



12 February 2024

## Addendum – Bengwenyama Project Scoping Study (01/02/2024)

Southern Palladium (ASX:SPD and JSE:SDL), ‘Southern Palladium’ or ‘the Company’) released on the ASX Market Announcements Platform a Scoping Study titled “The Next Significant PGM Producer On The Eastern Limb” on 01 February 2024 (Scoping Study).

The Company provides additional information in this Addendum around the nature of the production profile. Additionally, SPD provided disclosure about how it will be able to manage its mining operation and how it will adjust the sensitivity analysis to better reflect the variability of the metal recovery, grade variance, and convertibility of the various resource categories disclosed in its scoping study.

The addendum specifically address the following:

- how the ongoing drilling of the operation is going to be able to increase the geological confidence in the Mineral Resources, and how SPD intends to convert the exploration target (ET) into inferred resources, and then the inferred resources to indicated resources.
- the stockpile management and grade control drilling, and how SPD intends to conduct this and how it is going to be managed with feeding the material into the process plant.
- the comparison of what the NPV may look like when the Exploration Target and inferred portions are removed entirely from the production target on the life-of-mine of Mine Basis.
- a sensitivity analysis to 30%.
- the ET/resource conversion is disclosed separately on a grade and tonnage basis and a grade/tonnage optimisation curve disclosed in the report for each resource and the ET category.

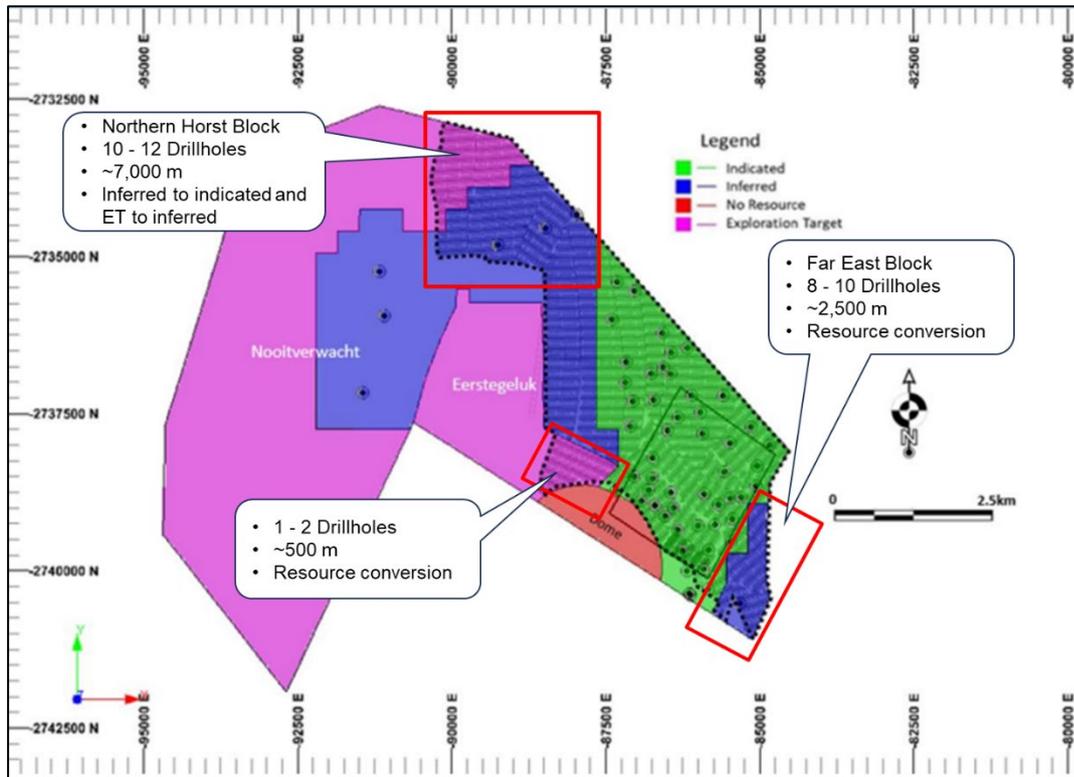
### Geological Model and UG2 Continuity

The confidence in the geological model and the continuity of the UG2 reef is rooted in the fact that the UG2 and Merensky Reef are two reef horizons that are continuous over large areas as demonstrated by the current mining operations that span from Bokoni Mine in the north to Booyendal Operations in the south which is approximately 200km as the crow flies. The Bengwenyama project is also bordering an operating mine (Modikwa Mine) immediately north and; Marula Mine (Central Block). Further south, Two Rivers Mototolo and Booyendal operations mine the same reefs in the Southern Block.

