BACKGROUND INFORMATION DOCUMENT
MARULA PLATINUM (PTY) LTD

PROPOSED CHANGES TO THE APPROVED SURFACE INFRASTRUCTURE AT THE MARULA PLATINUM MINE, LIMPOPO PROVINCE

NOVEMBER 2021

INTRODUCTION

Marula Platinum Mine Pty Ltd (Marula) is a platinum producer in the Sekhukhune District of the Limpopo Province which has been operational since 2001. The mine operates with an approved Environmental Management Programme Report (EMPr) (approved December 2001) and subsequent amendment for the proposed Merensky Project (approved in 2008). In addition, it has two mining licenses (which cover both the Upper Group 2 (UG2) and Merensky ore bodies within the mine lease area boundary) granted in 2003, in terms of the old Minerals Act, 50 of 1991. Marula has received new order mining rights for the operation.

Existing mine operations are comprised of two shaft complexes (Clapham and Driekop) with; an associated waste rock dump (WRD) at the Clapham shaft, a UG2 mineral concentrator plant, a tailings storage facility (TSF), a dense medium separation (DMS) waste site (approved but not yet constructed), water management facilities, and associated support services.

Marula now propose to establish additional surface infrastructure within its mining right area (see Figure 1). The proposed surface infrastructure include the following:

- The establishment of two additional ventilation shafts; and upgrades to existing refrigeration and ventilation infrastructure.
- The upgrade of existing water supply and distribution pipelines and power supply upgrades in support of the proposed refrigeration infrastructure.
- A product stockpile within the existing footprint of the Concentrator Plant.
- Additional pipeline to the approved TSF within an approved footprint.
- Upgrade of change house and compressed airline at the Clapham Shaft Complex footprint.
- Marula also proposes to implement monitoring and remediation measures to assist with the management of the UG Tailings pollution plume.

The current Marula operations have 11 years remaining for their life of mine (inclusive of FY22). The proposed project will extend the life of mine by 17 years.

PURPOSE OF THIS DOCUMENT

This document has been prepared by SLR to inform you about:

- The proposed project;
- The baseline environment of the project area;
- The environmental assessment process being followed (Basic Assessment Report (BAR) Process));
- Possible environmental / cultural / socio-economic impacts; and
- How you can have input into the environmental assessment process.

ENVIRONMENTAL AUTHORISATION PROCESS

For the purpose of this project, an integrated environmental authorisation process will be undertaken and will meet the requirements of:

- Regulations 27 and 28 of the NEMA EIA Regulations (2014, as amended) to cater for the amendment of the approved EMPR; and
- Regulation 19 (Basic Assessment process) to cater for listed activities triggered in terms of the NEMA EIA Regulations (2014, as amended). The proposed activities trigger the following listed activities in terms of the NEMA EIA Regulations, 2014 (as amended):
  - NEMA (GNR 983 of 2014): Listing Notice 1, Activity 10;
  - NEMA (GNR 983 of 2014): Listing Notice 1, Activity 21 D;
  - NEMA (GNR 983 of 2014): Listing Notice 1, Activity 27; and
  - NEMA (GNR 983 of 2014): Listing Notice 1, Activity 48.

The Limpopo Department of Mineral Resources and Energy (DMRE) is the competent authority for this application.

An Integrated Water Use License Application (IWULA) in terms of the National Water Act (No 36 of 1998) and Regulations Regarding the Procedural Requirements for Water Use License Applications and Appeals (GNR. 267 of 2017) is required for the proposed project. The competent authority will be the Department of Water and Sanitation (DWS). The IWUL application will be undertaken as a separate process. However, all project documentation relevant to this integrated environment authorisation will be provided to the DWS for comment as part of the public participation process.

YOUR ROLE:

You have been identified as an interested and/or affected party (I&AP) who may want to be informed about the proposed project and have input into the environmental process and report.

