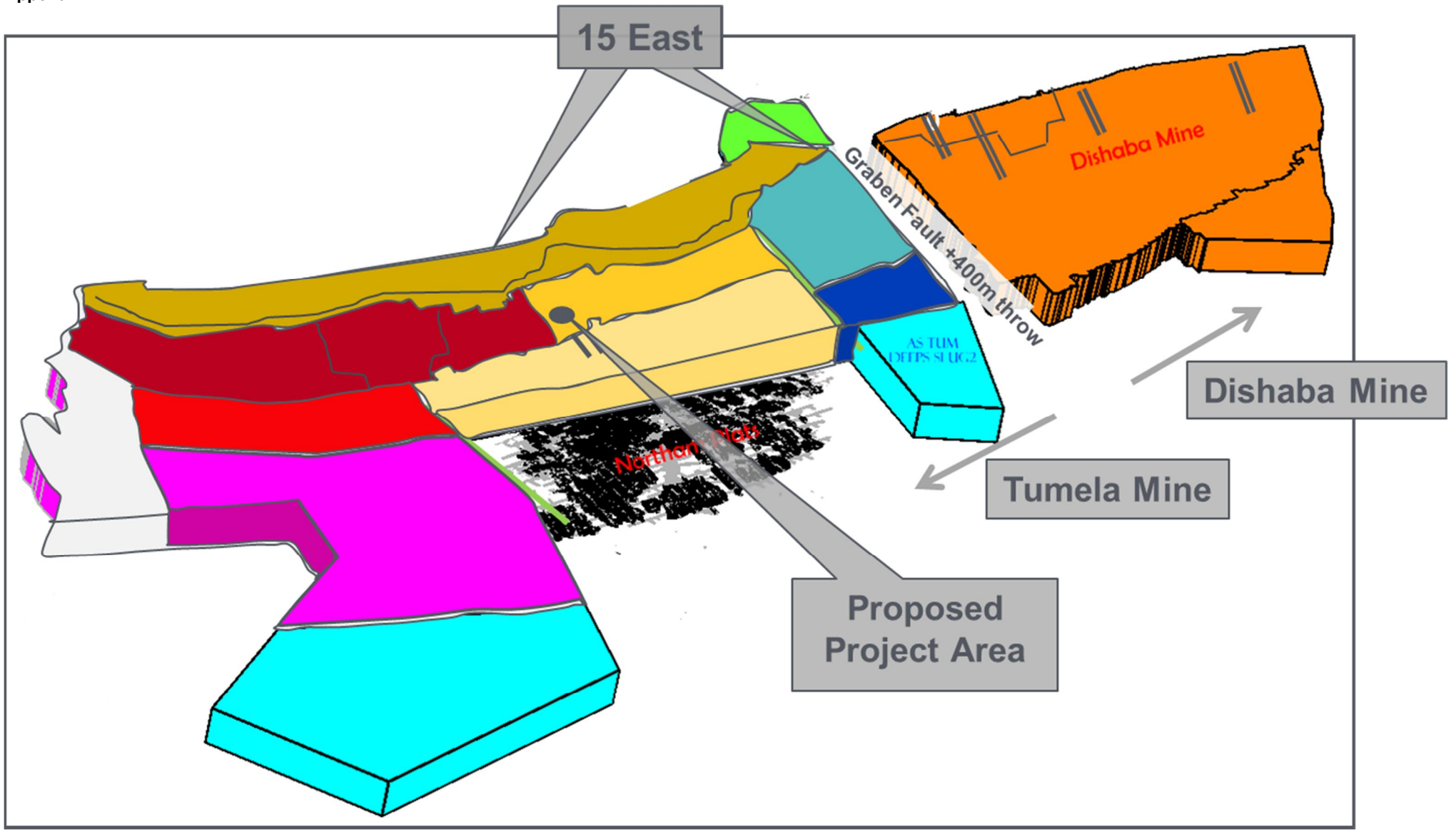
Bierspruit
Crocodile
Vaalwate
Bofule
Brakspruit
Crocodile
R516
Northam
12.3 km
Klipspruit
Sleepfontein
Image © 2013 DigitalGlobe
© 2013 AfriGIS (Pty) Ltd.
Image © 2013 GeoEye
Image © 2013 CDNGI
Google earth