In addition to this the neighbouring properties have also known UG2 Mineral Resources to the east (Grootboom) and immediate south (Kennedy’s Vale). Therefore, there is no doubt in the continuity of the UG2 across the two farms Eerstegeluk and Nooitverwacht. Hence there is high confidence in the Exploration Target that has been modelled and forms part of the scoping study LoM. In addition to this high confidence, a 40% geological loss is applied to the Exploration Target to cater for possible disturbances in the reef due to faulting, IRUP’s or potholes. This 40% geological loss is also applied to the LoM tonnages associated with the Exploration Target category. The current ongoing drilling programme is focused on Mineral Resource upgrades from Inferred Mineral Resource to Indicated Mineral Resource and from Exploration Target to Inferred Mineral Resource. This drilling focus is illustrated in Figure 1 which shows the three focus areas. The northern horst block for Mineral Resource upgrade from Inferred Mineral Resource to Indicated Mineral Resource and from Exploration Target to Inferred Mineral

Resource, the Far East Block and the northern margin of the dome area. Based on recent Mineral Resource conversions on the project with the recent drilling, it is anticipated that the conversion will be close to 100%. The scoping study LoM plan (26 years) within the dotted polygon, is also shown in Figure 1.

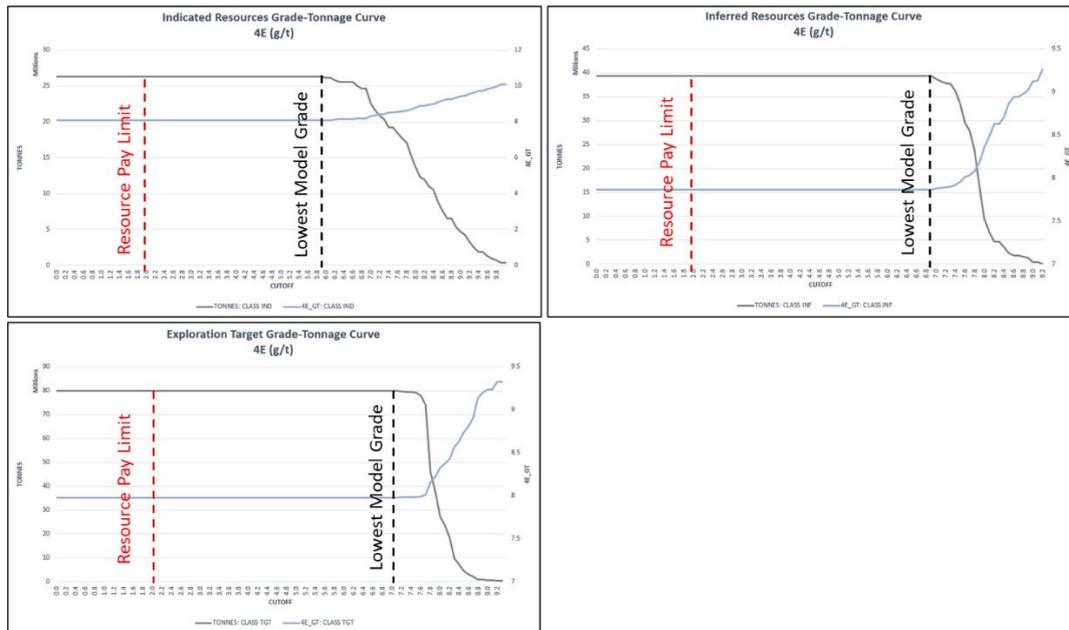
Figure 1: Mineral Resource Conversion and Planned Drilling



