

Production has begun and there's more to come

West Wits Mining (ASX: WWI) has become the ASX's latest gold producer, producing its first ore from the Qala Shallows prospect, as it embarks upon the development of the Witwatersrand Basin Project (WBP) in South Africa. The early works will produce between 5,000–8,000t of ore, eventually building up to 53,000oz per annum. The Definitive Feasibility Study (DFS) for Qala Sands reported a 17-year Life of Mine (LOM) and 7.3MT at 2.81g/t Au for 663,000oz recovered gold.

WBP offers more promise

Qala Shallows is just one mining target at the WBP project and there's potentially further upside. Across WBP's five mining targets, WBP has an JORC resource of 4.28m oz @ 4.58g/t gold – 69% of which is Measured and Indicated. We would note the current production at Qala Shallows was not included in either the WBP JORC resource or Qala Shallows DFS – it is a bonus. In March 2022, WWI released a scoping study that outlined an optimal development model. It forecast a 27-year LOM with 16.1MT at a Run of Mine (ROM) grade of 3.1g/t for 1.61m oz of gold. At a gold price of US\$1,750/oz, it provides free cash flow of US\$511m and a post-tax Net Present Value (NPV) of US\$160m at a 7.5% discount rate. WWI hopes to produce 92,000oz from WBP by Year 6.

WWI working to realise further upside

WWI is seeking to kickstart the rest of the WBP project. It recently hired financial advisory firm Taurum to facilitate debt finance strategies and options. It is also looking to increase the LOM even further from the 27-year base case in the scoping study.

Valuation range of A\$0.061–0.122 per share

In our initiation on WWI from January 2022, available [here](#), we valued the company at 5.4 cents per share base case and 7.6 cents per share in an optimistic case. We have now re-rated the stock to 6.1 cents per share base case and 12.1 cents per share optimistic case on the back of revised project estimates from the scoping study of March 2022.

Share Price: A\$0.025

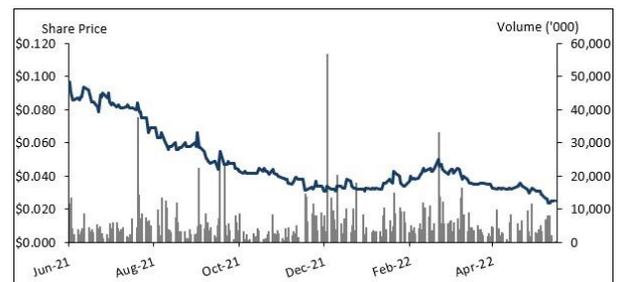
ASX: WWI

Sector: Resources

19 May 2022

Market cap. (A\$ m)	46.0
# shares outstanding (m)	1,838.2
# share fully diluted (m)	2,079.9
Market cap. fully diluted (A\$m)	52.0
Free float	90.6%
12-months high/low (A\$)	0.105 / 0.023
Avg. 12M daily volume ('1000)	5,732.0
Website	westwitsmining.com

Share price (A\$) and avg. daily volume (k, r.h.s.)



Source: Refinitiv Eikon, Pitt Street Research

Valuation metrics	
Valuation per share (\$A)	0.061–0.122
WAAC	7.8%
Assumed terminal growth rate	None

Source: Pitt Street Research

Subscribe to our research [HERE](#)

Analysts: Stuart Roberts, Nick Sundich

Tel: +61 (0)434 838 134

stuart.roberts@pittstreetresearch.com

nick.sundich@pittstreetresearch.com

Please refer to pages 7 & 8 for details on share price catalysts and risks.



Table of Contents

Commencement of production at Qala Shallows	3
Scoping study completed for WBP	4
Further upside possible at WBP	4
Looking for finance	5
WBP located in a mining-friendly jurisdiction with all necessary approvals	5
Mt Cecelia	6
Valuation	6
Catalysts	7
Risks	8
Appendix – Analysts’ Certification	9
General advice warning, Disclaimer & Disclosures	10



Commencement of production at Qala Shallows

In February 2022, WWI successfully produced its first ore from WBP at its Qala Shallows prospect. It is important to note that production is at an early stage and initial ore mined is remnant material from historic operations at the site. Nevertheless, this milestone is an important one and it has been a long time coming for WWI. Although it only came five months after the DFS and seven months after the long awaited granting of the Mining Right, WWI has been developing WBP since 2007, when it was formed as a joint venture between DRDGOLD and Mintails. Surface Works began in September 2021 and underground rehabilitation works began in October.