Appendix B


15 East
Graben Fault +400m throw
Dishaba Mine
Dishaba Mine
Tumela Mine
Proposed
Project Area

PLATINUM

Rustenburg Platinum Mines Limited

AMANDELBULT MINE
R510 Thabazimbi Road
Thabazimbi
0380
South Africa

The Trust Secretariat: MD Ramothwala
Ramothwala Lenyai Incorporated
3rd Floor West Wing,
Centenary Building,
Bureau Lane,
Pretoria
001

5 February 2013

Dear MD Ramothwala

RE: LANDOWNER NOTIFICATION: ENVIRONMENTAL MANAGEMENT PROGRAMME AMENDMENT FOR THE PROPOSED ANGLO AMERICAN PLATINUM LIMITED: RUSTENBURG PLATINUM MINES – AMANDELBULT SECTION, TUMELA CENTRAL SHAFT

Rustenburg Platinum Mines Limited (RPM) proposes a new shaft (the Tumela Central Shaft) at the Amandelbult Section: Tumela Mine in the Limpopo Province. The proposed project falls on land owned by the "Bophalane Ba Montserre Community Development Trust" and a lease agreement between the parties is in place. Notification of an Environmental Impact Assessment (EIA) is hereby given, in terms of the National Environmental Management Act (No. 107 of 1998) as amended (NEMA) and section 15 (1) of the EIA Regulations in Government Notice (GN) 543 of 2010, which states:
"If the applicant is not the owner or person in control of the land on which the activity is to be undertaken, the applicant must give written notice of the proposed activity to the owner or person in control of the land on which the activity is to be undertaken, and inform such person that he may participate in the public participation process".

The following information forms part of this memorandum:

1. Background information;
2. Motivation for the proposed project;
3. Objectives of the proposed project;
4. Project description; and
5. Authorisation process to be followed.

1. Background information

Rustenburg Platinum Mines Ltd. (RPM), a wholly owned subsidiary of Anglo American Platinum is the holder of an existing new order mining right (LP30/5/1/2/2/48 MR), in respect of Platinum Group Element (PGE) deposits, which is contained in the Merensky- and UG2 reefs within the mining area. The Amandelbult Section, located in the Limpopo Province, is an established and

fully developed mine situated on the north-western limb of the Bushveld Complex (Refer to **Figure 1** – Locality Map). The mine is comprised of the Tumela Mine, Dishaba Mine and Concentrator Plant. The mine is located within the Thabazimbi Local Municipality (NP 361) and the Waterberg District Municipality (DC 36), approximately 40 km south of Thabazimbi, 15 km north of Northam and 100 km north of Rustenburg.

The main activity at the Amandelbult Section is the mining of the Platinum Group Metals (PGMs) by means of underground mining. Ore mined from the reserves is processed at the Concentrator Plant before being transported to off-site smelters for further refining. Opencast mining was undertaken in the past in certain areas however, this ceased in 2005 and the land has been rehabilitated in accordance with the approved EMPR, dated 1995 and subsequent approved addendums.