To register as an I&AP please submit your name, contact information and interest in the matter in writing to the contact person(s) given below by 30 November 2021.

All I&APs registered on the project database will also be given the opportunity to review and comment on the BAR when it becomes available for public review. Where responses to this document or comments are received by 22 January 2022, these will be included in the Draft BAR for public review. However, I&APs will have the opportunity to submit comments until the end of the BAR review period.

HOW TO RESPOND:

Responses to this document can be submitted by means of the attached comments sheet and/or through communication with the person listed below.

WHO TO CONTACT:

Mavisha Nariansamy
Email: mnariansamy@slrconsulting.com
Tel: 011 467 0945
Post: PO Box 1596, Cramerview, 2060
(Note: If using post, please also contact us telephonically to notify us of your submission)

SLR Consulting (Africa) (Pty) Ltd (SLR), an independent firm of environmental consultants, was appointed by Marula to manage the environmental authorisation

-95000 -90000 -2710000

N

Magabaneng
1/117
FOREST HILL 117
1/250
Approved Eskom Yard
Shakung
RE/118
Clapham Shaft
CLAPHAM 118
Concentrator Plant
Approved Plant Dam
WINNAARSHOEK 250
250
Clapham Ventilation Shaft 7 (Upcast)
Clapham Ventilation Shaft 5 (Downcast)
Tshwenyane
Clapham Ventilation Shaft 8 (Downcast)
Mogompane
Driekop Shaft
Powerlines
RWD
UG2 Tailings Dam
Moopetsi
Diphale
Galane
DRIEKOP 253
Driekop Ventilation Shaft 6 (Downcast)
Driekop Ventilation Shaft 9 (Upcast)
Ditiganeng
Kalene
Ga-Mahlokwane

Changehouse
Compressed Airline
Conceptual Layout of Proposed Upgrades

-95000 -90000 -2710000

Legend

- Towns / Villages
- Perennial Rivers
- Non-Perennial Rivers
- Farms
- Farm Portions
- Marula Mining Right Area
- Existing Infrastructure
- Proposed Product Stockpile
- Existing Ventilation Shafts
- Approved Ventilation Shaft
- Proposed Ventilation Shafts
- Proposed TSF Pipeline
- Proposed Water Pipeline

Proposed Power Line

- 33 kV from Marula Eskom Yard
- 11 kV from the Step-Down Transformer

0 400 800 Meters

Scale: 1:20 300 @ A3

Projection: Transverse Mercator
Datum: WGS1984, Lo31

Marula Platinum Mines

Figure 1

Proposed Site Layout

SLR Consulting (Africa) (Pty) Ltd
P O Box 1596, Cramerview, 2060, South Africa
Tel: +27 (11) 467-0945 Fax: +27 (11) 467-0978

710.09002.00016

2021/10/04

PROJECT OVERVIEW

Marula proposes to establish additional ventilation shafts and upgrade existing services at existing ventilation shafts at the mine. Two new ventilation shafts are proposed, one will be constructed on the Driekop shaft complex (Ventilation Shaft 9) and one on the Clapham shaft complex (Ventilation Shaft 8). The proposed new Ventilation Shaft 9 will require surface fans and an electrical room. The proposed Ventilation Shaft 8 will require a bulk air cooler, refrigeration plant and condenser cooling towers. The surface footprint of the proposed shafts is 0.25 Ha each. In addition to the proposed ventilation shafts, additional infrastructure is required at the existing/approved ventilation shafts as per the below:

- Driekop Ventilation Shaft 6 (existing) - Requires a new bulk aircooler, refrigeration plant and condenser cooling towers.
- Clapham Ventilation Shaft 5 (existing) - Requires a new bulk aircooler.
- Clapham Ventilation Shaft 7 (approved as part of Merensky Reef Project but not yet constructed) - Authorisation is neededfor surface main fans, electrical rooms, refrigeration plant and condenser cooling towers.