## 2. Grade Distribution and RPEEE

The Bushveld Complex chromitite reefs are very homogenous in the grade distribution compared to other deposits. This is evident from the grades estimated to date for the Bengwenyama Project. The initial grade, modelled from 10 historical drillholes, was 7.70 g/t (4E) over a reef width of 71 cm and the first resource update had a similar grade and width with the latest Mineral Resource grade of 7.95 g/t (4E) over a width of 73 cm. This illustrates the grade consistency. Figure 2 shows the grade tonnage curve for the various resource categories. This illustrates that the entire resource is above the reasonable prospects of eventual economic extraction (RPEEE) pay limit of 1.9 g/t. The Kriged estimation model shows that the lowest grade is approximately 5.8 g/t and that the grade distribution across the three categories is very similar. In addition to this the metallurgical sample that was submitted, which was a composite of several intersections across the reef horizon, had a head grade of 7.95 g/t which is the same grade as the estimated Mineral Resource grade.

Figure 2: Grade Tonnage Curves for the UG2 Reef (Indicated, Inferred and Exploration Target)



### Grade Blending

Based on the aforementioned description, the grade fed to the plant is expected to be consistently uniform, minimizing the need for extensive grade blending. However, once the operation progresses to the mining stage, ongoing underground reef chip sampling will be carried out. This systematic process will be employed for grade management, aligning with the common practice observed in South African tabular orebodies.

### Financial Considerations

#### Including/Excluding Inferred Resources and Exploration Target

A financial run was undertaken to understand the impact of removing all Inferred Mineral Resources and Exploration Target material from the LoM plan to illustrate the impact thereof on the financial results. Simply excluding the Inferred Mineral Resources and Exploration Target from the current LoM plan was not possible in the prescribed time period, because the plan needs to be re-scheduled. The equivalent tonnes were therefore excluded from the tail-end of the mine plan, i.e. at year 18. This is acceptable because of the consistency of the reef. The mine plan could with reasonable certainty be optimised to include only Indicated Mineral Resources with similar results as what is current included in both the Inferred Mineral Resources and Exploration Target (Explained in the Grade distribution above).

A comparison of the Project NPVs excluding and including the Inferred Mineral Resources and Exploration Target material from the LoM plan as described above is illustrated in Table 1

Table 1: Comparison of Project NPVs at Various Discount Rates (Real Terms) - Excluding Inferred Mineral Resources and Exploration Target

Project Value	Unit	Excluding Inferred and Exploration Target	Including Inferred and Exploration Target
NPV @ 0%	ZARm	27,108	59,109
NPV @ 5%	ZARm	13,072	22,771
<b>NPV @ 8%</b>	<b>ZARm</b>	<b>8,215</b>	<b>13,165</b>
NPV @ 10%	ZARm	5,867	9,083
NPV @ 15%	ZARm	1,981	3,136
NPV @ 20%	ZARm	-199	247
<b>IRR</b>	<b>%</b>	<b>19.4%</b>	<b>20.6%</b>
NPV @ 0%	USDm	1,439	3,132
NPV @ 5%	USDm	694	1,207
<b>NPV @ 8%</b>	<b>USDm</b>	<b>436</b>	<b>698</b>
NPV @ 10%	USDm	311	481
NPV @ 15%	USDm	105	166
NPV @ 20%	USDm	-11	13

### Sensitivity Analysis

An additional sensitivity analysis was undertaken that changes the financial inputs to reasonable variability ranges. The capital and operating cost inputs were varied  $\pm 30\%$  as the accuracy of the estimates could reasonably increase or decrease by 30% at this study level. The operating cost are less likely to vary by  $\pm 30\%$  as these costs are aligned with current operating PGM mines on the Eastern Limb. The grade was varied by  $\pm 15\%$  as the grade is fairly homogenous over the UG2 chromitite seam and significant variability is unlikely. The economic input parameters (exchange rate and commodity prices) were varied at  $\pm 20\%$ . These factors are highly unpredictable. The results are illustrated in ZAR terms and USD terms in Figure 3 and Figure 4, respectively.