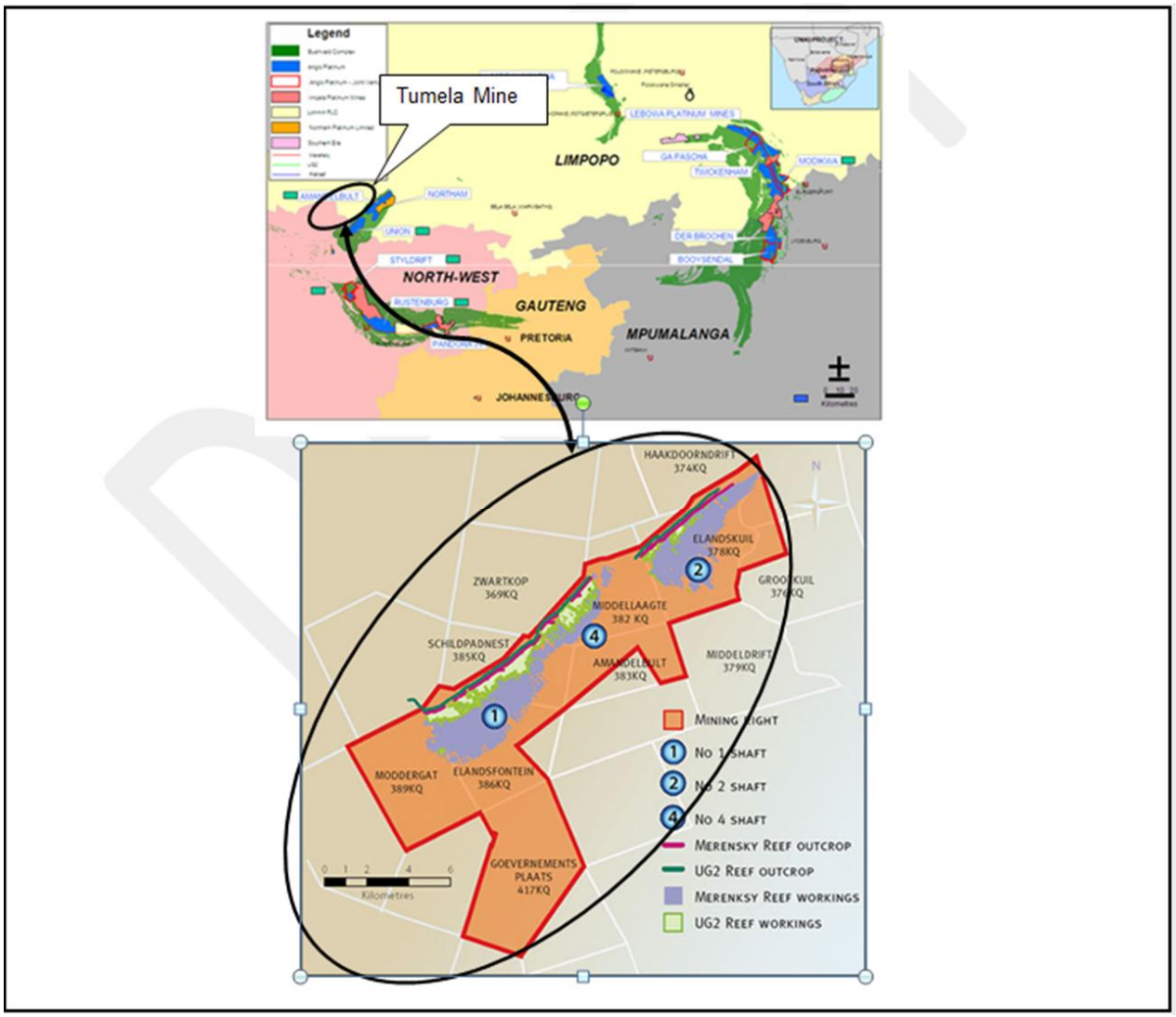


Figure 1: **Locality Map**

2. Motivation for the proposed project

The Tumela Mine (forming part of the Amandelbult Section) has revised its Business Plan to access the resources of the 15 E Business Centre, located on the farm Schildpadnest 385KQ (**Figure 1**), via a new shaft, the Tumela Central Shaft (**Figure 2**).

Tumela Mine would not be able to maintain its production profile unless capital projects are brought online. Tumela Mine, however still has a major platinum resource and the business objectives for Tumela Mine would thus be to exploit this resource and target a sustained production profile above the required threshold.

The project may create additional employment and procurement benefits however more detail will be provided on this during the project feasibility study.