The proposed project will be in the vicinity of existing mine infrastructure and involve the establishment of new infrastructure as well as the upgrading of existing support services and infrastructure at the mine. Specifically, upgrades to the existing power and water supply is required to support the proposed project.

- **Power supply**: Power is currently supplied to the mine by a consumer Eskom substation. The 132kV line enters the mine from the east and feeds into the existing Eskom yard located north of the existing UG2 plant. From the Eskom yard, power is distributed via 11kV lines to Clapham shaft, Driekop shaft and the TSF. The proposed project comprises an expansion of the existing Eskom sub-station to 54 MVA by the addition of a 40 MVA transformer. A new 33 kV overhead transmission line will be established from the on-site Eskom yard to the Clapham Ventilation Shaft 8, and another new 33 kV overhead transmission line will also be established from the Driekop Shaft Complex to the new Driekop Ventilation Shaft 9, to supply the new ventilation shaft with power. The new 33 kV overhead transmission line will then be fed into a new step-down transformer located at the Clapham and Driekop ventilation shafts. The 33 kV will be stepped down to 11 kV and then fed into the plant room and ventilation fans.
- **Water supply and distribution**: The addition of the new ventilation shafts will result in the water demand of the shaft complex increasing by 20%. The current Plant Dam on site has enough capacity to accommodate the increase and will therefore be the source for the raw water required for the proposed project. However, water pipelines for conveyance will be required. The area of disturbance foe the establishment of the proposed Driekop and Clapham water supply pipelines will be 0.525 Ha and 1.3 Ha, respectively.
- **Product stockpile**: An additional low grade product stockpile will alleviate capacity storage constraints experienced with current operations. The additional product stockpile will be establishedwithin the existing, disturbed footprint of the Concentrator Plant. The maximum capacity of the product stockpile will be 200 000 tonnes.
- Additional TSF Pipeline: To increase the operational efficiency at the mine, an additional tailings conveyance pipeline is proposed. The proposed additional pipeline will follow the existing overland pipeline route which runs from the Concentrator Plant to the TSF.
- Upgrade to change house and compressed airline: Marula proposes to upgrade the existing change house located at the Clapham Shaft. The new Clapham change house will be expanded by 440m2 within the existing Clapham Shaft footprint. In addition, it is proposed to upgrade the existing compressed airline located at the Clapham Shaft. The Existing 400 NB air ring will be upgraded to 600 NB.
- TSF Contamination Plume Remediation: Methods to manage the contamination plume emanating from the existing TSF will be investigated and presented in more detail in the BAR.

MOTIVATION FOR THE PROPOSED PROJECT

The proposed ventilation shafts will enable current mine operations to be optimized, will aid in supporting increased mining capacity and will improve mineworker safety by removing noxious gases and regulating air temperatures. The associated infrastructure upgrades and developments will support the operation of the new ventilation shafts. The development of remediation and monitoring methods will limit the risk of contamination emanating from the pollution plume from the TSF.

STATUS FOR THE ROPOSED PROJECT

This section provides a short description of the Project area.

