

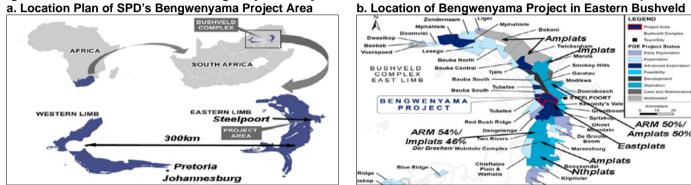
PGE: Southern Palladium Ltd (SPD)

On its Path towards UG2 Production: Internal Scoping Study Proposes UG2 Best Scenario & has Started a PFS

SPD (at A\$0.79) with a Mkt Cap of ~\$70M & ~A\$14M Net Cash Rated as a SPEC BUY (Target >\$1.10)

This report on Southern Palladium Ltd (SPD) follows SPD's successful DQ22 drillhole results, and 24Jan23 announced *decision to start a PFS and earlier Mining Right* application (which doesn't require a DFS) — it has not been based on a site visit. I have applied available information, presentations, discussions and my historical knowledge having worked underground for Implats near Rustenburg in the Western Bushveld, visited and valued many South African Bushveld PGE orebodies & other PGE orebodies in Southern Africa. (I/ERA wrote a July 2022 report on Understanding PGE orebodies which is freely available on the www.eagleres.com.au website).

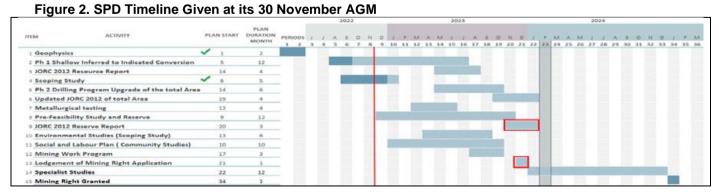
Figure 1. Location Plan of SPD's Bengwenyama Project Area and its Eastern Bushveld Location near Steelpoort



Southern Palladium (SPD) is currently rated by ERA as a SPEC BUY at \$0.785, with a target of >A\$1.10 (1AUD = 12.16ZAR on 2 Feb 2023)

The key points of this report and recent announcements are:

- SPD's Bengwenyama Project is located in the Eastern Bushveld adjacent on strike south of Amplat/ARM's Modikwa operating PGE mine (~50/50JV FY22: 2.4Mtpa, ~300kozpaPGE [116kozPt, 111kozPd,23kozRh,3kozAu,33kozRu,8kozlr,600tCu,370tNi,38ktCr] Head grade 4.5g/t6E,3.7g/t4E)
- 5 initial SPD UG2 intersections averaged ~9.1g/t4E over 71cm which is higher grade than Modikwa's operating average, with a prill split %(reef distribution) of: 44.3Pt, 45.5Pd,8.9Rh,1.3Au
- SPD's Project could possibly have been in production had it not been subject to scurrilous tenement activity for which there are drillhole results but the drillholes are held by a foreign party, which has necessitated SPD drilling their own diamond holes and assaying the intersections.
- The geology is conventional Eastern Bushveld Merensky Reef complex with the UG2 outcropping in the East, and shallowly dipping west, overlain by Merensky, there is more faulting than the West Bushveld – but standard and manageable for the East Bushveld & Sth Africa.
- **Mining is expected to be similar to RBPlat/Modikwa** room-and-pillar with treatment also conventional float to a concentrate, then possibly treated by Amplats or Implats smelter & refinery.
- SPD gave a timeline at 30 Nov 22 AGM as shown in Figure 2 Mining Right now possibly faster.



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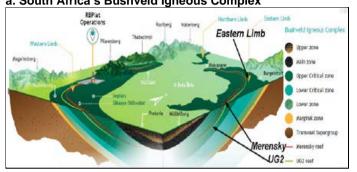
Corporate Summary

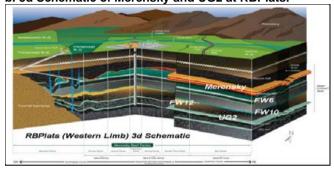
SPD successfully dual listed its IPO on the ASX as \$SPD and JSE as \$SDL in June 2022, raising its maximum target of \$19M being 38M fpo shares at 50c to result in 89.75M fpo shares in issue, plus 7.4M options & 1.2M performance rights. SPD has 70% of MUM (Miracle upon Miracle) who own 100% of the Prospecting Right (to 21 Feb 2024) over the Bengwenyama Project in 30% JV with the local Bengwenyama Community (represented by Nurinox Investments) who also have a 12.3% indirect shareholding in SPD.