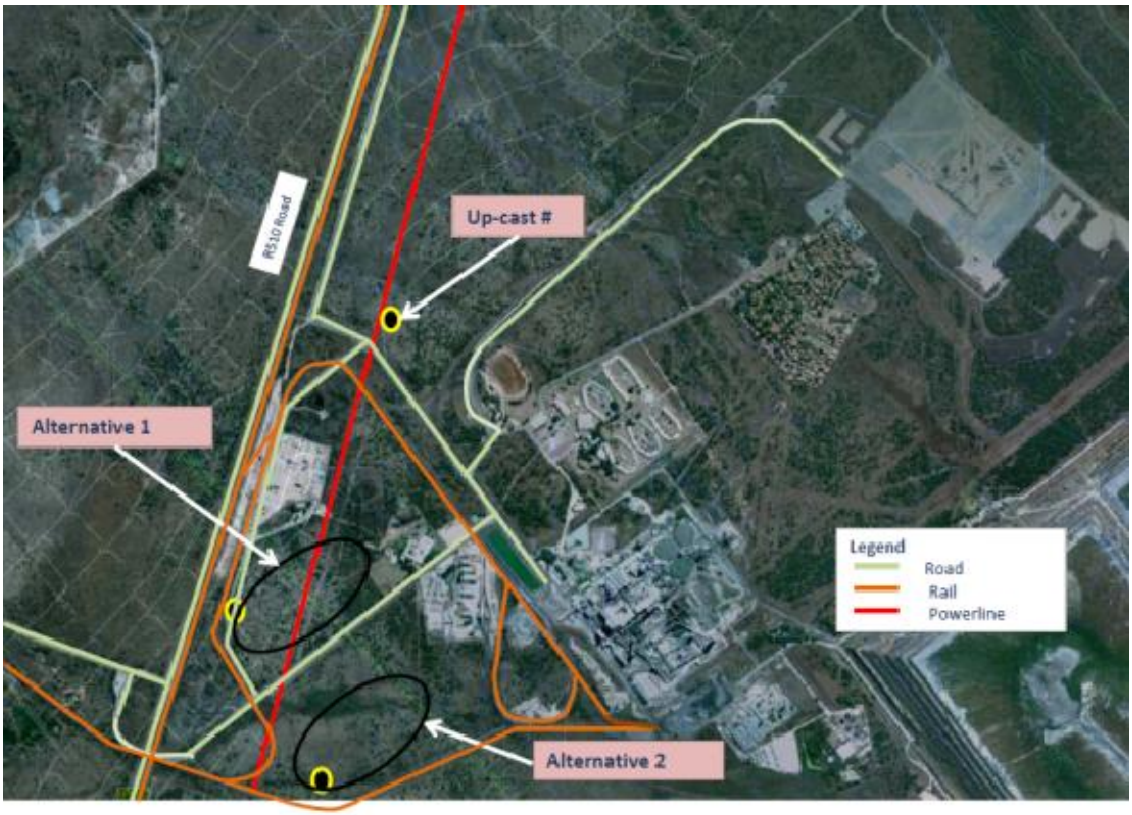


Figure 2: Location of proposed infrastructure for the proposed Tumela Central Shaft project

3. Objectives of the proposed project

The objective of the Central Shaft Project will be to install infrastructure to access the 15 East mining area, from 11 to 16 levels, on both the Merensky- and UG2 reef horizons, that will bring ounces online by no later than 2019. The 15 East Block will be expedited and will consequently be managed as a stand-alone project.

4. Project Description

The envisaged activities associated with the proposed project may feature the following (which may be amended in future):

- A single Ø 6 m down-cast shaft equipped with a steel headgear, ± 45 m height, (could be replaced with 2 x Ø 4.5 m down-cast shafts),
- A single Ø 5 m up-cast vent shaft, equipped with 2 x 3MW Fans, required 5 years after the main shaft commissioning;
    - Ore silo with ore conveyor;
    - Access roads;
    - Railway links;
    - Office blocks;
    - Change house;
    - Salvage yard;
    - Explosives shed;
    - Timber yard;
    - Winder house;
    - Lamp house;
    - Parking area;
    - Fridge plant with cooling water dams;
    - Bulk air coolers; and
    - Service / process water storage dams.
- Waste Rock Dump (WRD);
- Waste Rock Conveyor – (± 130 m from headgear to the WRD);
- Sub-station with feed from existing 33kV power lines, ± 650 m away (sufficient Eskom power is available);
- Mine process water runoff dams; and
- Compressor system.

Please refer to the proposed infrastructure layout plan in **Figure 2** and **Figure 3**.