- **Geology:** The project area is situated in the Bushveld Igneous Complex (BIC), an intrusive igneous body. The area is underlain by two aquifers; namely a shallow, weathered aquifer and a deeper fractured rock aquifer.
- **Climate:** The project area experiences typical savannah climatic conditions, namely hot and wet summers and cold and dry winters. The mean annual rainfall is approximately 600 mm per annum.
- **Soils and land capability:** The soils overlying the project area are generally clayey (vertic/melanic) and have a low yielding agricultural potential. The vegetation overlying these soils forms part of a regional complex type known as the Arid Northern Bushveld.
- **Biodiversity**: Most of the vegetation within the project area, is severely transformed with a high incidence of bush encroachment. Very little evidence of wild faunal populations is associated with the project area due to the presence of mining, prospecting, farming and community activities.
- **Surface water resources:** The mine falls within the catchment of the Motse River or quaternary catchment B71E. The mine and proposed project area are drained by the Moopetsi River and its tributaries. The Moopetsi flows into the Matadi River with the confluence approximately 4 km downstream on the mine. The Matadi then flows into the Motse River which feeds the Olifants River. The confluence of the Motse and Olifants River is approximately 25 km downstream of the mine. Reliance on surface water is mostly limited to subsistence farming and livestock watering. The community excavate into the Moopetsi River to obtain water for livestock watering and local irrigation of crops. Existing Marula and surrounding mining operations and community activities have influenced the quality of the surface water resources within the project area. The proposed power and water supply infrastructure will intersect non-perennial tributaries of the Mopetsi and Tshwenyane Rivers.
- **Groundwater resources**: The project area is underlain by two aquifers; namely a shallow, weathered aquifer and a deeper fractured rock aquifer. Groundwater quality is generally marginal to poor due to elevated nitrate concentrations. Third party water users rely on groundwater for domestic and agricultural purposes.
- **Air Quality:** Ambient air quality in the project area has been influenced by existing mining activities, dust from

exposed surfaces, gaseous and particulate emissions from mining operations, miscellaneous fugitive dust sources including vehicle entrainment on roads and windblown dust from open areas, gaseous and particulate emissions from vehicles, gaseous and particulate emissions from household fuel burning; and gaseous and particulate emissions from biomass burning/veld fires (e.g. wild fires). Dust fallout levels at the mine indicates compliance with the National Dust Control Regulations (NDCR). Ambient baseline monitoring for pollutant PM10 (particulate matter 10 micrometers or less in diameter) and PM2.5 (particulate matter 2.5 micrometers or less in diameter) indicated compliance with the NAAQS.

- **Noise:** The present mining operation at Marula is the most dominant source of noise in the area, with the closest noise sensitive receptors being residential developments of Winnaarshoek (~80 m from project activities), Diphale (~600 m from project activities) and Galane (~300 m from project activities). The average baseline noise levels measured at the proposed ventilation shaft locations were 43 dBA during the day and 33.8 dBA during the night.
- **Visual:** The landscape character and quality of the visual resource has been altered by current mining operations
- **Heritage/cultural and palaeontological resources**: The mine is in the archaeologically sensitive Steelpoort area of the Limpopo Province. The most prominent natural features surrounding the mine are the chromite hills to the east and the Leolo Mountain range to the west. The Leolo Mountain is known as a beacon in the history of the origins of the Pedi. The area to the south is historical known for the first discovery of platinum nuggets in 1924. The Leolo and Modimolle mountains are both sacred places to the Pedi people. The findings of the 2020 Heritage specialist survey indicated that the proposed project will not interfere with any significant heritage resources in the area
- **Socio-economic:** The nearest major town is Burgersfort. Steelpoort is a major source of labour for the mine. The Sekhukhune District Municipality covers an area of approximately 1 358 million ha and has a total population of 1 169 762. The unemployment rate is estimated at 29%. The Municipality has a weak economic base with high poverty levelsThe community is a typical rural community where there is pressure on basic infrastructure, and on the delivery of basic services from a pre-mining context. Educational levels in the broader area are relatively low with service provision remaining a challenge.
- **Land use**: The main land use in the proposed project area is subsistence livestock farming settlements which is interwoven within the mining operations. Community settlements are mainly located close to the foothills and slopes adjacent to hills, and within proximity of the proposed project area.