Grade Tonnage Curves for the UG2 Reef (Indicated, Inferred and Exploration Target)

Figure 3: Project Sensitivity ZAR (NPV8.0%)

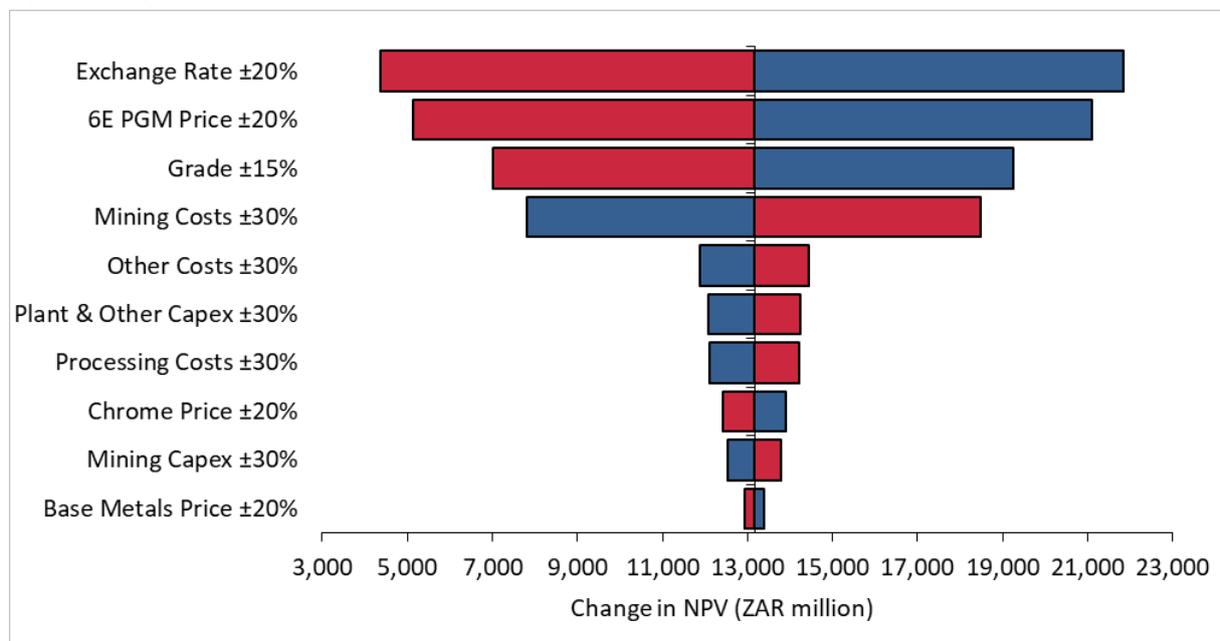
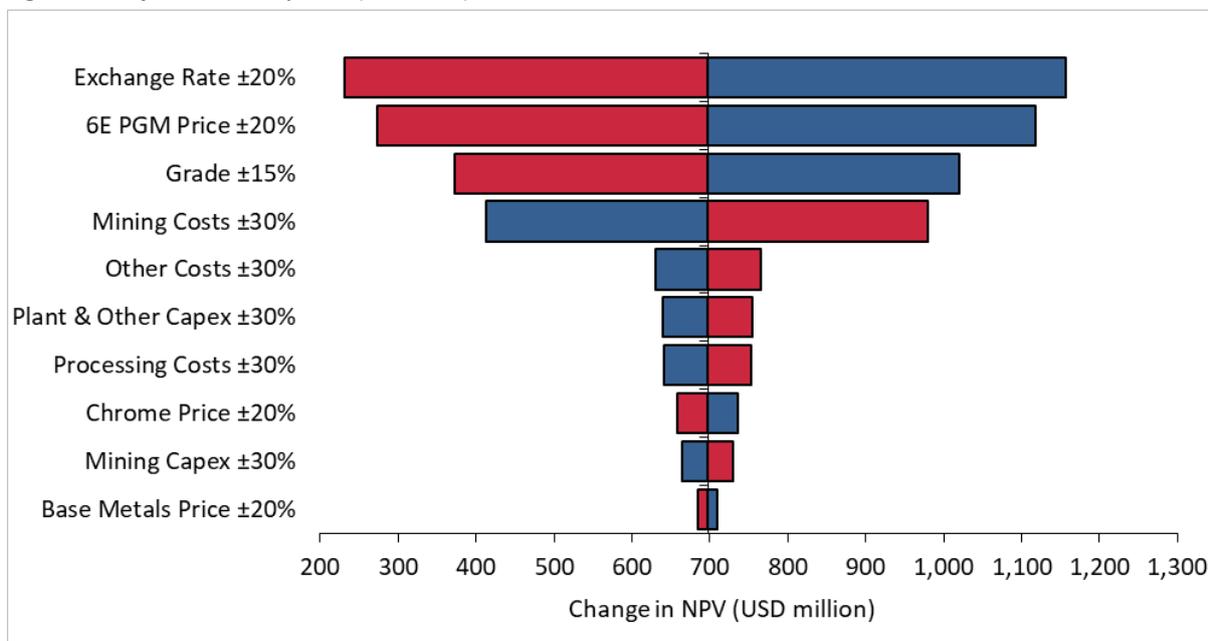