Qala means 'getting started' or 'new beginning' in the Southern Sotho language commonly spoken around Johannesburg and indeed Qala Shallows will be a stepping stone for the company's operations at WBP (Figure 1) as well as the corner stone. Indeed it is the only stage of the project that has completed a DFS. The DFS for Qala Shallows reported a 17-year LOM and 7.3MT at 2.81g/t Au for 663,000oz recovered gold. WWI will build-up a production rate of 5-8oz per month initially, growing to 10oz from July 2022. And estimated production Qala Shallows and Qala Deeps combined makes up 90% of WBP's LOM production.

Although mining operations will remain small for the next few months, WWI will ramp up production as it opens up a new part of the ore body in Qala Shallows that has not been mined before. It is ultimately targeting production of up to 60,000oz per annum – which is more than half of the anticipated 92,000oz per annum of the overall WBP. In the short term, WWI's objective was to prove the designed mining method to mine areas already exposed at WBP. We also note this initial ore is not a part of the DFS – it is a bonus.

Qala Shallows will be a stepping stone for the company's operations at WBP as well as the corner stone

Figure 1: WWI's five mining targets/stages



Source: Company



Scoping study completed for WBP

The optimal development model would deliver a 27-year LOM with 16.1MT with a ROM grade of 3.1g/t for 1.61m oz of gold

In March 2022, WWI released a scoping study for the WBP project. Investors may be forgiven for being sceptical that this was insignificant because scoping studies are typically at an early stage. But the DFS for Qala Shallows covered 60% of WBP's LOM production and crucially identified the optimal development model for WBP. The ideal model (Scenario 4) would deliver a 27-year LOM with 16.1MT at a ROM grade of 3.1g/t for 1.61m oz of gold. It would have an All In Sustaining Cost (AISC) of US\$1,138/oz for production above 800m (72% of production), increasing to US\$1,198/oz below that depth. It provides free cash flow of US\$511m, pre-tax NPV of US\$227m and post-tax NPV of US\$160m at a 7.5% discount rate. The Internal Rate of Return (IRR) was 33% before-tax and 29% after-tax.

The base case utilised US\$1,750/oz gold price and ZAR15/US\$ exchange rate. As Figure 2 depicts, the company conducted sensitivity analysis which confirmed the project remained viable at US\$1,500/oz. Conversely, a gold price of US\$2,250/oz, would more than double the NPV compared to a US\$1,750/oz price. Over its mine life, WBP is forecast to deliver 65,000oz/pa ROM gold production with a maximum production of 92,000/oz achieved in Year 6.

Figure 2: WBP's key financial metrics at different gold prices

METRIC	UNIT	US\$ 1,500/oz	US\$ 1,750/oz	US\$ 2,000/oz	US\$ 2,250/oz
Revenue	US\$m	2,226	2,597	2,968	3,339
Free Cashflow	US\$m	276	511	743	977
Pre-Tax Project NPV _{7.5}	US\$m	93	227	361	495
Post-Tax Project NPV _{7.5}	US\$m	65	160	253	346
Pre-Tax Project IRR	%	19%	33%	46%	58%
Post-Tax Project IRR	%	17%	29%	40%	50%
Operating Margin	%	38%	47%	54%	59%
Profitability Index	ul	1.4	2.1	2.7	3.4
Peak Funding Requirement	US\$m	93	77	61	54
Payback Period	years	7	5	5	4

Source: Company

Further upside possible at WBP

Further upside to the project is possible

There could be further upside potential at WBP for four reasons. The first reason is WBP's long LOM. At 27 years, the LOM is already appealing but this is only a base case – the company is looking at ways this can be extended. Although production will take 3-4 years to reach its potential, the mine will be a long-term sustainable investment once that point is reached.

The second prospect for upside potential is the possibility of uranium as a by-product. WWI first explored for uranium at WBP in 2008 but mothballed its uranium plans following the drop in spot prices. Now, uranium is in vogue again with prices at levels not seen in a decade driven by the need for low emission energy sources for countries to meet net-zero emission targets. As a consequence, WWI is re-evaluating previous exploration data and gearing up to further test the prospectivity of WBP – specifically the Bird Reef Central prospect (see Figure 1 on page 3) – to deliver a JORC compliant Mineral



Resource Estimate (MRE). It has restated its exploration target based on its 2008 exploration programme but there have been changes in WWI's landholding since then. It estimates 10-22MT with a grade of 300-500ppm.

The third prospect is higher sustained gold prices. The study was completed with a base case of US\$1,750/oz. But in recent days prices have gone over US\$1,900/oz, which is ~9% ahead of the base case scenario in WWI's scoping study and in line with our optimistic case scenario (see page 7).