PROJECT ALTERNATIVES NOT CONSIDERED

Project alternatives are not being considered for the following project components for the following reasons:

- Expansion and capacity upgrade of the existing Eskom substation: Additional power is required to support the operation of the additional shaft complexes. To optimise existing infrastructure, Marula has made a strategic decision to upgrade the existing Eskom substation located within the mining right area. Due to the fixed location, no alternatives sites have been considered.
- Location of refrigeration and cooling infrastructure: The location of the additional cooling infrastructure (Bulk air coolers and surface fans) are dictated by the position of the ventilation shafts.
- Upgrade of existing infrastructure: The proposed upgrade of the change house at the Clapham Shaft Complex, and the upgrade of the compressed air line are dictated by their current approved location. The proposed upgrade aims to optimize an already disturbed footprint area.
- Additional pipeline to the Phase 2 TSF: No location alternatives were considered for the proposed additional TSF pipeline. This is because the additional pipeline will be located parallel to the existing tailings pipeline and will not require any additional footprint disturbance.

PROJECT ALTERNATIVES CONSIDERED

The following alternatives are being considered as part of the environmental authorisation process:

- The location of ventilation shaft 9 at Driekop.
- The route for the overhead transmission line from the existing Driekop Shaft Complex to the ventilation shaft 9 at Driekop.
- The routes for the water pipelines from the existing Plant Dam to ventilation shaft 8 at Clapham and ventilation shaft 9 at Driekop.

POTENTIAL BIOPHYSICAL / CULTURAL / SOCIO-ECONOMIC IMPACTS

Given the nature of the proposed project, impacts are expected to be limited to:

Topography: The potential for additional hazardous excavations and infrastructure to be harmful to third parties and animals.

Soils and land capability: The potential for further loss of soil resources and land capability through physical disturbance and contamination.

Biodiversity: The potential to cause further physical destruction and general disturbance to terrestrial biodiversity.

Surface water: The potential to contribute to surface water contamination through additional contaminated surface water run-off. The potential to further alter the natural drainage patterns of the site through the development of the additional infrastructure.

Air: The potential to contribute to an increase in ambient dust and PM concentrations that can influence sensitive receptors.

Noise: The potential to increase in existing disturbing noise levels that can influence sensitive receptors.

Visual: The potential to contribute to negative visual views.

Heritage/cultural and palaeontological: The potential to disturb and/ or destroy sensitive heritage/cultural and palaeontological resources.

Socio-economic: Economic impact on local, national and regional economy through direct benefits (wages, taxes and profits) and indirect benefits (procurement of goods and services, and the increased spending power of employees). Inward migration causing an increased pressure on local services.

Land Use: A change and/or loss in existing land uses affecting general community activities.

ENVIRONMENTAL AUTHORISATION AND PUBLIC PARTICIPATION PROCESS

ENVIRONMENTAL AUTHORISATION PROCESS

The environmental authorisation process provides for the following:

- Information on the project and the environment in which it is being undertaken;
- Identification, in consultation with Interested and Affected Parties (I&APs), of the potential negative and positive environmental/cultural/socio-economic impacts of the proposed project; and
- Reports on management measures required to mitigate impacts to an acceptable level and incorporation of monitoring programmes (where required). The likely process steps and timeframes are provided below.

PHASE I – Pre-application Phase (November 2021)

- Compilation of I&AP database (completed);
- Notify commenting authorities and I&APs of recommencement of proposed project and environmental assessment (via newspaper adverts, site notices, flyers and Background Information Documents (BID);
- Pre-application meeting with the DMRE (completed); and
- Focused meetings with key I&APS (completed).

PHASE II – BAR Phase (November 2021 – February 2022)

- Submission of NEMA application to DMRE.
- Compilation of BAR and Non-Technical Summary (NTS), and distribution to I&APs and commenting authorities for 30-day review (January 2022); and.
- Update the BAR with comments received during the public review period.

PHASE III – Competent authority review Phase (February 2022 – May 2022)

- Submission of the updated BAR following the public review period to DMRE for decision-making (107 days legislated decision-making period); and
- Circulate decision to I&APs registered on the project database, within 14 days of decision being issued.