Geology

The geology of South Africa's Bushveld Igneous Complex (BIC) is well known as a magmatic sequence of reefs in the Main/Critical Zone mostly dipping shallowly towards the centre of a bowl-shape as shown in Figures 3a and 3b. There are clearly identifiable 3 HW markers above the Merensky (see the Geological Column on p15 of ERAs "Understanding PGEs" report), then 12 FW markers to the Upper Group's UG2 and UG1, then the Lower Group's LG1 to LG6. All the reefs contain chrome bands of variable thickness, with main payable reefs being Merensky and UG2 for PGE, and LG6 for chrome, separated by very low grade PGE.

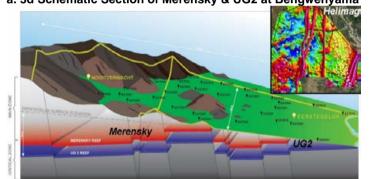
Figure 3. South Africa's Bushveld Igneous Complex, and 3d Schematic of Merensky and UG2 at RBPlats a. South Africa's Bushveld Igneous Complex b. 3d Schematic of Merensky and UG2 at RBPlats.

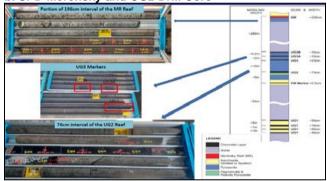




SPD has established the geological structure at Bengwenyama using a helimag survey and historical drilling as shown in Figure 4a – now being followed up by SPDs own drilling, as shown by drill core in Figure 4b.

Figure 4. 3d Schematic Long Sectn of Merensky & UG2 at Bengwenyama & Helimag, & SPD Merensky & UG2 Core a. 3d Schematic Section of Merensky & UG2 at Bengwenyama b. SPD Merensky and UG2 Drill Core





The progress of SPD's drilling is shown in Figure 5a with the assay results of the first 5 drillholes averaging (as shown in Table 1) 9.1g/t 4E (3PGE[or PGM]+Au) or ~10.7g/t6E (omitting Os) together with 18 of the 63 planned drillholes that had been drilled by 15 Dec in Phase 1 – with extra holes likely in the Far East (yellow) Block at ~150m to 230m while the red area inferred the expected domal shape – and is being deferred. Figure 5. SPD's Drilling to 15 December – Assay Results reported 20 Dec 2022 – others expected Feb 2023

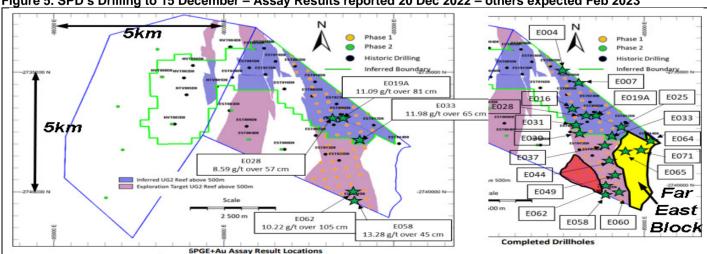


Table 1 Assay Results for the First 5 Drillholes - with 4EPGE (or 3PGE +Au) and 6PGE+Au averages

BHID	From (m)	To (m)	UG2 sampled width (cm)	Pt (g/t)	Pd (g/t)	Rh (g/t)	Ir (g/t)	Os (g/t)	Ru (g/t)	Au (g/t)	3PGE+Au ¹ (g/t)	6PGE+Au² (g/t)	Ni (%)	Cu (%)	Cr ₂ O ₃ (%)
E062	31.25	32.30	105	3.80	3.57	0.88	0.32	0.14	1.43	0.08	8.33	10.22	0.15	0.03	29.56
E058	140.86	141.31	45	4.69	5.64	0.82	0.26	0.19	1.46	0.22	11.37	13.28	0.23	0.01	39.37
E019A	315.83	316.64	81	4.25	4.19	0.79	0.26	0.15	1.31	0.13	9.36	11.09	0.16	0.03	30.87
E033	253.60	254.25	65	4.21	5.00	0.84	0.28	0.16	1.32	0.17	10.21	11.98	0.16	0.02	32.64
E028	373.24	373.81	57	3.40	2.93	0.65	0.23	0.15	1.18	0.05	7.03	8.59	0.13	0.00	31.07
Weighted Average 71			4.03	4.13	0.81	0.28	0.16	1.35	0.12	9.09	10.87	0.16	0.02	31.92	
(3PGE+Au) Prill Split (%)			44.3	45.5	8.9				1.3	100					
(6PGE+Au) Prill Split (%)			37.1	38.0	7.4	2.5	1.4	12.4	1.2		100				