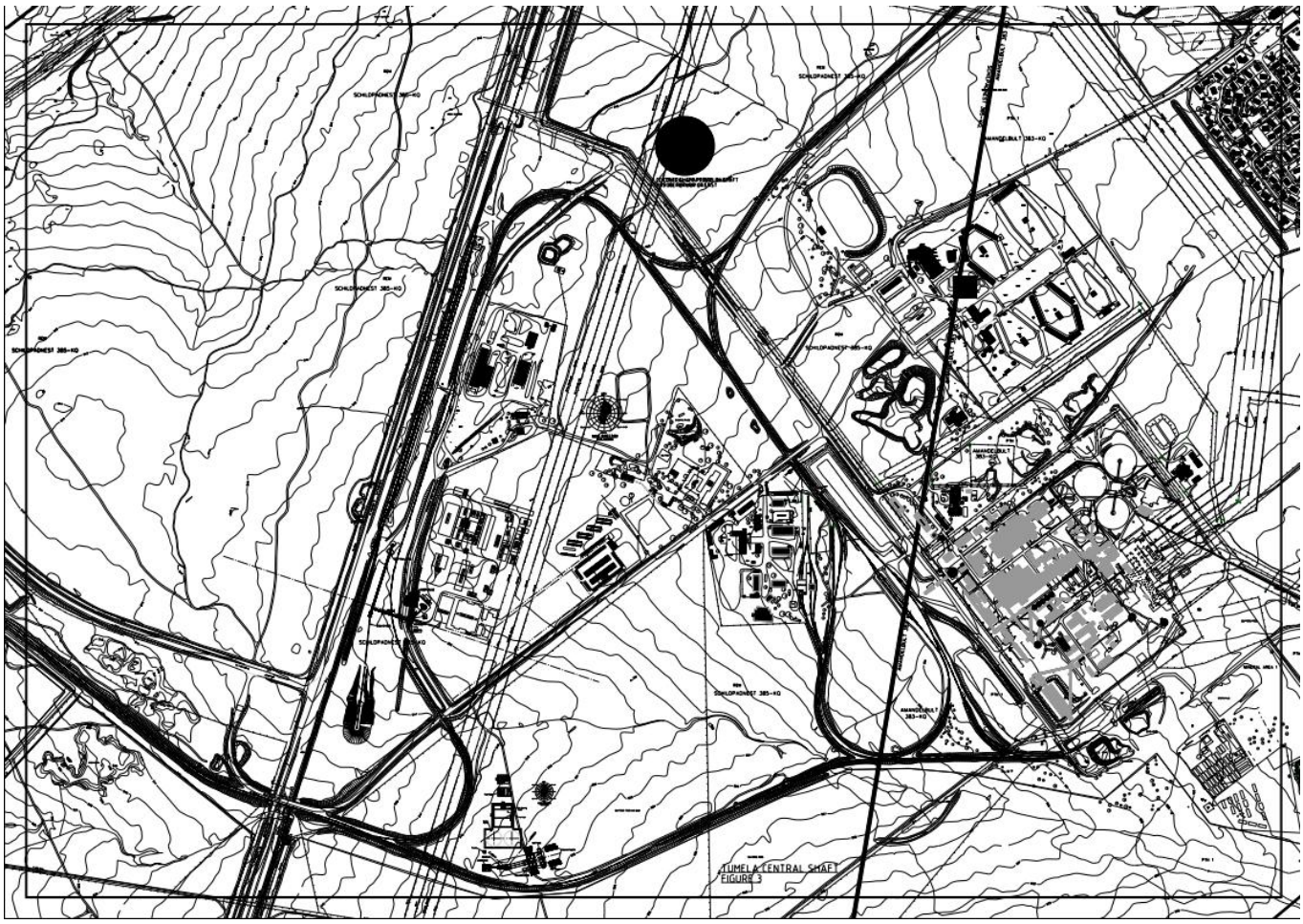


Figure 3: Surface infrastructure layout for the proposed Tumela Central Shaft project

5. Authorisation process to be followed

The base case EMPR of 1995 has been supplemented with 10 addendums to date. In terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) a Section 102 amendment is required. The proponent has appointed WSP Environmental as the independent consultant to undertake the following in terms of the legislative requirements for the activities associated with the proposed Tumela Central Shaft Project:

- EMPR amendment in terms of the MPRDA;
- Scoping Report and EIA in terms of NEMA; as amended, and
- Water Use Licence Application in terms of the NWA.

It is thus the intention of the proponent to notify the landowner of the commencement of the EMPR amendment process for the proposed project and to inform you that you will be invited to participate in the public participation process. The public participation process will be on-going throughout the authorisation process.

Should you have any issues or queries, please do not hesitate to contact Danilla Breedt (WSP) at Tel: +27 11 361 1396 / Email: danilla.breedt@wspgroup.co.za or Vinesh Dilsook (Anglo American Platinum) at Tel: +27 (0) 14 598 2295 / M +27 (0) 73 109 6126 / Email: vinesh.dilsook@angloamerican.com.

Yours sincerely

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Company Secretary: Anglo Platinum Management Service Proprietary Limited

10.4.6 Issues Trail

No Issues have yet been received. The comments and relevant responses from the project team will be incorporated into the Final Scoping Report and submitted to the authorising and commenting authorities for review. Comments and responses will be recorded throughout the Public Participation for the duration of the project.

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