Finally, two of the stages – Main Reef and Bird Reef East – were constrained to <200m below surface for the purposes of the study. This was because this is the level of water tables, which geologically speaking is the underground boundary between the unsaturated zone and the saturated zone underground. WWI intends to complete engineering studies to determine access below the water table and will subsequently introduce these areas into the study. We would also note that of all five WBP stages, WWI Bird Reef Central has been excluded from the Scoping Study but it the most potential for uranium and ultimately could be a joint gold and uranium operation.

Looking for finance

The company has no immediate need for finance in the short term, having completed a A\$9.5m capital raise in December 2021. But WWI estimates it will need US\$77m to advance WBP and achieve the development outcomes indicated in the scoping study. In October last year, it hired Taurum, a debt financial advisory firm, to lead its strategies. Taurum is focused on the mining and resources sector in Africa and has helped several other companies secure debt financing including ASX-listed firms South 32 (ASX:S32) and Prospect Resources (ASX:PSC).

WBP located in a mining-friendly jurisdiction with all necessary approvals

South Africa has a substantial heritage of mining projects, particularly for gold producers. WBP lies in the Witwatersrand region, an area that has hosted mining operations since 1886 and hosts the world's largest-known gold reserves producing over 1.5 bn oz, which represents ~22% of over-the-ground gold stock. Equally important, the regulatory environment and judicial institutions in this country are comparable to developed countries and this has ensured the viability of the sector. Although it has taken WWI some time to gain all necessary approvals, these have all been granted including the crucial Mining Right approval and environmental approval last year.

Moreover, WWI benefits from its Black Economic Empowerment partner, Lilitha Group, which owns an effective 33.4% stake in WBP. This ownership structure ensures that the project is over-empowered, surpassing South Africa's Mining Charter requirement of 26% and the slated 30% in the 2018 Draft Mining Charter proposal. Lilitha has also played an instrumental role in securing the mining license and is a politically well-connected entity. It also brings significant mining experience to the table. We believe this partnership with Lilitha helps de-risk the project from regulatory and political perspectives.

WWI estimates it will need US\$77m to advance WBP and achieve the development outcomes indicated in the scoping study



In December last year, WWI signed a A\$10m farm in and joint venture agreement with Rio Tinto Exploration (RTX)

Mt Cecelia

WWI also owns 100% of the Mt Cecelia project, a greenfield gold, copper, nickel and manganese project located in the East Pilbara region of Western Australia. While the WBP project will inevitably draw more excitement, considering development has begun, Mt Cecelia shouldn't be disregarded. In December last year, WWI signed a A\$10m farm-in and joint venture agreement with Rio Tinto Exploration (RTX). RTX is required to pay A\$0.15m cash up-front and, subject to land access, complete at least 800m of diamond core and/or reverse circulation drilling before 31 December 2022. WWI anticipates drilling activity will begin in Q3 CY22 but it has already commenced heritage surveys and track building.

As stage 1 of the agreement, RTX has the right to earn a 51% interest by spending a minimum of A\$4m of exploration expenditure within four years. Under stage 2, RTX will have the option to sole fund a further A\$6m of exploration expenditure within three years of such election to earn an additional 29% interest. RTX would have to make a further A\$0.25m cash payment if it elects to sole fund stage 2. We believe this partnership brings in capital, technical expertise and regional knowledge that will accelerate development of Mt Cecelia's key targets while also ensuring that WWI is well positioned to share in the benefits of major discoveries.

Valuation

We note that our DCF valuation of WWI in January 2022 was based on the assumptions of the DFS for Qala Shallows released in September 2021. We have upgraded our valuation range from previously 5.4–7.6 cents per share (base case-bull case) to 6.1–12.1 cents per share after factoring in the latest details of the scoping study released in March 2022. The key differences in project parameters between the DFS and latest scoping study are highlighted below.

Figure 3: Key project parameters – DFS vs. Recent scoping study

WBP – Qala Shallows – Parameters	DFS (Sep 2021)	Scoping Study (Mar 2022)
LOM (years)	17	25
Total Production (Ore Mt)	7.3	16.1
Total Gold Produced (oz)	663,000	1,615,000
Recovered grade average (g/t)	2.81	2.86
Total Revenue (US\$m)	1,160	2,597
LOM AISC (US\$/oz)	1,144	1,198
LOM AISC (US\$/oz)	1,144	1,198
C1 Cash Cost (US\$/t ROM)	87	85
Total Capital Cost (US\$m)	145	432
Peak Funding Requirement (US\$m)	50	77
Total Free Cashflow (US\$m)	240	511
Pre-tax NPV (@7.5%) (US\$m)	151	227
Post-tax NPV (@7.5%) (US\$m)	106	160
Payback (years)	5.5	5