Geological losses are common in PGE orebodies (potholes, faults, etc – see ERA "Understanding PGEs" report p11/12), as reported in SPD's Annual Report the inferred resource (by CSA in 2021 to JORC 2012 standard) based on the pre-existing drillhole info and applying parameters from adjacent operations with an estimated (after faulting deductions ~15 to 20%?) geological losses of 17% for UG2 and 10% for Merensky are shown in Table 2. Table 2 also shows SPD's exploration target which has conservatively estimated geological losses of 40% for UG2 and 35% for Merensky (typically ~25% to 30%). There is no mention of SG possibly ~4. Initial Table 1 results have a similar 71cm width, with encouragingly much higher average 4E grades. (Note: 4E grades historically based on Pt, Pd, Rh & Au because they have the highest realised prices - often ~ or >\$1000/oz, however, the value of Iridium has increased to currently ~\$4,500/oz due to its use as a hydrogen catalyst increasing Ntplats revs).

Table 2 SPD's JORC 2012 Inferred Resource by CSA in 2021, and its Possible Exploration Target (Stated in 2022)

Mineral Resource	Reef	Tonnes	3PGE+Au	3PGE+Au			
classification (JORC 2012	2)	(Mt)	g/t	Moz	(cm)		
Inferred	UG2	33.87	7.70	8.38	71		
Inferred	Merensky Reef	110.02	2.96	10.42	191		
Total (CSA, Stated 1 J	July 2021)	143.89	4.07	18.80			
Category	Reef	Minimum tonnes (Mt)	Maximum tonnes (Mt)	Minimum grade (3PGE+Au g/t)	Maximum grade (3PGE+Au g/t)		
Exploration Target	UG2	45	68	5.9	8.9		
Exploration Target	Merensky Reef	88	133	2.2	3.4		
Total Exploration T	arget	134	201	3.5	5.2		

Background History

Some drilling occurred on the property between 1966 and 1985 by Rusplat (now Amplat) with Trojan focusing on the chromite potential between 1990 and 1993. The local indigenous tribe (Bengwenyama-ye-Maswazi) regained the right to their land (it had been taken away by the Govt in 1945) based on a claim lodged in 1996. However, a new Prospecting Right (converted 2004 to 2006) was granted in Sept 2006 to Genorah Resources P/L over an area including Bengwenyama & Genorah JV'd with then ASX listed Nkwe Platinum who drilled ~30 holes on the property. The Bengwenyama tribe contested the new Right and after a number of court cases, regained control in a High Court judgement in Sept 2014, and a Prospecting Right was granted in June 2015- since renewed for 3 years to 12th February 2024 - which combined with Covid-19 delays, appears largely why the Project has not yet managed to progress to development.

The area was also historically overlooked due to the perceived Steelpoort fault thought to offset/truncate the UG2 mineralisation as shown in a 2003 Modikwa visit presentation in Figure 6a, while a modified 2019 plan (Fig 4-3 page 179 of SPDs Prospectus) applied a kink to the UG2 offset outcrop in Figure 6b, whereas Figures 4 & 5 show the **UG2 extends south from Amplats/ARMs Modikwa operating PGE Mine.**

Figure 6. 2003 Modikwa Presentation Info, & 2019 Modified Plan showing Perceived UG2 Reef Outcrop
a. 2003 Modikwa Presentation of UG2 outcrop
b. 2019 Modified Plan of the BIC offs



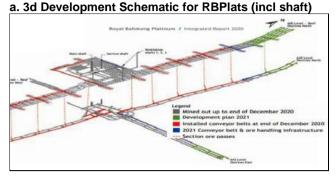


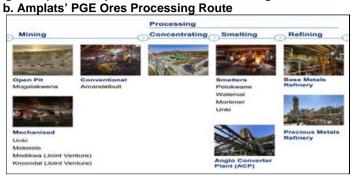
There are a number of historical drillholes that have been reported but are apparently held by a foreign company and are physically unavailable for examination – hence SPD's drilling and assaying Phases – initially Phase 1 to a depth of 500m.

Mining and Treatment

SPD intend to take the conventional mining approach of declining through the oxide / transition zone (left as a pillar & regarded as untreatable – South Africa has spent ~100 years trying to determine an economical way of treating oxidised PGE), and mining by room-and-pillar similar to RBPlats as shown in Figure 7a.