PUBLIC PARTICIPATION PROCESS

It should be noted that an initial application for the project was submitted to the Department of Mineral Resources and Energy (DMRE) in January 2021 and was later withdrawn due to continued project feasibility investigations. The proposed project was introduced to the public in November 2020. Initial stakeholder consultation was undertaken to notify the I&APs of the proposed project scope which comprised of only the proposed ventilation shaft infrastructure and associated supporting infrastructure. Subsequent to November 2020, additional project components have been included. The application form will now be re-lodged with the DMRE, resulting in the resumption of the Public Participation Process. The stakeholder engagement process undertaken to date is listed below:

- Identification of Interested and Affected Parties (I&APs);
- Lands Claims Enquiry;
- Pre-consultation with the DMRE;
- Focussed meetings with the Kgoshi, Traditional Councils and the Seuwe and Driekop Community Development Forum;
- Initial project notification (i.e. distribution of first BID via email, SLR website, SMS and post);
- Placement of site notices; and
- Newspaper Advertisements

Public Participation to be undertaken following the recommencement of the project:

- Announcement of project (distribution of BID, site notices and newspaper advert);
- Review of the BAR;
- Collation of additional comments in an updated Comments and Response Report;
- Submission of the BAR to the DMRE; and
- Notification of DMRE decision.

Consideration will be given to the risk and potential spread of the COVID-19 pandemic before undertaking any public participation and/or consultation process

PARTIES INVOLVED IN THE BASIC ASSESSMENT PROCESS

I&APs

- Surrounding landowners, land users and communities;
- Surrounding mines and industries;
- Parastatals; and
- Kgoši's, traditional councils and community development forums.

COMPETENT AND COMMENTING AUTHORITIES

- Development, Environment and Tourism (LEDET);
- Department of Water and Sanitation (Lydenburg Area) (DWS);
- Limpopo Department of Rural Development and Land Reform (DRDLR);
- Limpopo Department of Agriculture;
- Limpopo Department of Roads and Public Transport;
- Limpopo Heritage Resources Agency (LHRA);
- Limpopo DMRE; and
- Limpopo Department of Economic Development, Environment and Tourism.

LOCAL AUTHORITIES

- Greater Tubatse Local Municipality (including ward councillor); and
- Sekhukhune District Municipality.

Please let us know if there are any additional parties that should be involved.

MARULA PLATINUM (PTY) LTD

BACKGROUND INFORMATION DOCUMENT FOR THE PROPOSED CHANGES TO THE APPROVED SURFACE INFRASTRUCTURE AT THE MARULA PLATINUM MINE, LIMPOPO PROVINCE

REGISTRATION AND RESPONSE FORM FOR INTERESTED AND AFFECTED PARTIES

DATE		**TIME**	
PARTICULARS OF THE INTERESTED AND AFFECTED PARTY			
NAME			
POSTAL ADDRESS			
		POSTAL CODE	
STREET ADDRESS			
		POSTAL CODE	
WORK/ DAY TELEPHONE NUMBER		**WORK/ DAY FAX NUMBER**	
CELL PHONE NUMBER		**E-MAIL ADDRESS**	

PLEASE IDENTIFY YOUR INTEREST IN THE PROPOSED PROJECT
PLEASE WRITE YOUR COMMENTS AND QUESTIONS HERE

By providing your personal information to be registered as an I&AP for this project you consent to SLR managing your information in accordance with the Protection of Personal Information Act 4 of 2013. This includes; (1) retaining and using your Personal Information as part of a contact database for this and/or other ESIAs, (2) contacting you regarding this and/or other ESIA processes, (3) disclosing the database to other authorised parties for lawful purposes, (4) processing it for lawful purposes, and (5) including any correspondence in ESIA Reports. You may request for your Personal Information to be deleted from the Project database or comments to be excluded from ESIA Reports at any time by contacting SLR.

Please return completed forms to:

Mavisha Nariansamy or Rizqah Baker

SLR Consulting (Africa) (Pty) Ltd

(011) 467 0945 (Tel) or (011) 467 0978 (Fax)

mnariansamy@slrconsulting.com or rbaker@slrconsulting.com