Source: Company



Qala Shallows project attains breakeven by year 5 in both our base and optimistic case

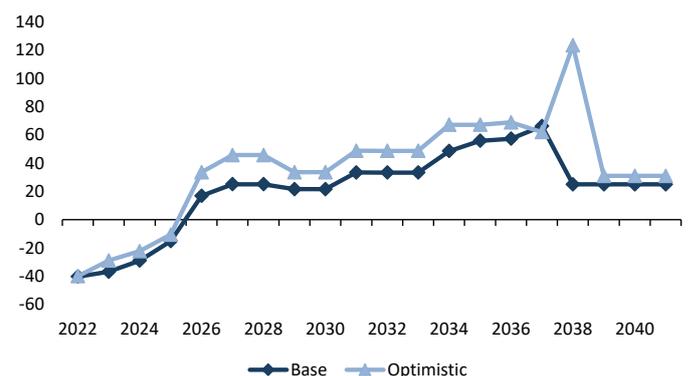
The parameters that have changed materially are the ones relating to production, revenue and capital costs. The overall result of the changes is positive as witnessed from the improved project economics, i.e., NPV and payback period.

Our revised valuation incorporates the benefits and costs of the optimal development model (Scenario 4 or stages 1-4 of the WBP - Qala Shallows is Stage 1). All other valuation assumptions including funding mix and discount rate have been kept similar to the January 2022 valuation approach. Figure 4 shows our revised valuation summary for WWI and the upside potential of the stock. The midpoint of our valuation range is 9.1 cents per share. In our view, the DCF valuation for WWI continues to be a conservative estimate as it doesn't consider the various possibilities for further upside as described on pages 4-5.

Figure 4: Valuation summary (post-equity financing)

WWI Valuation (A\$m)	Base	Optimistic
Net Asset Value	141.9	283.6
Net Debt (Cash) (m)	(0.8)	(0.8)
Minority Interest (m)	-	-
Other Investments (m)	-	-
Equity value (m)	142.8	284.4
Share Outstanding (Diluted)	2,324.8	2,324.8
Implied Price (AUD cents)	6.14	12.2
Current Price (AUD cents)	2.50	2.50
Upside (%)	145.7%	389.4%

Figure 5: Free Cash Flow Generation (A\$m) - Base vs. Optimistic Case (Year 1–20)



Source: Company, Pitt Street Research

The primary differences between our base and optimistic case are due to assumptions of gold prices (US\$1,750/oz in base case, US\$1,900/oz in optimistic case) and extraction ramp up (% of full capacity).

Catalysts

We foresee the stock being re-rated to our valuation range:

- Ramping up of production at Qala Shallows.
- Commencement of production at other prospects at WBP.
- Grant of the new prospecting license that WWI has applied for that will enable it to reinstate a substantial proportion of the project's original MRE.
- Sustained high gold prices, underpinned by renewed concerns about global economic recovery and COVID-19 variants.
- Exploration success at the Mt Cecilia project.



Risks

We see the following as key risks to our investment thesis:

- **Underlying commodity risk.** WWI is exposed to commodity price risk, which depends on macroeconomic factors and demand and supply dynamics of the underlying commodity, i.e., gold.
- **Project delays.** In case there are any delays in the mining activities due to funding or operational challenges, it will affect the cash flows and viability of the project. The scoping study found that WWI would require US\$77m in funding over the LOM.
- **Challenges in ore processing.** The primary premise of low capital outlay for WWI is that the company will be able to process ore on a toll treatment basis by leveraging the capacity of neighbouring plants. While the company has a small-scale toll treatment arrangement with Gold Plat, which should be sufficient for its early mining initiative, it will require larger scale arrangements in the future. There could be operational complexities in such arrangements that could arise in the future and affect costs or capital requirements.
- **Geological risk.** The resources for WBP are estimates. There could be a downside risk if a portion of resources is re-categorised as Inferred Resources at a later stage.



Appendix – Analysts' Certification

Nick Sundich, lead analyst on this report, is an equities research analyst at Pitt Street Research

- Nick obtained a Bachelor of Commerce/Bachelor of Arts from the University of Sydney in 2018. He has also completed the CFA Investment Foundations program.
- He joined Pitt Street Research in January 2022. Previously he worked for over three years as a financial journalist at Stockhead.
- While at university, he worked for a handful of corporate advisory firms.

Stuart Roberts, has been an equities analyst since 2002.