Figure 7. 3d Development Schematic for RBPlats (including shaft), and Amplats' PGE Ores Processing Route





Ore treatment is also expected to be conventional like most of the BIC PGE producers, as in float to a concentrate and then treatment in a smelter followed by refining as shown in Amplats' Processing Route in Figure 7b – resulting in the 6PGMs (Pt, Pd, Rh, Ru, Ir & Os), gold, nickel, copper, and chrome products. (Note: for more detail on processing PGE ore including possible recoveries see ERA "Understanding PGEs" report pages 17 to 22)

Latest Update – Internal Scoping Study Reported on 24 January 2023

The internal Scoping Study determined that mining the *higher grade UG2 alone* was the preferred Scenario (1) for a PFS, although adding Merensky at some stage (Scenario 3) was also logical due to proximal development, while only lower grade Merensky (Scenario 2) or UG2 followed by Merensky (Scenario 3) were less attractive. Due to this scenario of focusing on UG2, SPD expects to apply for a *Mining Right earlier* than originally scheduled. An application for a Mining Right does not require a DFS in South Africa.

South African PGE Company Comparison

A comparison of South African PGE producers and their current MCs infers SPDs possible upside potential in Table 3: (this Table (3) includes production \$ARM/\$AMS info for Modikwa; both Amplats & Implats more than double their production and profitability due to processing & refining the PGEs etc for other companies/projects and/or reporting 100% treated. The impact of higher Iridium prices is visible in Nthplats' disclosure of A\$115M from Ir, plus A\$74M from Ru, vs A\$19M from Au).

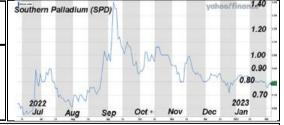
Table 3. Comparison of Existing South African PGE Producers

Financial \	r Company	Mtpa	Mkt Cap	6E Sold	Pt	Pd	Rh	Revenue	Pretax Pft	Pt Rev	Pd Rev	Rh Rev	Ni Rev	Oth Rev
			A\$bn	kozpa	kozpa	kozpa	kozpa	A\$Bn	A\$M	A\$M	A\$M	A\$M	A\$M	A\$M
est Jun 22	2 Amplats	28.0	28.0	4207	1954	1306	269	15.8	7039	2732	4103	6590		2241
Jun-22	Implats	26.2	15.6	3147	1381	1225	163	9.7	3720	1679	3258	3215	451	843
Jun-22	Northplat	8.7	5.5	870	461	205	64	2.8	1357	577	559	1290	50	209
JH22 x2	RBPlat	4.6	3.9	508	290	122	28	1.3	560	312	297	509	85	
Jun-22	Modikwa	2.4	-	295	116	111	23	1.1	577	154	324	543		105

Financial Considerations

SPD's IPO raise of \$A19M was expected to finance all the drilling (\$7.7M Phase 1 & \$3.8M Phase 2) and technical work (\$1.7M) required for a PFS. Infrastructure appears good: sealed R555 road & grid power passing the property, a railway siding near Steelpoort ~5km east & possibly the De Hoop dam for water.





Disclosure

Southern Palladium Limited commissioned Keith Goode (who is a Financial Services Representative with State One Stockbroking Ltd ACN 092 989 083 and is a consultant with Eagle Research Advisory Pty Ltd ACN 098 051 677) to compile this report, for which Eagle Research Advisory Pty Ltd has received a consultancy fee. At the date of this report Keith Goode and his associates held interests in shares issued by Southern Palladium Limited. At the date of this report, State One Stockbroking Limited or their associates within the meaning of the Corporations Act, may hold interests (while Keith Goode and his associates at the time of this report held interests of: KG~35k, KSSuper ~50k) in fpo shares issued by Southern Palladium Limited.

Disclaime

Any observations, conclusions, deductions, or estimates of figures that have been made by Keith Goode in this report should be taken as his work, and not an approved observation, conclusion, deduction or estimate made by Southern Palladium Limited. This publication has been issued on the basis that it is only for the information and exclusive use of the particular person to whom it is provided. Any recommendations contained herein are based on a consideration of the securities alone. In preparing such general advice no account was taken of the investment objectives, financial situation and particular needs of a particular person. Before making an investment decision on the basis of this advice, investors and prospective investors need to consider, with or without the assistance of a securities adviser, whether the advice is appropriate in light of the particular investment needs, objectives and financial circumstances of the investor or the prospective investor. Although the information contained in this publication has been obtained from sources considered and believed to be both reliable and accurate, no responsibility is accepted for any opinion expressed or for any error or omission that may have occurred therein. This is a research publication of Eagle Research Advisory Pty Ltd ABN 33 098 051 677 as a Corporate Authorised Representative reference number 384349 of State One Stockbroking Limited ABN 95 092 989 083 AFS Licence 247 100.