Figure 4: Project Sensitivity USD (NPV8.0%)



This announcement has been approved for release by the Board of Southern Palladium Limited.

#### **About Southern Palladium:**

Southern Palladium Limited (ASX:SPD, JSE:SDL) is a dual-listed platinum group metal (PGM) company developing the advanced Bengwenyama PGM project, particularly rich in palladium/rhodium, in South Africa. The project is located on the Eastern Limb of the Bushveld Complex, which contains more than 70% of the world’s known Platinum Group Metal (PGM) Resources.

The Company, which holds a 70% stake in the project, will focus primarily on conducting a Pre-Feasibility study. Furthermore, after the geophysical survey carried out in 2022 and the submission of a Mining Right application in September 2023, the company will supervise the continuation of the diamond drill program initiated in August 2022, concurrently managing various other technical studies

Bengwenyama presents a substantial opportunity in the global PGM market. Exploration efforts have already yielded a JORC 2012-compliant Mineral Resource of 26.22Moz within two ore horizons—the UG2 chromitite and Merensky Reef, achieved in 2023.

The Company is led by a seasoned on-ground management team, including some of South Africa's most distinguished mining industry executives.

#### **Competent Person Statement**

1. **Uwe Engelmann:** The scientific and technical information contained in this announcement has been reviewed, prepared and approved by Mr Uwe Engelmann (BSc (Zoo. & Bot.), BSc Hons (Geol.), Pr.Sci.Nat. No. 400058/08, FGSSA). Mr Engelmann is a director of Minxcon (Pty) Ltd and a member of the South African Council for Natural Scientific Professions, and has sufficient experience relevant to the styles of mineralisation and activities being undertaken to qualify as a Competent Person, as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Engelmann has a beneficial interest in Southern Palladium through a shareholding in Nicolas Daniel Resources Proprietary Limited.

2. **Daan van Heerden:** The scientific and technical information contained in this announcement has been reviewed, prepared, and approved by Mr Daan van Heerden (B Eng (Min.), MCom (Bus.Admin.), MMC, Pr.Eng. No. 20050318, AMMSA, FSAIMM). Mr van Heerden is a director of Minxcon (Pty) Ltd and a Registered Professional Engineer with the Engineering Council of South Africa, a Member of the Association of Mine Managers South African Council, as well as a Fellow Member of the South African Institute of Mining and Metallurgy. Mr. van Heerden has sufficient experience relevant to the styles of mineralisation and activities being undertaken to qualify as a Competent Person, as such term is defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr van Heerden has a beneficial interest in Southern Palladium through a shareholding in Nicolas Daniel Resources Proprietary Limited.

**For further information, please contact:**

Johan Odendaal  
Managing Director  
Southern Palladium  
Phone: +27 82 557 6088  
Email: johan.odendaal@southernpalladium.com

**Media & investor relations inquiries:** Sam Jacobs, Six Degrees Investor Relations: +61 423 755 909



Follow [@SouthernPalladium](https://twitter.com/SouthernPalladium) on Twitter



Follow [Southern Palladium](https://www.linkedin.com/company/southern-palladium) on LinkedIn