- Stuart obtained a Master of Applied Finance and Investment from the Securities Institute of Australia in 2002. Previously, from the Securities Institute of Australia, he obtained a Certificate of Financial Markets (1994) and a Graduate Diploma in Finance and Investment (1999).
- Stuart joined Southern Cross Equities as an equities analyst in April 2001. From February 2002 to July 2013, his research speciality at Southern Cross Equities and its acquirer, Bell Potter Securities, was Healthcare and Biotechnology. During this time, he covered a variety of established healthcare companies, such as CSL, Cochlear and Resmed, as well as numerous emerging companies. Stuart was a Healthcare and Biotechnology analyst at Baillieu Holst from October 2013 to January 2015.
- After 15 months over 2015–2016 doing Investor Relations for two ASX-listed cancer drug developers, Stuart founded NDF Research in May 2016 to provide issuer-sponsored equity research on ASX-listed Life Sciences companies.
- In July 2016, with Marc Kennis, Stuart co-founded Pitt Street Research Pty Ltd, which provides issuer-sponsored research on ASX-listed companies across the entire market, including Life Sciences companies.
- Since 2018, Stuart has led Pitt Street Research's Resources Sector franchise, spearheading research on both mining and energy companies.

General advice warning, Disclaimer & Disclosures

Terms & Conditions

The information contained herein ("Content") has been prepared and issued by Pitt Street Research Pty Ltd ACN 626365615 ("Pitt Street Research"), an Authorised Representative (no: 1265112) of BR Securities Australia Pty Ltd. ABN 92 168 734 530, AFSL 456663. All intellectual property relating to the Content vests with Pitt Street Research unless otherwise noted.

Disclaimer

Pitt Street Research provides this financial advice as an honest and reasonable opinion held at a point in time about an investment's risk profile and merit and the information is provided by the Pitt Street Research in good faith. The views of the adviser(s) do not necessarily reflect the views of the AFS Licensee. Pitt Street Research has no obligation to update the opinion unless Pitt Street Research is currently contracted to provide such an updated opinion. Pitt Street Research does not warrant the accuracy of any information it sources from others. All statements as to future matters are not guaranteed to be accurate and any statements as to past performance do not represent future performance.

Assessment of risk can be subjective. Portfolios of equity investments need to be well diversified and the risk appropriate for the investor. Equity investments in a listed or unlisted company yet to achieve a profit or with an equity value less than \$50 million should collectively be a small component of an individual investor's equity portfolio, with smaller individual investment sizes than otherwise. Investors are responsible for their own investment decisions, unless a contract stipulates otherwise.

Pitt Street Research does not stand behind the capital value or performance of any investment. Subject to any terms implied by law and which cannot be excluded, Pitt Street Research shall not be liable for any errors, omissions, defects or misrepresentations in the information (including by reasons of negligence, negligent misstatement or otherwise) or for any loss or damage (whether direct or indirect) suffered by persons who use or rely on the information. If any law prohibits the exclusion of such liability, Pitt Street Research limits its liability to the re-supply of the Information, provided that such limitation is permitted by law and is fair and reasonable.

General advice warning

The Content has been prepared for general information purposes only and is not (and cannot be construed or relied upon as) personal advice nor as an offer to buy/sell/subscribe to any of the financial products mentioned herein. No investment objectives, financial circumstances or needs of any individual have been taken into consideration in the preparation of the Content.

Financial products are complex, entail risk of loss, may rise and fall, and are impacted by a range of market and economic factors, and you should always obtain professional advice to ensure trading or investing in such products is suitable for your circumstances, and ensure you obtain, read and understand any applicable offer document.

Disclosures

Pitt Street Research has been commissioned to prepare the Content. From time to time, Pitt Street Research representatives or associates may hold interests, transact or hold directorships in, or perform paid services for, companies mentioned herein. Pitt Street Research and its associates, officers, directors and employees, may, from time to time hold securities in the companies referred to herein and may trade in those securities as principal, and in a manner which may be contrary to recommendations mentioned in this document.

Pitt Street Research receives fees from the company referred to in this document, for research services and other financial services or advice we may provide to that company. The analyst has received assistance from the company in preparing this document. The company has provided the analyst with communication with senior management and information on the company and industry. As part of due diligence, the analyst has independently and critically reviewed the assistance and information provided by the company to form the opinions expressed in the report. Diligent care has been taken by the analyst to maintain an honest and fair objectivity in writing this report and making the recommendation. Where Pitt Street Research has been commissioned to prepare Content and receives fees for its preparation, please note that NO part of the fee, compensation or employee remuneration paid will either directly or indirectly impact the Content provided.